

STATEWIDE AIR EMISSIONS CALCULATIONS FROM WIND AND OTHER RENEWABLES

SUMMARY REPORT

A Report to the
Texas Commission on Environmental Quality
For the Period January 2015 – December 2015



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July 2016



ENERGY SYSTEMS LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION



**TEXAS A&M ENGINEERING
EXPERIMENT STATION**

ENERGY SYSTEMS LABORATORY

July 22, 2016

Vincent Meiller
Air Quality Planning Section
Air Quality Division, Office of Air
Texas Commission on Environmental Quality Austin, TX 78711-3087

Dear Mr Meiller

The Energy Systems Laboratory (ESL) at the Texas Engineering Experiment Station of The Texas A&M University System is pleased to provide its tenth annual report, "Statewide Emissions Calculations From Wind and Other Renewables," as required by the 79th Legislature. This work has been performed through a contract with the Texas Environmental Research Consortium (TERC).

In this work the ESL is required to obtain input from public/private stakeholders, and develop and use a methodology to annually report the energy savings from wind and other renewables. This report summarizes the work performed by the ESL on this project from January 2015 to December 2015.

Please contact me at (979) 862-8471 should you have questions concerning this report or the work presently being done to quantify emissions reductions from renewable energy measures as a result of the TERP implementation.

Sincerely,

A handwritten signature in black ink that reads "David E. Claridge". The signature is written in a cursive style.

David E. Claridge, Ph.D., P.E.
Director

Enclosure

Disclaimer

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ACKNOWLEDGMENT

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SUMMARY REPORT

Statewide Air Emissions Calculations from Wind and Other Renewables

1 EXECUTIVE SUMMARY

The 79th Legislature, through Senate Bill 20, House Bill 2481 and House Bill 2129, amended Senate Bill 5 to enhance its effectiveness by adding 5,880 MW of generating capacity from renewable energy technologies by 2015 and 500 MW from non-wind renewables.

This legislation also requires the Public Utilities Commission of Texas (PUCT) to establish a target of 10,000 megawatts of installed renewable capacity by 2025, and requires the Texas Commission on Environmental Quality (TCEQ) to develop methodology for computing emissions reductions from renewable energy initiatives and the associated credits. Table 1-1 lists the statutory mandates and total wind power generation capacity (including installed and announced) in Texas from 2001 to 2025. It shows that Texas has achieved its milestone of 10,000 MW by the end of 2010 and could reach 24,561 MW by 2017 according to the information from PUCT¹.

Table 1-1: Installed/Announced Wind Power Capacity and the Statutory Mandates

Texas Wind Summary			SB20 Plan	
Month-Yr	Installed MW	Announced MW	Month-Year	MW
Dec-2001	1,012	-		
Dec-2002	1,091	-		
Dec-2003	1,292	-		
Dec-2005	1,965	-		
Dec-2006	2,786	-	Jan-2007	2,280
Dec-2007	4,438	-		
Dec-2008	8,215	-	Jan-2009	3,272
Dec-2009	9,652	-		
Dec-2010	10,222	-	Jan-2011	4,264
Dec-2011	10,468	-		
Dec-2012	11,737	-		
Dec-2013	12,302	-	Jan-2013	5,256
Dec-2014	14,327	-		
Dec-2015	17,779	-	Jan-2015	5,880
Dec-2016		7,698		
Dec-2017		2,086	Jan-2025	10,000

In this Legislation, the function of the Energy Systems Laboratory (ESL) is to assist the TCEQ in quantifying emissions reductions credits from energy efficiency and renewable energy programs, through a contract with the Texas Environmental Research Consortium (TERC) to develop and annually calculate creditable emissions reductions from wind and other renewable energy resources for the State Implementation Plan (SIP).

The Energy Systems Laboratory, in fulfillment of its responsibilities under this Legislation, submits its tenth annual report, "Statewide Air Emissions Calculations from Wind and Other Renewables," to the Texas Commission on Environmental Quality.

¹ The service date for some announced wind farms is from PUCT (<http://www.puc.texas.gov/industry/electric/reports/Default.aspx>).

The report is organized in several deliverables:

1. a summary report, which details the key areas of work
2. supporting documentation
3. supporting data files, including weather data, and wind energy production data,

This executive summary provides key areas of accomplishment this year, including:

- continuation of stakeholder's meetings
- analysis of power generation from wind farms using improved method and 2015 data
- analysis of emissions reductions from wind farms
- updates on degradation analysis
- analysis of other renewables, including solar PV, solar thermal, biomass, hydroelectric, geothermal, and landfill gas
- review of electricity generation by renewable sources and transmission planning study reported by ERCOT

1.1 Development of Stakeholder's meetings

Legislation passed during the regular session of the 79th Legislature directed the Energy Systems Laboratory to work with the TCEQ to develop a methodology for computing emissions reductions attributable to renewable energy and for the ESL to quantify the emissions reductions attributable to renewables for inclusion in the State Implementation Plan annually. HB 2921 directed the Texas Environmental Research Consortium (TERC) to engage the Texas Engineering Experiment Station for the development of this methodology.

During the 2015-2016 period, TEES-ESL held continuing stakeholder's meetings and made several presentations to interested parties regarding the analysis and the results.

1.2 Texas wind power generation (ERCOT and PUCT)

For several years now, Texas has been the largest producer of wind energy in the United States. As of January 2016, the capacity of installed wind turbine totals was 17,779 MW with another 9,784 MW announced for new projects to be completed by 2017, though this last announced capacity maybe much lower as it has been the case in previous years. Figure 1-1 shows the growth pattern of the installed wind power capacity in Texas and their power generation in the ERCOT region from September 2004 to December 2015.

In the last eight years, the electricity generated has been shown progressive and substantial increases, however the wind electricity generation contains a significant seasonal response, which can be observed during Ozone Season Periods when dramatic reduction in the power generation can be observed. This reduction is mainly due to the fact that the wind speed in those periods is lower than other times during the year. On the other hand, it is also observed that the peaks of wind electricity generation occur more often during the periods from March to June, when the wind speed also has a higher overall average value.

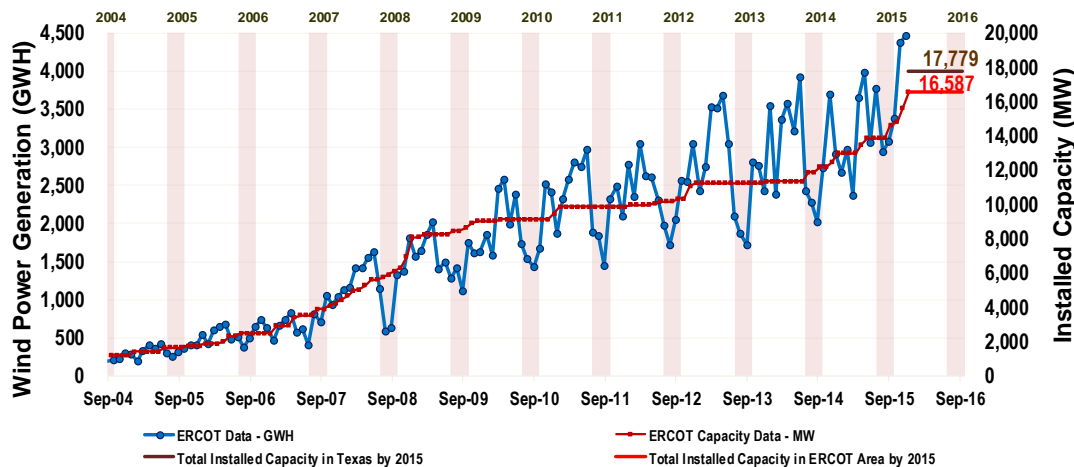


Figure 1-1: Installed Wind Power Capacity and Power Generation in the ERCOT Region from September 2004 to December 2015.

1.3 Analysis of wind farms using an improved method and 2015 data

In this report, the weather normalization procedures, developed together with the Stakeholders, were presented and applied to all the wind farms that reported their data to ERCOT during the 2015 measurement period, together with wind data from the nearby NOAA weather stations or the zone average wind speed provided from ERCOT.

In the 2010 Wind and Renewables report to the TCEQ (Haberl et al. 2010), weather normalization analysis methods were reviewed. This report used the same analysis method as the previous 2010 report to present the same weather normalization procedure, including:

- the processing of weather and power generation data, modeling of daily power generation versus daily wind speed using the ASHRAE Inverse Model Toolkit (IMT) for two separate periods, i.e., Ozone Season Period (OSP), from July 15 to September 15, and Non-Ozone Season Period (Non-OSP);
- predicting 2008 wind power generation as a baseline, using developed coefficients from 2015 daily OSP and Non-OSP models for all the wind farms; and
- the analysis on monthly capacity factors generated using the models.

A summary of total wind power production in the base year (2008) for all of the wind farms in the ERCOT region using the developed procedure is presented, and the sixteen new wind farms which started operation in 2014 and 2015 were added, including Baffin Wind 1, Baffin Wind 2, Grandview Wind 1 GV1A, Grandview Wind 1 GV1B, Hereford Wind G, Hereford Wind V, Keechi Wind, Miami Wind G1, Miami Wind G2, Panhandle Wind 1 U1, Panhandle Wind 1 U2, Panhandle Wind 2 U1, Panhandle Wind 2 U2, Stephens Ranch Wind 1, Spinning Spur Wind Two, and Windthorst 2 Wind. Figure 1-2 shows the measured annual wind power generation in 2015 and the estimated wind power generation in 2008 using the developed method for those wind farms in the ERCOT region. The total measured wind power generation in 2015 is 36,401,467 MWh/yr., which is 15.93% higher than what the same wind farms would have produced in 2008. Figure 1-4 shows the same comparison but for the Ozone Season Period. The measured wind power generation in the OSP of 2015 is 90,384 MWh/day, which is 14.19% higher than the 2008 OSP baseline wind production. For the analysis of this year, the measured 2015 wind power generation is fairly higher than the 2008 baseline wind power production.

This report also includes an uncertainty analysis that was performed on all the daily regression models for the entire year and Ozone Season Period. The detailed analysis for each wind farm is provided in the

Appendix B to this report. The original data used in the analysis is included in the accompanying CD-ROM with this report.

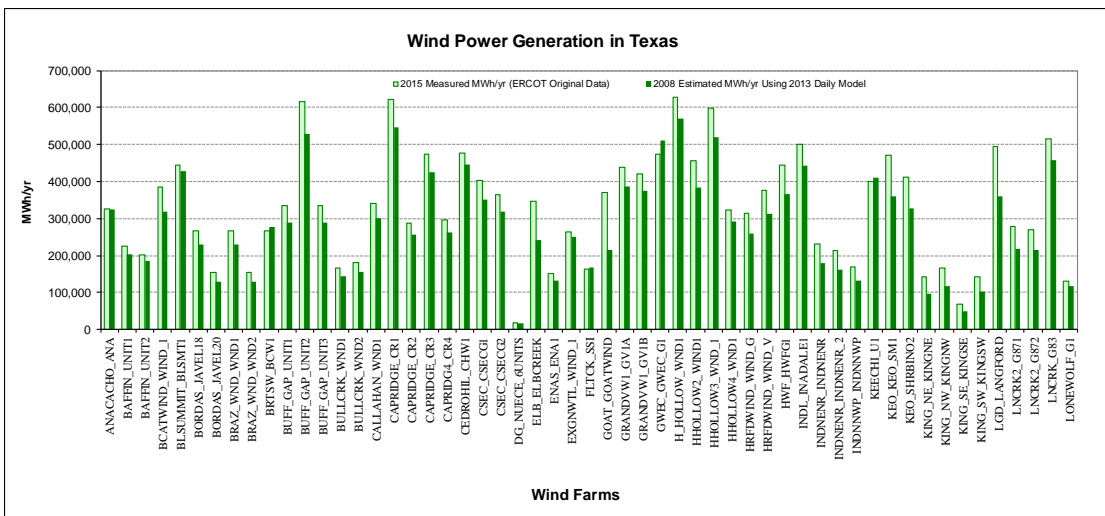


Figure 1-2: Comparison of 2015 Measured and 2008 Estimated Wind Power Production for Each Wind Farm_Part 1

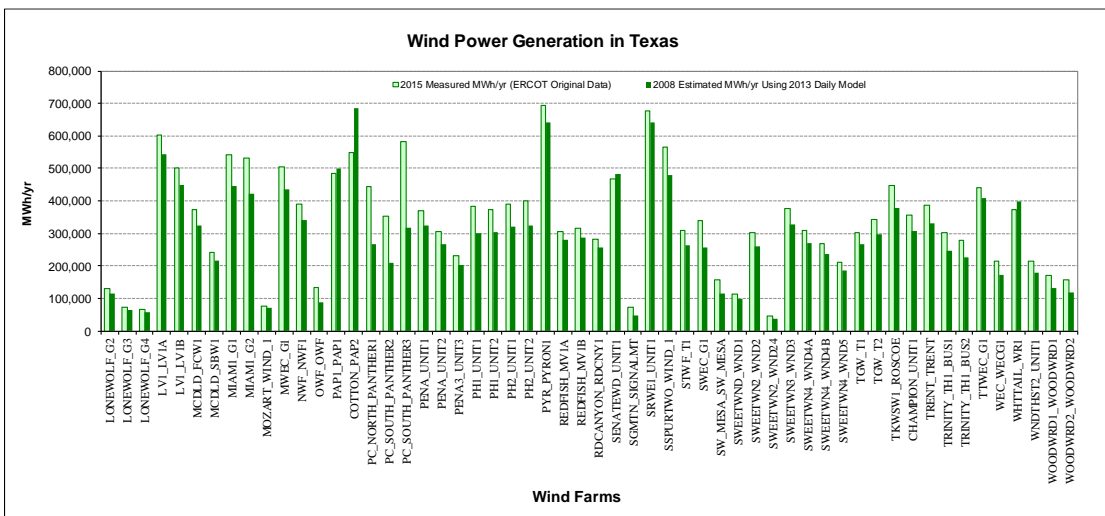


Figure 1-3: Comparison of 2015 Measured and 2008 Estimated Wind Power Production for Each Wind Farm_Part 2

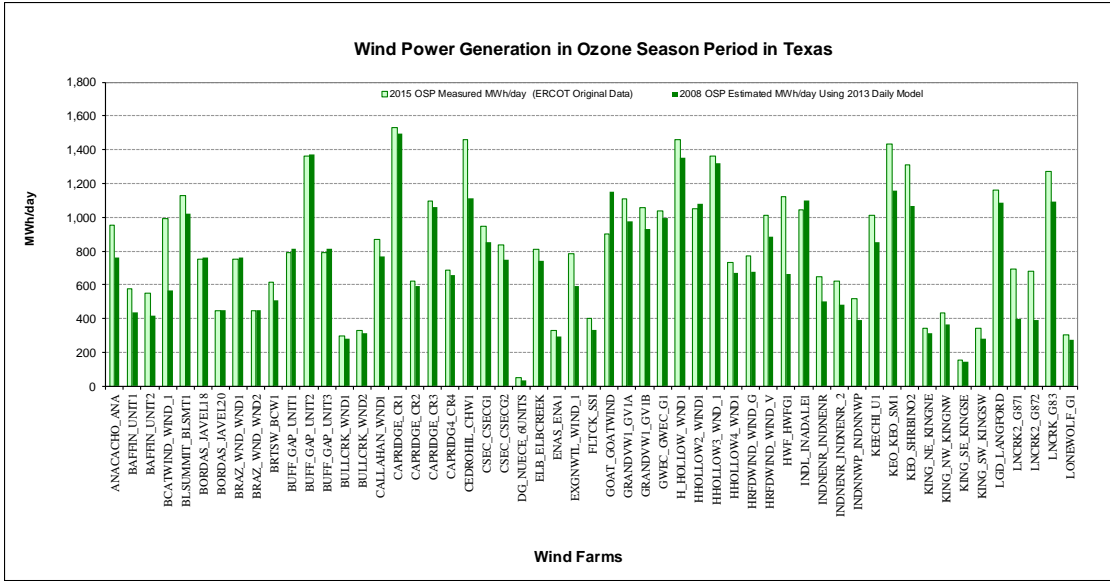


Figure 1-4: Comparison of 2015 OSP Measured and 2008 OSP Estimated Wind Power Production for Each Wind_Farm_Part 1

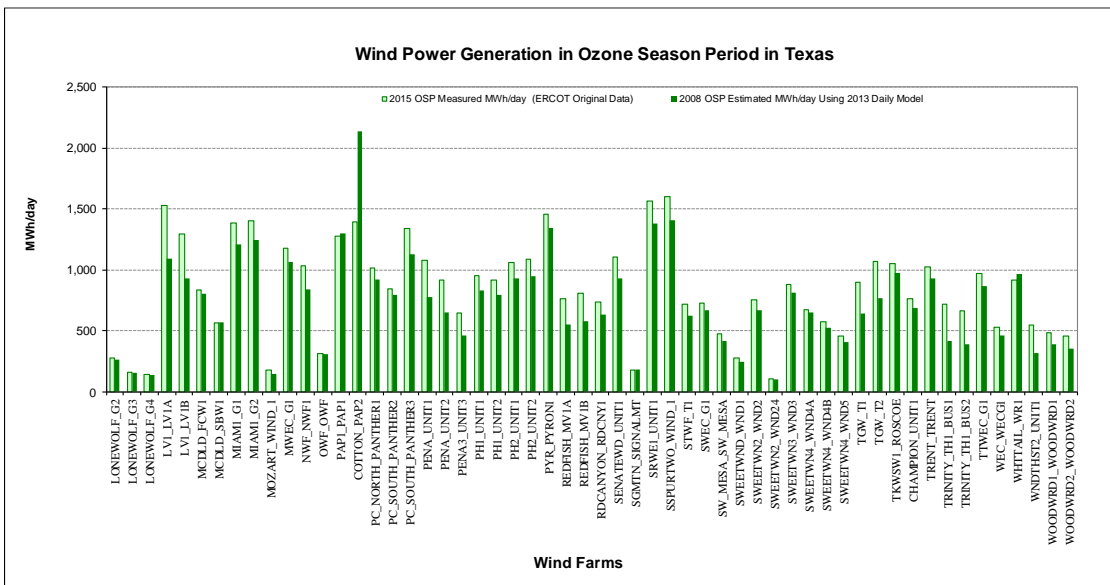


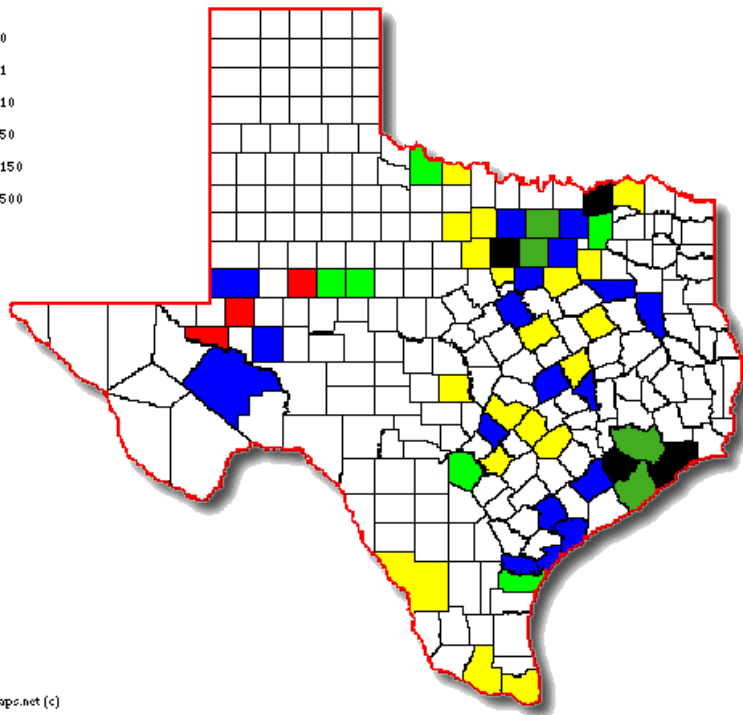
Figure 1-5: Comparison of 2015 OSP Measured and 2008 OSP Estimated Wind Power Production for Each Wind_Farm_Part 2

1.4 Analysis of emissions reduction from wind farms

In this report, the procedure for calculating annual and peak-day, county-wide NO_x reductions from electricity savings from wind projects implemented in the congestion management (CM) zones in ERCOT was presented and, calculating the NO_x emission reductions based on the special version of 2010 eGRID, developed by the ESL and EPA for the TCEQ. According to the developed models, the total MWh savings for all the wind farms in the base year 2008 within the ERCOT region are 31,399,556 MWh/yr and 79,153 MWh/day in the Ozone Season Period. The total NO_x emissions reductions across all the counties amount are 8,684.31 tons/yr and 23.79 tons/day for the Ozone Season Period. Based on the 2015 measured ERCOT data, the total MWh savings for all the wind farms within the ERCOT region are 36,401,467 MWh/yr and 90,384 MWh/day in the Ozone Season Period. The total NO_x emissions reductions in 2015 across all the counties amount are 10,033.16 tons/yr and 25.03 tons/day for the Ozone Season Period. Compared to the base year 2008, the total annual NO_x emissions reductions increased by 15.53%, and the total NO_x emissions reductions increase 14.26% for the Ozone Season Period.

Figure 1-6 and Figure 1-8 show the estimated annual and OSP NO_x emissions reductions from wind power in each county of Texas in the base year 2008. Figure 1-7 and Figure 1-9 show the measured annual and OSP NO_x emissions reductions from wind power in each county of Texas in 2015.

Estimated 2008 Annual NO_x Reduction From Wind Power (tons/yr)

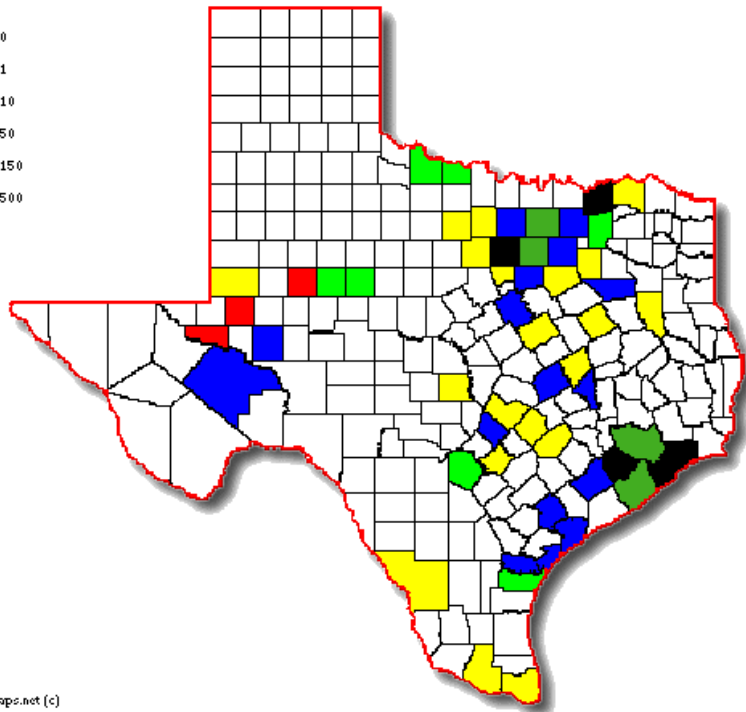


Source: diymaps.net (c)

Figure 1-6: Estimated 2008 Annual NO_x Reductions from Wind Power in Texas Map

Measured 2015 Annual NOx Reduction From Wind Power (tons/yr)

- - > 0
- - > 1
- - > 10
- - > 50
- - > 150
- - > 500

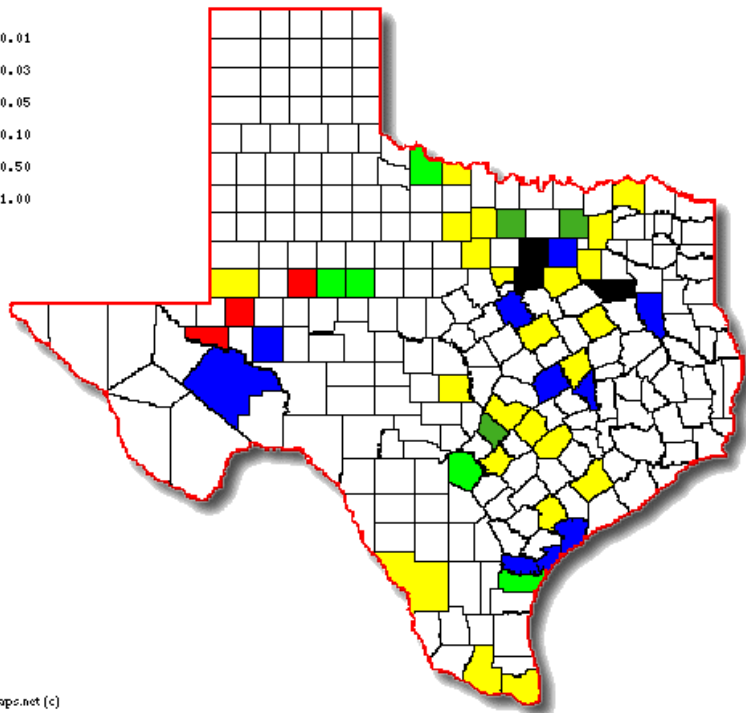


Source: diymaps.net (c)

Figure 1-7: Measured 2015 Annual NOx Reductions from Wind Power in Texas Map

Estimated 2008 OSP NOx Reduction From Wind Power (tons/day)

- - > 0.01
- - > 0.03
- - > 0.05
- - > 0.10
- - > 0.50
- - > 1.00



Source: diymaps.net (c)

Figure 1-8: Estimated 2008 OSP NOx Reductions from Wind Power in Texas Map

Measured 2015 OSP NO_x Reduction From Wind Power (tons/day)

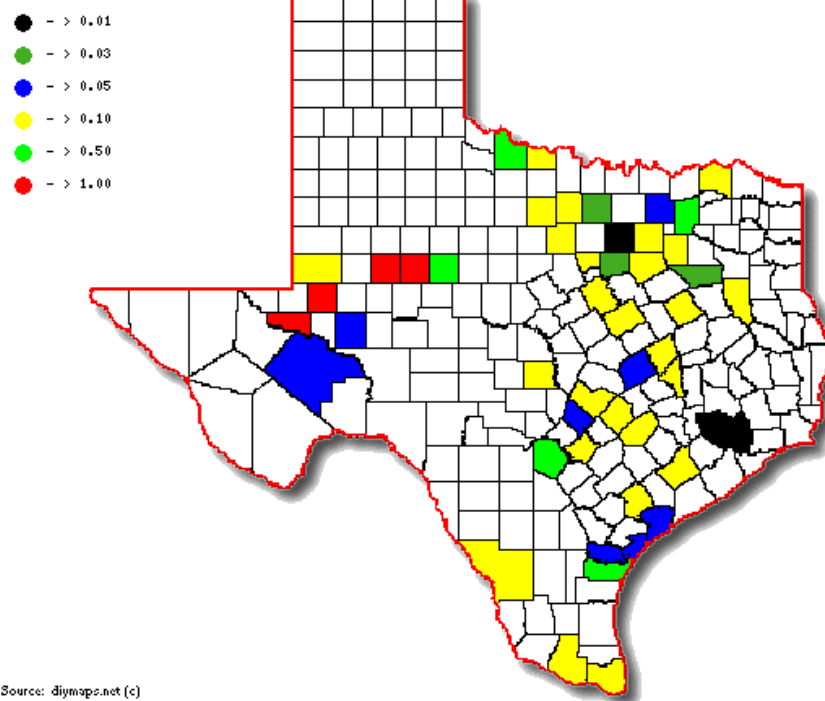


Figure 1-9: Measured 2015 OSP NO_x Reductions from Wind Power in Texas Map

1.5 Degradation analysis

This report contains an updated analysis to determine what degradation could be observed in the measured power from Texas wind farms. By TCEQ request on reference to the degradation of the wind farm power output, the ESL has been evaluating any observed degradation from the measured data for all the Texas wind farms.

For the analysis, a statistical index was established for each site that used the 10th, 25th, 50th, 75th, 90th, and 99th percentiles of the hourly power generation over a 12-month sliding period, as well as mean, minimum and maximum hourly power generation of the same 12-month period. These indices were then displayed using one data symbol for each 12-month slide, beginning from the first 12-month period until the last 12-month period for each of the wind farms.

As shown in Table 1-2, of the seventy one sites analyzed, forty nine sites showed an increase when one compares the 90th percentile of the whole period to the 90th percentile of the first 12-month period, ranging from 0.1% to 289.7%. The remaining twenty sites showed a decrease from -0.5% to -16.1%. The weighted average of this increase across all wind farms is 18.3% (positive), which indicates that no degradation was observed from the aggregate energy production from these wind farms over the analyzed operation period. Similarly, the wind farms of Papalote Creek Wind Farm (-14.5%), Big Spring Wind Power (-15.4%), and Snyder Wind Project (-16.1%) have a decrease on production with a percentage larger than 10%, which may be caused by wind farm operations issues, the meter problems or other related issues.

Table 1-2: Summary of 90th Percentile Hourly Wind Power Analysis for Eighty Wind Farms (74 Sites) in Texas

Wind Farm	First 12-mo 90th Percentile Hourly Wind Power		Average of the Sliding 12-mo 90th Percentile Hourly Wind Power		Minimum of the Sliding 12-mo 90th Percentile Hourly Wind Power		Maximum of the Sliding 12-mo 90th Percentile Hourly Wind Power		No. of Months of Data	Capacity (MW)
	First 12-mo Ending Mo.	MW	MW	% Diff. vs. First 12-mo	MW	% Diff. vs. First 12-mo	MW	% Diff. vs. First 12-mo		
Brazos Wind Ranch	Dec-04	127.5	126.8	-0.6%	93.5	-26.7%	139.4	9.3%	133	160
Barton Chapel Wind 1	Apr-09	60.0	76.5	27.4%	43.1	-28.2%	89.1	48.5%	81	120
Buffalo Gap 1	Nov-06	100.9	98.4	-2.4%	75.4	-25.2%	105.7	4.8%	110	120
Buffalo Gap 2	Apr-08	183.4	174.1	-5.1%	104.9	-42.8%	207.6	13.2%	93	233
Buffalo Gap 3	Jun-09	86.4	136.1	57.6%	86.4	0.0%	152.1	76.0%	79	170
Bull Creek Wind Plant	Dec-09	93.9	91.5	-2.6%	41.5	-55.8%	130.4	38.9%	73	180
Big Spring Wind Power	Dec-02	27.2	23.0	-15.4%	16.3	-40.1%	27.2	0.0%	157	41
Callahan Divide Wind	Feb-06	93.3	95.1	2.0%	86.7	-7.1%	101.5	8.8%	119	114
Capricorn Ridge Wind 1&2	Aug-08	258.0	248.2	-3.8%	174.5	-32.4%	291.2	12.8%	89	364
Capricorn Ridge Wind 3	Jan-09	120.3	134.9	12.1%	97.9	-18.6%	153.5	27.6%	84	186
Capricorn Ridge Wind 4	Apr-09	85.2	84.1	-1.3%	67.6	-20.6%	92.8	9.0%	81	112.5
Camp Springs Wind Energy Center	Apr-08	111.3	106.8	-4.0%	95.0	-14.6%	120.9	8.6%	93	130
Camp Springs Energy Expansion	Jan-09	94.0	97.4	3.7%	88.9	-5.4%	107.9	14.8%	84	120
Cedro Hill Wind	Dec-11	136.3	125.6	-7.8%	102.1	-25.1%	136.9	0.4%	49	150
Champion Wind Farm	Jan-09	89.4	102.8	14.9%	87.7	-1.9%	113.2	26.6%	84	126.5
Desert Sky	Dec-02	89.0	118.8	33.4%	83.1	-6.7%	134.4	50.9%	157	160.5
Elbow Creek Wind	Dec-09	94.5	97.8	3.5%	88.5	-6.4%	104.5	10.6%	73	121.9
Forest Creek Wind Farm	Dec-07	105.2	106.2	1.0%	97.3	-7.5%	111.2	5.7%	97	124.2
Goat Wind	Feb-09	61.4	94.3	53.7%	61.4	0.0%	122.6	99.8%	83	150
Gulf Wind 1	Dec-09	63.1	105.1	66.5%	63.1	0.0%	119.4	89.1%	73	141.6
Gulf Wind 2	Dec-09	74.7	114.8	53.6%	74.7	0.0%	126.3	69.0%	73	141.6
Hackberry Wind	Dec-09	138.0	125.4	-9.1%	105.8	-23.3%	140.6	1.9%	73	165.5
Horse Hollow Phase 1	Jun-06	157.0	165.9	5.7%	141.3	-10.0%	185.1	17.9%	115	213
Horse Hollow Phase 2	Aug-07	145.7	137.4	-5.7%	99.0	-32.1%	151.5	4.0%	101	184
Horse Hollow Phase 3	May-07	169.2	165.8	-2.0%	123.9	-26.8%	187.7	11.0%	104	223.5
Horse Hollow Phase 4	Jun-07	88.6	88.8	0.1%	80.9	-8.7%	94.8	6.9%	103	115
Inadale Wind	Dec-09	81.9	131.4	60.5%	81.9	0.0%	166.3	103.1%	73	197
Indian Mesa	Dec-02	48.0	58.0	20.9%	36.0	-24.9%	72.2	50.5%	157	82.5
King Mountain Wind Ranch-NE	Dec-02	41.8	46.9	12.0%	36.3	-13.2%	56.4	34.8%	157	79.3
King Mountain Wind Ranch-NW	Dec-02	44.7	55.3	23.7%	40.2	-10.1%	65.3	46.1%	157	79.3
King Mountain Wind Ranch-SE	Dec-02	21.6	23.6	9.2%	18.4	-15.0%	28.1	29.8%	157	40.3
King Mountain Wind Ranch-SW	Dec-02	41.6	46.9	12.8%	38.4	-7.7%	53.7	29.1%	157	79.3
Langford Wind	Dec-10	115.7	126.0	8.9%	114.4	-1.1%	134.3	16.0%	61	150
Lone Star - Post Oak Wind	Dec-08	126.5	155.9	23.2%	126.5	0.0%	170.5	34.8%	85	200
Lone Star - Masquite Wind	Feb-08	106.1	149.8	41.2%	106.1	0.0%	168.1	58.5%	95	200
Lorraine Windpark I	Dec-10	30.4	35.4	16.5%	25.9	-14.8%	42.3	39.2%	61	126
Lorraine Windpark II	Dec-10	27.8	35.7	28.2%	25.7	-7.6%	43.3	55.7%	61	124.5
Lorraine Windpark III	Jan-12	16.2	20.6	26.9%	16.2	0.0%	22.6	39.4%	48	26
Lorraine Windpark IV	Dec-12	17.4	15.6	-10.5%	5.0	-71.5%	20.8	19.1%	37	24
McAdoo Wind	Dec-09	111.7	135.8	21.5%	111.7	0.0%	143.6	28.5%	73	150
Notrees Windpower	Dec-09	97.8	112.8	15.3%	97.8	0.0%	122.9	25.7%	73	153
Ocotillo Windpower	Dec-09	39.1	42.1	7.6%	36.6	-6.4%	47.2	20.7%	73	58.8
Panther Creek 1	Dec-09	114.4	120.2	5.1%	107.8	-5.8%	128.9	12.7%	73	142.5
Panther Creek 2	Dec-09	91.8	96.3	4.9%	85.2	-7.2%	104.2	13.5%	73	115.5
Panther Creek 3	Dec-09	105.0	148.2	41.3%	105.0	0.0%	177.1	68.8%	73	199.5
Papalote Creek Wind Farm	Dec-10	150.1	128.4	-14.5%	39.6	-73.6%	157.9	5.2%	73	180
Papalote Creek Wind Farm II	Dec-11	174.2	167.7	-3.7%	155.0	-11.0%	176.4	1.2%	49	200.1
Penascal Wind 1	Dec-09	30.6	119.2	289.0%	30.6	0.0%	141.5	361.8%	73	161
Penascal Wind 2	Dec-09	83.3	109.1	31.0%	80.7	-3.1%	125.4	50.5%	73	142
Penascal Wind 3	Dec-10	68.3	79.8	16.8%	65.7	-3.9%	88.8	30.0%	73	101
Pyron Wind Farm	Dec-09	157.2	187.2	19.1%	151.4	-3.7%	220.1	40.0%	73	249
Red Canyon 1	Aug-07	75.8	76.1	0.4%	72.7	-4.1%	79.1	4.4%	101	84
Roscoe Wind Farm	Dec-08	169.4	153.4	-9.4%	108.1	-36.2%	179.8	6.2%	85	209
Sand Bluff Wind Farm	Dec-07	39.5	67.4	70.6%	39.5	0.0%	75.4	90.6%	97	90
Sherbino 1 Wind	Dec-09	104.7	112.9	7.9%	92.3	-11.8%	128.1	22.4%	73	150
Sherbino 2 Wind	Dec-12	125.7	91.6	-27.2%	38.0	-69.8%	125.7	0.0%	37	150
Silver Star Wind	Apr-09	40.6	45.9	13.0%	39.5	-2.7%	50.5	24.4%	81	60
South Trent Wind Farm	Dec-09	67.7	84.2	24.4%	65.4	-3.5%	91.0	34.4%	73	101.2
Southwest Mesa Wind	Dec-02	51.1	47.1	-7.8%	37.2	-27.1%	56.5	10.6%	157	74.6
Stanton Wind Energy	Dec-08	79.4	95.5	20.3%	79.4	0.0%	107.0	34.7%	85	120
Sweetwater Wind 1	Dec-04	34.1	33.0	-3.2%	29.9	-12.2%	34.9	2.4%	133	37.5
Sweetwater Wind 2 (unit 1)	Jan-06	71.4	81.7	14.5%	71.4	0.0%	88.0	23.3%	120	97.5
Sweetwater Wind 2 (unit 2)	May-08	13.8	13.8	0.5%	12.0	-13.1%	14.8	7.8%	92	16
Sweetwater Wind 3	Dec-06	99.6	101.1	1.4%	67.1	-32.7%	111.2	11.6%	109	135
Sweetwater Wind 4	Mar-08	161.0	171.0	6.2%	153.2	-4.9%	182.2	13.2%	94	240.8
Sweetwater Wind 5	Dec-08	66.5	63.3	-4.8%	56.3	-15.3%	69.3	4.3%	85	80.5
Snyder Wind Project	Dec-08	52.9	44.4	-16.1%	36.1	-31.8%	52.9	0.0%	85	63
Trent Mesa	Dec-02	108.8	119.8	10.0%	90.7	-16.7%	132.8	22.0%	157	150
Trinity Hills Wind Farm 1	Dec-12	78.8	78.4	-0.5%	62.8	-20.3%	88.1	11.8%	37	118
Trinity Hills Wind Farm 2	Dec-12	74.8	77.0	2.9%	63.5	-15.0%	88.0	17.7%	37	108
Turkey Track Wind Energy Center	Dec-09	77.4	124.2	60.5%	77.0	-0.5%	143.1	85.0%	73	169.5
Whirlwind	Dec-08	54.0	50.0	-7.4%	39.8	-26.3%	56.9	5.4%	85	60
Wolf Ridge Wind	Dec-09	105.9	105.4	-0.5%	97.6	-7.8%	108.8	2.7%	73	112.5
Woodward Mountain Ranch	Dec-02	85.3	97.3	14.1%	80.4	-5.7%	112.4	31.8%	157	159.7
Weighted Average:				17.2%		-15.1%		34.0%	Total:	9915.2

1.6 Analysis of other renewable sources

Five specific renewable sources were determined: solar, biomass, hydroelectric, geothermal, and landfill gas-fired. To generate/save energy throughout the State of Texas, six types of renewable energy projects were identified: solar photovoltaic (PV) including solar power, solar thermal, biomass power, hydroelectric power, geothermal HVAC, and landfill gas-fired power projects. The solar photovoltaic project accounts for all PV installations in Texas whereas the solar power project accounts for only solar power plant constructions. Table 1-3 presents the number of newly located renewable energy projects and total renewable energy projects included in this report.

This report also presents county-wide annual/Ozone Season Day (OSD) energy savings and annual NOx emission reductions for solar photovoltaic including solar power, solar thermal, biomass, and hydroelectric projects. The annual/OSD energy savings calculation for solar photovoltaic and solar thermal was conducted using the eCalc tool. The power generation data for the other renewable energy projects (solar power, biomass, and hydroelectric), which were obtained from the ERCOT, were used to evaluate the annual/OSD energy generation. Then, the annual NOx emission reductions calculation was conducted with the special version of Texas 2010 eGrid, based on their energy savings/generation.

In 2015, the total annual/OSD energy savings from each renewable projects across all the counties were:

- solar photovoltaic projects with 7% T&D loss: 319,343 MWh/yr and 960.54 MWh/day; in addition, solar power projects only with 7% T&D loss: 328,352 MWh/yr and 900 MWh/day,
- solar thermal projects with 7% T&D loss: 248 MWh/yr and 0.7 MWh/day,
- biomass projects with 7% T&D loss: 543,454 MWh/yr and 1,489 MWh/day, and
- hydroelectric projects with 7% T&D loss: 157,776 MWh/yr and 432 MWh/day.

In 2015, the annual NOx emission reductions from renewable projects across all the counties were:

- solar photovoltaic projects: 102.606 tons/yr; in addition, solar power projects only: 105.5 tons/yr,
- solar thermal projects: 0.1 tons/yr,
- biomass projects: 150.3 tons/yr, and
- hydroelectric projects: 45.3 tons/yr.

Table 1-3: Number of Identified Projects for Other Renewable Sources

Renewable Energy Projects	Number of 2015 New Projects	Total Number of Projects
Solar Photovoltaic ²	37	4,684
(Solar Power)	(4)	(16)
Solar Thermal	0	38
Biomass ³	1	21
Hydroelectric ⁴	2	29
Geothermal	0	286
Landfill Gas-Fired ⁵	2	36

² The Open PV project database of National Renewable Energy Laboratory (NREL) (<https://openpv.nrel.gov/>), which was checked in March, 2015, provides updated PV projects for 2006, 2008, 2009, 2010, 2011, 2012. Thus, the total number of PV projects until 2013, including PV projects from various websites, is now 4,534. Previously, it was 3,223.

³ This report includes one more biomass project information which was not identified in the previous year report; however, it does not mean the State of Texas has a new biomass power plant constructed in 2015.

⁴ This report includes one more hydroelectric project information which was not identified in the previous year report; however, it does not mean the State of Texas has a new hydroelectric power plant constructed in 2015.

⁵ Landfill gas-fired projects information from EPA have seven sub-categories for their status: operational, candidates, potential, construction, shutdown, planned, and other. EPA rearranged/added/removed some projects information within the seven sub-categories. Operational projects were considered for the number of the projects.

This report includes four more (new) and two less (shutdown) operational landfill gas-fired project information which was not identified in the previous year report; however, the new operational projects do not mean the State of Texas has new landfill gas-fired projects constructed in 2015.

1.7 Review of electricity savings and transmission planning study reported by ERCOT

In this report, the information posted on ERCOT's Renewable Energy Credit Program site www.texasrenewables.com is reviewed. In particular, information posted under the "Public Reports" tab was downloaded and assembled into an appropriate format for review. This includes ERCOT's 2001 through 2015 reports to the Legislature and information from ERCOT's listing of REC generators.

Each year ERCOT is required to compile a list of grid-connected sources that generate electricity from renewable energy and report them to the Legislature. Table 1-4 contains the data reported by ERCOT from 2001 to 2015. Figure 1-10 is included to better illustrate the annual data collected by ERCOT. Other sources present different renewable electricity generation values on biomass, wind and hydro, but those are explained in general because the numbers reported in this report are focused on the ERCOT region.

Table 1-4: Annual Electricity Generation by Renewable Resources (MWh, ERCOT: 2001 - 2015)

Year	Biomass (MWh)	Hydro	Landfill gas (MWh)	Solar (MWh)	Wind (MWh)	Total (MWh)
2001	0	30,639	0	0	565,597	596,236
2002	0	312,093	29,412	87	2,451,484	2,793,076
2003	39,496	239,684	154,206	220	2,515,482	2,949,087
2004	36,940	234,791	203,443	211	3,209,630	3,685,014
2005	58,637	310,302	213,777	227	4,221,568	4,804,512
2006	60,569	210,077	306,087	470	6,530,928	7,108,131
2007	54,101	382,882	356,339	1,844	9,351,168	10,146,333
2008	70,833	445,428	387,110	3,338	16,286,440	17,193,150
2009	73,364	507,507	412,923	4,492	20,596,105	21,594,390
2010	97,535	609,257	464,904	14,449	26,828,660	28,014,805
2011	137,004	267,113	497,645	36,580	30,769,674	31,708,016
2012	288,988	389,197	549,037	139,439	32,746,534	34,113,195
2013	200,564	294,238	550,845	178,326	36,909,385	38,133,358
2014	343,469	240,792	518,580	312,757	40,644,362	42,059,961
2015	349,600	414,289	561,915	410,318	45,165,341	46,901,462

NOTE: The REC Program tracks renewable generation in Texas, including non-ERCOT regions of Texas⁶.

⁶ <https://www.texasrenewables.com/reports.asp>

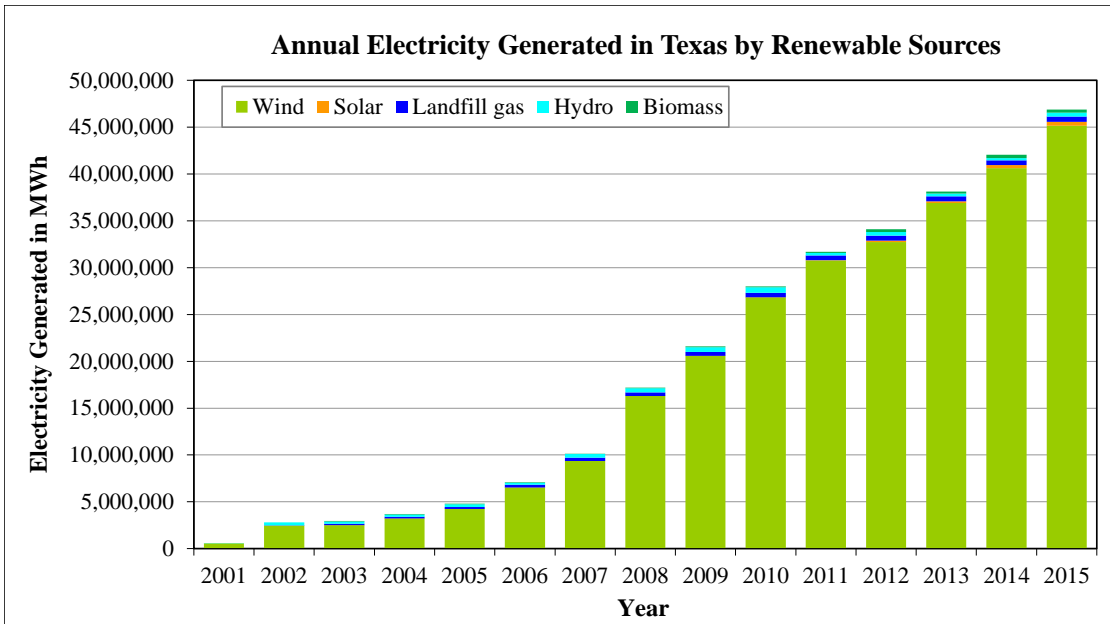


Figure 1-10: Electricity Generation by Renewable Resources (ERCOT: 2001–2015 Annual)

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2 INTRODUCTION

2.1 Statement of Work for Calculations of Emissions from Wind and Other Renewables

This summary report covers the Energy Systems Laboratory's work from January 2015 through December 2015. This work is intended to cover the basic work outline included below:

Task 1: Obtain input from public/private stakeholders

Task 2: Develop a methodology in cooperation with the Texas Commission on Environmental Quality (TCEQ) and the U.S. Environmental Protection Agency (US EPA) for calculating emissions reductions obtained through wind and other renewable energy resources in Texas

Task 3: Calculate annual, creditable emissions reductions for wind and other renewable energy resources for inclusion in the State SIP

Task 4: Include emissions reductions by county from wind and renewable energy resources in the ESL's annual report to the TCEQ

Task 5: Incorporate wind and renewable energy emissions reductions as a component of the ESL's annual *Clean Air Through Energy Efficiency Conference (CATEE)* to facilitate technical transfer

2.2 Summary of Progress

The progress toward completing each task is provided in the following section and throughout this report.

Task 1: Obtain input from public/private stakeholders.

Legislation passed during the regular session of the 79th Legislature directed the Energy Systems Laboratory to work with the TCEQ to develop a methodology for computing emissions reductions attributable to renewable energy and for the ESL to quantify the emissions reductions attributable to renewables for inclusion in the State Implementation Plan (SIP) annually. HB 2921 directed the Texas Environmental Research Consortium (TERC) to engage the Texas Engineering Experiment Station for the development of this methodology.

During the period from January 2015 to December 2015, several presentations were done to report the analysis methodology and the results with TCEQ, EPA, TCEQ, and other interested parties. For example, Appendix A shows the slides that were presented in the meeting:

- December 2015 – Presentation at the CATEE Conference about Emissions Reduction Impact of Renewables, Dallas, Texas.

Task 2: Develop a methodology in cooperation with the Texas Commission on Environmental Quality and the U.S. Environmental Protection Agency for calculating emissions reductions obtained through wind and other renewable energy resources in Texas.

This task is composed of the following subtasks:

- review existing methodologies for calculating emissions reductions from wind energy and other renewable energy systems with US EPA, TCEQ and stakeholders.
- develop acceptable methodologies for wind and renewables.
- determine how to implement methodologies for Texas, including accounting of current installations, future sites, degradation, discounting/uncertainty, grid constraints, etc.
- review methodologies for verifying wind energy production and renewable energy installations with TCEQ, US EPA and stakeholders.

- develop acceptable methodologies for verifying installations, including documentation, EPA Quality Assurance Project Plan (QAPP), etc.
- develop draft State Guidelines for the TCEQ for EE/RE SIP credits

Task 3: Calculate annual, creditable emissions reductions for wind and other renewable energy resources for inclusion in the State SIP.

This task is composed of the following subtasks:

- calculate annual emissions from wind and other renewable energy projects; verify annual installations of wind and renewable energy systems in Texas;
- verify ERCOT historical data for wind production and other renewables

Task 4: Include emissions reductions by county from wind and renewable energy resources in the ESL's annual report to the TCEQ.

This task is composed of the following subtasks:

- report annual emissions from wind and other renewable energy projects;
- report on verification of installations of wind and renewable energy systems in Texas;
- develop documentation for all methods developed

Task 5: Incorporate wind and renewable energy emissions reductions as a component of the ESL's annual Clean Air Through Energy Efficiency Conference (CATEE) to facilitate technical transfer.

Additional information regarding the ESL's efforts on Tasks 2, 3, 4 and 5 are listed below and presented in detail in the following sections. This work was performed during the period January 2015 through December 2015.

- analysis of wind farms using 2015 data
- analysis of emissions reduction from wind farms
- updates of the degradation analysis to include more wind farms
- analysis of other renewables
- review of electricity savings and transmission planning study reported by ERCOT

3 ANALYSIS ON POWER PRODUCTION FROM WIND FARMS USING 2015 DATA

3.1 Introduction

Texas is the largest producer of wind energy in the United States. As of January 2016⁷, the installed wind turbine capacity totals 17,779 MW, and it has been announced new projects that will add another 9,784 MW of capacity by the end of 2017. The ERCOT region encloses 16,587 MW, which accounts for 93% of the 2015 total capacity installed in Texas. Figure 3-1 shows the monthly electricity generation and capacity installed in the ERCOT region from September 2003 to December 2015. Figure 3-2 shows the location of the completed, announced and retired wind farms based on the information from the PUCT.

Following the analysis, a summary of total wind power production in the base year (2008) for all wind farms in the ERCOT region is presented. Then, a comparison between the estimated wind power in 2008 and the 2008 Ozone Season Period from previous reports and the results from this year's modeling are also included in this section to show the performance of the modeling procedure.

An uncertainty analysis was also performed on all the daily regression models and included in this report to show the accuracy of applying the OSP and Non-OSP linear regression models to predict the wind power generation that the wind farms would have had in the base year of 2008. The detailed analysis for each wind farm is provided in the Appendix B. The original data used in the analysis is included in the accompanying CD-ROM with this report.

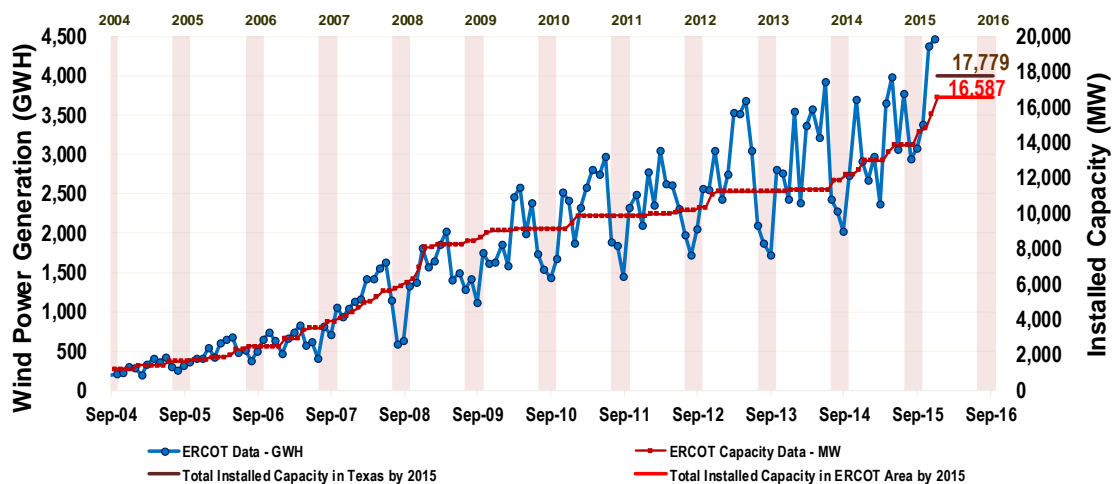


Figure 3-1: Installed Wind Power Capacity and Power Generation in the ERCOT Region from September 2004 to December 2015

⁷ Wind project information obtained from the Public Utility Commission of Texas (www.puc.state.tx.us) as of 12/31/2015 and the Electric Reliability Council of Texas (ERCOT) as of May 2015.

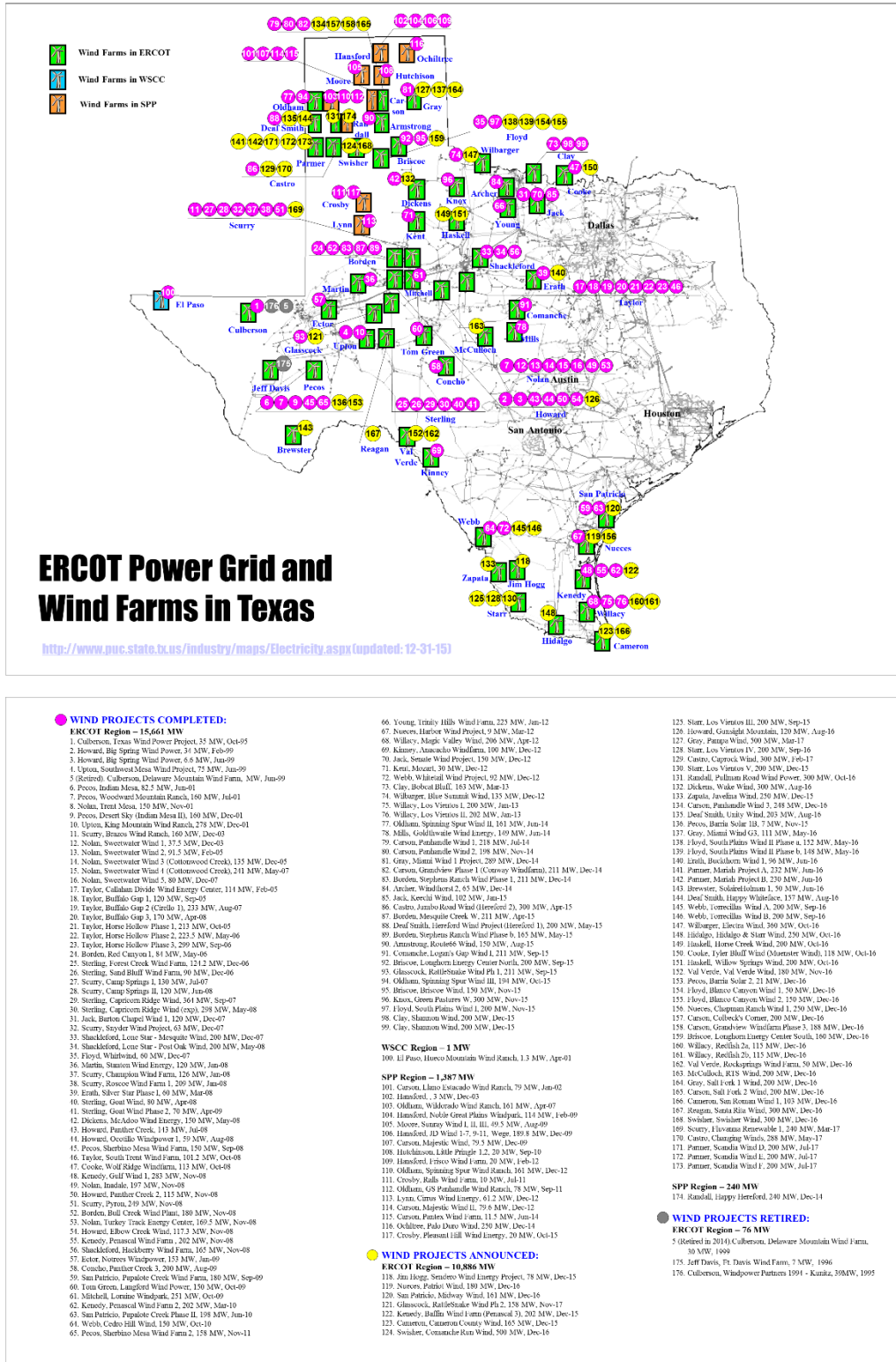


Figure 3-2: Completed, Announced and Retired Wind Projects in Texas up to December 2015

3.2 Summary of Wind Power Production for All Wind Farms in the Texas ERCOT Region

Table 3-1⁸ shows the summary of the 2015 measured power production for the wind farms that were operating in 2015 in the Texas ERCOT region and the estimated 2008 wind power production using daily regression models (Appendix B).

Table 3-2 shows the monthly average wind speed across NOAA six weather stations of the west and the average wind speed of the west zone of ERCOT which is mainly used for the analysis. The wind speeds for the north and south zones are not included in Table 3-2. For the modeling analysis of this year, the average wind speed of ERCOT is used for most of the wind farms because the average ERCOT wind speed is measured at more nearby locations of wind farms than NOAA weather stations. As a result, it is estimated that the analysis using the average ERCOT wind speed can be more accurate than the NOAA wind speed.

As shown in Figure 3-3 and Figure 3-4, the estimated annual wind power production in 2008 (31,399,556 MWh/yr) is lower about 15.93% when compared to what was measured in 2015 (36,401,467 MWh/yr). For the Ozone Season Period, the estimated average daily power production in 2008 is 79,153 MWh/day, a 14.19% is lower from that measured in 2015 (90,384 MWh/day). This is because, for the modeling analysis of this year, the average wind speed of ERCOT for the year 2015 is used for the analysis of most of wind farms. The average ERCOT wind speed in 2015 is higher than the average NOAA wind speed in 2008.

Figure 3-5 and Figure 3-6 presents the comparison of the 2015 measured annual wind power production against the 2008 estimated annual wind power production for each wind farm. Figure 3-7 and Figure 3-8 shows the difference between the 2015 measured average daily power production and the 2008 estimated average daily wind power production during the Ozone Season Period for each wind farm.

From this analysis it can be concluded that the use of weather normalization procedures for predicting the 2008 base year production based on 2015 measured power production is more accurate than simply using the measured 2008 power production as the base year power production. Therefore, it is recommended to the TCEQ that the current discount factor be reduced to take the more accurate modeling into account.

⁸ The estimated 2008 wind power production in Table 3-1 is weighted using the ratio of the 2015 ERCOT average wind speed to the 2015 NOAA wind speed. This is because the estimated 2008 wind power production is calculated using the NOAA wind speed other than the ERCOT average wind speed. However, Appendix B shows the original estimated 2008 wind power production.

Table 3-1: Summary of Power Production for All Wind Farms

Wind Unit Name	County	Capacity (MW)	ERCOT Wind Zone	CM Zone	Final Wind Zone	Wind Power for 2008 Predicted		Wind Power for 2015 Measured	
						Annual (MWh/yr)	OSD (MWh/day)	Annual (MWh/yr)	OSD (MWh/day)
ANACACHO_ANA	Kinney	100.0	SOUTH	S	SOUTH	324,887	761	326,909	956
BAFFIN_UNIT1	Kenedy	100.0	COASTAL	S	COASTAL	203,974	439	225,966	579
BAFFIN_UNIT2	Kenedy	102.0	COASTAL	S	COASTAL	184,708	415	202,238	550
BOATWIND_WIND_1	Gray	150.0	WEST	N	WEST	319,893	567	385,226	991
BUSBYM1_BUSBY1	Wilbarger	135.4	WEST	W	WEST	425,548	1,020	444,954	1,130
BRAZ_WIND_WIND1	SOURRY	90.0	WEST	W	WEST	229,904	765	265,479	751
BRAZ_WIND_WIND2	SOURRY	61.0	WEST	W	WEST	130,521	451	153,904	447
BRTSW_BCW1	JACK	120.0	NORTH	N	NORTH	277,218	510	267,001	614
BUFF_GAP_UNIT1	TAYLOR	120.0	WEST	W	WEST	287,897	812	335,663	793
BUFF_GAP_UNIT2	TAYLOR	233.0	WEST	W	WEST	529,210	1,373	616,963	1,363
BUFF_GAP_UNIT3	TAYLOR	170.0	WEST	W	WEST	287,897	812	335,663	793
BULLCRK_WIND1	BORDEN	89.0	WEST	W	WEST	145,173	278	165,111	296
BULLCRK_WIND2	BORDEN	91.0	WEST	W	WEST	157,406	317	179,731	332
CALLAHAN_WIND1	TAYLOR	114.0	WEST	W	WEST	301,960	767	341,472	871
CAPRIDGE_CR1	STERLING	214.5	WEST	W	WEST	546,290	1,494	620,782	1,534
CAPRIDGE_CR2	STERLING	149.5	WEST	W	WEST	255,842	591	287,675	623
CAPRIDGE_CR3	STERLING	196.0	WEST	W	WEST	424,168	1,061	473,714	1,093
CAPRIDGE_CR4	STERLING	112.5	WEST	W	WEST	263,397	659	295,793	686
CEDRCHL_CHW1	WEBB	150.0	SOUTH	S	SOUTH	446,821	1,112	476,599	1,462
CSEC_CSEC01	SOURRY	130.0	WEST	W	WEST	351,003	854	403,895	948
CSEC_CSEC02	SOURRY	120.0	WEST	W	WEST	320,066	752	365,072	837
KUNITZ_WIND_WWP	COLLIERSON	29.5							
DO_MEECE_UNITS	MURKES	9.0	COASTAL	S	COASTAL	18,365	36	19,788	48
ELB_ELBCREK	HOWARD	121.9	WEST	W	WEST	241,937	741	347,271	808
ENAS_ENA1	SOURRY	63.0	WEST	W	WEST	132,361	291	151,482	333
EXGNWTL_WIND_1	Webb	92.0	SOUTH	S	SOUTH	250,593	591	264,665	785
FLTKC_SS1	ERATH	60.0	NORTH	N	NORTH	167,949	332	163,492	402
GOAT_COATWIND	STERING	150.0	WEST	W	WEST	213,815	1,154	371,049	903
GRANDWV1_GV1A	Carson	107.4	PANHANDLE	W	PANHANDLE	387,924	975	438,181	1,111
GRANDWV1_GV1B	Carson	103.8	PANHANDLE	W	PANHANDLE	373,606	928	420,528	1,059
GIVEC_GIVEC_G1	HILLS	148.6	NORTH	N	NORTH	510,377	993	474,601	1,038
H_HOLLOW_WIND1	TAYLOR	213.0	WEST	W	WEST	569,931	1,365	627,965	1,468
H_HOLLOW2_WIND1	TAYLOR	184.0	WEST	W	WEST	384,821	1,083	455,118	1,051
H_HOLLOW3_WIND_1	TAYLOR	223.5	WEST	W	WEST	519,885	1,321	598,377	1,362
H_HOLLOW4_WIND1	TAYLOR	115.0	WEST	W	WEST	291,013	674	323,280	731
HRFDWIND_WIND_G	DEAF SMITH	99.9	PANHANDLE	W	PANHANDLE	258,699	675	313,831	771
HRFDWIND_WIND_V	DEAF SMITH	100.0	PANHANDLE	W	PANHANDLE	313,943	888	375,075	1,014
HWF_HWFG1	SHACKLEFORD	165.5	WEST	N	WEST	364,706	667	444,940	1,122
INDL_INADALE1	NOLAN	197.0	WEST	W	WEST	443,892	1,099	499,538	1,041
INDENR_INDENR1	PECOS	84.0	WEST	W	WEST	178,192	500	231,015	648
INDENR_INDENR_2	PECOS	76.5	WEST	W	WEST	162,645	486	214,172	624
INDNNWP_INNNWP	PECOS	82.5	WEST	W	WEST	132,256	393	170,414	517
KEECH_U1	Jack	110.0	NORTH	N	NORTH	410,756	850	389,842	1,013
KEO_KEO_SM1	PECOS	150.0	WEST	W	WEST	361,199	1,159	469,832	1,431
KEO_SHRIN02	PECOS	150.0	WEST	W	WEST	327,854	1,065	413,114	1,313
KING_NE_KINGNE	UPTON	79.3	WEST	W	WEST	97,340	315	141,450	344
KING_NW_KINGNW	UPTON	79.3	WEST	W	WEST	118,190	364	166,861	435
KING_SE_KINGSE	UPTON	40.3	WEST	W	WEST	48,053	146	68,777	157
KING_SW_KINGSW	UPTON	79.3	WEST	W	WEST	104,048	283	142,970	341
KUNITZ_WIND_LGE	COLLIERSON	35.0							
LGD_LANDFORD	Tom Green	150.0	WEST	W	WEST	361,278	1,087	493,986	1,164
LNCRK2_G8T1	SHACKLEFORD	100.0	WEST	N	WEST	217,846	399	277,345	696
LNCRK2_G8T2	SHACKLEFORD	100.0	WEST	N	WEST	214,096	391	270,963	678
LNCRK_G83	SHACKLEFORD	200.0	WEST	N	WEST	457,021	1,090	514,604	1,274
LONEWOLF_G1	MITCHELL	126.0	WEST	W	WEST	118,027	274	131,288	301
LONEWOLF_G2	MITCHELL	124.5	WEST	W	WEST	115,237	267	128,364	280
LONEWOLF_G3	MITCHELL	26.0	WEST	W	WEST	64,835	155	72,461	164
LONEWOLF_G4	MITCHELL	24.0	WEST	W	WEST	59,017	134	65,141	143
LV1_LV1A	Willacy	200.1	COASTAL	S	COASTAL	545,176	1,095	601,464	1,525
LV1_LV1B	Willacy	201.6	COASTAL	S	COASTAL	449,484	927	501,531	1,298
MODLD_F0W1	STERLING	124.2	WEST	W	WEST	325,349	799	373,769	831
MODLD_SBW1	STERLING	90.0	WEST	W	WEST	215,825	566	242,849	564
MIAMI_G1	GRAY	144.3	PANHANDLE	W	PANHANDLE	446,925	1,211	542,971	1,382
MIAMI_G2	GRAY	144.3	PANHANDLE	W	PANHANDLE	420,448	1,243	532,376	1,401
MOZART_WIND_1	Kent	30.0	WEST	W	WEST	72,382	145	77,050	175
IMVEC_G1	DICKENS	150.0	PANHANDLE	W	PANHANDLE	436,914	1,066	504,871	1,181
NWF_WWF1	ECTOR	153.0	WEST	W	WEST	340,495	844	390,035	1,030
OWF_OW1	HOWARD	59.8	WEST	W	WEST	89,919	307	133,192	317
PAP1_PAP1	San Patricio	180.0	COASTAL	S	COASTAL	501,010	1,304	484,621	1,276
COTTON_PAP2	San Patricio	200.1	COASTAL	S	COASTAL	686,367	2,137	550,354	1,390
PC_NORTH_PANTHER1	HOWARD	142.5	WEST	W	WEST	267,965	924	444,208	1,017
PC_SOUTH_PANTHER2	HOWARD	115.5	WEST	W	WEST	209,824	796	354,181	846
PC_SOUTH_PANTHER3	CONCHO	199.5	WEST	W	WEST	316,150	1,126	582,350	1,337
PENA_UNIT1	KENEDY	161.0	COASTAL	S	COASTAL	324,526	775	370,833	1,081
PENA_UNIT2	KENEDY	142.0	COASTAL	S	COASTAL	268,084	652	306,054	913
PENA3_UNIT3	Kenedy	101.0	COASTAL	S	COASTAL	202,493	460	230,332	642
PH1_UNIT1	CARSON	109.2	PANHANDLE	W	PANHANDLE	303,418	835	362,131	949
PH1_UNIT2	CARSON	109.2	PANHANDLE	W	PANHANDLE	303,092	799	373,768	912
PH2_UNIT1	CARSON	94.2	PANHANDLE	W	PANHANDLE	319,362	930	380,890	1,062
PH2_UNIT2	CARSON	96.6	PANHANDLE	W	PANHANDLE	324,945	950	399,330	1,085
PYR_PYRON1	SOURRY	249.0	WEST	W	WEST	640,300	1,345	695,220	1,458
REDFSH_MV1A	Willacy	100.8	COASTAL	S	COASTAL	281,769	553	305,666	765
REDFSH_MV1B	Willacy	100.8	COASTAL	S	COASTAL	286,508	580	314,137	809
RDCANYON_RDCNY1	BORDEN	84.0	WEST	W	WEST	257,602	633	281,626	733
SBNA_TEND_UNIT1	Jack	150.0	NORTH	N	NORTH	483,180	930	467,418	1,109
SCMNY_SCNMLMT	HOWARD	41.0	WEST	W	WEST	48,897	180	72,680	180
SRWEL_UNIT1	BORDEN	211.2	WEST	W	WEST	642,315	1,384	678,042	1,568
SSPURTWO_WIND_1	OLDHAM	161.0	PANHANDLE	W	PANHANDLE	478,576	1,404	567,067	1,598
STWF_T1	TAYLOR	101.2	WEST	W	WEST	262,897	623	308,718	718
SWEC_G1	MARTIN	120.0	WEST	W	WEST	256,337	665	340,701	725
SW_MESA_SW_MESA	UPTON	74.6	WEST	W	WEST	114,206	414	157,125	474
SWEETWIND_WIND1	NOLAN	37.5	WEST	W	WEST	97,051	242	111,963	280
SWEETWIND_WIND2	NOLAN	97.5	WEST	W	WEST	258,697	671	302,166	750
SWEETWIND_WIND3	NOLAN	16.0	WEST	W	WEST	38,268	101	46,080	106
SWEETWIND_WIND4	NOLAN	135.0	WEST	W	WEST	327,668	810	376,906	884
SWEETWIND_WIND5	NOLAN	135.0	WEST	W	WEST	269,819	651	309,381	679
SWEETWIND_WIND6	NOLAN	105.9	WEST	W	WEST	233,727	527	265,704	571
SWEETWIND_WIND7	NOLAN	80.5	WEST	W	WEST	185,723	411	212,509	452
TGW_T1	KENEDY	141.6	COASTAL	S	COASTAL	265,135	645	303,182	901
TGW_T2	KENEDY	141.6	COASTAL	S	COASTAL	297,312	766	342,719	1,067
TKVISW1_ROSCOE	SOURRY	209.0	WEST	W	WEST	377,132	976	445,850	1,050
CHAMPION_UNIT1	SOURRY	126.5	WEST	W	WEST	307,398	689	355,923	763
TRENT_TRENT	NOLAN	150.0	WEST	W	WEST	332,515	934	386,918	1,020
TRINITY_TH1_BUS1	YOUNG	117.5	WEST	N	WEST	247,052	415	302,959	721
TRINITY_TH1_BUS2	YOUNG	107.5	WEST	N	WEST	225,793	385	277,136	667
TWEC_G1	NOLAN	169.5	WEST	W	WEST	408,407	864	441,644	971
TWEC_WEC01	FLOYD	60.0	PANHANDLE	W	PANHANDLE	172,174	463	212,765	528
WHITALL_WR1	COOKE	112.5	NORTH	N	NORTH	397,795	962	374,650	914
WINDHST2_UNIT1	ARCHER	67.6	WEST	N	WEST	179,709	320	213,551	550
WOODWRD1_WOODWRD1	PECOS	82.5	WEST	W	WEST	130,553	388	169,492	488
WOODWRD2_WOODWRD2	PECOS	77.2	WEST	W	WEST	119,504	356	157,751	454
TOTAL		13256.7				31,399,556	79,153	36,401,467	90,384

Table 3-2: Summary of 2008 and 2015 Monthly Average Wind Speed for Six NOAA Weather Stations

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average	OSP Average	
Wind Speed ABI (mph)	2008	12.1	12.3	13.4	13.9	12.8	13.7	10.6	7.4	8.0	10.5	10.2	12.2	11.4	8.7
	2015	9.3	11.1	9.0	11.7	11.9	10.1	10.6	9.5	9.4	9.3	11.2	10.8	10.3	9.9
Wind Speed FST (mph)	2008	10.3	11.0	12.1	11.9	12.7	13.5	11.3	8.1	8.2	10.5	9.2	9.7	10.7	8.6
	2015	8.7	10.4	8.5	11.2	12.0	12.3	11.1	10.1	10.2	9.4	10.0	10.7	10.4	10.3
Wind Speed GDP (mph)	2008	20.2	25.1	16.8	22.6	20.1	18.0	9.8	14.0	10.6	15.0	17.8	24.3	17.8	13.9
	2015	3.7	19.8	12.6	21.2	20.3	16.5	13.4	14.4	13.1	17.1	10.8	16.9	14.9	13.6
Wind Speed LBB (mph)	2008	12.8	12.7	15.0	14.4	13.0	14.2	10.5	8.7	7.7	10.5	10.6	12.1	11.8	8.9
	2015	10.6	12.0	9.4	13.4	13.2	11.3	10.8	9.9	10.1	10.6	12.2	12.2	11.3	10.2
Wind Speed MAF (mph)	2008	9.3	10.8	12.4	12.0	12.8	13.9	11.2	8.1	6.7	9.1	8.3	10.0	10.4	8.7
	2015	9.6	11.0	8.8	12.3	12.7	11.7	10.7	9.7	9.7	9.7	10.9	10.3	10.6	9.9
Wind Speed SJT (mph)	2008	9.0	10.6	11.5	11.0	10.3	11.9	8.6	6.3	5.3	7.8	8.2	10.5	9.2	7.0
	2015	8.7	10.5	7.9	10.2	10.0	8.0	9.0	7.9	7.3	7.9	9.2	9.1	8.8	8.1
West Zone Average Wind Speed (mph)	2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2015	11.4	14.2	11.9	15.4	16.2	14.2	15.4	13.6	14.1	14.0	16.0	15.3	14.3	14.4

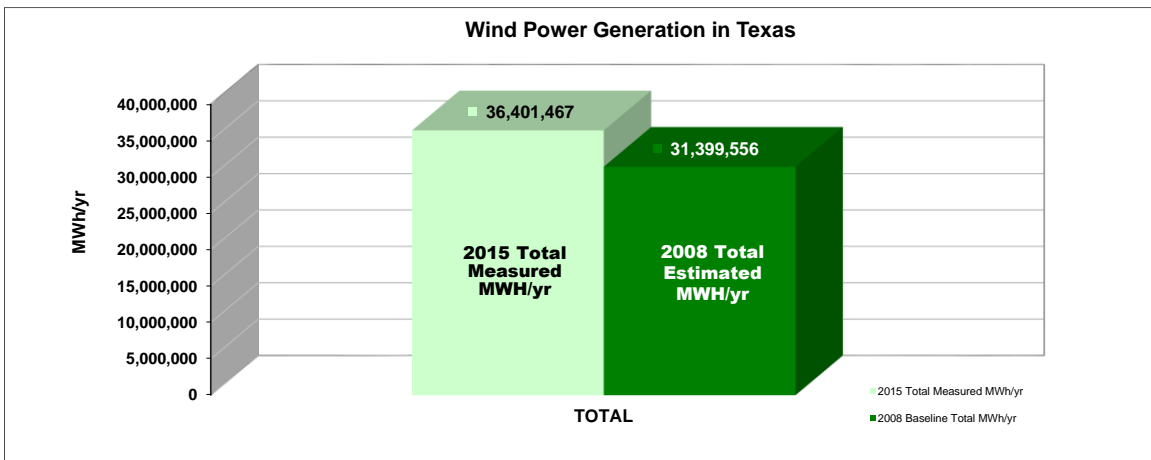


Figure 3-3: Comparison of Total 2015 Measured and 2015 Estimated Power Production

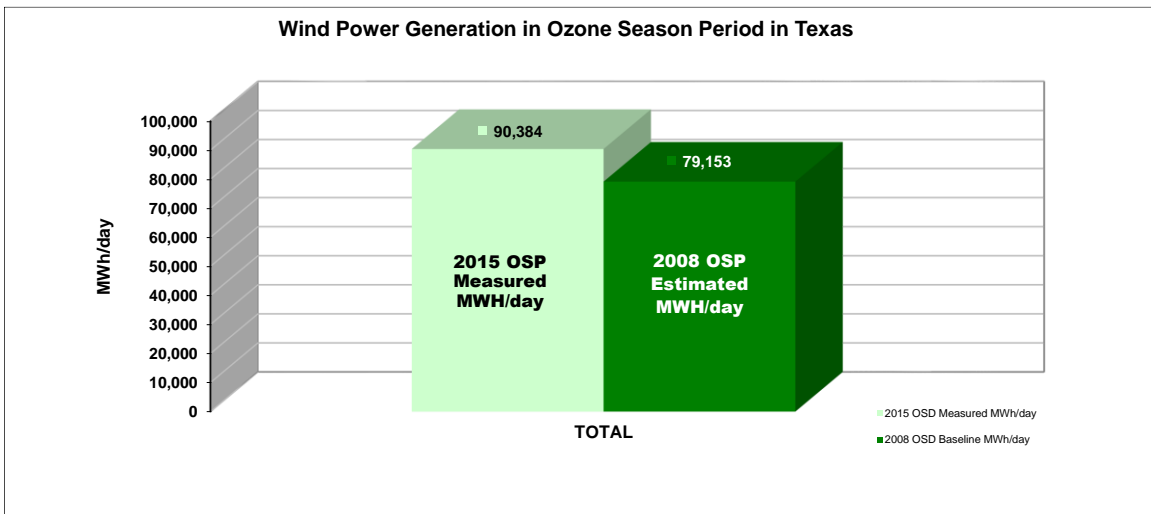


Figure 3-4: Comparison of Total 2015 OSP Measured and 2015 OSP Estimated Power Production

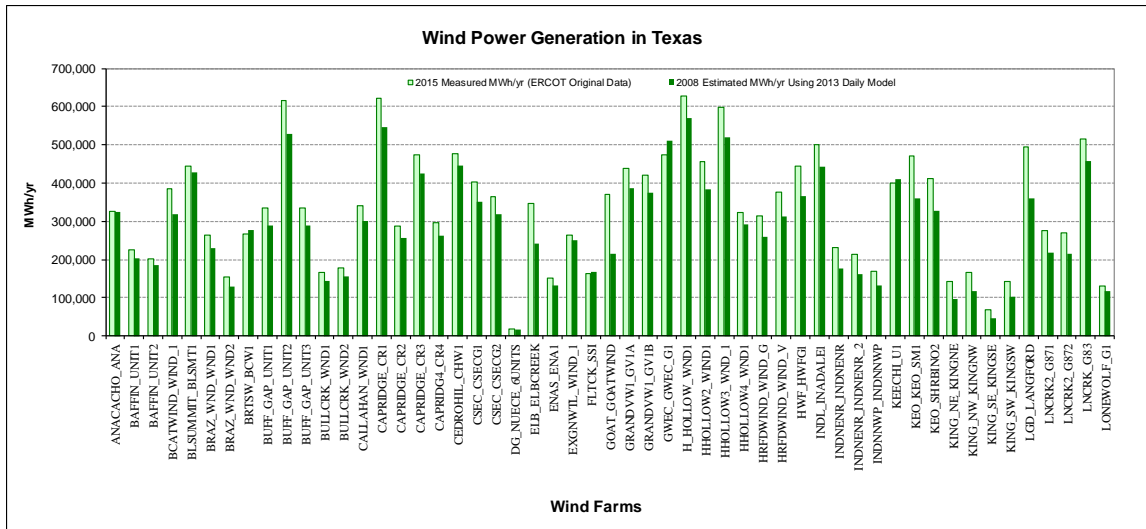


Figure 3-5: Comparison of 2015 Measured and 2008 Estimated Wind Power Production for Each Wind Farm_Part 1

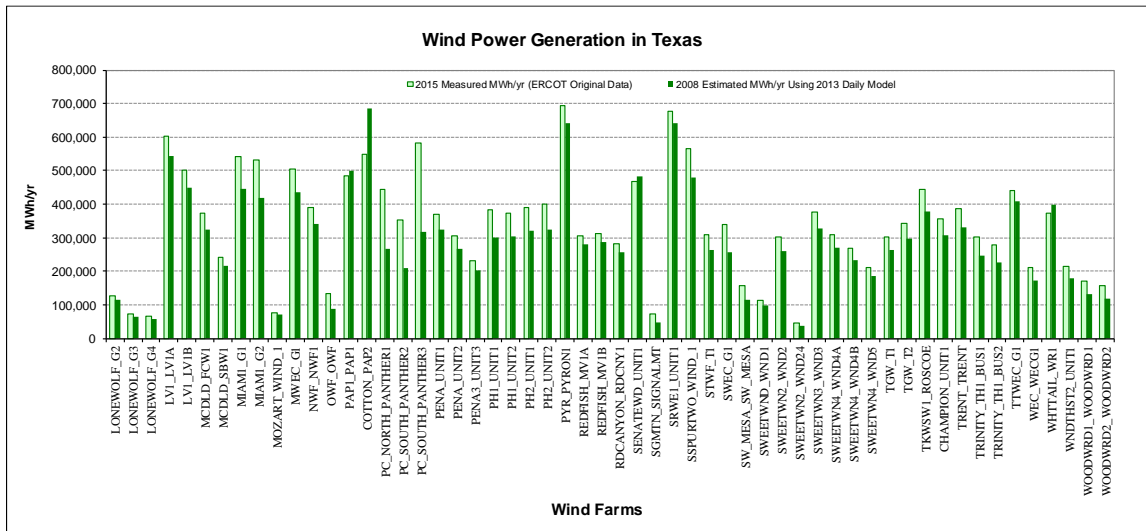


Figure 3-6: Comparison of 2015 Measured and 2008 Estimated Wind Power Production for Each Wind Farm_Part 2

3.3 Comparison of Measured Wind Power in Previous Reports and Present Report

Different from the 2010 and the 2011 annual reports, the 2012 through present reports shifted the analyzed base year to 2008, instead of 1999. The daily model is used for predicting the annual and OSP wind power productions. Due to the different base year analysis, this section only compares the ERCOT measured annual and OSP wind power productions. Compared to what was reported in the previous year’s annual report, an increase of 6.11% on measured annual wind production was observed, from 34,300,904 MWh/yr in 2014 to 36,398,906 MWh/yr in 2015. The average daily wind power production during the Ozone Season Period showed an increase of 24.46%, from 72,600 MWh/day to 90,358 MWh/day. Table 3-3 shows the average NOAA monthly wind speed for the main (i.e., west) six weather stations and average ERCOT wind speed for the west zone used in the analysis.

Figure 3-6 and Figure 3-7 shows the measured annual wind power comparison of 2008 through 2015 for all the wind farms. Figure 3-8 and Figure 3-9 shows the wind power comparison of 2008 through 2015 during the ozone season. The annual wind power difference percentages are compared for 2008 through 2015, shown in Figure 3-10 and Figure 3-11. It has been observed that most of the analyzed wind farms show slight differences in percentage between 2013 and 2015. This is due to the similar wind speed values resulted in similar power generation values. In addition, Figure 3-12 and Figure 3-13 shows the difference comparison of 2008 through 2015 measured data during the ozone season.

Table 3-3: Comparisons of NOAA Wind and ERCOT Wind Speed for 2008 - 2015

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average	OSP Average	
Wind Speed ABI (mph)	2008	12.1	12.3	13.4	13.9	12.8	13.7	10.6	7.4	8.0	10.5	10.2	12.2	11.4	8.7
	2009	10.6	12.9	13.3	14.9	10.1	11.3	8.9	9.6	8.6	10.7	8.4	8.9	10.7	8.9
	2010	10.5	9.9	13.2	13.7	10.7	11.5	9.2	8.3	8.9	8.3	11.8	10.0	10.5	8.9
	2011	9.0	11.3	12.3	13.9	13.9	14.6	10.1	9.2	7.4	10.6	11.7	9.5	11.1	9.0
	2012	11.0	11.4	11.9	11.6	11.9	11.4	9.2	8.8	9.5	9.8	9.9	10.7	10.6	9.0
	2013	9.1	11.4	12.6	14.2	13.2	11.3	8.8	8.5	8.0	10.1	10.5	9.1	10.6	8.2
	2014	11.2	10.6	12.7	13.9	12.1	14.3	10.1	9.6	9.2	10.2	12.3	10.6	11.4	10.1
	2015	9.3	11.1	9.0	11.7	11.9	10.1	10.6	9.5	9.4	9.3	11.2	10.8	10.3	9.9
	ERCOT	11.4	14.2	11.9	15.4	16.2	14.2	15.4	13.6	14.1	14.0	16.0	15.3	14.3	14.4
	Wind Speed FST (mph)	2008	10.3	11.0	12.1	11.9	12.7	13.5	11.3	8.1	8.2	10.5	9.2	9.7	10.7
2009		9.5	11.3	9.6	12.5	10.1	8.4	9.3	9.4	8.1	11.5	9.0	8.6	9.7	8.7
2010		10.3	10.9	12.7	12.5	12.8	11.8	11.1	9.0	8.9	9.2	9.8	9.1	10.7	9.7
2011		9.6	10.9	10.7	12.3	11.9	13.8	11.5	10.3	8.9	10.6	10.8	8.6	9.1	10.2
2012		9.8	10.5	12.2	11.6	11.2	12.5	9.7	8.9	8.7	9.3	9.0	10.0	10.3	9.1
2013		9.0	11.3	11.4	11.5	11.8	13.0	10.6	10.1	10.0	10.4	10.3	9.4	10.8	10.1
2014		10.4	10.2	11.3	12.3	11.9	14.8	12.0	9.3	10.0	9.2	10.9	9.0	10.9	10.1
2015		8.7	10.4	8.5	11.2	12.0	12.3	11.1	10.1	10.2	9.4	10.0	10.7	10.4	10.3
ERCOT		11.4	14.2	11.9	15.4	16.2	14.2	15.4	13.6	14.1	14.0	16.0	15.3	14.3	14.4
Wind Speed GDP (mph)		2008	20.2	25.1	16.8	22.6	20.1	18.0	9.8	14.0	10.6	15.0	17.8	24.3	17.8
	2009	20.0	21.3	21.8	22.7	16.8	15.7	10.0	12.5	16.3	20.0	17.6	18.8	17.8	11.9
	2010	18.5	20.6	20.1	22.6	20.7	16.3	15.7	13.8	13.8	18.7	19.9	22.2	18.6	14.1
	2011	20.8	20.7	20.4	23.1	23.1	15.4	14.6	14.3	12.8	15.8	21.8	21.6	18.7	15.1
	2012	21.8	24.1	18.8	19.6	19.6	16.3	14.3	15.1	15.3	18.1	15.9	21.1	18.3	15.2
	2013	17.4	21.4	20.3	18.7	19.8	14.5	10.4	14.6	16.0	17.8	15.7	0.0	15.6	13.4
	2014	24.3	21.3	23.4	20.4	19.3	18.0	16.5	14.3	18.3	16.8	22.0	21.6	19.7	16.1
	2015	3.7	19.8	12.6	21.2	20.3	16.5	13.4	14.4	13.1	17.1	10.8	16.9	14.9	13.6
	ERCOT	11.4	14.2	11.9	15.4	16.2	14.2	15.4	13.6	14.1	14.0	16.0	15.3	14.3	14.4
	Wind Speed LBB (mph)	2008	12.8	12.7	15.0	14.4	13.0	14.2	10.5	8.7	7.7	10.5	10.6	12.1	11.8
2009		11.3	12.8	14.1	15.5	11.7	11.2	9.8	10.4	9.2	11.5	9.7	9.4	11.4	9.4
2010		10.6	10.5	14.2	15.4	13.6	13.1	9.9	8.9	9.6	9.3	11.4	10.6	11.4	9.6
2011		10.1	12.5	12.2	15.0	14.4	15.7	10.6	9.8	9.0	11.2	11.9	10.8	11.9	9.7
2012		12.4	13.2	13.2	13.5	12.8	13.1	10.0	9.6	9.1	10.8	10.7	11.8	11.7	9.5
2013		10.4	12.5	12.9	14.2	14.0	14.2	10.9	9.2	10.0	11.2	11.6	10.4	11.8	9.3
2014		12.5	11.6	14.5	15.3	13.6	14.9	11.0	9.9	10.3	9.9	11.8	10.9	12.2	10.6
2015		10.6	12.0	9.4	13.4	13.2	11.3	10.8	9.9	10.1	10.6	12.2	12.2	11.3	10.2
ERCOT		11.4	14.2	11.9	15.4	16.2	14.2	15.4	13.6	14.1	14.0	16.0	15.3	14.3	14.4
Wind Speed MAF (mph)		2008	9.3	10.8	12.4	12.0	12.8	13.9	11.2	8.1	6.7	9.1	8.3	10.0	10.4
	2009	9.5	11.3	11.0	13.4	10.6	10.2	8.2	8.3	8.1	10.1	7.5	8.4	9.7	8.0
	2010	9.1	9.9	13.0	13.0	12.2	12.0	10.4	9.3	9.1	8.8	10.0	9.3	10.5	9.7
	2011	8.6	10.8	11.4	13.8	13.1	14.1	10.6	9.6	8.9	10.4	10.8	10.4	11.0	9.9
	2012	10.2	11.9	11.9	12.0	11.5	12.5	10.1	9.8	9.9	9.8	8.7	10.0	10.7	9.9
	2013	9.1	11.2	11.9	13.1	13.7	13.9	10.9	10.2	10.0	10.2	10.2	9.3	11.1	10.1
	2014	11.2	10.7	13.0	13.7	12.1	15.6	11.7	9.9	10.8	9.7	11.4	10.4	11.7	10.9
	2015	9.6	11.0	8.8	12.3	12.7	11.7	10.7	9.7	9.7	9.7	10.9	10.3	10.6	9.9
	ERCOT	11.4	14.2	11.9	15.4	16.2	14.2	15.4	13.6	14.1	14.0	16.0	15.3	14.3	14.4
	Wind Speed SJT (mph)	2008	9.0	10.6	11.5	11.0	10.3	11.9	8.6	6.3	5.3	7.8	8.2	10.5	9.2
2009		9.1	10.1	10.9	12.0	8.7	9.0	7.7	7.4	7.2	9.3	7.0	7.6	8.8	7.3
2010		8.4	9.2	11.1	10.6	9.2	10.3	8.2	7.4	7.7	6.3	9.1	8.8	8.9	7.9
2011		7.9	10.4	10.4	12.5	11.6	12.3	9.0	7.9	7.5	8.7	9.6	8.5	9.7	8.2
2012		9.6	10.0	10.2	9.9	9.6	9.4	8.3	7.9	8.6	8.1	7.9	9.1	9.1	8.2
2013		8.5	10.5	11.7	11.6	11.0	9.9	7.2	7.1	7.0	7.5	8.0	7.9	9.0	6.8
2014		11.0	10.4	11.5	12.1	11.2	10.8	8.3	7.7	7.7	8.6	10.8	9.2	9.9	8.3
2015		8.7	10.5	7.9	10.2	10.0	8.0	9.0	7.9	7.3	7.9	9.2	9.1	8.8	8.1
ERCOT		11.4	14.2	11.9	15.4	16.2	14.2	15.4	13.6	14.1	14.0	16.0	15.3	14.3	14.4
West Zone Average Wind Speed (mph)		2008-2012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2013	14.4	17.0	18.0	16.1	16.7	15.6	11.9	12.5	10.2	14.2	12.3	10.2	14.1	11.4
	2014	13.6	10.5	13.1	13.9	12.0	14.5	12.6	13.0	10.8	10.8	13.6	12.7	12.6	13.0
	2015	11.4	14.2	11.9	15.4	16.2	14.2	15.4	13.6	14.1	14.0	16.0	15.3	14.3	14.4

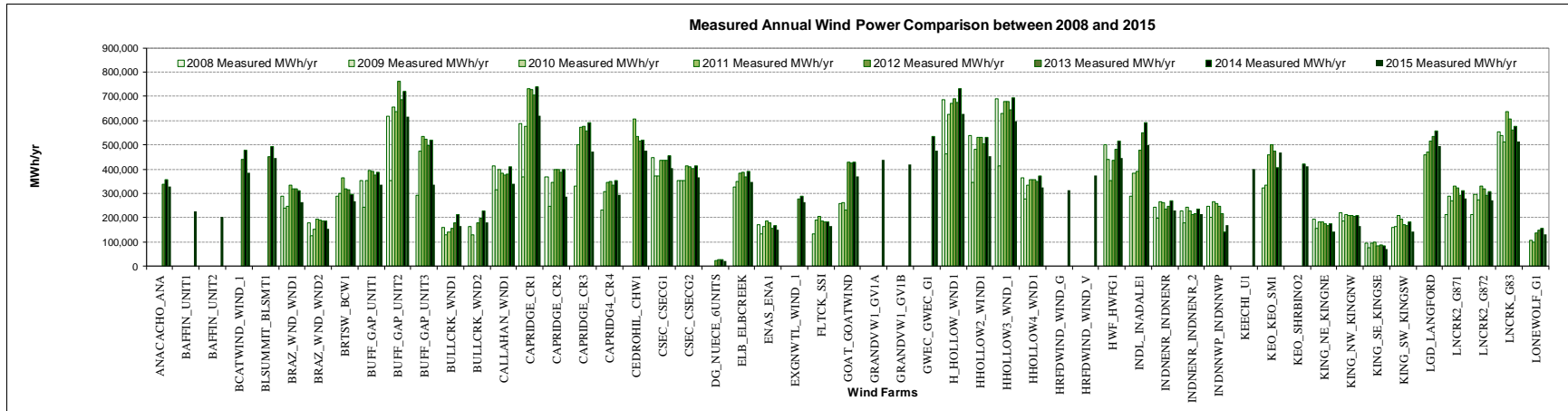
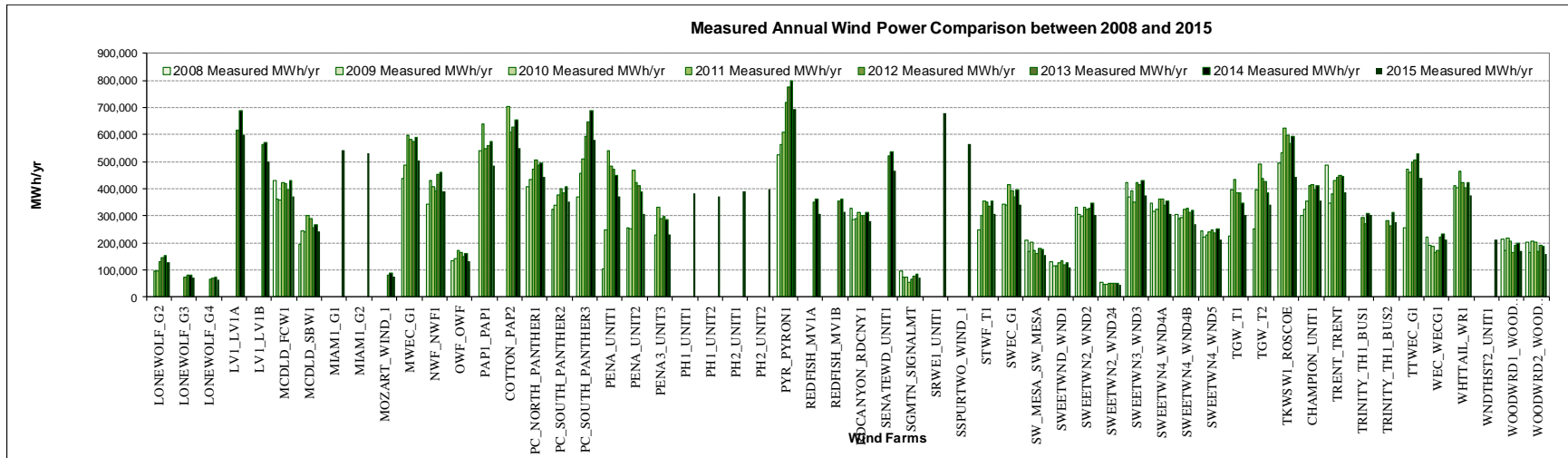


Figure 3-6: Measured Annual Wind Power Comparison between 2008 and 2015_Part 1



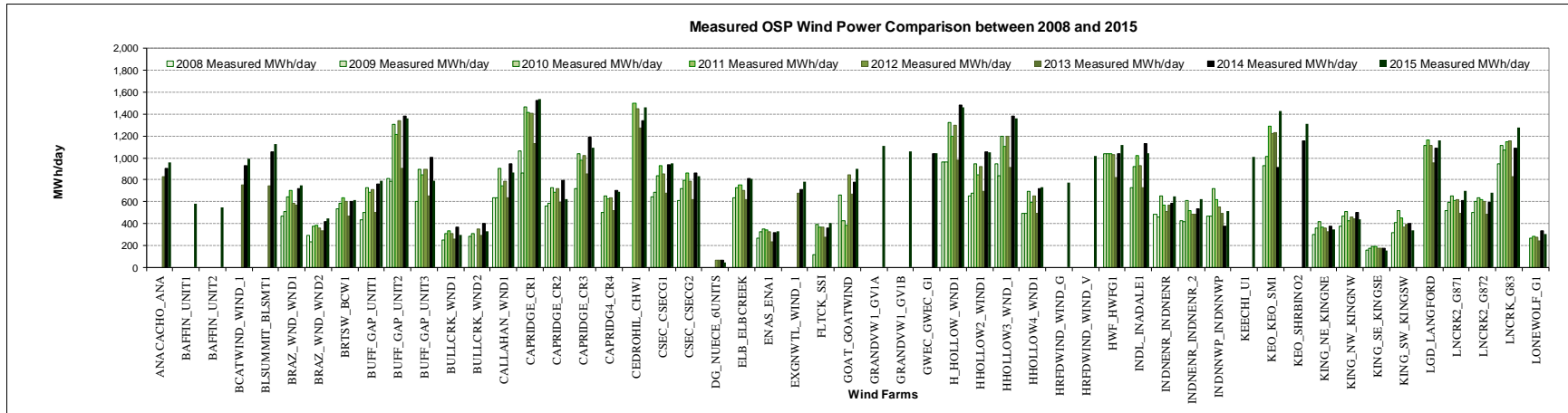


Figure 3-8: Measured OSP Wind Power Comparison between 2008 and 2015_Part 1

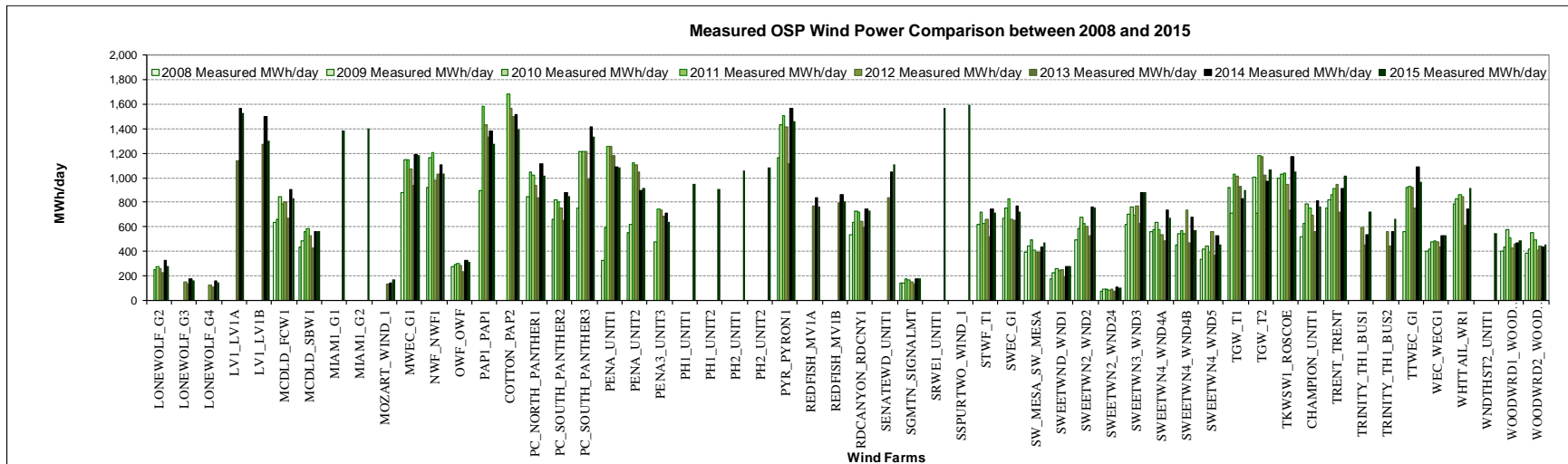


Figure 3-9: Measured OSP Wind Power Comparison between 2008 and 2015_Part 2

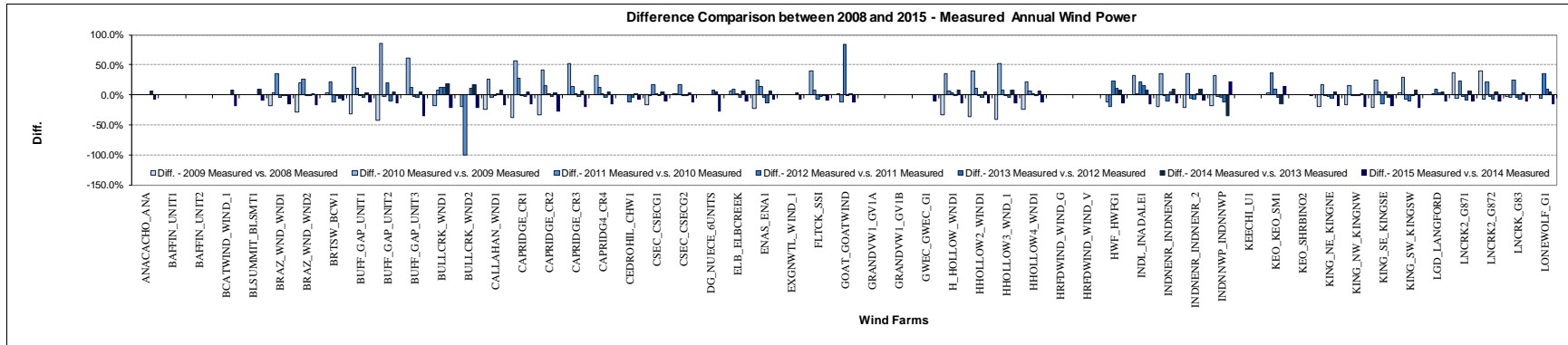


Figure 3-10: Difference Comparison between 2008 and 2015 - Measured Annual Wind Power_Part 1

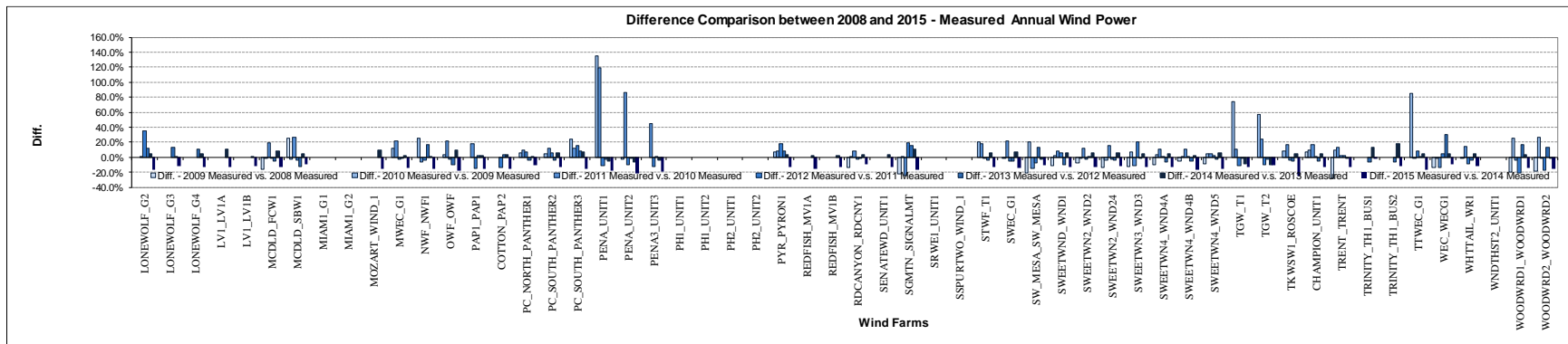


Figure 3-11: Difference Comparison between 2008 and 2015 - Measured Annual Wind Power_Part 2

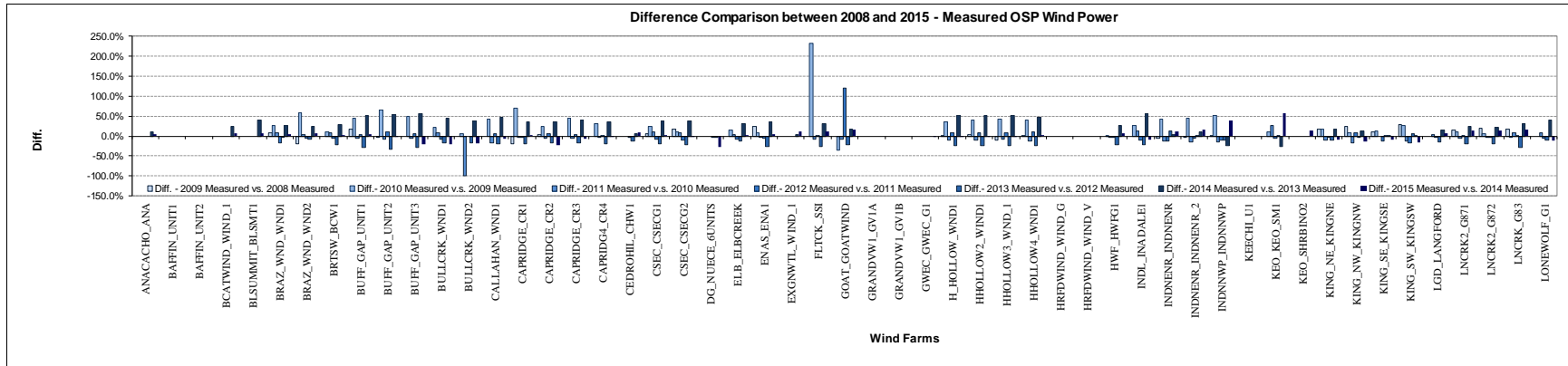


Figure 3-12: Difference Comparison between 2008 and 2015 - Measured OSP Wind Power_Part 1

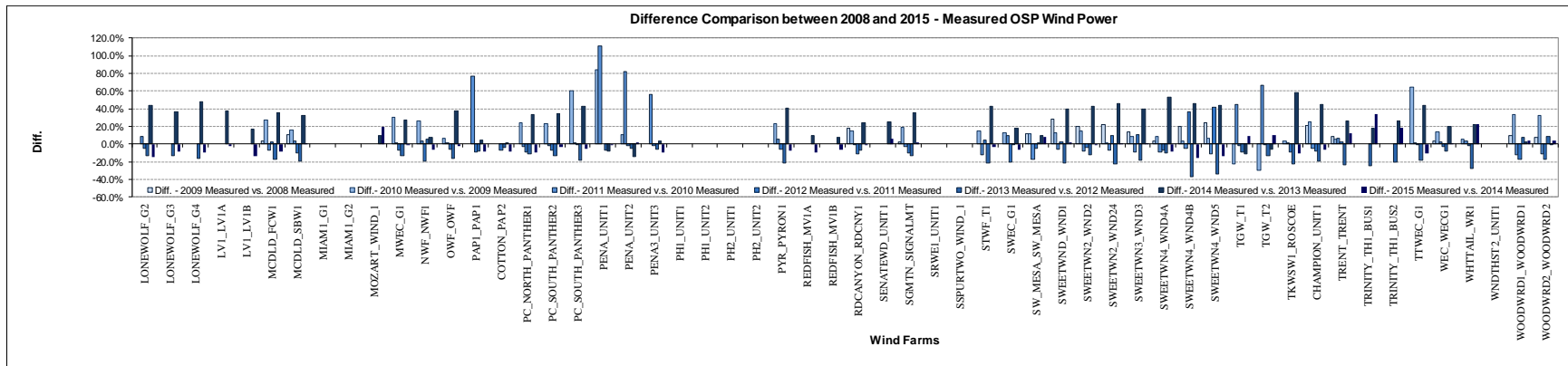


Figure 3-13: Difference Comparison between 2008 and 2015 - Measured OSP Wind Power_Part 2

3.4 Uncertainty Analysis on the 2015 Daily Regression Models

One of the advantages of using regression models is that it allows for an uncertainty analysis to be calculated, which can be used to assess the accuracy of the model. This section of the report presents an updated uncertainty analysis for the daily regressions that were applied to the 2015 data.

Assuming that the daily energy production of wind farm data can be related linearly with the daily average wind speed (see Figure 3-14) and expressed as

$$\hat{E}_i = c_o + c_1 V_i \quad (1)$$

where V is the daily average wind speed, \hat{E} is the daily total energy production, and c_o and c_1 are the resultant coefficients of a linear regression. The subscript i represents any day over the modeling period.

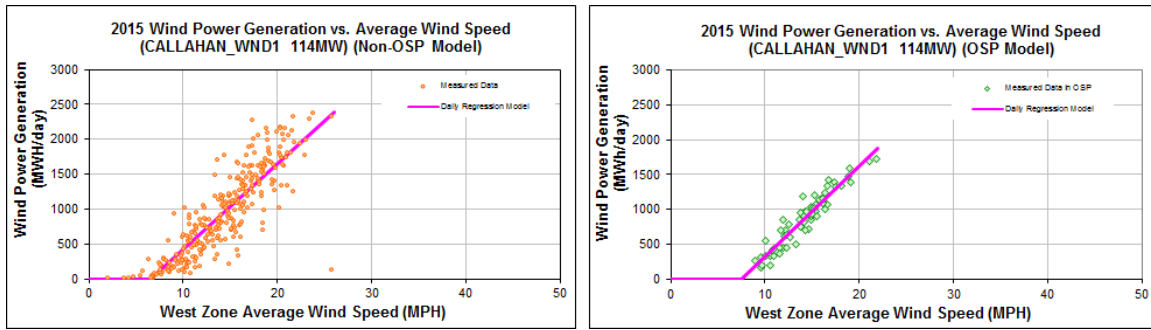


Figure 3-14: Linear Model Presentation of the Daily Wind Power Generation on the Year 2015 for Callahan Wind Farm

The primary purpose of modeling in this analysis is to back-cast the wind power production, or predict the power production in another year that would have occurred if the turbines had been installed and operating. This allows for the evaluation of the NOx reductions during the base-year weather conditions. Unfortunately, any prediction intrinsically contains an uncertainty, which is related to the prediction variance. Thus, the prediction uncertainty, $\sigma^2(\hat{E}_{pred,j})$, assuming no autocorrelation effects in the data used to generate the linear model, can be presented for a particular observation, j , during any time a particular condition is presented as follows:

$$\sigma^2(\hat{E}_{pred,j}) = MSE(\hat{E}_i) \cdot \left[1 + \frac{1}{n} + \frac{(V_j - \bar{V}_n)^2}{\sum_{i=1}^n (V_i - \bar{V}_n)^2} \right] \quad (2)$$

The mean square error, $MSE(\hat{E}_i)$, during the period of the development of the linear model can be computed by:

$$MSE(\hat{E}_i) = \left[\frac{1}{n - (k + 1)} \right] \sum_{i=1}^n (E_i - \hat{E}_i)^2 \quad (3)$$

Where n is the number of days in the period used for the developed model, k is the number of regressor variables in the linear model, and \bar{V}_n is the mean value of the velocity on the modeling period.

The last term in the brackets of the equation 2 accounts for the increase in the variance of the energy prediction for any particular observation, j , which is different from the centroid of the modeling data. On the other hand, the second term accounts for the variance in predicting the mean energy predicted for the observation, j .

The total uncertainty for a period of interest, of m days, is then the sum of all the wind energy predicted $\hat{E}_{pred,j}$ in each individual observation.

Assuming that

$$\sum_{j=1}^m \sigma^2(\hat{E}_{pred,j}) = \sigma^2\left(\sum_{j=1}^m (\hat{E}_{pred,j})\right) = \sigma^2(\hat{E}_{pred,total}) \quad (4)$$

And the total prediction variance or uncertainty is obtained through

$$\sigma^2(\hat{E}_{pred,total}) = MSE(\hat{E}_i) \cdot m \cdot \left[1 + \frac{1}{n} + \frac{\sum_{j=1}^m (V_j - \bar{V}_n)^2}{m \sum_{i=1}^n (V_i - \bar{V}_n)^2} \right] \quad (5)$$

Thus, it is observable that the last equation is affected by the number of days that the wind energy will be predicted, the number of days used for the modeling development and the uncertainty due to the distances between the data predicted and the centroid of the modeling data. Therefore, increasing n and m yields an effective relative decrease in the uncertainty, which is expected.

Table 3-4 presents all the statistical parameters for the daily linear models of all the wind farms in the ERCOT region.

Table 3-5 and Figure 3-15 show the uncertainty of applying the linear models to predict the energy generation that they would have had in the year 2008, ranging from 0.40% to 14.35%. It has been observed that the uncertainty for Ozone Season Period is higher than the uncertainty for Non-Ozone Season Period. The maximum uncertainty comes from a wind farm named LV1_LV1B. One reason for this may be the meter problems suspected when measuring the ERCOT data. Also, wind speed can change significantly due to the elevation, wind mills distances, etc. In the current modeling, the average wind speed of ERCOT is used for most of the wind farms. Therefore, the average wind speed may not represent the real wind speed where the wind farms are located. The model uncertainty can come from the incorrect wind speed information.

In addition, the same table and figure include the uncertainty related to the predicted wind generated for the same wind farms in the 2008 Ozone Season Period using the OSP model, which considers the period of July 15 through September 15 – about 63 days. The uncertainty of using OSP models for predicting wind power in the 2008 OSP varies from 5.24 % to 46.91% for all the wind farms. The OSP model uncertainty can be also explained with the reasons discussed above.

Table 3-4: Statistical Parameters of the Determined 2015 Daily Power Production Linear Models

Wind Farm	Statistical Parameters of 2015 Non-OSP Daily Models						Statistical Parameters of 2015 OSP Daily Models					
	c ₀	c ₁	AdjR ²	RMSE	CV-RMSE	# Days	c ₀	c ₁	AdjR ²	RMSE	CV-RMSE	# Days
ANACACHO_ANA	-140.09	84.28	0.49	374.78	42.4%	302	-286.85	79.78	0.65	190.96	20.0%	63
BAFFIN_UNIT1	-453.68	82.80	0.56	304.92	48.6%	254	-480.40	82.84	0.61	217.57	37.6%	50
BAFFIN_UNIT2	-283.56	64.10	0.41	325.78	58.7%	254	-409.01	74.37	0.68	168.06	30.5%	51
BCATWIND_WIND_1	-599.93	118.55	0.63	410.47	38.4%	302	-1078.86	145.49	0.69	273.69	27.6%	63
BLSUMMIT_BLSMT1	-532.11	125.80	0.63	439.06	35.5%	295	-1376.96	176.20	0.78	265.91	23.5%	63
BRAZ_WND_WND1	-562.68	89.86	0.67	275.82	38.2%	295	-1265.33	140.43	0.86	157.58	21.0%	61
BRAZ_WND_WND2	-338.79	52.55	0.70	148.14	35.6%	291	-738.59	82.60	0.86	93.70	20.9%	61
BRTSW_BCW1	-592.08	108.14	0.75	226.18	29.9%	302	-888.25	125.03	0.79	125.71	20.5%	63
BUFF_GAP_UNIT1	-996.91	135.73	0.79	304.29	32.2%	296	-1355.07	149.40	0.88	154.08	19.4%	59
BUFF_GAP_UNIT2	-2080.28	267.81	0.83	523.13	29.7%	295	-2193.97	250.02	0.87	280.10	20.5%	63
BUFF_GAP_UNIT3	-996.91	135.73	0.79	304.29	32.2%	296	-1355.07	149.40	0.88	154.08	19.4%	59
BULLCRK_WND1	-392.22	61.14	0.57	225.34	46.4%	294	-529.51	58.03	0.68	112.43	38.0%	63
BULLCRK_WND2	-452.23	68.38	0.62	226.97	43.1%	291	-613.79	66.50	0.73	114.85	34.6%	63
CALLAHAN_WND1	-798.08	122.01	0.74	314.22	33.1%	295	-968.11	129.23	0.90	122.31	14.0%	63
CAPRIDGE_CR1	-1749.10	245.83	0.86	439.71	25.3%	298	-2295.06	269.16	0.92	230.45	15.0%	63
CAPRIDGE_CR2	-720.27	107.83	0.74	274.83	33.4%	292	-872.44	105.13	0.80	149.25	23.9%	63
CAPRIDGE_CR3	-1216.93	180.49	0.84	358.26	26.7%	295	-1622.45	190.88	0.87	210.45	19.3%	63
CAPRIDGE_CR4	-786.29	114.34	0.85	209.15	25.0%	299	-990.12	117.84	0.91	107.11	15.6%	63
CEPROHIL_CHW1	-545.24	149.83	0.70	424.01	33.3%	302	-1301.61	176.97	0.87	223.77	15.3%	62
CSEC_CSECG1	-960.70	147.64	0.79	331.34	29.1%	298	-1500.06	172.05	0.91	151.18	16.0%	63
CSEC_CSECG2	-818.08	130.22	0.78	305.48	29.5%	298	-1315.50	151.27	0.90	143.27	17.1%	63
DG_NUECE_6UNITS	-45.72	7.85	0.72	20.04	36.1%	302	-28.16	5.81	0.69	13.28	27.7%	63
ELB_ELBREEK	-852.19	128.88	0.85	236.03	24.0%	298	-1242.01	144.11	0.88	150.47	18.6%	63
ENAS_ENA1	-373.94	56.53	0.75	142.40	32.9%	297	-478.55	57.06	0.85	67.54	20.3%	63
EXGNWTL_WIND_1	-319.46	84.84	0.69	248.58	34.9%	300	-596.12	88.65	0.87	112.13	14.3%	63
FLTCK_SSI	-453.10	72.72	0.84	112.72	24.6%	300	-545.02	78.84	0.83	71.15	17.7%	63
GOAT_GOATWIND	-1279.36	161.94	0.83	312.44	30.0%	292	-1422.24	163.45	0.87	179.58	19.9%	63
GRANDVW1_GV1A	-264.11	95.38	0.60	379.88	31.1%	287	-757.88	137.48	0.84	199.26	17.9%	63
GRANDVW1_GV1B	-221.34	89.56	0.60	358.42	30.6%	286	-776.66	135.01	0.85	189.04	17.9%	63
GWEC_GWEC_G1	-836.58	175.49	0.69	424.88	31.4%	301	-1168.89	183.66	0.79	186.23	17.9%	63
H_HOLLOW_WND1	-1333.60	218.56	0.77	525.46	29.6%	298	-1933.99	238.44	0.87	267.04	18.3%	63
HHOLLOW2_WIND1	-1437.06	189.02	0.81	386.38	30.0%	292	-1771.92	198.39	0.86	231.63	22.0%	63
HHOLLOW3_WND_1	-1662.07	234.11	0.82	476.07	28.0%	293	-2015.74	237.40	0.85	281.45	20.7%	63
HHOLLOW4_WND1	-722.79	114.90	0.75	289.56	31.5%	296	-949.22	118.08	0.83	149.86	20.5%	63
HRFDWIND_WIND_G	-382.19	80.29	0.63	292.11	33.2%	287	-605.73	101.28	0.84	147.99	19.2%	63
HRFDWIND_WIND_V	-391.68	91.11	0.67	303.39	29.4%	292	-789.94	132.71	0.83	197.75	19.5%	63
HWF_HWFG1	-900.14	150.81	0.72	415.40	33.5%	299	-789.19	134.31	0.73	234.81	20.9%	63
INDL_INADALE1	-1429.66	201.72	0.80	443.75	30.9%	298	-1834.30	202.12	0.84	248.60	23.9%	63
INDNENR_INDENR	-526.04	81.86	0.63	279.13	44.3%	297	-745.08	97.94	0.83	126.19	19.5%	63
INDNENR_INDENR_2	-486.83	75.27	0.62	262.02	45.3%	297	-753.81	96.81	0.82	129.76	20.8%	63
INDNWP_INDINWP	-355.88	57.37	0.57	219.55	48.1%	300	-530.61	73.61	0.83	94.22	18.2%	63
KEECHI_U1	-867.84	158.88	0.83	260.89	23.4%	302	-1558.56	213.97	0.87	163.37	16.1%	63
KEO_KEO_SM1	-743.93	140.85	0.50	612.72	48.8%	296	-922.88	165.46	0.75	269.49	18.8%	63
KEO_SHRBINO2	-574.11	118.42	0.48	536.37	49.1%	293	-783.94	147.39	0.74	250.27	19.1%	63
KING_NE_KINGNE	-368.12	53.86	0.70	154.74	39.0%	299	-525.26	61.12	0.83	79.77	23.2%	63
KING_NW_KINGNW	-390.40	60.02	0.60	213.96	46.3%	299	-489.30	64.99	0.78	99.02	22.7%	63
KING_SE_KINGSE	-170.64	25.76	0.67	79.09	40.5%	299	-251.47	28.70	0.86	33.14	21.1%	63
KING_SW_KINGSW	-311.58	50.29	0.59	183.42	45.6%	299	-367.54	49.79	0.70	91.59	26.9%	63
LGD_LANGFORD	-903.91	161.86	0.75	407.92	29.3%	299	-1014.00	153.06	0.81	212.78	18.3%	63
LNCRK_G83	-1329.02	193.47	0.78	439.33	30.5%	296	-1211.94	174.73	0.78	265.59	20.8%	63
LNCRK2_G871	-671.61	101.25	0.80	219.81	28.4%	297	-685.16	97.08	0.82	131.39	18.9%	63
LNCRK2_G872	-641.27	97.91	0.79	216.52	28.6%	297	-624.11	91.52	0.79	132.24	19.5%	63
LONEWOLF_G1	-310.61	47.89	0.81	101.98	27.4%	297	-374.01	47.48	0.84	59.02	19.6%	63
LONEWOLF_G2	-313.17	47.72	0.78	110.44	30.1%	297	-396.69	47.54	0.82	63.12	22.6%	63
LONEWOLF_G3	-176.17	26.81	0.79	60.44	29.4%	297	-227.09	27.47	0.82	36.30	22.2%	63
LONEWOLF_G4	-150.94	23.68	0.77	56.83	30.6%	295	-194.94	23.77	0.80	34.30	23.9%	63
LV1_LV1A	-1362.24	234.85	0.84	414.08	24.7%	299	-1332.00	217.84	0.92	220.93	14.5%	63
LV1_LV1B	-1332.08	210.74	0.78	461.17	33.2%	299	-1268.44	195.69	0.82	316.24	24.4%	63
MCDDL_FCW1	-1021.66	145.15	0.85	260.32	24.4%	292	-1206.61	143.21	0.70	268.45	32.3%	63
MCDDL_SBW1	-598.29	90.32	0.86	160.22	23.3%	298	-902.36	103.08	0.88	106.03	18.8%	63
MIAM1_G1	-638.95	137.05	0.68	437.70	29.0%	300	-1170.71	187.79	0.79	324.30	23.5%	63
MIAM1_G2	-796.98	144.64	0.72	422.64	28.7%	300	-1395.53	205.68	0.81	332.22	23.7%	63
MOZART_WIND_1	-94.78	22.11	0.55	88.64	40.5%	298	-190.00	25.63	0.73	43.81	25.1%	63
MWEC_G1	-660.84	135.67	0.54	541.98	38.0%	281	-587.00	131.51	0.44	459.38	38.9%	62

Table 3-4: Statistical Parameters of the Determined 2015 Daily Power Production Linear Models (Cont.)

Wind Farm	Statistical Parameters of 2015 Non-OSP Daily Models						Statistical Parameters of 2015 OSP Daily Models					
	c ₀	c ₁	AdjR ²	RMSE	CV-RMSE	# Days	c ₀	c ₁	AdjR ²	RMSE	CV-RMSE	# Days
NWF_NWF1	-312.49	98.98	0.51	441.36	41.0%	300	-499.28	107.50	0.50	303.52	29.5%	63
OWF_OWF	-366.01	51.85	0.81	108.63	29.0%	295	-557.04	61.42	0.86	70.69	22.3%	63
PC_NORTH_PANTHER1	-1028.01	160.83	0.87	277.28	22.0%	298	-1393.20	169.42	0.82	226.96	22.3%	63
PC_SOUTH_PANTHER2	-844.43	129.46	0.87	221.85	22.3%	298	-1284.46	149.73	0.89	152.29	18.0%	63
PC_SOUTH_PANTHER3	-1446.97	218.17	0.86	388.16	23.5%	299	-2394.81	262.27	0.88	273.78	20.5%	63
PAP1_PAP1	-1491.55	219.25	0.85	373.21	27.9%	301	-1353.84	200.57	0.89	244.74	19.2%	63
COTTON_PAP2	-1668.73	248.38	0.84	449.97	29.4%	302	-1660.23	232.62	0.85	332.05	23.9%	63
PENA_UNIT1	-1122.62	164.89	0.86	278.03	27.7%	302	-1381.10	187.74	0.95	142.96	13.2%	63
PENA_UNIT2	-934.62	136.38	0.82	258.55	31.4%	302	-1074.96	151.60	0.94	125.89	13.8%	63
PENA3_UNIT3	-728.67	105.33	0.87	170.07	27.0%	302	-828.95	112.14	0.95	87.33	13.6%	63
PH1_UNIT1	-622.77	107.81	0.77	280.00	26.2%	300	-868.80	133.71	0.89	154.91	16.3%	63
PH1_UNIT2	-519.19	99.93	0.75	269.11	25.7%	300	-768.18	123.60	0.87	157.38	17.3%	63
PH2_UNIT1	-509.49	101.21	0.76	272.69	25.4%	301	-800.68	137.02	0.84	201.43	19.0%	63
PH2_UNIT2	-540.29	104.67	0.75	284.17	25.9%	301	-811.95	139.53	0.82	217.89	20.1%	63
PYR_PYRON1	-1690.83	261.32	0.77	628.12	31.4%	296	-1899.42	235.96	0.74	399.33	27.4%	63
REDFISH_MV1A	-580.70	111.22	0.82	214.09	25.1%	302	-615.49	105.23	0.94	91.25	11.9%	63
REDFISH_MV1B	-660.34	118.86	0.82	226.58	26.0%	302	-714.81	116.17	0.91	122.10	15.1%	63
RDCANYON_RDCNY1	-555.58	94.03	0.76	229.70	29.5%	297	-736.18	103.27	0.62	227.63	31.1%	63
SENATEWD_UNIT1	-1098.31	193.70	0.84	310.75	23.6%	302	-1695.46	233.39	0.83	207.49	18.7%	63
SRWE1_UNIT1	-1023.14	212.51	0.65	689.82	35.0%	294	-2323.54	273.55	0.83	347.14	22.1%	63
SSPURTWO_WIND_1	-582.31	136.43	0.58	552.93	35.8%	294	-1057.49	195.33	0.80	323.45	20.2%	63
STWF_T1	-865.46	120.86	0.83	230.35	26.4%	292	-784.80	105.61	0.80	151.36	21.1%	63
SWEC_G1	-680.32	116.56	0.77	282.58	28.9%	298	-1072.11	126.29	0.85	151.63	20.9%	63
SWEETWN2_WND2	-827.70	117.15	0.81	232.80	27.6%	287	-910.99	117.12	0.90	113.37	15.0%	63
SWEETWN2_WND24	-152.49	19.67	0.84	36.66	28.1%	287	-155.84	18.43	0.89	18.43	17.3%	63
SWEETWN3_WND3	-974.54	141.49	0.83	273.31	25.7%	292	-1128.69	141.47	0.87	154.76	17.5%	63
SWEETWN4_WND4A	-879.97	122.94	0.84	232.39	26.3%	294	-989.09	116.84	0.80	168.69	25.1%	62
SWEETWN4_WND4B	-739.17	104.78	0.84	190.72	24.7%	292	-742.30	92.39	0.79	136.73	23.9%	62
SWEETWIND_WND1	-314.96	43.57	0.80	92.87	29.7%	293	-282.14	39.50	0.82	52.33	18.7%	63
SWEETWN4_WND5	-557.72	80.67	0.83	154.62	25.4%	291	-543.59	70.49	0.76	111.99	24.4%	62
SGMTN_SIGNALMT	-234.83	30.88	0.85	56.26	27.0%	294	-326.57	35.61	0.88	36.63	20.3%	63
SW_MESA_SW_MESA	-312.61	51.83	0.62	181.58	43.1%	300	-599.73	75.48	0.87	83.42	17.6%	63
TGW_T1	-978.48	139.27	0.85	240.26	29.5%	300	-1115.33	153.79	0.94	129.42	14.4%	63
TGW_T2	-1156.78	160.58	0.87	256.96	28.2%	300	-1384.28	186.91	0.94	159.06	14.9%	63
CHAMPION_UNIT1	-918.51	135.46	0.82	271.10	26.6%	295	-1214.62	139.03	0.80	196.49	25.7%	63
TKWSW1_ROSCOE	-1355.46	183.45	0.75	460.92	36.6%	297	-1823.33	201.97	0.80	289.89	27.6%	63
TRENT_TRENT	-1072.16	149.31	0.74	371.73	34.8%	292	-1299.21	163.02	0.90	151.61	14.9%	63
TRINITY_TH1_BUS1	-581.79	101.74	0.67	322.54	37.8%	300	-929.12	115.96	0.74	193.46	26.8%	63
TRINITY_TH1_BUS2	-557.20	95.01	0.68	295.06	37.9%	300	-872.57	108.24	0.76	171.39	25.7%	63
TTWEC_G1	-876.04	150.18	0.72	407.37	32.3%	298	-1124.09	147.22	0.81	202.24	20.8%	63
WEC_WECG1	-294.94	56.48	0.58	225.17	37.9%	297	-396.89	68.05	0.59	188.65	35.7%	63
WHITTAIL_WR1	-916.29	157.73	0.77	316.56	30.1%	302	-1600.98	209.23	0.84	182.77	20.0%	63
WINDHST2_UNIT1	-326.88	65.31	0.71	187.96	31.7%	302	-467.05	71.46	0.70	133.84	24.4%	63
WOODWRD1_WOODWRD1	-354.92	57.51	0.56	228.84	49.8%	300	-636.56	79.05	0.85	94.97	19.5%	63
WOODWRD2_WOODWRD2	-347.12	54.46	0.57	205.90	48.2%	298	-564.47	71.61	0.83	91.59	20.2%	63

Table 3-5: 2008 Uncertainty of the Power Generation Prediction using the Linear Daily Models

Wind Farm	2008 Non Ozone Season Period				2008 Ozone Season Period (OSP)			
	Predicted days	Total Variance	Total Estimated	Relative Uncertainty	Predicted Days	Total Variance	Total Estimated	Relative uncertainty
ANACACHO_ANA	303	12,810.53	324,887	3.94%	63	2,990.46	39,153.1	7.64%
BAFFIN_UNIT1	303	10,413.06	203,974	5.11%	63	3,399.02	39,153.1	8.68%
BAFFIN_UNIT2	303	11,125.14	184,708	6.02%	63	2,625.85	39,153.1	6.71%
BCATWIND_WIND_1	303	14,026.02	319,893	4.38%	58	4,164.92	27,832.5	14.96%
BLSUMMIT_BLSMT1	303	14,999.88	428,548	3.50%	62	4,170.86	35,870.6	11.63%
BRAZ_WND_WND1	303	9,423.72	228,904	4.12%	49	2,189.78	15,318.8	14.29%
BRAZ_WND_WND2	303	5,060.76	130,521	3.88%	49	1,302.93	8,482.0	15.36%
BRTSW_BCW1	303	7,735.29	277,218	2.79%	56	1,916.69	22,827.2	8.40%
BUFF_GAP_UNIT1	303	10,396.80	287,897	3.61%	42	1,978.65	16,289.8	12.15%
BUFF_GAP_UNIT2	303	17,873.76	529,210	3.38%	38	3,484.03	27,591.5	12.63%
BUFF_GAP_UNIT3	303	10,396.80	287,897	3.61%	42	1,978.65	16,289.8	12.15%
BULLCRK_WND1	303	7,698.49	145,173	5.30%	49	1,579.70	10,362.9	15.24%
BULLCRK_WND2	303	7,753.65	157,406	4.93%	49	1,613.19	10,362.9	15.57%
CALLAHAN_WND1	303	10,735.53	301,960	3.56%	49	1,716.48	19,128.0	8.97%
CAPRIDGE_CR1	303	15,024.14	546,290	2.75%	43	3,039.05	31,898.0	9.53%
CAPRIDGE_CR2	303	9,389.07	255,842	3.67%	48	2,073.63	16,184.0	12.81%
CAPRIDGE_CR3	303	12,239.25	263,397	4.65%	48	2,923.91	26,544.4	11.02%
CAPRIDGE_CR4	303	7,146.60	301,960	2.37%	48	1,488.58	16,076.2	9.26%
CEDROHIL_CHW1	303	14,493.30	446,821	3.24%	63	3,502.18	50,945.5	6.87%
CSEC_CSECG1	303	11,320.95	351,003	3.23%	49	2,124.34	24,355.9	8.72%
CSEC_CSECG2	303	10,437.57	320,066	3.26%	53	2,090.13	22,973.4	9.10%
DG_NUECE_6UNITS	303	685.11	18,365	3.73%	59	202.69	1,611.8	12.58%
ELB_ELBREEK	303	8,063.96	241,937	3.33%	51	2,130.50	18,607.6	11.45%
ENAS_ENA1	303	4,865.38	132,361	3.68%	49	949.02	9,026.2	10.51%
EXGNWTL_WIND_1	303	8,496.28	250,593	3.39%	63	1,755.87	28,171.8	6.23%
FLTCK_SSI	303	3,854.69	167,949	2.30%	49	1,020.37	12,506.7	8.16%
GOAT_GOATWIND	303	10,673.83	213,815	4.99%	36	2,176.83	15,886.6	13.70%
GRANDVW1_GV1A	303	12,972.58	387,924	3.34%	49	2,777.22	10,362.9	26.80%
GRANDVW1_GV1B	303	12,239.66	373,606	3.28%	49	2,635.13	10,362.9	25.43%
GWEC_GWEC_G1	303	14,539.26	510,377	2.85%	39	2,433.79	18,072.8	13.47%
H_HOLLOW_WND1	303	17,954.18	569,931	3.15%	49	3,747.98	38,970.2	9.62%
HHOLLOW2_WND1	303	13,200.37	371,599	3.55%	40	2,951.47	20,694.9	14.26%
HHOLLOW3_WND_1	303	16,264.27	519,885	3.13%	44	3,752.09	30,534.6	12.29%
HHOLLOW4_WND1	303	9,893.34	291,013	3.40%	49	2,103.21	19,424.1	10.83%
HRFDWIND_WIND_G	303	9,975.62	258,699	3.86%	49	2,061.75	10,362.9	19.90%
HRFDWIND_WIND_V	303	10,361.78	313,943	3.30%	49	2,753.53	10,362.9	26.57%
HWF_HWFG1	303	14,193.86	364,706	3.89%	51	3,359.33	27,897.5	12.04%
INDL_INADALE1	303	15,162.14	443,892	3.42%	44	3,314.56	26,418.2	12.55%
INDNENR_INDNENR	303	9,532.82	178,192	5.35%	53	1,830.05	12,687.9	14.42%
INDNENR_INDNENR_2	303	8,948.33	162,645	5.50%	53	1,881.98	11,500.2	16.36%
INDNWP_INDNWP	303	7,498.57	132,256	5.67%	53	1,366.71	9,570.0	14.28%
KEECHI_U1	303	8,922.38	410,756	2.17%	58	2,531.75	27,832.5	9.10%
KEO_KEO_SM1	303	20,931.92	361,199	5.80%	58	4,063.25	30,630.0	13.27%
KEO_SHRBINO2	303	18,322.33	327,854	5.59%	58	3,772.37	30,630.0	12.32%
KING_NE_KINGNE	303	5,286.67	97,340	5.43%	47	1,085.32	7,179.1	15.12%
KING_NW_KINGNW	303	7,310.14	118,190	6.19%	53	1,428.56	9,005.5	15.86%
KING_SE_KINGSE	303	2,702.13	48,053	5.62%	51	469.25	3,702.1	12.68%
KING_SW_KINGSW	303	6,266.79	104,048	6.02%	54	1,333.52	8,384.2	15.91%
LGD_LANGFORD	303	13,934.15	361,278	3.86%	44	2,816.84	19,193.1	14.68%
LNCRK_G83	303	15,010.87	457,021	3.28%	48	3,690.92	27,271.6	13.53%
LNCRK2_G871	303	7,510.37	217,846	3.45%	48	1,825.99	15,422.5	11.84%
LNCRK2_G872	303	7,397.96	214,096	3.46%	49	1,855.98	15,311.0	12.12%
LONEWOLF_G1	303	3,484.23	118,027	2.95%	49	828.40	7,640.3	10.84%
LONEWOLF_G2	303	3,773.31	115,237	3.27%	49	885.87	7,429.9	11.92%
LONEWOLF_G3	303	2,065.04	64,835	3.19%	49	509.40	7,429.9	6.86%
LONEWOLF_G4	303	1,941.75	59,017	3.29%	49	481.35	7,429.9	6.48%
LV1_LV1A	303	14,154.61	545,176	2.60%	59	3,370.84	48,464.5	6.96%
LV1_LV1B	303	15,764.49	449,484	3.51%	52	4,537.84	37,405.8	12.13%
MCDDL_FCW1	303	8,893.28	325,349	2.73%	44	3,578.53	19,318.9	18.52%
MCDDL_SBW1	303	5,474.51	215,825	2.54%	48	1,473.57	13,796.8	10.68%
MIAM1_G1	303	14,953.44	446,925	3.35%	49	4,508.28	10,362.9	43.50%
MIAM1_G2	303	14,438.70	420,448	3.43%	49	4,618.34	10,362.9	44.57%
MOZART_WIND_1	303	3,028.53	72,382	4.18%	61	683.63	6,516.6	10.49%
MWEC_G1	303	18,508.94	436,914	4.24%	61	7,114.24	35,150.3	20.24%

Table 3-6: 2008 Uncertainty of the Power Generation Prediction using the Linear Daily Models (Cont.)

Wind Farm	2008 Non Ozone Season Period				2008 Ozone Season Period (OSP)			
	Predicted days	Total Variance	Total Estimated	Relative Uncertainty	Predicted Days	Total Variance	Total Estimated	Relative uncertainty
NWF_NWF1	303	15,078.94	340,405	4.43%	63	4,765.77	34,417.3	13.85%
OWF_OWF	303	3,710.92	88,919	4.17%	47	961.71	6,362.9	15.11%
PC_NORTH_PANTHER1	303	9,473.25	267,965	3.54%	54	3,304.50	25,113.4	13.16%
PC_SOUTH_PANTHER2	303	7,579.29	209,824	3.61%	53	2,197.09	19,303.3	11.38%
PC_SOUTH_PANTHER3	303	13,258.94	686,367	1.93%	37	3,334.72	16,670.7	20.00%
PAP1_PAP1	303	12,759.09	88,919	14.35%	48	3,378.39	33,621.9	10.05%
COTTON_PAP2	303	15,384.24	446,821	3.44%	49	4,629.74	39,119.4	11.83%
PENA_UNIT1	303	9,505.62	324,526	2.93%	48	1,973.43	25,245.1	7.82%
PENA_UNIT2	303	8,839.68	268,084	3.30%	48	1,737.79	20,584.6	8.44%
PENA3_UNIT3	303	5,814.49	202,493	2.87%	47	1,193.32	15,575.2	7.66%
PH1_UNIT1	303	9,565.89	301,418	3.17%	49	2,153.52	10,362.9	20.78%
PH1_UNIT2	303	9,193.89	303,092	3.03%	49	2,187.79	10,362.9	21.11%
PH2_UNIT1	303	9,316.30	319,362	2.92%	49	2,800.18	10,362.9	27.02%
PH2_UNIT2	303	9,708.36	324,945	2.99%	49	3,028.94	10,362.9	29.23%
PYR_PYROM1	303	21,460.62	640,300	3.35%	49	5,602.91	41,876.5	13.38%
REDFISH_MV1A	303	7,319.47	257,602	2.84%	60	1,403.84	26,806.9	5.24%
REDFISH_MV1B	303	7,746.52	257,602	3.01%	60	1,878.38	26,264.5	7.15%
RDCANYON_RDCNY1	303	7,848.06	257,602	3.05%	51	3,256.27	17,682.8	18.41%
SENATEWD_UNIT1	303	10,627.62	483,180	2.20%	53	3,084.15	38,852.9	7.94%
SRWE1_UNIT1	303	23,565.28	642,315	3.67%	49	4,860.76	10,362.9	46.91%
SSPURW2_WIND_1	303	18,885.58	478,576	3.95%	49	4,502.63	10,362.9	43.45%
STWF_T1	303	7,869.40	262,897	2.99%	43	1,995.80	15,445.6	12.92%
SWEC_G1	303	9,654.17	307,398	3.14%	54	2,207.79	21,693.8	10.18%
SWEETWN2_WND2	303	7,952.35	307,398	2.59%	44	1,509.76	15,454.2	9.77%
SWEETWN2_WND24	303	1,252.18	307,398	0.41%	38	229.08	2,039.4	11.23%
SWEETWN3_WND3	303	9,337.30	307,398	3.04%	48	2,150.48	19,819.6	10.85%
SWEETWN4_WND4A	303	7,939.62	307,398	2.58%	43	2,209.19	15,724.6	14.05%
SWEETWN4_WND4B	303	6,515.86	307,398	2.12%	44	1,810.57	13,872.4	13.05%
SWEETWND_WND1	303	3,172.81	307,398	1.03%	42	682.41	5,442.8	12.54%
SWEETWN4_WND5	303	5,282.18	307,398	1.72%	47	1,530.94	11,202.0	13.67%
SGMTN_SIGNALMT	303	1,921.90	483,180	0.40%	40	460.67	3,043.1	15.14%
SW_MESA_SW_MESA	303	6,204.02	114,206	5.43%	54	1,214.55	9,102.1	13.34%
TGW_T1	303	8,213.58	307,398	2.67%	46	1,750.12	19,888.3	8.80%
TGW_T2	303	8,784.43	307,398	2.86%	45	2,128.13	21,636.6	9.84%
CHAMPION_UNIT1	303	9,262.04	446,821	2.07%	47	2,706.71	20,551.4	13.17%
TKWSW1_ROSCOE	303	15,747.80	377,132	4.18%	45	3,911.75	22,729.0	17.21%
TRENT_TRENT	303	12,699.46	332,515	3.82%	43	1,998.93	18,952.5	10.55%
TRINITY_TH1_BUS1	303	11,020.70	247,052	4.46%	43	2,551.35	18,952.5	13.46%
TRINITY_TH1_BUS2	303	10,081.66	225,793	4.47%	43	2,260.15	18,952.5	11.93%
TTWEC_G1	303	13,919.14	408,407	3.41%	52	2,920.37	28,830.5	10.13%
WEC_WECG1	303	7,691.78	172,174	4.47%	60	2,895.75	13,434.3	21.55%
WHITTAIL_WR1	303	10,833.60	397,795	2.72%	49	2,643.01	32,470.6	8.14%
WINDHST2_UNIT1	303	6,422.77	179,709	3.57%	58	2,036.70	27,832.5	7.32%
WOODWRD1_WOODWRD1	303	7,816.12	130,553	5.99%	54	1,390.14	9,692.2	14.34%
WOODWRD2_WOODWRD2	303	7,032.38	119,504	5.88%	53	1,328.59	8,592.0	15.46%

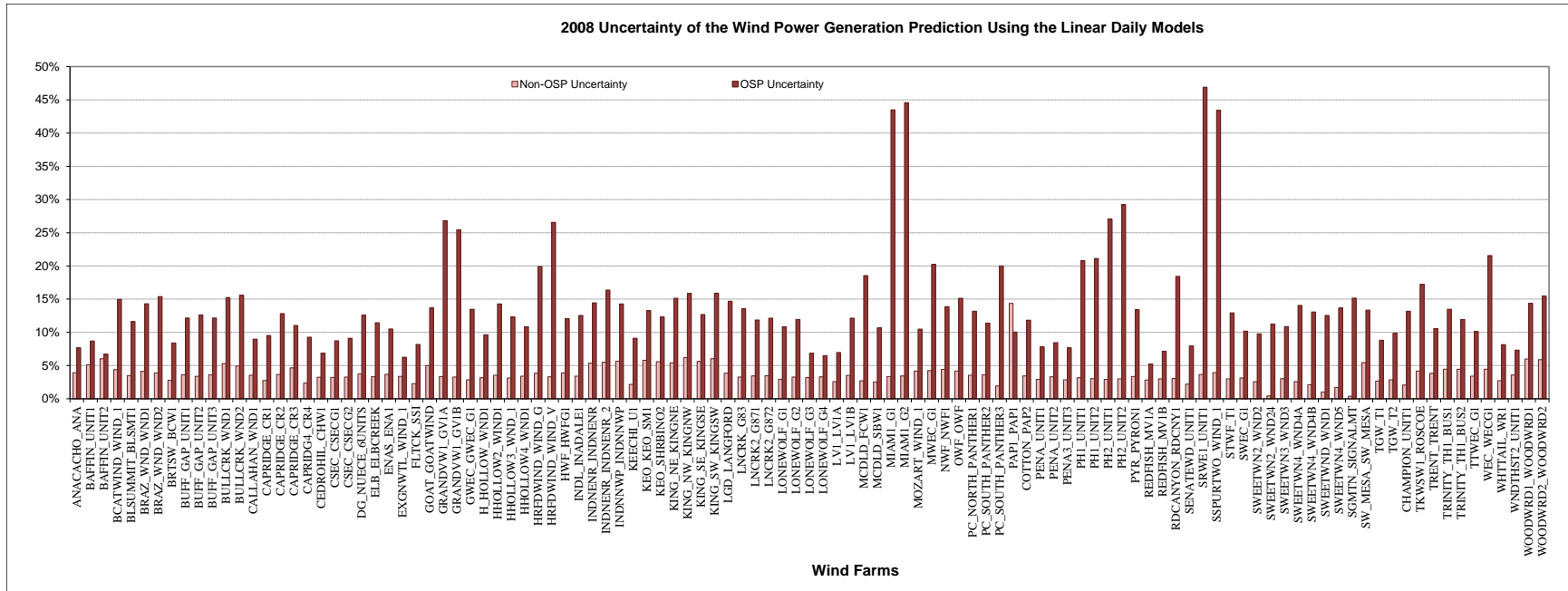


Figure 3-15: Uncertainty of the Wind Power generation Prediction Using the Linear Daily Models for Base Year 2008

4 DEGRADATION ANALYSIS FOR WIND FARMS

This report contains an updated analysis to determine any degradation could be observed in the measured power generation from Texas wind farms. By request of the TCEQ, the ESL has been evaluating any observed degradation from the measured data for Texas wind farms. To accomplish this, in this report eighty wind farms (in 74 sites) built from 2002 to 2011 were evaluated with a total capacity of 9,915.2 MW (see Table 4-1).

In this analysis, a sliding statistical index was established for each site that used the 10th, 25th, 50th, 75th, 90th, and 99th percentiles of the hourly power generation over a 12-month sliding period, as well as mean, minimum and maximum hourly power generation of the same 12-month period. These indices were then displayed using one data symbol for each 12-month slide, beginning from the first 12-month period until the last 12-month period for each of the wind farms.

Table 4-1 presents the summary of the degradation analysis for the eighty wind farms (74 sites). Of the seventy four sites analyzed, fifty sites showed an increase when one compares the 90th percentile of the whole period to the 90th percentile of the first 12-month period, ranging from 0.1% to 289.0%. The remaining twenty four sites showed a decrease from -0.5% to -27.2%. The weighted average of this increase across all wind farms studied is 17.2% (positive), which indicates that no degradation was observed from the aggregated energy production from these wind farms over the studied operation period. Based on the observations, special attention needs to be paid to sites Loraine Windpark IV (-10.5%), Papalote Creek Wind Farm (-14.5%), Big Spring Wind Power (-15.4%), Snyder Wind Project (-16.1%), and Sherbino 2 Wind (-27.2%). Those wind farms have comparison percentages larger than 10%, which may be caused by wind farm operation issues, the meter problems or other issues that have not been aware of.

Table 4-2 and Figure 4-75 show the design capacity, the maximum and minimum of the observed maximum hourly wind power over the sliding 12-month period, and the observed maximum hourly wind power for the last 12-month period for the studied wind farms. It is interesting to note that the observed maximum hourly wind power generation is equal, or slightly lower, than the design/announced capacity for all the sites.

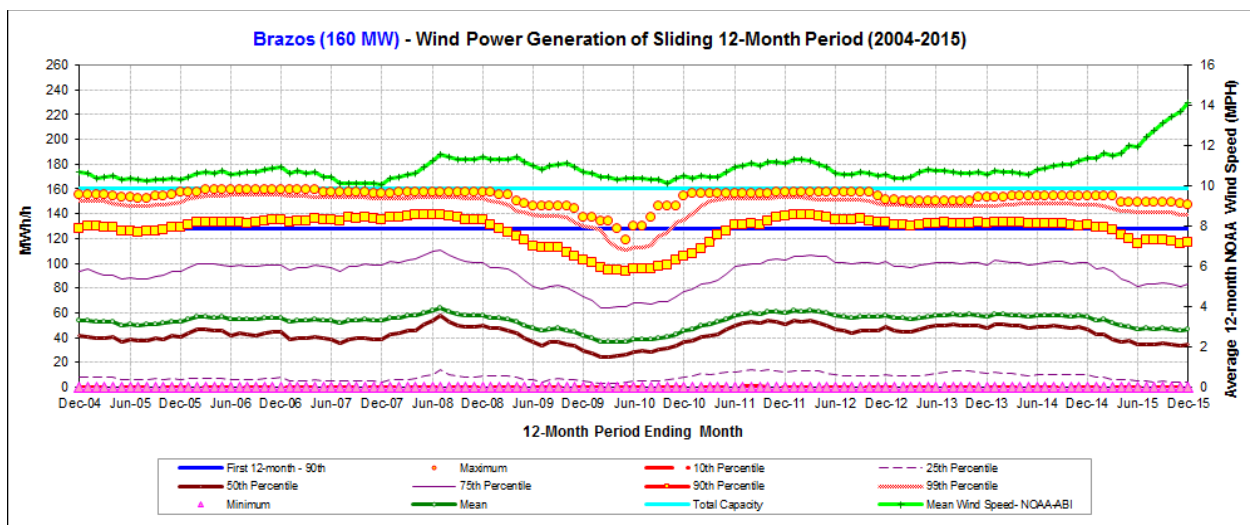


Figure 4-1: Sliding 12-month Hourly Wind Power Generation for Brazos Wind Ranch

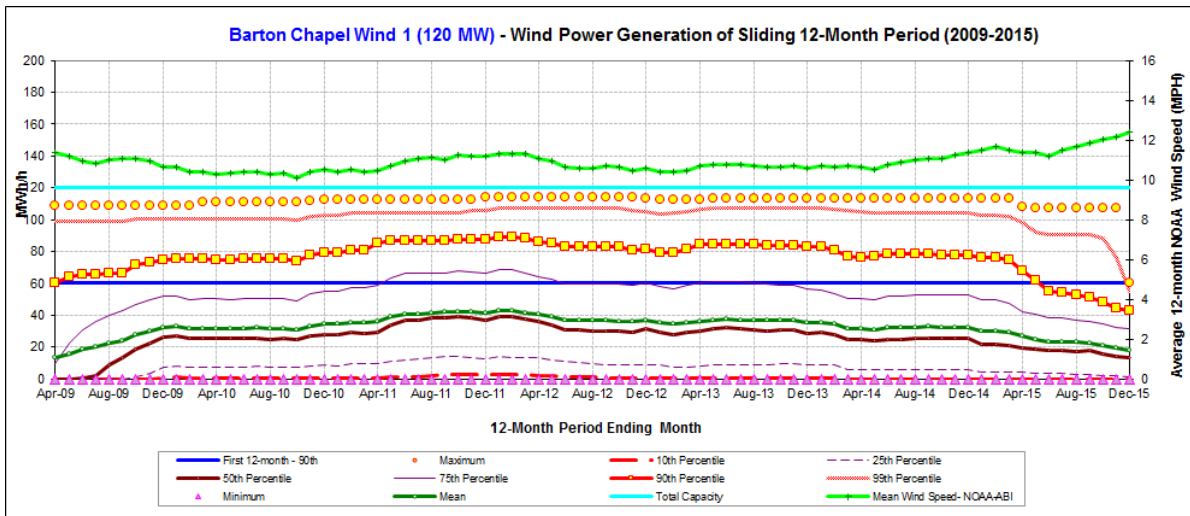


Figure 4-2: Sliding 12-month Hourly Wind Power Generation for Barton Chapel Wind 1

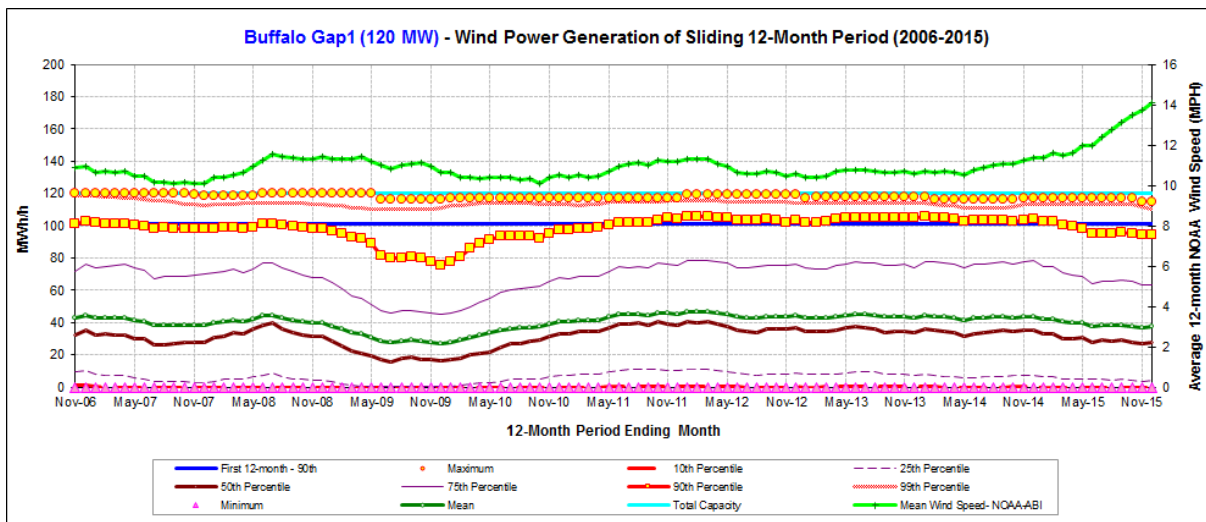


Figure 4-3: Sliding 12-month Hourly Wind Power Generation for Buffalo Gap 1

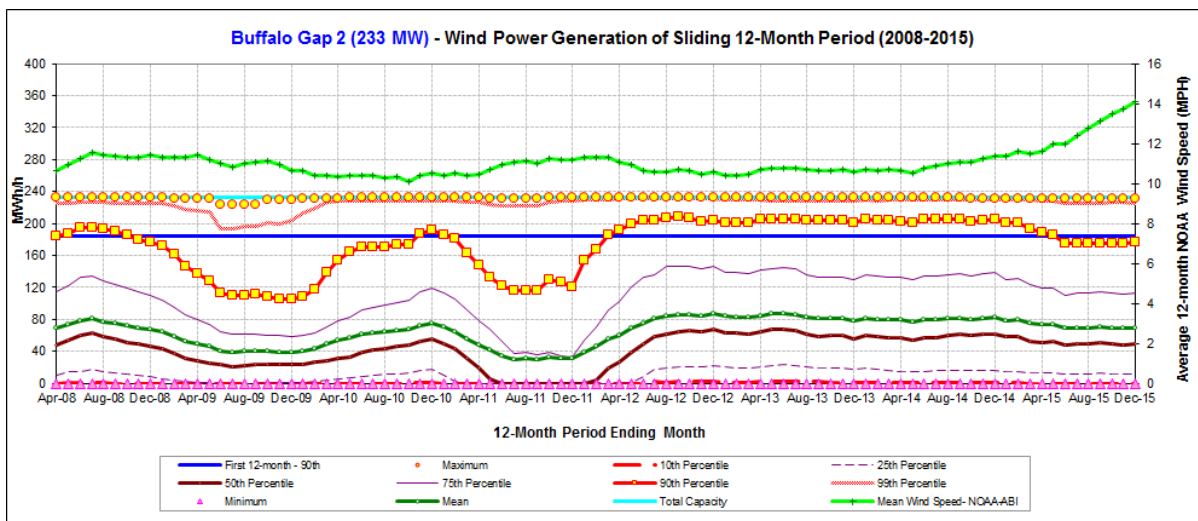


Figure 4-4: Sliding 12-month Hourly Wind Power Generation for Buffalo Gap 2

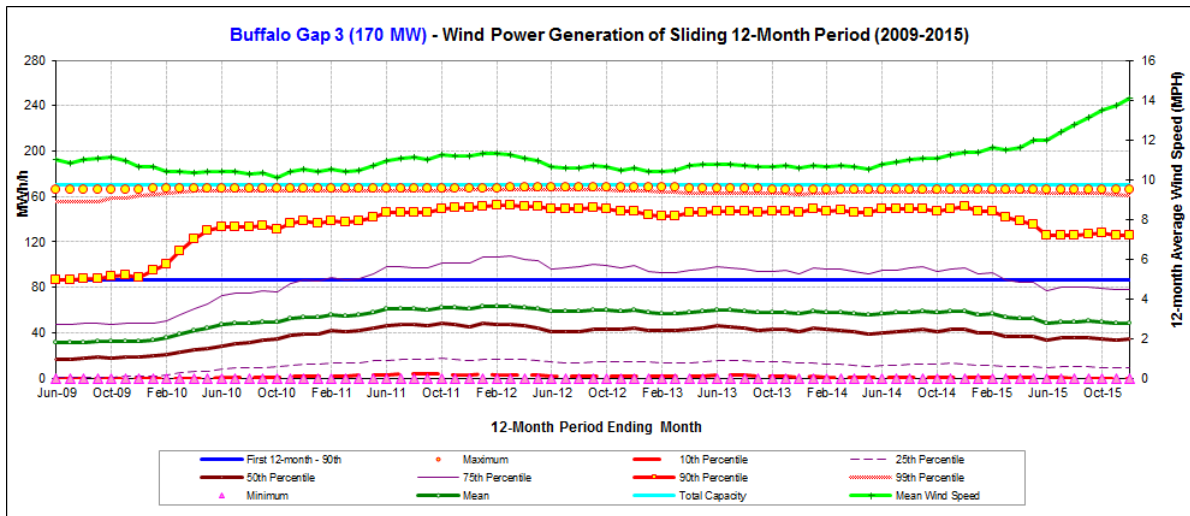


Figure 4-5: Sliding 12-month Hourly Wind Power Generation for Buffalo Gap 3

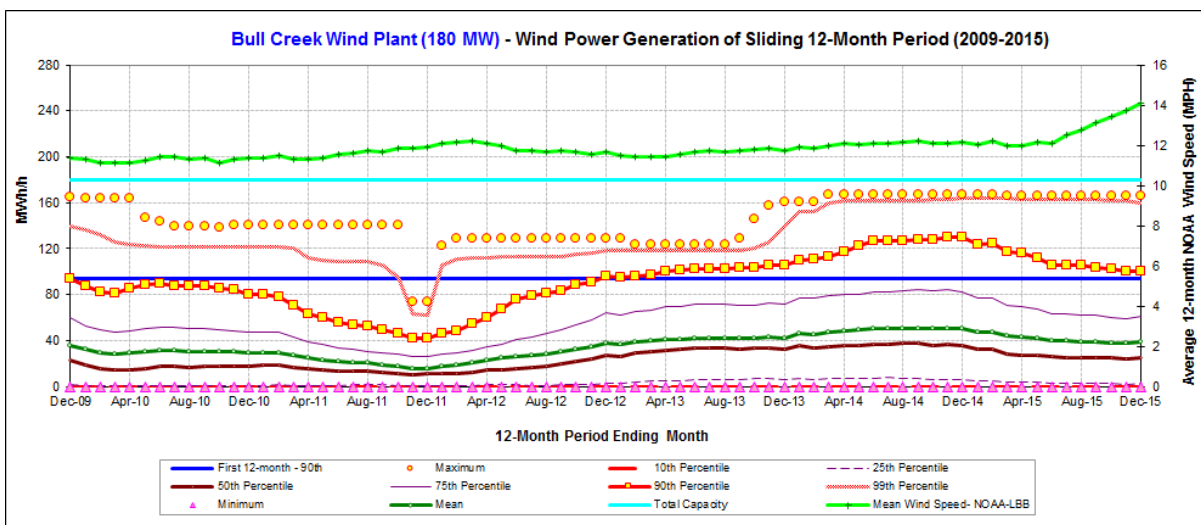


Figure 4-6: Sliding 12-month Hourly Wind Power Generation for Bull Creek Wind Plant

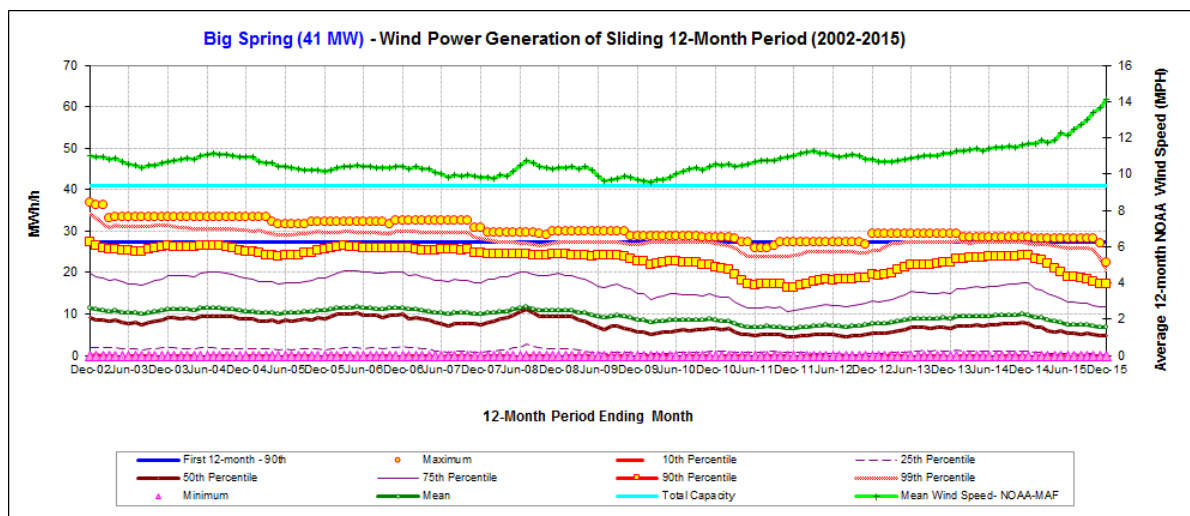


Figure 4-7: Sliding 12-month Hourly Wind Power Generation for Big Spring Wind Power

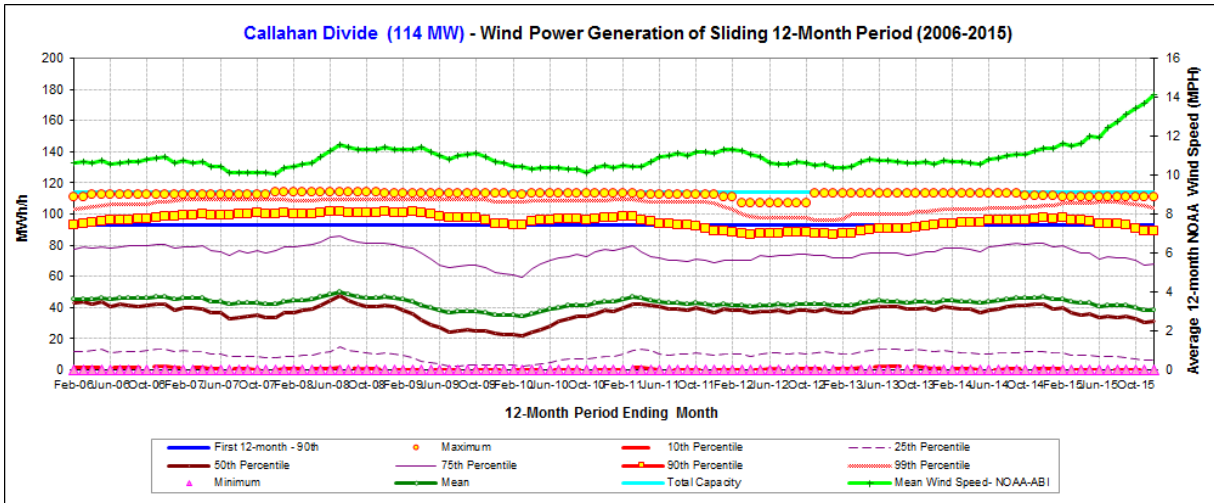


Figure 4-8: Sliding 12-month Hourly Wind Power Generation for Callahan Divide Wind

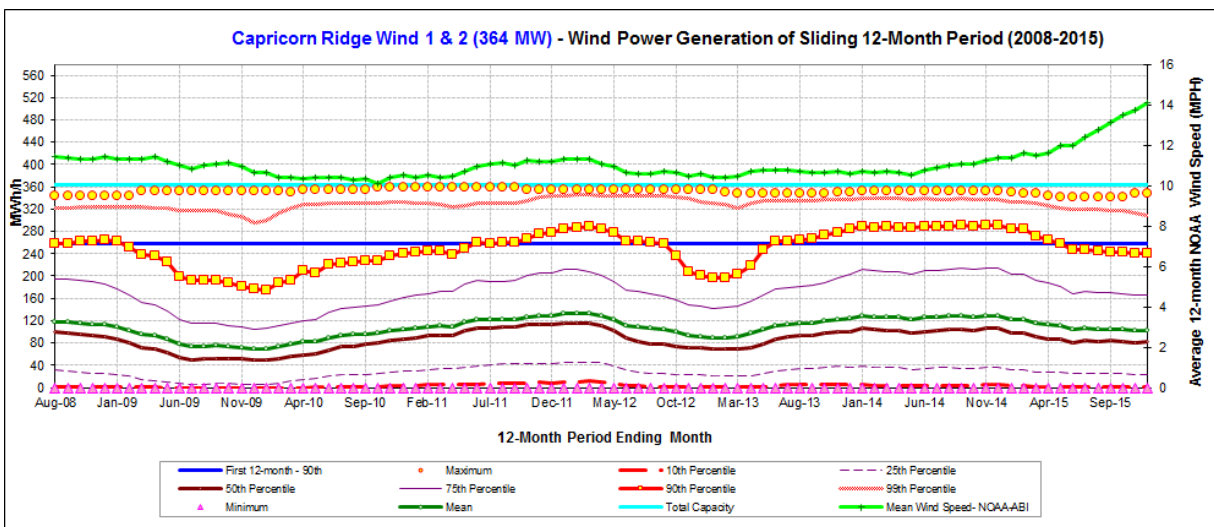


Figure 4-9: Sliding 12-month Hourly Wind Power Generation for Capricorn Ridge Wind 1 & 2

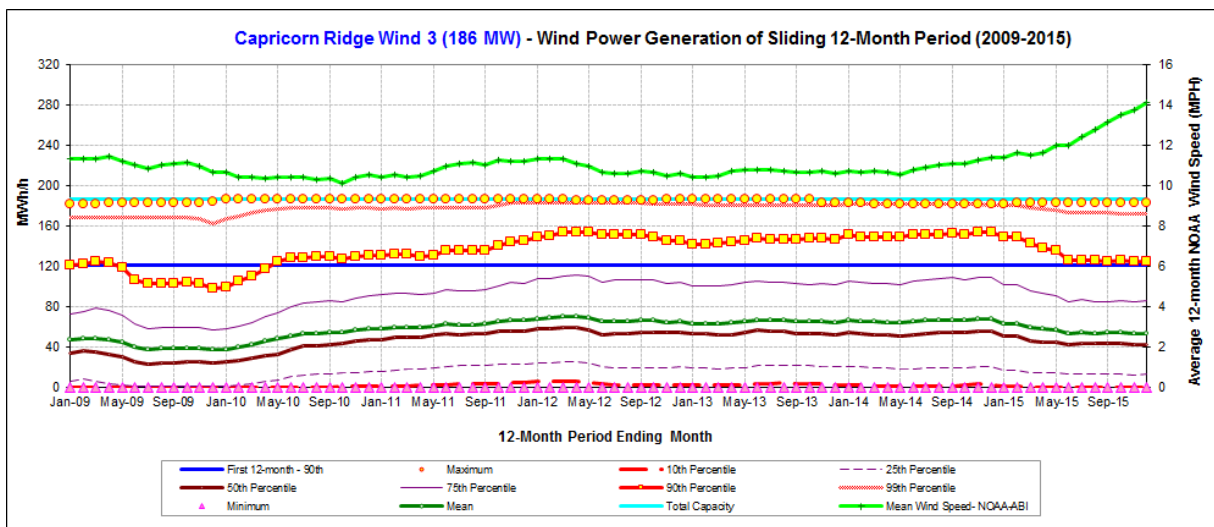


Figure 4-10: Sliding 12-month Hourly Wind Power Generation for Capricorn Ridge Wind 3

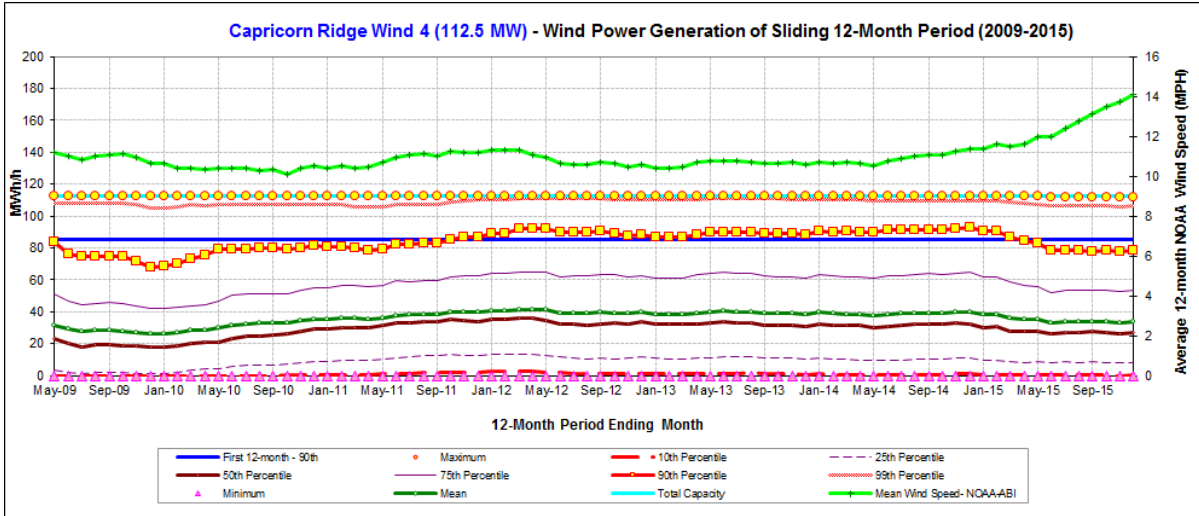


Figure 4-11: Sliding 12-month Hourly Wind Power Generation for Capricorn Ridge Wind 4

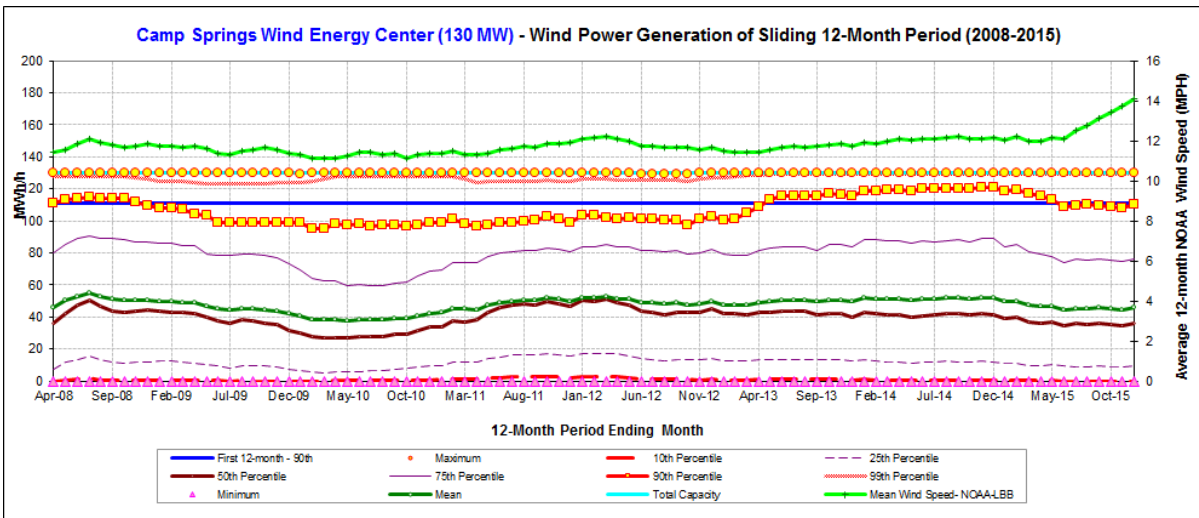


Figure 4-12: Sliding 12-month Hourly Wind Power Generation for Camp Springs Wind Energy Center

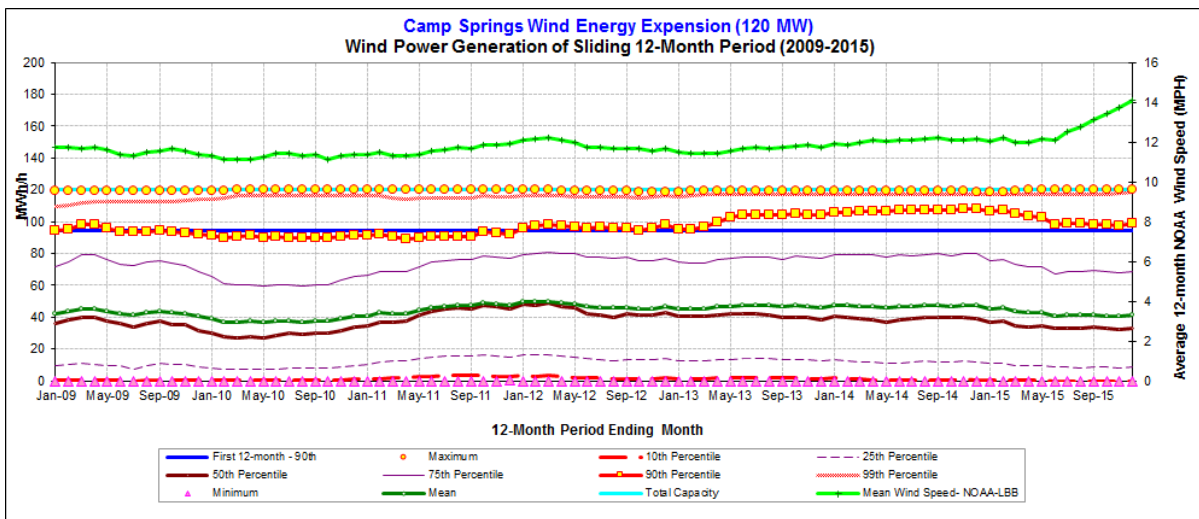


Figure 4-13: Sliding 12-month Hourly Wind Power Generation for Camp Springs Wind Energy Expansion

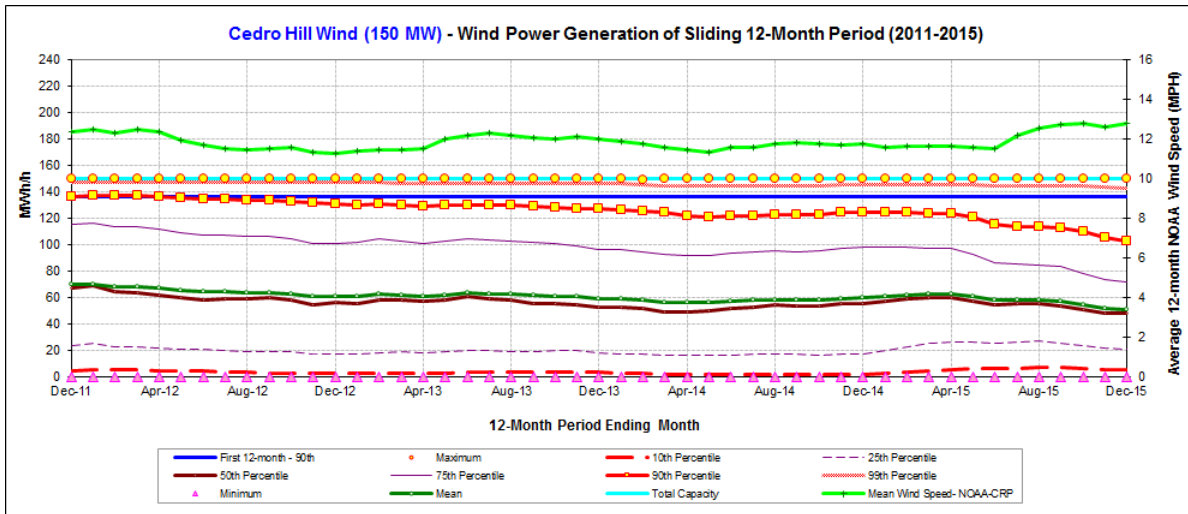


Figure 4-14: Sliding 12-month Hourly Wind Power Generation for Cedro Hill Wind

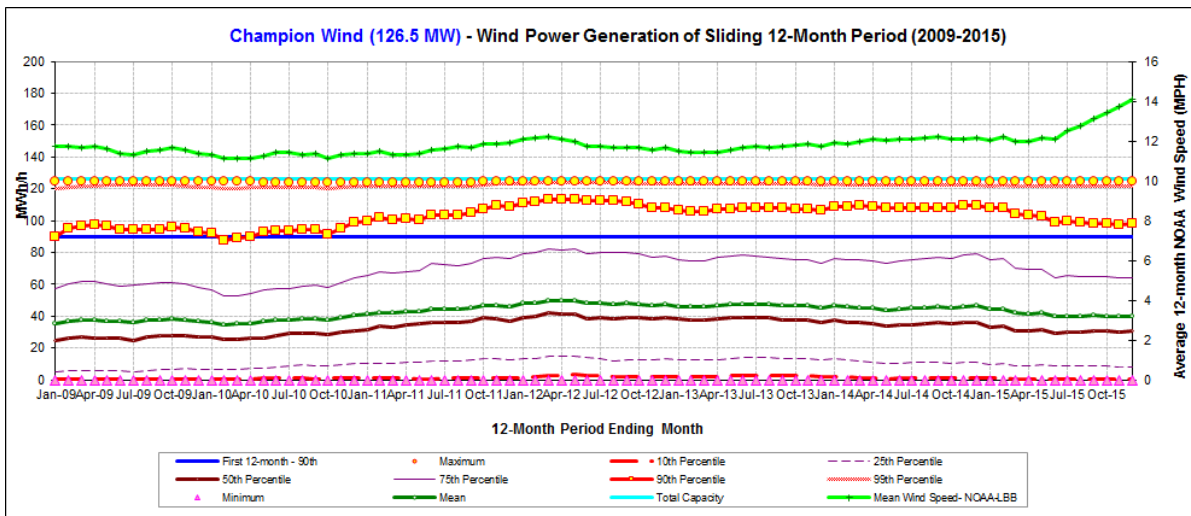


Figure 4-15: Sliding 12-month Hourly Wind Power Generation for Champion Wind

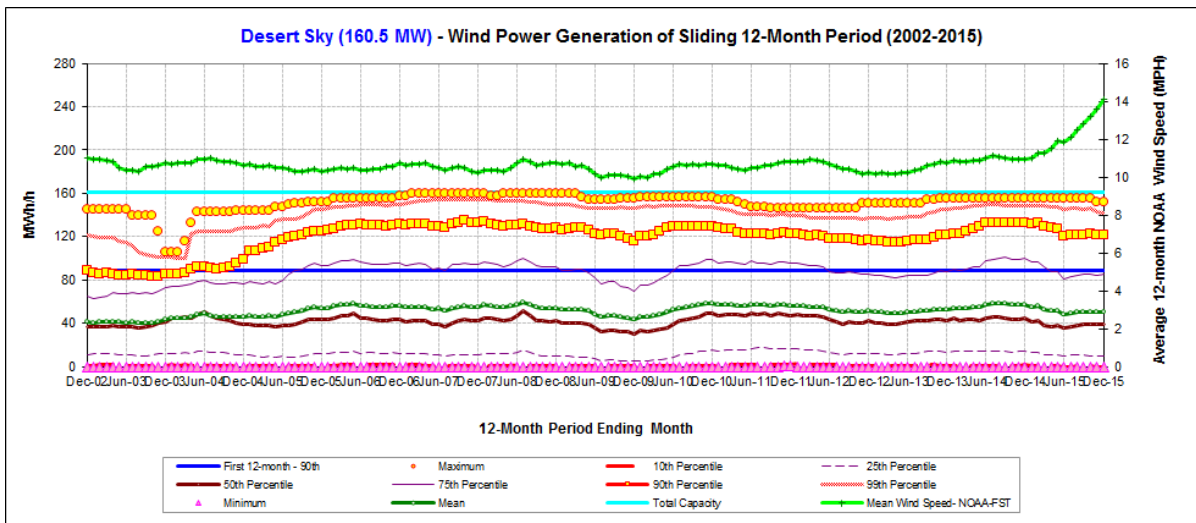


Figure 4-16: Sliding 12-month Hourly Wind Power Generation for Desert Sky

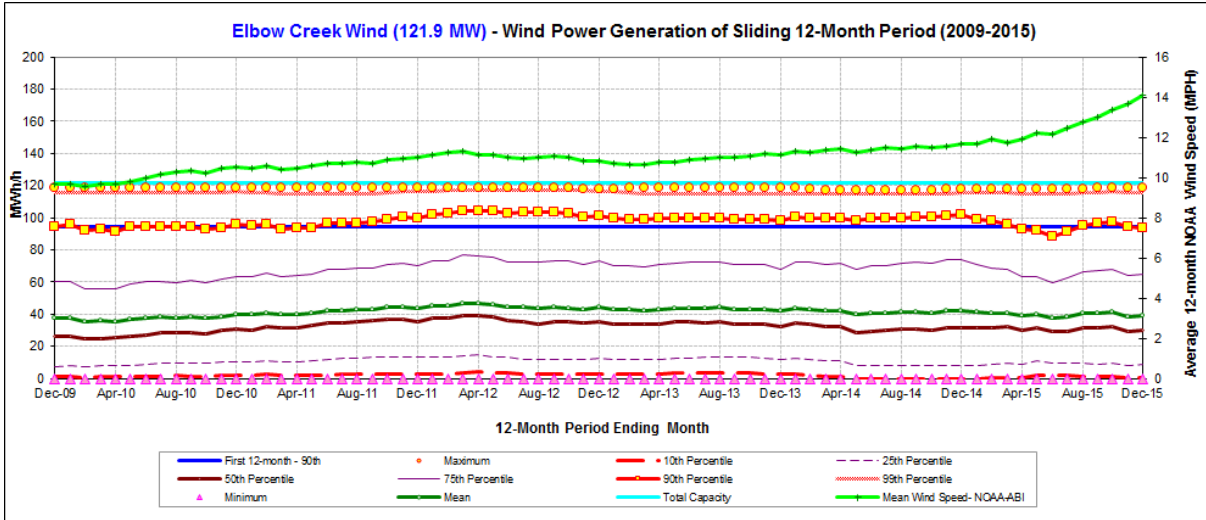


Figure 4-17: Sliding 12-month Hourly Wind Power Generation for Elbow Creek Wind

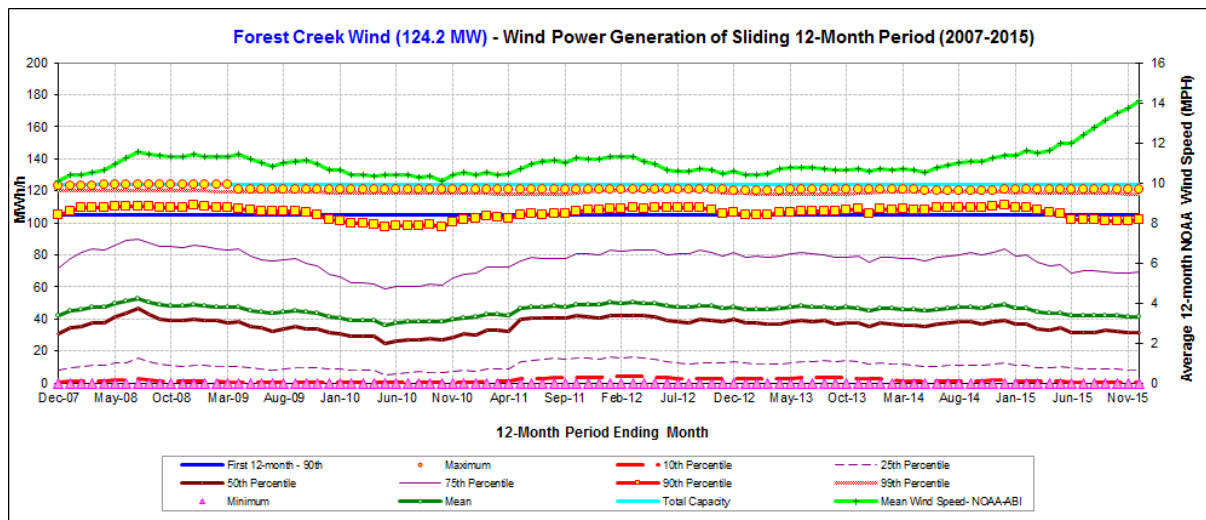


Figure 4-18: Sliding 12-month Hourly Wind Power Generation for Forest Creek Wind

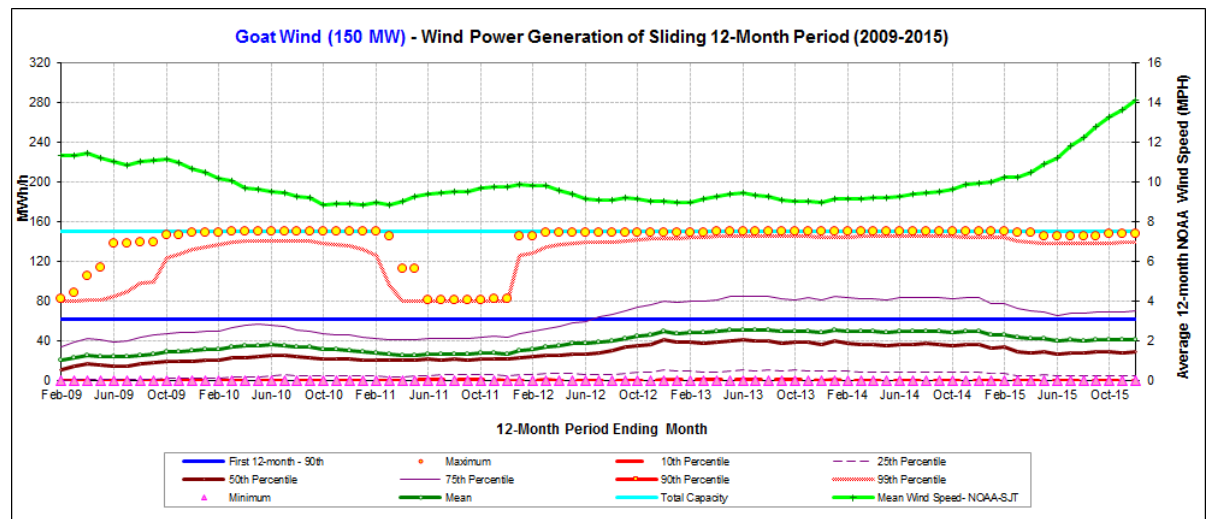


Figure 4-19: Sliding 12-month Hourly Wind Power Generation for Goat Wind

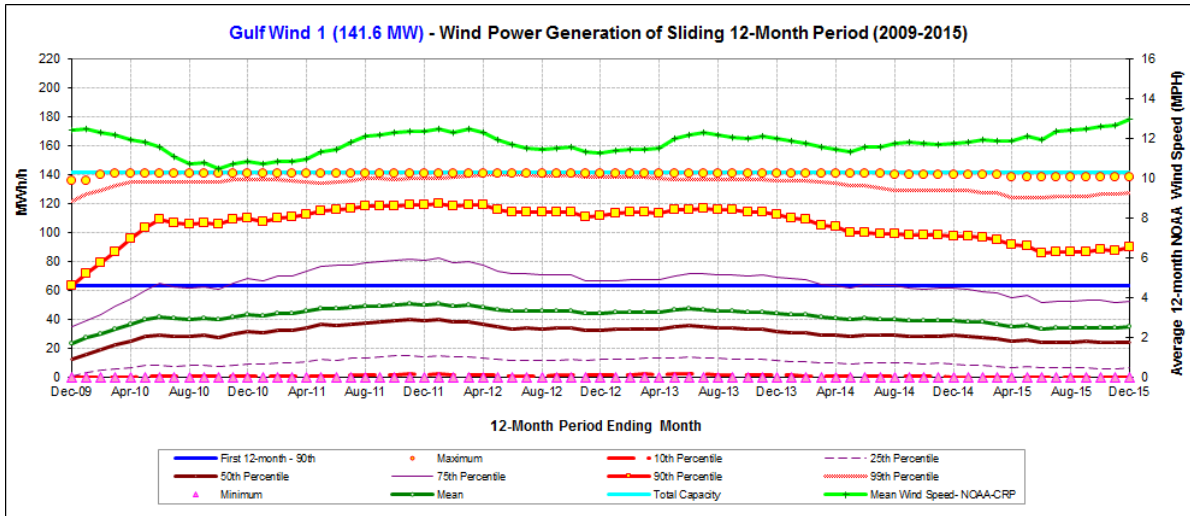


Figure 4-20: Sliding 12-month Hourly Wind Power Generation for Gulf Wind 1

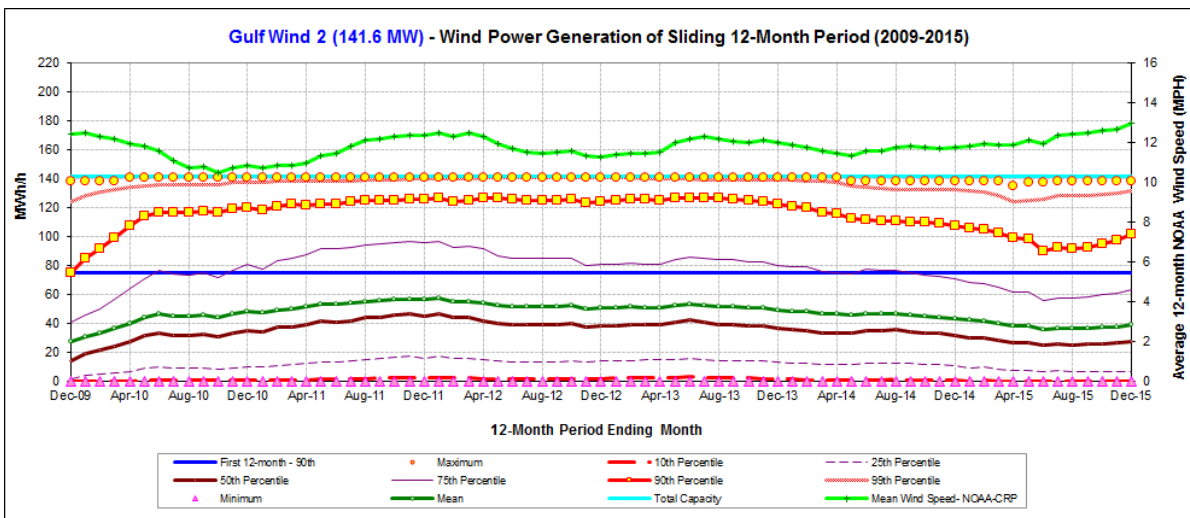


Figure 4-21: Sliding 12-month Hourly Wind Power Generation for Gulf Wind 2

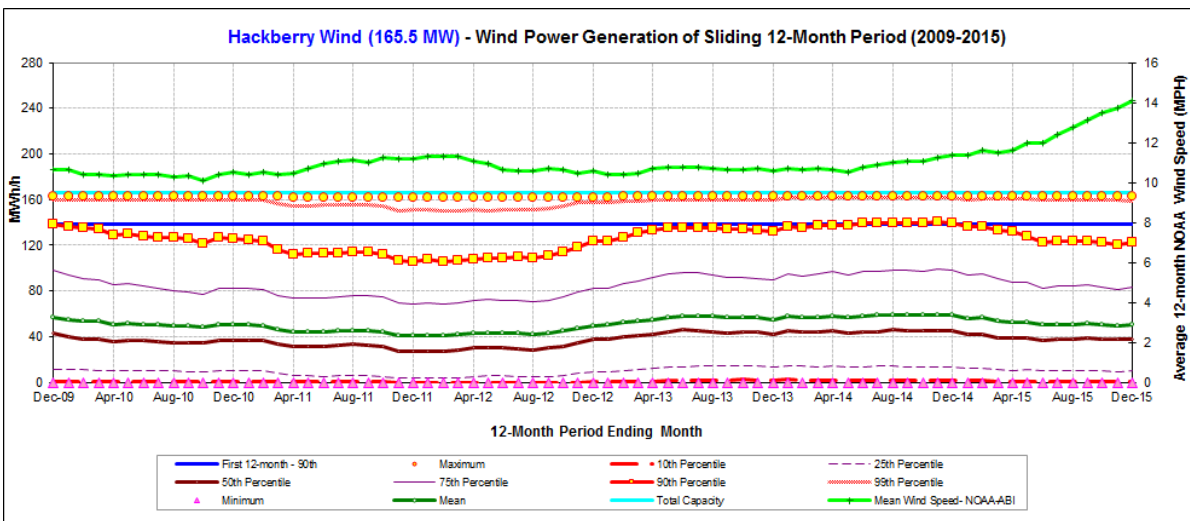


Figure 4-22: Sliding 12-month Hourly Wind Power Generation for Hackberry Wind

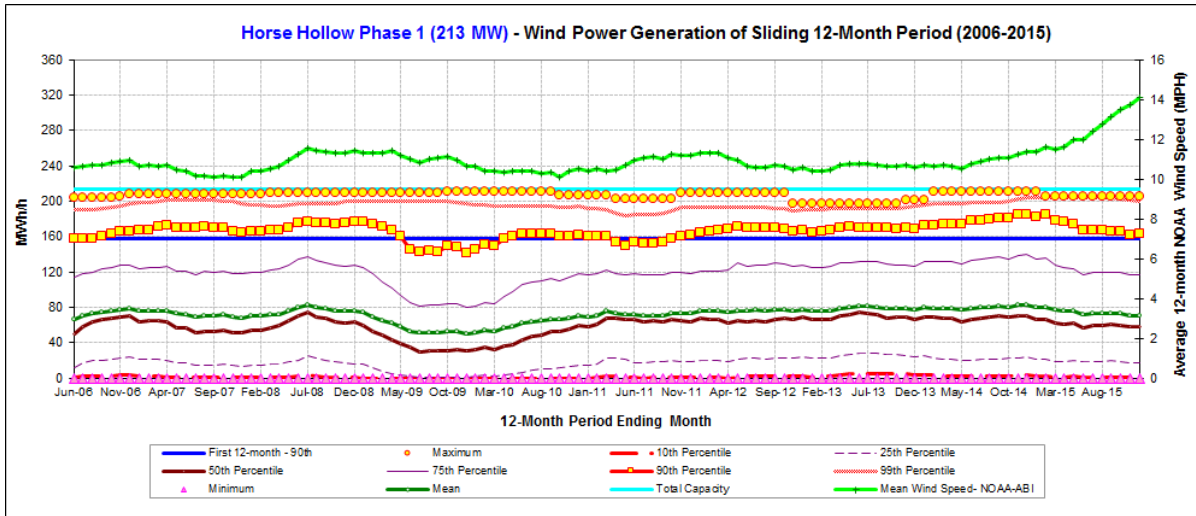


Figure 4-23: Sliding 12-month Hourly Wind Power Generation for Horse Hollow Phase 1

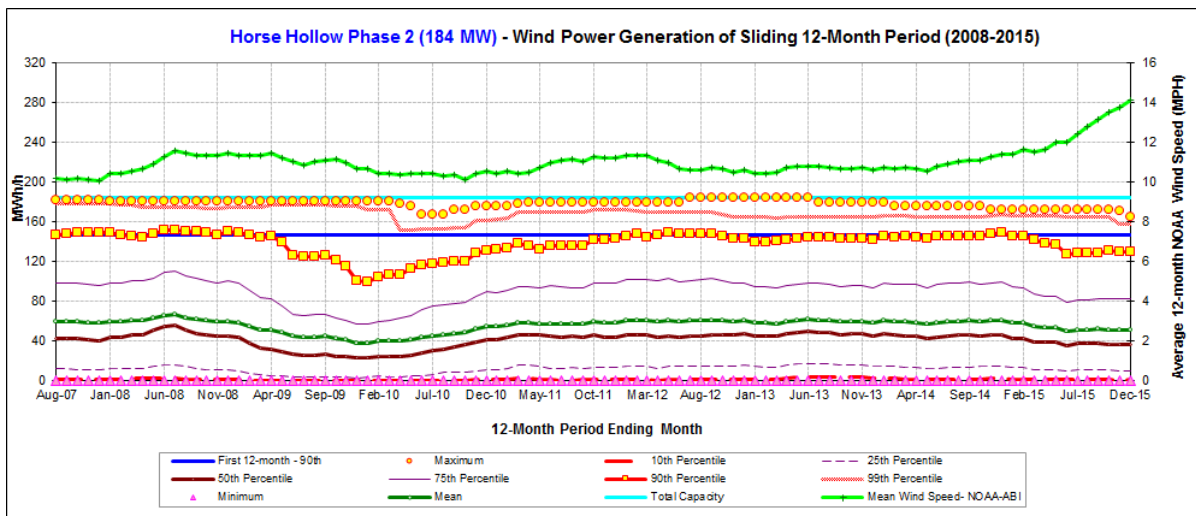


Figure 4-24: Sliding 12-month Hourly Wind Power Generation for Horse Hollow Phase 2

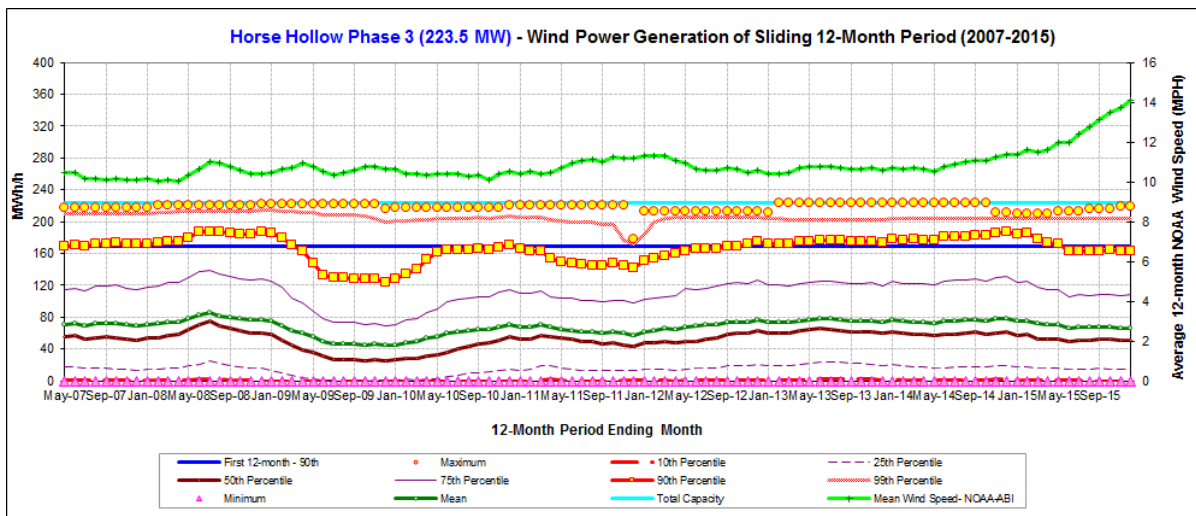


Figure 4-25: Sliding 12-month Hourly Wind Power Generation for Horse Hollow Phase 3

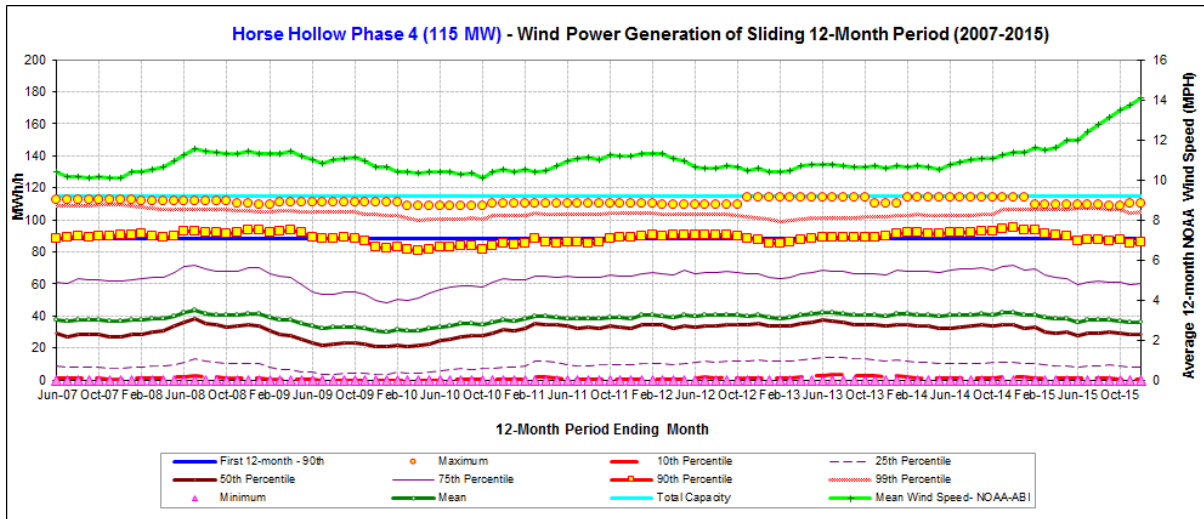


Figure 4-26: Sliding 12-month Hourly Wind Power Generation for Horse Hollow Phase 4

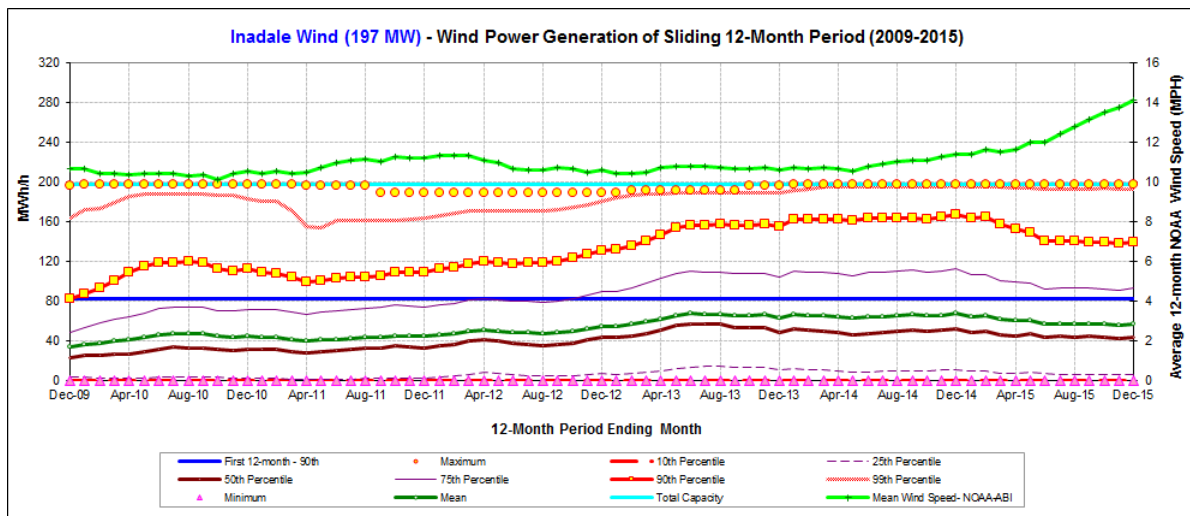


Figure 4-27: Sliding 12-month Hourly Wind Power Generation for Inadale Wind

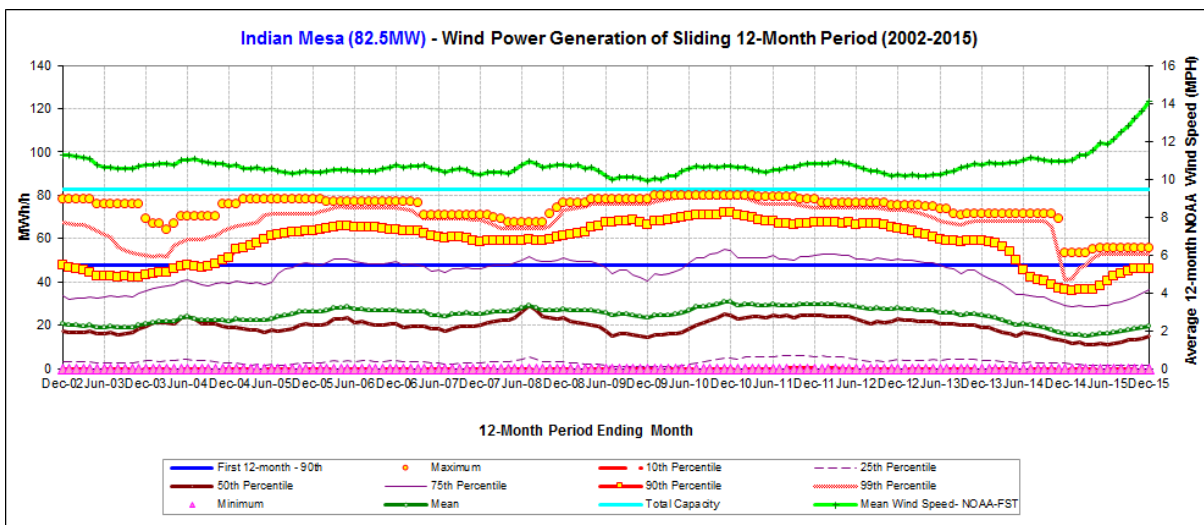


Figure 4-28: Sliding 12-month Hourly Wind Power Generation for Indian Mesa

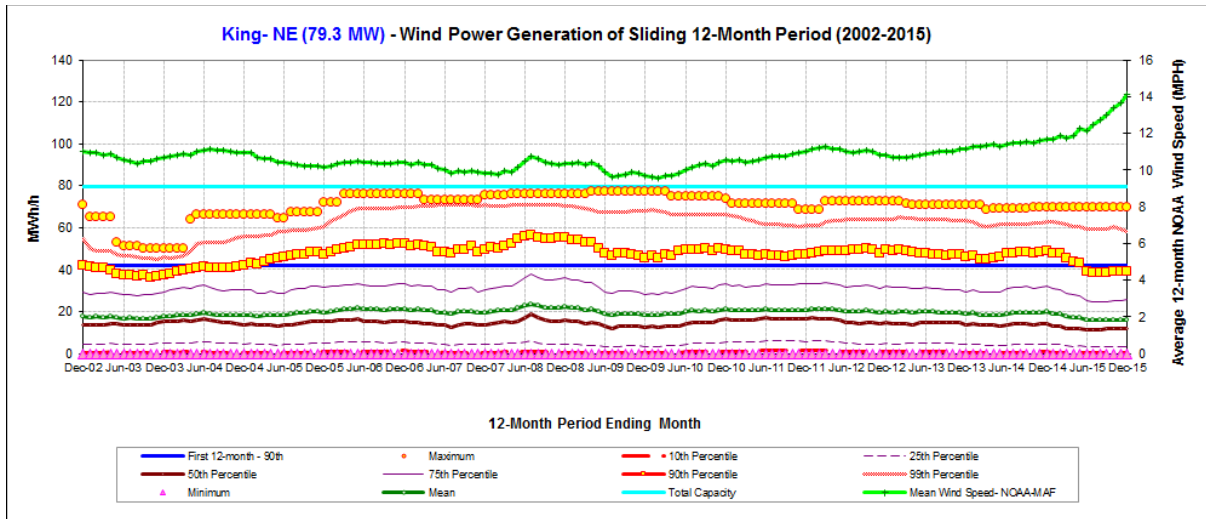


Figure 4-29: Sliding 12-month Hourly Wind Power Generation for King Mountain Wind Ranch-NE

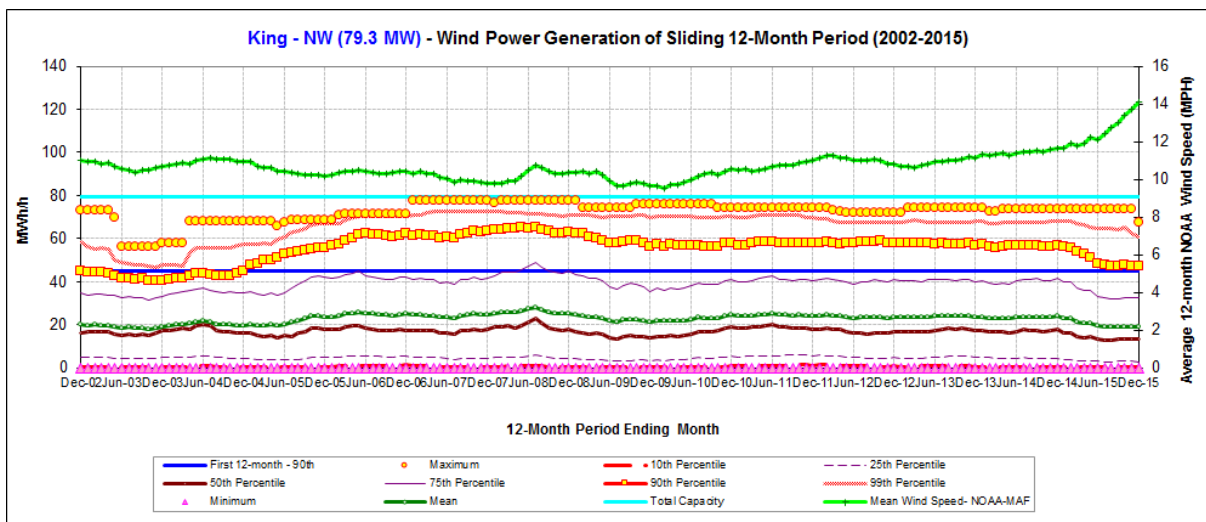


Figure 4-30: Sliding 12-month Hourly Wind Power Generation for King Mountain Wind Ranch-NW

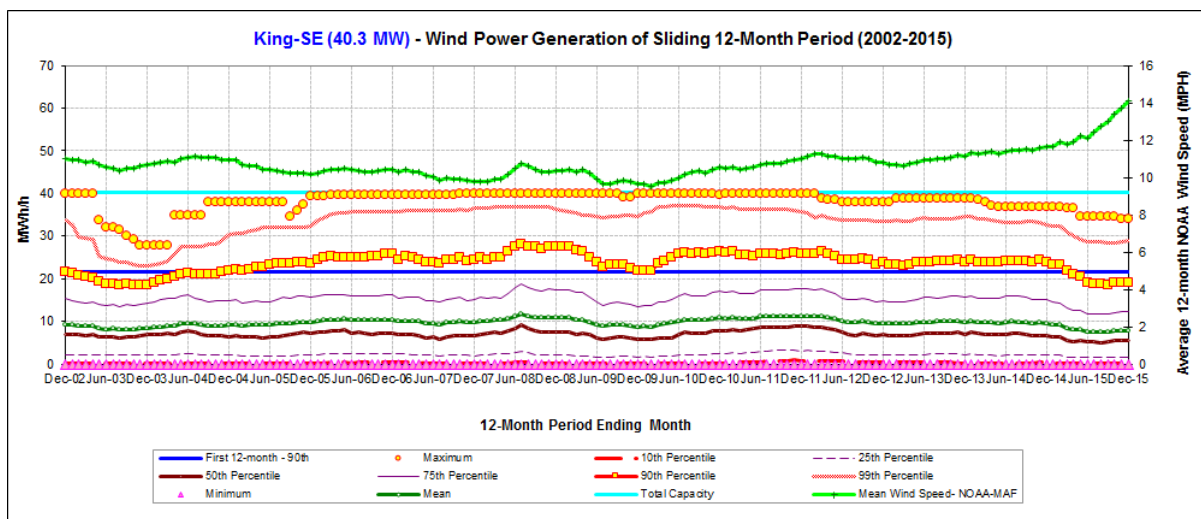


Figure 4-31: Sliding 12-month Hourly Wind Power Generation for King Mountain Wind Ranch-SE

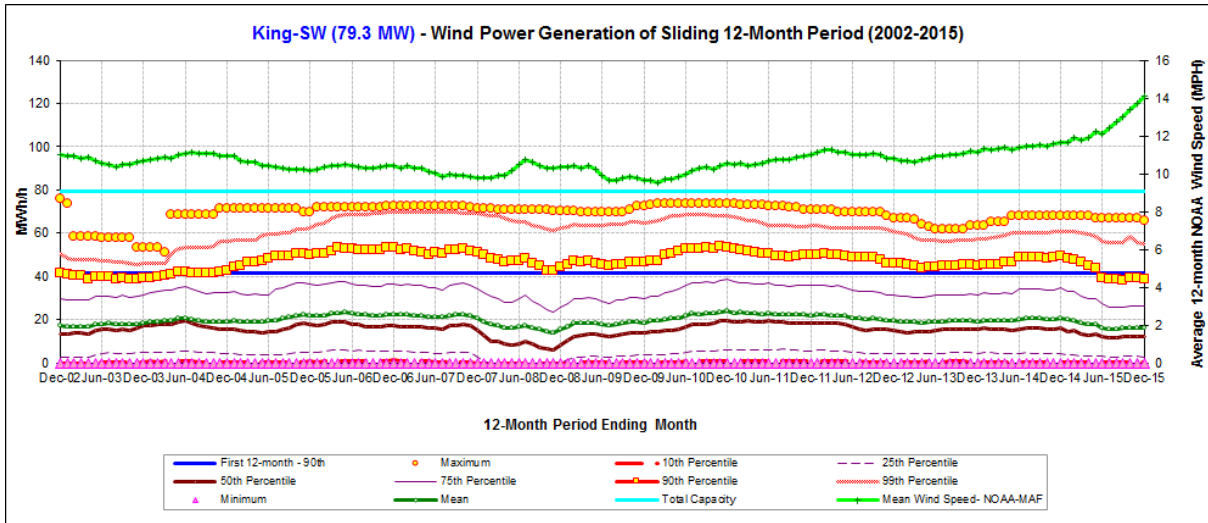


Figure 4-32: Sliding 12-month Hourly Wind Power Generation for King Mountain Wind Ranch-SW

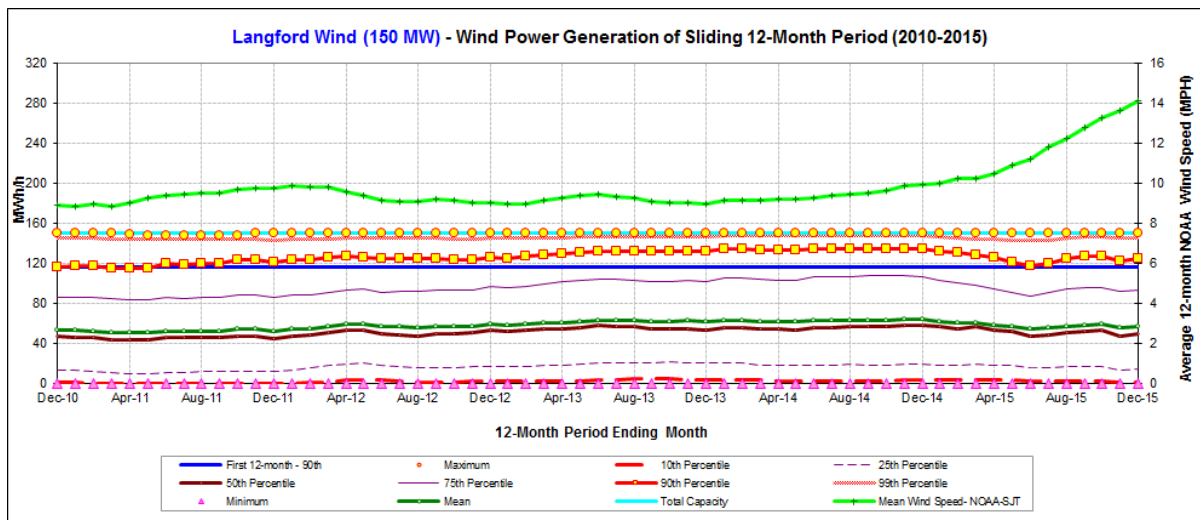


Figure 4-33: Sliding 12-month Hourly Wind Power Generation for Langford Wind

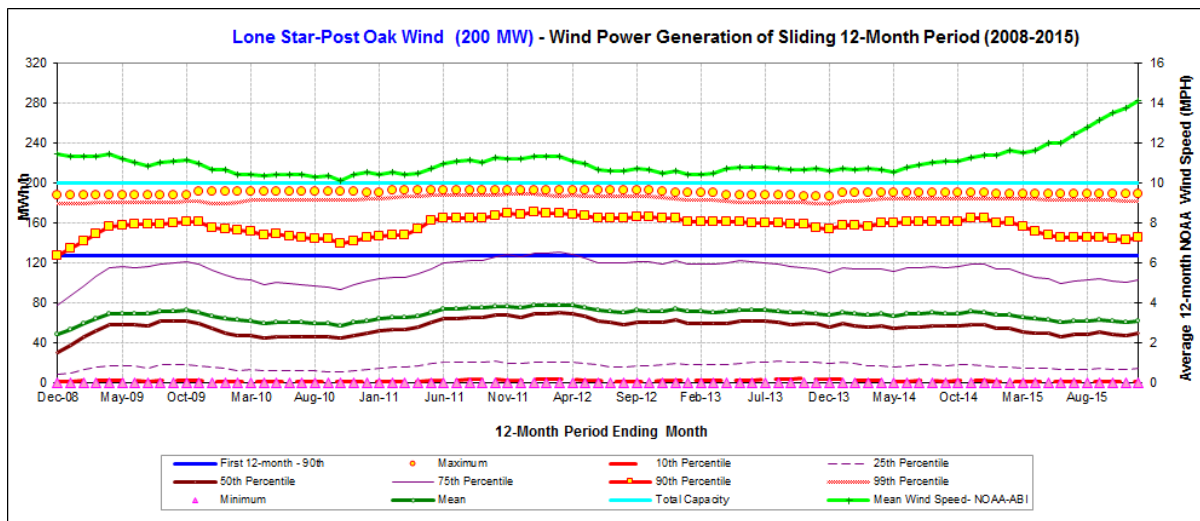


Figure 4-34: Sliding 12-month Hourly Wind Power Generation for Lone Star - Post Oak Wind

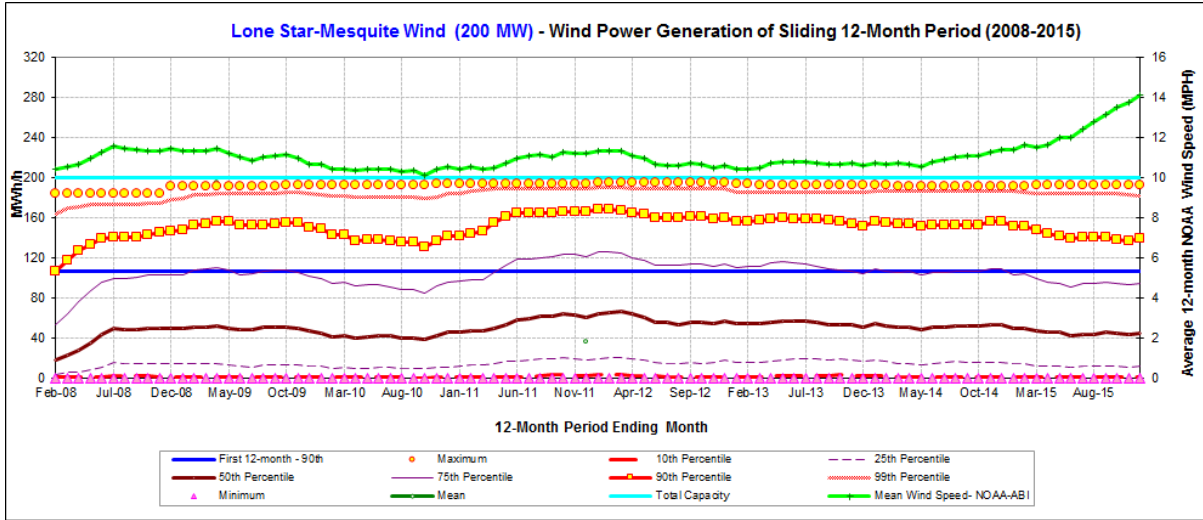


Figure 4-35: Sliding 12-month Hourly Wind Power Generation for Lone-Star Mesquite Wind

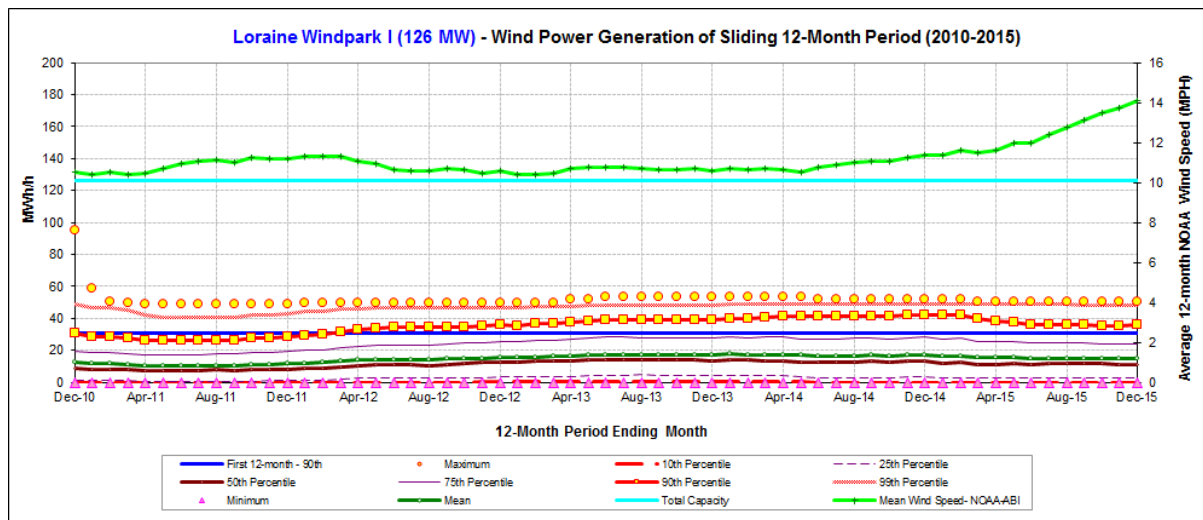


Figure 4-36: Sliding 12-month Hourly Wind Power Generation for Loraine Windpark I

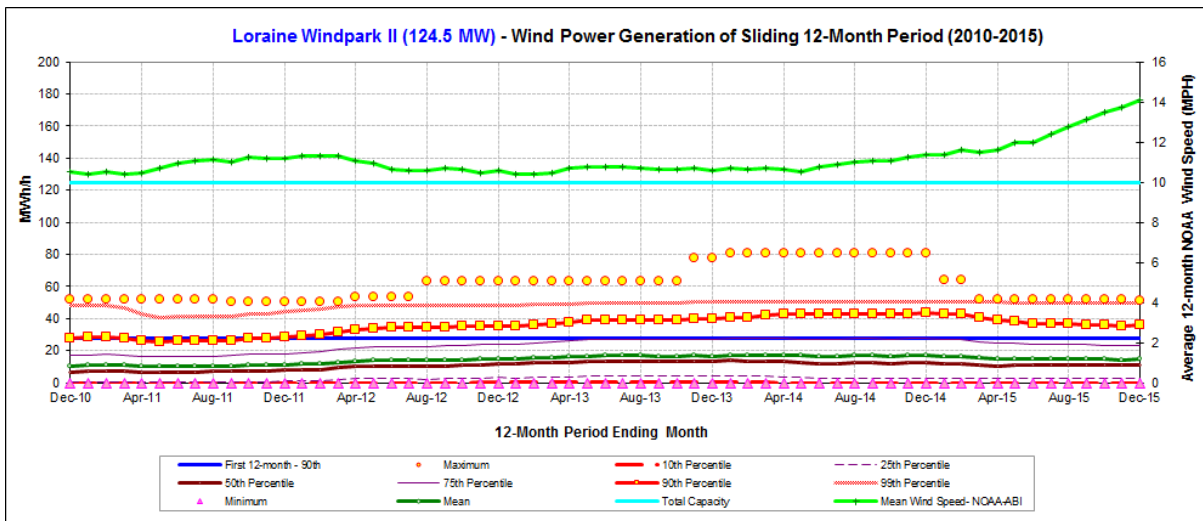


Figure 4-37: Sliding 12-month Hourly Wind Power Generation for Loraine Windpark II

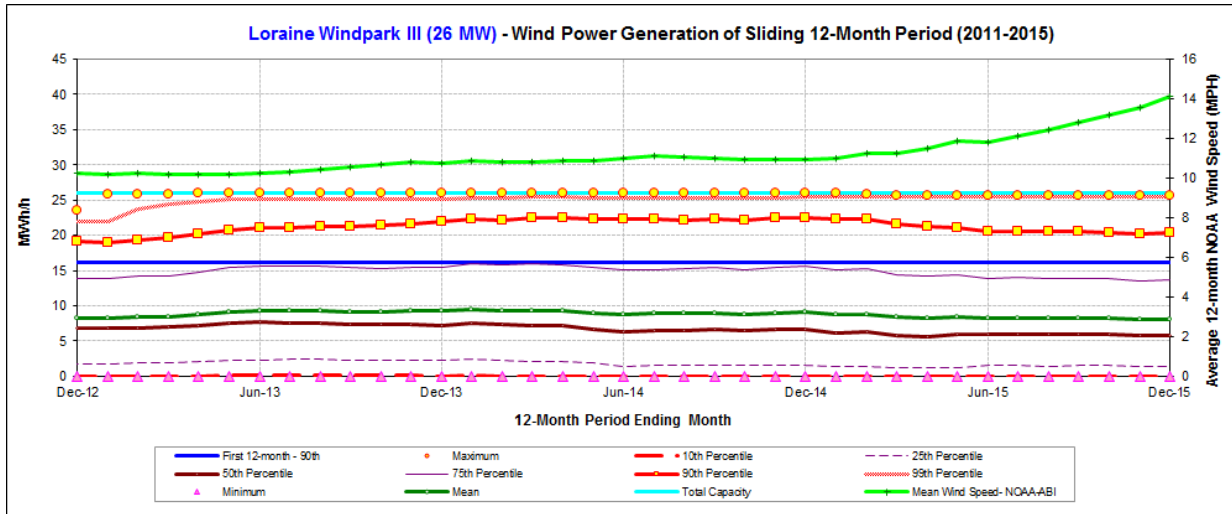


Figure 4-38: Sliding 12-month Hourly Wind Power Generation for Loraine Windpark III

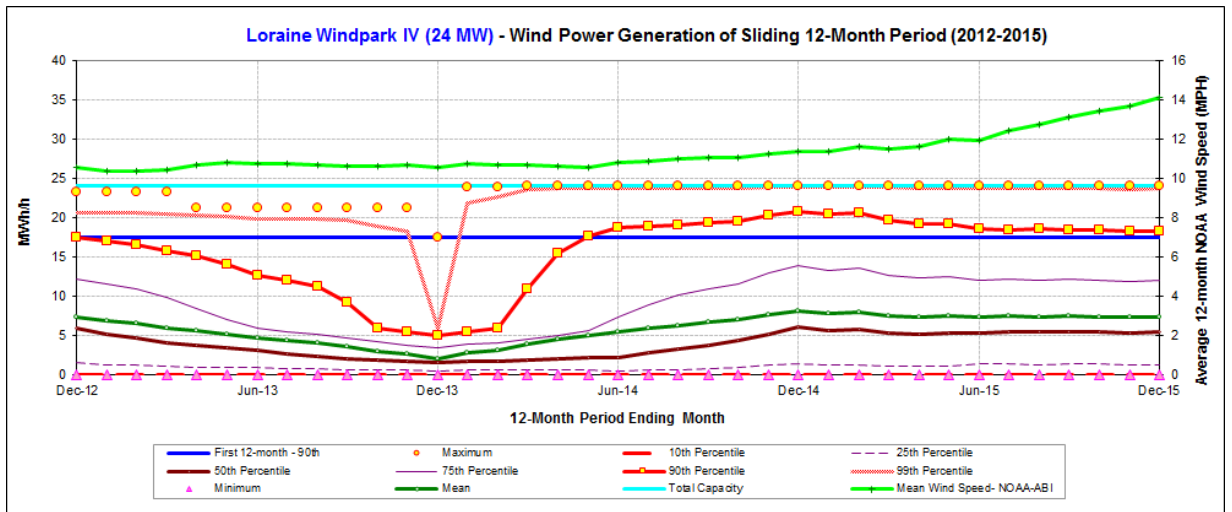


Figure 4-39: Sliding 12-month Hourly Wind Power Generation for Loraine Windpark IV

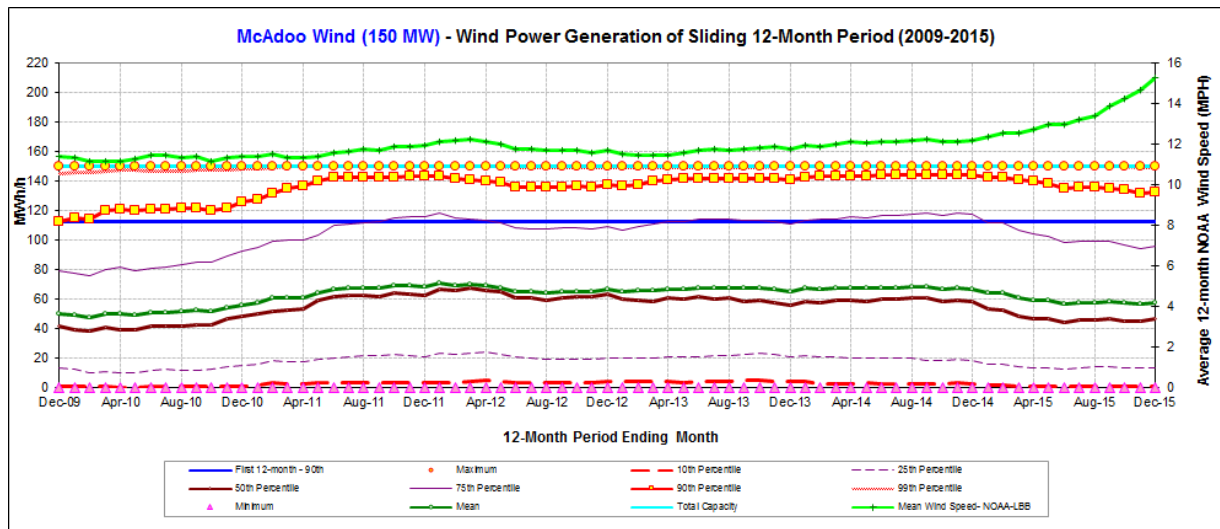


Figure 4-40: Sliding 12-month Hourly Wind Power Generation for McAdoo Wind

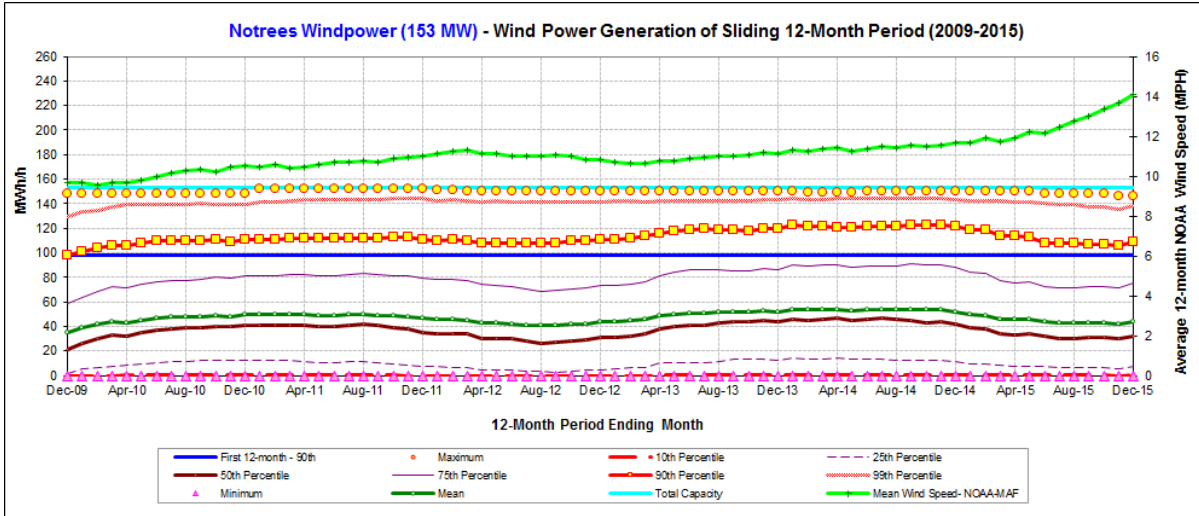


Figure 4-41: Sliding 12-month Hourly Wind Power Generation for Notrees Windpower

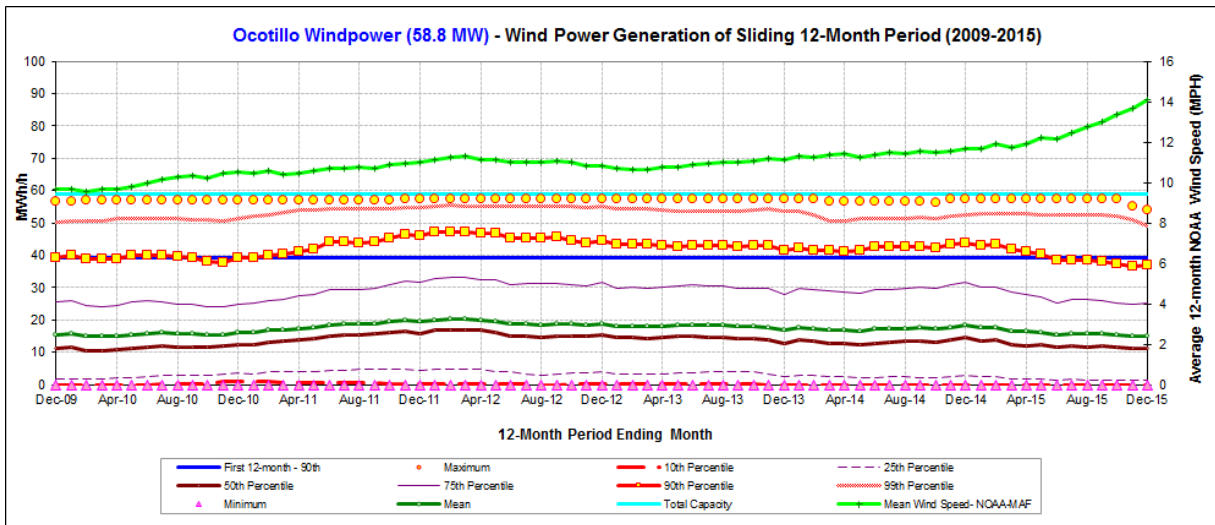


Figure 4-42: Sliding 12-month Hourly Wind Power Generation for Ocotillo Windpower

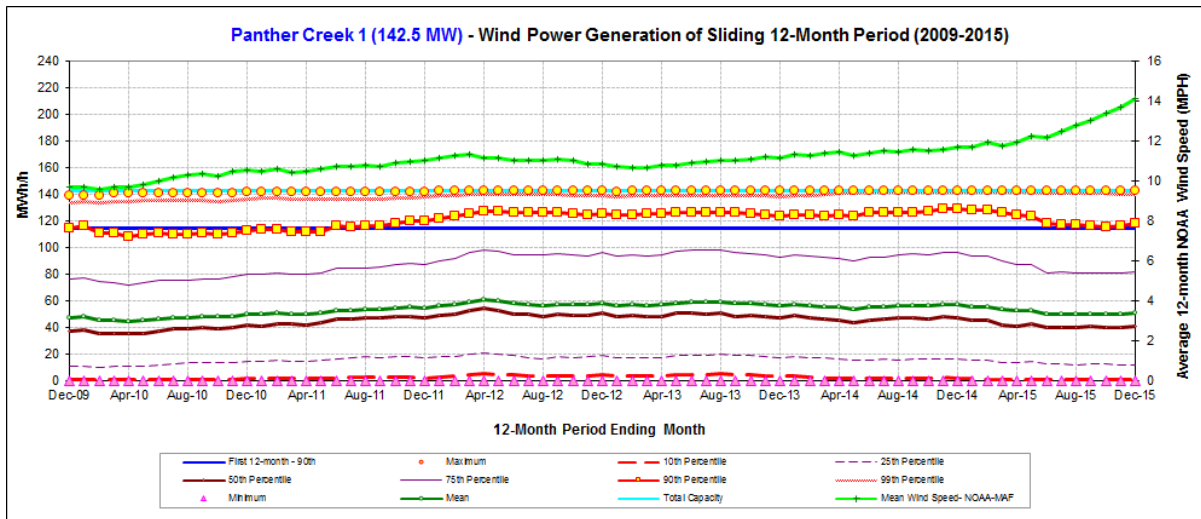


Figure 4-43: Sliding 12-month Hourly Wind Power Generation for Panther Creek 1

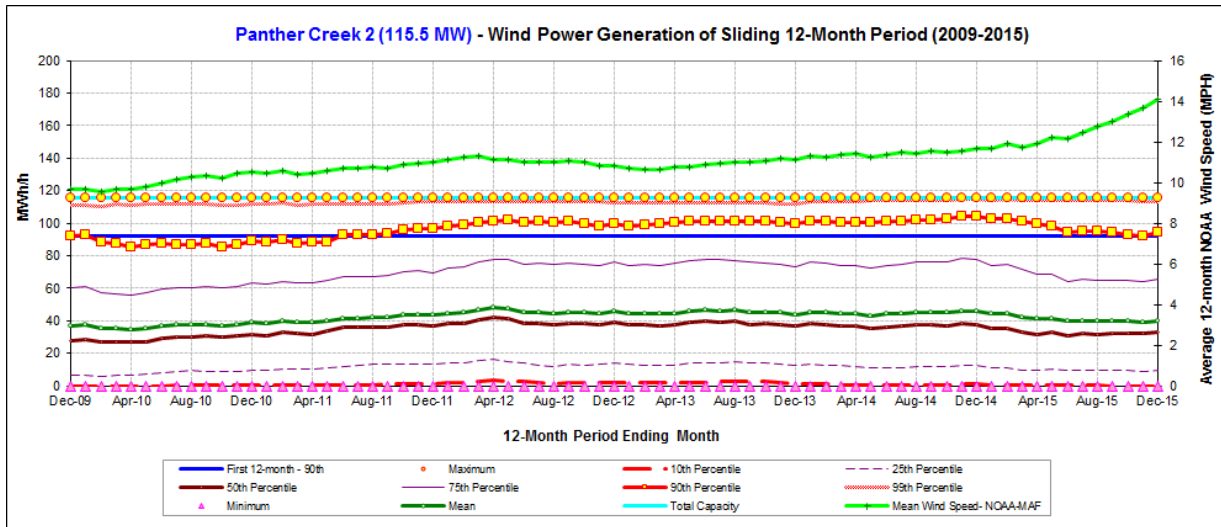


Figure 4-44: Sliding 12-month Hourly Wind Power Generation for Panther Creek 2

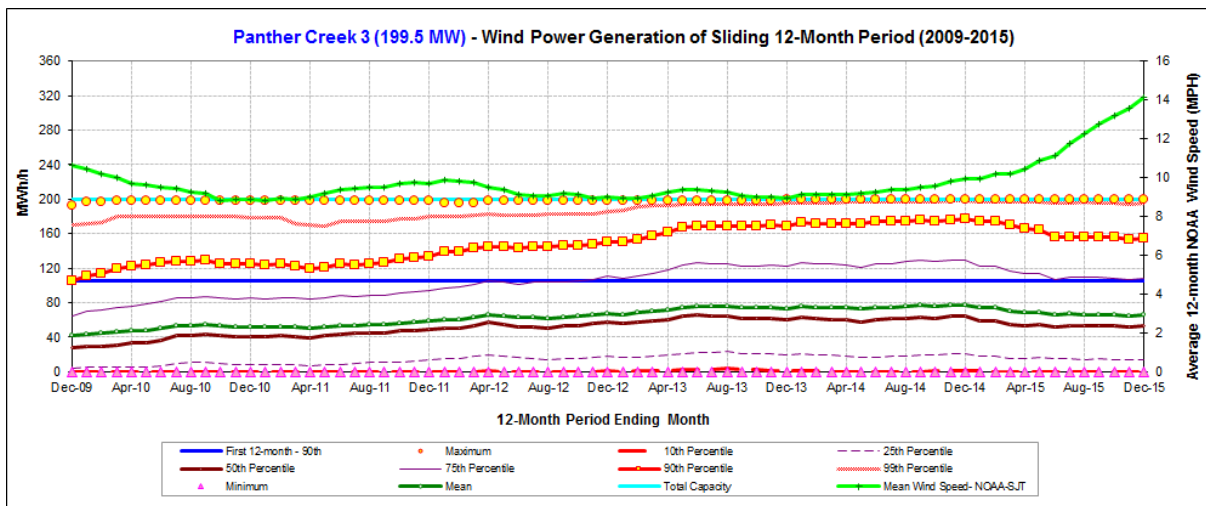


Figure 4-45: Sliding 12-month Hourly Wind Power Generation for Panther Creek 3

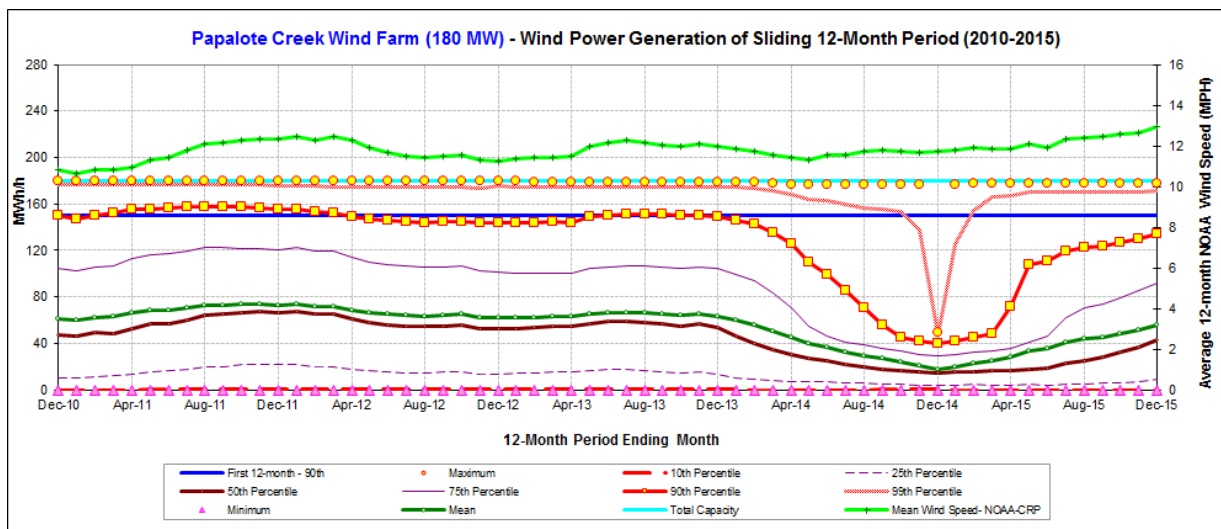


Figure 4-46: Sliding 12-month Hourly Wind Power Generation for Papalote Creek Wind Farm

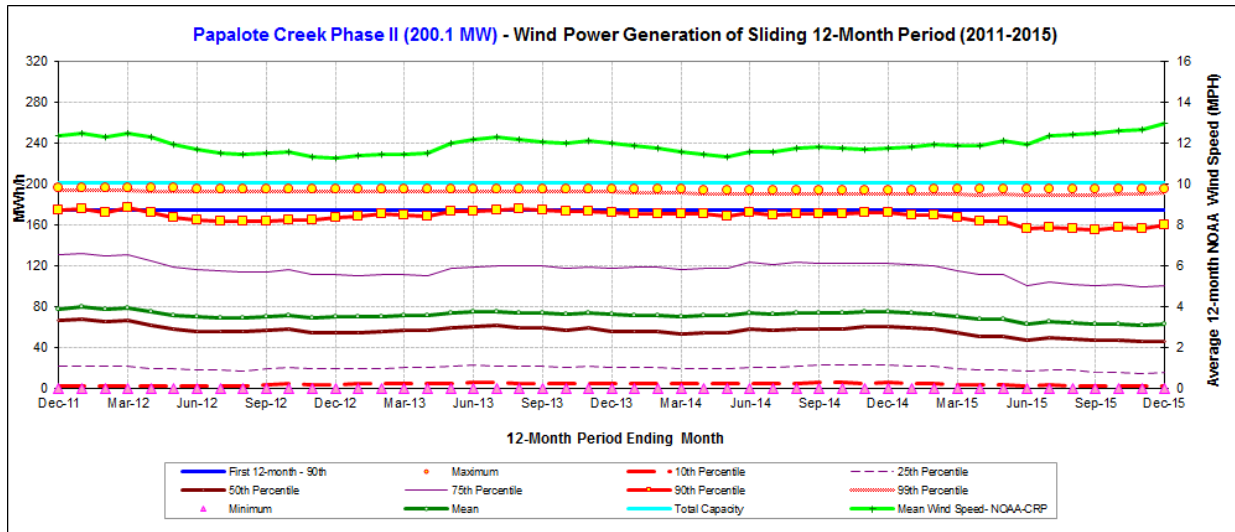


Figure 4-47: Sliding 12-month Hourly Wind Power Generation for Papalote Creek Wind Farm II

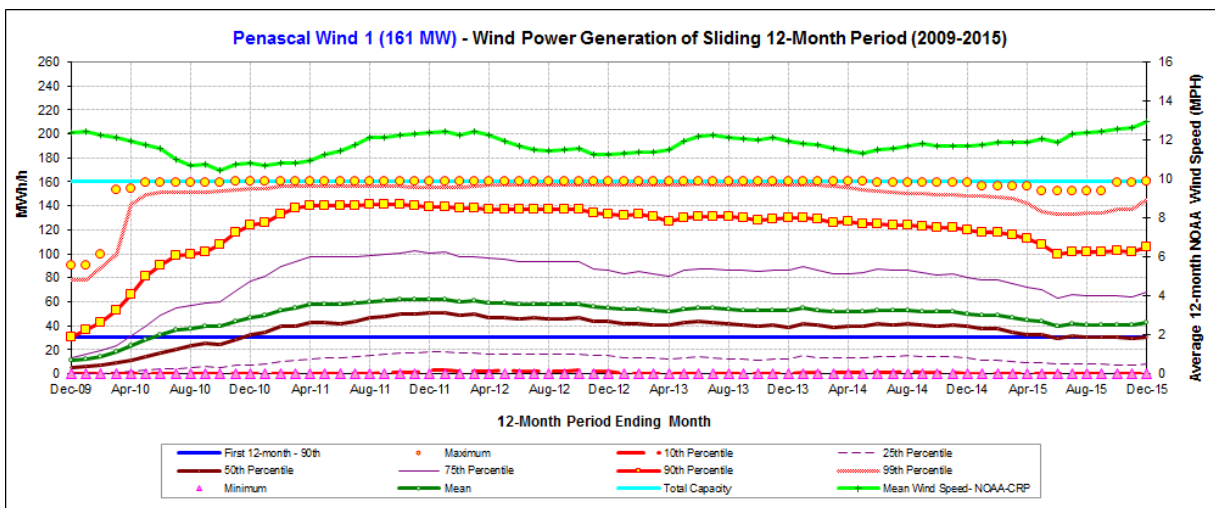


Figure 4-48: Sliding 12-month Hourly Wind Power Generation for Penascal Wind 1

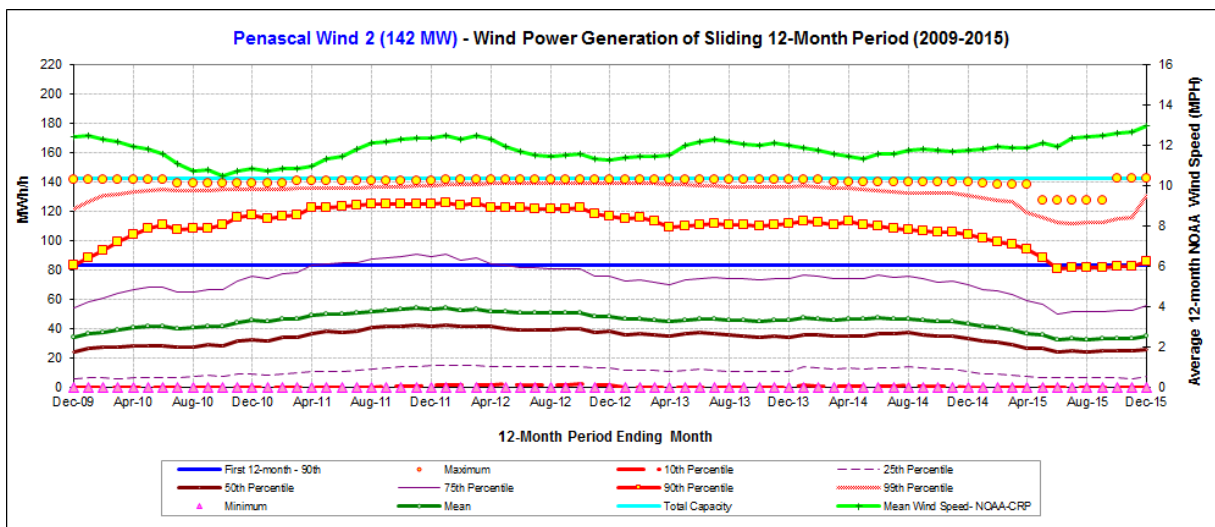


Figure 4-49: Sliding 12-month Hourly Wind Power Generation for Penascal Wind 2

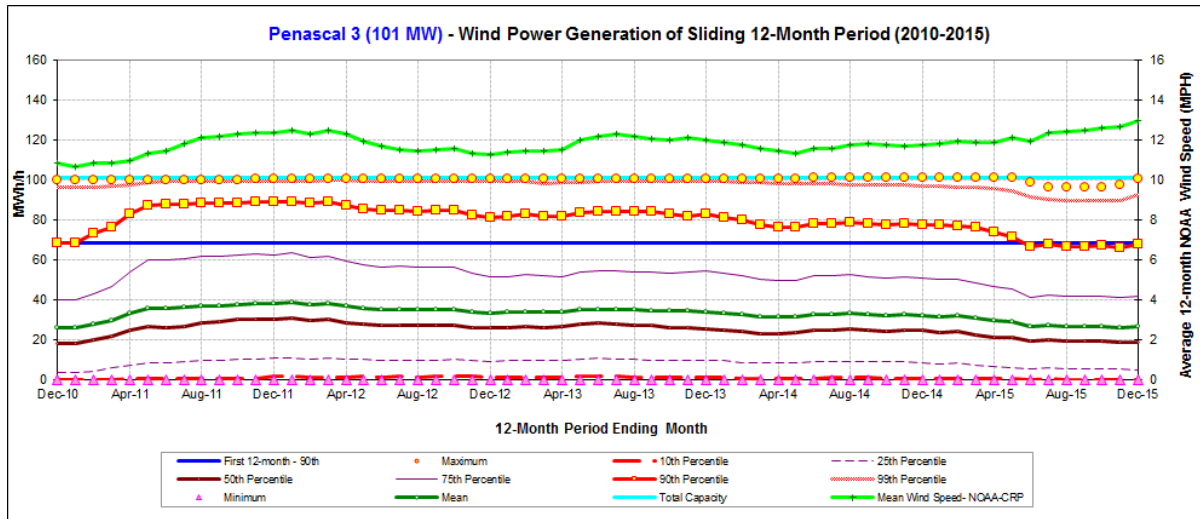


Figure 4-50: Sliding 12-month Hourly Wind Power Generation for Penascal Wind 3

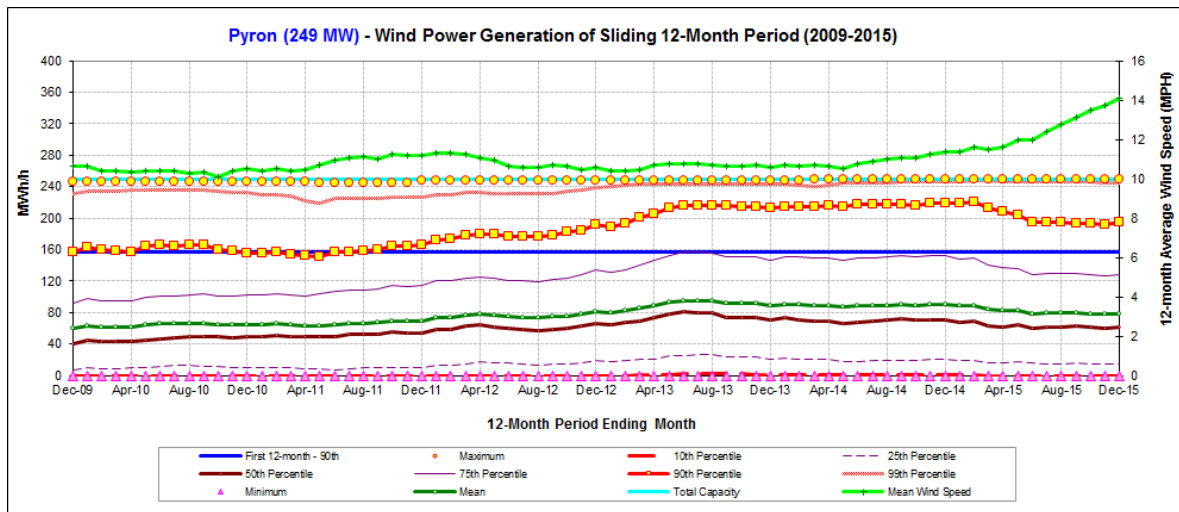


Figure 4-51: Sliding 12-month Hourly Wind Power Generation for Pyron Wind

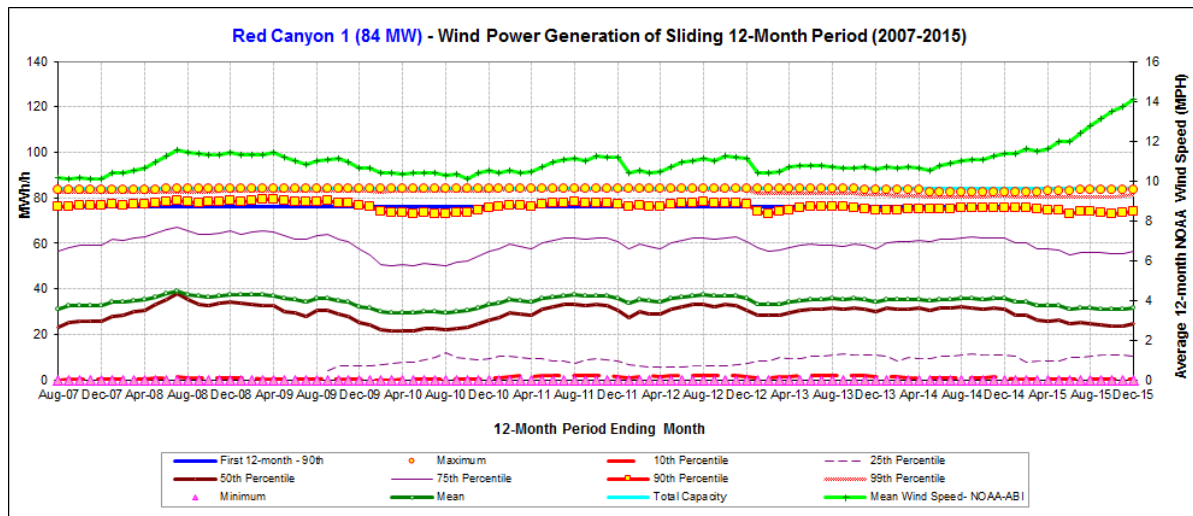


Figure 4-52: Sliding 12-month Hourly Wind Power Generation for Red Canyon 1

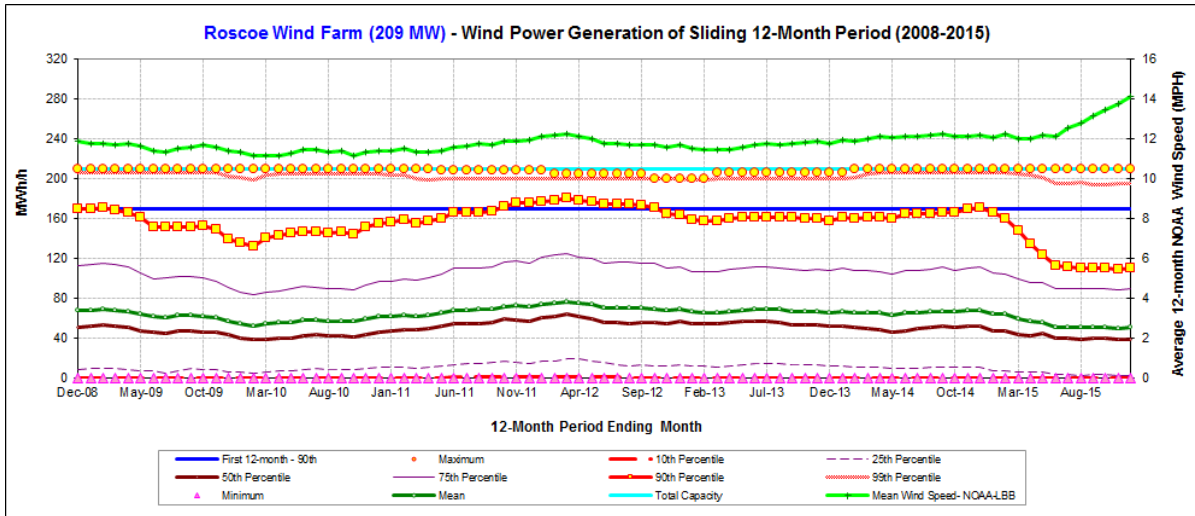


Figure 4-53: Sliding 12-month Hourly Wind Power Generation for Roscoe Wind

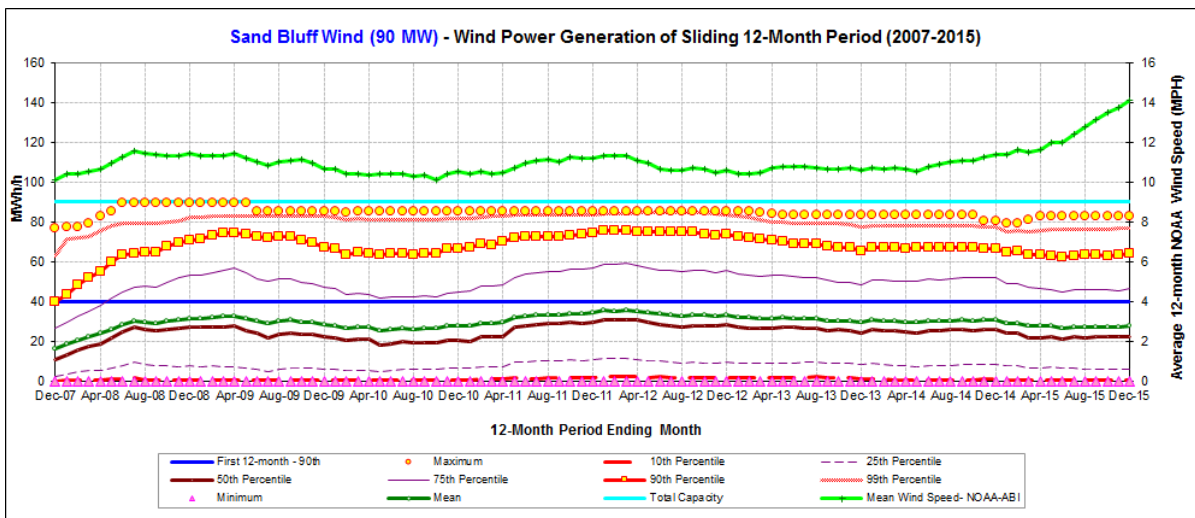


Figure 4-54: Sliding 12-month Hourly Wind Power Generation for Sand Bluff Wind

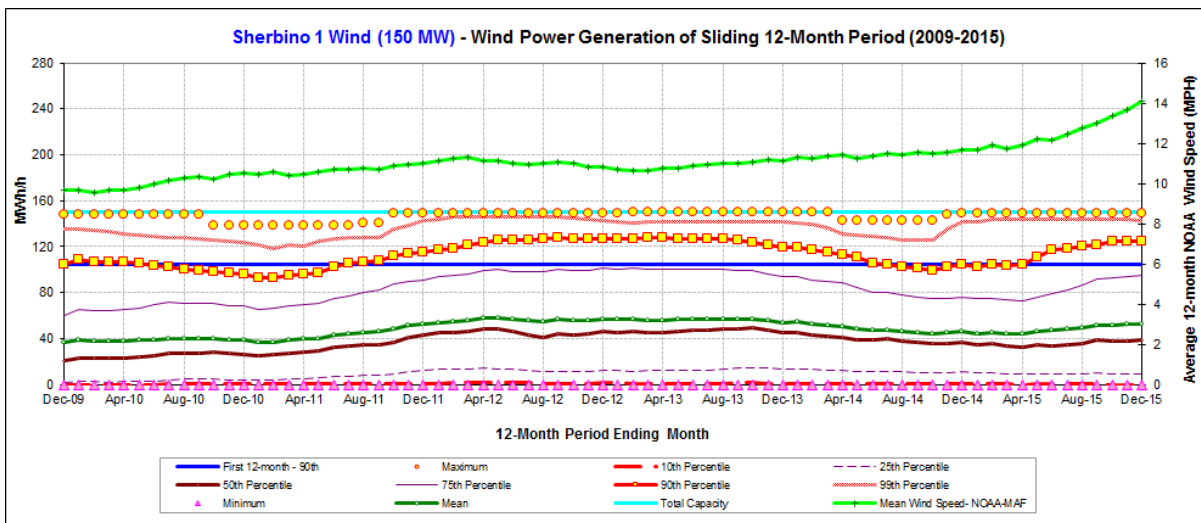


Figure 4-55: Sliding 12-month Hourly Wind Power Generation for Sherbino 1 Wind

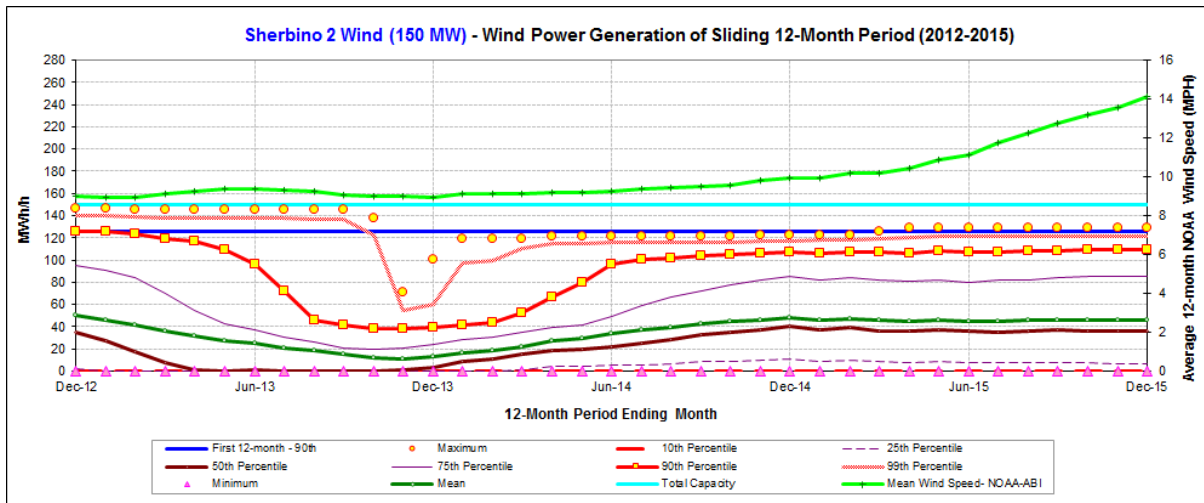


Figure 4-56: Sliding 12-month Hourly Wind Power Generation for Sherbino 2 Wind

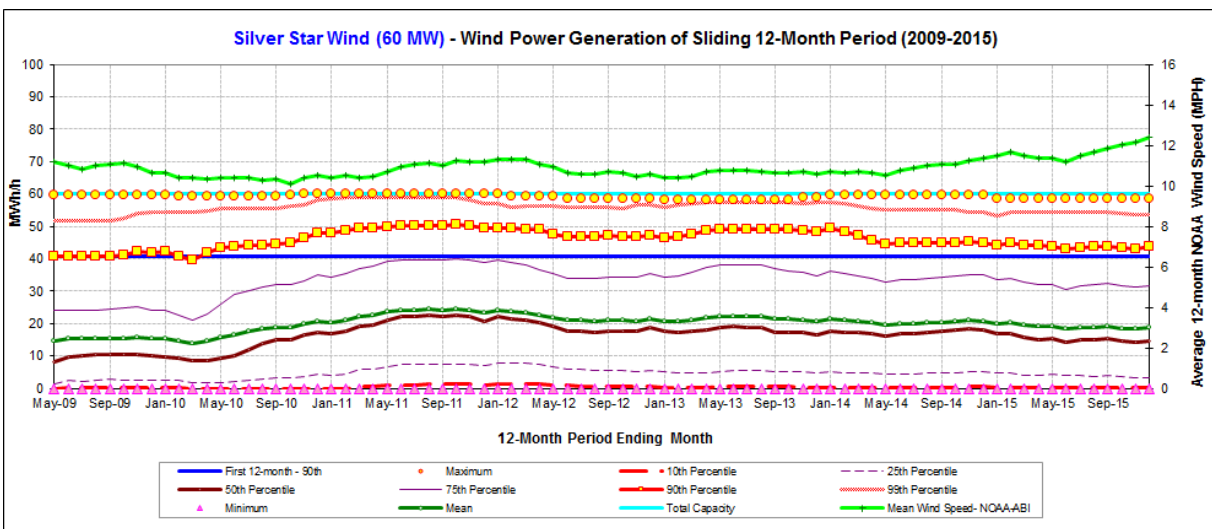


Figure 4-57: Sliding 12-month Hourly Wind Power Generation for Silver Star Wind

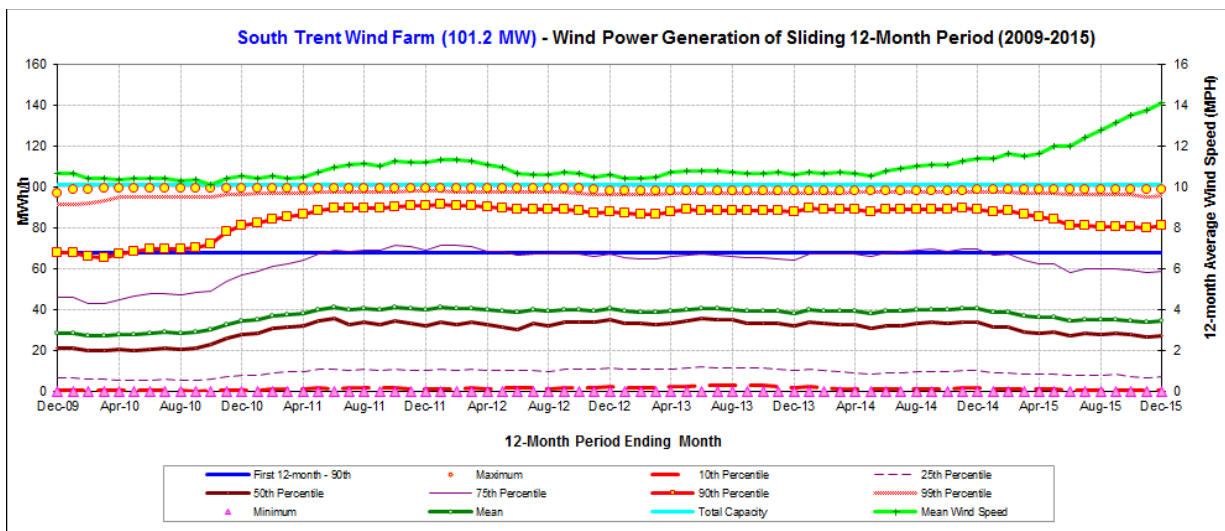


Figure 4-58: Sliding 12-month Hourly Wind Power Generation for South Trent Wind

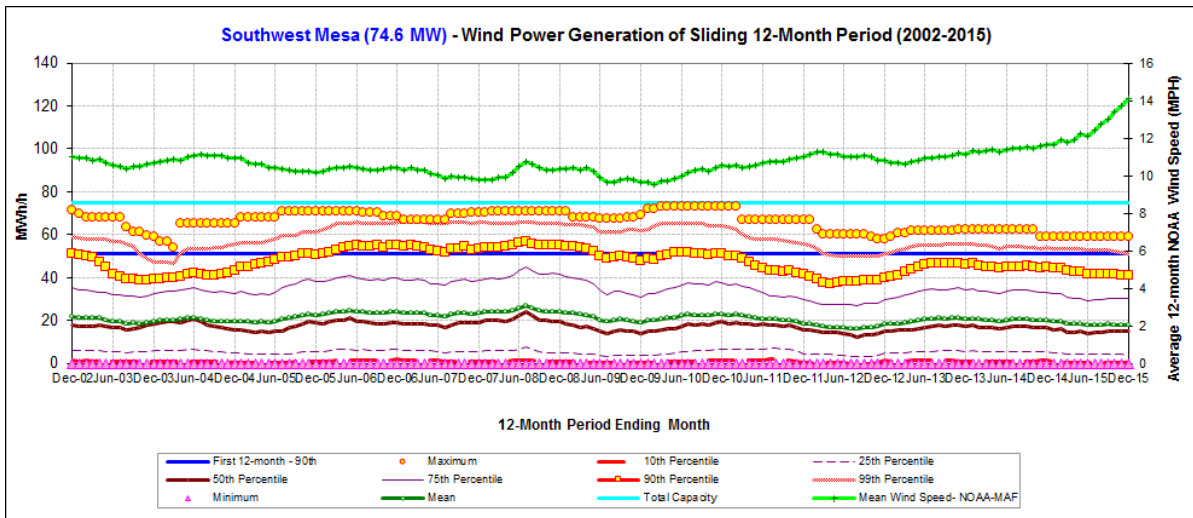


Figure 4-59: Sliding 12-month Hourly Wind Power Generation for Southwest Mesa Wind

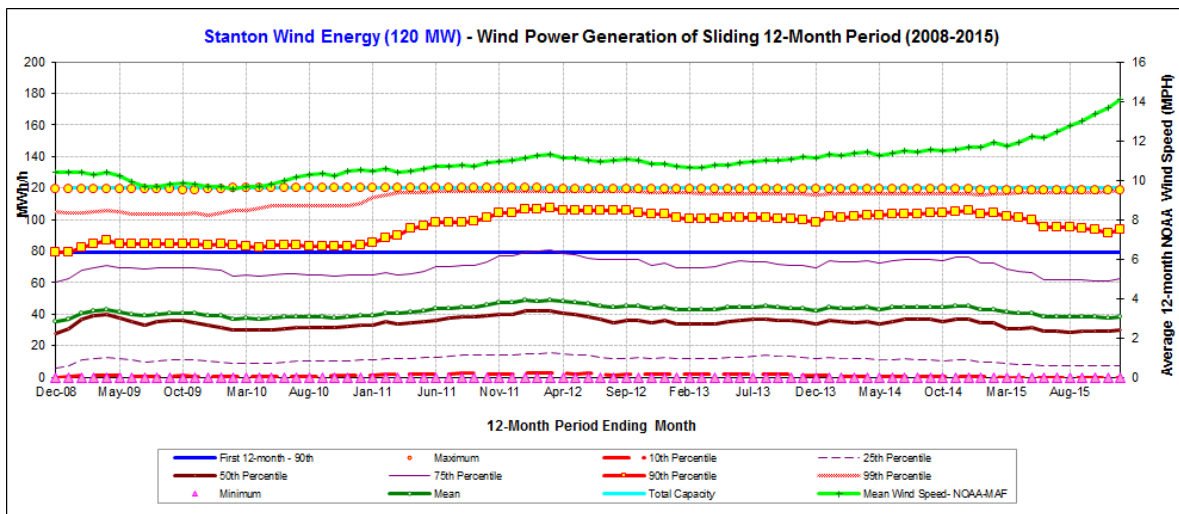


Figure 4-60: Sliding 12-month Hourly Wind Power Generation for Stanton Wind Energy

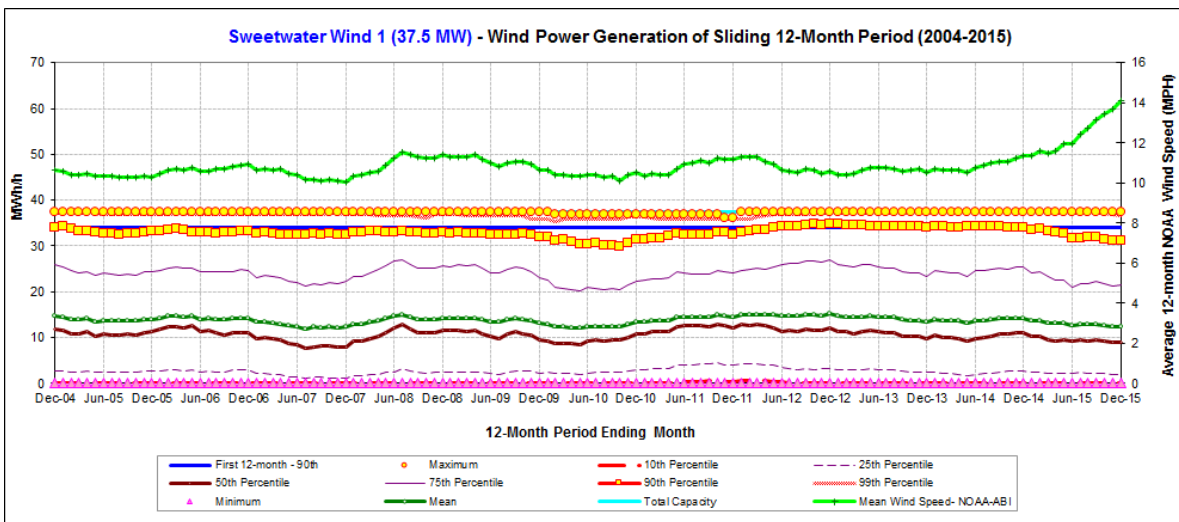


Figure 4-61: Sliding 12-month Hourly Wind Power Generation for Sweetwater Wind 1

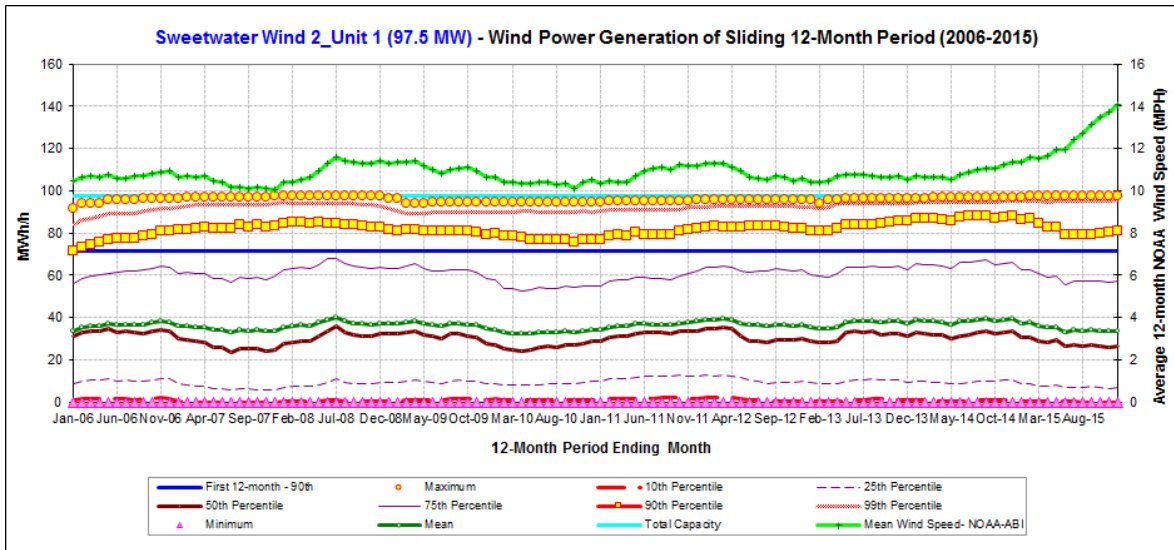


Figure 4-62: Sliding 12-month Hourly Wind Power Generation for Sweetwater Wind 2 (Unit 1)

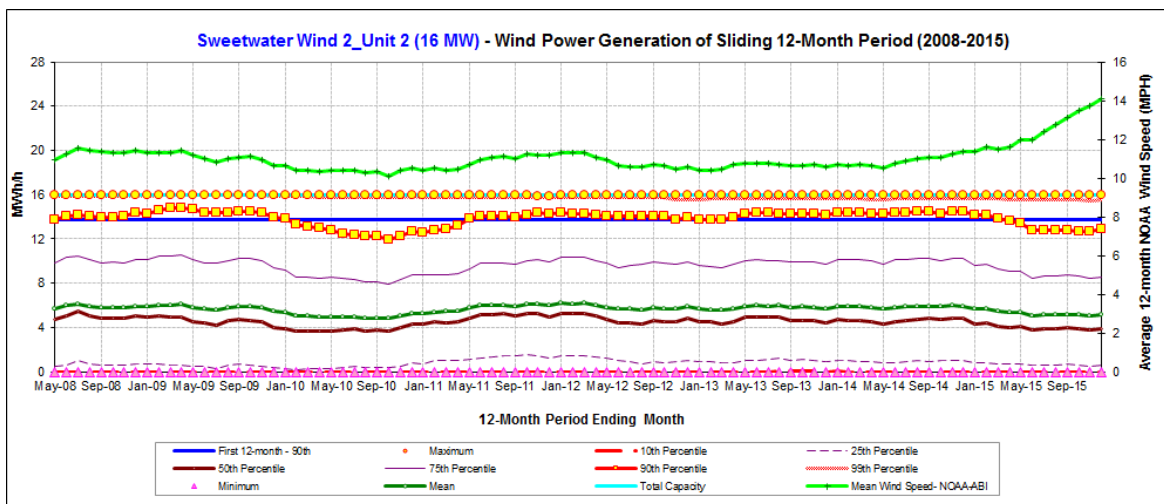


Figure 4-63: Sliding 12-month Hourly Wind Power Generation for Sweetwater Wind 2 (Unit 2)

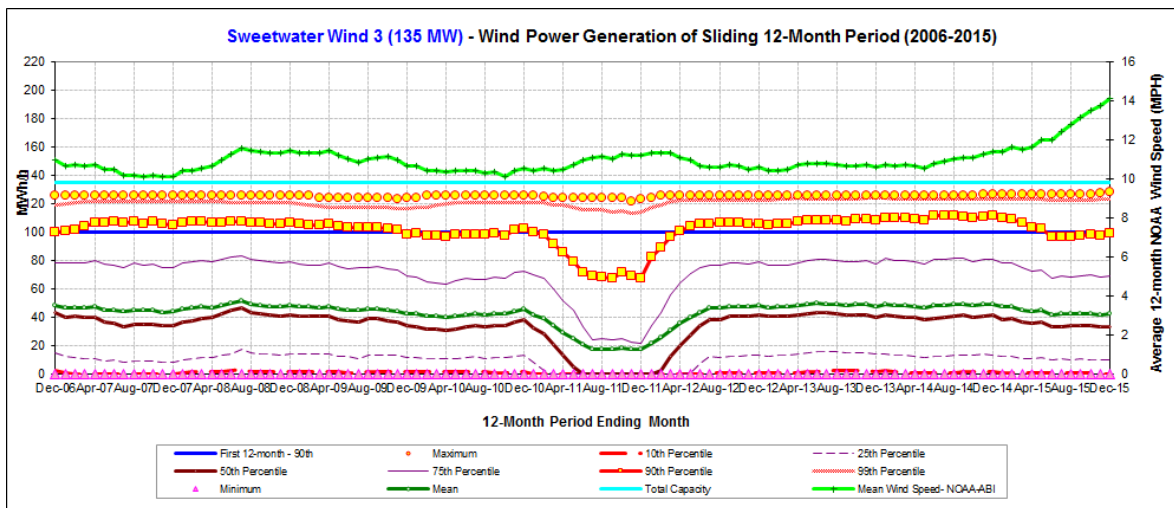


Figure 4-64: Sliding 12-month Hourly Wind Power Generation for Sweetwater Wind 3

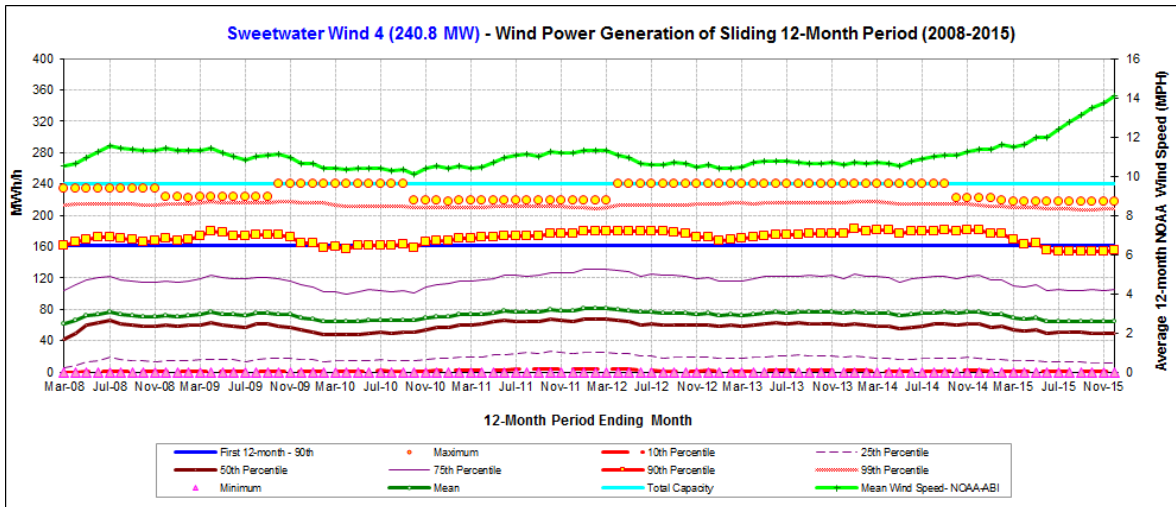


Figure 4-65: Sliding 12-month Hourly Wind Power Generation for Sweetwater Wind 4

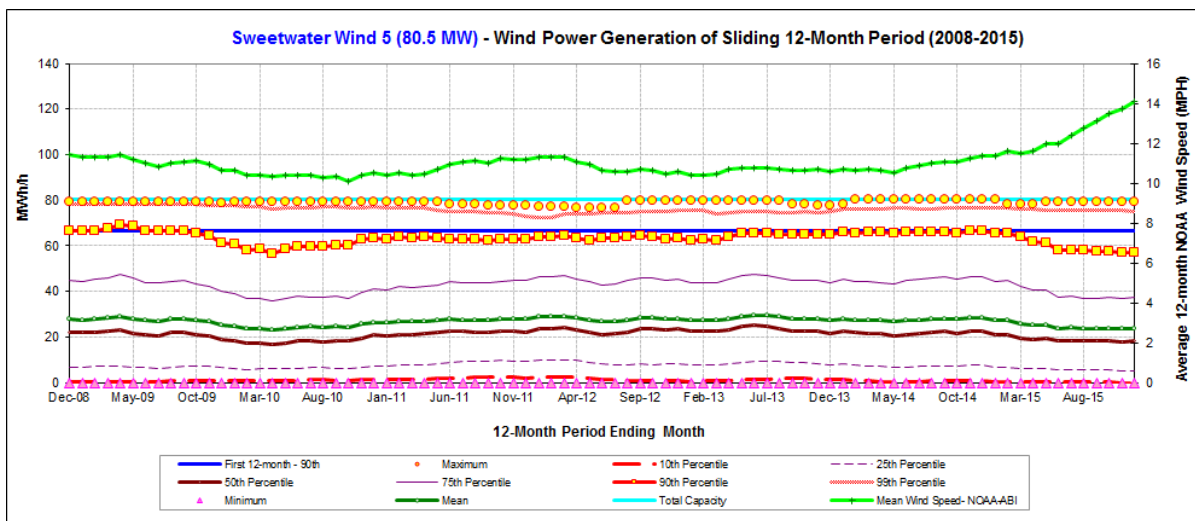


Figure 4-66: Sliding 12-month Hourly Wind Power Generation for Sweetwater Wind 5

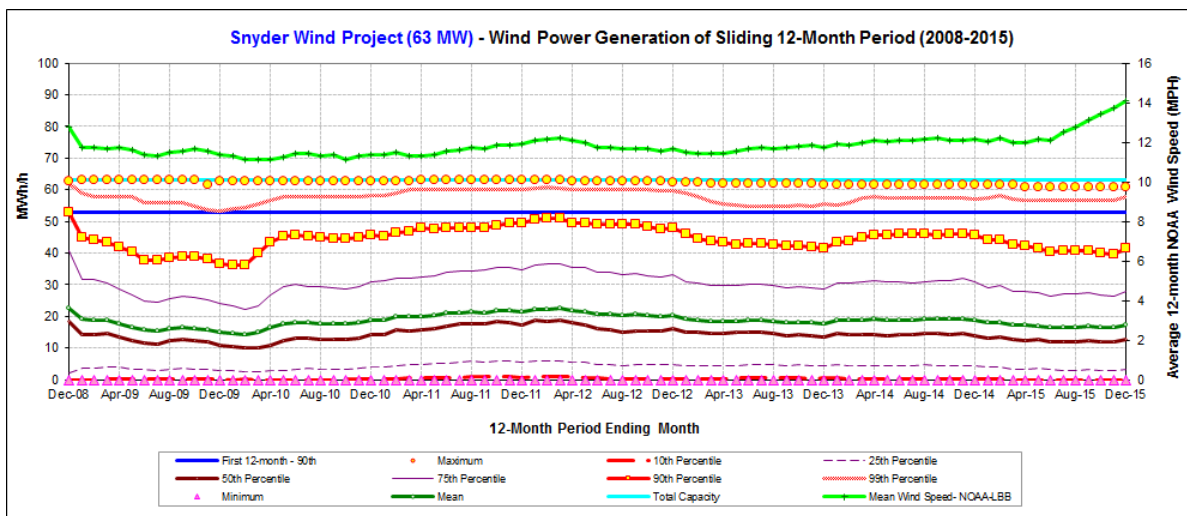


Figure 4-67: Sliding 12-month Hourly Wind Power Generation for Snyder Wind Project

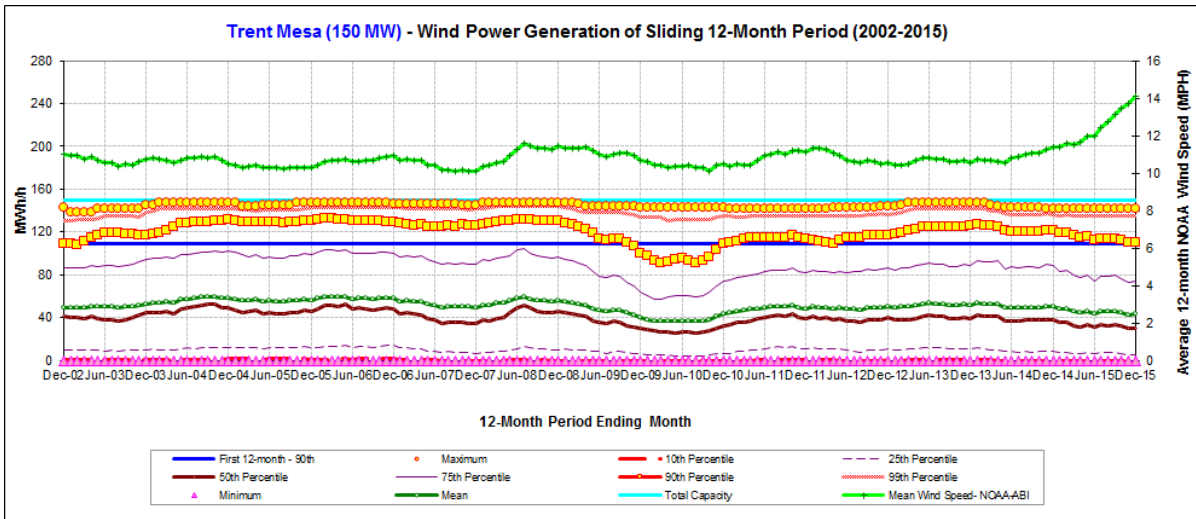


Figure 4-68: Sliding 12-month Hourly Wind Power Generation for Trent Mesa Wind

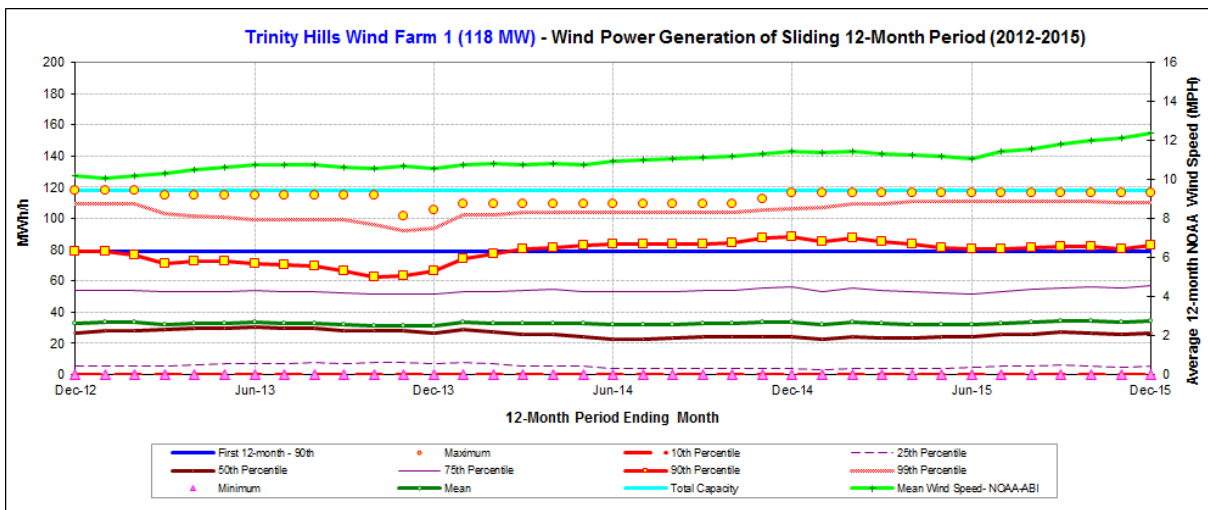


Figure 4-69: Sliding 12-month Hourly Wind Power Generation for Trinity Hills Wind Farm 1

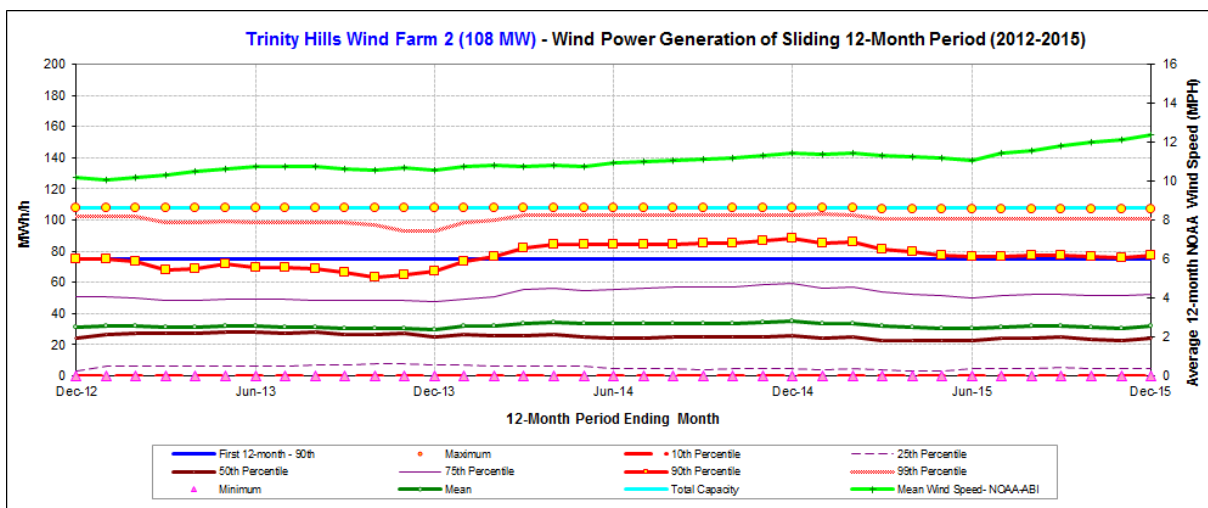


Figure 4-70: Sliding 12-month Hourly Wind Power Generation for Trinity Hills Wind Farm 2

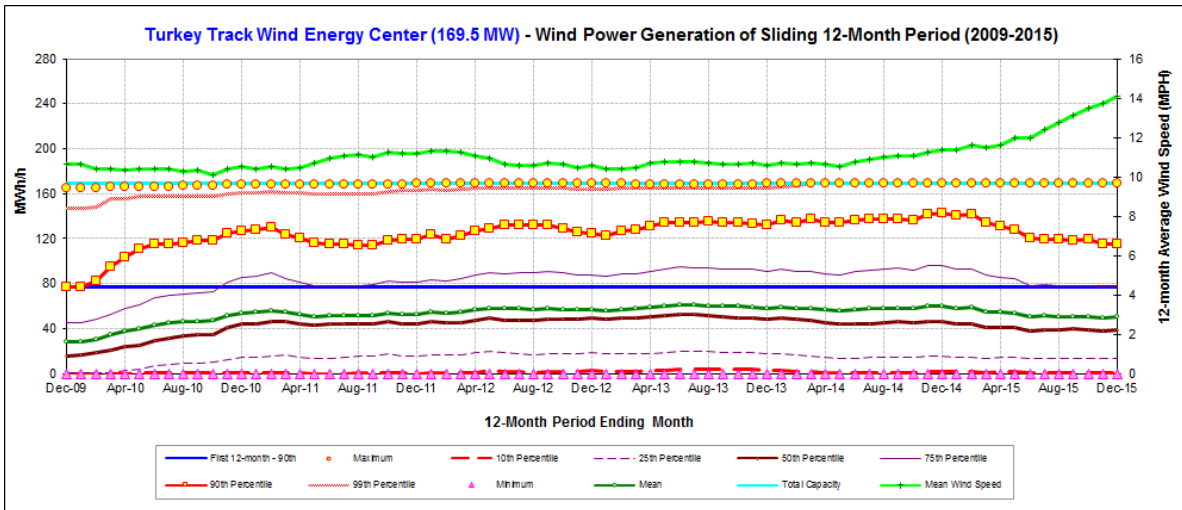


Figure 4-71: Sliding 12-month Hourly Wind Power Generation for Turkey Track Wind Energy Center

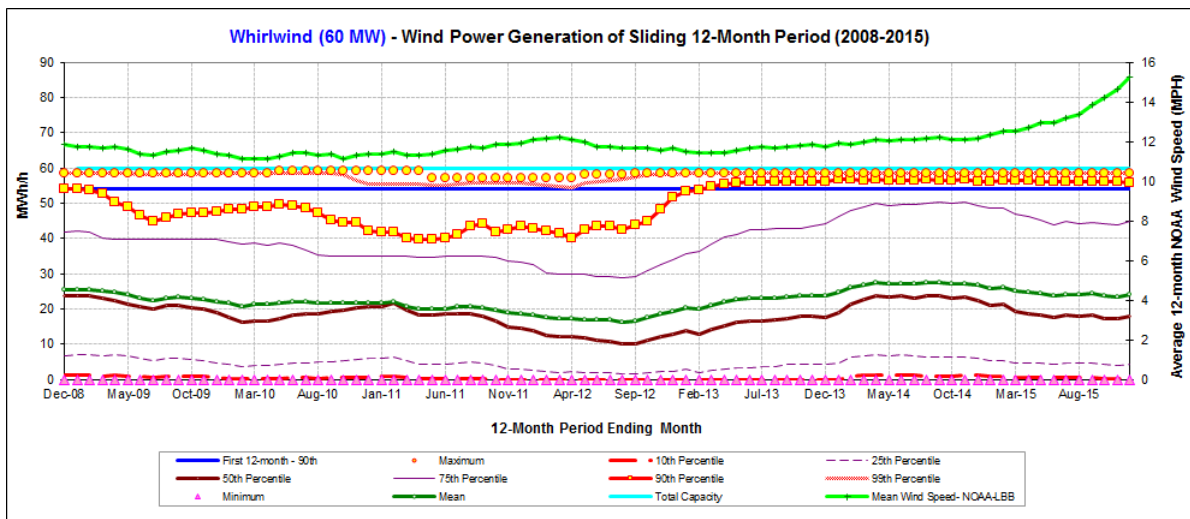


Figure 4-72: Sliding 12-month Hourly Wind Power Generation for Whirlwind Wind

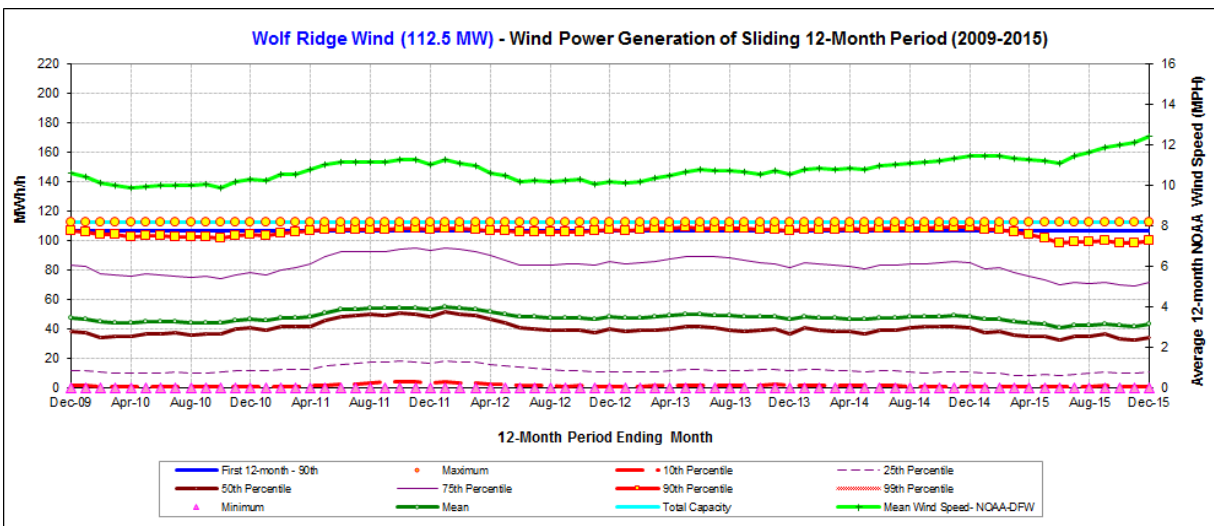


Figure 4-73: Sliding 12-month Hourly Wind Power Generation for Wolf Ridge Wind

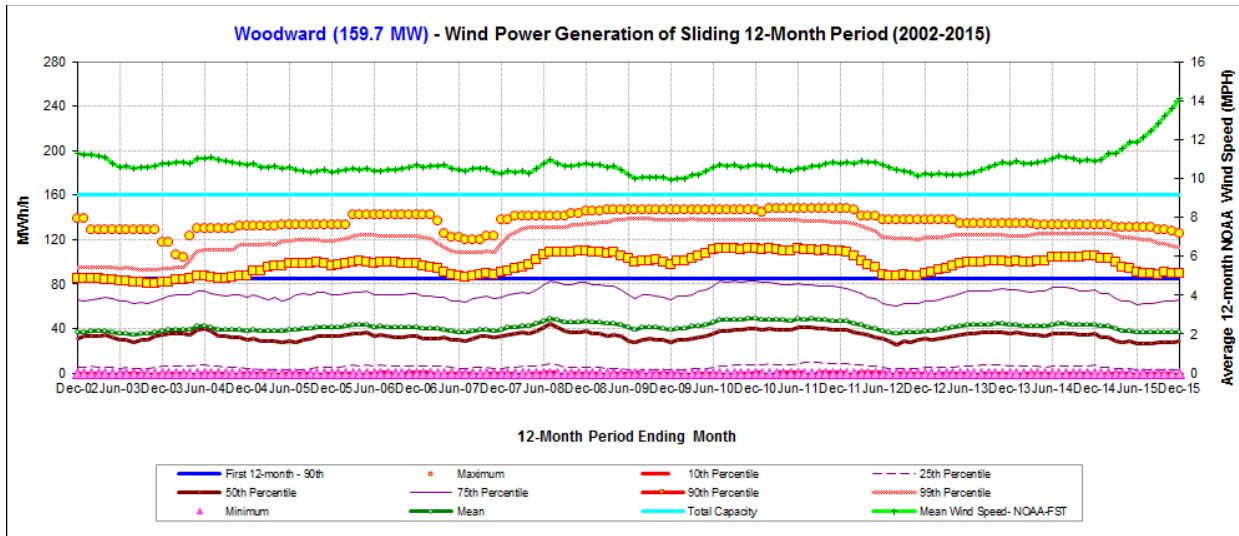


Figure 4-74: Sliding 12-month Hourly Wind Power Generation for Woodward Mountain Ranch

Table 4-1: Summary of 90th Percentile Hourly Wind Power Analysis for Eighty Wind Farms (74 Sites) in Texas

Wind Farm	First 12-mo 90th Percentile Hourly Wind Power		Average of the Sliding 12-mo 90th Percentile Hourly Wind Power			Minimum of the Sliding 12-mo 90th Percentile Hourly Wind Power		Maximum of the Sliding 12-mo 90th Percentile Hourly Wind Power		No. of Months of Data	Capacity (MW)
	First 12-mo Ending Mo.	MW	MW	% Diff. vs. First 12-mo	MW	% Diff. vs. First 12-mo	MW	% Diff. vs. First 12-mo			
Brazos Wind Ranch	Dec-04	127.5	126.8	-0.6%	93.5	-26.7%	139.4	9.3%	133	160	
Barton Chapel Wind 1	Apr-09	60.0	76.5	27.4%	43.1	-28.2%	89.1	48.5%	81	120	
Buffalo Gap 1	Nov-06	100.9	98.4	-2.4%	75.4	-25.2%	105.7	4.8%	110	120	
Buffalo Gap 2	Apr-08	183.4	174.1	-5.1%	104.9	-42.8%	207.6	13.2%	93	233	
Buffalo Gap 3	Jun-09	86.4	136.1	57.6%	86.4	0.0%	152.1	76.0%	79	170	
Bull Creek Wind Plant	Dec-09	93.9	91.5	-2.6%	41.5	-55.8%	130.4	38.9%	73	180	
Big Spring Wind Power	Dec-02	27.2	23.0	-15.4%	16.3	-40.1%	27.2	0.0%	157	41	
Callahan Divide Wind	Feb-06	93.3	95.1	2.0%	86.7	-7.1%	101.5	8.8%	119	114	
Capricorn Ridge Wind 1&2	Aug-08	258.0	248.2	-3.8%	174.5	-32.4%	291.2	12.8%	89	364	
Capricorn Ridge Wind 3	Jan-09	120.3	134.9	12.1%	97.9	-18.6%	153.5	27.6%	84	186	
Capricorn Ridge Wind 4	Apr-09	85.2	84.1	-1.3%	67.6	-20.6%	92.8	9.0%	81	112.5	
Camp Springs Wind Energy Center	Apr-08	111.3	106.8	-4.0%	95.0	-14.6%	120.9	8.6%	93	130	
Camp Springs Energy Expension	Jan-09	94.0	97.4	3.7%	88.9	-5.4%	107.9	14.8%	84	120	
Cedro Hill Wind	Dec-11	136.3	125.6	-7.8%	102.1	-25.1%	136.9	0.4%	49	150	
Champion Wind Farm	Jan-09	89.4	102.8	14.9%	87.7	-1.9%	113.2	26.6%	84	126.5	
Desert Sky	Dec-02	89.0	118.8	33.4%	83.1	-6.7%	134.4	50.9%	157	160.5	
Elbow Creek Wind	Dec-09	94.5	97.8	3.5%	88.5	-6.4%	104.5	10.6%	73	121.9	
Forest Creek Wind Farm	Dec-07	105.2	106.2	1.0%	97.3	-7.5%	111.2	5.7%	97	124.2	
Goat Wind	Feb-09	61.4	94.3	53.7%	61.4	0.0%	122.6	99.8%	83	150	
Gulf Wind 1	Dec-09	63.1	105.1	66.5%	63.1	0.0%	119.4	89.1%	73	141.6	
Gulf Wind 2	Dec-09	74.7	114.8	53.6%	74.7	0.0%	126.3	69.0%	73	141.6	
Hackberry Wind	Dec-09	138.0	125.4	-9.1%	105.8	-23.3%	140.6	1.9%	73	165.5	
Horse Hollow Phase 1	Jun-06	157.0	165.9	5.7%	141.3	-10.0%	185.1	17.9%	115	213	
Horse Hollow Phase 2	Aug-07	145.7	137.4	-5.7%	99.0	-32.1%	151.5	4.0%	101	184	
Horse Hollow Phase 3	May-07	169.2	165.8	-2.0%	123.9	-26.8%	187.7	11.0%	104	223.5	
Horse Hollow Phase 4	Jun-07	88.6	88.8	0.1%	80.9	-8.7%	94.8	6.9%	103	115	
Inadale Wind	Dec-09	81.9	131.4	60.5%	81.9	0.0%	166.3	103.1%	73	197	
Indian Mesa	Dec-02	48.0	58.0	20.9%	36.0	-24.9%	72.2	50.5%	157	82.5	
King Mountain Wind Ranch-NE	Dec-02	41.8	46.9	12.0%	36.3	-13.2%	56.4	34.8%	157	79.3	
King Mountain Wind Ranch-NW	Dec-02	44.7	55.3	23.7%	40.2	-10.1%	65.3	46.1%	157	79.3	
King Mountain Wind Ranch-SE	Dec-02	21.6	23.6	9.2%	18.4	-15.0%	28.1	29.8%	157	40.3	
King Mountain Wind Ranch-SW	Dec-02	41.6	46.9	12.8%	38.4	-7.7%	53.7	29.1%	157	79.3	
Langford Wind	Dec-10	115.7	126.0	8.9%	114.4	-1.1%	134.3	16.0%	61	150	
Lone Star - Post Oak Wind	Dec-08	126.5	155.9	23.2%	126.5	0.0%	170.5	34.8%	85	200	
Lone Star - Mesquite Wind	Feb-08	106.1	149.8	41.2%	106.1	0.0%	168.1	58.5%	95	200	
Lorraine Windpark I	Dec-10	30.4	35.4	16.5%	25.9	-14.8%	42.3	39.2%	61	126	
Lorraine Windpark II	Dec-10	27.8	35.7	28.2%	25.7	-7.6%	43.3	55.7%	61	124.5	
Lorraine Windpark III	Jan-12	16.2	20.6	26.9%	16.2	0.0%	22.6	39.4%	48	26	
Lorraine Windpark IV	Dec-12	17.4	15.6	-10.5%	5.0	-71.5%	20.8	19.1%	37	24	
McAdoo Wind	Dec-09	111.7	135.8	21.5%	111.7	0.0%	143.6	28.5%	73	150	
Notrees Windpower	Dec-09	97.8	112.8	15.3%	97.8	0.0%	122.9	25.7%	73	153	
Ocotillo Windpower	Dec-09	39.1	42.1	7.6%	36.6	-6.4%	47.2	20.7%	73	58.8	
Panther Creek 1	Dec-09	114.4	120.2	5.1%	107.8	-5.8%	128.9	12.7%	73	142.5	
Panther Creek 2	Dec-09	91.8	96.3	4.9%	85.2	-7.2%	104.2	13.5%	73	115.5	
Panther Creek 3	Dec-09	105.0	148.2	41.3%	105.0	0.0%	177.1	68.8%	73	199.5	
Papalote Creek Wind Farm	Dec-10	150.1	128.4	-14.5%	99.6	-33.6%	157.9	5.2%	73	180	
Papalote Creek Wind Farm II	Dec-11	174.2	167.7	-3.7%	155.0	-11.0%	176.4	1.2%	49	200.1	
Penascal Wind 1	Dec-09	30.6	119.2	289.0%	30.6	0.0%	141.5	361.8%	73	161	
Penascal Wind 2	Dec-09	83.3	109.1	31.0%	80.7	-3.1%	125.4	50.5%	73	142	
Penascal Wind 3	Dec-10	68.3	79.8	16.8%	65.7	-3.9%	88.8	30.0%	73	101	
Pyron Wind Farm	Dec-09	157.2	187.2	19.1%	151.4	-3.7%	220.1	40.0%	73	249	
Red Canyon 1	Aug-07	75.8	76.1	0.4%	72.7	-4.1%	79.1	4.4%	101	84	
Roscos Wind Farm	Dec-08	169.4	153.4	-9.4%	108.1	-36.2%	179.8	6.2%	85	209	
Sand Bluff Wind Farm	Dec-07	39.5	67.4	70.6%	39.5	0.0%	75.4	90.6%	97	90	
Sherbino I Wind	Dec-09	104.7	112.9	7.9%	92.3	-11.8%	128.1	22.4%	73	150	
Sherbino 2 Wind	Dec-12	125.7	91.6	-27.2%	38.0	-69.8%	125.7	0.0%	37	150	
Silver Star Wind	Apr-09	40.6	45.9	13.0%	39.5	-2.7%	50.5	24.4%	81	60	
South Trent Wind Farm	Dec-09	67.7	84.2	24.4%	65.4	-3.5%	91.0	34.4%	73	101.2	
Southwest Mesa Wind	Dec-02	51.1	47.1	-7.8%	37.2	-27.1%	56.5	10.6%	157	74.6	
Stanton Wind Energy	Dec-08	79.4	95.5	20.3%	79.4	0.0%	107.0	34.7%	85	120	
Sweetwater Wind 1	Dec-04	34.1	33.0	-3.2%	29.9	-12.2%	34.9	2.4%	133	37.5	
Sweetwater Wind 2 (unit 1)	Jan-06	71.4	81.7	14.5%	71.4	0.0%	88.0	23.3%	120	97.5	
Sweetwater Wind 2 (unit 2)	May-08	13.8	13.8	0.5%	12.0	-13.1%	14.8	7.8%	92	16	
Sweetwater Wind 3	Dec-06	99.6	101.1	1.4%	67.1	-32.7%	111.2	11.6%	109	135	
Sweetwater Wind 4	Mar-08	161.0	171.0	6.2%	153.2	-4.9%	182.2	13.2%	94	240.8	
Sweetwater Wind 5	Dec-08	66.5	63.3	-4.8%	56.3	-15.3%	69.3	4.3%	85	80.5	
Snyder Wind Project	Dec-08	52.9	44.4	-16.1%	36.1	-31.8%	52.9	0.0%	85	63	
Trent Mesa	Dec-02	108.8	119.8	10.0%	90.7	-16.7%	132.8	22.0%	157	150	
Trinity Hills Wind Farm 1	Dec-12	78.8	78.4	-0.5%	62.8	-20.3%	88.1	11.8%	37	118	
Trinity Hills Wind Farm 2	Dec-12	74.8	77.0	2.9%	63.5	-15.0%	88.0	17.7%	37	108	
Turkey Track Wind Energy Center	Dec-09	77.4	124.2	60.5%	77.0	-0.5%	143.1	85.0%	73	169.5	
Whirlwind	Dec-08	54.0	50.0	-7.4%	39.8	-26.3%	56.9	5.4%	85	60	
Wolf Ridge Wind	Dec-09	105.9	105.4	-0.5%	97.6	-7.8%	108.8	2.7%	73	112.5	
Woodward Mountain Ranch	Dec-02	85.3	97.3	14.1%	80.4	-5.7%	112.4	31.8%	157	159.7	
Weighted Average:				17.2%		-15.1%		34.0%	Total:	9915.2	

Table 4-2: Summary of Maximum Hourly Wind Power Analysis for Eighty Wind Farms (74 Sites) in Texas

Wind Farm	Design Capacity (A)	Maximum of the Sliding 12-mo Maximum MW - Measured (B)	Minimum of the Sliding 12-mo Maximum MW - Measured (C)	Maximum MW in Last 12-mo - Measured (D)	Difference (A-B)	Difference (B-D)
Brazos Wind Ranch	160.0	160.0	118.9	147.0	0.0	13.0
Barton Chapel Wind 1	120.0	114.1	59.9	59.9	5.9	54.2
Buffalo Gap 1	120.0	120.0	114.5	114.5	0.0	5.5
Buffalo Gap 2	233.0	232.7	223.7	231.1	0.3	1.6
Buffalo Gap 3	170.0	167.9	165.9	166.3	2.1	1.6
Bull Creek Wind Plant	180.0	166.6	73.6	166.3	13.4	0.3
Big Spring Wind Power	41.0	37.0	22.4	22.4	4.0	14.6
Callahan Divide Wind	114.0	113.9	106.9	111.3	0.1	2.6
Capricorn Ridge Wind 1&2	364.0	358.3	341.8	347.2	5.7	11.1
Capricorn Ridge Wind 3	186.0	186.0	181.2	182.3	0.0	3.7
Capricorn Ridge Wind 4	112.5	112.5	112.0	112.1	0.0	0.4
Camp Springs Wind Energy Center	130.0	130.0	129.1	130.0	0.0	0.0
Camp Springs Energy Expansion	120.0	120.0	118.6	119.9	0.0	0.1
Cedro Hill Wind	150.0	149.9	149.1	149.9	0.1	0.0
Champion Wind Farm	126.5	124.5	124.1	124.3	2.0	0.2
Desert Sky	160.5	160.3	105.8	152.3	0.3	7.9
Elbow Creek Wind	121.9	118.7	116.7	118.4	3.2	0.3
Forest Creek Wind Farm	124.2	123.9	120.4	120.5	0.3	3.4
Goat Wind	150.0	149.9	80.9	147.7	0.1	2.2
Gulf Wind 1	141.6	140.7	135.6	138.3	0.9	2.3
Gulf Wind 2	141.6	140.6	134.6	138.1	1.0	2.4
Hackberry Wind	165.5	162.7	162.0	162.7	2.8	0.0
Horse Hollow Phase 1	213.0	211.3	196.7	205.7	1.7	5.6
Horse Hollow Phase 2	184.0	183.4	163.8	163.8	0.6	19.6
Horse Hollow Phase 3	223.5	223.0	178.7	218.8	0.5	4.1
Horse Hollow Phase 4	115.0	114.0	108.6	110.2	1.0	3.8
Inadale Wind	197.0	197.0	188.5	196.7	0.0	0.3
Indian Mesa	82.5	80.1	53.6	55.6	2.4	24.5
King Mountain Wind Ranch-NE	79.3	77.0	49.8	69.5	2.3	7.5
King Mountain Wind Ranch-NW	79.3	77.6	56.2	67.3	1.7	10.3
King Mountain Wind Ranch-SE	40.3	40.0	27.8	34.0	0.3	6.0
King Mountain Wind Ranch-SW	79.3	75.9	51.2	66.0	3.4	9.9
Langford Wind	150.0	150.0	147.2	149.8	0.0	0.1
Lone Star - Post Oak Wind	200.0	192.1	186.2	188.3	7.9	3.8
Lone-Star Mesquite Wind	200.0	195.0	183.2	191.6	5.0	3.4
Lorraine Windpark I	126.0	95.2	48.9	50.3	30.8	44.9
Lorraine Windpark II	124.5	80.8	50.7	51.4	43.7	29.4
Lorraine Windpark III	26.0	26.0	23.6	25.7	0.0	0.3
Lorraine Windpark IV	24.0	24.0	17.5	24.0	0.0	0.0
McAdoo Wind	150.0	150.0	149.6	150.0	0.0	0.0
Notrees Windpower	153.0	151.7	146.2	146.2	1.3	5.5
Ocotillo Windpower	58.8	57.5	54.0	54.0	1.3	3.5
Panther Creek	142.5	142.5	139.0	142.5	0.0	0.0
Panther Creek 2	115.5	115.5	115.2	115.5	0.0	0.0
Panther Creek 3	199.5	199.5	192.1	199.1	0.0	0.4
Papalote Creek Wind Farm	180.0	180.0	49.2	177.4	0.0	2.6
Papalote Creek Wind Farm II	200.1	195.6	193.4	194.9	4.5	0.7
Penascal Wind 1	161.0	161.0	90.6	160.9	0.0	0.1
Penascal Wind 2	142.0	142.0	127.4	142.0	0.0	0.0
Penascal Wind 3	101.0	100.8	96.1	100.3	0.2	0.6
Pyron Wind Farm	249.0	249.0	244.3	249.0	0.0	0.0
Red Canyon 1	84.0	84.0	82.6	83.6	0.0	0.4
Roscoe Wind Farm	209.0	209.0	199.5	208.9	0.0	0.1
Sand Bluff Wind Farm	90.0	89.3	76.7	82.6	0.7	6.7
Sherbino 1 Wind	150.0	149.9	138.0	149.3	0.1	0.5
Sherbino 2 Wind	150.0	146.8	71.3	129.4	3.2	17.4
Silver Star Wind	60.0	60.0	58.0	58.4	0.0	1.6
South Trent Wind Farm	101.2	99.0	96.9	98.3	2.2	0.7
Southwest Mesa Wind	74.6	73.3	53.8	58.7	1.3	14.6
Stanton Wind Energy	120.0	120.0	118.7	118.9	0.0	1.1
Sweetwater Wind 1	37.5	37.5	36.0	37.5	0.0	0.0
Sweetwater Wind 2	97.5	97.5	91.8	97.5	0.0	0.0
Sweetwater Wind 24	16.0	16.0	15.9	16.0	0.0	0.0
Sweetwater Wind 3	135.0	128.2	121.5	128.2	6.8	0.0
Sweetwater Wind 4	241	240.3	216.7	216.7	0.5	23.5
Sweetwater Wind 5	80.5	80.5	76.9	79.5	0.0	1.0
Snyder Wind Project	63.0	63.0	60.8	60.9	0.0	2.1
Trent Mesa	150.0	147.6	138.8	142.2	2.4	5.4
Trinity Hills Wind Farm 1	118.0	117.7	101.7	116.5	0.3	1.3
Trinity Hills Wind Farm 2	108.0	107.6	107.4	107.4	0.4	0.2
Turkey Track Wind Energy Center	169.5	169.5	164.8	169.3	0.0	0.2
Whirlwind	60.0	59.3	57.0	58.5	0.7	0.8
Wolf Ridge Wind	112.5	112.5	112.0	112.5	0.0	0.0
Woodward Mountain Ranch	159.7	148.2	104.1	125.7	11.5	22.5
Total:	9916.2	9733.9	8827.9	9319.8	181.3	414.4

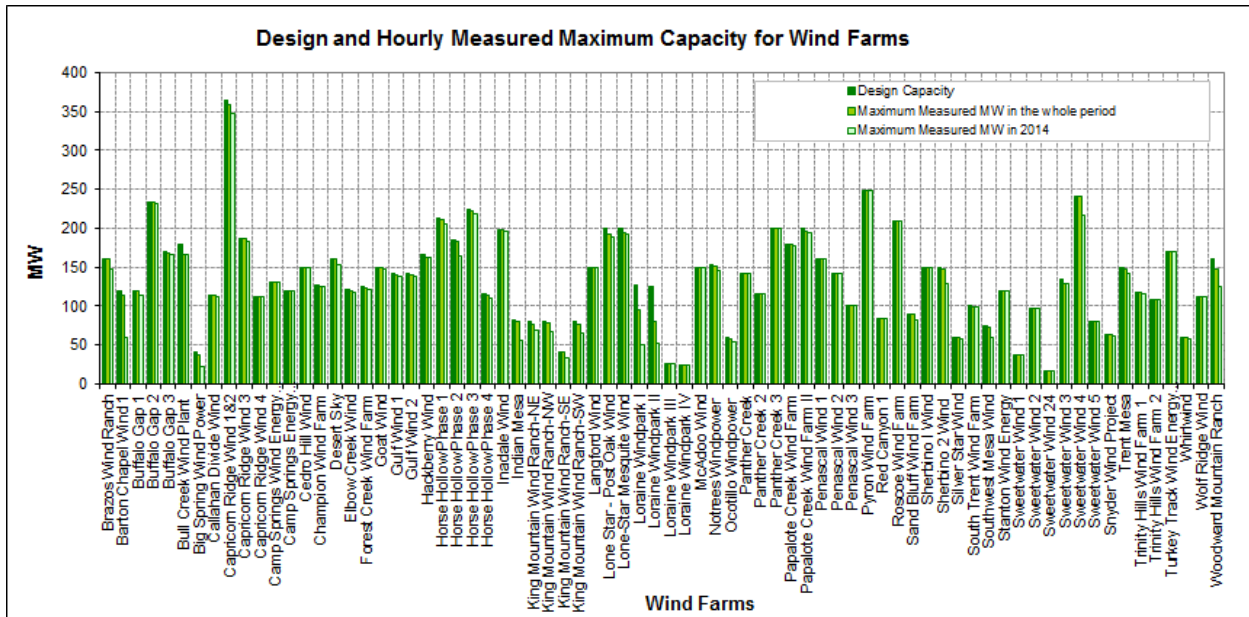


Figure 4-75: Design and Hourly Measured Maximum Capacity for Eighty Wind Farms (74 sites)

5 CALCULATING NO_x EMISSIONS REDUCTION FROM WIND POWER

5.1 Calculation of NO_x Emissions from Wind Power Using 2010 eGRID

The Energy Systems Laboratory has worked closely with the TCEQ and EPA to develop creditable procedures for calculating NO_x reductions from electricity savings using the 2010 EPA's Emissions and Generation Resource Integrated Database (eGRID⁹). The calculation uses a simplified dispatch approach of the ERCOT grid to estimate NO_x emission reductions across the ERCOT region in Texas. ERCOT is currently divided into four congestion management (CM) zones: Houston (H), North (N), South (S), and West (W). The 2010 eGrid table, which describes distribution of the NO_x emission reductions per CM zone for each county in Texas, has four developed steps (EPA and ESL 2008):

1. assign energy savings to CM Zones
2. assign generation reductions within each CM Zone to individual plants
3. determine plant-specific NO_x emission rates
4. assemble all CM Zones for total savings

The procedure presented in this section calculates annual and peak-day, county-wide NO_x reductions from electricity savings from wind projects implemented in the Congestion Management Zones (CM Zones) in ERCOT listed in the EPA's eGRID. For this purpose, a special version of eGRID¹⁰ was developed by the EPA for the TCEQ that reflects the 2010 electricity and pollution from electric utilities in ERCOT. The NO_x production for each power plant is provided from the 2010 eGRID database for four CM zones: Houston, North, West and South. This eGRID matrix was utilized to assign the power plant used by CM zones, once a CM zone had been chosen for a given county. Figure 5-1 shows a snapshot of the NO_x emission distribution among Texas counties from generating one mega-watt-hour of electricity in the CM zone - Houston, which was derived from the 2010 Annual eGRID table. For example, the counties marked in red show higher NO_x emissions of above 0.1 lbs./MWh. The counties marked in dark green were least impacted by the NO_x emissions (less than 0.0005 lbs./MWh) from Houston. Figure 5-2, Figure 5-3 and Figure 5-4 show the same county-wide NO_x emissions distribution from North, West and South, respectively.

To calculate the NO_x emissions reduction from the wind projects within the ERCOT region, the total MWh wind power for each CM zone is summarized in Table 5-2 and Table 5-3 for 2008 baseline and 2015. Both annual wind power and Ozone Season Period wind power are presented. Table 5-1 shows the latest wind farm information from PUCT, updated in July 2015. Only the completed projects are shown in the ERCOT, WSCC and SPP regions, with total generation capacity of 17,779 MW by wind resource. The total MWh production in each CM zone was input in the corresponding cells in the eGRID table to calculate the total annual and OSP emissions reductions for the entire ERCOT region in 2008 and 2015, as shown from Table 5-4 and Table 5-7.

According to the developed models, the total MWh savings in the base year 2008 for the wind farms within the ERCOT region are 31,399,556 MWh/yr and 79,153 MWh/day in the Ozone Season Period, compared with total 36,401,467 MWh/yr savings and 90,384 MWh/day in the Ozone Season Period in 2015 within ERCOT. The total NO_x emissions reductions for 2008 base year across all the counties amount to 8,684.31 tons/yr and 23.79 tons/day for the Ozone Season Period. Compared to the base year 2008, the total NO_x emissions reductions in 2015 increased by 15.53%, from 8,684.31 tons/yr to 10,033.16 tons/yr. For the Ozone Season Period, the total NO_x emissions reductions increased by 14.26%, from 21.90 tons/day to 25.03 tons/day. The distribution of the NO_x emissions reduction in the counties within the ERCOT region is shown in Figure 5-5 through Figure 5-10. The 2010 eGRID shows that the counties named Ector, Howard and Ward will get the most emissions benefit from the wind farms. Figure 5-11 shows the average modeled power flows during 2010 for each of the Commercially Significant Constraints from ERCOT¹¹. Based on modeled flows, Houston is a significant importer from the 'North Zone' and the 'South Zone,' while the 'South Zone' and the 'Northeast Zone' export significant amounts of power. In addition, any modifications on the generation patterns in the North area could affect the generation in the South area (Gulf Coast) which has a larger emissions rate than its northern counterpart. Thus, it gives a major emissions reduction impact.

⁹ For this report, the nonattainment area was modified using the current EPA information at <http://www.epa.gov/oaqps001/greenbk/ancl.html>

¹⁰ This 2010 eGRID table for Texas was provided by Art Diem of the US EPA and includes emissions values

¹¹ ERCOT, "2010 State of the Market Report for the ERCOT Wholesale Electricity Markets" Available at: http://www.puc.state.tx.us/industry/electric/reports/ERCOT_annual_reports/

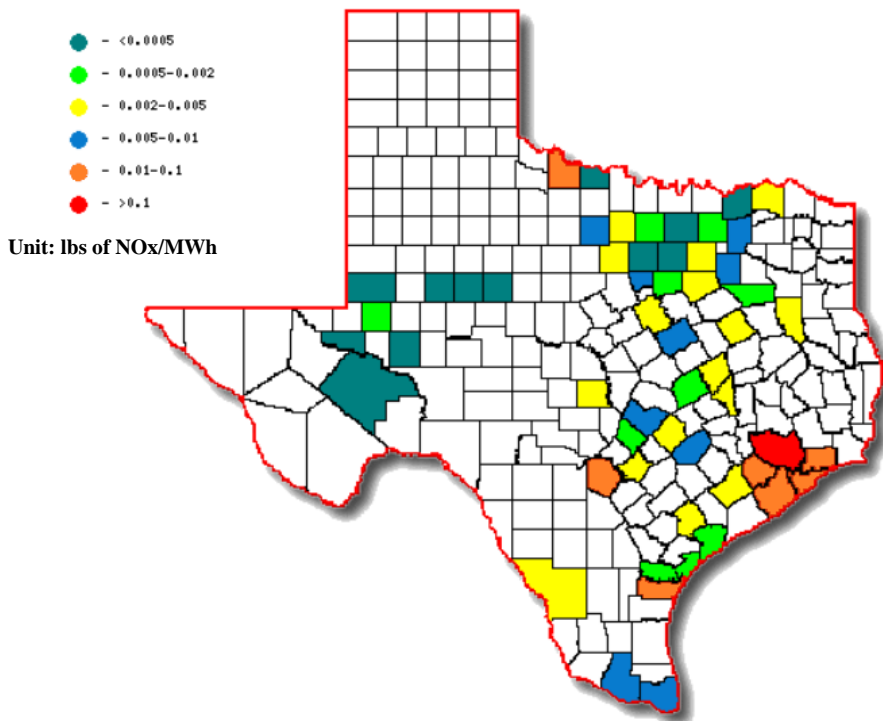


Figure 5-1: NOx Emissions from CM Zone - Houston in the 2010 Annual eGRID

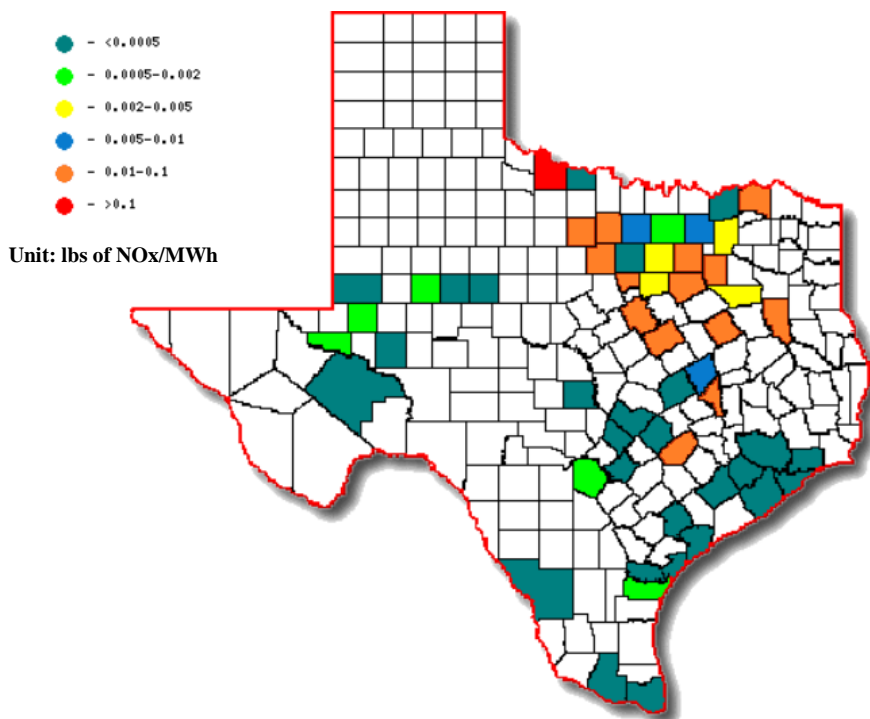


Figure 5-2: NOx Emissions from CM Zone - North in the 2010 Annual eGRID

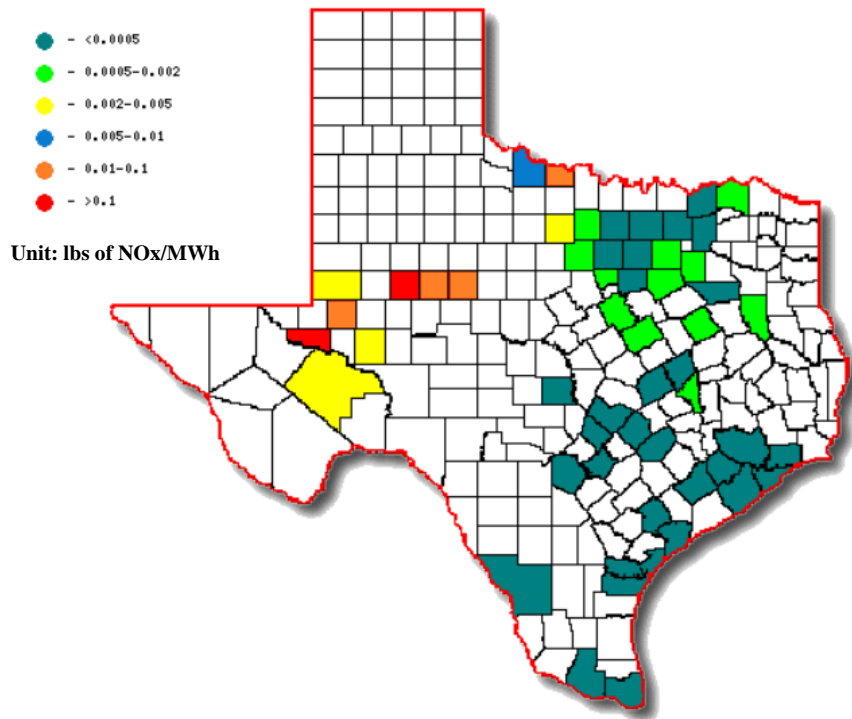


Figure 5-3: NOx Emissions from CM Zone - West in the 2010 Annual eGRID

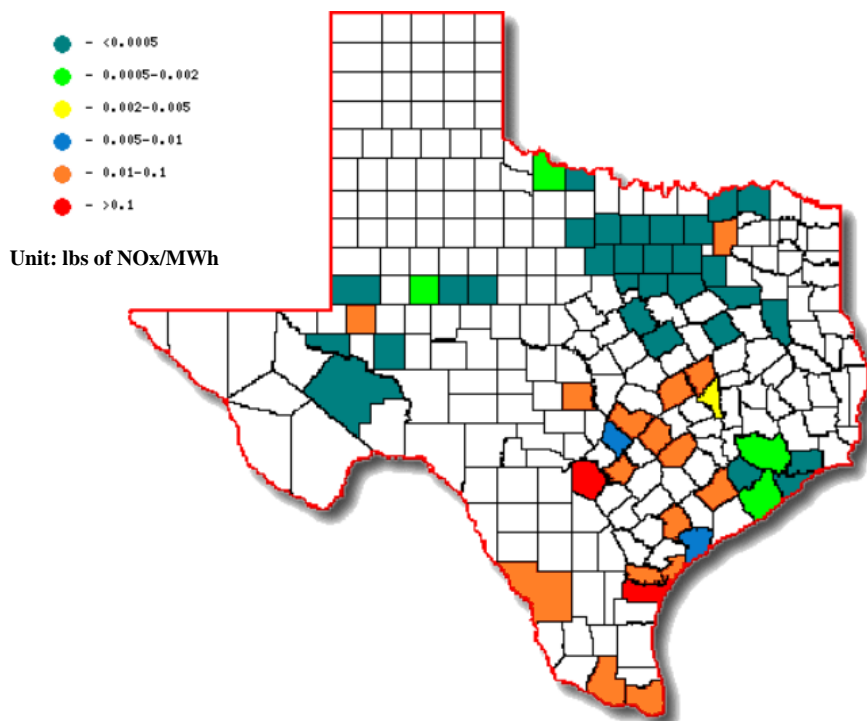


Figure 5-4: NOx Emissions from CM Zone - South in the 2010 Annual eGRID

Table 5-1: Wind Farm Information from the PUCT (Updated July 8th, 2015)

Company	Facility	City	County	Resource	Capacity (MW)	Status	In Service	Region
Project Completed								
LG&E	Texas Wind Power Project		Cuberson	Wind	35.00	Completed	Oct-05	ERCOT
York Research	Big Spring Wind Power	Big Spring	Howard	Wind	24.00	Completed	Feb-99	ERCOT
York Research	Big Spring Wind Power	Big Spring	Howard	Wind	6.00	Completed	Jun-99	ERCOT
American National Wind Power	Delaware Mountain Wind Farm		Cuberson	Wind	30.00	Completed	Jun-99	ERCOT
FPL Energy	Southwest Mesa Wind Project	McCamey	Upton	Wind	75.00	Completed	Jun-99	ERCOT
Cielo/E Paso Electric	Hueco Mountain Wind Ranch	Hueco Mtn.	El Paso	Wind	1.30	Completed	Apr-01	WSCC
Orion Energy/American National Wind Power	Indian Mesa		Recos	Wind	82.50	Completed	Jun-01	ERCOT
FPL/CieloTXU	Woodward Mountain Ranch	McCamey	Upton	Wind	160.00	Completed	Jul-01	ERCOT
AEP	Trent Mesa	Sw eetwater	Nolan	Wind	150.00	Completed	Nov-01	ERCOT
AEP	Desert Sky (Indian Mesa II)	Iaan	Recos	Wind	160.00	Completed	Dec-01	ERCOT
FPL/Cielo	King Mountain Wind Ranch	McCamey	Upton	Wind	278.00	Completed	Dec-01	ERCOT
Shell Wind Energy	Llano Estacado Wind Ranch	White Deer	Carson	Wind	79.00	Completed	Jan-02	SPP
Cielo/Orion/Green Mountain	Brazos Wind Ranch	Fluvana	Scurry	Wind	160.00	Completed	Dec-03	ERCOT
DKR Development	Sw eetwater Wind 1	Sw eetwater	Nolan	Wind	37.50	Completed	Dec-03	ERCOT
Aeolus Wind			Hansford	Wind	3.00	Completed	Dec-03	SPP
FPL Energy	Callahan Divide Wind Energy Center	Abilene	Taylor	Wind	114.00	Completed	Feb-05	ERCOT
DKRW Development	Sw eetwater Wind 2	Sw eetwater	Nolan	Wind	91.50	Completed	Feb-05	ERCOT
AES	Buffalo Gap 1	Abilene	Taylor	Wind	120.00	Completed	Sep-05	ERCOT
FPL Energy	Horse Hollow Phase 1	Abilene	Taylor	Wind	213.00	Completed	Oct-05	ERCOT
DKRW Energy	Sw eetwater Wind 3 (Cottonwood Creek)	Sw eetwater	Nolan	Wind	135.00	Completed	Dec-05	ERCOT
FPL Energy	Horse Hollow Phase 2	Abilene	Taylor	Wind	223.50	Completed	May-06	ERCOT
FPL Energy	Red Canyon 1	Borden	Wind	84.00	Completed	May-06	ERCOT	
FPL Energy	Horse Hollow Phase 3	Abilene	Taylor	Wind	299.00	Completed	Sep-06	ERCOT
Aittrichy	Forest Creek Wind Farm		Sterling	Wind	124.20	Completed	Dec-06	ERCOT
Aittrichy	Sand Bluff Wind Farm		Sterling	Wind	90.00	Completed	Dec-06	ERCOT
Edison Mission Group	Wildorado Wind Ranch	Wildorado	Oldham	Wind	161.00	Completed	Apr-07	SPP
DKRW/BabcockBrown	Sw eetwater Wind 4 (Cottonwood Creek)	Sw eetwater	Nolan	Wind	241.00	Completed	May-07	ERCOT
Invenery	Camp Springs 1		Scurry	Wind	130.00	Completed	Jul-07	ERCOT
AES	Buffalo Gap 2 (Cielo 1)	Abilene	Taylor	Wind	233.00	Completed	Aug-07	ERCOT
FPL Energy	Capricorn Ridge Wind		Sterling	Wind	364.00	Completed	Sep-07	ERCOT
Garnesa Energy	Barton Chapel Wind 1		Jack	Wind	120.00	Completed	Dec-07	ERCOT
Horizon Wind Energy	Lone Star - Mesquite Wind		Shackelford	Wind	200.00	Completed	Dec-07	ERCOT
Enel North America/WKN USA	Snyder Wind Project	Snyder	Scurry	Wind	63.00	Completed	Dec-07	ERCOT
DKRW/BabcockBrown	Sw eetwater Wind 5	Sw eetwater	Nolan	Wind	80.00	Completed	Dec-07	ERCOT
Renew able Energy Systems	Whitwind	Floydada	Floyd	Wind	60.00	Completed	Dec-07	ERCOT
Aittrichy	Roscoe Wind Farm		Scurry	Wind	126.00	Completed	Jan-08	ERCOT
Aittrichy	Roscoe Wind Farm 1		Scurry	Wind	209.00	Completed	Jan-08	ERCOT
Invenery	Stanton Wind Energy		Martin	Wind	120.00	Completed	Jan-08	ERCOT
BPClipper Windpower	Silver Star Phase I		Erath	Wind	60.00	Completed	Mar-08	ERCOT
AES	Buffalo Gap 3		Taylor	Wind	170.00	Completed	Apr-08	ERCOT
Edison Mission Group	Goat Wind		Sterling	Wind	80.00	Completed	Apr-08	ERCOT
FPL Energy	Capricorn Ridge Wind (exp)		Sterling	Wind	298.00	Completed	May-08	ERCOT
Horizon Wind Energy	Lone Star - First Oak Wind		Shackelford	Wind	200.00	Completed	May-08	ERCOT
Invenery	McAdoo Wind Energy		Dickens	Wind	150.00	Completed	May-08	ERCOT
Invenery	Camp Springs II		Scurry	Wind	120.00	Completed	Jun-08	ERCOT
Aittrichy	Panther Creek		Howard	Wind	143.00	Completed	Jul-08	ERCOT
Duke Energy	Ocotillo Windpower 1		Howard	Wind	59.00	Completed	Aug-08	ERCOT
BP All Energy - NRG	Sherbino Mesa Wind Farm		Recos	Wind	150.00	Completed	Sep-08	ERCOT
Babcock & Brown	South Trent Wind Farm		Taylor	Wind	101.20	Completed	Oct-08	ERCOT
FPL Energy	Wolf Ridge Windfarm		Cooke	Wind	113.00	Completed	Oct-08	ERCOT
Eurus Energy Holdings	Bull Creek Wind Plant		Borden	Wind	180.00	Completed	Nov-08	ERCOT
NRG Padoms Wind	Elbow Creek Wind		Howard	Wind	117.30	Completed	Nov-08	ERCOT
Babcock & Brown	Gulf Wind 1		Kenedy	Wind	283.00	Completed	Nov-08	ERCOT
Renew able Energy Systems	Hackberry Wind Farm		Shackelford	Wind	195.00	Completed	Nov-08	ERCOT
E.ON Climate & Renewables	Indale		Nolan	Wind	167.00	Completed	Nov-08	ERCOT
E.ON Climate & Renewables	Palmer Creek 2		Howard	Wind	115.00	Completed	Nov-08	ERCOT
PFM Energy	Panacal Wind Farm		Kenedy	Wind	202.00	Completed	Nov-08	ERCOT
E.ON Climate & Renewables	Pyron		Scurry	Wind	249.00	Completed	Nov-08	ERCOT
Invenery	Turkey Track Energy Center		Nolan	Wind	169.50	Completed	Nov-08	ERCOT
Duke Energy	Ntreas Windpower		Ector	Wind	153.00	Completed	Jan-09	ERCOT
Noble Environmental	Noble Great Plains Windpark		Hansford	Wind	114.00	Completed	Feb-09	SPP
Edison Mission Group	Goat Wind Phase 2		Sterling	Wind	70.00	Completed	Apr-09	ERCOT
E.ON Climate & Renewables	Panther Creek 3		Concho	Wind	200.00	Completed	Aug-09	ERCOT
Valero Energy	Sunray Wind I, II, III		Moore	Wind	49.50	Completed	Aug-09	SPP
E.ON Climate & Renewables	Papalote Creek Wind Farm		San Patricio	Wind	180.00	Completed	Sep-09	ERCOT
Padoma Wind	Langford Wind Power		Tom Green	Wind	150.00	Completed	Oct-09	ERCOT
Third Planet Windpower	Loraine Windpark		Michell	Wind	251.00	Completed	Oct-09	ERCOT
Deere & Company	JD Wind 1-7, 9-11, Wege	Gruver	Hansford	Wind	189.80	Completed	Dec-09	SPP
Babcock & Brown	Majestic Wind		Carson	Wind	79.50	Completed	Dec-09	SPP
Berkeley	Panacal Wind Farm 2		Kenedy	Wind	202.00	Completed	Mar-10	ERCOT
E.ON Climate & Renewables	Papalote Creek Phase II		San Patricio	Wind	198.00	Completed	Jun-10	ERCOT
DeWind/Perpetual/HighPower	Little Pringle 1, 2		Hutchinson	Wind	20.00	Completed	Sep-10	SPP
Edison Mission Group	Cedro Hill Wind	Bruni	Webb	Wind	150.00	Completed	Oct-10	ERCOT
Ralls Corporation	Ralls Wind Farm		Crosby	Wind	10.00	Completed	Jul-11	SPP
Golden Spread EC	GS Panhandle Wind Ranch	Wildorado	Oldham	Wind	78.00	Completed	Sep-11	SPP
BP Alternative Energy	Sherbino Mesa Wind Farm 2		Recos	Wind	158.00	Completed	Nov-11	ERCOT
BP Wind Power	Trinity Hills Wind Farm		Yucca	Wind	225.00	Completed	Jan-12	ERCOT
DeWind	Frisco Wind Farm		Hansford	Wind	20.00	Completed	Feb-12	SPP
Revolution Energy	Harbor Wind Project		Nueces	Wind	9.00	Completed	Mar-12	ERCOT
E.ON Climate & Renewables	Magic Valley Wind		Wilacy	Wind	206.00	Completed	Apr-12	ERCOT
E.ON Climate & Renewables	Anacacho Windfarm		Kinney	Wind	100.00	Completed	Dec-12	ERCOT
NextEra	Blue Summit Wind		Wilbarger	Wind	135.00	Completed	Dec-12	ERCOT
A-Tech Wind Power	Citrus Wind Energy		Lynn	Wind	61.20	Completed	Dec-12	SPP
NextEra	Majestic Wind II		Carson	Wind	79.80	Completed	Dec-12	SPP
WKN USA	Mozart		Kent	Wind	30.00	Completed	Dec-12	ERCOT
Garnesa Energy	Senate Wind Project		Jack	Wind	150.00	Completed	Dec-12	ERCOT
EDF Renew able	Spinning Spur Wind Ranch		Oldham	Wind	161.00	Completed	Dec-12	SPP
Exelon	Whitetail Wind Project	Laredo	Webb	Wind	92.00	Completed	Dec-12	ERCOT
Duke Energy	Los Vientos I		Wilacy	Wind	200.00	Completed	Jan-13	ERCOT
Duke Energy	Los Vientos II		Wilacy	Wind	202.00	Completed	Jan-13	ERCOT
EDF Renew able	Bobcat Bluff		Clay	Wind	163.00	Completed	Mar-13	ERCOT
Invenery	Goldthwaite Wind Energy		Mills	Wind	149.00	Completed	Jun-14	ERCOT
Siemens USA	Pantex Wind Farm		Carson	Wind	11.50	Completed	Jun-14	SPP
EDF Renew able	Spinning Spur Wind II		Oldham	Wind	161.00	Completed	Jun-14	ERCOT
Pattern Energy	Panhandle Wind 1		Carson	Wind	218.00	Completed	Jul-14	ERCOT
Pattern Energy	Panhandle Wind 2		Carson	Wind	198.00	Completed	Nov-14	ERCOT
E.ON Climate & Renewables	Grandview Phase 1 (Conway Windfarm)		Carson	Wind	211.00	Completed	Dec-14	ERCOT
Invenery	Mam Wind 1 Project		Gray	Wind	289.00	Completed	Dec-14	ERCOT
NextEra	Palo Duro Wind		Ochitree	Wind	250.00	Completed	Dec-14	SPP
Wind Tex Energy	Stephens Ranch Wind Phase 1		Borden	Wind	211.00	Completed	Dec-14	ERCOT
Ow nEnergy	Windhorst 2		Archer	Wind	65.00	Completed	Dec-14	ERCOT
RES Americas	Keech Wind		Jack	Wind	102.00	Completed	Jan-15	ERCOT
Lincoln Renew able Energy	Junco Road Wind (Hereford 2)		Castro	Wind	300.00	Completed	Apr-15	ERCOT
DNB Renew able Energy	Muskrat Creek IV		Borden	Wind	211.00	Completed	Apr-15	ERCOT
EDF Renew able	Hereford Wind Project (Hereford 1)		Deaf Smith	Wind	200.00	Completed	May-15	ERCOT
Wind Tex Energy	Stephens Ranch Wind Phase b		Borden	Wind	165.00	Completed	May-15	ERCOT
First Wind	Route66 Wind		Armstrong	Wind	150.00	Completed	Aug-15	ERCOT
Pattern Energy	Logan's Gap Wind I		Comanche	Wind	211.00	Completed	Sep-15	ERCOT
EDF Renew able	Longhorn Energy Center North		Briscoe	Wind	200.00	Completed	Sep-15	ERCOT
Invenery	RattleSnake Wind Ph 1		Glasscock	Wind	21.00	Completed	Sep-15	ERCOT
Ralls Corporation	Roscoe Hill Wind Energy		Crosby	Wind	20.00	Completed	Oct-15	SPP
EDF Renew able	Spinning Spur Wind III		Oldham	Wind	194.00	Completed	Oct-15	ERCOT
Juw I Wind	Briscoe Wind		Briscoe	Wind	150.00	Completed	Nov-15	ERCOT
Capital Dynamics	Green Pastures W		Knox	Wind	300.00	Completed	Nov-15	ERCOT
First Wind	South Plains Wind I		Floyd	Wind	200.00	Completed	Nov-15	ERCOT
Alterra Power/Starwood Energy	Shannon Wind		Clay	Wind	200.00	Completed	Dec-15	ERCOT

Table 5-2: 2008 Wind Power Production Assigned to Each CM Zone in the ERCOT Region

CM Zones	Annual Wind Power (MWh/yr)	OSP Wind Power (MWh/day)
Houston	0	0
North	4,473,390	8,813
West	21,388,956	57,091
South	5,537,211	13,249
Total	31,399,556	79,153

Table 5-3: 2015 Wind Power Production Assigned to Each CM Zone in the ERCOT Region

CM Zones	Annual Wind Power (MWh/yr)	OSP Wind Power (MWh/day)
Houston	0	0
North	4,833,727	11,789
West	25,740,662	62,549
South	5,827,078	16,046
Total	36,401,467	90,384

Estimated 2008 Annual NOx Reduction From Wind Power (tons/yr)

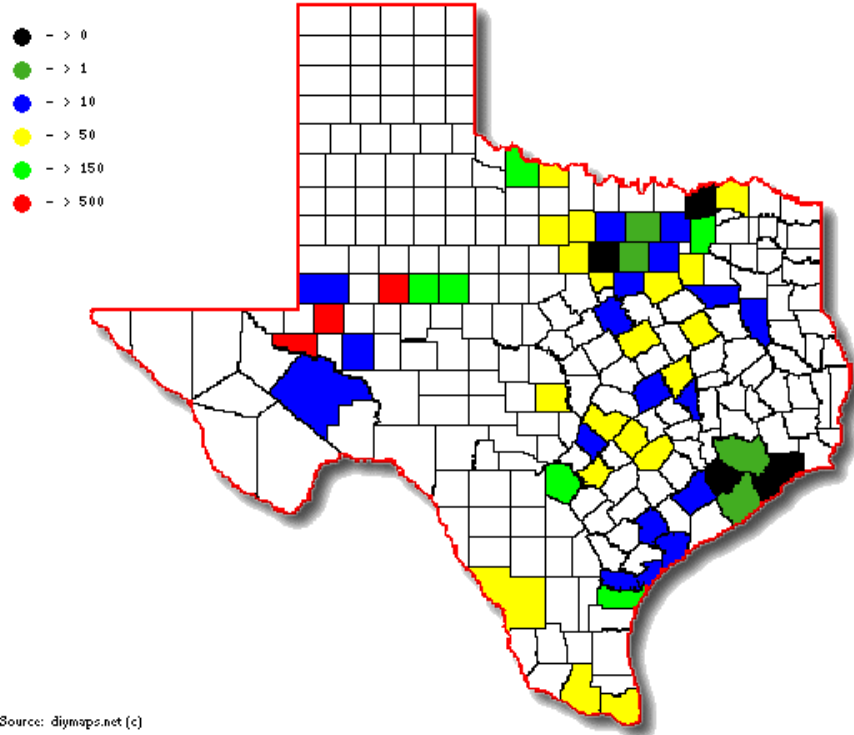
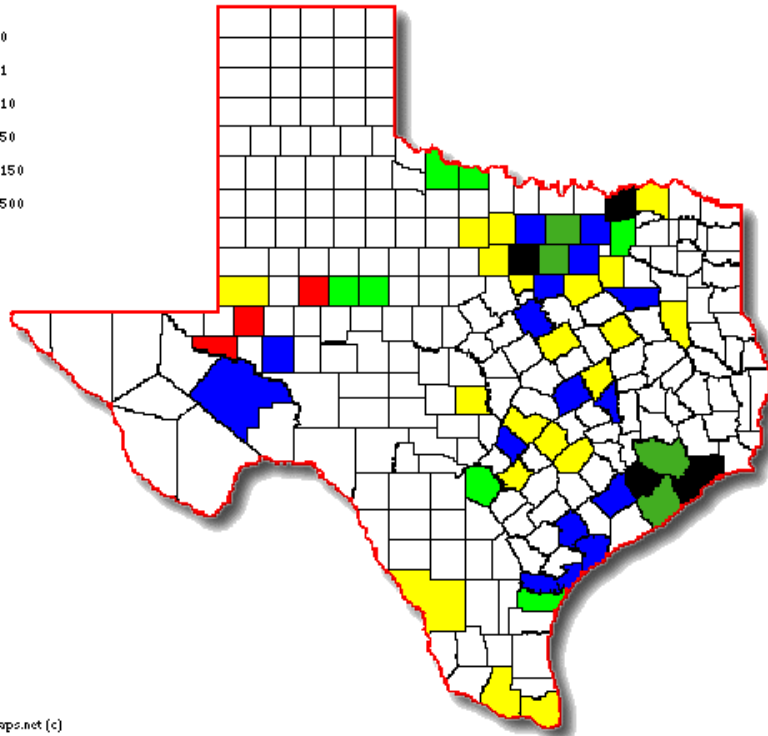


Figure 5-5: Estimated 2008 Annual NOx Reductions from Wind Power in Texas Map

Measured 2015 Annual NOx Reduction From Wind Power (tons/gr)

- - > 0
- - > 1
- - > 10
- - > 50
- - > 150
- - > 500

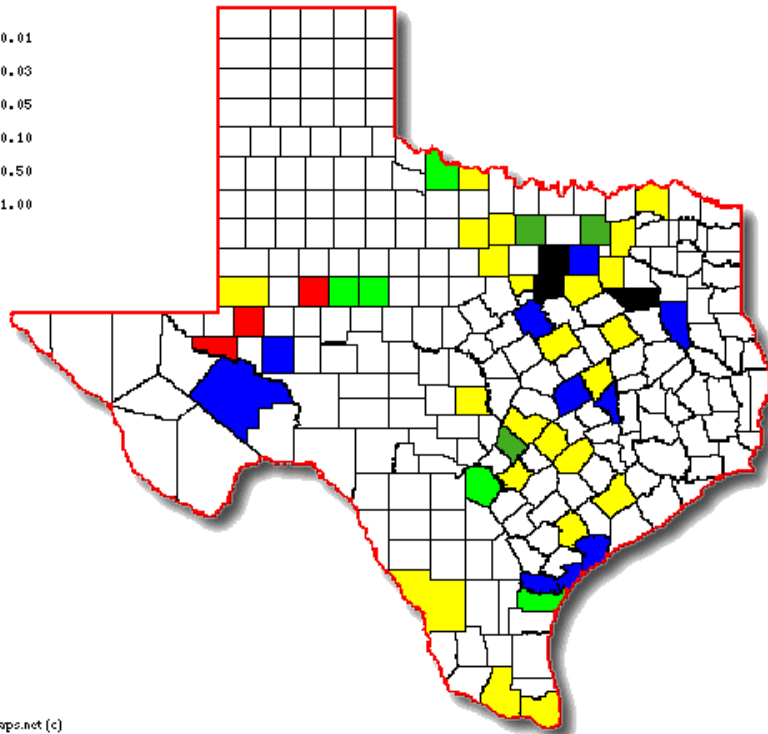


Source: diymaps.net (c)

Figure 5-6: Measured 2015 Annual NOx Reductions from Wind Power in Texas Map

Estimated 2008 OSP NOx Reduction From Wind Power (tons/day)

- - > 0.01
- - > 0.03
- - > 0.05
- - > 0.10
- - > 0.50
- - > 1.00

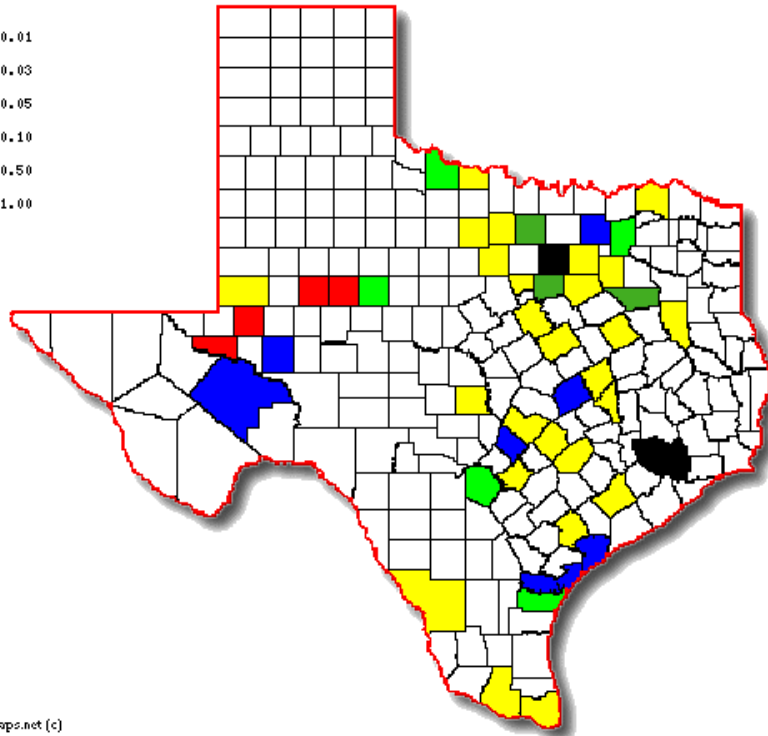


Source: diymaps.net (c)

Figure 5-7: Estimated 2008 OSP NOx Reductions from Wind Power in Texas Map

Measured 2015 OSP NOx Reduction From Wind Power (tons/day)

- - > 0.01
- - > 0.03
- - > 0.05
- - > 0.10
- - > 0.50
- - > 1.00



Source: diymaps.net (c)

Figure 5-8: Measured 2015 OSP NOx Reductions from Wind Power in Texas Map

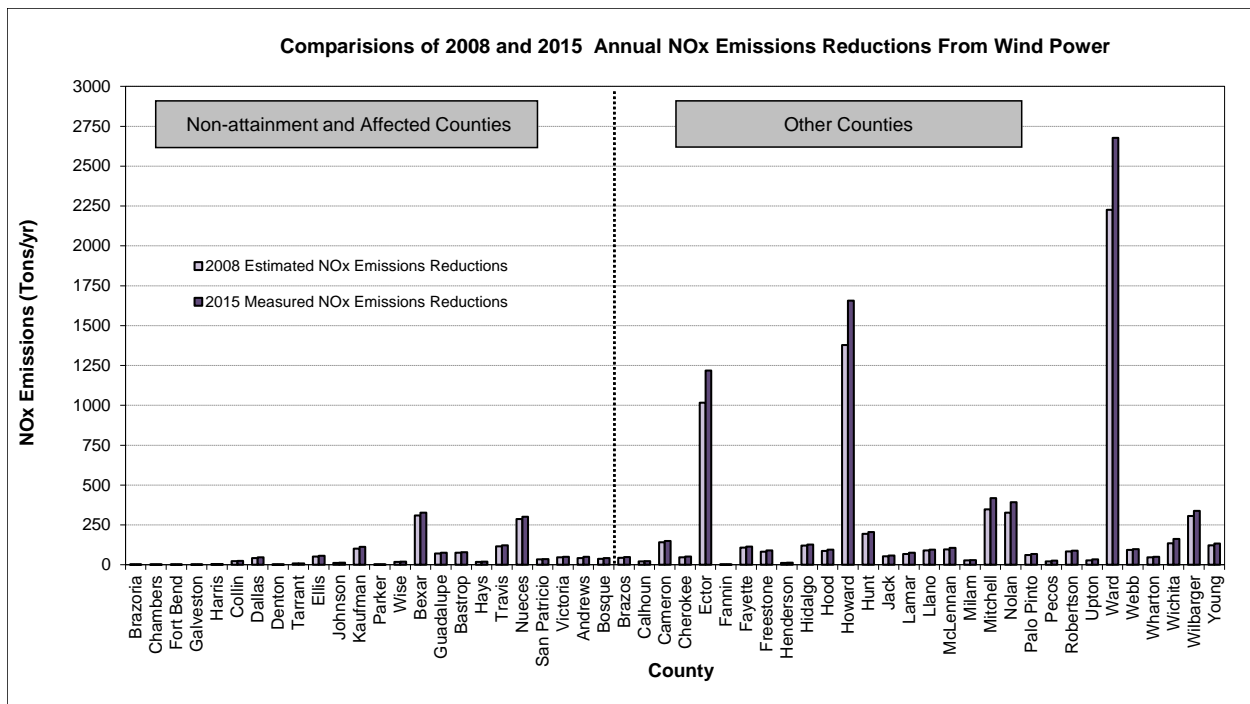


Figure 5-9: Comparisons of 2008 and 2015 Annual NOx Emissions Reductions from Wind Power

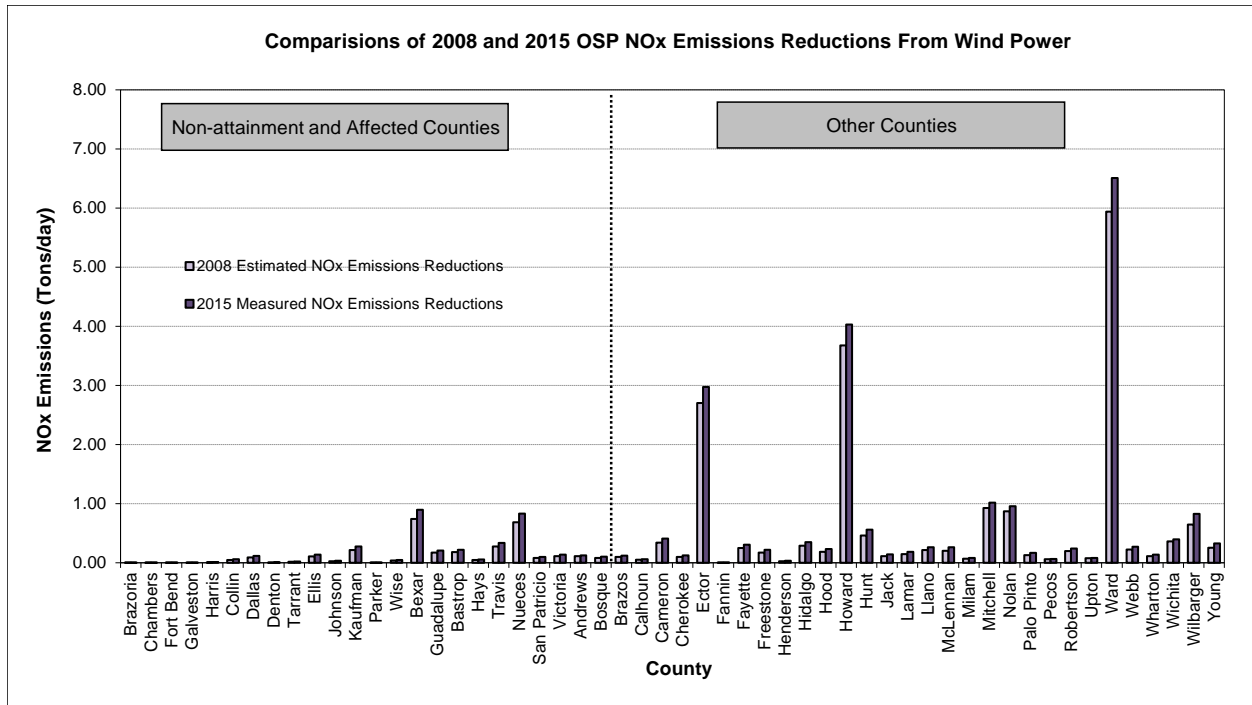


Figure 5-10: Comparisons of 2008 and 2015 OSP NOx Emissions Reductions from Wind Power

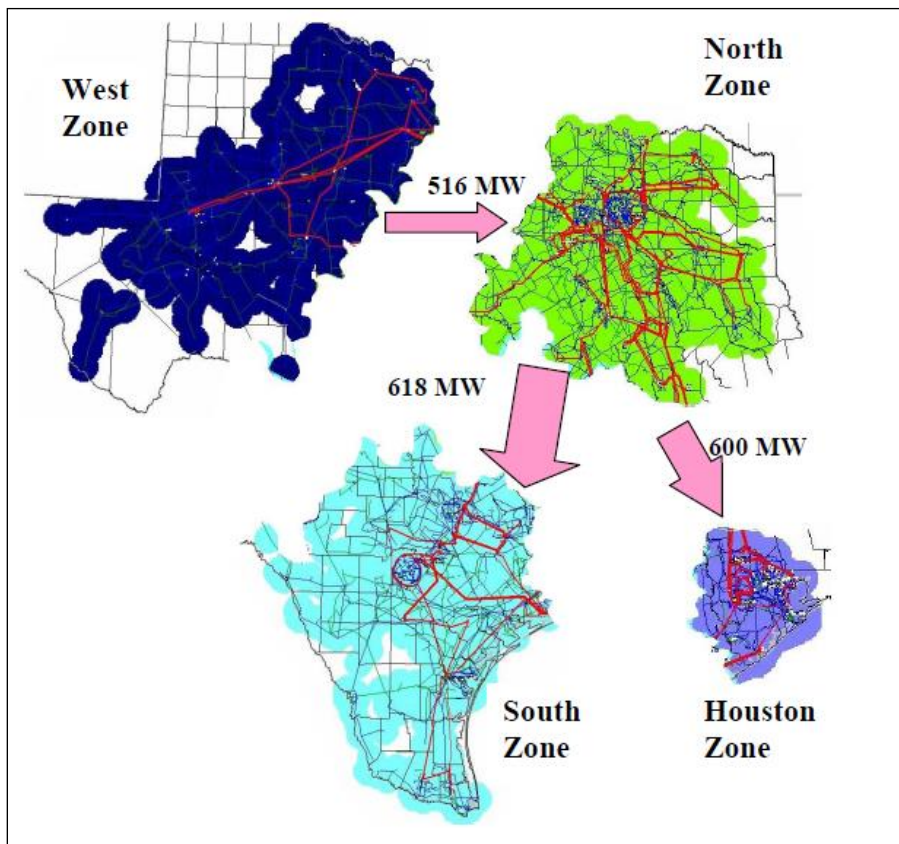


Figure 5-11: Average SPD-Modeled Flows on Commercially Significant Constraints for 2010

Table 5-4: Distribution of the Annual Emission Reductions per CM Zone for each County (Base Year 2008)

Area	County	CM Zones					Total Nox Reductions (lbs)	Total Nox Reductions (Tons)			
		H	N	W	S						
Houston-Galveston Area	Brazoria	0.0562032	0.0000	0.0000071	31.8977	0.0000003	7.3667	0.0005265	2915.5744	2954.84	1.48
	Charters	0.0204500	0.0000	0.0000026	11.6063	0.0000001	2.6804	0.0001916	1060.8562	1075.14	0.54
	Fort Bend	0.0313463	0.0000	0.0000040	17.7904	0.0000002	4.1087	0.0002937	1626.1092	1648.01	0.82
	Galveston	0.0226620	0.0000	0.0000029	12.8616	0.0000001	2.9704	0.0002123	1175.6030	1191.44	0.60
	Harris	0.1486911	0.0000	0.0000189	84.3886	0.0000009	19.4894	0.0013930	7713.4406	7817.32	3.91
	Liberty	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Montgomery	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
Baumont/Port Arthur Area	Waller	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Hardin	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Jefferson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
Dallas/Fort Worth Area	Orange	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Collin	0.0012932	0.0000	0.0079329	35487.0860	0.0003832	8195.8868	0.0008089	448.1524	44130.93	22.07
	Dallas	0.0024826	0.0000	0.0152295	68127.6791	0.0007356	15733.9805	0.0001554	860.3575	84722.02	42.36
	Denton	0.0001267	0.0000	0.0007770	3475.8978	0.0000375	802.7531	0.0000079	43.8957	4322.55	2.16
	Tarrant	0.0004742	0.0000	0.0029089	13012.5094	0.0001405	3005.2186	0.0000297	164.3298	16182.06	8.09
	Ellis	0.0029920	0.0000	0.0183544	82106.1769	0.0008865	18962.2926	0.0001873	1036.8864	102105.36	51.05
	Johnson	0.0007256	0.0000	0.0044512	19911.8684	0.0002150	4598.6147	0.0000454	251.4591	24761.94	12.38
	Kaufman	0.00059718	0.0000	0.0366343	163879.3174	0.0017695	37847.6709	0.0003738	2069.5671	203796.56	101.90
	Parker	0.0000012	0.0000	0.0000075	33.7405	0.0000004	7.7923	0.0000001	0.4261	41.96	0.02
	Rockwall	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
El Paso Area	Wise	0.0010202	0.0000	0.0062583	27995.7698	0.0003023	6465.5791	0.0000638	353.5475	34814.90	17.41
	El Paso	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
San Antonio Area	Bexar	0.0138906	0.0000	0.0009368	4190.7341	0.0000452	967.8434	0.0109355	614273.4506	619432.03	309.72
	Cornal	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Guadalupe	0.0032029	0.0000	0.0002160	966.2975	0.0000104	223.1649	0.0255795	141638.8834	142828.35	71.41
Austin Area	Wilson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Blasport	0.0033782	0.0000	0.0002278	1019.1952	0.0000110	235.3815	0.0269708	149392.5781	150647.15	75.32
	Caldwell	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Hays	0.0000331	0.0000	0.0000562	251.3513	0.0000027	58.0492	0.0066537	36842.8111	37152.21	18.58
	Travis	0.0051785	0.0000	0.0003493	1562.3411	0.0000169	360.8202	0.0413577	229006.3452	230929.51	115.46
North East Texas Area	Williamson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Gregg	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Harrison	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Rusk	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Smith	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
Corpus Christi Area	Upshur	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Nueces	0.0128578	0.0000	0.0008672	3879.1349	0.0000419	895.8801	0.1026870	568599.5673	573374.58	286.69
Victoria Area	San Patricio	0.0015100	0.0000	0.0001018	455.5463	0.0000049	105.2077	0.0120591	66773.5077	67334.26	33.67
	Victoria	0.0021192	0.0000	0.0001429	639.3399	0.0000069	147.6545	0.0169244	93713.7821	94500.78	47.25
	Andrews	0.0000037	0.0000	0.0000230	102.7495	0.0000003	83422.8123	0.0000002	1.2976	83526.86	41.76
	Angulina	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Bosque	0.0022204	0.0000	0.0136212	69932.8235	0.0006579	14072.3399	0.0001390	769.4965	75774.66	37.89
	Brazos	0.0024089	0.0000	0.0112305	50238.4857	0.0005425	11602.4993	0.0047829	26483.9728	88324.96	44.16
	Chahoun	0.0009466	0.0000	0.0000638	285.5798	0.0000031	65.9542	0.0075598	41859.9976	42211.53	21.11
	Cameron	0.0063536	0.0000	0.0004285	1916.8622	0.0000207	442.6963	0.0507425	280971.6757	283331.23	141.67
	Cherokee	0.0027392	0.0000	0.0168033	75167.8314	0.0008116	17359.8926	0.0001714	949.2648	93476.99	46.74
	Coke	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
Other ERCOT counties	Coleman	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Crockett	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Ector	0.0019215	0.0000	0.0006604	2954.0257	0.0011346	1949274.8421	0.0146527	81134.9967	203363.86	1016.68
	Fannin	0.0000041	0.0000	0.0000249	111.2749	0.0000012	25.6988	0.0000003	1.4052	138.38	0.07
	Fayette	0.0051867	0.0000	0.0103217	46172.8903	0.0004986	10663.5565	0.0283993	157252.9375	214089.38	107.04
	Freestone	0.0047643	0.0000	0.0292268	130742.8683	0.0014117	30194.8601	0.0002982	1651.1000	162588.83	81.29
	Frio	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Grimes	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Hardeman	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Haskell	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Henderson	0.0006908	0.0000	0.0042376	18956.2643	0.0002047	4377.9195	0.0000432	239.3912	23573.57	11.79
	Hidalgo	0.0053716	0.0000	0.0003623	1620.5806	0.0000175	374.2705	0.0428994	237543.0167	239537.87	119.77
	Hood	0.0050771	0.0000	0.0311454	139325.5322	0.0015044	32177.0128	0.0003178	1759.4870	173262.03	86.63
	Howard	0.0002411	0.0000	0.0007641	3417.9845	0.0283942	2746217.1841	0.0009490	5254.7633	2754889.93	1377.44
	Hunt	0.0088463	0.0000	0.0047066	21054.6243	0.0002273	4862.5324	0.0652823	361481.8146	367398.97	193.70
	Jack	0.0030783	0.0000	0.0188839	84474.9996	0.0009121	19509.3685	0.0001927	1066.8014	105051.17	52.53
	Jones	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Lamar	0.0040001	0.0000	0.0245388	109771.7926	0.0011853	25351.6231	0.0002504	1386.2645	136509.68	68.25
	Limestone	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Llano	0.0040314	0.0000	0.0002719	1216.2698	0.0000131	280.8956	0.0321966	178279.5723	179776.74	89.89
	McLennan	0.0056576	0.0000	0.0347066	152556.3318	0.0016764	35856.2059	0.0003541	1960.6708	193073.21	96.54
	Miami	0.0012686	0.0000	0.0000856	382.7329	0.0000041	88.3916	0.0101316	56100.5895	56571.71	28.29
	Mitchell	0.0003311	0.0000	0.0001910	854.2350	0.0324260	693557.6133	0.0000019	10.7878	694422.64	347.21
	Nolan	0.0002293	0.0000	0.0001795	802.8246	0.0304745	651817.2909	0.0000018	10.1386	652630.25	326.32
	Palo Pinto	0.0036129	0.0000	0.0221635	99146.1702	0.0010705	22897.6523	0.0002261	1252.0778	123295.90	61.65
	Pecos	0.0000020	0.0000	0.0000121	54.0590	0.0020520	43890.7849	0.0000001	0.6827	43945.53	21.97
	Presidio	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Red River	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
	Robertson	0.0039506	0.0000	0.0055755	24941.2713	0.0002693	5760.1474	0.0246170	136309.2794	167010.70	83.51
	Taylor	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00
Titus	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00	
Tom Green	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.00	
Upton	0.0000025	0.0000	0.0								

Table 5-5: Distribution of the Annual Emission Reductions per CM Zone for each County (Year 2015)

Area	County	CM Zones				Total Nox Reductions (lbs)	Total Nox Reductions (Tons)				
		H	N	W	S						
Houston-Galveston Area	Brazoria	0.0562032	0.0000	0.0000071	34.4671	0.0000003	8.8655	0.0005265	3068.2016	3111.53	1.56
	Chambers	0.0204500	0.0000	0.0000026	12.5412	0.0000001	3.2258	0.0001916	1116.3909	1132.16	0.57
	Fort Bend	0.0313463	0.0000	0.0000040	19.2234	0.0000002	4.9446	0.0002937	1711.2342	1735.40	0.87
	Galveston	0.0226620	0.0000	0.0000029	13.8977	0.0000001	3.5747	0.0002123	1237.1445	1254.62	0.63
	Harris	0.1486911	0.0000	0.0000189	91.1862	0.0000009	23.4547	0.0013930	8117.2310	8231.87	4.12
	Liberty	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Montgomery	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Waller	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
Beaumont/Port Arthur Area	Hardin	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Jefferson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Orange	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
Dallas/Fort Worth Area	Collin	0.0012932	0.0000	0.0079329	38345.6145	0.0003832	9863.1467	0.0008089	471.6127	48680.37	24.34
	Dallas	0.0024826	0.0000	0.0152295	73615.4477	0.0007356	18935.1498	0.0001554	905.3963	93455.99	46.73
	Denton	0.0001267	0.0000	0.0007770	3755.8857	0.0000375	966.0779	0.0000079	46.1936	4768.16	2.38
	Tarrant	0.0004742	0.0000	0.0029089	14060.6830	0.0001405	3616.6477	0.0000297	172.9323	17850.26	8.93
	Ellis	0.0029920	0.0000	0.0183544	88719.9307	0.0008865	22820.2808	0.0001873	1091.1663	112631.38	56.32
	Johnson	0.0007256	0.0000	0.0044512	21515.7940	0.0002150	5534.2295	0.0000454	264.6227	27314.65	13.66
	Kaufman	0.0005918	0.0000	0.0366343	177079.9985	0.0017695	45547.9987	0.0003738	2177.9067	224805.90	112.40
	Parker	0.0000012	0.0000	0.0000075	36.4583	0.0000004	9.3777	0.0000001	0.4484	46.28	0.02
	Rockwall	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Wise	0.0010202	0.0000	0.0062583	30250.8636	0.0003023	7781.0386	0.0000638	372.0553	38403.96	19.20
El Paso Area	El Paso	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Bexar	0.0138906	0.0000	0.0009368	4528.3028	0.0000452	1164.7568	0.1193955	646430.0118	652123.07	326.06
	Cornal	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
San Antonio Area	Guadalupe	0.0032029	0.0000	0.0002160	1044.1339	0.0000104	268.5691	0.0255795	149053.5282	150366.23	75.18
	Wilson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Bastrop	0.0033782	0.0000	0.0002278	1101.2927	0.0000110	283.2713	0.0269798	157213.1205	158597.68	79.30
Austin Area	Caldwell	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Hays	0.0008331	0.0000	0.0000562	271.5979	0.0000027	69.8596	0.0066537	38771.4930	39112.95	19.56
	Travis	0.0051785	0.0000	0.0003493	1688.1897	0.0000169	434.2312	0.0413577	240994.5836	243117.00	121.56
	Williamson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Gregg	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
North East Texas Area	Harrison	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Rusk	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Smith	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Upshur	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
Corpus Christi Area	Nueces	0.0128578	0.0000	0.0008672	4191.6040	0.0000419	1078.1521	0.1026870	598365.1493	603634.91	301.82
	San Patricio	0.0015100	0.0000	0.0001018	492.2411	0.0000049	126.6128	0.0120591	70269.0298	70887.88	35.44
Victoria Area	Victoria	0.0021192	0.0000	0.0001429	690.8395	0.0000069	177.6957	0.0169244	98619.5989	99488.13	49.74
	Andrews	0.0000037	0.0000	0.0000230	111.0261	0.0000003	100395.6664	0.0000002	1.3655	100508.06	50.25
Other ERCOT counties	Angelina	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Bosque	0.0022204	0.0000	0.0136212	65841.0376	0.0006579	16935.4389	0.0001390	809.7788	83586.26	41.79
	Brazos	0.0024089	0.0000	0.0112305	54285.2576	0.0005425	13963.0950	0.0047829	27870.3806	96118.73	48.06
	Cahoon	0.0009466	0.0000	0.0000638	308.5837	0.0000031	79.3730	0.0075598	44051.3239	44439.28	22.22
	Cameron	0.0063536	0.0000	0.0004285	2071.2678	0.0000207	532.7654	0.0507425	295680.2438	298284.28	149.14
	Cherokee	0.0027392	0.0000	0.0168033	81222.6930	0.0008116	20891.8632	0.0001714	998.9578	103113.51	51.56
	Coke	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Coleman	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Crockett	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Ector	0.0019215	0.0000	0.0006604	3191.9761	0.0011346	234586.0926	0.0146527	85382.3274	243440.40	1217.22
	Fannin	0.0000041	0.0000	0.0000249	120.2382	0.0000012	30.9273	0.0000003	1.4788	152.64	0.08
	Fayette	0.0051867	0.0000	0.0103217	49892.1736	0.0004986	12833.1188	0.0283993	165484.9614	228210.25	114.11
	Freestone	0.0047643	0.0000	0.0292268	141274.3676	0.0014117	36338.1791	0.0002982	1737.5333	179350.08	89.68
	Frio	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Grimes	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Hardeman	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Haskell	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Henderson	0.0006908	0.0000	0.0042376	20483.2148	0.0002047	5268.6325	0.0000432	251.9230	26003.77	13.00
	Hidalgo	0.0053716	0.0000	0.0003623	1751.1203	0.0000175	450.4190	0.0428994	249978.1408	252179.68	126.09
	Hood	0.0050771	0.0000	0.0311454	150548.3756	0.0015044	38723.6123	0.0003178	1851.5943	191123.58	95.56
	Hood	0.0002411	0.0000	0.0007641	3693.3074	0.0283942	3304950.9673	0.0009490	5529.8446	3314174.12	1657.09
	Hunt	0.0088463	0.0000	0.0047066	22750.6002	0.0002273	5851.8428	0.0652823	380405.0027	409007.45	204.50
	Jack	0.0030783	0.0000	0.0188839	91279.5650	0.0009121	23478.6624	0.0001927	1122.6473	115880.87	57.94
	Jones	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Lamar	0.0040001	0.0000	0.0245388	118614.0458	0.0011853	30509.5575	0.0002504	1458.8340	150582.44	75.29
	Limestone	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Llano	0.0040314	0.0000	0.0002719	1314.2419	0.0000131	338.0454	0.0321966	187612.3181	189264.61	94.63
	McLennan	0.0056576	0.0000	0.0347066	167762.4208	0.0016764	43151.3596	0.0003541	2063.3098	212977.09	106.49
	Miami	0.0012686	0.0000	0.0000856	413.5625	0.0000041	106.3753	0.0101316	59037.3956	59557.33	29.78
	Mitchell	0.0000311	0.0000	0.0001910	923.0446	0.0001910	834665.9246	0.0000019	11.3525	835600.32	417.80
	Nolan	0.0000293	0.0000	0.0001795	867.4931	0.0001795	784433.2919	0.0000018	10.6693	785311.45	392.66
	Palo Pinto	0.0036129	0.0000	0.0221635	107132.5165	0.0010705	27556.3122	0.0002261	1317.6227	136006.45	68.00
	Pecos	0.0000020	0.0000	0.0000121	58.4135	0.0000020	52820.6191	0.0000001	0.7184	52879.75	26.44
	Prestigio	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Red River	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Robertson	0.0039506	0.0000	0.0055755	26950.3215	0.0002693	6932.0828	0.0246170	143444.9251	177327.33	88.66
	Taylor	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Titus	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Tom Green	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	

Table 5-6: Distribution of the OSP Emission Reductions per CM Zone for each County (Base Year 2008)

Area	County	CM Zones				Total Nox Reductions (lbs)	Total Nox Reductions (Tons)				
		H	N	W	S						
Houston-Galveston Area	Brazoria	0.0562032	0.0000	0.0000071	34.4671	0.0000003	8.8655	0.0005265	3068.2016	3111.53	1.56
	Chambers	0.0204500	0.0000	0.0000026	12.5412	0.0000001	3.2258	0.0001916	1116.3909	1132.16	0.57
	Fort Bend	0.0313463	0.0000	0.0000040	19.2234	0.0000002	4.9446	0.0002937	1711.2342	1735.40	0.87
	Galveston	0.0226620	0.0000	0.0000029	13.8977	0.0000001	3.5747	0.0002123	1237.1445	1254.62	0.63
	Harris	0.1486911	0.0000	0.0000189	91.1862	0.0000009	23.4547	0.0013930	8117.2310	8231.87	4.12
	Liberty	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Montgomery	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Waller	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
Beaumont/Port Arthur Area	Hardin	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Jefferson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Orange	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
Dallas/Fort Worth Area	Collin	0.0012932	0.0000	0.0079329	38345.6145	0.0003832	9863.1467	0.0008089	471.6127	48680.37	24.34
	Dallas	0.0024826	0.0000	0.0152295	73615.4477	0.0007356	18935.1499	0.0001554	905.3963	93455.99	46.73
	Denton	0.0001267	0.0000	0.0007770	3755.8857	0.0000375	966.0779	0.0000079	46.1936	4768.16	2.38
	Tarrant	0.0004742	0.0000	0.0029089	14060.6830	0.0001405	3616.6477	0.0000297	172.9323	17850.28	8.93
	Ellis	0.0029920	0.0000	0.0183544	88719.9307	0.0008865	22820.2808	0.0001873	1091.1663	112631.38	56.32
	Johnson	0.0007256	0.0000	0.0044512	21515.7940	0.0002150	5534.2295	0.0000454	264.6227	27314.65	13.66
	Kaufman	0.0005918	0.0000	0.0366343	177079.9985	0.0017695	45547.9987	0.0003738	2177.9067	224805.90	112.40
	Parker	0.0000012	0.0000	0.0000075	36.4583	0.0000004	9.3777	0.0000001	0.4484	46.28	0.02
	Rockwall	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Wise	0.0010202	0.0000	0.0062583	30250.8636	0.0003023	7781.0386	0.0000638	372.0553	38403.96	19.20
El Paso Area	El Paso	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Bexar	0.0138906	0.0000	0.0009368	4528.3028	0.0000452	1164.7568	0.1109355	646430.0118	652123.07	326.06
San Antonio Area	Comal	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Guadalupe	0.0032029	0.0000	0.0002160	1044.1339	0.0000104	268.5691	0.0255795	149053.5282	150366.23	75.18
	Wilson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
Austin Area	Bastrop	0.0033782	0.0000	0.0002278	1101.2927	0.0000110	283.2713	0.0269798	157213.1205	158597.68	79.30
	Caldwell	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Hays	0.0008331	0.0000	0.0000562	271.5979	0.0000027	69.8596	0.0006537	38771.4930	39112.95	19.56
	Travis	0.0051785	0.0000	0.0003493	1688.1897	0.0000169	434.2312	0.0413577	240994.5836	243117.00	121.56
	Williamson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
North East Texas Area	Gregg	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Harrison	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Rusk	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Smith	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
Corpus Christi Area	Upshur	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Nueces	0.0128578	0.0000	0.0008672	4191.6040	0.0000419	1078.1521	0.1026870	598365.1493	603634.91	301.82
Victoria Area	San Patricio	0.0015100	0.0000	0.0001018	492.2411	0.0000049	126.6128	0.0120591	70269.0298	70887.88	35.44
	Victoria	0.0021192	0.0000	0.0001429	690.8395	0.0000069	177.6957	0.0169244	98619.5989	99488.13	49.74
Other ERCOT counties	Andrews	0.0000037	0.0000	0.0000230	111.0261	0.0000037	100395.6664	0.0000002	1.3655	100508.06	50.25
	Angelina	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Bosque	0.0022204	0.0000	0.0136212	65841.0376	0.0006579	16935.4389	0.0001390	809.7788	83586.26	41.79
	Brazos	0.0024089	0.0000	0.0112305	54285.2576	0.0005425	13963.0950	0.0047829	27870.3806	96118.73	48.06
	Cahoon	0.0009466	0.0000	0.0000638	308.5837	0.0000031	79.3730	0.0075598	44051.3239	44439.28	22.22
	Cameron	0.0063536	0.0000	0.0004285	2071.2678	0.0000207	532.7654	0.0507425	295680.2438	298284.28	149.14
	Cherokee	0.0027392	0.0000	0.0168033	81222.6930	0.0008116	20891.8632	0.0001714	998.9578	103113.51	51.56
	Coke	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Coleman	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Crockett	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Ector	0.0019215	0.0000	0.0006604	3191.9761	0.0011346	2345866.0926	0.0146527	85382.3274	2434440.40	1217.22
	Fannin	0.0000041	0.0000	0.0000249	120.2382	0.0000012	30.9273	0.0000003	1.4788	152.64	0.08
	Fayette	0.0051867	0.0000	0.0103217	49892.1736	0.0004986	12833.1188	0.0283993	165484.9614	228210.25	114.11
	Freestone	0.0047643	0.0000	0.0292268	141274.3676	0.0014117	36338.1791	0.0002982	1737.5333	179350.08	89.68
	Frio	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Grimes	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Hardeman	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Haskell	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Henderson	0.0006908	0.0000	0.0042376	20483.2148	0.0002047	5268.6325	0.0000432	251.9230	26003.77	13.00
	Hidalgo	0.0053716	0.0000	0.0003623	1751.1203	0.0000175	450.4190	0.0428994	249978.1408	252179.68	126.09
	Hood	0.0050771	0.0000	0.0311454	150548.3756	0.0015044	38723.6123	0.0003178	1851.5943	191123.58	95.56
	Howard	0.0002411	0.0000	0.0007641	3693.3074	0.0283942	3304950.9673	0.0009490	5529.8446	3314174.12	1657.09
	Hunt	0.0088463	0.0000	0.0047066	22750.6002	0.0002273	5851.8428	0.0652823	380405.0027	409007.45	204.50
	Jack	0.0030783	0.0000	0.0188839	91279.5650	0.0009121	23478.6624	0.0001927	1122.6473	115880.87	57.94
	Jones	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Lamar	0.0040001	0.0000	0.0245388	118614.0458	0.0011853	30509.5575	0.0002504	1458.8340	150582.44	75.29
	Limestone	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Llano	0.0040314	0.0000	0.0002719	1314.2419	0.0000131	338.0454	0.0321966	187612.3181	188264.61	94.63
	McLennan	0.0056576	0.0000	0.0347066	167762.4208	0.0016764	43151.3596	0.0003541	2063.3098	212977.09	106.49
	Miami	0.0012686	0.0000	0.0000856	413.5625	0.0000041	106.3753	0.0101316	59037.3956	59557.33	29.78
	Mitchell	0.0000311	0.0000	0.0001910	923.0446	0.0001910	834665.9246	0.0000019	11.3525	835600.32	417.80
	Nolan	0.0000293	0.0000	0.0001795	867.4931	0.0001795	784433.2919	0.0000018	10.6693	785311.45	392.66
	Palo Pinto	0.0036129	0.0000	0.0221635	107132.5165	0.0010705	27556.3122	0.0002261	1317.6227	136006.45	68.00
	Pecos	0.0000020	0.0000	0.0000121	58.4135	0.0000020	52820.6191	0.0000001	0.7184	52879.75	26.44
	Prestigio	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Red River	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Robertson	0.0039506	0.0000	0.0055755	26950.3215	0.0002693	6932.0828	0.0246170	143444.9251	177327.33	88.66
	Taylor	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Titus	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000	0.00
	Tom Green	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0	

Table 5-7: Distribution of the OSP Emission Reductions per CM Zone for each County (Year 2015)

Area	County	CM Zones								Total Nox Reductions (lbs)	Total Nox Reductions (Tons)
		H	N	W	S						
Houston-Galveston Area	Brazoria	0.0562032	0.0000	0.0000071	0.0841	0.0000003	0.0215	0.0005265	8.4488	8.55	0.004277
	Charters	0.0204500	0.0000	0.0000026	0.0306	0.0000001	0.0078	0.0001916	3.0742	3.11	0.001556
	Fort Bend	0.0313463	0.0000	0.0000040	0.0469	0.0000002	0.0120	0.0002937	4.7122	4.77	0.002386
	Galveston	0.0226620	0.0000	0.0000029	0.0338	0.0000001	0.0087	0.0002123	3.4067	3.45	0.001725
	Harris	0.1486911	0.0000	0.0000189	0.2224	0.0000009	0.0570	0.0013930	22.3521	22.63	0.011316
	Liberty	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Montgomery	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Waller	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
Baumont/Port Arthur Area	Hardin	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Jefferson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Orange	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
Dallas/Fort Worth Area	Collin	0.0012932	0.0000	0.0079329	93.5210	0.0003832	23.9672	0.0008089	1.2987	118.79	0.059393
	Dallas	0.0024826	0.0000	0.0152295	179.5406	0.0007356	46.0119	0.0001554	2.4931	228.05	0.114023
	Denton	0.0001267	0.0000	0.0007770	9.1602	0.0000375	2.3475	0.0000079	0.1272	11.63	0.005817
	Tarrant	0.0004742	0.0000	0.0029089	34.2926	0.0001405	8.7883	0.0000297	0.4762	43.56	0.021779
	Ellis	0.0029920	0.0000	0.0183544	216.3788	0.0008865	55.4526	0.0001873	3.0047	274.84	0.137418
	Johnson	0.0007256	0.0000	0.0044512	52.4748	0.0002150	13.4480	0.0000454	0.7287	66.65	0.033326
	Kaufman	0.0009718	0.0000	0.0366343	431.8800	0.0017695	110.6803	0.0003738	5.9972	548.56	0.274279
	Parker	0.0000012	0.0000	0.0000075	0.0889	0.0000004	0.0228	0.0000001	0.0012	0.11	0.000056
	Rockwall	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Wise	0.0010202	0.0000	0.0062583	73.7788	0.0003023	18.9077	0.0000638	1.0245	93.71	0.046855
El Paso Area	El Paso	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Bexar	0.0138906	0.0000	0.0009368	11.0441	0.0000452	2.8303	0.1109355	1780.0458	1793.92	0.896960
	Comal	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
San Antonio Area	Guadalupe	0.0032029	0.0000	0.0002160	2.5465	0.0000104	0.6526	0.0255795	410.4421	413.64	0.206821
	Wilson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Bastrop	0.0033782	0.0000	0.0002278	2.6859	0.0000110	0.6883	0.0269798	432.9108	436.29	0.218143
Austin Area	Caldwell	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Hays	0.0008331	0.0000	0.0000562	0.6624	0.0000027	0.1698	0.0066537	106.7634	107.60	0.053798
	Travis	0.0051785	0.0000	0.0003493	4.1173	0.0000169	1.0552	0.0413577	663.6162	668.79	0.334394
	Williamson	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
North East Texas Area	Gregg	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Harrison	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Rusk	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Smith	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
Corpus Christi Area	Upshur	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Nueces	0.0128578	0.0000	0.0008672	10.2229	0.0000419	2.6199	0.1026870	1647.6917	1660.53	0.830267
Victoria Area	San Patricio	0.0015100	0.0000	0.0001018	1.2005	0.0000049	0.3077	0.0120591	193.4967	195.00	0.097502
	Victoria	0.0021192	0.0000	0.0001429	1.6849	0.0000069	0.4318	0.0169244	271.5644	273.68	0.136841
Other ERCOT counties	Andrews	0.0000037	0.0000	0.0000230	0.2708	0.0039003	243.9585	0.0000002	0.0038	244.23	0.122117
	Angelina	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Bosque	0.0022204	0.0000	0.0136212	160.5796	0.0006579	41.1526	0.0001390	2.2299	203.96	0.101981
	Brazos	0.0024089	0.0000	0.0112305	132.3962	0.0005425	33.9299	0.0047829	76.7454	243.07	0.121536
	Cahoon	0.0009466	0.0000	0.0000638	0.7526	0.0000031	0.1929	0.0075598	121.3022	122.25	0.061124
	Carmon	0.0006356	0.0000	0.0004285	5.0516	0.0000207	1.2946	0.0507425	814.2016	820.55	0.410274
	Cherokee	0.0027392	0.0000	0.0168033	198.0938	0.0008116	50.7666	0.0001714	2.7508	251.61	0.125806
	Coke	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Coleman	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Crockett	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Ector	0.0019215	0.0000	0.0006604	7.7849	0.0911346	5700.3854	0.0146527	235.1135	5943.28	2.971642
	Fannin	0.0000041	0.0000	0.0000249	0.2932	0.0000012	0.0752	0.0000003	0.0041	0.37	0.000186
	Fayette	0.0051867	0.0000	0.0103217	121.6819	0.0004986	31.1841	0.0283993	455.6886	608.55	0.304277
	Freestone	0.0047643	0.0000	0.0292268	344.5537	0.0014117	88.3007	0.0002982	4.7846	437.64	0.218820
	Frio	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Grimes	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Hardeman	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Haskell	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Henderson	0.0006908	0.0000	0.0042376	49.9565	0.0002047	12.8026	0.0000432	0.6937	63.45	0.031726
	Hidalgo	0.0053716	0.0000	0.0003623	4.2708	0.0000175	1.0945	0.0428994	688.3538	693.72	0.346860
	Hood	0.0050771	0.0000	0.0311454	367.1721	0.0015044	94.0972	0.0003178	5.0967	466.37	0.233184
	Howard	0.0002411	0.0000	0.0007641	9.0076	0.1283942	8030.9334	0.0009490	15.2273	8055.17	4.027584
	Hunt	0.0088463	0.0000	0.0047066	55.4864	0.0002273	14.2198	0.0652823	1047.5045	1117.21	0.558605
	Jack	0.0030783	0.0000	0.0188839	222.6215	0.0009121	57.0525	0.0001927	3.0914	282.77	0.141383
	Jones	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Lamar	0.0040001	0.0000	0.0245388	289.2875	0.0011853	74.1373	0.0002504	4.0171	367.44	0.183721
	Limestone	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Llano	0.0040314	0.0000	0.0002719	3.2053	0.0000131	0.8214	0.0321966	516.6198	520.65	0.260323
	McLennan	0.0056576	0.0000	0.0347066	409.1554	0.0016764	104.8565	0.0003541	5.6816	519.69	0.259847
	Milam	0.0012686	0.0000	0.0008956	1.0986	0.0000041	0.2585	0.0101316	162.5687	163.84	0.081918
	Mitchell	0.0000311	0.0000	0.0001910	2.2512	0.0324260	2028.2136	0.0000019	0.0313	2030.50	1.015248
	Nolan	0.0000293	0.0000	0.0001795	2.1157	0.0304745	1906.1498	0.0000018	0.0294	1908.29	0.954147
	Palo Pinto	0.0036129	0.0000	0.0221635	261.2853	0.0010705	66.9610	0.0002261	3.6283	331.87	0.165937
	Pecos	0.0000020	0.0000	0.0000121	0.1425	0.0020520	128.3525	0.0000001	0.0020	128.50	0.064248
	Presidio	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Red River	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Robertson	0.0039506	0.0000	0.0055755	65.7291	0.0002693	16.8448	0.0246170	394.9980	477.57	0.238786
	Taylor	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Titus	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Tom Green	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.0000000	0.0000	0.00	0.000000
	Upton	0.0000025	0.0000	0.0000156	0.1839	0.0026494	165.7193	0.0000002	0.0026	165.91	0.082953
	Ward	0.0001995	0.0000								

6 OTHER RENEWABLE SOURCES

Five specific renewable sources were determined: solar, biomass, hydroelectric, geothermal, and landfill gas-fired. To generate/save energy throughout the State of Texas, six types of renewable energy projects were identified: solar photovoltaic (PV) including solar power, solar thermal, biomass power, hydroelectric power, geothermal HVAC, and landfill gas-fired power projects. The generated/saved energy from the renewable energy projects impacts emissions reductions throughout the State of Texas. To determine the amount of NO_x emission reductions using 2010 eGrid, this report collected installation and/or generation data of the renewable energy projects. Majority of the collected data were after the year 2000. However, projects before the year 2000 were also included in order to provide a complete record.

6.1 Implementation

This report included a lot of newly located renewable energy projects in the six renewable energy projects categories as already discussed. The information was collected using the following modes:

- information from the internet websites of manufacturers, distributors, and consultants related with renewable energy products
- some information was collected by personally emailing individuals, who were either manufacturers, distributors or consultants
- information published from environmental agencies like the Electric Reliability Council of Texas (ERCOT), the Environmental Protection Agency (EPA), National Renewable Energy Laboratory (NREL), which is available to the general public

It was mainly the same methodology/protocol followed for data collection used in the previous report. Most of the information collected from websites was very limited since the information did not include detailed project information such as system specifications data. To obtain more information, we emailed manufacturers, consultants, distributors, or officers in environmental agencies. Unfortunately, we were not able to take many responses back from the people whom we contacted. Therefore, most of the updated information in the present report was obtained from environmental agencies like ERCOT, EPA, and NREL.

Most of the present report data for solar photovoltaic projects were collected from the Open PV project database of National Renewable Energy Laboratory (NREL) (<https://openpv.nrel.gov/>). The solar thermal projects and geothermal projects throughout in the State of Texas were identified from various web sources. The present report data for three renewable resources (i.e., solar power, biomass, and hydroelectricity) were obtained from the Electric Reliability Council of Texas (ERCOT). The hourly electricity generation data for the renewable resources were collected for year 2015. The information for the landfill gas-fired power plant section was provided by the Environmental Protection Agency's (EPA's) project database for Landfill Methane Outreach Program (LMOP)

Using the collected data, the generated/saved energy from the renewable energy projects were estimated. To determine energy savings from solar photovoltaic and solar thermal, the eCalc tool was used. Then, NO_x emission reductions throughout the State of Texas were evaluated based on the generated/saved energy. To determine NO_x emission reductions, the 2010 eGrid was used. Figure 6-1 presents the work process to implement analysis of other renewable resources, including steps: project classification, data collection, data preparation, NO_x emission reductions calculation, and result production.

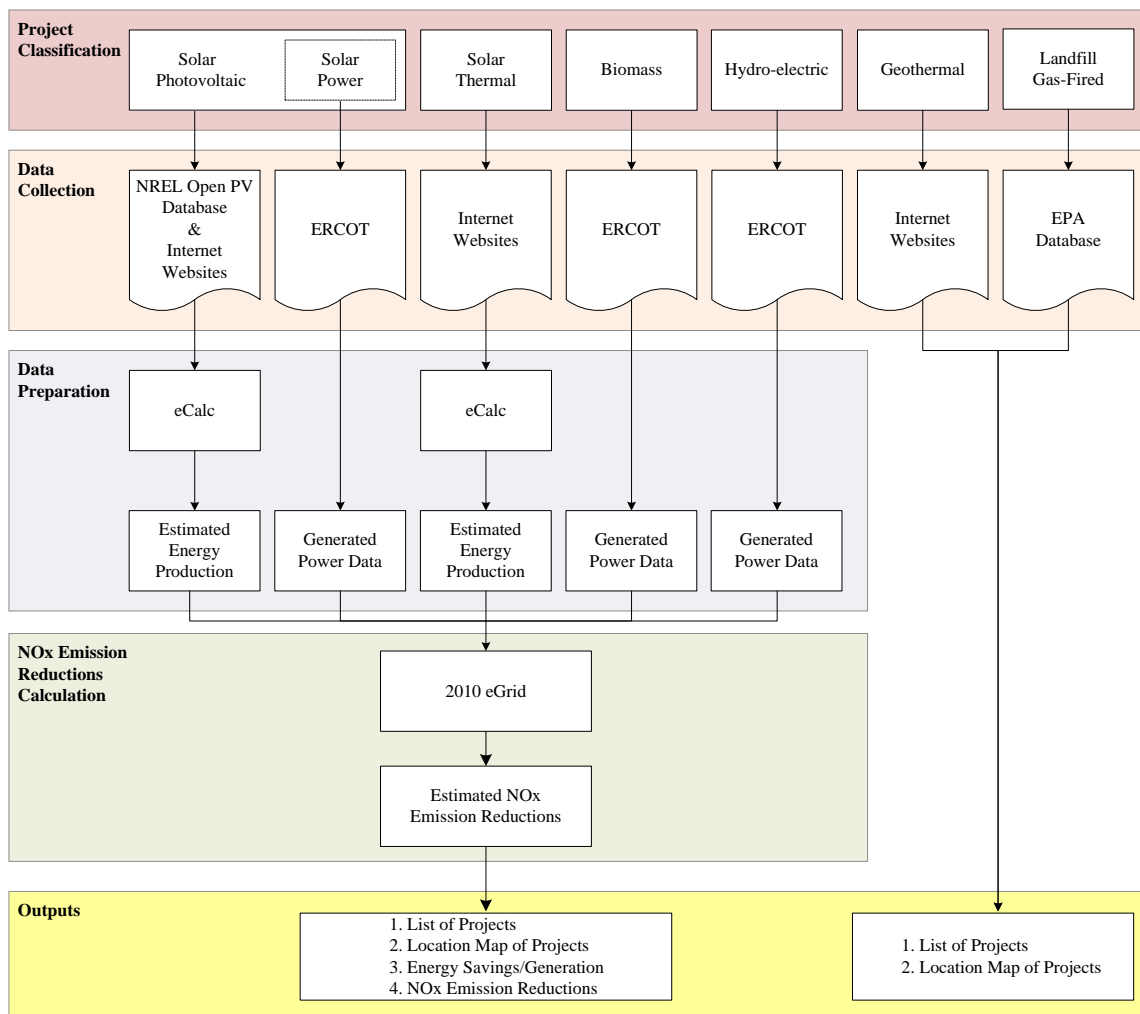


Figure 6-1: Chart of Work Flow for Other Renewable Energy Projects

6.2 Renewable Energy Projects

6.2.1 Solar Photovoltaic

In the previous report published in 2015, a total of 4,647¹² projects were reported. This data was collected from various websites (e.g., Meridian Solar and others, described in the previous report) and the Open PV project database of National Renewable Energy Laboratory (NREL) (<https://openpv.nrel.gov/>). The database provides information of solar PV projects which have been implemented since 2004. The database includes individual solar PV projects and solar power plants. The database contains information about the projects such as: zip code, size (kW DC), cost, date installed, latitude, and longitude. It is assumed that the data from the Open PV project from the NREL database is reliable and authentic. For the present report, new projects were identified from websites and also from the Open PV database. A total of 37 new projects were reported from the Open PV NREL database, which

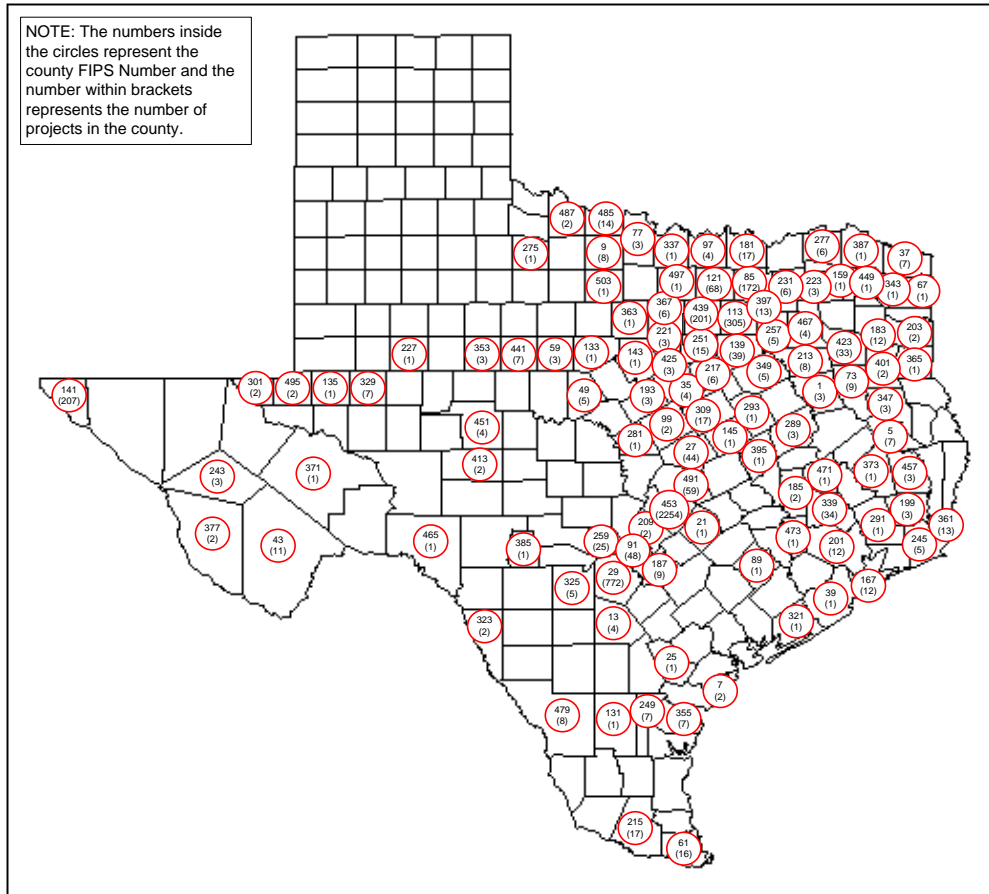
¹² The Open PV project database of National Renewable Energy Laboratory (NREL) (<https://openpv.nrel.gov/>), which was checked in July, 2016, provides updated PV projects for 2006, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015. Thus, the total number of PV projects until 2015 is currently 4,684 in this report.

were commissioned in 2015. All of the identified solar PV projects can be found in Table 10-1 (APPENDIX C). In addition, Figure 6-2 shows the map of the solar PV projects installed in each county of Texas.

The generated energy which was estimated by the eCalc tool and the amount of NO_x reduction from all the solar PV projects are presented in Table 6-1. The annual electric savings per county and the Ozone Season Day (OSD) electric savings per county, which were estimated from these projects, are presented in Figure 6-3 and in Figure 6-4, respectively. In addition, the corresponding annual NO_x emission reductions are shown in Figure 6-5.

Table 6-1: Solar Photovoltaic Projects: Energy and NO_x Reductions up to 2015

County for ECALC	Annual Energy Savings (for Base Year Conditions) and Annual Emissions Reductions			OSD Energy Savings (for Base Year Conditions) and OSD Emissions Reductions		
	Annual Elec. Generation (kWh/year)	1999 (lbs/year)	2007 (lbs/year)	OSD Elec. Generation (kWh/day)	1999 (lbs/day)	2007 (lbs/day)
		NO _x	NO _x		NO _x	NO _x
Bastrop	3,324	13	5	10	0.04	0.02
Bexar	161,423,969	425,816	266,406.62	488,102	1,289.12	749.23
Brazoria	8,883	21.45	15.37	26	0.06	0.04
Caldwell	0	0.00	0.00	0	0.00	0.00
Chambers	0	0.00	0.00	0	0.00	0.00
Collin	3,257,610	12,505.43	5,296.66	9,951	38.32	16.11
Comal	771,558	2,035.27	1,273.34	2,333	6.16	2.00
Dallas	11,149,107	43,342.15	18,238.03	34,058	132.66	55.15
Denton	6,609,917	25,374.39	10,747.30	20,192	77.76	32.70
El Paso	33,953,708	0.00	0.00	97,410	0.00	0.00
Ellis	2,202,645	8,562.78	3,603.15	6,729	26.21	10.90
Fort Bend	8,052	19.48	14.04	24	0.06	0.04
Galveston	118,391	285.90	204.86	352	0.85	0.58
Gregg	248,164	0.00	0.00	756	0.00	0.00
Guadalupe	336,905	888.71	556.01	1,019	2.69	1.56
Hardin	41,144	68.69	49.49	123	0.21	0.14
Harris	1,595,796	2,664.09	1,919.63	4,745	7.93	5.37
Harrison	20,440	0.00	0.00	62	0.00	0.00
Hays	0	0.00	0.00	0	0.00	0.00
Henderson	143,826	559.13	235.27	438	1.71	0.71
Hood	410,530	1,575.96	667.50	1,254	4.83	2.03
Hunt	688,439	2,642.80	1,119.36	2,103	8.10	3.41
Jefferson	54,985	0.00	0.00	164	0.00	0.00
Johnson	140,247	538.38	228.03	428	1.65	0.69
Kaufman	51,946	201.94	84.97	159	0.62	0.26
Liberty	13,002	0.00	0.00	39	0.00	0.00
Montgomery	368,837	615.75	443.69	1,097	1.83	1.24
Nueces	3,933,243	10,918.37	4,721.22	11,927	33.10	14.61
Orange	119,064	0.00	0.00	355	0.00	0.00
Parker	367,542	1,428.82	601.24	1,123	4.37	1.82
Rockwall	146,998	571.45	240.46	449	1.75	0.73
Rusk	219,423	0.00	0.00	668	0.00	0.00
San Patricio	15,003	41.65	18.01	45	0.13	0.06
Smith	395,396	1,537.11	646.80	1,204	4.70	1.96
Tarrant	5,673,891	22,057.25	9,281.51	17,333	67.51	28.07
Travis	60,918,046	233,938.14	98,953.78	183,842	704.52	295.98
Upshur	196,093	0.00	0.00	597	0.00	0.00
Victoria	0	0.00	0.00	0	0.00	0.00
Waller	12,078	29.22	21.06	36	0.09	0.06
Williamson	2,798,565	10,747.08	4,545.92	8,446	32.37	13.60
Wilson	34,445	90.86	56.85	104	0.28	0.16
Total	298,451,208	809,092	430,196	897,703	2,450	1,239



County	FIPS Code	No. of Projects	County	FIPS Code	No. of Projects	County	FIPS Code	No. of Projects
Anderson	1	3	Gregg	183	12	Nacogdoches	347	3
Angelina	5	7	Grimes	185	2	Navarro	349	5
Araucan	7	2	Guadalupe	187	9	Nolan	353	3
Archer	9	8	Hamilton	193	3	Nueces	355	7
Atascosa	13	4	Hardin	199	3	Orange	361	13
Bastrop	21	1	Harris	201	12	Palo Pinto	363	1
Bee	25	1	Harrison	203	2	Panola	365	2
Bell	27	44	Hays	209	2	Parker	367	9
Bexar	29	772	Henderson	213	8	Pecos	371	1
Bosque	35	4	Hidalgo	215	17	Polk	373	1
Bowie	37	7	Hill	217	6	Presidio	377	2
Brazoria	39	1	Hood	221	3	Real	385	1
Brewster	43	11	Hopkins	223	3	Red River	387	1
Brown	49	5	Howard	227	1	Robertson	395	1
Callahan	59	3	Hunt	231	6	Rockwall	397	13
Cameron	61	16	Jeff Davis	243	3	Rusk	401	2
Cass	67	1	Jefferson	245	5	Schleicher	413	2
Cherokee	73	9	Jim Wells	249	7	Smith	423	33
Clay	77	3	Johnson	251	15	Somervell	425	3
Collin	85	172	Kaufman	257	5	Tarrant	439	201
Colorado	89	1	Kendall	259	25	Taylor	441	7
Comal	91	48	Knox	275	1	Titus	449	1
Cooke	97	4	Lamar	277	6	Tom Green	451	4
Coryell	99	2	Lampasas	281	1	Travis	453	2254
Dallas	113	305	Leon	289	3	Tyler	457	3
Denton	121	68	Liberty	291	1	Val Verde	465	1
Duval	131	1	Limestone	293	1	Van Zandt	467	4
Eastland	133	1	Loving	301	2	Walker	471	1
Ector	135	1	Matagorda	321	1	Waller	473	1
El Paso	141	207	Maverick	323	2	Webb	479	8
Ellis	139	39	McLennan	309	17	Wichita	485	14
Erath	143	1	Medina	325	5	Wilbarger	487	2
Falls	145	1	Midland	329	7	Williamson	491	59
Franklin	159	1	Montague	337	1	Winkler	495	2
Galveston	167	12	Montgomery	339	34	Wise	497	1
Grayson	181	17	Morris	343	1	Young	503	1

Figure 6-2: Solar Photovoltaic Projects throughout Texas up to 2015

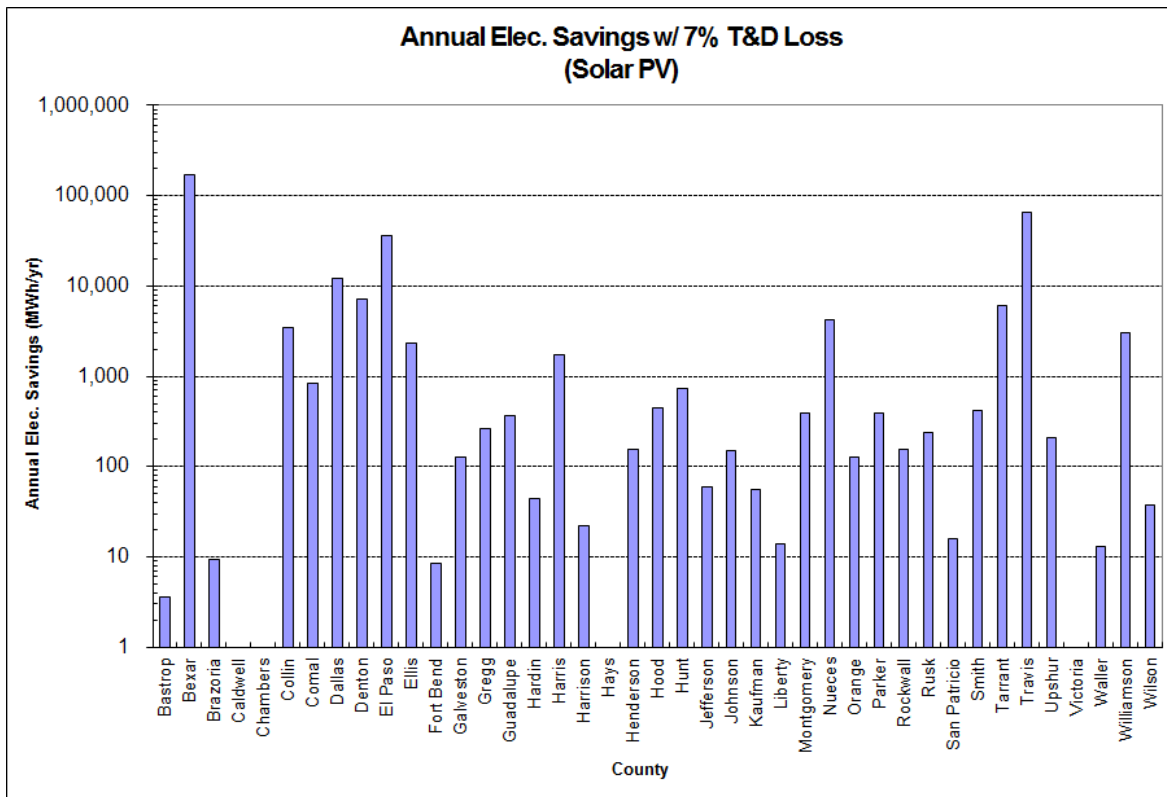


Figure 6-3: Annual Electric Savings per County from Solar Photovoltaic Projects up to 2015

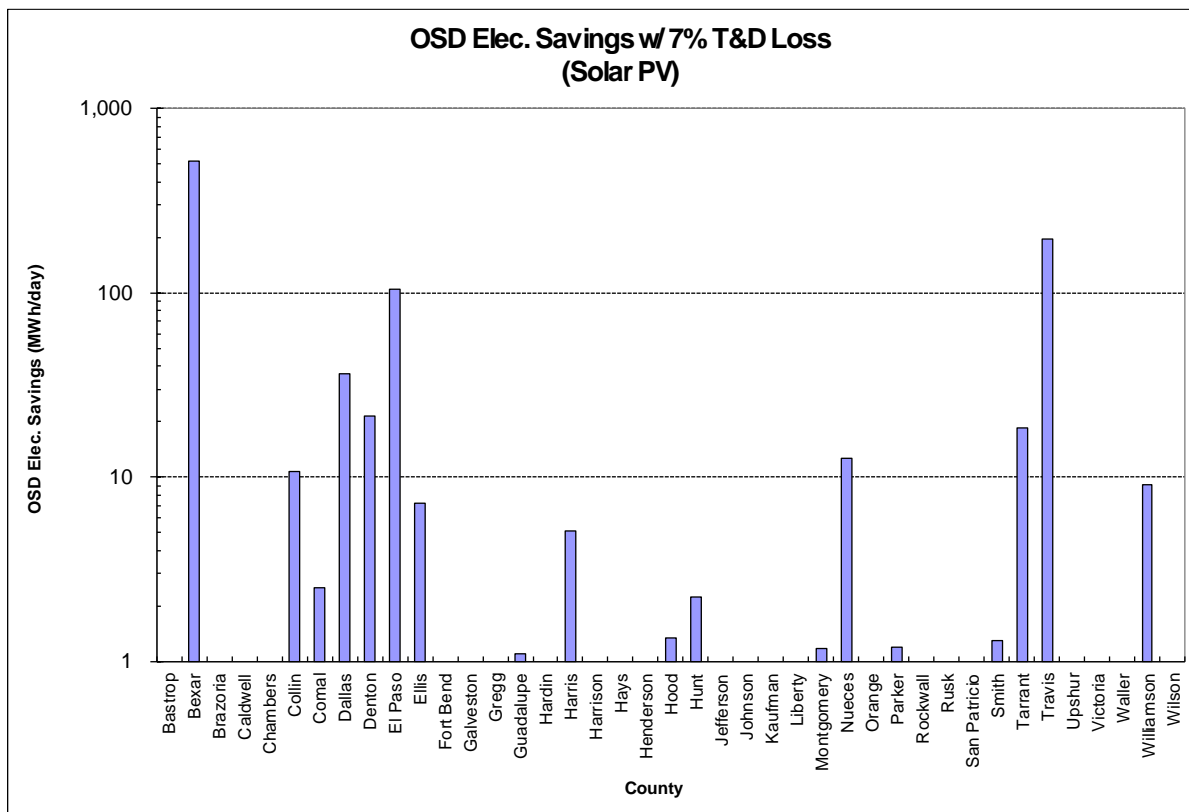


Figure 6-4: Ozone Season Day Electric Savings per County from Solar Photovoltaic Projects up to 2015

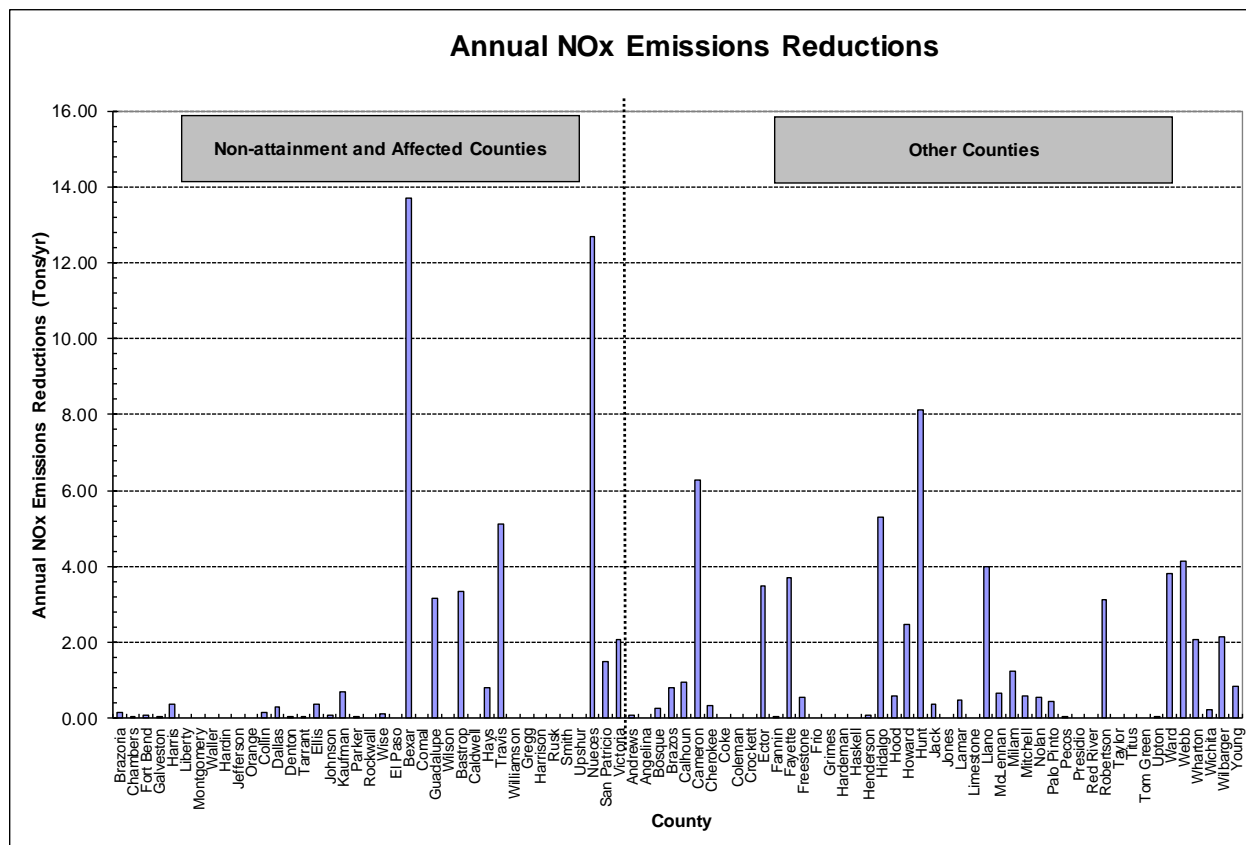


Figure 6-5: NOx Emissions Reductions per County from Solar Photovoltaic Projects up to 2015

6.2.1.1 Solar Power

This section includes only solar power plant projects in Texas. The data from sixteen solar power plants identified in the State of Texas were obtained. Table 6-2 shows the list of solar power plant projects with their names, respective county, year commissioned, the forecast zone they serve, installed capacity and total electricity produced for the year 2015. Figure 6-6 shows the annual electricity generation of solar power plant projects. In addition, Figure 6-7 shows the map of number of the solar power plants for each county. The total electricity generated for the year 2015 from all of the projects was 421,457 MWh/year.

The annual electric savings per county and the Ozone Season Day (OSD) electric savings per county, which were estimated from these projects, are presented in Figure 6-8 and in Figure 6-9, respectively. In addition, the corresponding annual NOx emission reductions are shown in Figure 6-10.

In most of the projects, one significant pattern was observed, the power generation slowly increased from the month of January till mid of March and continued same till end of September and gradually decreased till the end of the year.

Table 6-2: Solar Power Plant Projects in the State of Texas up to 2015

SNo	Name of the Project	County	Year Commissioned	ERCOT Forecast Zone	Installed Capacity* (MW _{AC})	Power Generated in 2014 (MWh/year)
1	ACACIA_UNIT_1	Presidio	2012	West	10.0	24,810
2	COSERVSS_CSS1	Denton	2015	North	2.0	1,726
3	DG_BROOK_1UNIT	Bexar	2010	South	7.6	10,222
4	DG_ELMEN_1UNIT	Bexar	2010	South	7.3	11,747
5	DG_SOME1_1UNIT	Bexar	2012	South	5.6	10,330
6	DG_SOME2_1UNIT	Bexar	2012	South	5.0	9,274
7	DG_STHWG_UNIT1	Bexar	2014	South	4.4	8,220
8	DG_VALL1_1UNIT	Bexar	2012	South	9.9	17,822
9	DG_VALL2_1UNIT	Bexar	2012	South	9.9	17,752
10	DG_WALZM_UNIT1	Bexar	2014	South	5.5	11,363
11	ECLIPSE_UNIT1	Kinney	2014	South	37.6	78,041
12	HELIOS_UNIT1	Uvalde	2015	South	95.0	36,545
13	HOVEY_UNIT1	Pecos	2014	West	29.4	52,589
14	HOVEY_UNIT2	Pecos	2016	West	7.4	4,265
15	OCI_ALM1_UNIT1	Bexar	2013	South	39.2	73,023
16	WEBBER_S_WSP1	Travis	2011	South	26.7	53,728
Total						421,457

* Capacity, Demand and Reserve Report-May2016.xls from the webpage of the ERCOT (<http://www.ercot.com/gridinfo/resource/index.html>)

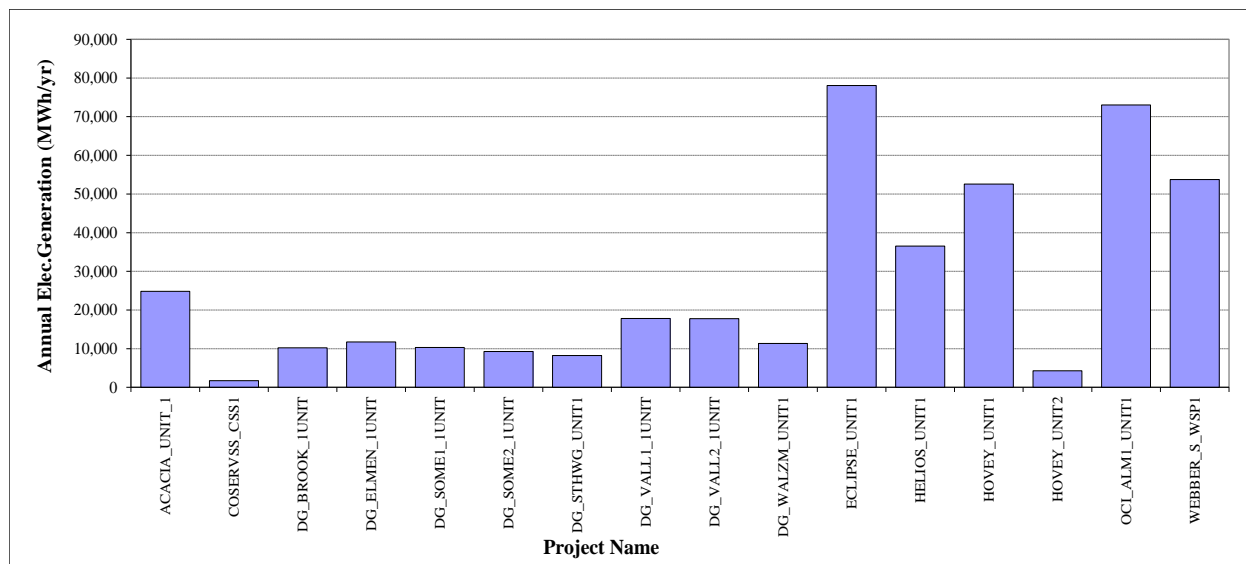
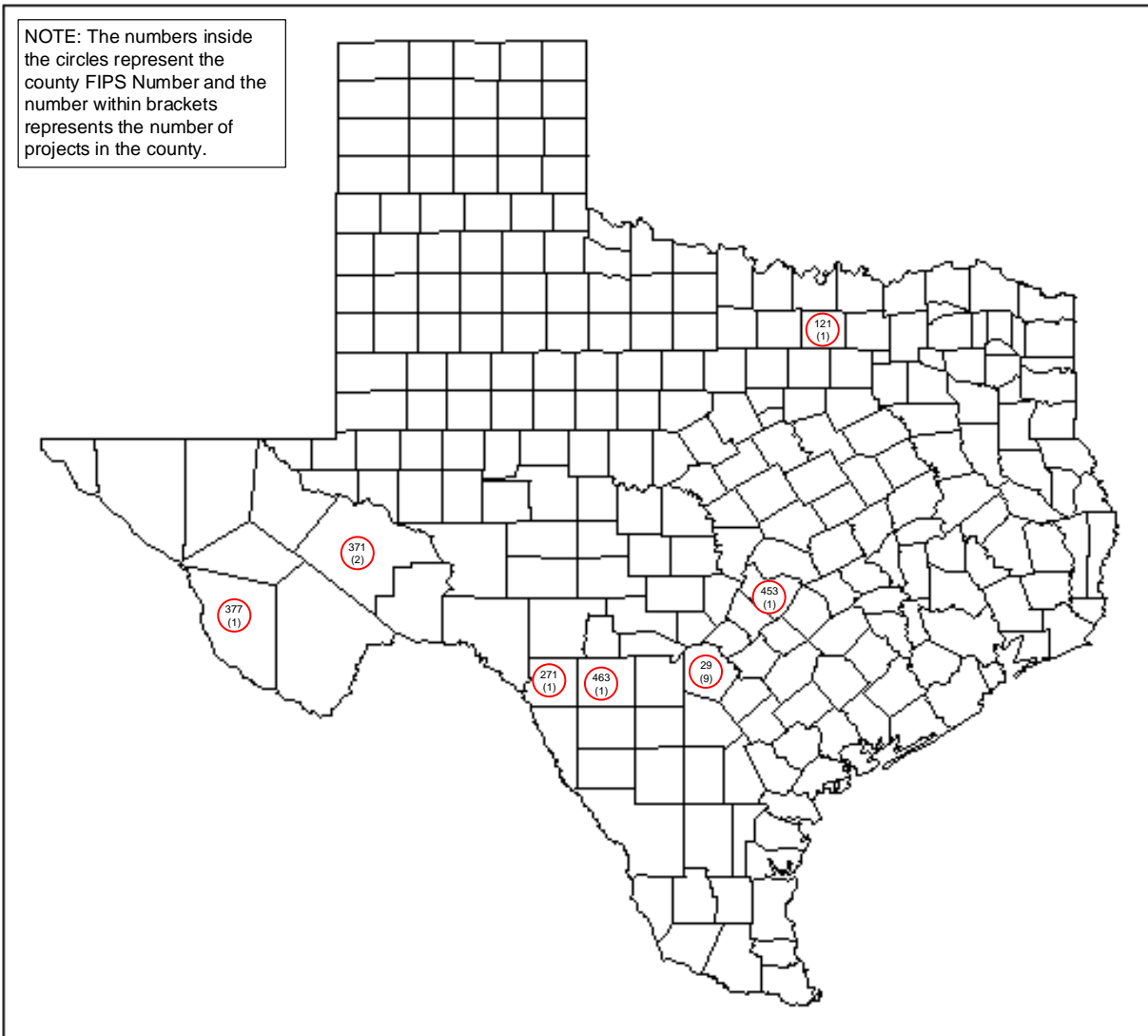


Figure 6-6: Annual Electricity Generation by Solar Power Plants in the State of Texas up to 2015



Legend

County	FIPS Code	No. of Projects
Bexar	29	9
Denton	121	1
Kinney	271	1
Presidio	377	1
Pecos	371	2
Travis	453	1
Uvalde	463	1

Figure 6-7: Solar Power Plant Projects throughout Texas up to 2015

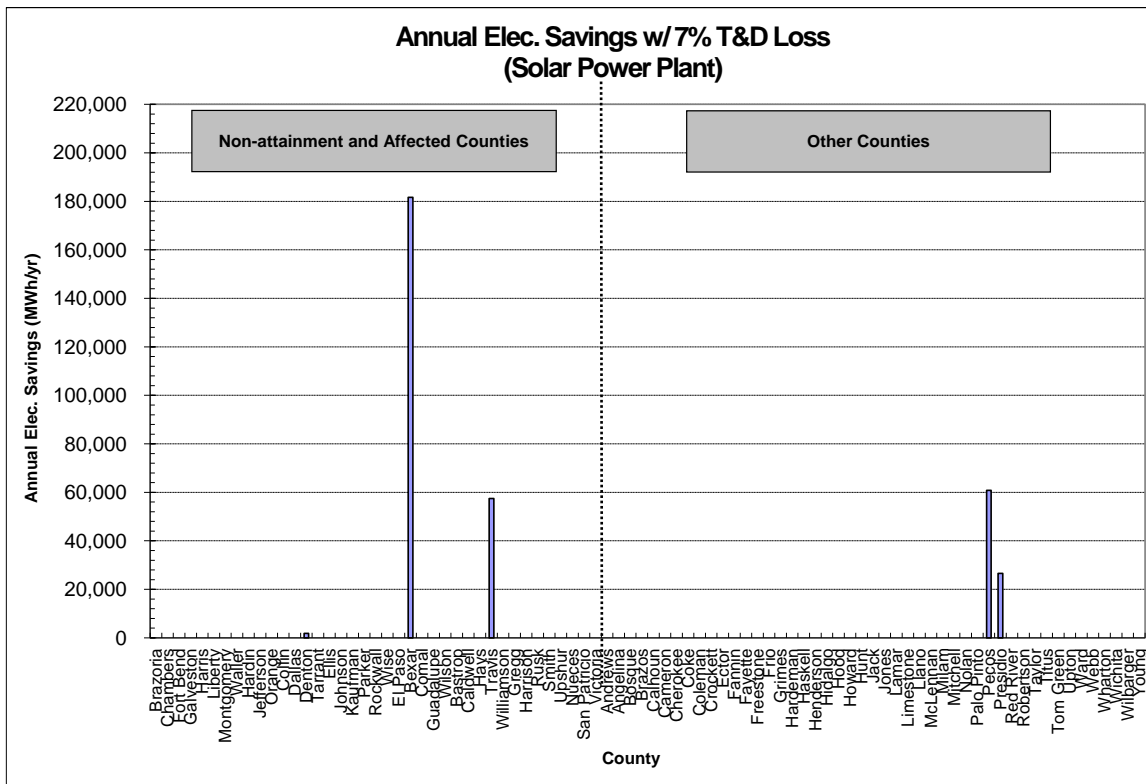


Figure 6-8: Annual Electric Savings per County from Solar Power Plant Projects up to 2015

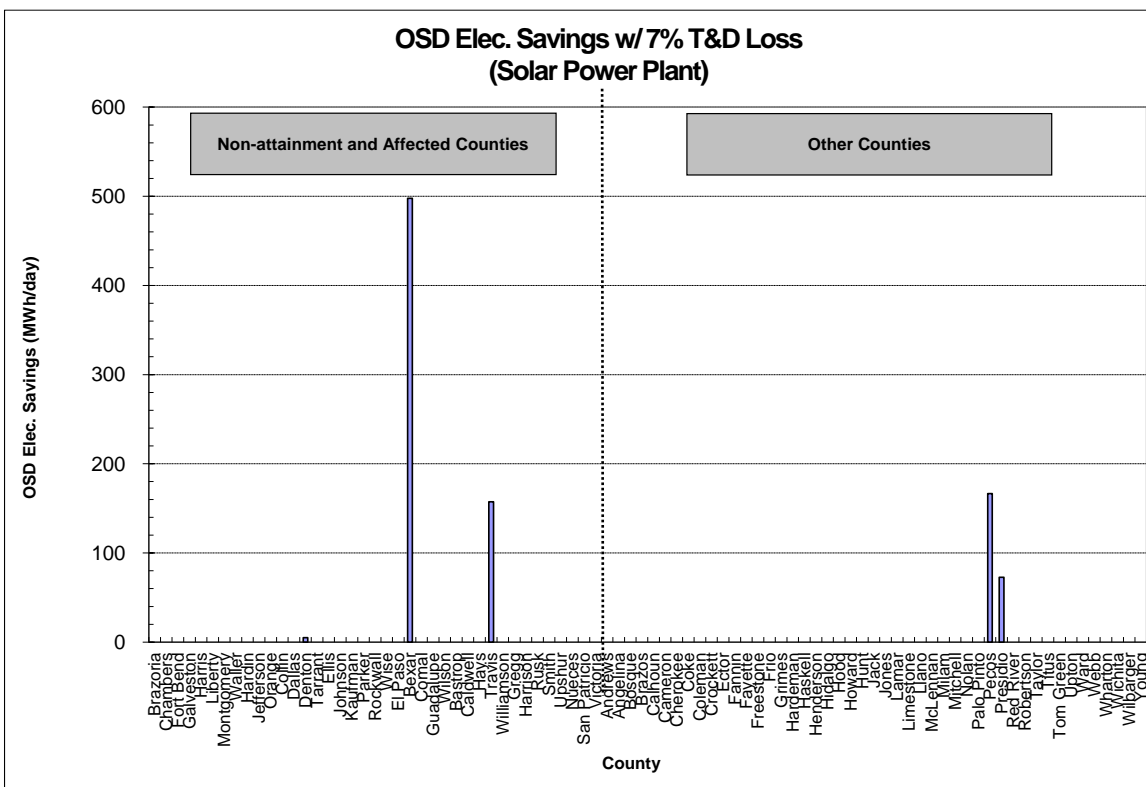


Figure 6-9: Ozone Season Day Electric Savings per County from Solar Power Plant Projects up to 2015

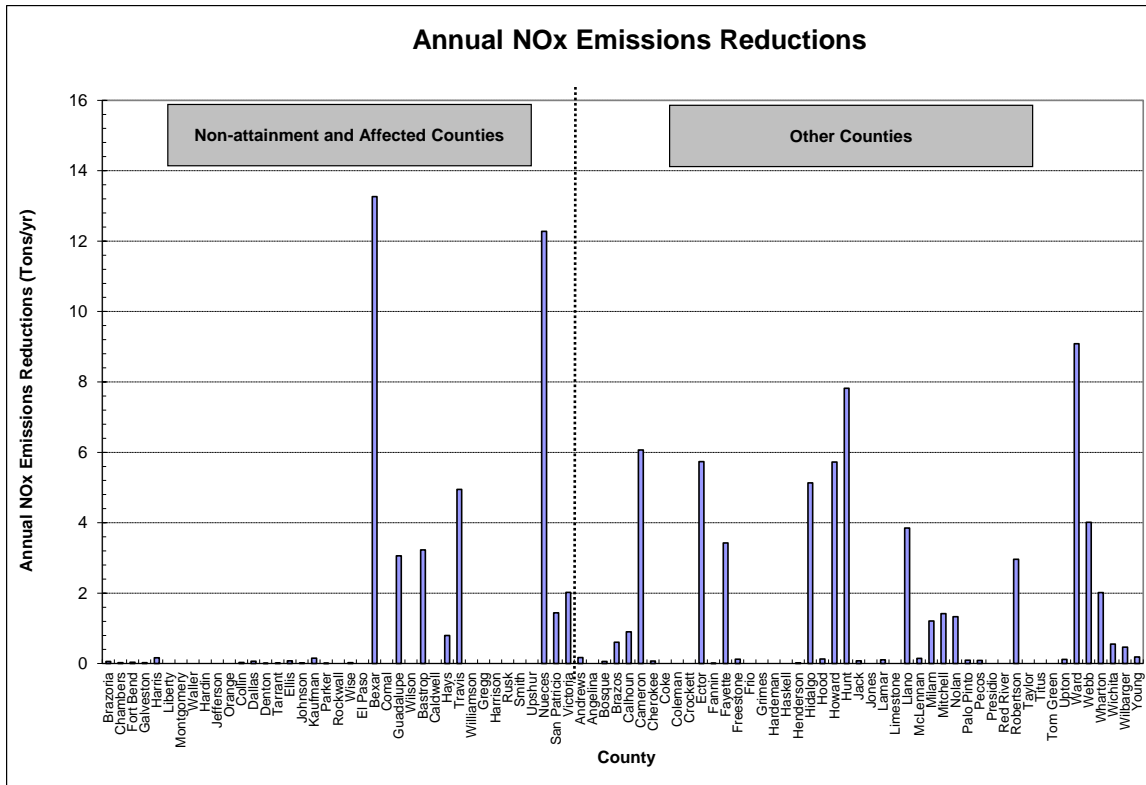


Figure 6-10: NOx Emissions Reductions per County from Solar Power Plant Projects up to 2015

6.2.1.1.1 ACACIA_UNIT_1

The power plant was in operation throughout the year. Figure 6-11 shows the hourly electricity generation profile and Figure 6-12 shows the daily total generation profile for the year 2015.

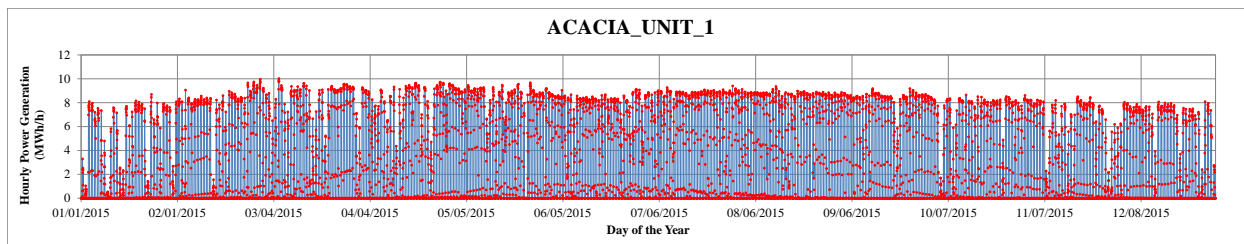


Figure 6-11: Hourly Electricity Generation Profile for Solar Photovoltaic Project ACACIA_UNIT_1

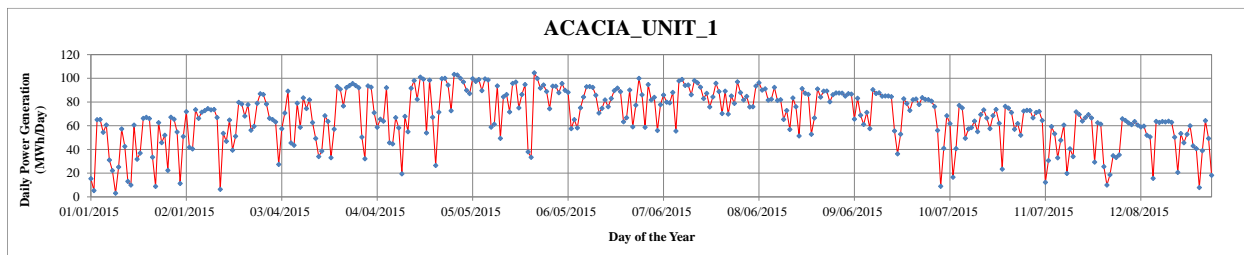


Figure 6-12: Daily Total Electricity Generation Profile for Solar Photovoltaic Project ACACIA_UNIT_1

6.2.1.1.2 COSERVSS_CSS1

The power plant was in operation throughout the year. There were no power generation data during the period from 1st of January to 7th of July. Figure 6-13 shows the hourly electricity generation profile and Figure 6-14 shows the daily total generation profile for the year 2015.

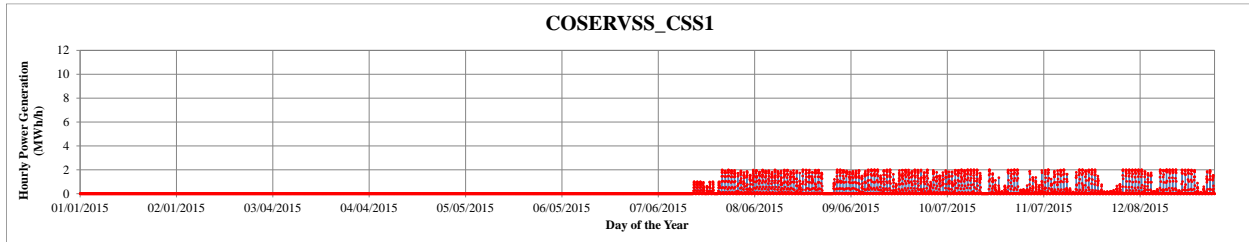


Figure 6-13: Hourly Electricity Generation Profile for Solar Photovoltaic Project COSERVSS_CSS1

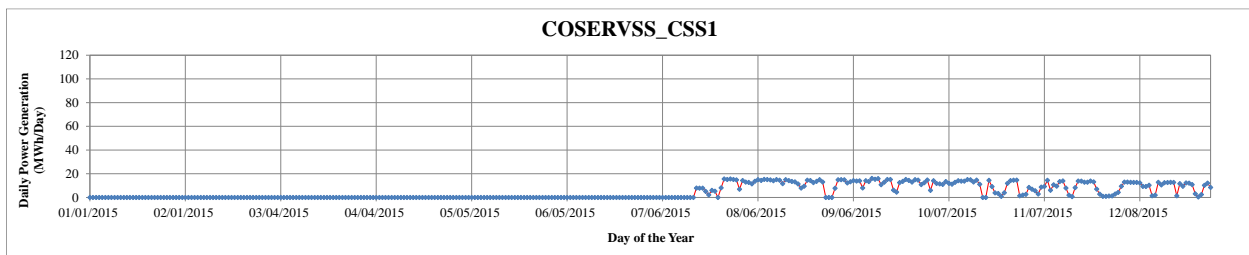


Figure 6-14: Daily Total Electricity Generation Profile for Solar Photovoltaic Project COSERVSS_CSS1

6.2.1.1.3 DG_BROOK_1UNIT

The power plant was in operation throughout the year. Figure 6-15 shows the hourly electricity generation profile and Figure 6-16 shows the daily total generation profile for the year 2015.

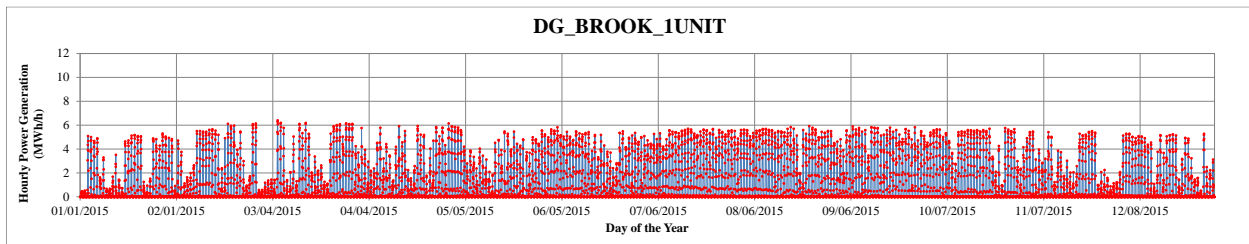


Figure 6-15: Hourly Electricity Generation Profile for Solar Photovoltaic Project DG_BROOK_1UNIT

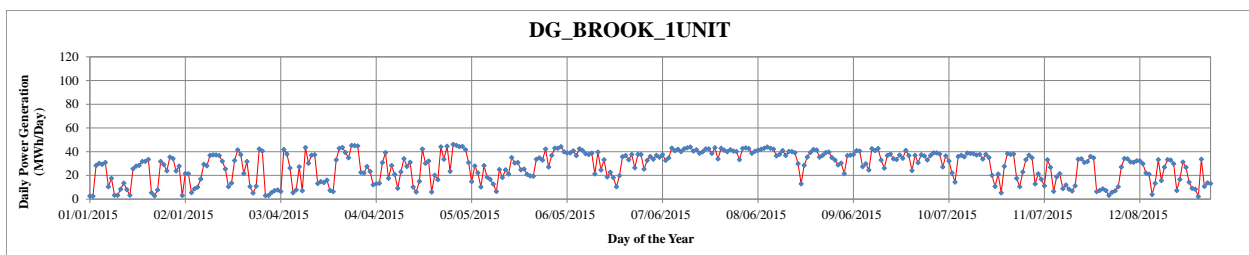


Figure 6-16: Daily Total Electricity Generation Profile for Solar Photovoltaic Project DG_BROOK_1UNIT

6.2.1.1.4 DG_ELMEN_1UNIT

The power plant was in operation throughout the year. Figure 6-17 shows the hourly electricity generation profile and Figure 6-18 shows the daily total generation profile for the year 2015.

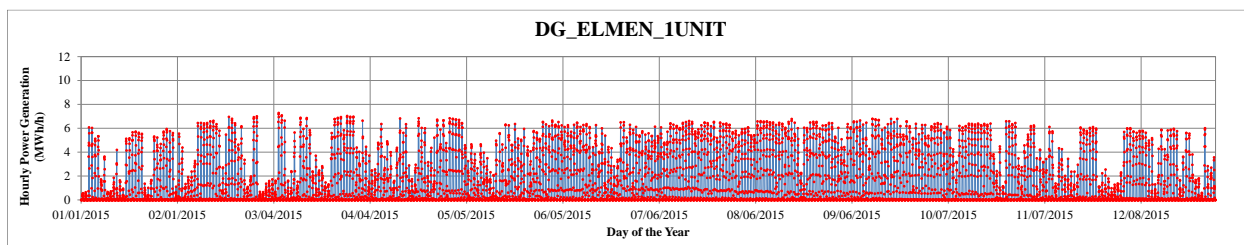


Figure 6-17: Hourly Electricity Generation Profile for Solar Photovoltaic Project DG_ELMEN_1UNIT

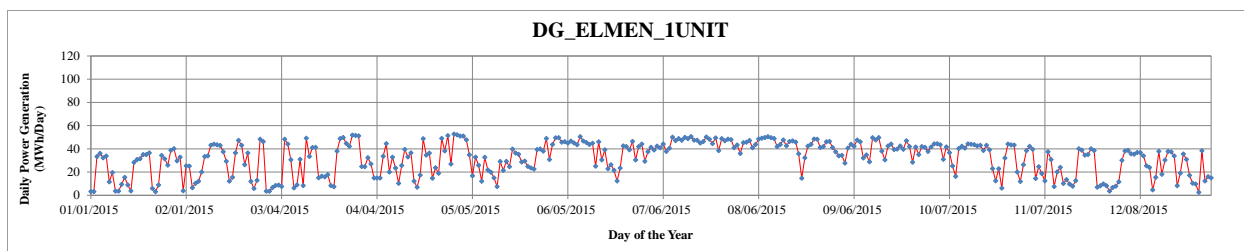


Figure 6-18: Daily Total Electricity Generation Profile for Solar Photovoltaic Project DG_ELMEN_1UNIT

6.2.1.1.5 DG_SOME1_1UNIT

The power plant was in operation throughout the year. Figure 6-19 shows the hourly electricity generation profile and Figure 6-20 shows the daily total generation profile for the year 2015.

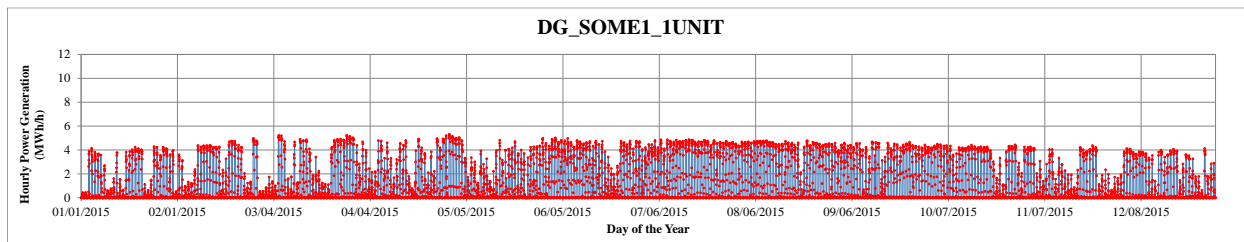


Figure 6-19: Hourly Electricity Generation Profile for Solar Photovoltaic Project DG_SOME1_1UNIT

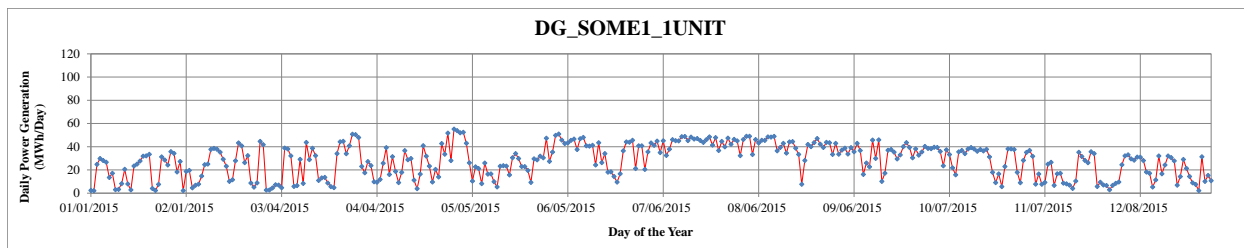


Figure 6-20: Daily Total Electricity Generation Profile for Solar Photovoltaic Project DG_SOME1_1UNIT

6.2.1.1.6 DG_SOME2_1UNIT

The power plant was in operation throughout the year. Figure 6-21 shows the hourly electricity generation profile and Figure 6-22 shows the daily total generation profile for the year 2015.

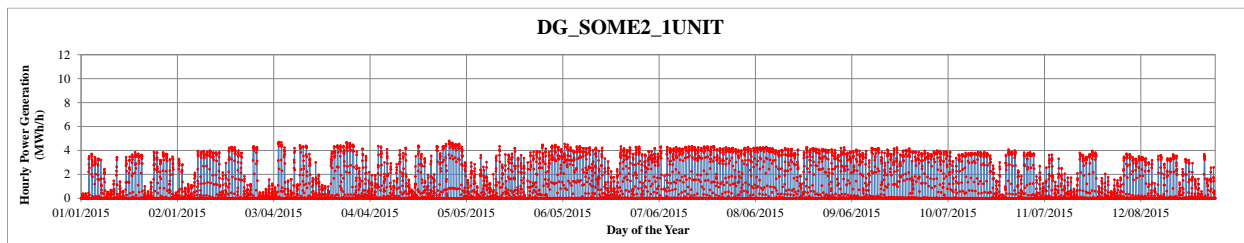


Figure 6-21: Hourly Electricity Generation Profile for Solar Photovoltaic Project DG_SOME2_1UNIT

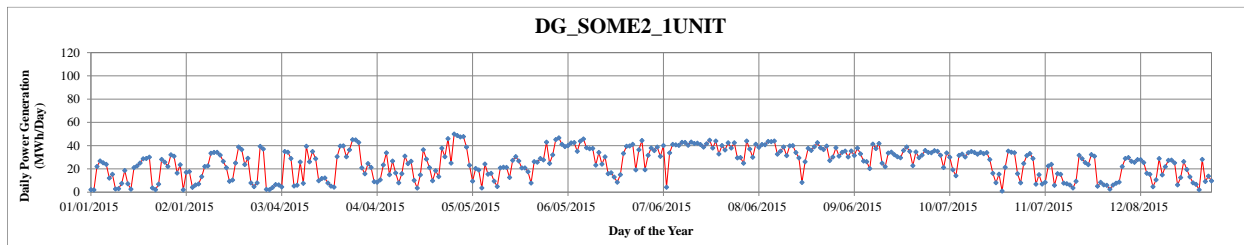


Figure 6-22: Daily Total Electricity Generation Profile for Solar Photovoltaic Project DG_SOME2_1UNIT

6.2.1.1.7 DG_STHWG_UNIT1

The power plant was in operation throughout the year. Figure 6-23 shows the hourly electricity generation profile and Figure 6-24 shows the daily total generation profile for the year 2015.

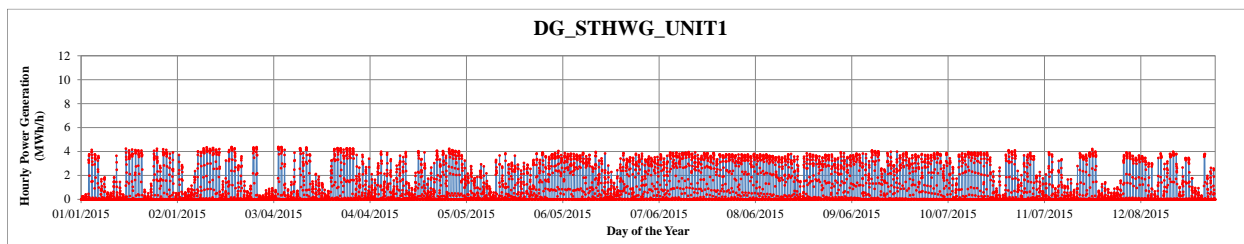


Figure 6-23: Hourly Electricity Generation Profile for Solar Photovoltaic Project DG_STHWG_UNIT1

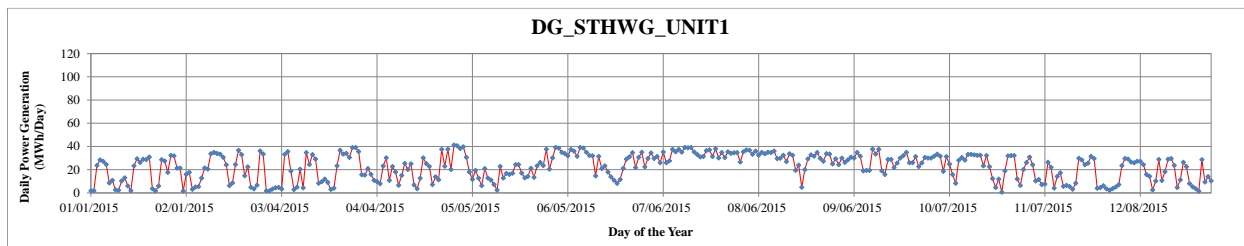


Figure 6-24: Daily Total Electricity Generation Profile for Solar Photovoltaic Project DG_STHWG_UNIT1

6.2.1.1.8 DG_VALL1_1UNIT

The power plant was mostly in operation throughout the year. Figure 6-25 shows the hourly electricity generation profile and Figure 6-26 shows the daily total generation profile for the year 2015.

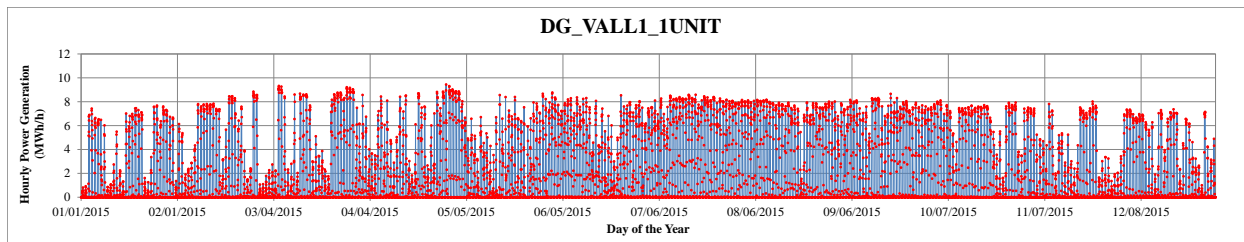


Figure 6-25: Hourly Electricity Generation Profile for Solar Photovoltaic Project DG_VALL1_1UNIT

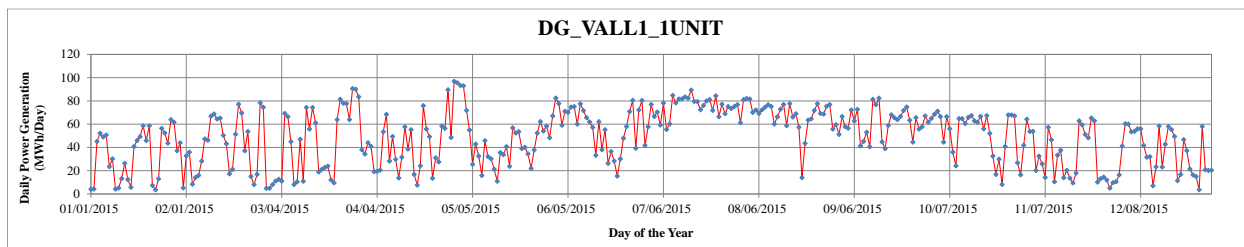


Figure 6-26: Daily Total Electricity Generation Profile for Solar Photovoltaic Project DG_VALL1_1UNIT

6.2.1.1.9 DG_VALL2_1UNIT

The power plant was in operation throughout the year. Figure 6-27 shows the hourly electricity generation profile and Figure 6-28 shows the daily total generation profile for the year 2015.

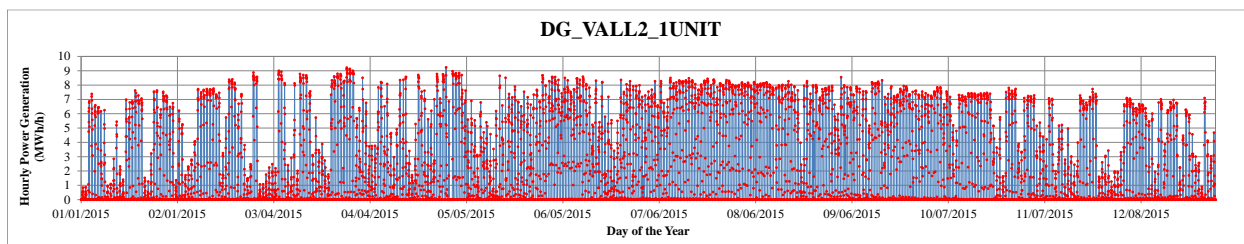


Figure 6-27: Hourly Electricity Generation Profile for Solar Photovoltaic Project DG_VALL2_1UNIT

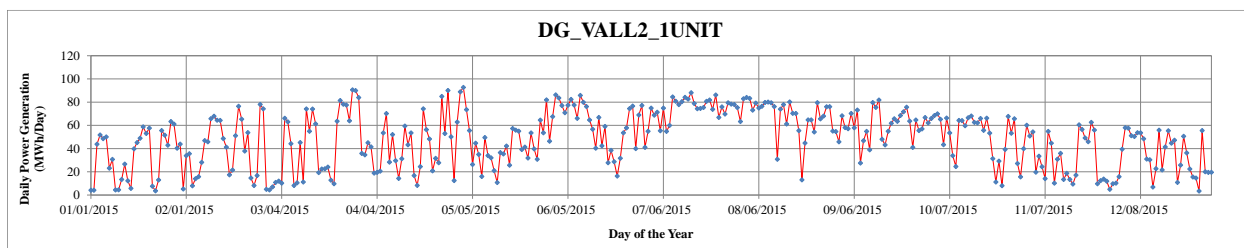


Figure 6-28: Daily Total Electricity Generation Profile for Solar Photovoltaic Project DG_VALL2_1UNIT

6.2.1.1.10 DG_WALZM_UNIT1

The power plant was in operation throughout the year. Figure 6-29 shows the hourly electricity generation profile and Figure 6-30 shows the daily total generation profile for the year 2015.

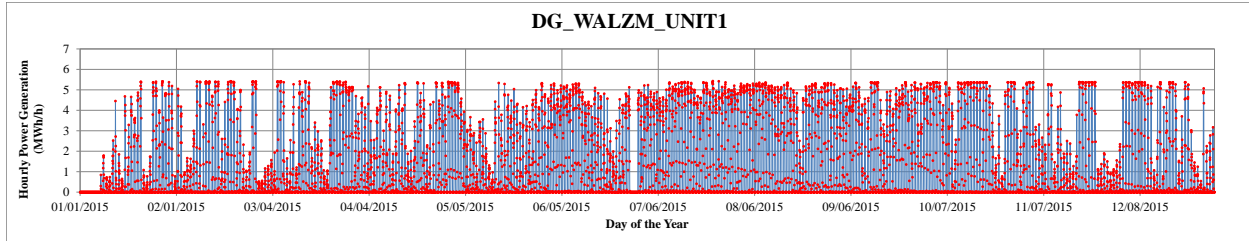


Figure 6-29: Hourly Electricity Generation Profile for Solar Photovoltaic Project DG_WALZM_UNIT1

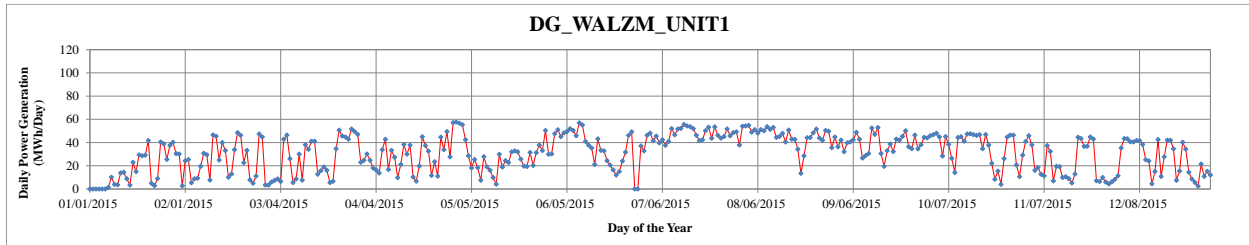


Figure 6-30: Daily Total Electricity Generation Profile for Solar Photovoltaic Project DG_WALZM_UNIT1

6.2.1.1.11 ECLIPSE_UNIT1

The power plant was in operation throughout the year. Figure 6-31 shows the hourly electricity generation profile and Figure 6-32 shows the daily total generation profile for the year 2015.

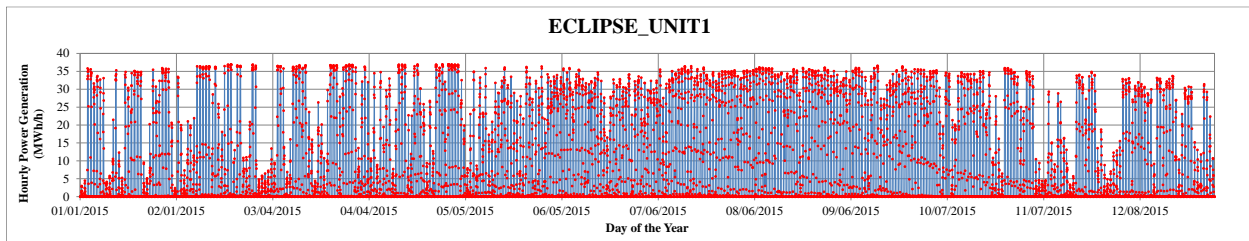


Figure 6-31: Hourly Electricity Generation Profile for Solar Photovoltaic Project ECLIPSE_UNIT1

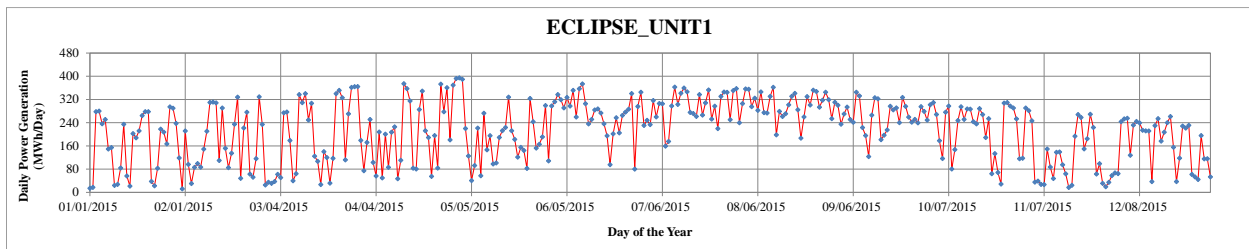


Figure 6-32: Daily Total Electricity Generation Profile for Solar Photovoltaic Project ECLIPSE_UNIT1

6.2.1.1.12 HELIOS_UNIT1

The power plant was in operation throughout the year. There were no power generation data during the period from 1st of January to 20th of August. Figure 6-33 shows the hourly electricity generation profile and Figure 6-34 shows the daily total generation profile for the year 2015.

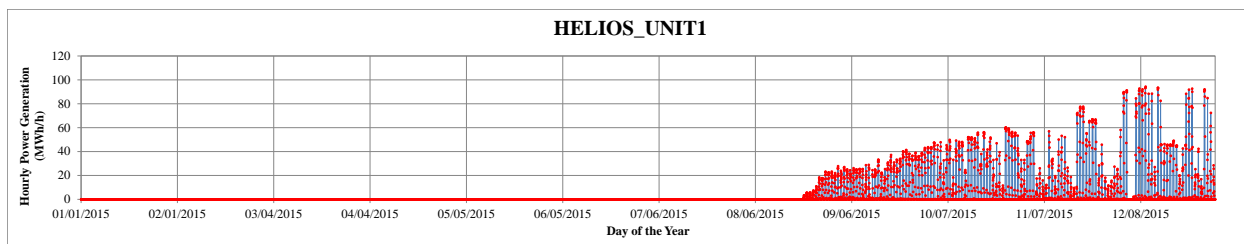


Figure 6-33: Hourly Electricity Generation Profile for Solar Photovoltaic Project HELIOS_UNIT1

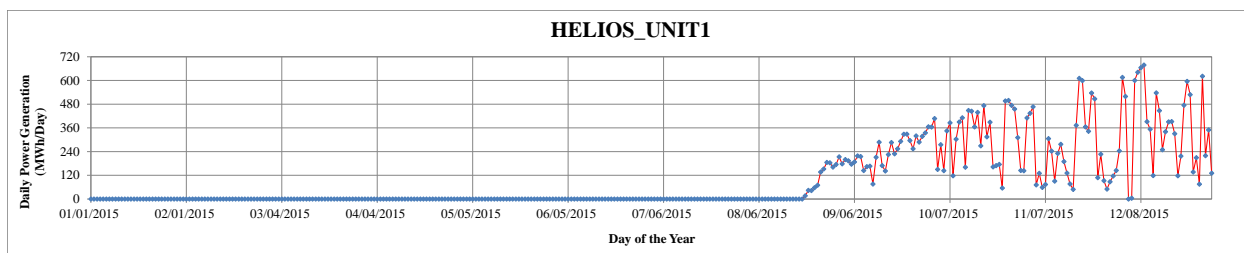


Figure 6-34: Daily Total Electricity Generation Profile for Solar Photovoltaic Project HELIOS_UNIT1

6.2.1.1.13 HOVEY_UNIT1

The power plant was in operation throughout the year. Figure 6-35 shows the hourly electricity generation profile and Figure 6-36 shows the daily total generation profile for the year 2015.

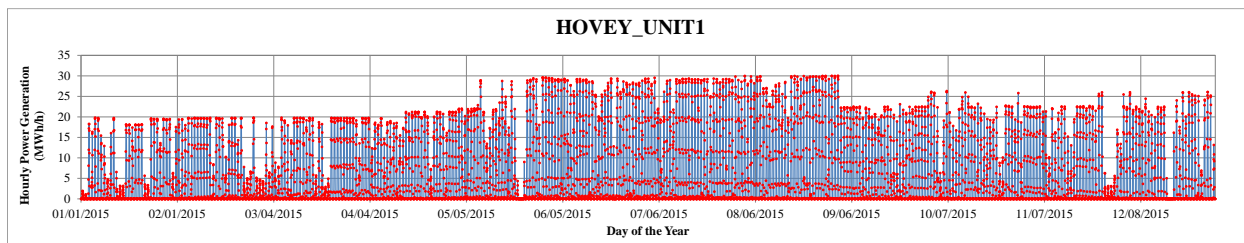


Figure 6-35: Hourly Electricity Generation Profile for Solar Photovoltaic Project HOVEY_UNIT1

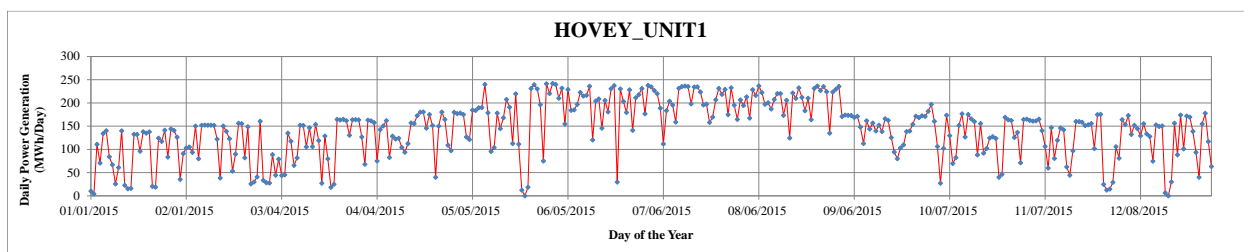


Figure 6-36: Daily Total Electricity Generation Profile for Solar Photovoltaic Project HOVEY_UNIT1

6.2.1.1.14 HOVEY_UNIT2

The power plant was in operation throughout the year. There were no power generation data during the period from 1st of January to 1st of September. Figure 6-37 shows the hourly electricity generation profile and Figure 6-38 shows the daily total generation profile for the year 2015.

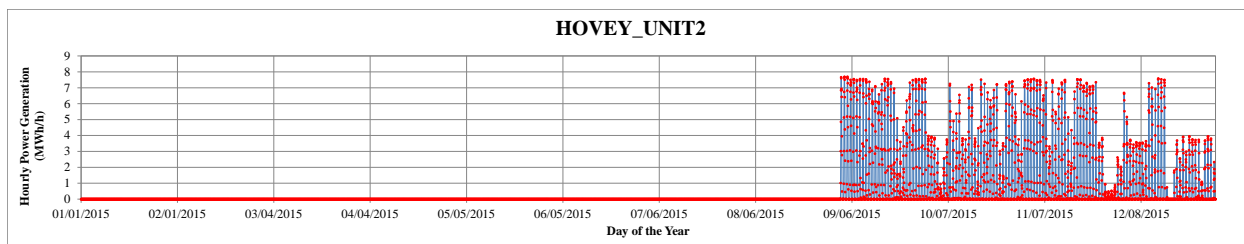


Figure 6-37: Hourly Electricity Generation Profile for Solar Photovoltaic Project HOVEY_UNIT2

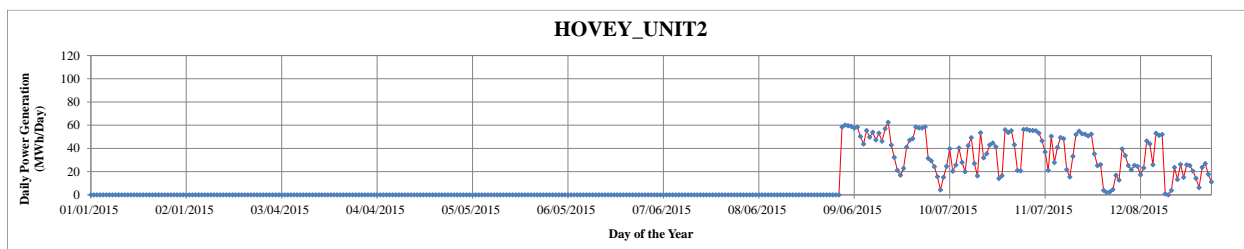


Figure 6-38: Daily Total Electricity Generation Profile for Solar Photovoltaic Project HOVEY_UNIT2

6.2.1.1.15 OCI_ALM1_UNIT1

The power plant was in operation throughout the year. Figure 6-39 shows the hourly electricity generation profile and Figure 6-40 shows the daily total generation profile for the year 2015.

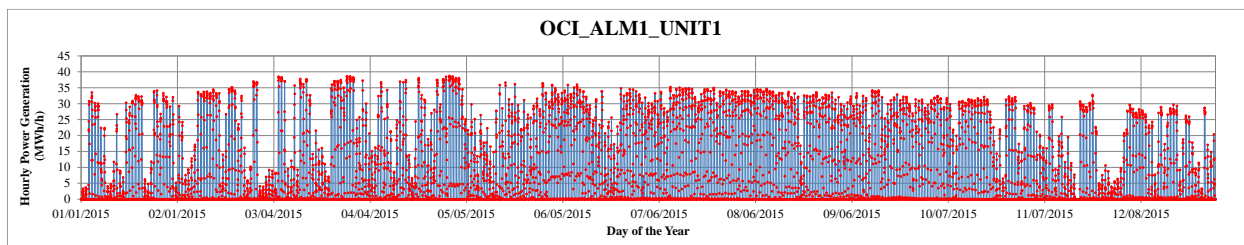


Figure 6-39: Hourly Electricity Generation Profile for Solar Photovoltaic Project OCI_ALM1_UNIT1

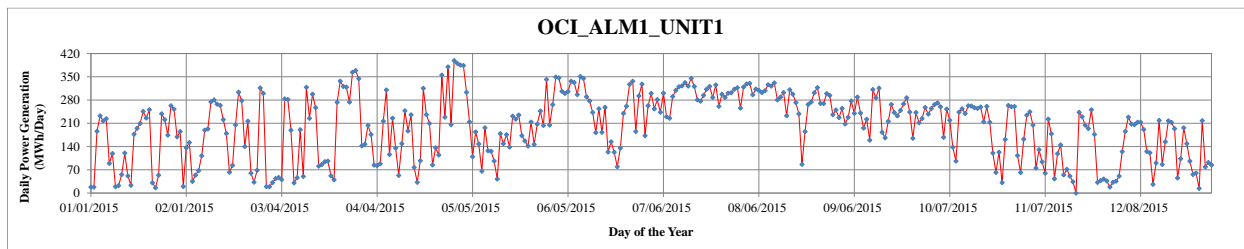


Figure 6-40: Daily Total Electricity Generation Profile for Solar Photovoltaic Project OCI_ALM1_UNIT1

6.2.1.1.16 WEBBER_S_WSP1

The power plant was in operation throughout the year. Figure 6-41 shows the hourly electricity generation profile and Figure 6-42 shows the daily total generation profile for the year 2015.

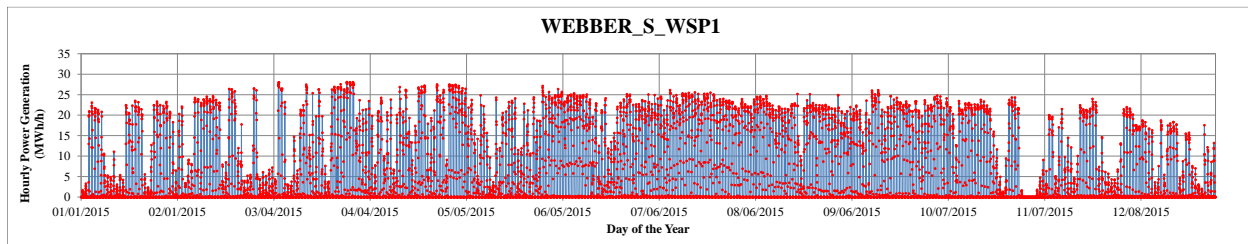


Figure 6-41: Hourly Electricity Generation Profile for Solar Photovoltaic Project WEBBER_S_WSP1

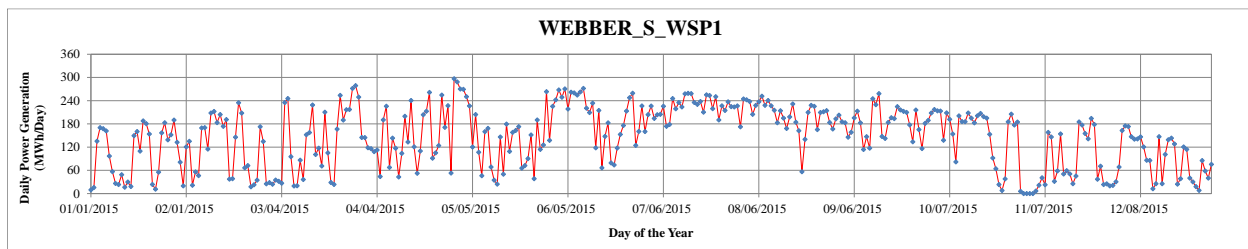


Figure 6-42: Daily Total Electricity Generation Profile for Solar Photovoltaic Project WEBBER_S_WSP1

6.2.2 Solar Thermal

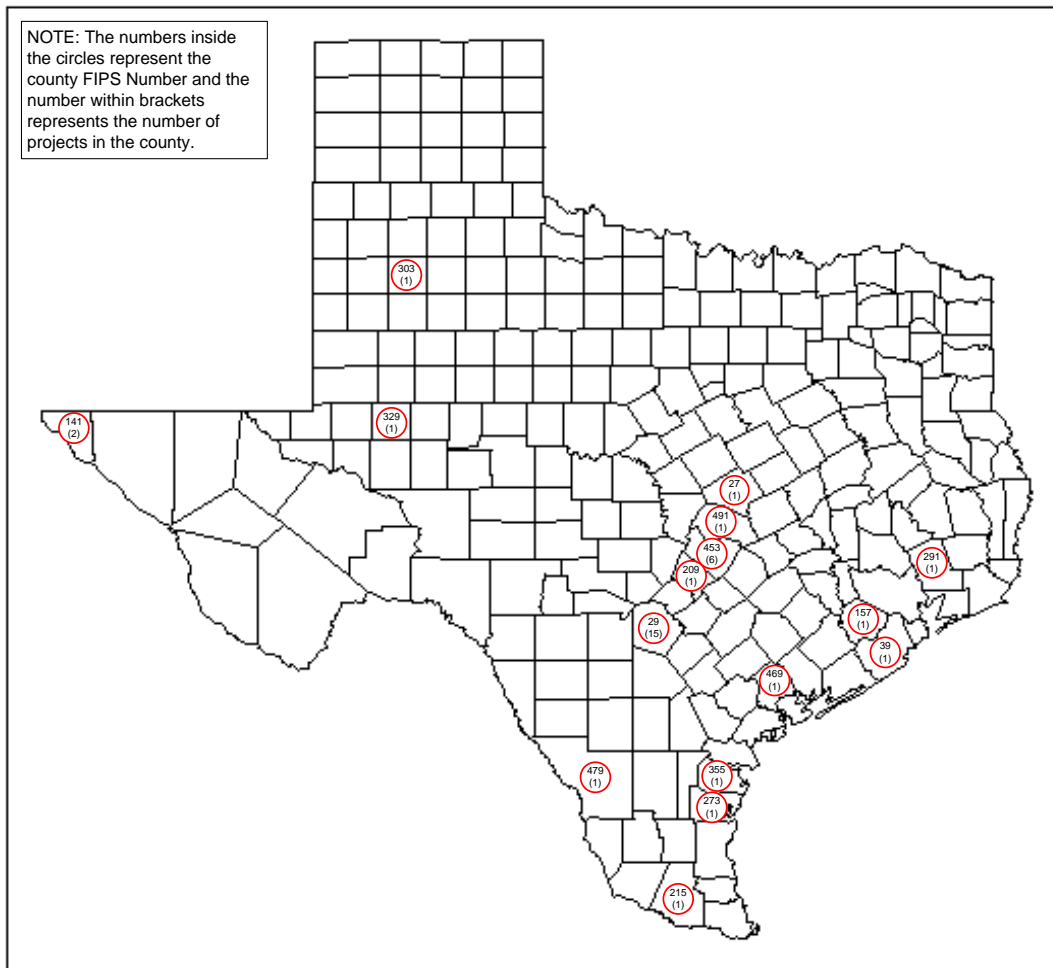
Solar thermal projects are to generate thermal energy so that buildings utilize the thermal energy to heat water or air for their use. Many of the solar thermal projects throughout in the State of Texas were identified from various web sources. In the present report for the year 2015, unfortunately, none of new solar thermal projects was found. As a result, the present report has the same number of solar thermal projects with the previous report, which was 38 projects.

The list of all the projects is shown in Table 10-2 (APPENDIX C). Figure 6-43 shows the map of the solar thermal projects identified in each county of Texas. The generated energy which was estimated by the eCalc tool and the amount of NOx emission reduction from all the solar thermal projects are presented in Table 6-3.

The annual electric savings per county and the Ozone Season Day (OSD) electric savings per county, which were estimated from these projects, are presented in Figure 6-44 and in Figure 6-45, respectively. In addition, the corresponding annual NOx emission reductions are shown in Figure 6-46.

Table 6-3: Solar Thermal Projects: Energy and NOx Reductions up to 2015

County for ECALC	Annual Energy Savings (for Base Year Conditions) and Annual Emissions Reductions			OSD Energy Savings (for Base Year Conditions) and OSD Emissions Reductions		
	Annual Elec. Generation (kWh/year)	1999 (lbs/year)	2007 (lbs/year)	OSD Elec. Generation (kWh/day)	1999 (lbs/day)	2007 (lbs/day)
		NOx	NOx		NOx	NOx
Bexar	60,388	159	99.71	161.19	0.46	0.23
El Paso	137,390	0	0.00	378.00	0.00	0.00
Fort Bend	9,434	2,282	16.45	25.20	0.05	0.04
Hays	276	1	0.35	0.74	0.00	0.00
Nueces	12,250	34	14.71	33.60	0.10	0.05
Parker	9,806	38	16.02	27.00	0.11	0.04
Travis	1,768	7	2.87	1.02	0.00	0.00
Victoria	336	1	0.40	0.93	0.00	0.00
Williamson	276	1	0.45	0.74	0.00	0.00
Total	231,923	2,523	151	628	1	0



Legend

County	FIPS Code	No. of Projects
Bell	27	1
Bexar	29	15
Brazoria	39	1
El paso	141	2
Fort Bend	157	1
Hays	209	1
Hidalgo	215	1
Kleberg	273	1
Liberty	291	1
Lubbock	303	1
Midland	329	1
Nueces	355	1
Travis	453	6
Victoria	469	1
Webb	479	1
Williamson	491	1
N/A	-	2

Figure 6-43: Solar Thermal Projects throughout Texas up to 2015

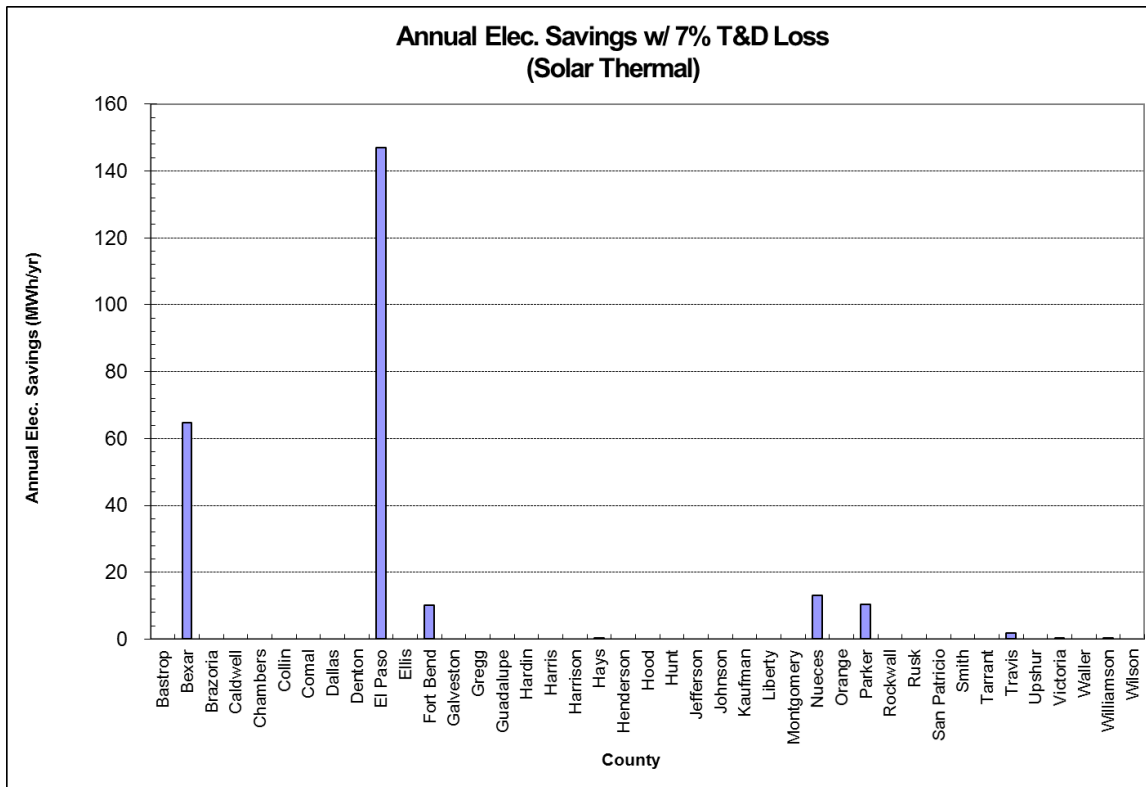


Figure 6-44: Annual Electric Savings per County from Solar Thermal Projects up to 2015

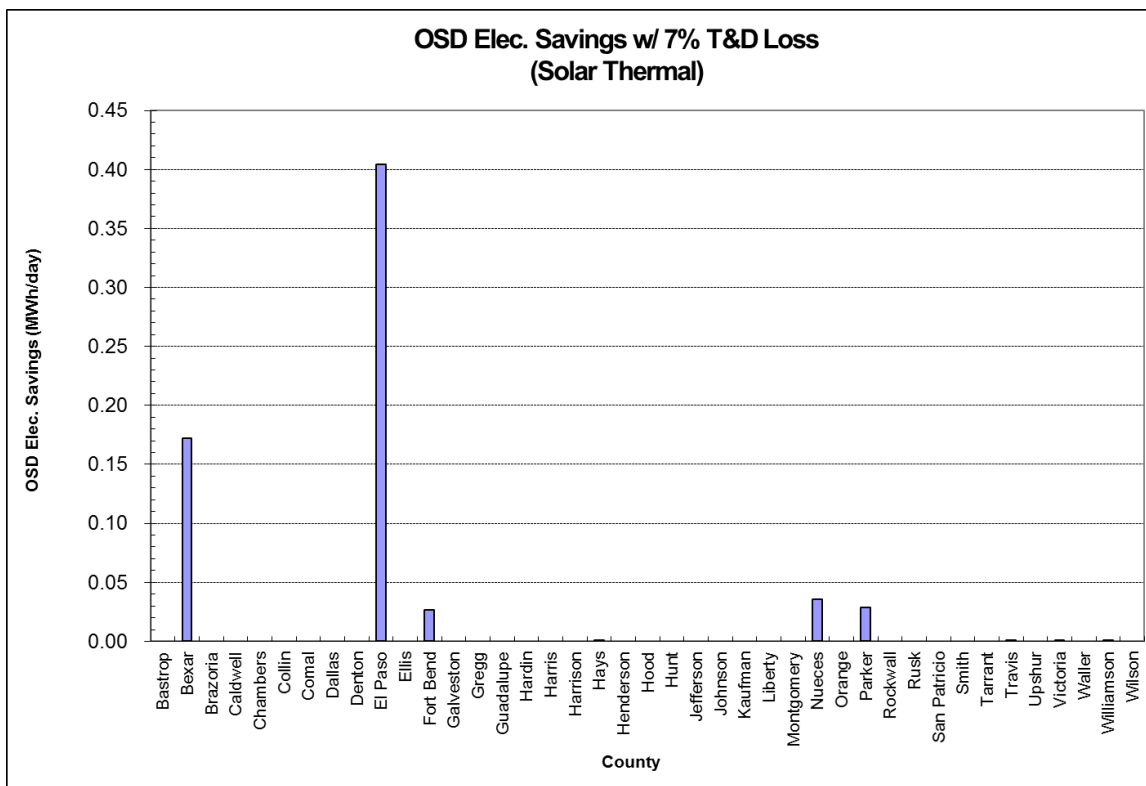


Figure 6-45: Ozone Season Day Electric Savings per County from Solar Thermal Projects up to 2015

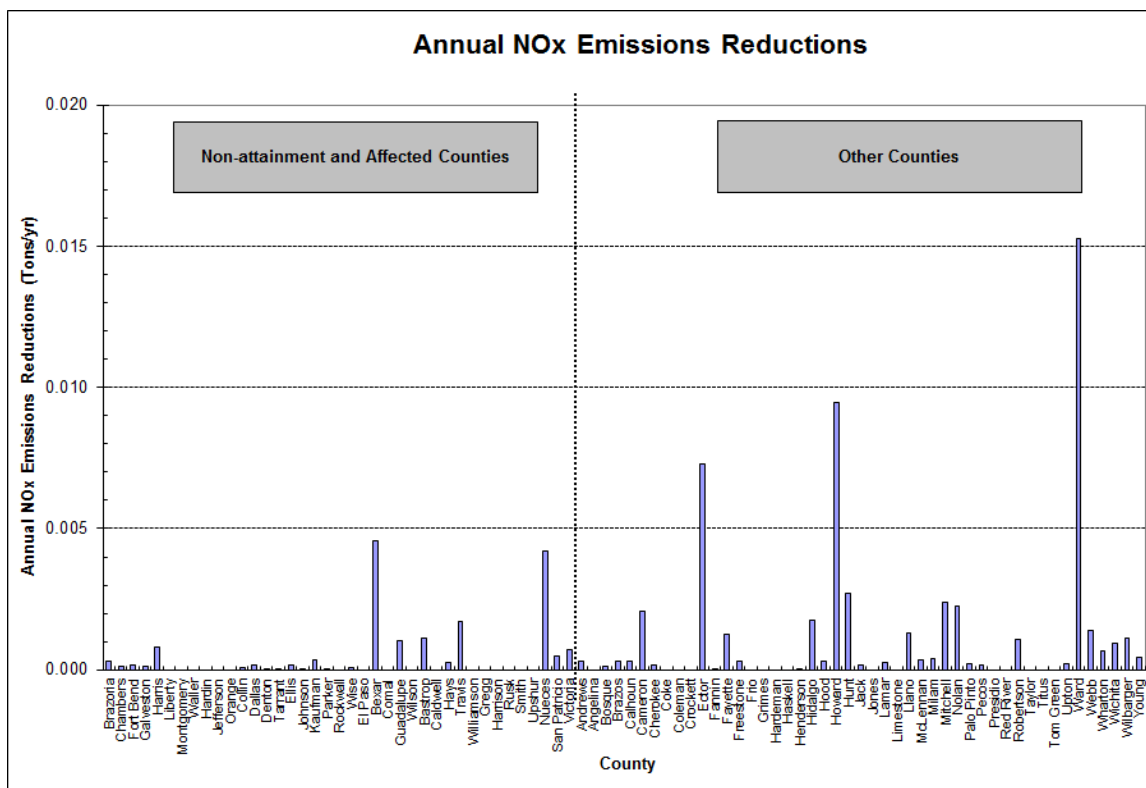


Figure 6-46: NOx Emissions Reductions per County from Solar Thermal Projects up to 2015

6.2.3 Biomass

The data from 19 biomass power plants in the State of Texas were obtained. Table 6-4 shows the list of the biomass projects with their names, respective county, year commissioned, the forecast zone they serve, installed capacity and total electricity produced for the year 2015. Figure 6-47 shows the annual electricity generation of the identified biomass projects in the State of Texas. In addition, Figure 6-48 shows the map of number of the biomass projects for each county. The total annual electricity generation from all the biomass projects for the year 2015 was 604,645 MWh/year.

The annual electric savings per county and the Ozone Season Day (OSD) electric savings per county, which were estimated from these projects, are presented in Figure 6-49 and in Figure 6-50, respectively. In addition, the corresponding annual NOx emission reductions are shown in Figure 6-51. It should be noted that the biomass power plant, NACPW_UNIT1, was excluded for estimating the annual/OSD electric savings and the NOx emission reductions using the eGrid since the plant is located in the Nacogdoches County which is not included in the list of the eGrid counties.

Table 6-4: Biomass Projects in the State of Texas up to 2015

SNo	Name of the Project	County	Year Commissioned	ERCOT Forecast Zone	Installed Capacity (MW _{AC})	Power Generated in 2015 (MWh/year)
1	AV_DG1	Galveston	2002	Houston	6.7*	34,759
2	DG_78252_4UNITS	Bexar	2013	South	4.2	19,443
3	DG_BIO2_4UNITS	Denton	2009	North	6.4*	20,072
4	DG_BIOE_2UNITS	Denton	1988	North	6.2*	17,385
5	DG_FERIS_4_UNITS	Dallas	2007	North	6.4*	48,209
6	DG_FREIH_2UNITS	Comal	2011	South	3.2*	23,128
7	DG_HBR_2UNITS	Denton	NA	North	6.0**	22,923
8	DG_MEDIN_1UNIT	Bexar	2005	South	9.6*	60,487
9	DG_MKNSW_2UNITS	Collin	2011	North	3.2*	19,538
10	DG_S_SNR_UNIT1	Cameron	1973	South	4.5***	350
11	DG_SPRIN_4UNITS	Travis	2007	South	6.4*	45,796
12	DG_WALZE_4UNITS	Bexar	2002	South	9.8*	58,077
13	DG_WSTHL_3UNITS	Parker	2010	North	4.8*	30,049
14	HB_DG1	Harris	2002	Houston	10.0*	73,813
15	LB_DG1	Harris	2002	Houston	3.9*	5,359
16	LFBIO_UNIT1	Angelina	2012	North	45	7,214
17	NACPW_UNIT1	Nacogdoches	2012	North	105.0*	96,744
18	TRIRA_1UNIT	Dallas	2015	North	4.0*	1,812
19	TRN_DG1	Chambers	2002	Houston	3.9*	19,486
Total					254	604,645

* CapacityDemandandReserveReport-May2016.xls from the webpage of the ERCOT (<http://www.ercot.com/gridinfo/resource/index.html>)

** Winter_2013-2014_Final_Seasonal_Assessment.xls from the webpage of the ERCOT Reports and Presentations (<http://www.ercot.com/news/presentations>)

*** ML111290898.pdf from the webpage of the U.S. Nuclear Regulatory Commission (<http://pbadupws.nrc.gov/docs/ML1112/ML111290898.pdf>)

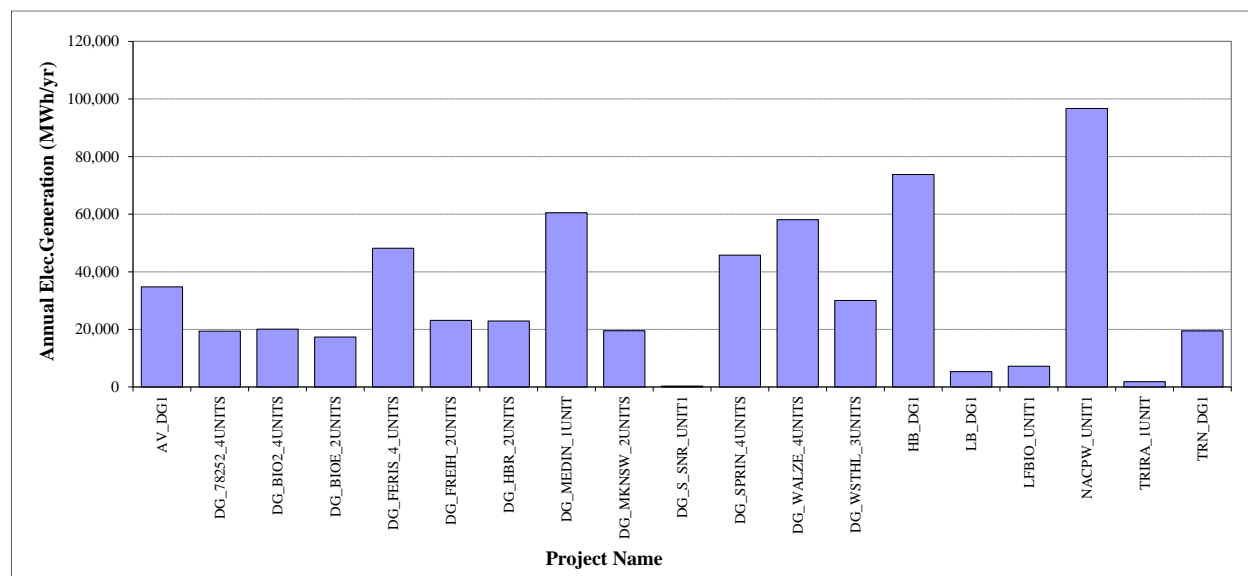
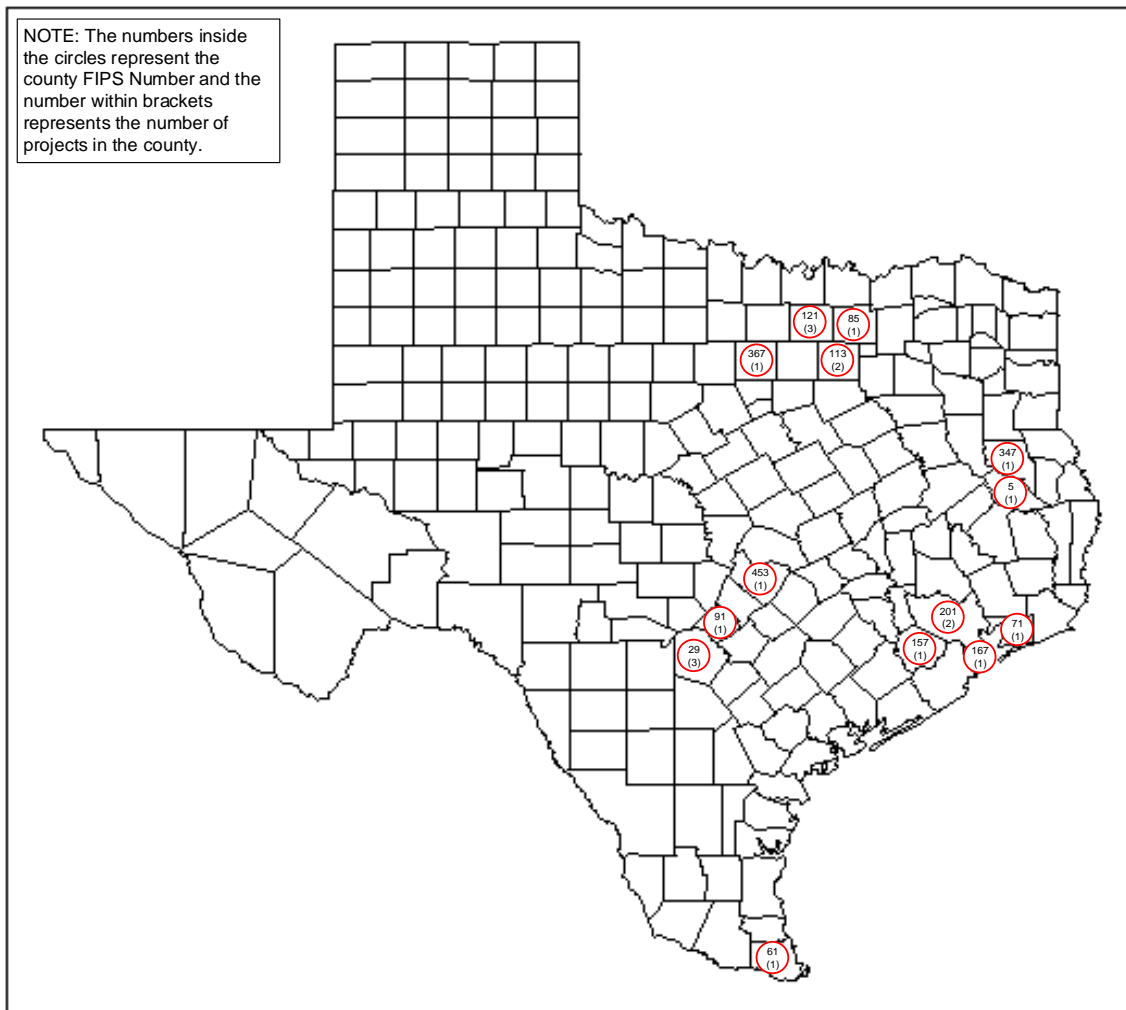


Figure 6-47: Annual Electricity Generation by Biomass Projects in the State of Texas up to 2015



Legend

County	FIPS Code	No. of Projects
Angelina	5	1
Bexar	29	3
Cameron	61	1
Chambers	71	1
Collin	85	1
Comal	91	1
Dallas	113	2
Denton	121	3
Galveston	167	1
Harris	201	2
Nacogdoches	347	1
Parker	367	1
Travis	453	1

Figure 6-48: Biomass Projects throughout Texas up to 2015

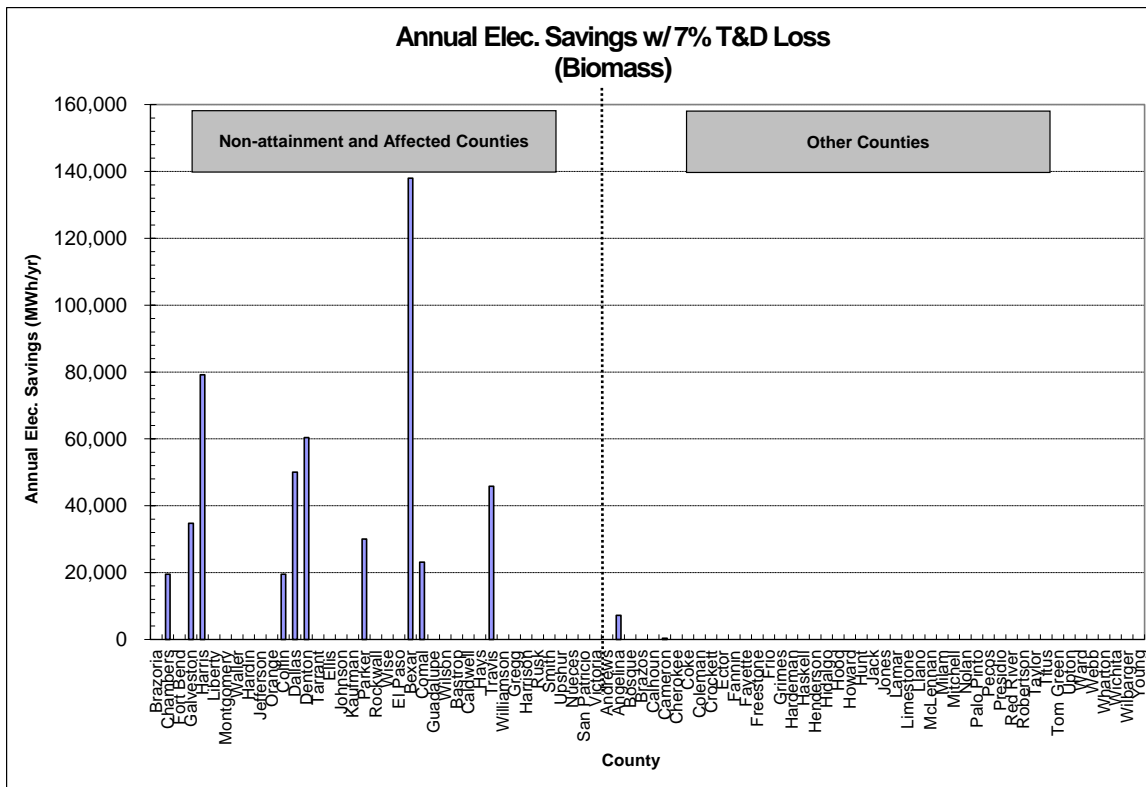


Figure 6-49: Annual Electric Savings per County from Biomass Projects up to 2015

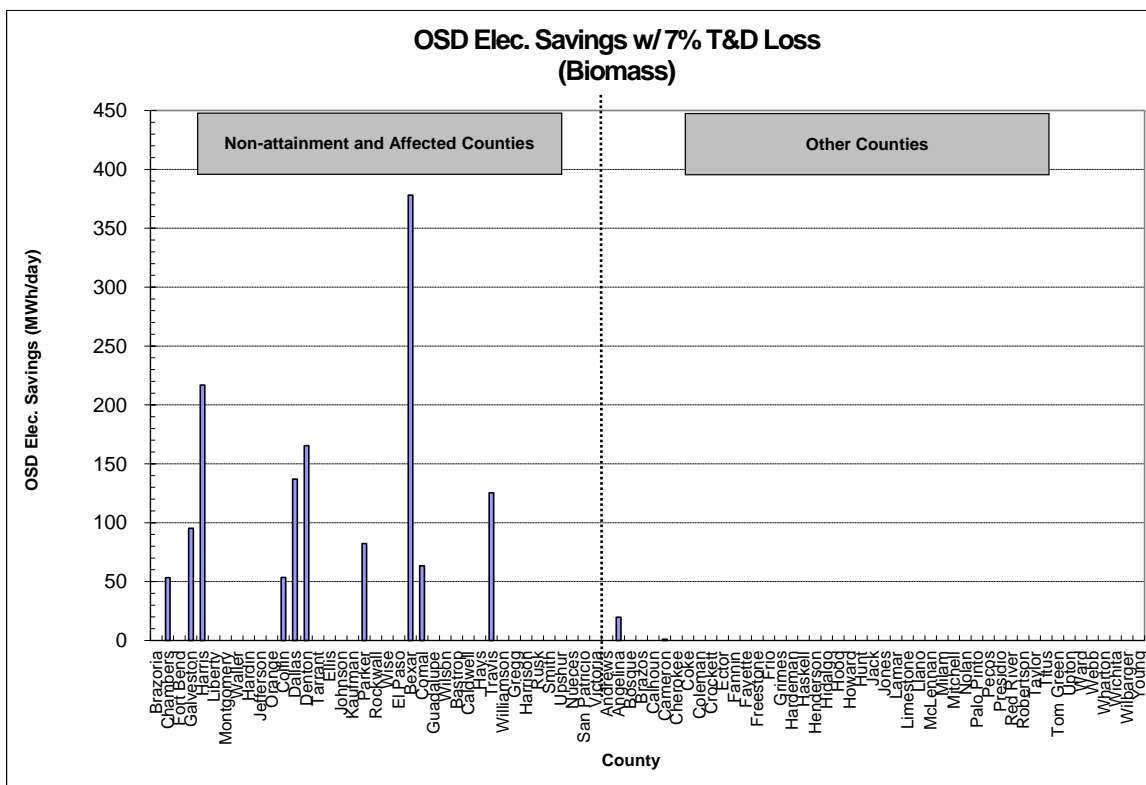


Figure 6-50: Ozone Season Day Electric Savings per County from Biomass Projects up to 2015

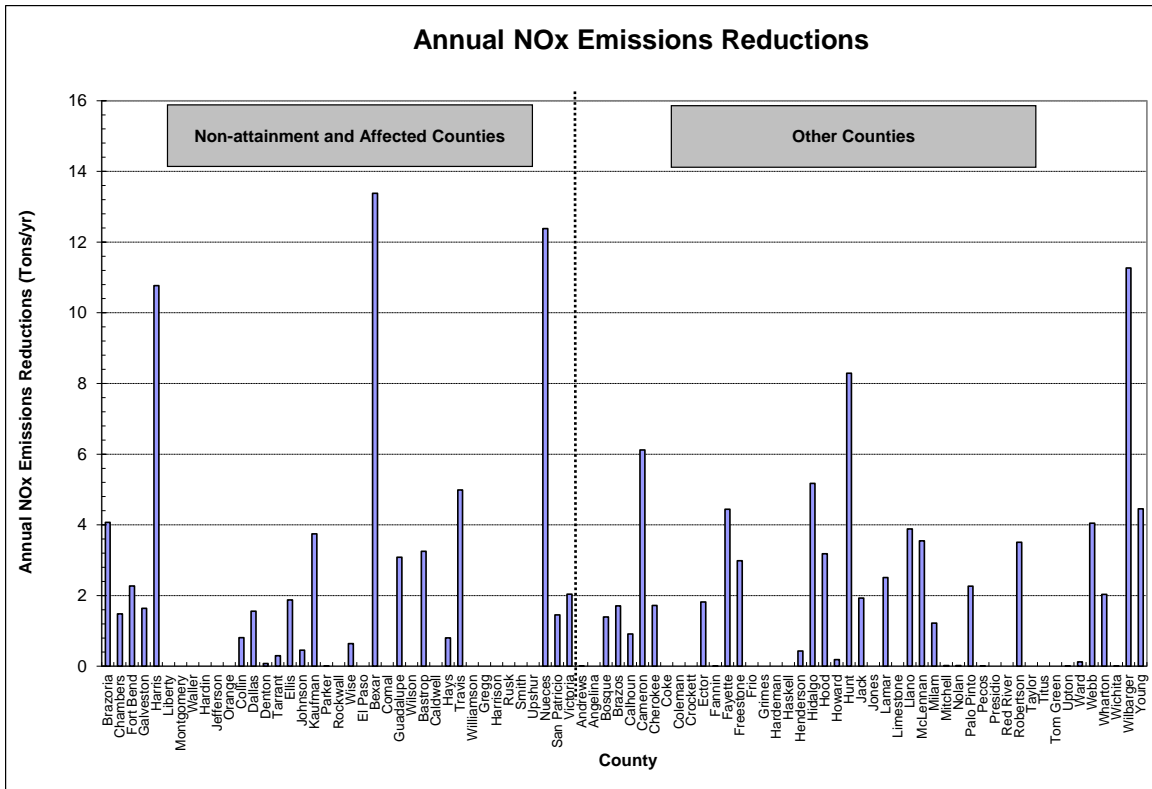


Figure 6-51: NOx Emissions Reductions per County from Biomass Projects up to 2015

6.2.3.1 AV_DG1

The Biomass power project AV_DG1 was in operation throughout the year. The data shows three levels of power generation. Figure 6-52 shows hourly electricity generation profile and Figure 6-53 shows daily total generation profile for the year 2015.

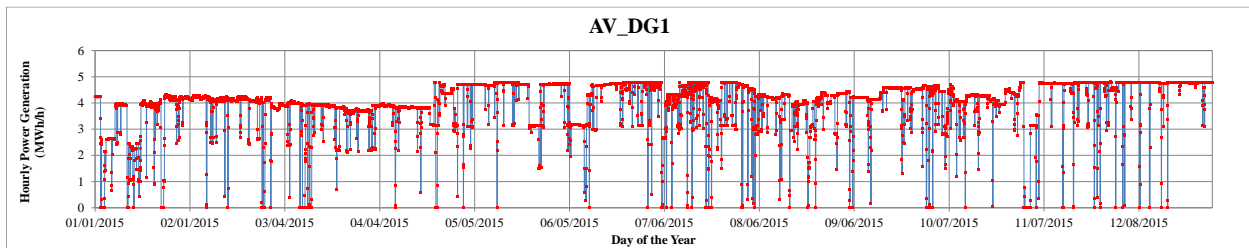


Figure 6-52: Hourly Electricity Generation Profile for Biomass Project AV_DG1

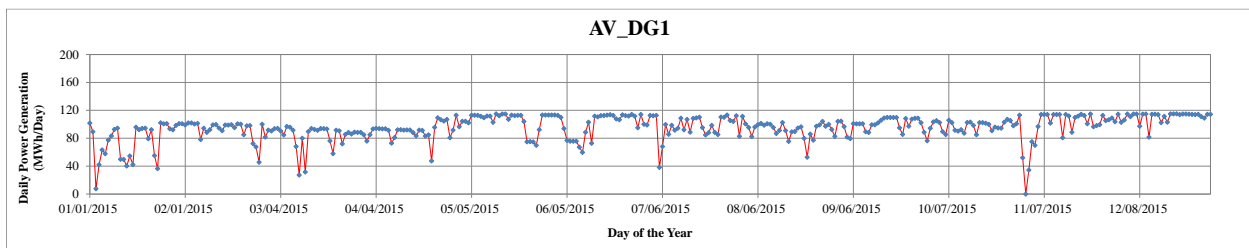


Figure 6-53: Daily Total Electricity Generation Profile for Biomass Project AV_DG1

6.2.3.2 DG_78252_4UNITS

The Biomass power project DG_78252_4UNITS was in operation throughout the year. Figure 6-54 shows hourly electricity generation profile and Figure 6-55 shows daily total generation profile for the year 2015.

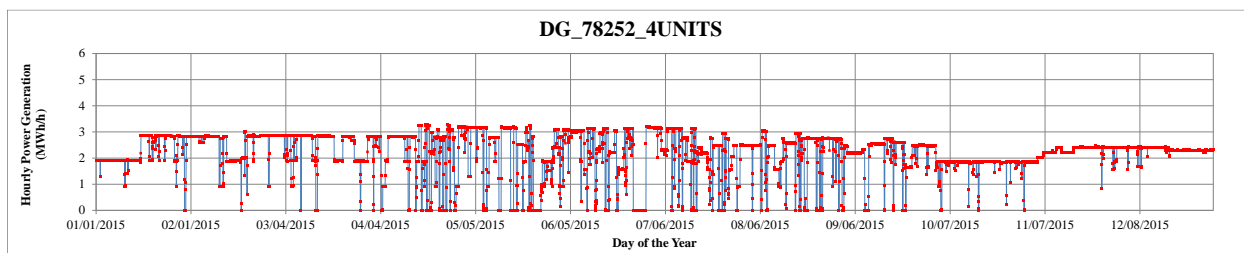


Figure 6-54: Hourly Electricity Generation Profile for Biomass Project DG_78252_4UNITS

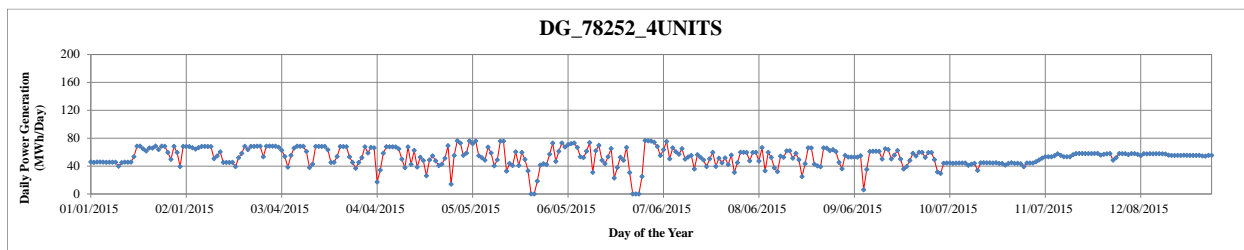


Figure 6-55: Daily Total Electricity Generation Profile for Biomass Project DG_78252_4UNITS

6.2.3.3 DG_BIO2_4UNITS

The Biomass power project DG_BIO2_UNITS was in operation throughout the year. Figure 6-56 shows hourly electricity generation profile and Figure 6-57 shows daily total generation profile for the year 2015.

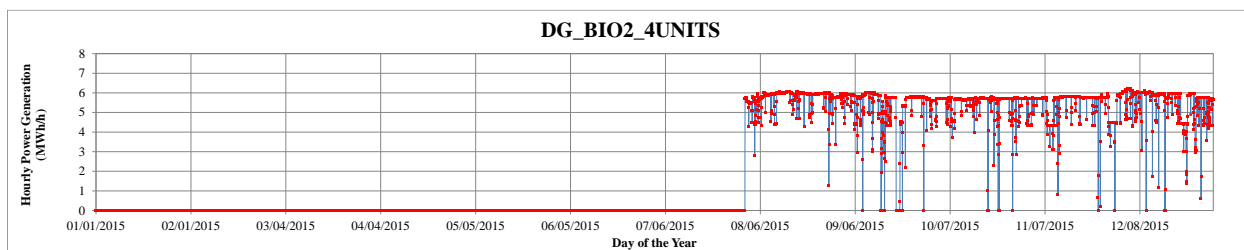


Figure 6-56: Hourly Electricity Generation Profile for Biomass Project DG_BIO2_4UNITS

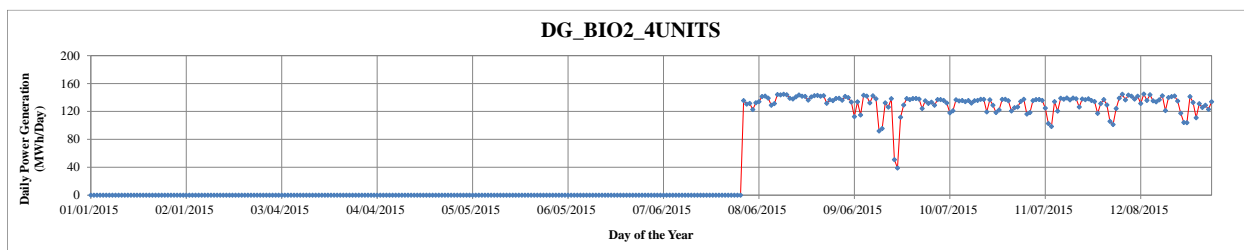


Figure 6-57: Daily Total Electricity Generation Profile for Biomass Project DG_BIO2_4UNITS

6.2.3.4 DG_BIOE_2UNITS

The Biomass power project DG_BIOE_2UNITS was in operation throughout the year. Figure 6-58 shows hourly electricity generation profile and Figure 6-59 shows daily total generation profile for the year 2015.

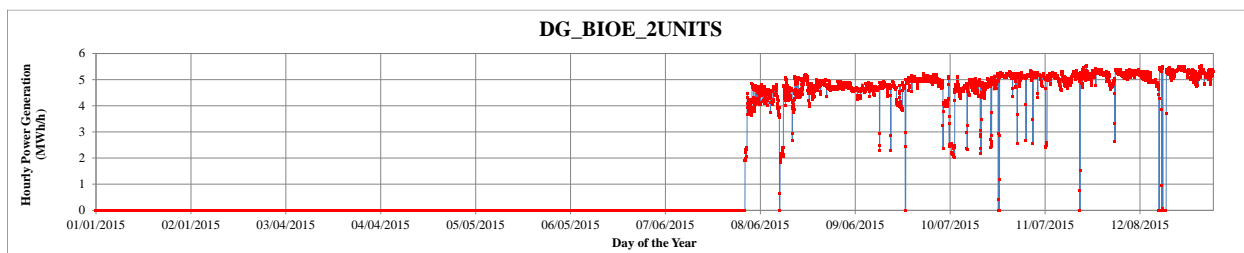


Figure 6-58: Hourly Electricity Generation Profile for Biomass Project DG_BIOE_2UNITS

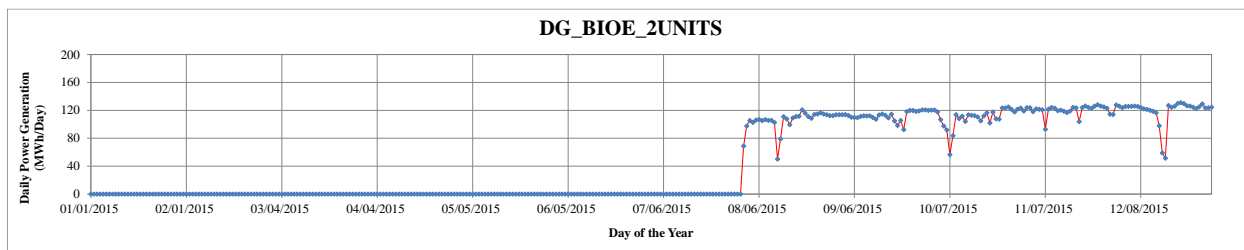


Figure 6-59: Daily Total Electricity Generation Profile for Biomass Project DG_BIOE_2UNITS

6.2.3.5 DG_FERIS_4_UNITS

The Biomass power project DG_FERIS_4_UNITS was in continuous operation throughout the year. Figure 6-60 shows hourly electricity generation profile and Figure 6-61 shows daily total generation profile for the year 2015.

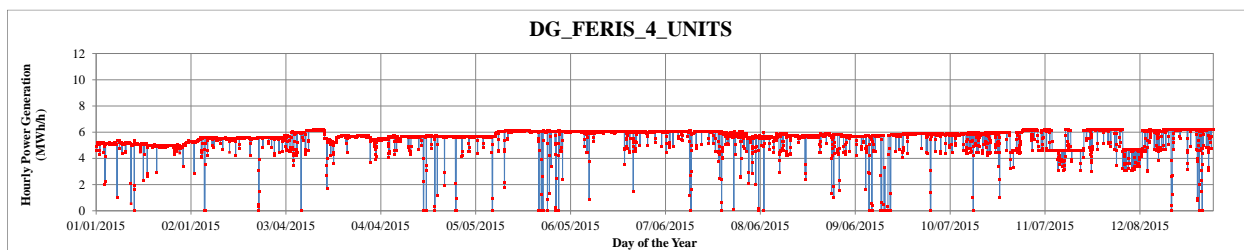


Figure 6-60: Hourly Electricity Generation Profile for Biomass Project DG_FERIS_4_UNITS

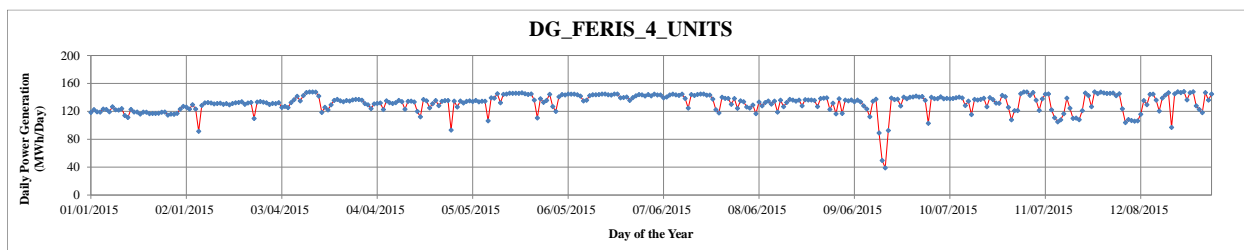


Figure 6-61: Daily Total Electricity Generation Profile for Biomass Project DG_FERIS_4_UNITS

6.2.3.6 DG_FREIH_2UNITS

The Biomass power project DG_FREIH_2UNITS was mostly operated throughout the entire year. Figure 6-62 shows hourly electricity generation profile and Figure 6-63 shows daily total generation profile for the year 2015.

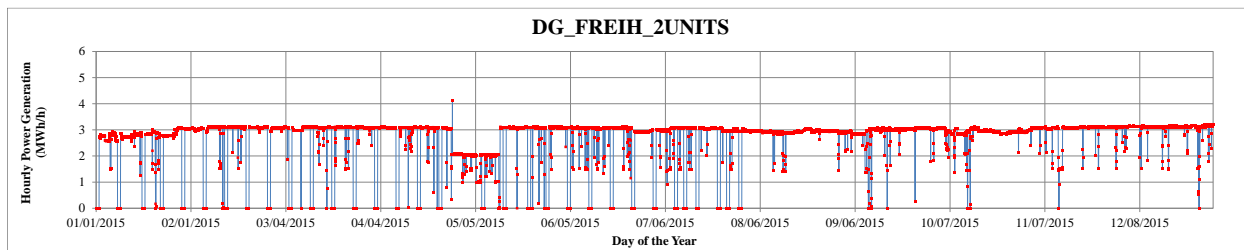


Figure 6-62: Hourly Electricity Generation Profile for Biomass Project DG_FREIH_2UNITS

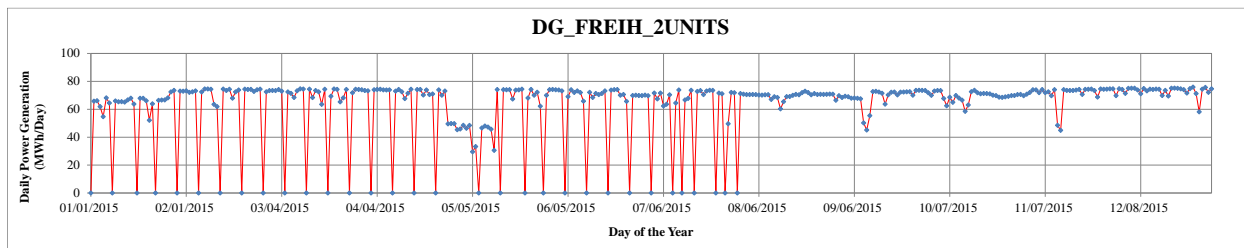


Figure 6-63: Daily Total Electricity Generation Profile for Biomass Project DG_FREIH_2UNITS

6.2.3.7 DG_HBR_2UNITS

The Biomass power project DG_HBR_2UNITS was in operation throughout the year. Figure 6-64 shows hourly electricity generation profile and Figure 6-65 shows daily total generation profile for the year 2015.

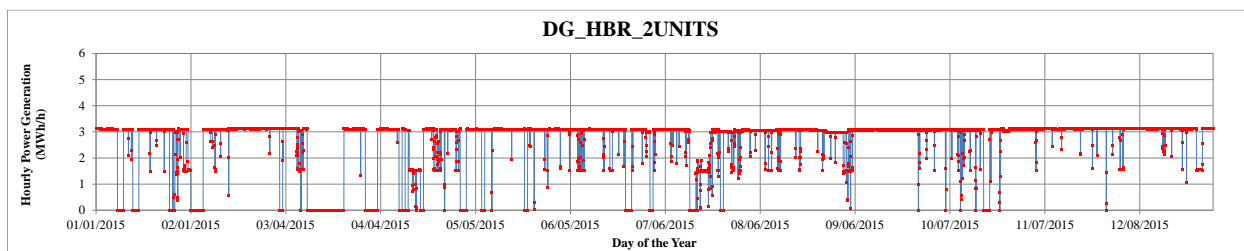


Figure 6-64: Hourly Electricity Generation Profile for Biomass Project DG_HBR_2UNITS

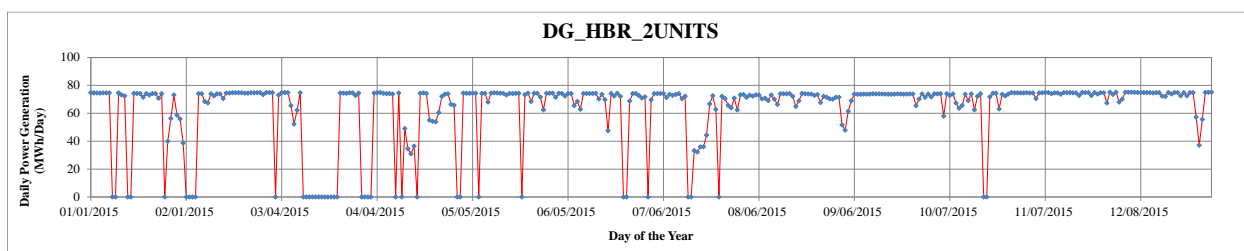


Figure 6-65: Daily Total Electricity Generation Profile for Biomass Project DG_HBR_2UNITS

6.2.3.8 DG_MEDIN_1UNIT

The Biomass power project DG_MEDIN_1UNIT was in operation throughout the year. Figure 6-66 shows hourly electricity generation profile and Figure 6-67 shows daily total generation profile for the year 2015.

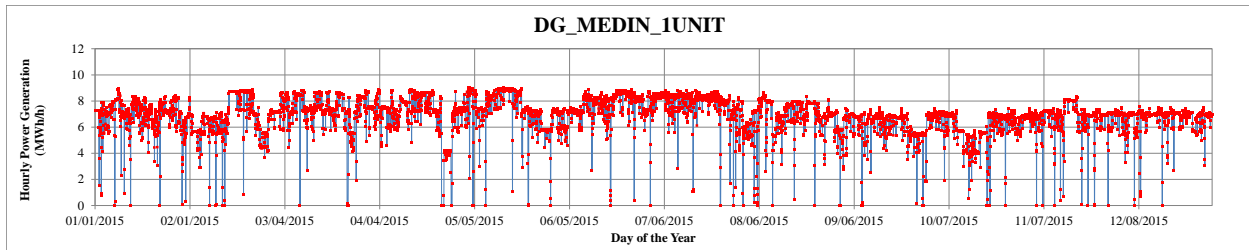


Figure 6-66: Hourly Electricity Generation Profile for Biomass Project DG_MEDIN_1UNIT

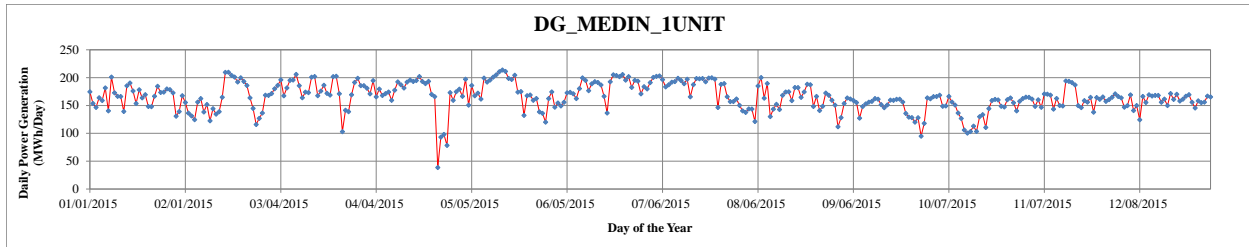


Figure 6-67: Daily Total Electricity Generation Profile for Biomass Project DG_MEDIN_1UNIT

6.2.3.9 DG_MKNSW_2UNIT

The Biomass power project DG_MKNSW_2UNIT was in operation throughout the year. Figure 6-68 shows hourly electricity generation profile and Figure 6-69 shows daily total generation profile for the year 2015.

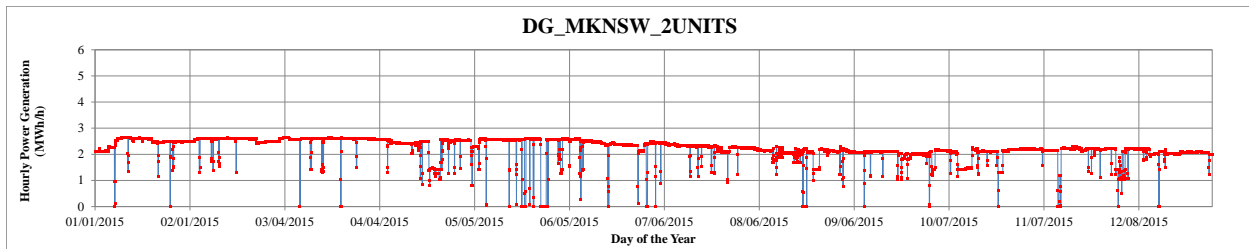


Figure 6-68: Hourly Electricity Generation Profile for Biomass Project DG_MKNSW_2UNIT

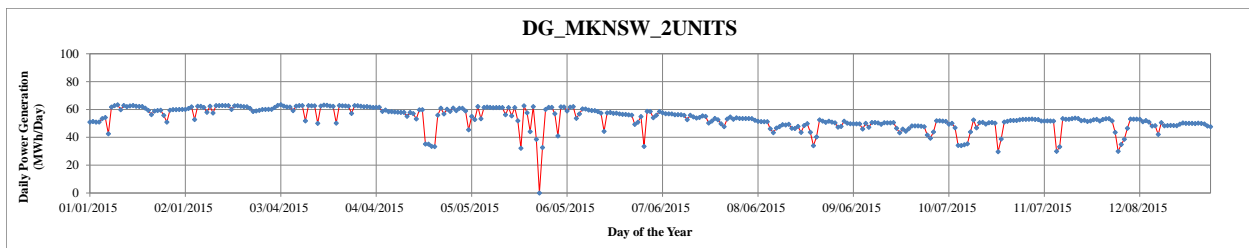


Figure 6-69: Daily Total Electricity Generation Profile for Biomass Project DG_MKNSW_2UNIT

6.2.3.10 DG_S_SNR_UNIT1

The Biomass power project DG_S_SNR_UNIT1 for majority of the time during the year did not have power generation except for few days occurring in different months. Figure 6-70 shows hourly electricity generation profile and Figure 6-71 shows daily total generation profile for the year 2015.

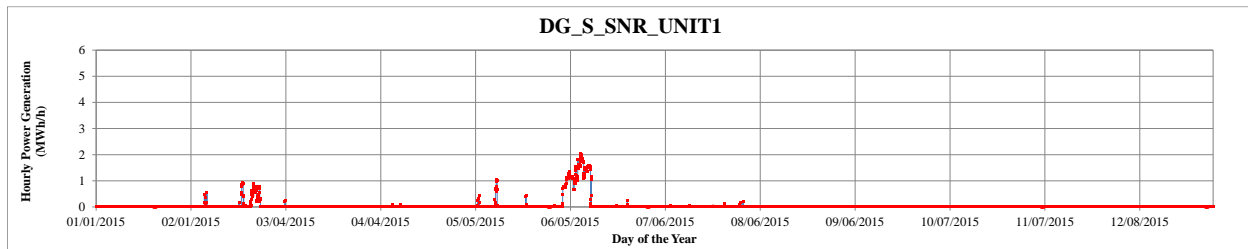


Figure 6-70: Hourly Electricity Generation Profile for Biomass Project DG_S_SNR_UNIT1

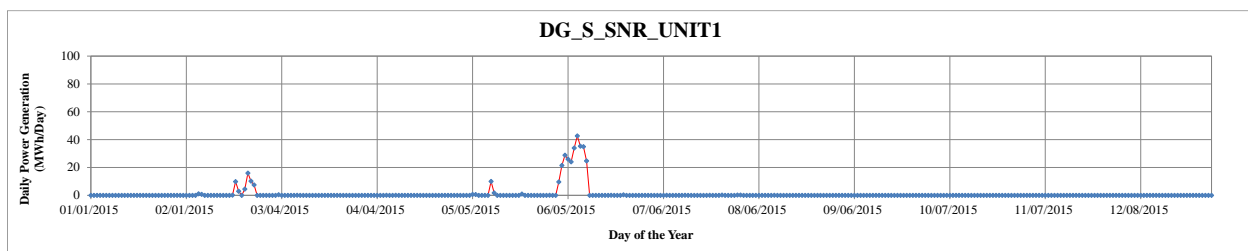


Figure 6-71: Daily Total Electricity Generation Profile for Biomass Project DG_S_SNR_UNIT1

6.2.3.11 DG_SPRIN_4UNITS

The Biomass power project DG_SPRIN_4UNITS was in operation throughout the year. Figure 6-72 shows hourly electricity generation profile and Figure 6-73 shows daily total generation profile for the year 2015.

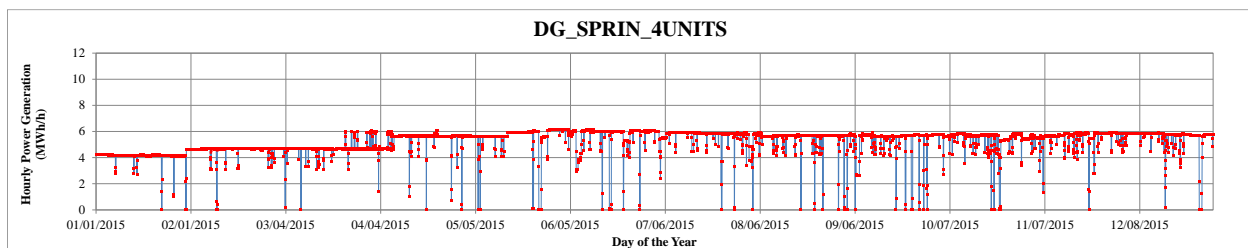


Figure 6-72: Hourly Electricity Generation Profile for Biomass Project DG_SPRIN_4UNITS

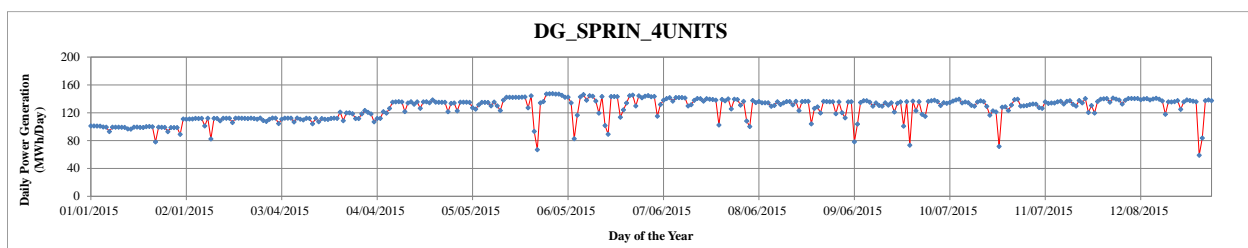


Figure 6-73: Daily Total Electricity Generation Profile for Biomass Project DG_SPRIN_4UNITS

6.2.3.12 DG_WALZE_4UNITS

The Biomass power project DG_WALZE_4UNITS was in continuous operation throughout the entire year. Figure 6-74 shows hourly electricity generation profile and Figure 6-75 shows daily total generation profile for the year 2015.

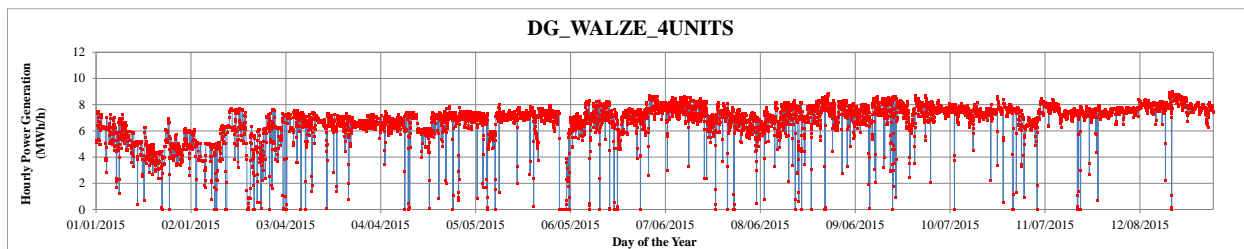


Figure 6-74: Hourly Electricity Generation Profile for Biomass Project DG_WALZE_4UNITS

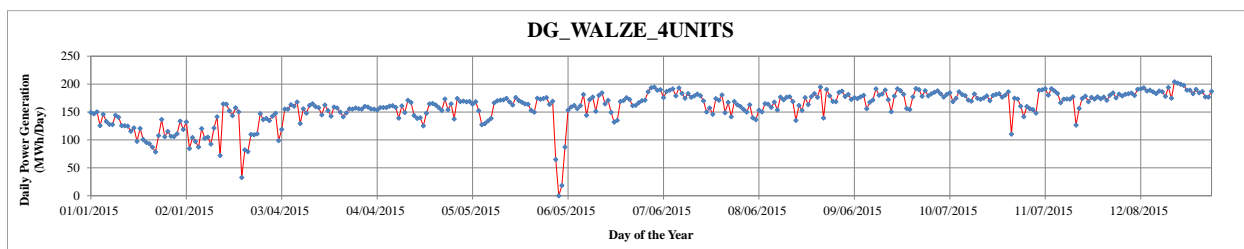


Figure 6-75: Daily Total Electricity Generation Profile for Biomass Project DG_WALZE_4UNITS

6.2.3.13 DG_WSTHL_3UNITS

The Biomass power project DG_WSTHL_3UNITS was in operation throughout the entire year. Two levels of power generation were observed throughout the year. Figure 6-76 shows hourly electricity generation profile and Figure 6-77 shows daily total generation profile for the year 2015.

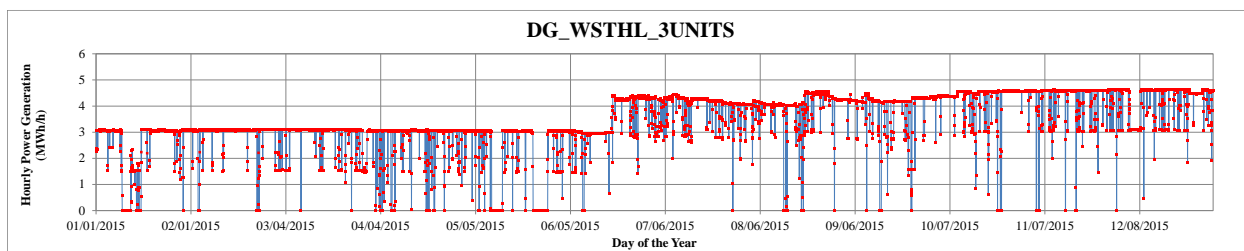


Figure 6-76: Hourly Electricity Generation Profile for Biomass Project DG_WSTHL_3UNITS

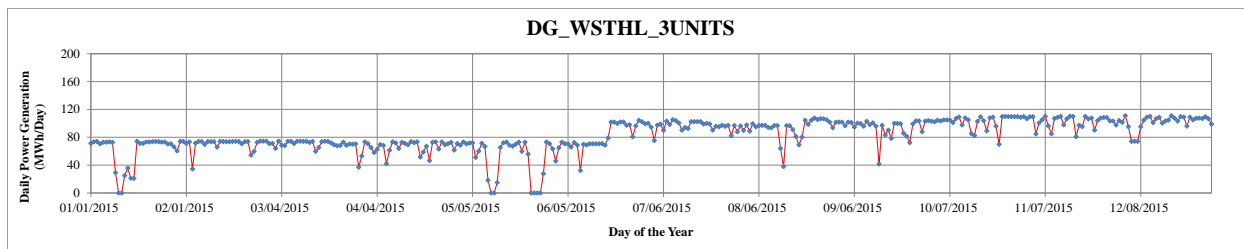


Figure 6-77: Daily Total Electricity Generation Profile for Biomass Project DG_WSTHL_3UNITS

6.2.3.14 HB_DG1

The Biomass power project HB_DG1 was in operation throughout the entire year. Figure 6-78 shows hourly electricity generation profile and Figure 6-79 shows daily total generation profile for the year 2015.

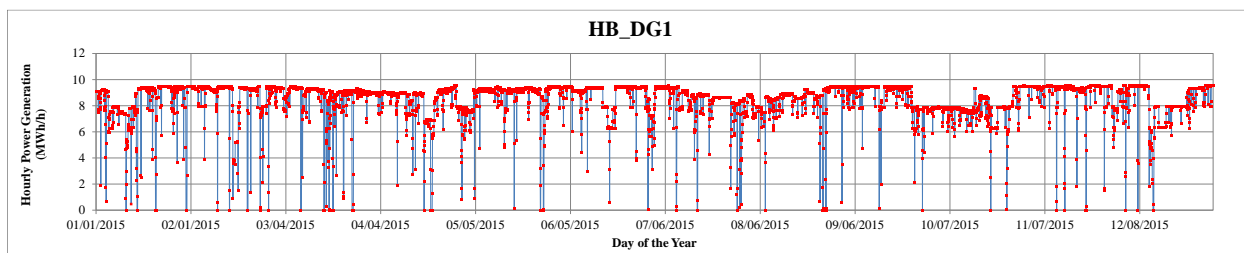


Figure 6-78: Hourly Electricity Generation Profile for Biomass Project HB_DG1

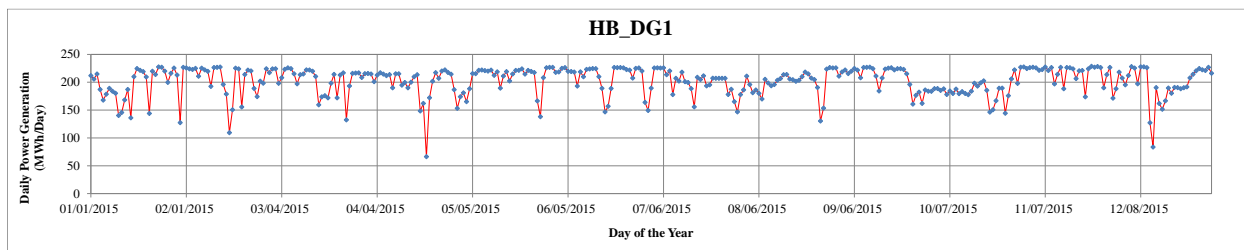


Figure 6-79: Daily Total Electricity Generation Profile for Biomass Project HB_DG1

6.2.3.15 LB_DG1

The Biomass power project LB_DG1 was in operation during the year. Several days were observed to have no power data. This mostly occurred every month. Figure 6-80 shows hourly electricity generation profile and Figure 6-81 shows daily total generation profile for the year 2015.

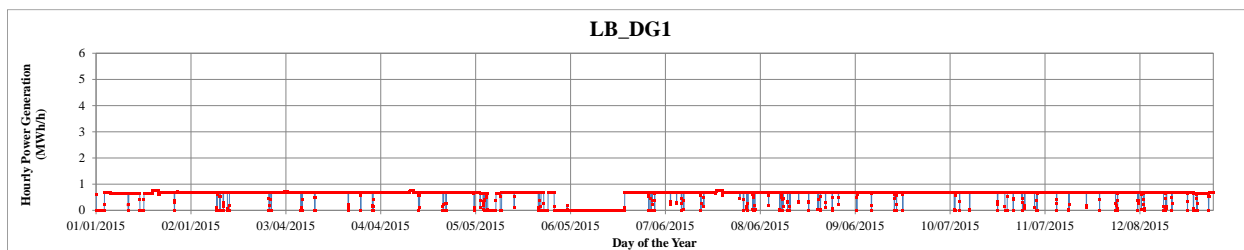


Figure 6-80: Hourly Electricity Generation Profile for Biomass Project LB_DG1

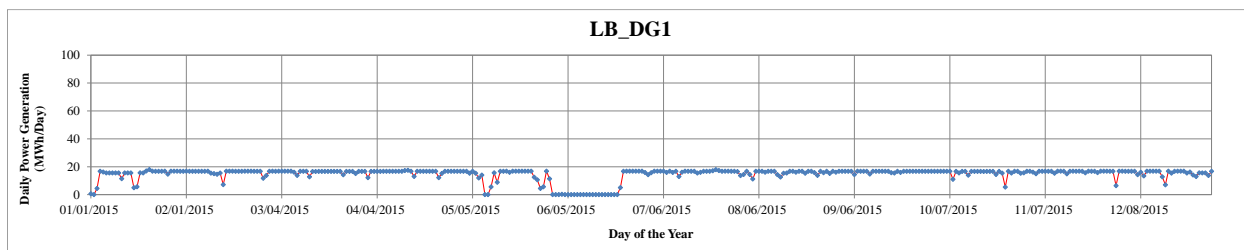


Figure 6-81: Daily Total Electricity Generation Profile for Biomass Project LB_DG1

6.2.3.16 LFBIO_UNIT1

The Biomass power project LFBIO_UNIT1 was in operation throughout the year. Figure 6-82 shows hourly electricity generation profile and Figure 6-83 shows daily total generation profile for the year 2015.

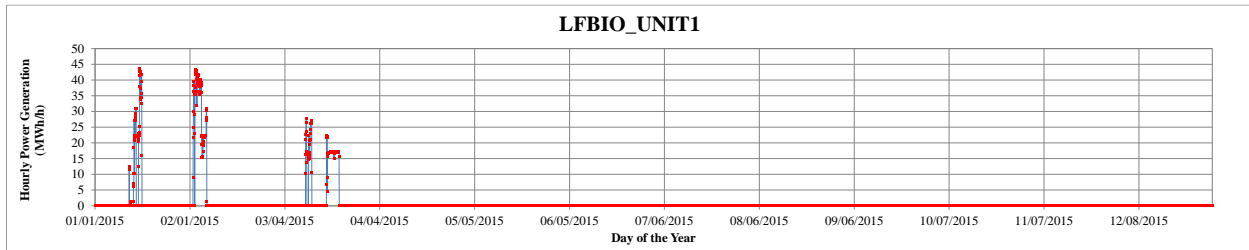


Figure 6-82: Hourly Electricity Generation Profile for Biomass Project LFBIO_UNIT1

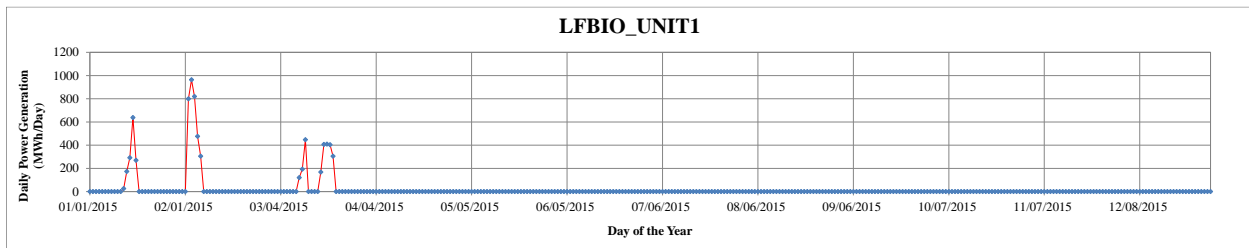


Figure 6-83: Daily Total Electricity Generation Profile for Biomass Project LFBIO_UNIT1

6.2.3.17 NACPW_UNIT1

The Biomass power project NACPW_UNIT1 was in operation throughout the year. Figure 6-84 shows hourly electricity generation profile and Figure 6-85 shows daily total generation profile for the year 2015.

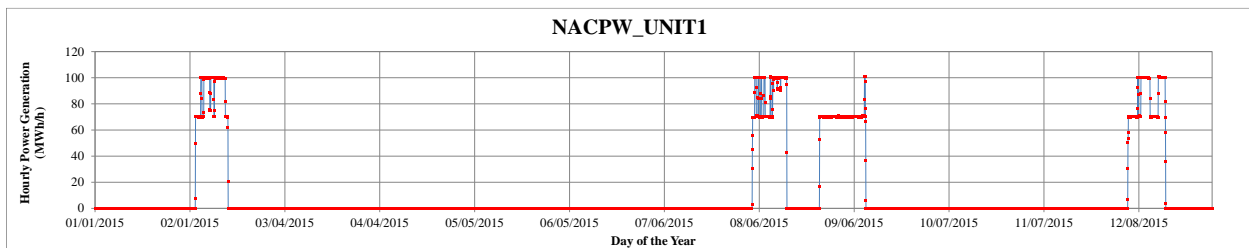


Figure 6-84: Hourly Electricity Generation Profile for Biomass Project NACPW_UNIT1

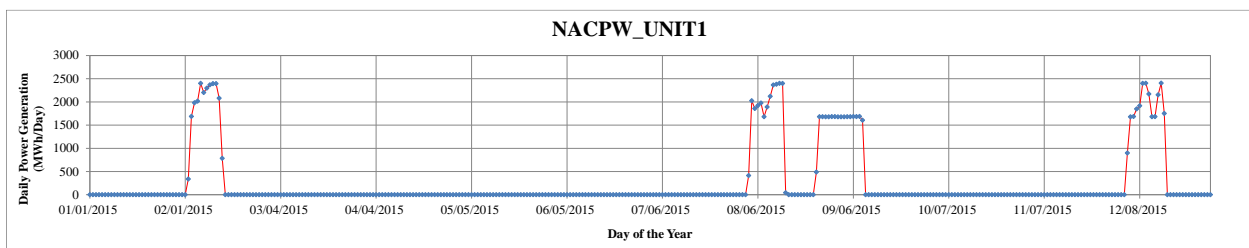


Figure 6-85: Daily Total Electricity Generation Profile for Biomass Project NACPW_UNIT1

6.2.3.18 TRIRA_1UNIT

The Biomass power project DG_MEDIN_1UNIT was in operation throughout the year. Figure 6-86 shows hourly electricity generation profile and Figure 6-87 shows daily total generation profile for the year 2015.

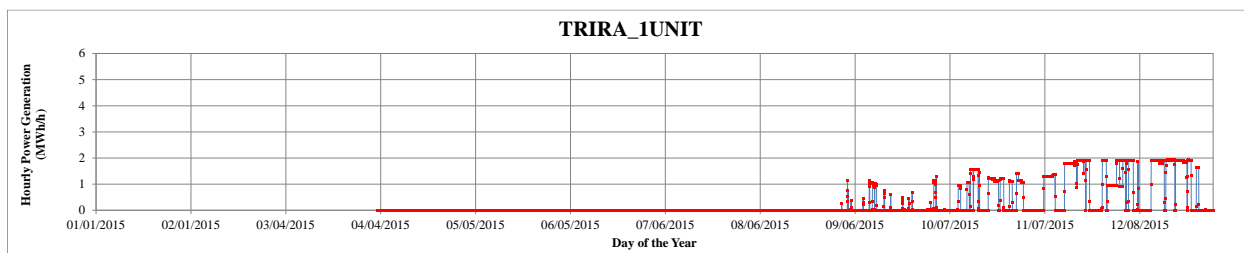


Figure 6-86: Hourly Electricity Generation Profile for Biomass Project TRIRA_1UNIT

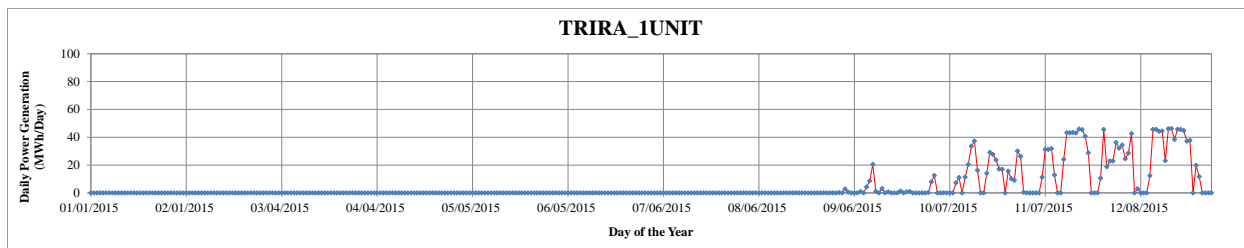


Figure 6-87: Daily Total Electricity Generation Profile for Biomass Project TRIRA_1UNIT

6.2.3.19 TRN_DG1

The Biomass power project TRN_DG1 was in operation throughout the year. Figure 6-88 shows hourly electricity generation profile and Figure 6-89 shows daily total generation profile for the year 2015.

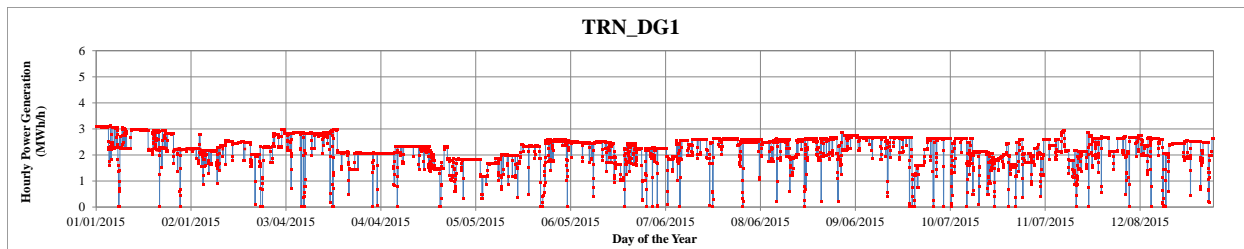


Figure 6-88: Hourly Electricity Generation Profile for Biomass Project TRN_DG1

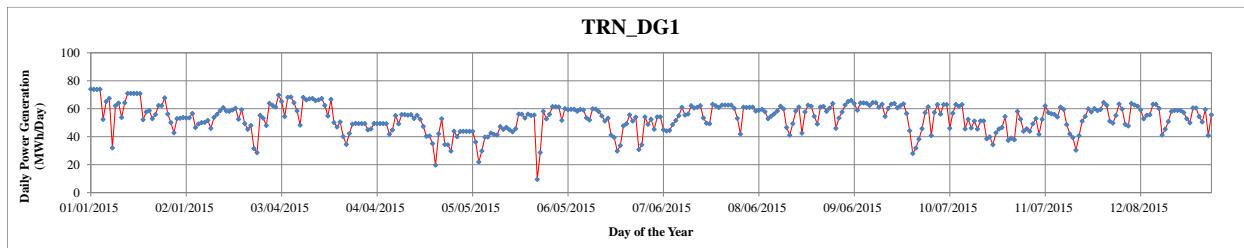


Figure 6-89: Daily Total Electricity Generation Profile for Biomass Project TRN_DG1

6.2.4 Hydroelectric

The data from 29 hydroelectric power plants in the State of Texas were obtained. Table 6-5 shows the list of hydroelectric projects with their names, respective county, year commissioned, the forecast zone they serve, installed capacity and total electricity produced for the year 2015. Figure 6-90 shows the annual electricity generation of the identified hydroelectric projects in the State of Texas. In addition, Figure 6-91 shows the map of number of the hydroelectric projects for each county. The total annual electricity generation from all the hydroelectric plants for the year 2015 was 565,738 MWh/year. Based on the power generation data from the hydroelectric power plants, one significant pattern was observed. Most of the hydroelectric plants were intermittently operated for few hours of the day.

The annual electric savings per county and the Ozone Season Day (OSD) electric savings per county, which were estimated from these projects, are presented in Figure 6-92 and in Figure 6-93, respectively. In addition, the corresponding annual NO_x emission reductions are shown in Figure 6-94. It should be noted that 13 hydroelectric power plants (i.e., AMISTAD_AMISTAG1, AMISTAD_AMISTAG2, DG_LKWDT_2UNITS, DNDAM_DENISOG1, DNDAM_DENISOG2, EAGLE_HY_EAGLE_HY1, FALCON_FALCONG1, FALCON_FALCONG2, FALCON_FALCONG3, MARBFA_MARBFAG1, MARBFA_MARBFAG2, WIRTZ_WIRTZ_G1, and WIRTZ_WIRTZ_G2) were excluded for estimating the annual/OSD electric savings and the NO_x emission reductions using the eGrid since these plants are located in the Burnet, Gonzales, Grayson, Maverick, Starr, and Val Verde counties which are not included in the list of the eGrid counties.

Table 6-5: Hydroelectricity Power Projects in the State of Texas up to 2015

SNo	Name of the Project	County	Year Commissioned	ERCOT Forecast Zone	Installed Capacity (MW _{AC})	Power Generated in 2015 (MWh/year)
1	AMISTAD_AMISTAG1	Val Verde	1983	South	37.9	24,801
2	AMISTAD_AMISTAG2	Val Verde	1983	South	37.9	23,583
3	AUSTPL_AUSTING1	Travis	1940	South	8.0	1,115
4	AUSTPL_AUSTING2	Travis	1940	South	9.0	1,502
5	BUCHAN_BUCHANG1	Llano	1938	South	16.0	456
6	BUCHAN_BUCHANG2	Llano	1938	South	16.0	430
7	BUCHAN_BUCHANG3	Llano	1950	South	17.0	516
8	CANYHY_CANYHYG1	Comal	1989	South	6.0	12,209
9	DG_LKWDT_2UNITS	Gonzales	1931	South	4.8	13,886
10	DG_LWSVL_1UNIT	Denton	1991	North	2.2	745
11	DG_MCQUE_5UNITS	Guadalupe	1928	South	7.7	26,281
12	DG_OAKHL_1UNIT	Tarrant	2014	North	1.4	1,302
13	DG_SCHUM_2UNITS	Guadalupe	1928	South	3.6	13,877
14	DNDAM_DENISOG1	Grayson	1944	North	40.0	140,595
15	DNDAM_DENISOG2	Grayson	1948	North	40.0	135,430
16	EAGLE_HY_EAGLE_HY1	Maverick	2005	South	9.6	38,690
17	FALCON_FALCONG1	Starr	1954	South	12.0	193
18	FALCON_FALCONG2	Starr	1954	South	12.0	3,178
19	FALCON_FALCONG3	Starr	1954	South	12.0	3,469
20	INKSDA_INKS_G1	Llano	1938	South	14.0	1,951
21	MARBFA_MARBFAG1	Burnet	1951	South	21.0	7,671
22	MARBFA_MARBFAG2	Burnet	1951	South	20.0	6,159
23	MARSFO_MARSFOG1	Travis	1941	South	36.0	1,568
24	MARSFO_MARSFOG2	Travis	1941	South	36.0	7,725
25	MARSFO_MARSFOG3	Travis	1941	South	29.0	608
26	WIRTZ_WIRTZ_G1	Burnet	1951	South	29.0	11,116
27	WIRTZ_WIRTZ_G2	Burnet	1951	South	29.0	9,513
28	WND_WHITNEY1	Bosque	1953	North	20.0	54,032
29	WND_WHITNEY2	Bosque	1953	North	15.0	23,137
Total					542	565,738

* SARA_PreliminaryFall2016.pdf from the webpage of the ERCOT
 (http://www.ercot.com/content/gridinfo/resource/2016/adequacy/sara/SARA-FinalSpring2016.pdf)

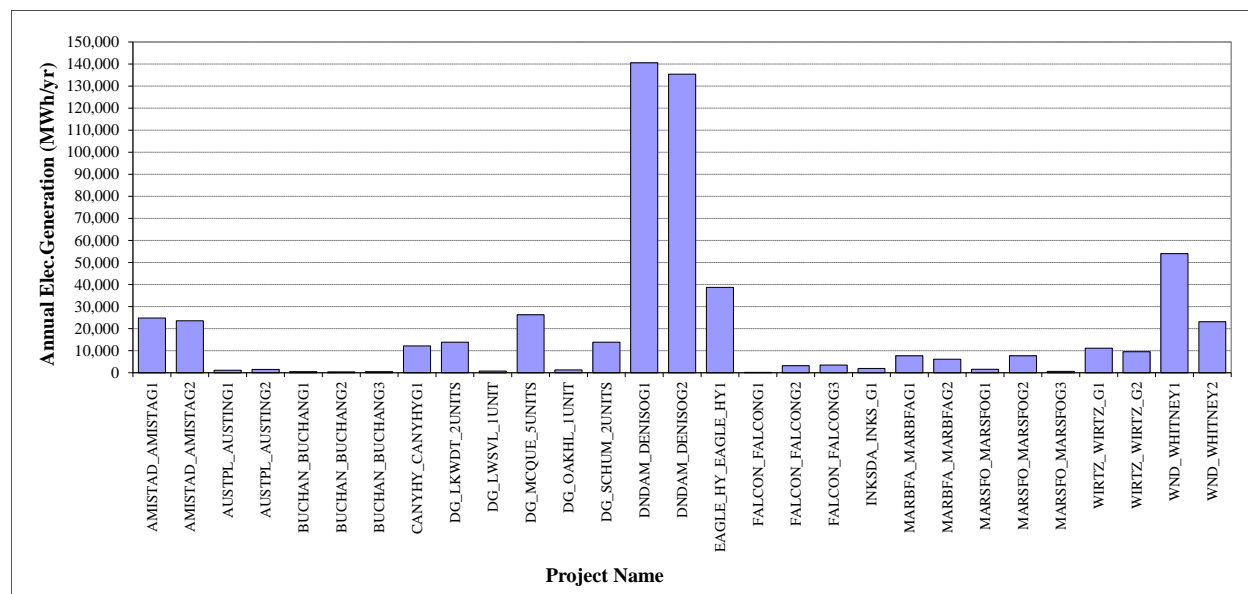
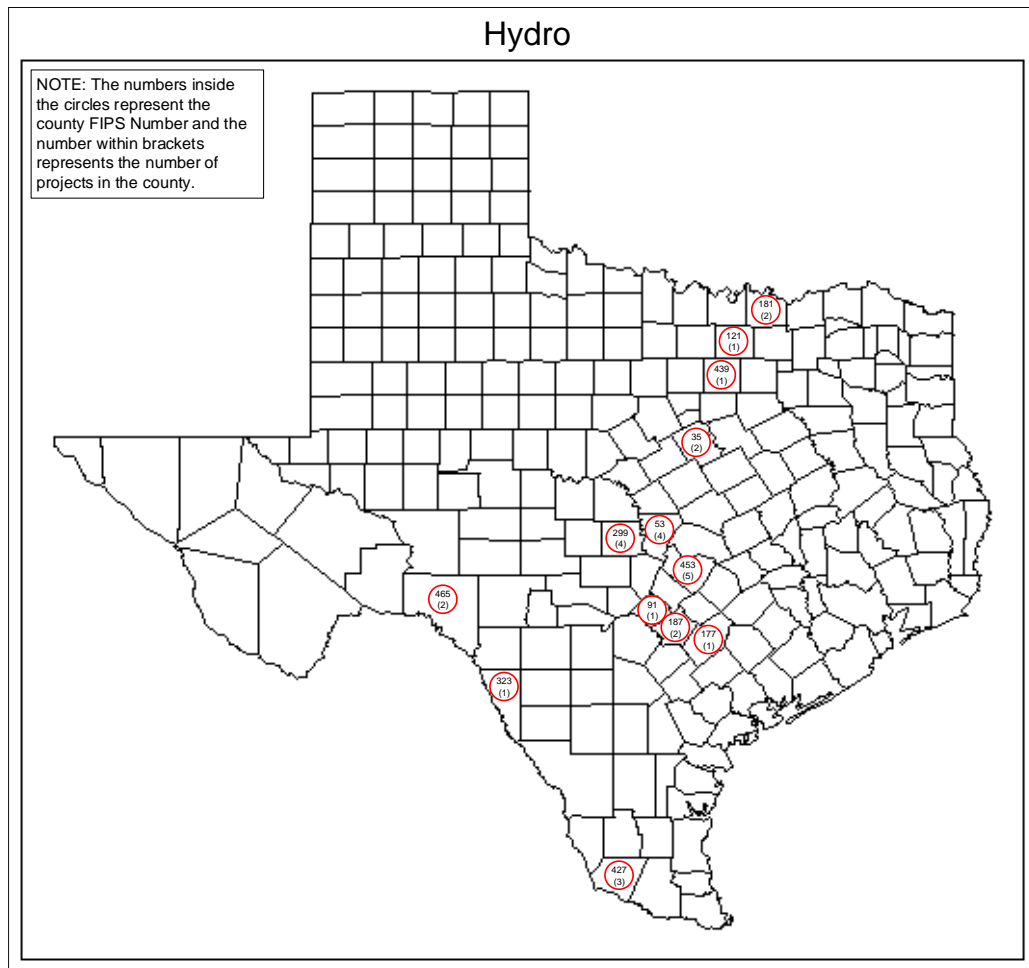


Figure 6-90: Annual Electricity Generation by Hydroelectric Projects in the State of Texas up to 2015



Legend

County	FIPS Code	No. of Projects
Bosque	35	2
Burnet	53	4
Comal	91	1
Denton	121	1
Gonzales	177	1
Grayson	181	2
Guadalupe	187	2
Llano	299	4
Maverick	323	1
Starr	427	3
Tarrant	439	1
Travis	453	5
Val Verde	465	2

Figure 6-91: Hydroelectric Projects throughout Texas up to 2015

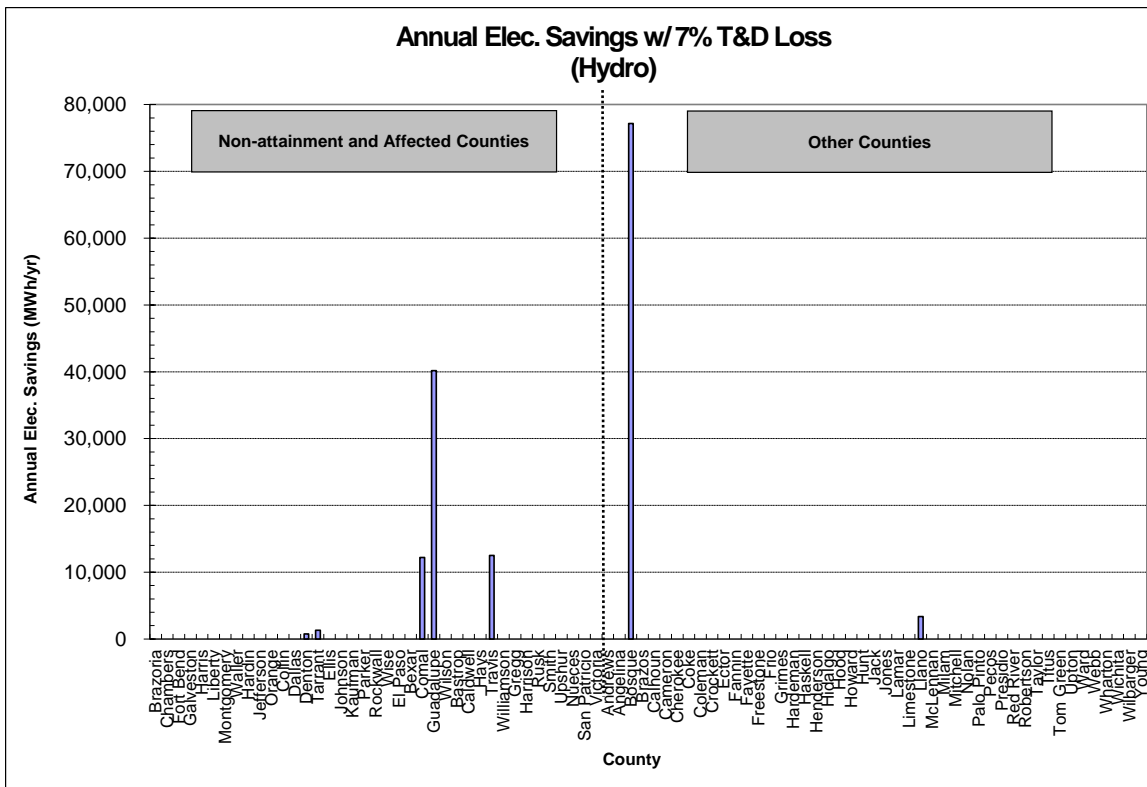


Figure 6-92: Annual Electric Savings per County from Hydroelectric Projects up to 2015

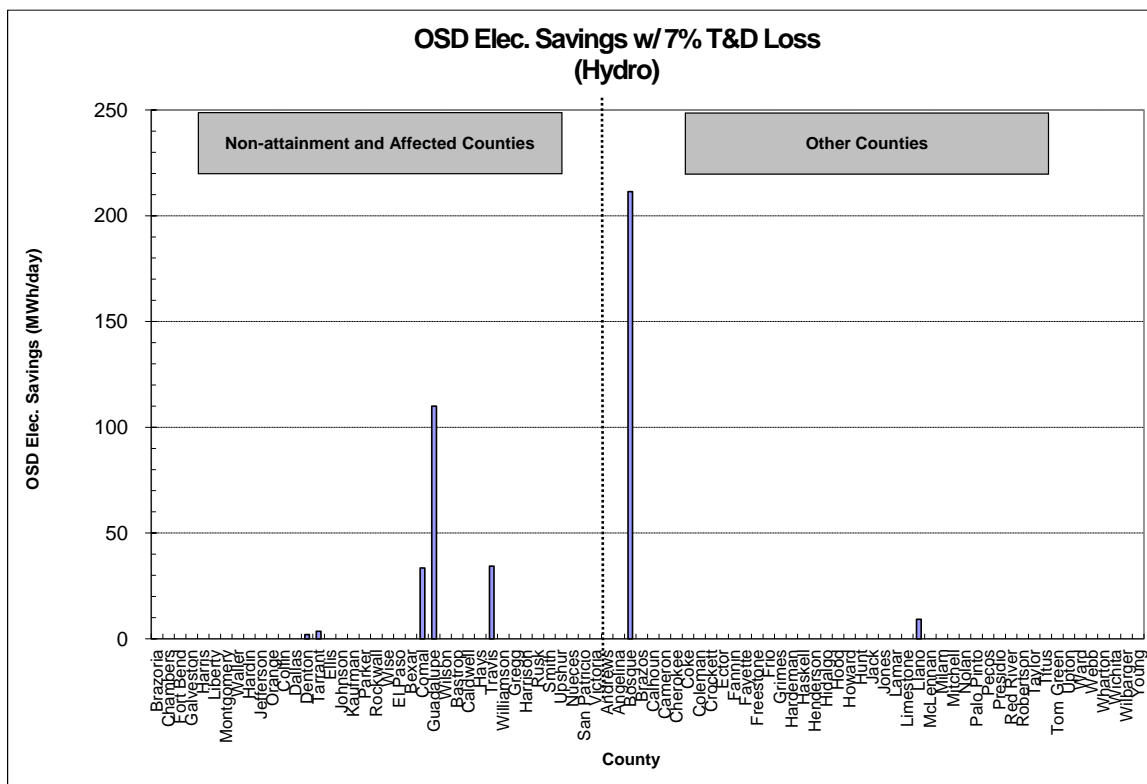


Figure 6-93: Ozone Season Day Electric Savings per County from Hydroelectric Projects up to 2015

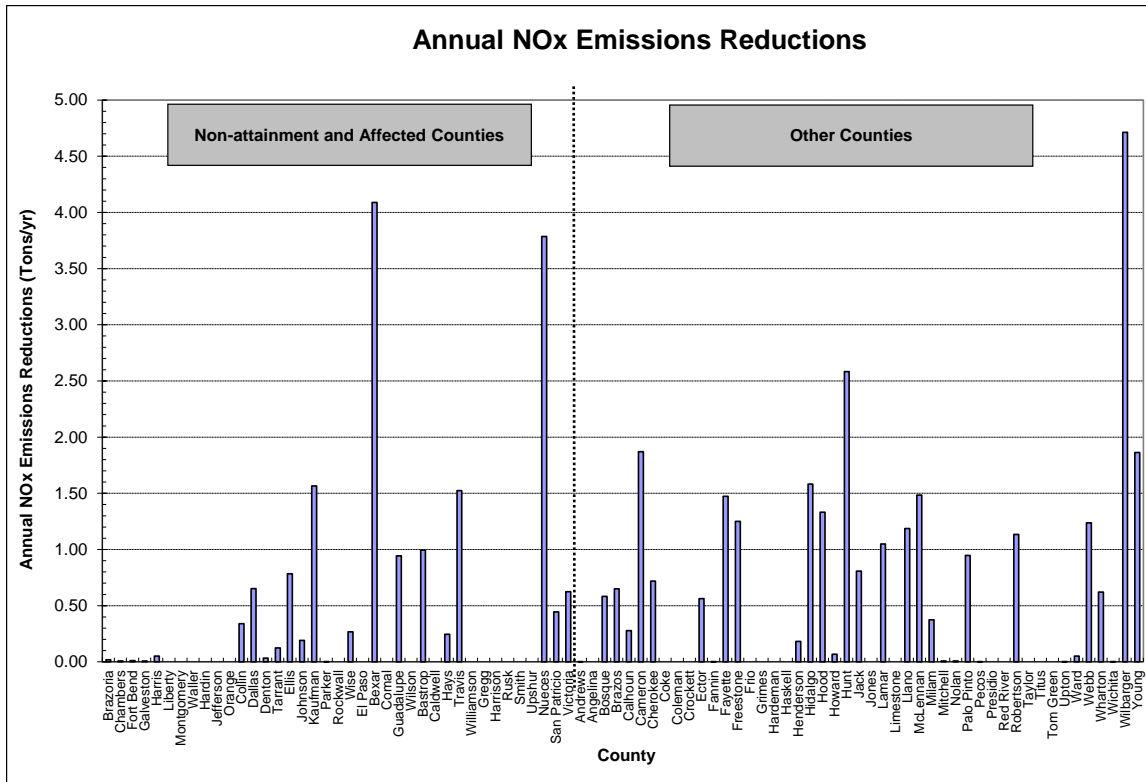


Figure 6-94: NOx Emissions Reductions per County from Hydroelectric Projects up to 2015

6.2.4.1 AMISTAD_AMISTAG1

The hydro power project AMISTAD_AMISTAG1, was in operation for majority of the time during the year except several days in every month. Figure 6-95 shows hourly electricity generation profile. Figure 6-96 shows daily total generation profile for the year 2015.

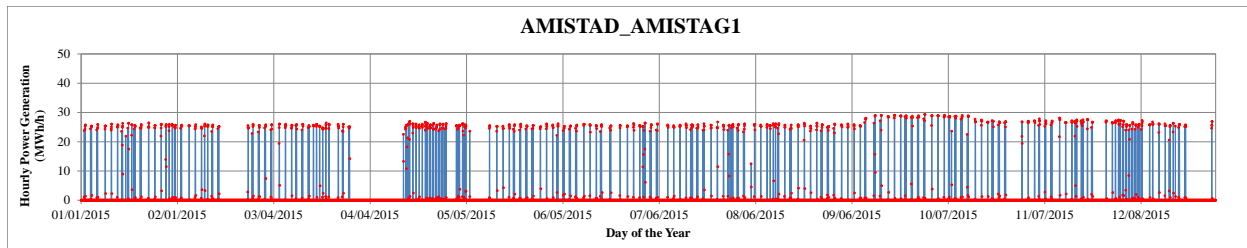


Figure 6-95: Hourly Electricity Generation Profile for Hydroelectric Project AMISTAD_AMISTAG1

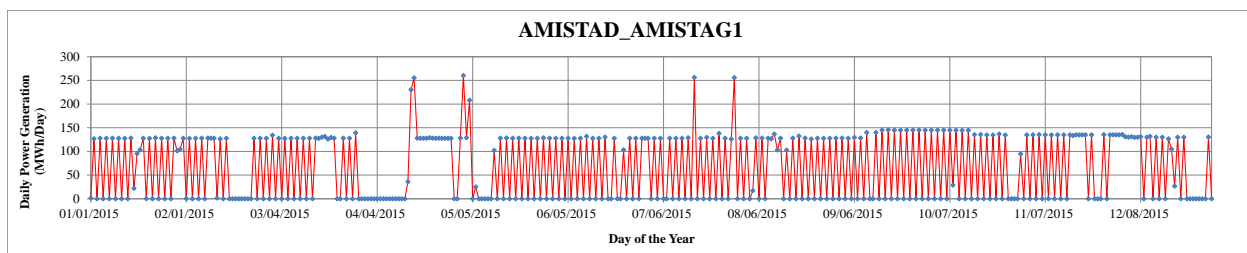


Figure 6-96: Daily Total Electricity Generation Profile for Hydroelectric Project AMISTAD_AMISTAG1

6.2.4.2 AMISTAD_AMISTAG2

The hydro power project AMISTAD_AMISTAG2, was also in operation for majority of the time during the year except several days in every month. Figure 6-97 shows hourly electricity generation profile. Figure 6-98 shows daily total generation profile for the year 2015.

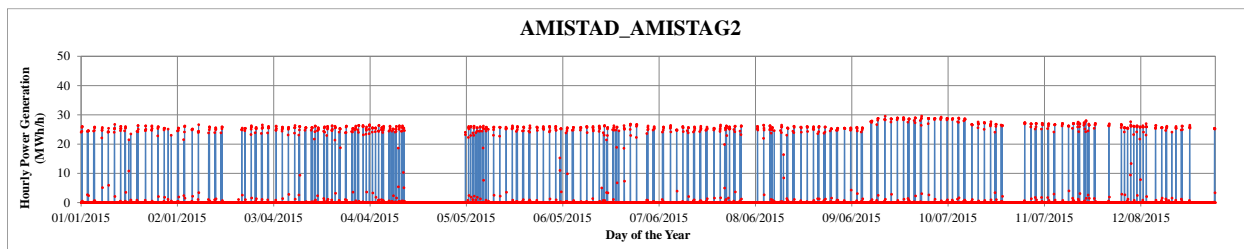


Figure 6-97: Hourly Electricity Generation Profile for Hydroelectric Project AMISTAD_AMISTAG2

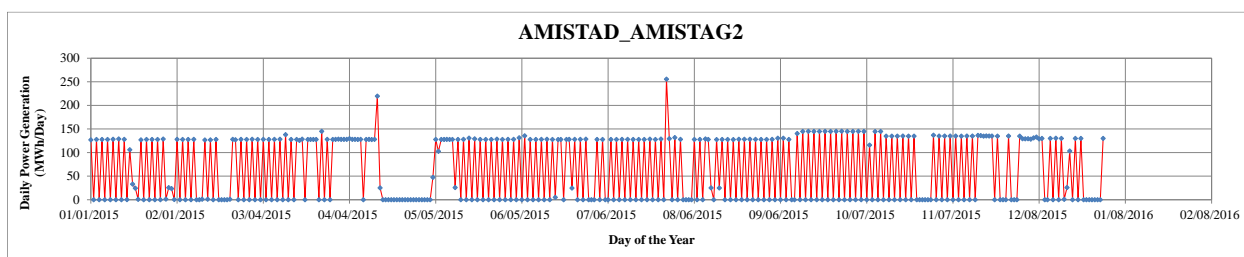


Figure 6-98: Daily Total Electricity Generation Profile for Hydroelectric Project AMISTAD_AMISTAG2

6.2.4.3 AUSTPL_AUSTING1

The hydro power project AUSTPL_AUSTING1 was not operated for most of the year excluding a few days. Most power was generated during the months of May, and the end of October. Figure 6-99 shows hourly electricity generation profile. Figure 6-100 shows daily total generation profile for the year 2015.

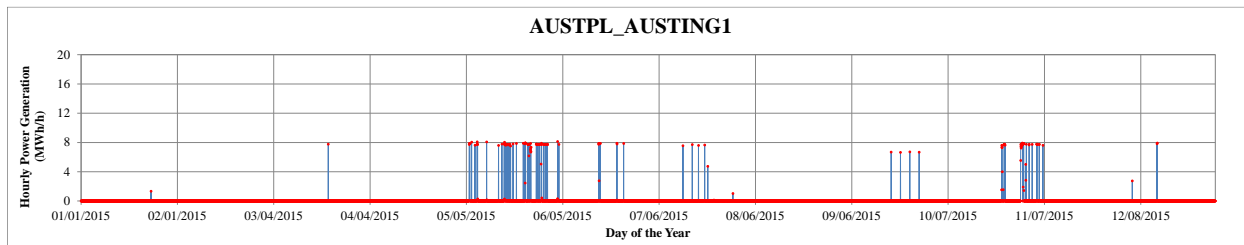


Figure 6-99: Hourly Electricity Generation Profile for Hydroelectric Project AUSTPL_AUSTING1

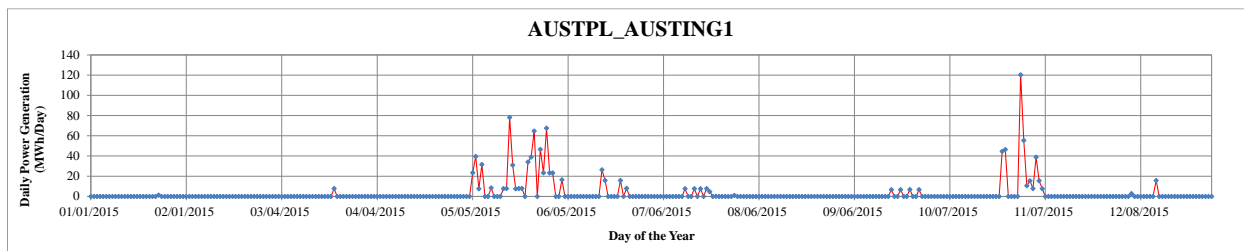


Figure 6-100: Daily Total Electricity Generation Profile for Hydroelectric Project AUSTPL_AUSTING1

6.2.4.4 AUSTPL_AUSTING2

The hydro power project AUSTPL_AUSTING2 was in operation during about the only half of the entire year. Most power was generated during the months of May to October. Figure 6-101 shows hourly electricity generation profile. Figure 6-102 shows daily total generation profile for the year 2015.

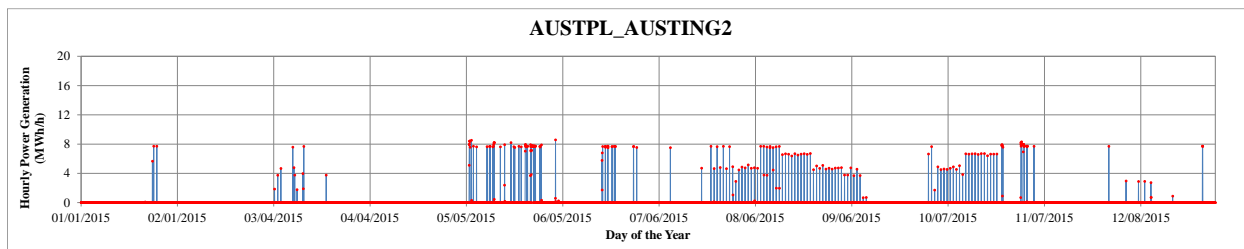


Figure 6-101: Hourly Electricity Generation Profile for Hydroelectric Project AUSTPL_AUSTING2

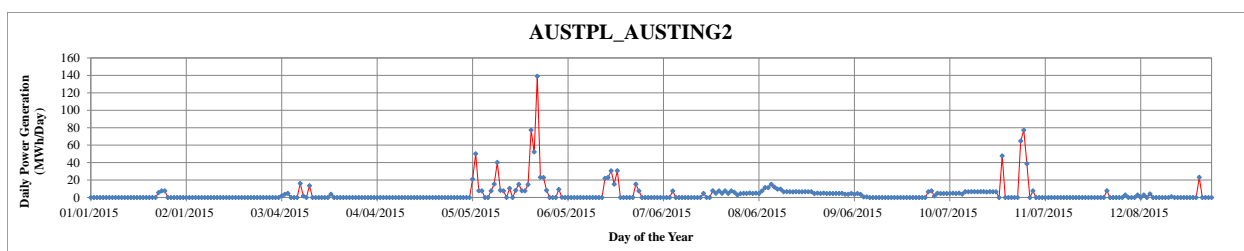


Figure 6-102: Daily Total Electricity Generation Profile for Hydroelectric Project AUSTPL_AUSTING2

6.2.4.5 BUCHAN_BUCHANG1

The hydro power project BUCHAN_BUCHANG1 was not operated for most of the year excluding a few days in March-October. Figure 6-103 shows hourly electricity generation profile and Figure 6-104 shows daily total generation profile for the year 2015.

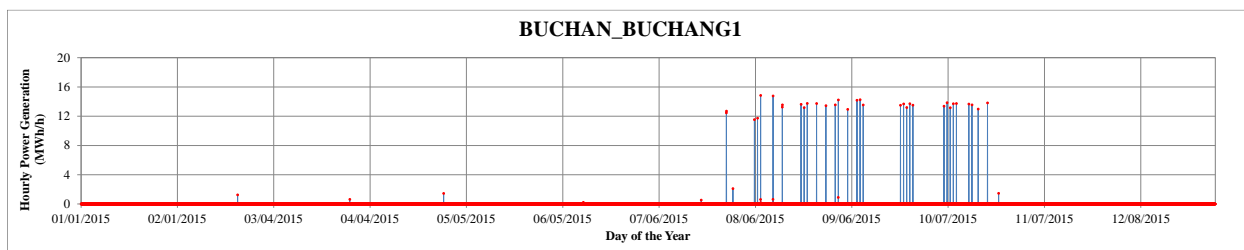


Figure 6-103: Hourly Electricity Generation Profile for Hydroelectric Project BUCHAN_BUCHANG1

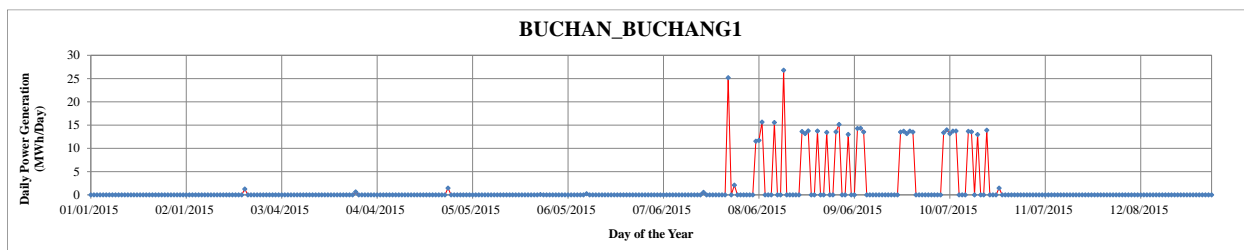


Figure 6-104: Daily Total Electricity Generation Profile for Hydroelectric Project BUCHAN_BUCHANG1

6.2.4.6 BUCHAN_BUCHANG2

The hydro power project BUCHAN_BUCHANG2 was not in operation for majority of the time during the year except several days from August to October. Figure 6-105 shows hourly electricity generation profile and Figure 6-106 shows daily total generation profile for the year 2015.

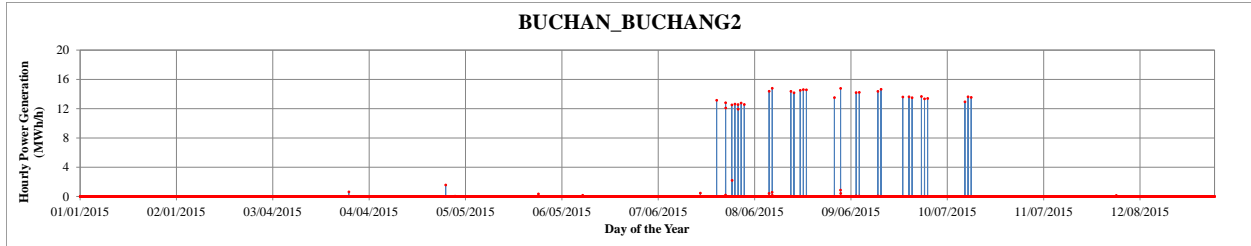


Figure 6-105: Hourly Electricity Generation Profile for Hydroelectric Project BUCHAN_BUCHANG2

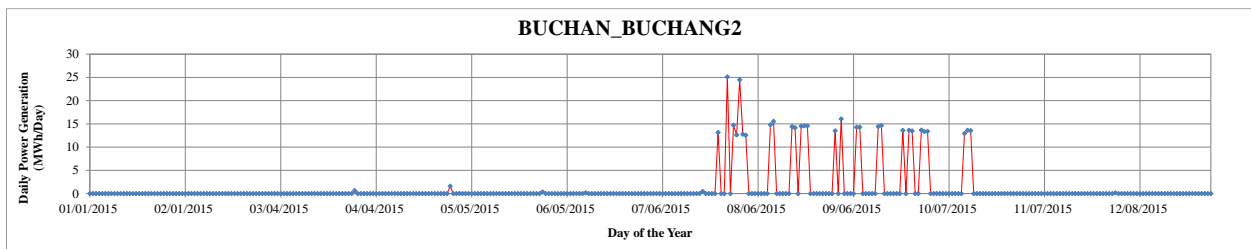


Figure 6-106: Daily Total Electricity Generation Profile for Hydroelectric Project BUCHAN_BUCHANG2

6.2.4.7 BUCHAN_BUCHANG3

The hydro power project BUCHAN_BUCHANG3 was also not in operation for majority of the time during the year. The plant generated power for many days of the months August through October whereas it was in operation only for few days of each month. Figure 6-107 shows hourly electricity generation profile and Figure 6-108 shows daily total generation profile for the year 2015.

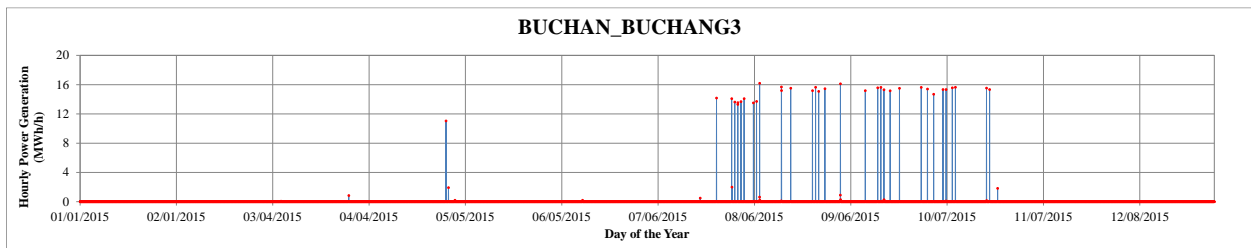


Figure 6-107: Hourly Electricity Generation Profile for Hydroelectric Project BUCHAN_BUCHANG3

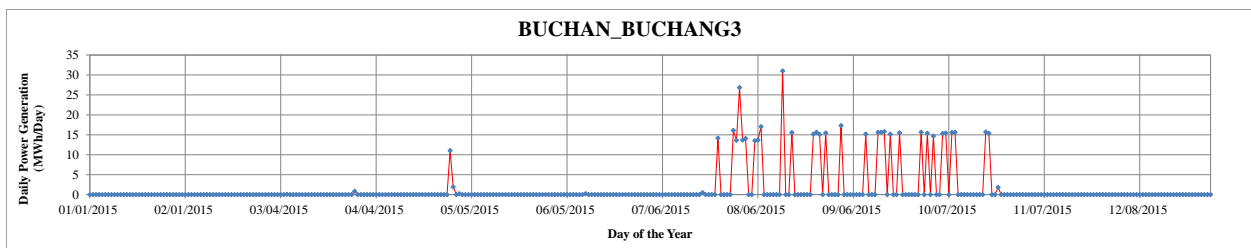


Figure 6-108: Daily Total Electricity Generation Profile for Hydroelectric Project BUCHAN_BUCHANG3

6.2.4.8 CANYHY_CANYHYG1

The hydro power project CANYHY_CANYHYG1 was in operation for majority of the time during the year except for the many days during January to June. Figure 6-109 shows hourly electricity generation profile and Figure 6-110 shows daily total generation profile for the year 2015.

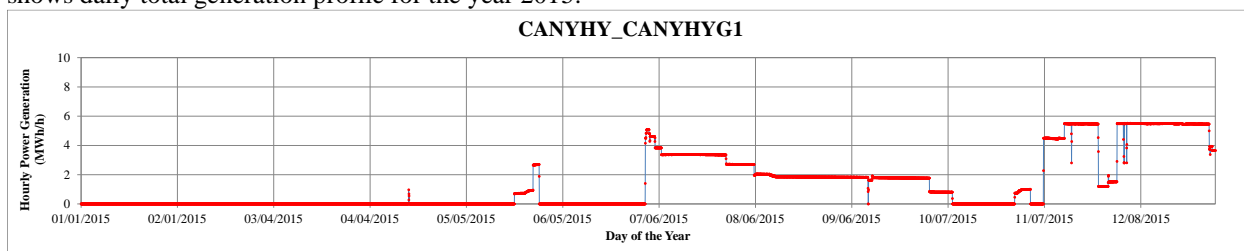


Figure 6-109: Hourly Electricity Generation Profile for Hydroelectric Project CANYHY_CANYHYG1

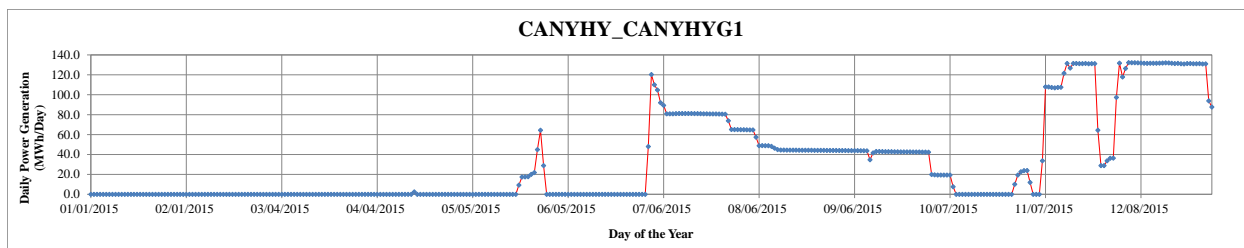


Figure 6-110: Daily Total Electricity Generation Profile for Hydroelectric Project CANYHY_CANYHYG1

6.2.4.9 DG_LKWDT_2UNITS

The hydro power project DG_LKWDT_2UNITS was in operation for majority of the time during the year. Figure 6-111 shows hourly electricity generation profile and Figure 6-112 shows daily total generation profile for the year 2015.

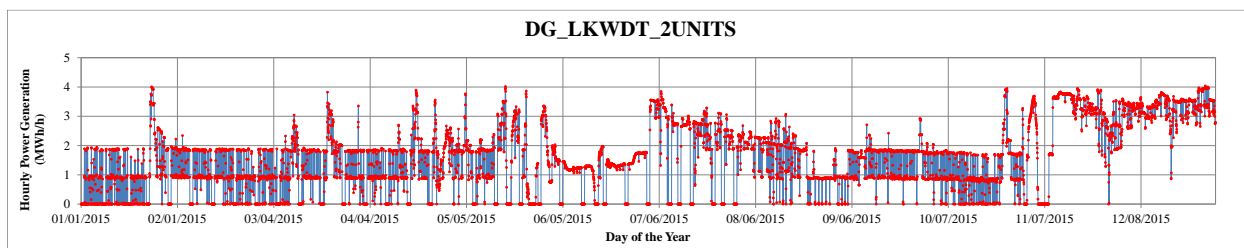


Figure 6-111: Hourly Electricity Generation Profile for Hydroelectric Project DG_LKWDT_2UNITS

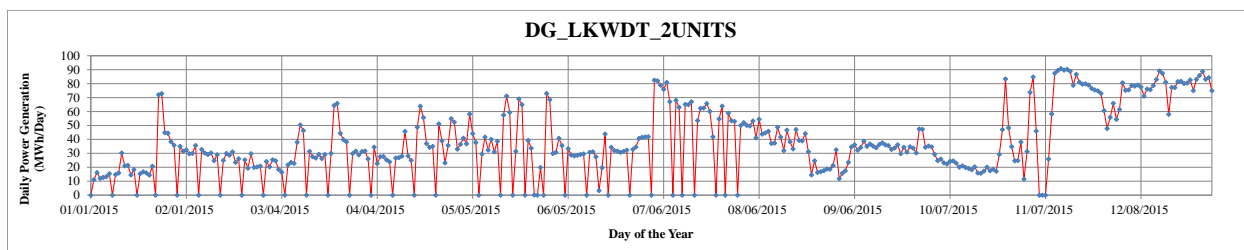


Figure 6-112: Daily Total Electricity Generation Profile for Hydroelectric Project DG_LKWDT_2UNITS

6.2.4.10 DG_LWSVL_1UNIT

The hydro power project DG_LWSVL_1UNIT was also not in operation for majority of the time during the year. Figure 6-113 shows hourly electricity generation profile and Figure 6-114 shows daily total generation profile for the year 2015.

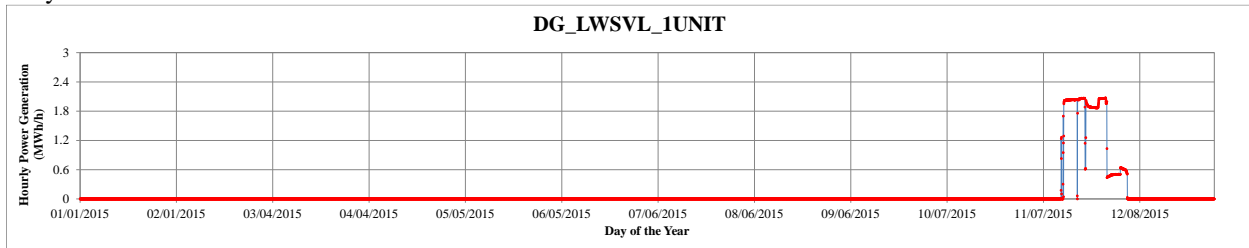


Figure 6-113: Hourly Electricity Generation Profile for Hydroelectric Project DG_LWSVL_1UNIT

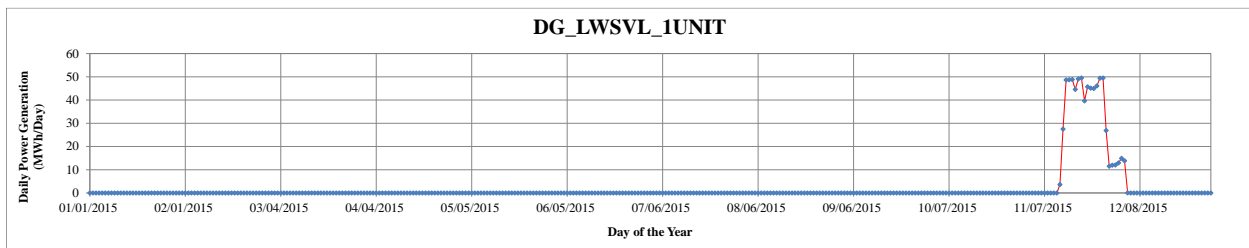


Figure 6-114: Daily Total Electricity Generation Profile for Hydroelectric Project DG_LWSVL_1UNIT

6.2.4.11 DG_MCQUE_5UNITS

The hydro power project DG_MCQUE_5UNITS was also in operation for majority of the time during the year. Figure 6-115 shows hourly electricity generation profile and Figure 6-116 shows daily total generation profile for the year 2015.

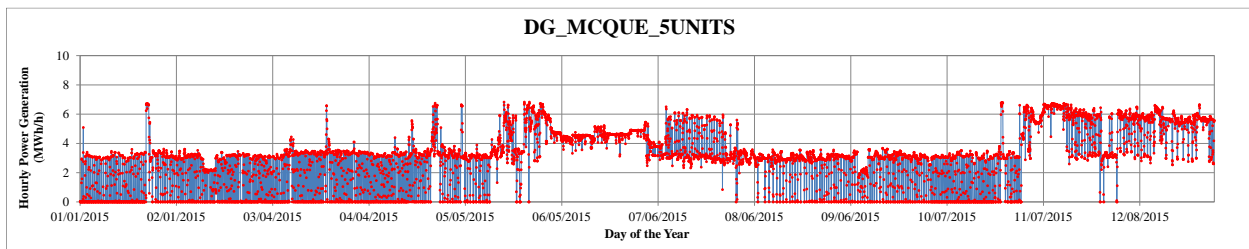


Figure 6-115: Hourly Electricity Generation Profile for Hydroelectric Project DG_MCQUE_5UNITS

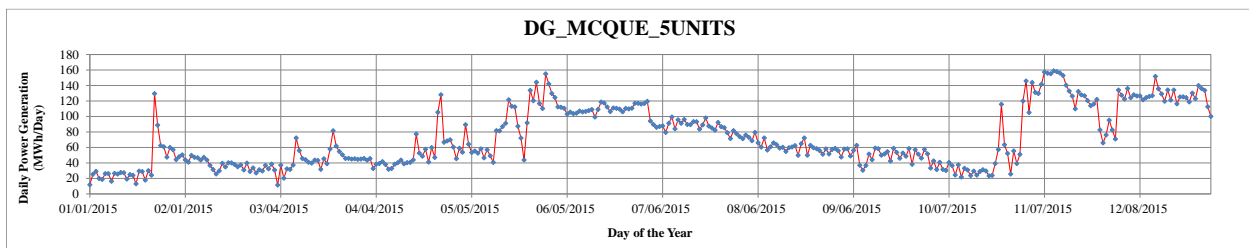


Figure 6-116: Daily Total Electricity Generation Profile for Hydroelectric Project DG_MCQUE_5UNITS

6.2.4.12 DG_OAKHL_1UNIT

The hydro power project DG_OAKHL_1UNIT was also not in operation for majority of the time during the year. Figure 6-117 shows hourly electricity generation profile and Figure 6-118 shows daily total generation profile for the year 2015.

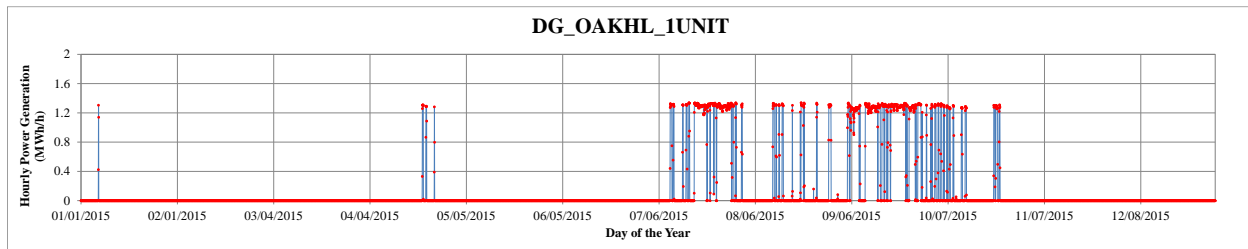


Figure 6-117: Hourly Electricity Generation Profile for Hydroelectric Project DG_OAKHL_1UNIT

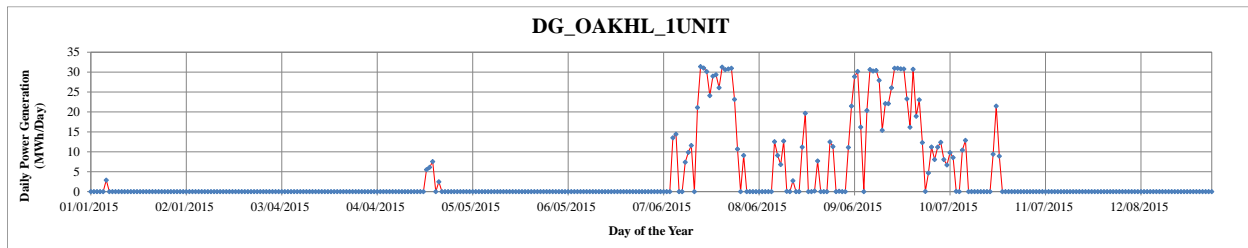


Figure 6-118: Daily Total Electricity Generation Profile for Hydroelectric Project DG_OAKHL_1UNIT

6.2.4.13 DG_SCHUM_2UNITS

The hydro power project DG_SCHUM_2UNITS was in continuous operation throughout the entire year. Figure 6-119 shows hourly electricity generation profile and Figure 6-120 shows daily total generation profile for the year 2015.

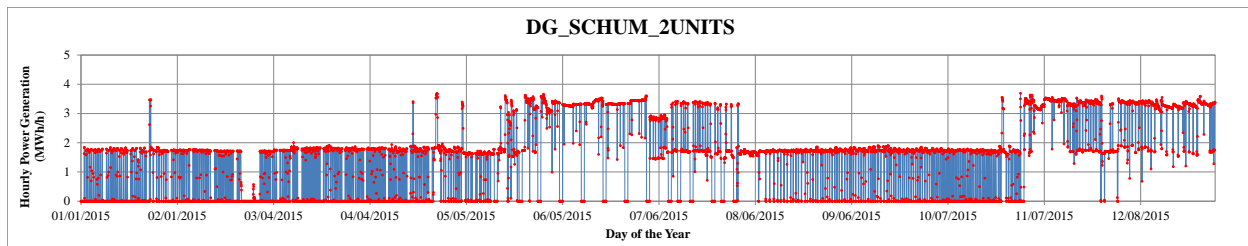


Figure 6-119: Hourly Electricity Generation Profile for Hydroelectric Project DG_SCHUM_2UNITS

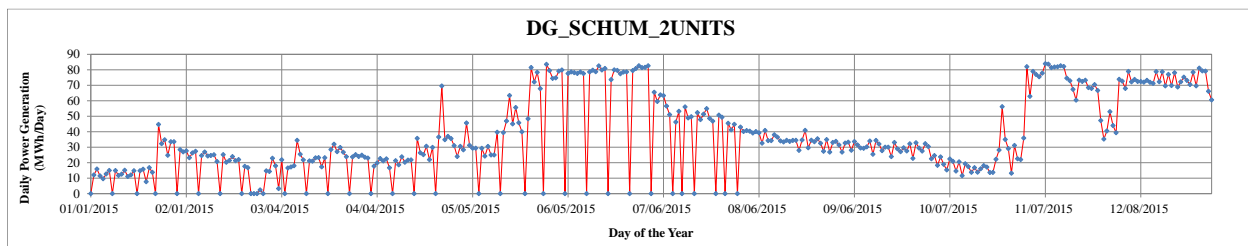


Figure 6-120: Daily Total Electricity Generation Profile for Hydroelectric Project DG_SCHUM_2UNITS

6.2.4.14 DNDAM_DENISOG1

The hydro power project DNDAM_DENISOG1 was in operation about the only half of the time during the year. Figure 6-121 shows hourly electricity generation profile and Figure 6-122 shows daily total generation profile for the year 2015.

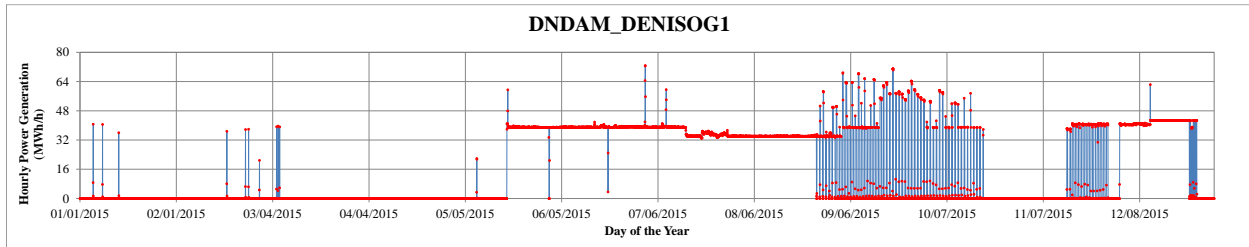


Figure 6-121: Hourly Electricity Generation Profile for Hydroelectric Project DNDAM_DENISOG1

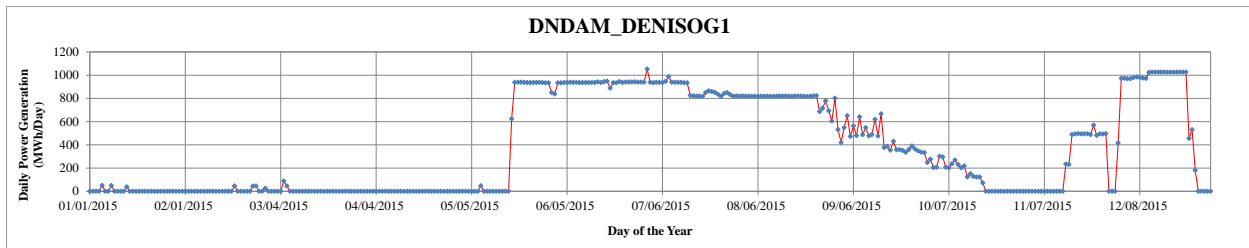


Figure 6-122: Daily Total Electricity Generation Profile for Hydroelectric Project DNDAM_DENISOG1

6.2.4.15 DNDAM_DENISOG2

The hydro power project DNDAM_DENISOG2 was in operation about the only half of the time during the year. Figure 6-123 shows hourly electricity generation profile and Figure 6-124 shows daily total generation profile for the year 2015.

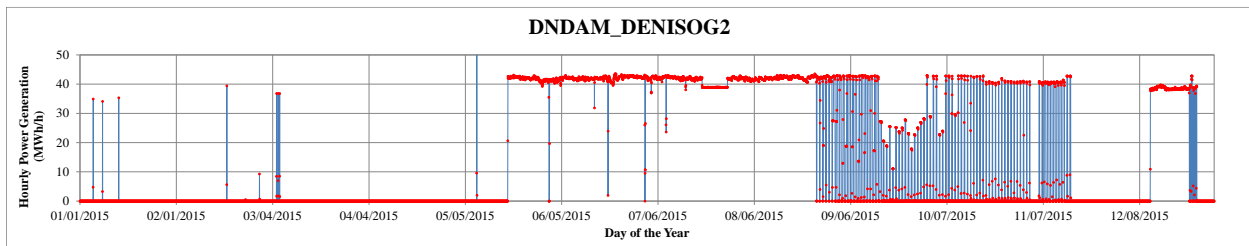


Figure 6-123: Hourly Electricity Generation Profile for Hydroelectric Project DNDAM_DENISOG2

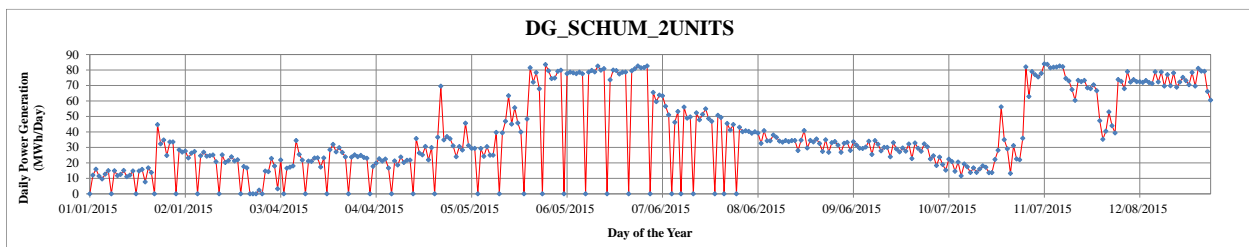


Figure 6-124: Daily Total Electricity Generation Profile for Hydroelectric Project DNDAM_DENISOG2

6.2.4.16 EAGLE_HY_EAGLE_HY

The hydro power project EAGLE_HY_EAGLE_HY was in continuous operation for majority of the time during the year except for several days in February and April. Figure 6-125 shows hourly electricity generation profile and Figure 6-126 shows daily total generation profile for the year 2015.

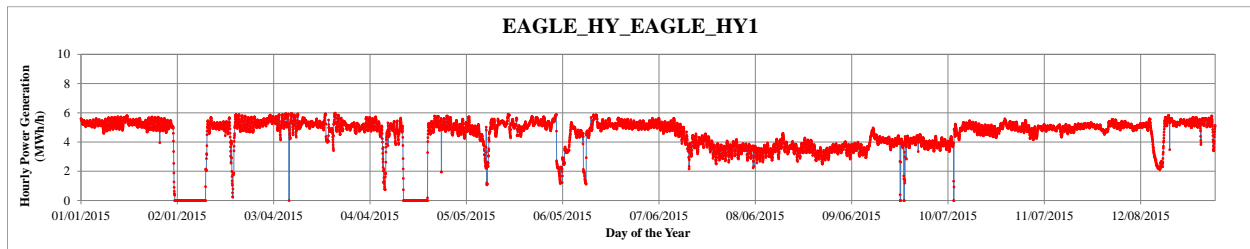


Figure 6-125: Hourly Electricity Generation Profile for Hydroelectric Project EAGLE_HY_EAGLE_HY

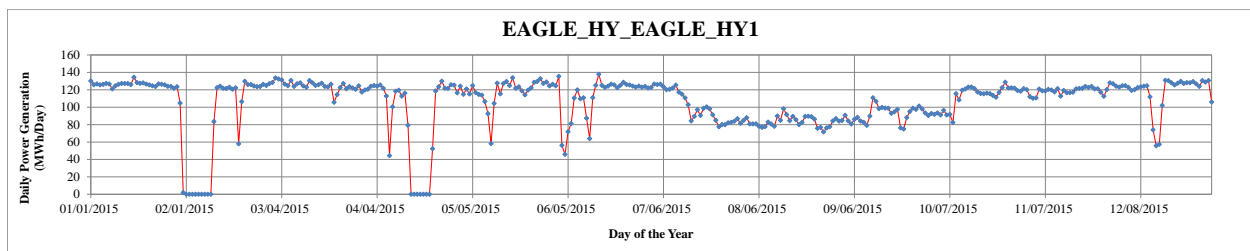


Figure 6-126: Daily Total Electricity Generation Profile for Hydroelectric Project EAGLE_HY_EAGLE_HY

6.2.4.17 FALCON_FALCONG1

The hydro power project FALCON_FALCONG1 was in operation only for few months in the entire year. Figure 6-127 shows hourly electricity generation profile and Figure 6-128 shows daily total generation profile for the year 2015.

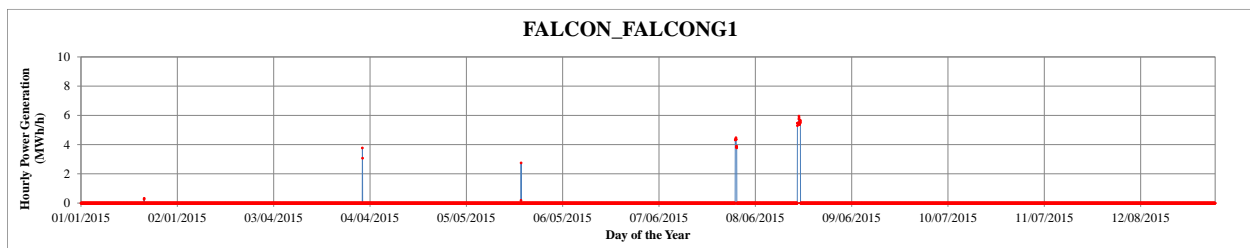


Figure 6-127: Hourly Electricity Generation Profile for Hydroelectric Project FALCON_FALCONG1

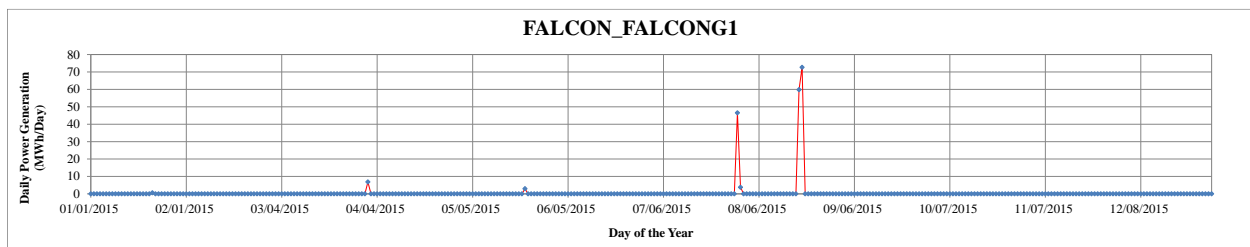


Figure 6-128: Daily Total Electricity Generation Profile for Hydroelectric Project FALCON_FALCONG1

6.2.4.18 FALCON_FALCONG2

The hydro power project FALCON_FALCONG2 was not in operation for majority of the time during the year. Figure 6-129 shows hourly electricity generation profile and Figure 6-130 shows daily total generation profile for the year 2015.

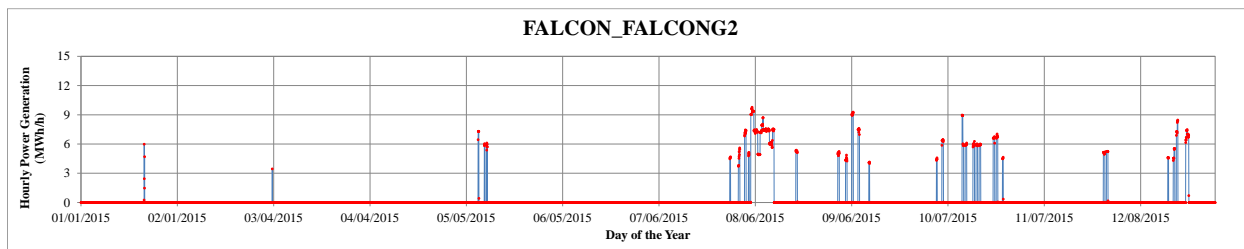


Figure 6-129: Hourly Electricity Generation Profile for Hydroelectric Project FALCON_FALCONG2

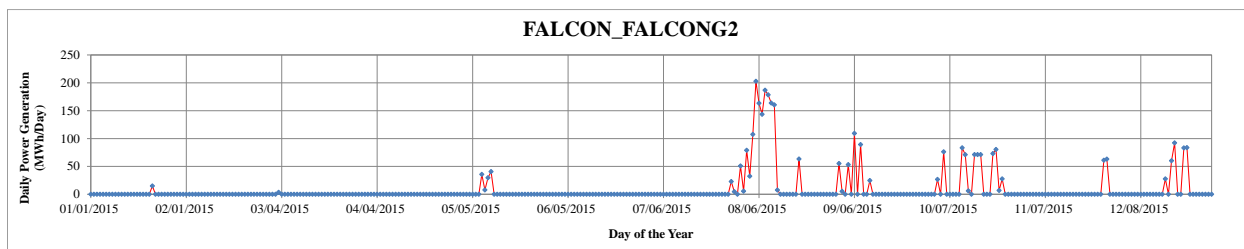


Figure 6-130: Daily Total Electricity Generation Profile for Hydroelectric Project FALCON_FALCONG2

6.2.4.19 FALCON_FALCONG3

Similar to FALCON_FALCONG2, the hydro power project FALCON_FALCONG3 was not in operation for majority of the time during the year. Figure 6-131 shows hourly electricity generation profile and Figure 6-132 shows daily total generation profile for the year 2015.

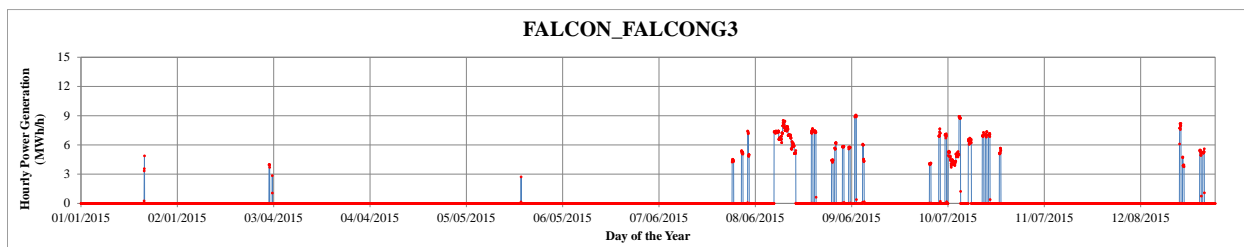


Figure 6-131: Hourly Electricity Generation Profile for Hydroelectric Project FALCON_FALCONG3

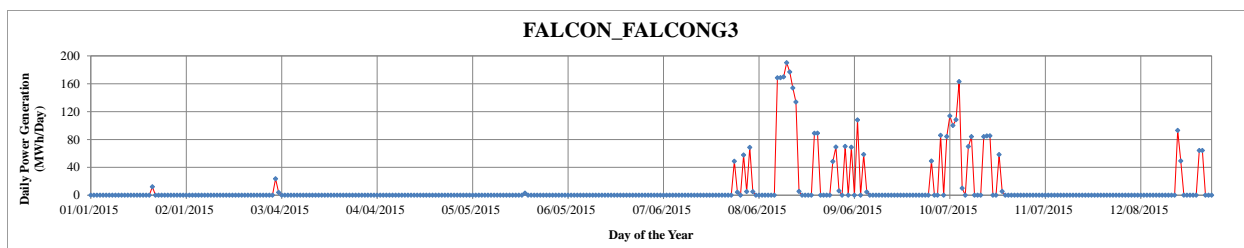


Figure 6-132: Daily Total Electricity Generation Profile for Hydroelectric Project FALCON_FALCONG3

6.2.4.20 INKSDA_INKS_G1

The hydro power project INKSDA_INKS_G1 was mostly in operation. The electricity generation was very consistent. Figure 6-133 shows hourly electricity generation profile and Figure 6-134 shows daily total generation profile for the year 2015.

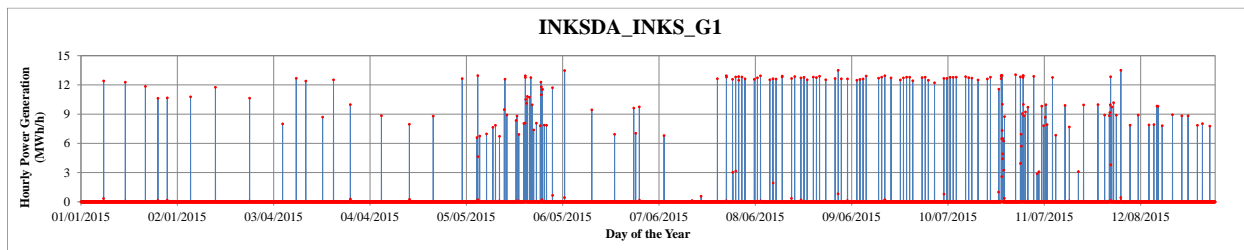


Figure 6-133: Hourly Electricity Generation Profile for Hydroelectric Project INKSDA_INKS_G1

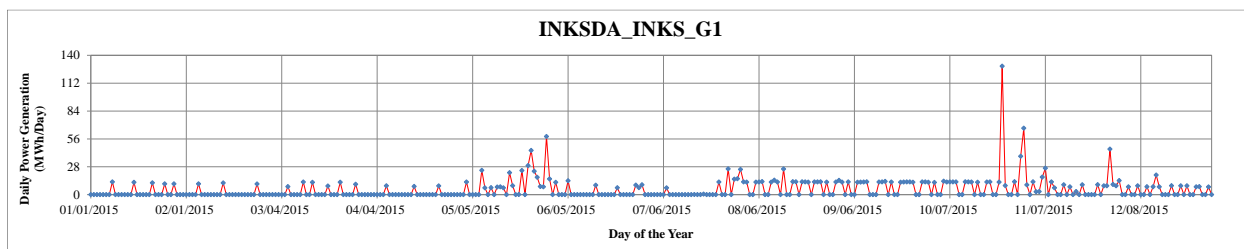


Figure 6-134: Daily Total Electricity Generation Profile for Hydroelectric Project INKSDA_INKS_G1

6.2.4.21 MARBFA_MARBFAG1

The hydro power project MARBFA_MARBFAG1 was not in operation for majority of the time during the year. Figure 6-135 shows hourly electricity generation profile and Figure 6-136 shows daily total generation profile for the year 2015.

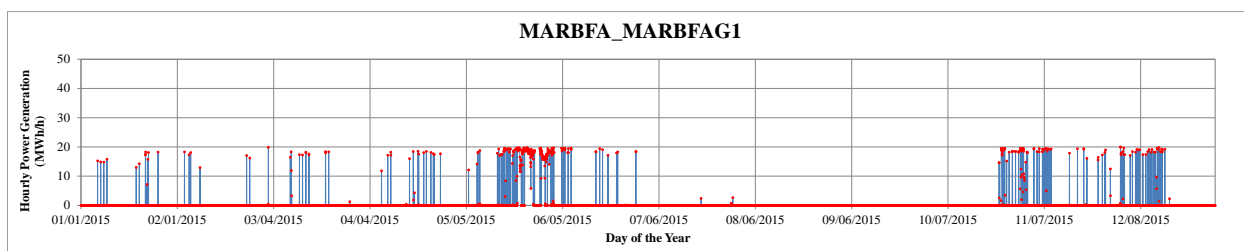


Figure 6-135: Hourly Electricity Generation Profile for Hydroelectric Project MARBFA_MARBFAG1

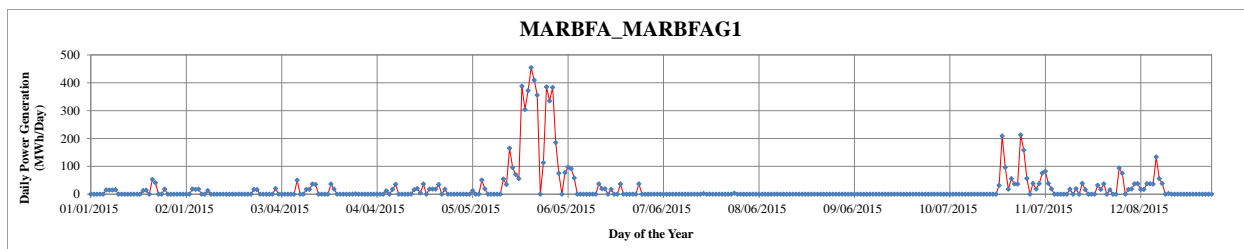


Figure 6-136: Daily Total Electricity Generation Profile for Hydroelectric Project MARBFA_MARBFAG1

6.2.4.22 MARBFA_MARBFAG2

The hydro power project MARBFA_MARBFAG2 was also not in operation for majority of the time during the year except for few days of each month. Figure 6-137 shows hourly electricity generation profile and Figure 6-138 shows daily total generation profile for the year 2015.

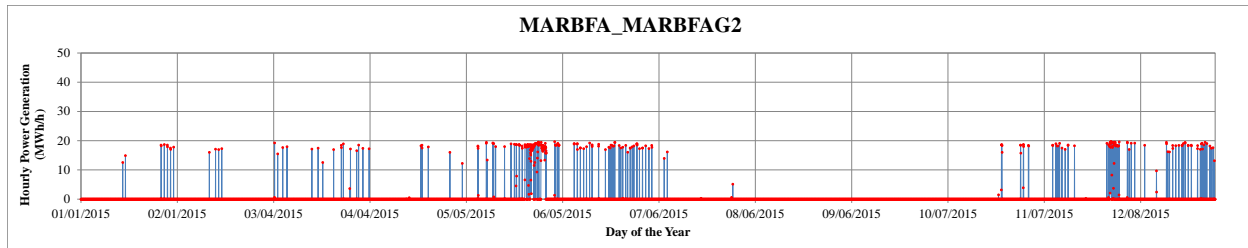


Figure 6-137: Hourly Electricity Generation Profile for Hydroelectric Project MARBFA_MARBFAG2

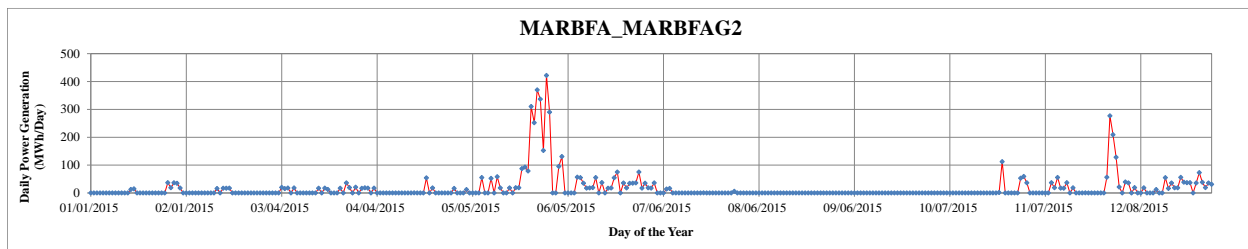


Figure 6-138: Daily Total Electricity Generation Profile for Hydroelectric Project MARBFA_MARBFAG2

6.2.4.23 MARSFO_MARSFOG1

The hydro power project MARSFO_MARSFOG1 was also not in operation for majority of the time during the year with intermittent electric generation. Figure 6-139 shows hourly electricity generation profile and Figure 6-140 shows daily total generation profile for the year 2015.

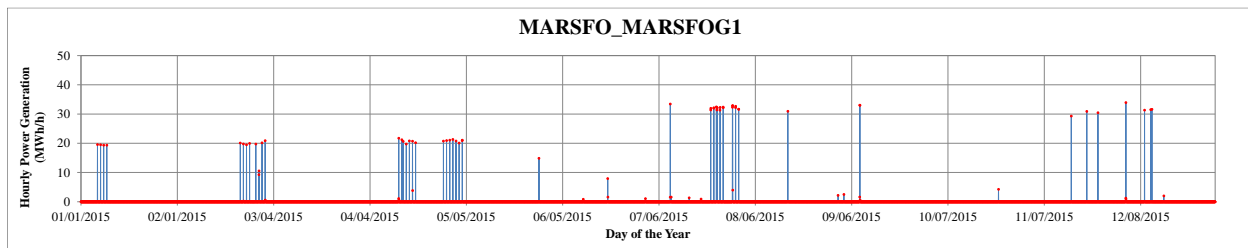


Figure 6-139: Hourly Electricity Generation Profile for Hydroelectric Project MARSFO_MARSFOG1

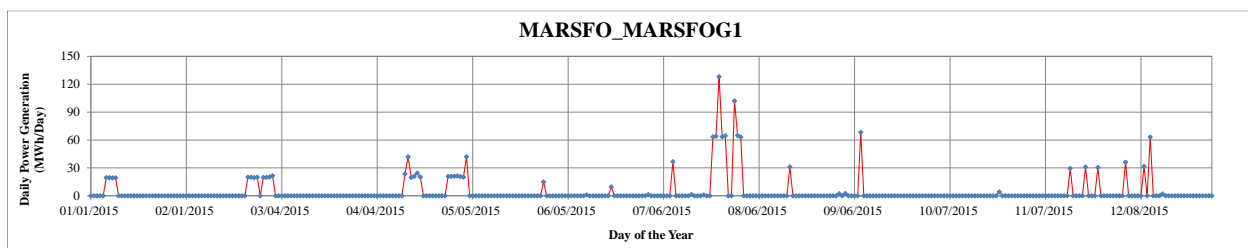


Figure 6-140: Daily Total Electricity Generation Profile for Hydroelectric Project MARSFO_MARSFOG1

6.2.4.24 MARSFO_MARSFOG2

The hydro power project MARSFO_MARSFOG2 was also not in operation for majority of the time during the year with intermittent electric generation. Figure 6-141 shows hourly electricity generation profile and Figure 6-142 shows daily total generation profile for the year 2015.

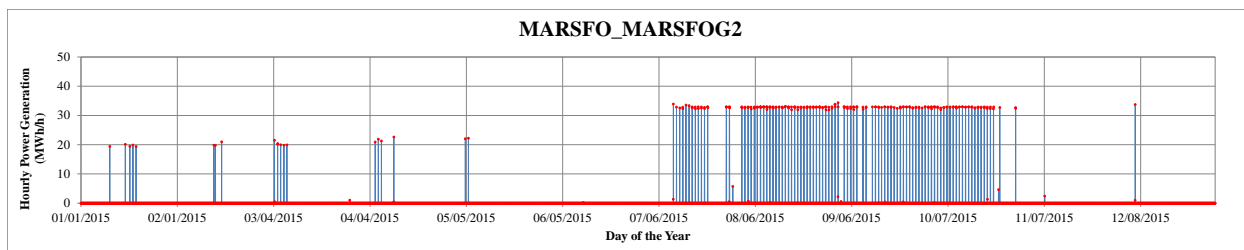


Figure 6-141: Hourly Electricity Generation Profile for Hydroelectric Project MARSFO_MARSFOG2

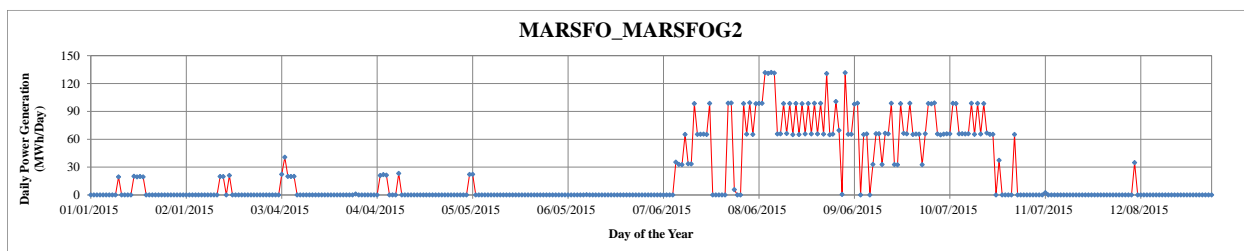


Figure 6-142: Daily Total Electricity Generation Profile for Hydroelectric Project MARSFO_MARSFOG2

6.2.4.25 MARSFO_MARSFOG3

The hydro power project MARSFO_MARSFOG3 was also not in operation for majority of the time during the year with intermittent electric generation. Figure 6-143 shows hourly electricity generation profile and Figure 6-144 shows daily total generation profile for the year 2015.

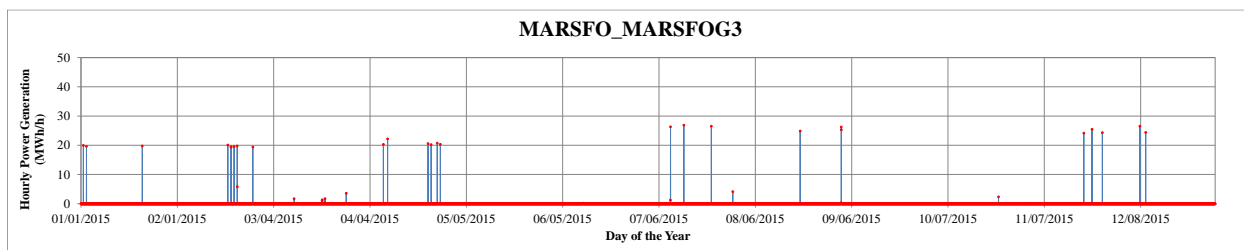


Figure 6-143: Hourly Electricity Generation Profile for Hydroelectric Project MARSFO_MARSFOG3

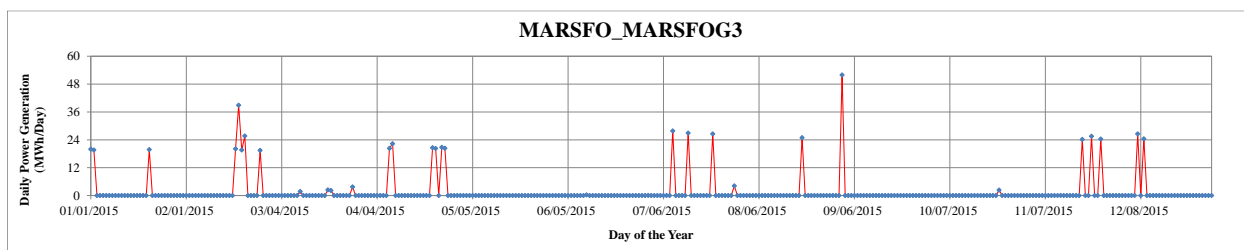


Figure 6-144: Daily Total Electricity Generation Profile for Hydroelectric Project MARSFO_MARSFOG3

6.2.4.26 WIRTZ_WIRTZ_G1

The hydro power project WIRTZ_WIRTZ_G1 was in intermittent operations throughout the entire year with few days in operation for each month. Figure 6-145 shows hourly electricity generation profile and Figure 6-146 shows daily total generation profile for the year 2015.

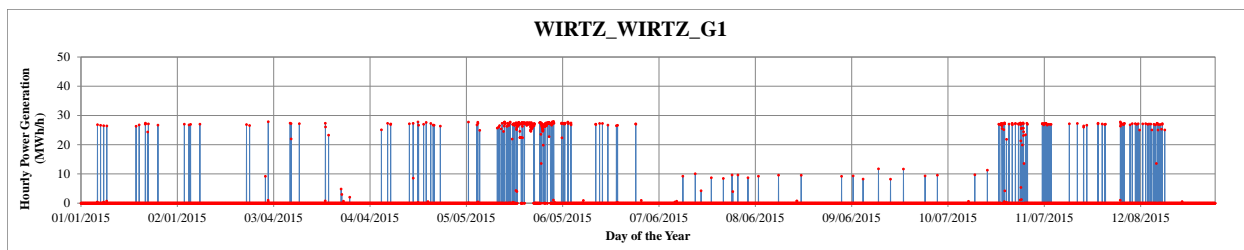


Figure 6-145: Hourly Electricity Generation Profile for Hydroelectric Project WIRTZ_WIRTZ_G1

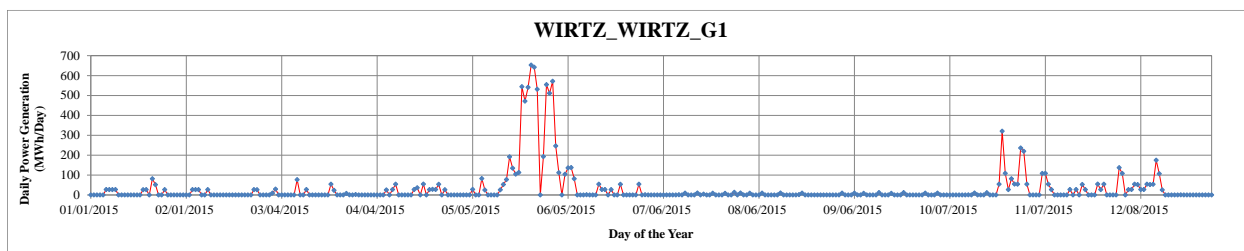


Figure 6-146: Daily Total Electricity Generation Profile for Hydroelectric Project WIRTZ_WIRTZ_G1

6.2.4.27 WIRTZ_WIRTZ_G2

The hydro power project WIRTZ_WIRTZ_G2 was also in intermittent operations throughout the entire year with few days in operation for each month. Figure 6-147 shows hourly electricity generation profile and Figure 6-148 shows daily total generation profile for the year 2015.

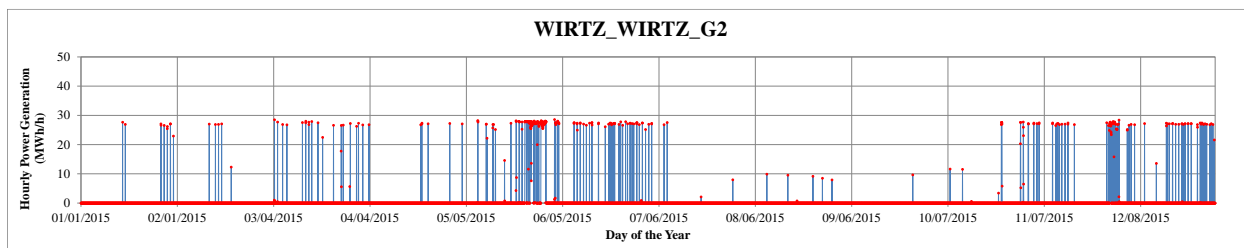


Figure 6-147: Hourly Electricity Generation Profile for Hydroelectric Project WIRTZ_WIRTZ_G2

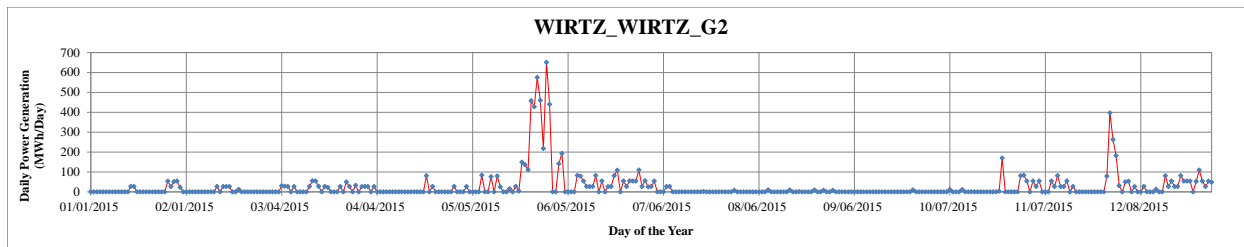


Figure 6-148: Daily Total Electricity Generation Profile for Hydroelectric Project WIRTZ_WIRTZ_G2

6.2.4.28 WND_WHITNEY1

The hydro power project WND_WHITNEY1 was in operation during about the only half of the entire year. Figure 6-149 shows hourly electricity generation profile and Figure 6-150 shows daily total generation profile for the year 2015.

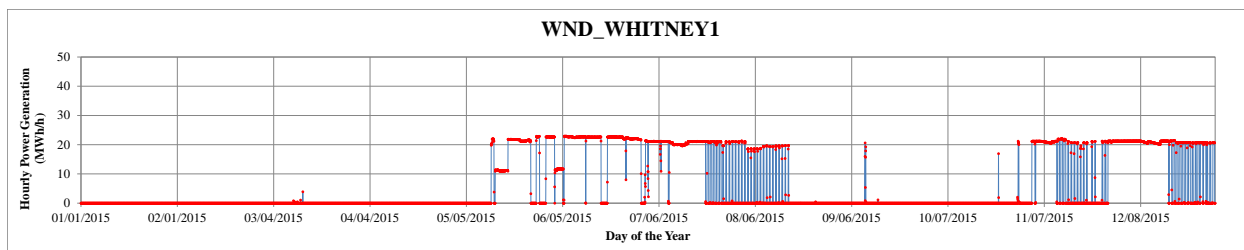


Figure 6-149: Hourly Electricity Generation Profile for Hydroelectric Project WND_WHITNEY1

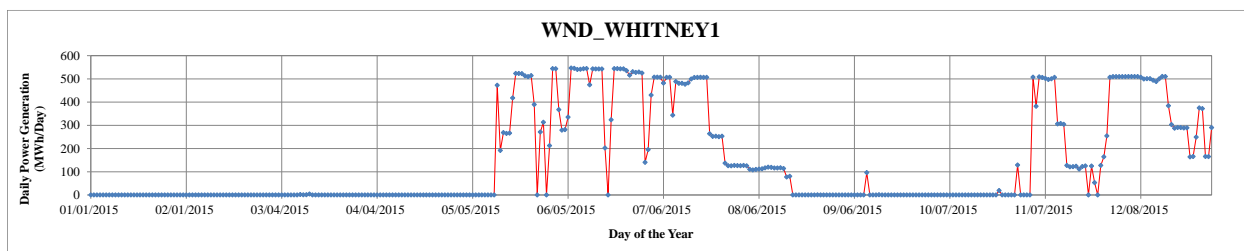


Figure 6-150: Daily Total Electricity Generation Profile for Hydroelectric Project WND_WHITNEY1

6.2.4.29 WND_WHITNEY2

The hydro power project WND_WHITNEY2 was mostly operated from November to December. Figure 6-151 shows hourly electricity generation profile and Figure 6-152 shows daily total generation profile for the year 2015.

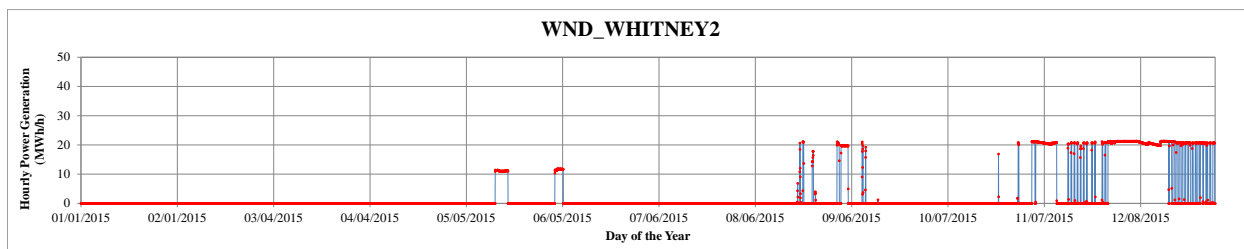


Figure 6-151: Hourly Electricity Generation Profile for Hydroelectric Project WND_WHITNEY2

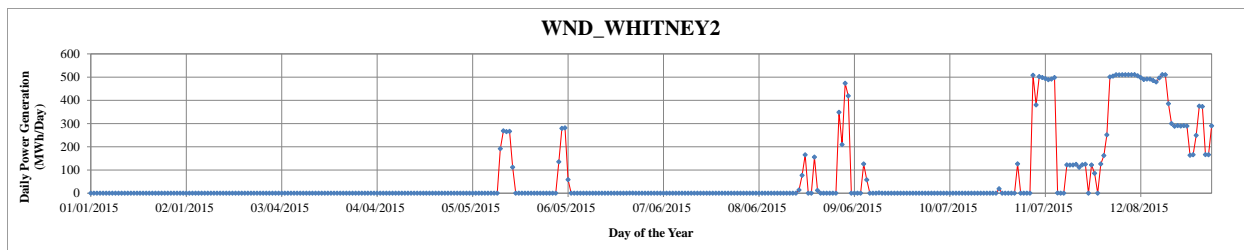


Figure 6-152: Daily Total Electricity Generation Profile for Hydroelectric Project WND_WHITNEY2

6.2.5 Geothermal

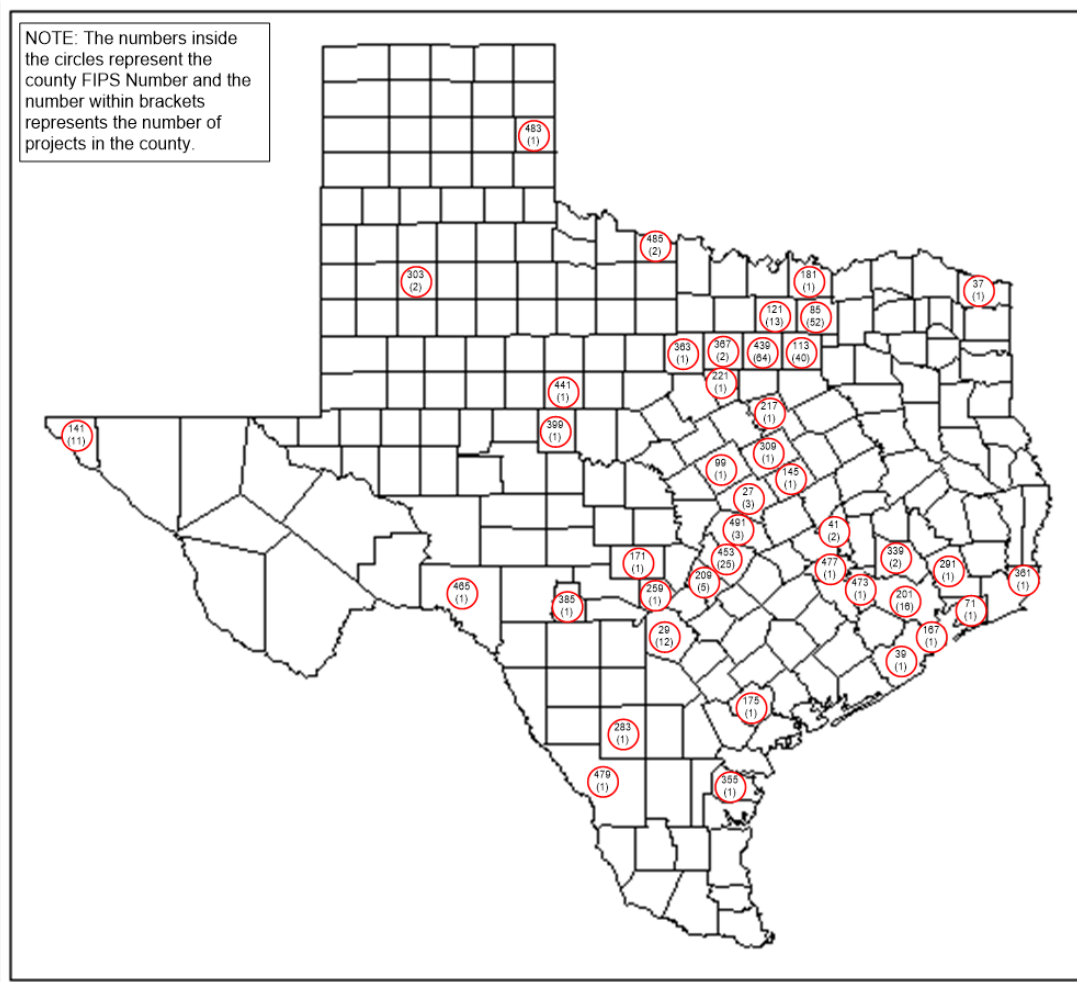
The total number of the identified geothermal projects for the present report was 286. Most of the geothermal projects throughout the State of Texas were identified from various web sources. For 2015 no new geothermal project was found.

Table 10-4 (in Appendix C) shows the list of the geothermal projects with their names, respective county, implementation year, installed capacity, and service area. In addition, Figure 6-153 shows the location of the geothermal projects for each county. We could not find either annual or OSD electricity savings and the NO_x emission reductions per county from the geothermal projects, which were not possible to be estimated.

6.2.6 Landfill Gas-Fired

The information for the landfill gas-fired power plant section was found in the Environmental Protection Agency's (EPA's) project database for Landfill Methane Outreach Program (LMOP). The information includes all the landfill gas-fired power plants in operational, candidate, potential, construction, shutdown, and planned status. The EPA updated the projects information, and this report located the updated project information till March 2016.

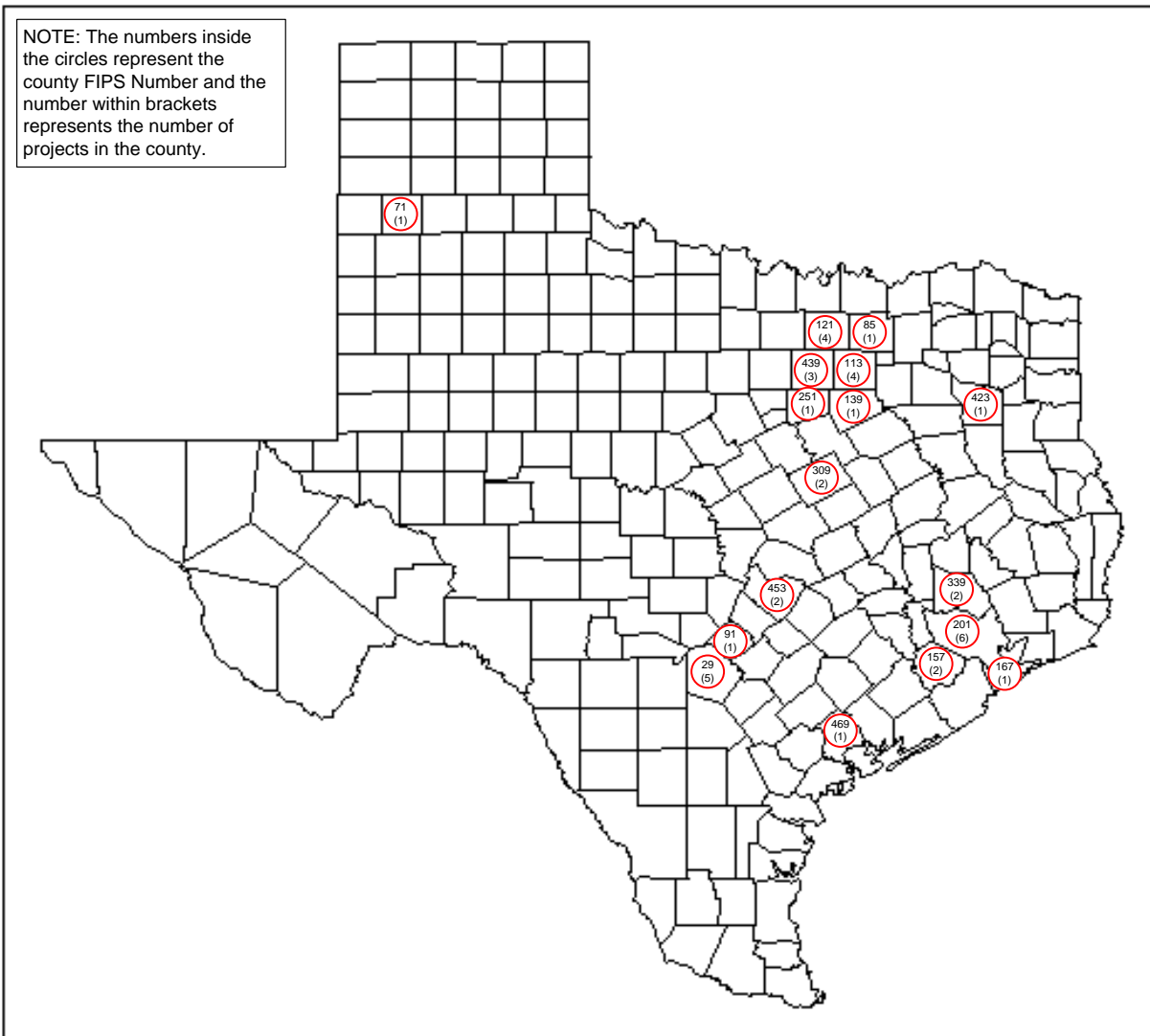
Based on the EPA project database, 36 operational, 46 candidate, 38 potential, 3 construction, 11 shutdown, 3 planned, and 1 other landfill gas-fired projects were identified. All of the landfill gas-fired power plants are listed in Table 10-5 through Table 10-11 (Appendix C), respectively. Figure 6-154 shows in the Texas map the location and the number of landfilling projects in each county which are operational. This report did not include either annual or OSD electricity savings and NO_x emission reductions per county from the landfill gas-fired projects, which could not be estimated.



Legend

County	FIPS Code	No. of Projects	County	FIPS Code	No. of Projects
Bell	27	3	Liberty	291	1
Bexar	29	12	Lubbock	303	2
Bowie	37	1	McLennan	309	1
Brazoria	39	1	Montgomery	339	2
Brazos	41	2	Nueces	355	1
Chambers	71	1	Orange	361	1
Collin	85	52	Palo pinto	363	1
Coryell	99	1	Parker	367	2
Dallas	113	40	Real	385	1
Denton	121	13	Runnels	399	1
El Paso	141	11	Tarrant	439	64
Falls	145	1	Taylor	441	1
Galveston	167	1	Travis	453	26
Gillespie	171	1	Val Verde	465	1
Goliad	175	1	Waller	473	1
Grayson	181	1	Washington	477	1
Harris	201	16	Webb	479	1
Hays	209	5	Wheeler	483	1
Hill	217	1	Wichita	485	2
Hood	221	1	Williamson	491	3
Kendall	259	1	N/A	-	5
La Salle	283	1			

Figure 6-153: Geothermal Projects Installed throughout Texas up to 2015



Legend

County	FIPS Code	No. of Projects
Bexar	29	5
Chambers	71	1
Collin	85	1
Comal	91	1
Dallas	113	4
Denton	121	4
Ellis	139	1
Fort Bend	157	2
Galveston	167	1
Harris	201	6
Johnson	251	1
Montgomery	339	2
Smith	423	1
Tarrant	439	3
Travis	453	2
Victoria	469	1

Figure 6-154: Landfill Gas-Fired Projects Installed throughout Texas up to 2015

6.3 Results

We increased the number of renewable energy projects from 2014 to 2015. Around 46 new renewable energy projects in Texas, which were not part of the previous report published in July 2015, were identified, located and included in the present report. The details of the new project can be found in Table 6-6.

Table 6-6: Comparison of the Projects Identified from Previous and Present Reports

Renewable Energy Source	Number of Projects in 2014, (a)	Number of New Projects in 2015, (b)	Total Number of Projects in 2015, (a+b)
Solar Photovoltaic ¹ (Solar Power)	4647 (12)	37 (4)	4684 (16)
Solar Thermal	38	0	38
Biomass ²	20	1	21
Hydroelectric ³	27	2	29
Geothermal	286	0	286
Landfill Gas-Fired ⁴	36	2	36

Note:

¹ The Open PV project database of National Renewable Energy Laboratory (NREL) (<https://openpv.nrel.gov/>), which was checked in March, 2015, provides updated PV projects for 2006, 2008, 2009, 2010, 2011, 2012. Thus, the total number of PV projects until 2013, including PV projects from various websites, is now 4,534. Previously, it was 3,223.

² This report includes one more biomass project information which was not identified in the previous year report; however, it does not mean the State of Texas has a new biomass power plant constructed in 2015.

³ This report includes one more hydroelectric project information which was not identified in the previous year report; however, it does not mean the State of Texas has a new hydroelectric power plant constructed in 2015.

⁴ Landfill gas-fired projects information from EPA have seven sub-categories for their status: operational, candidates, potential, construction, shutdown, planned, and other. EPA rearranged/added/removed some projects information within the seven sub-categories. Operational projects were considered for the number of the projects.

This report includes four more (new) and two less (shutdown) operational landfill gas-fired project information which was not identified in the previous year report; however, the new operational projects do not mean the State of Texas has new landfill gas-fired projects constructed in 2015.

This report also presents county-wide annual/OSD energy savings and annual NO_x emission reductions for solar photovoltaic including solar power, solar thermal, biomass, and hydroelectric projects. The annual/OSD energy savings calculation for solar photovoltaic and solar thermal was conducted using the eCalc tool. The power generation data for the other renewable energy projects (solar power, biomass, and hydroelectric), which were obtained from the ERCOT, were used to evaluate the annual/OSD energy generation. Then, the annual NO_x emission reductions calculation was conducted with the special version of Texas 2010 eGrid, based on their energy savings/generation.

In 2015, the total annual/OSD energy savings from each renewable projects across all the counties were:

- solar photovoltaic projects with 7% T&D loss: 319,343 MWh/yr and 960.54 MWh/day; in addition, solar power projects only with 7% T&D loss: 328,352 MWh/yr and 900 MWh/day,
- solar thermal projects with 7% T&D loss: 248 MWh/yr and 0.7 MWh/day,
- biomass projects with 7% T&D loss: 543,454 MWh/yr and 1,489 MWh/day, and
- hydroelectric projects with 7% T&D loss: 157,776 MWh/yr and 432 MWh/day.

In 2015, the annual NO_x emission reductions from renewable projects across all the counties were:

- solar photovoltaic projects: 102.606 tons/yr; in addition, solar power projects only: 105.5 tons/yr,
- solar thermal projects: 0.1 tons/yr,
- biomass projects: 150.3 tons/yr, and
- hydroelectric projects: 45.3 tons/yr.

These savings and reductions do not represent all of the solar photovoltaic and solar thermal projects in the State of Texas. They only reflect the projects based on the investigated resources.

6.4 References

Haberl, J.; Baltazar, J.C.; Yazdani, B.; Claridge, D.; Mao, C.; Oh, S. “Statewide Air Emissions Calculations from Wind and Other Renewables”, July 2015, Energy Systems Laboratory Report No. ESL-TR-15-07-01.

Useful information was obtained from the following websites:

- <http://www.meridiansolar.com/portfolio/>
- <http://205.254.135.7/cneaf/electricity/page/eia860.html>
- <http://www.iegltd.com/project.refer.geo.master.pdf>
- <http://www.iegltd.com/html/information.html>
- <http://geoheat.oit.edu/state/tx/tx.htm>
- <http://www.southwestpv.com/SolarSite/SolarSiteMain.aspx>
- <http://www.fhp-mfg.com/>
- <http://www.txspc.com/renewable-energy-links.html>
- <http://www.cincosolar.com/>
- <http://www.solarcommunity.com/our-work>
- <http://www.sunrisesolartx.com/commercial/>
- http://apps1.eere.energy.gov/buildings/publications/pdfs/building_america/ba_bc_imagine_hot-humid.pdf
- <http://www.abengoasolar.com/corp/web/en/index.html>
- http://geo-energy.org/plants_dev.aspx#Texas
- http://www.woodheatandair.com/trane/ground-source_design.pdf
- <http://www.energyhomes.org/projects.html>
- http://www.acq.osd.mil/ie/energy/library/GSHP-Report_JAN242007.pdf
- <http://greenteamacgeothermal.com/commercial-geothermal-installation/>
- <http://www.aashe.org/resources/campus-solar-photovoltaic-installations/search/?csrfmiddlewaretoken=8421721492263db299795d88ca3171f4&q=texas>
- <http://www.solar-estimate.org/index.php?page=casestudies>
- <https://www.texasrenewables.com/reports.asp>

7 REVIEW OF ERCOT'S RENEWABLE ENERGY CREDIT PROGRAM INFORMATION

7.1 Introduction

In this section, the information posted on ERCOT's Renewable Energy Credit Program site, www.texasrenewables.com, was reviewed for use in the Laboratory's report to the TCEQ. In particular, information posted under the "Public Reports" tab was downloaded and assembled into an appropriate format for review. This includes ERCOT's 2001 through 2015 reports to the Legislature, which were converted into tabular format for analysis and insertion into this report. Similarly, information from ERCOT's listing of REC generators was inspected to determine how it compared with other sources of information the Laboratory has assembled.

7.2 Summary of Renewable Projects in Texas

Each year ERCOT is required to compile a list of grid-connected sources that generate electricity from renewable energy and report it to the Legislature.

Table 7-1 shows power generator list, Table 7-2 shows quarterly electricity generation by renewable sources from year from 2001 until 2015. Table 7-3 contains the data reported by ERCOT from 2001 through 2015. Figure 7-1, Figure 7-2, Figure 7-3 and Figure 7-4 have been included to better illustrate the annual data collected by ERCOT. In Figure 7-1 the annual total electricity generation of all the renewable sources is shown. In Figure 7-2, the annual electric generation of renewable sources excluding wind is shown. In Figure 7-3, the annual electric generation of renewable sources excluding wind and hydro is shown. Similarly, in Figure 7-4, the annual electric generation of renewable sources excluding wind, hydro and biomass is shown. This was done to understand the contribution of individual energy source to the total electricity generated. In the figures and tables, it is clear to see that the electricity generated by wind each year is the largest single source of renewable energy in Texas, which has grown from 565,597 MWh in 2001 to 45,165,341 MWh in 2015. This is followed by:

- Biomass energy has grown from 39,496 MWh in 2003 to 349,600 MWh in 2015;
- Hydroelectric energy has grown from 30,639 MWh in 2001 to 414,289 MWh in 2015;
- Landfill gas energy has grown from 29,412 MWh in 2002 to 561,915 MWh in 2015; and
- Solar energy has grown from 87 MWh in 2002 to 410,318 MWh in 2015.

Other sources of information present some differences in values of the renewable electricity generated in Texas. It has been found some discrepancies between U.S. DOE Energy Information Administration and ERCOT sources on wind generation, but it has been a small difference. The wind electricity generation data from the ERCOT website is similar to the generation data from the EIA website or slightly higher. The EIA wind generation for 2015 is 44,959 thousand MWh in net generation, and ERCOT is about 0.45% higher.

Table 7-1: ERCOT REC Generator List up to 2015 (Reference: <https://www.texasrenewables.com/publicReports/rpt1.asp>)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
El Paso Electric Company	El Paso Electric	EPE	Hueco Mountain Wind Ranch	EPE1	1	Monica Garcia	Wind	23631
FPL Pecos Wind 1, LLC	FPL Pecos Wind I II, LP	93	WOODWARD1	WOODWRD1	2	Jesse Nevarez	Wind	24296
Guadalupe-Blanco River Authority	Guadalupe-Blanco River Authority	05-631-1608-3000	DG_Schumansville	DG_Schum	3	Allen Ognoskie	Hydro	20028
Guadalupe-Blanco River Authority	Guadalupe-Blanco River Authority	05-631-1608-3000	DG-MCQUEENEY	DG_MCQUE	4	Allen Ognoskie	Hydro	20028
Trent Wind Farm, L.P.	Trent Wind Farm, L.P.	70	TRENT MESA WIND FARM	TRENT	5	Richard Walker	Wind	24322
FPL Energy Upton Wind I LLC	FPL Energy Upton Wind I, LP	94	KING MOUNTAIN SW	KING_SW	6	Jesse Nevarez	Wind	24538
FPL Energy Upton Wind II, LLC	FPL Energy Upton Wind II, LP	96	KING MOUNTAIN NW	KING_NW	7	Jesse Nevarez	Wind	24539
FPL Pecos Wind 2, LLC	FPL Energy Pecos Wind III, LP	93	WOODWARD 2	WOODWRD2	8	Jesse Nevarez	Wind	24296
Delaware Mountain Wind Farm LLC	DELAWARE MOUNTAIN WIND FARM LP	16	DELAWARE MOUNTAIN	DELAWARE	9	Linda Brandi	Wind	23705
Indian Mesa Wind Farm LLC	NWP INDIAN MESA WIND FARM LP	17	INDIAN MESA NWP	INDNNWP	10	Linda Brandi	Wind	23745
Guadalupe-Blanco River Authority	Guadalupe-Blanco River Authority	05-631-1608-3000	DG_LAKEWOOD TAP	DG_LKWDT	11	Allen Ognoskie	Hydro	20028
Guadalupe-Blanco River Authority	Guadalupe-Blanco River Authority	05-631-1608-3000	CANYON	DG_CANYON	12	Allen Ognoskie	Hydro	20028
Small Hydro of Texas, Inc.	Small Hydro of Texas, Inc.	71	DG_CUERO CSW	CUECPL	13	Linda A. Parker	Hydro	24191
FPL Energy Upton Wind III LLC	FPL Energy Upton Wind III, LP	96	KING MOUNTAIN NE	KING_NE	14	Jesse Nevarez	Wind	24540
FPL Energy Upton Wind IV, LLC	FPL Energy Upton Wind IV, LP	96	KING MOUNTAIN SE	KING_SE	15	Jesse Nevarez	Wind	24541
Desert Sky Wind Farm 1 LP	Indian Mesa Power Partners I, L.P.	999	Indian Mesa I Wind Power	INDNENR	16	Richard Walker	Wind	24921
Desert Sky Wind Farm 2 LP	Indian Mesa Power Partners II, L.P.	999	Indian Mesa II Wind Power	INDNENR	17	Richard Walker	Wind	24922
Llano Estacado	Llano Estacado Wind Ranch at White Deer	Shell	White Deer	White Deer Wind	18	George Griese	Wind	23633
Renewable Ventures	Nuon Renewable Ventures	NRV	Green Mountain Solar at Upper Kirby	USAPV003	19	Nuon Renewable Ventures	Solar	26410
Renewable Ventures	Nuon Renewable Ventures	NRV	Green Mountain Solar at The Winston School	USAPV002	20	Nuon Renewable Ventures	Solar	26411

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
WM Renewable Energy, LLC	WM Renewable Energy, LLC	WM Renewable Energy Offset	DG_BIOE	DG_BIOE_2UNITS	26	Clayton Gumpert	Landfill gas	42395
TX LFG Energy, LP - Atascocita	Viridis Energy, LP - Atascocita	93-01-87393	ATASCOCITA	HB	29	Sharon Frank	Landfill gas	26813
TX LFG Energy, LP- Coastal Plains	Viridis Energy, LP - Coastal Plains	93-01-16145	COASTAL PLAINS	ALVIN	32	Sharon Frank	Landfill gas	26812
TX LFG Energy, LP - Baytown	Viridis Energy, LP - Baytown	01-62-16561	BAYTOWN	TRM	33	Sharon Frank	Landfill gas	26811
TX LFG Energy, LP - Blue Bonnet	Viridis Energy, LP - Blue Bonnet	93-01-27472	BLUE BONNET	LB	34	Sharon Frank	Landfill gas	26809
TX LFG Energy, LP - Conroe	Viridis Energy, LP - Conroe	Conroe	Conroe	Conroe	35	Sharon Frank	Landfill gas	26808
TX LFG Energy, LP - Security	Viridis Energy, LP - Security	SECURITY	SECURITY	SECURITY	36	Sharon Frank	Landfill gas	26810
Gas Recovery Systems, Inc.	Gas Recovery Systems	20066	Sunset Farms Electric	Sunset Farms Electric	37	Michael Caplan	Landfill gas	24199
Bio Energy (Austin) LLC	Bio Energy Austin LLC	DG_WALZE	DG_WALZE	DG_WALZE	38	Dennis Bollinger	Biomass	25512
The University of Texas - Houston	University of Texas - Houston	UTHSC	University Center Tower	University Center Tower	42	Rahsaan Arscott	Solar	No. 77027
Sweetwater Wind Power LLC	Sweetwater Wind power LLC	137899477	Sweetwater Wind 1	SWEETWND	43	Lane Robinson	Wind	28924
Brazos Wind, LP	Brazos Wiind LP	Brazos Wind	Green Mountain Energy Wind Farm at Brazos	BRAZ_WND1	44	Scott McBride	Wind	29025
Brazos Wind, LP	Brazos Wind LP	Brazos Wind	Green Mountain Energy Wind Farm at Brazos	BRAZ_WND2	45	Scott McBride	Wind	29025
Aeolus Wind LLC	Aeolus Wind, LLC	Aeolus Wind, LLC	North Texas	NA	51	Dan McAllister	Wind	29341
Sweetwater Wind Power LLC	Sweetwater Wind Power	Sweet Wind 2	Sweetwater Wind 2	SWEETWND2	52	Lane Robinson	Wind	30462
Renovar Arlington, Ltd.	Renovar Arlington, Ltd.	Rnvr-1	Village Creek	Vcreek	53	Sandra Knight	Landfill gas	31083
Renovar Arlington, Ltd.	Renovar Arlington, Ltd.	Rnvr-2	Village Creek	Vcreek	54	Sandra Knight	Landfill gas	31083
FPL Energy Callahan Wind LP (Callahan Divide)	FPL Energy Callahan Divide	30385	Callahan Wind Energy	30385	55	David Gonzalez	Wind	30385
Buffalo Gap Wind Farm LLC	Buffalo Gap Wind Farm, LLC	Buffalo Gap	Buffalo Gap Wind Farm	Buffalo Gap	56	Gabe Vaca	Wind	31412
FPL Energy Horse Hollow Wind LLC	FPL Energy Horse Hollow Wind	0	Horse Hollow Wind Energy	0	57	John Mantyh	Wind	31594

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
Sweetwater Wind Power LLC	Sweetwater Wind Power	603943148	Sweetwater Wind 3 LLC_AE	SWEETWND3	58	Lane Robinson	Wind	31983
Sweetwater Wind Power LLC	Sweetwater Wind Power	603943148-3000	Sweetwater Wind 3 LLC_CPS	SWEETWND3	59	lane robinson	Wind	31983
American Wind Power Center	American Wind Power Center	Lubbock	AWPC	AWPC#1	60	Coy F. Harris	Wind	32470
Bio Energy (Texas), LLC	Bio Energy (Texas) LLC	32079	Covel Gardens Landfill Gas Power Station	DG_MEDIN	61	John M. Love	Landfill gas	20140
MeadWestvaco Texas LP	MeadWestvaco Texas LP	Evadale Opertions	MeadWestvaco Evadale Pulp and Paper Mill	Evadale Texas	63	JiNia Bradford	Biomass	31646
Fort Worth Methane LLC	G2 Energy (FW Regional) LLC	77-998-1765	DG_RDLML_1 Unit	FW Regional	64	Michael Caplan	Landfill gas	32558
Exelon Wind 1 LLC	JD Wind 1	20137	JD Wind 1	JD Wind 1	65	Steve Maller	Wind	32802
Exelon Wind 2 LLC	JD Wind 2	20138	JD Wind 2	JD Wind 2	66	Steve Maller	Wind	32803
Exelon Wind 3 LLC	JD Wind 3	20139	JD Wind 3	JD Wind 3	67	Steve Maller	Wind	32804
Mesquite Wind, LLC	Mesquite Wind LLC	Horizon Wind	Horizon Wind	Horizon Wind	68	Brian Hayes	Wind	32936
FPL Energy Horse Hollow Wind II LLC	FPL Energy Horse Hollow II, LP	Horse Hollow II	Horse Hollow II	Horse Hollow II	69	John Mantyh	Wind	32524
Post Wind Farm LP	Post Wind Farm, LP	Post Wind	Post Wind	Post Wind	70	John Cote	Wind	32525
Exelon Wind 5 LLC	JD Wind 5	20154	JD Wind 5	JD Wind 5	71	Steven Maller	Wind	33299
Exelon Wind 6 LLC	JD Wind 6	20155	JD Wind 6	JD Wind 6	72	Steven Maller	Wind	33473
Forest Creek Wind Farm, LLC	Airtricity Forest Creek Wind Farm, LLC	210	Forest Creek Wind Farm	MCDLD	74	John Franklin	Wind	33686
Exelon Wind 4 LLC	JD Wind 4	20153	JD Wind 4	JD Wind 4	75	Steven Maller	Wind	33760
Cromeco, Inc.	Cromeco, Inc.	Cromeco, Inc.	Cromeco, Inc.	Cromeco, Inc.	76	Steve Cromeens	Landfill gas	29520
Sand Bluff Wind Farm, LLC	Airtricity Sand Bluff Wind Farm, LLC	211	Sand Bluff Wind Farm	MCDLD	77	Phil Dutton	Wind	33845
Post Oak Wind, LLC	Post Oak Wind	Post Oak Wind	Post Oak Wind	Post Oak Wind	78	Brian Hayes	Wind	33801
Sweetwater Wind Power LLC	Sweetwater Wind 4 LLC	Sweetwater Wind 4 LLC	Sweetwater Wind 4 LLC	Sweetwater Wind 4 LLC	79	lane robinson	Wind	34058

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
Scurry County Wind, L.P.	Scurry County Wind, L.P.	scurry county wind	Camp Springs Energy Center	CSEC	80	Seyi Adeyemi	Wind	33902
Buffalo Gap Wind Farm 2, LLC	Buffalo Gap Wind Farm 2, LLC	603768792	Buffalo Gap Wind Farm	BUFF_GAP	81	William Barnes	Wind	33477
Sweetwater Wind Power LLC	Sweetwater Wind 5 LLC	Sweetwater Wind 5 LLC	Sweetwater Wind 5 LLC	SWEETWNS	82	lane robinson	Wind	34709
WM Renewable Energy, LLC	WM Renewable Energy, L.L.C.	Skyline	Skyline	DG_FERIS	83	Josh Kuba	Landfill gas	20161
Maverick County Water Control	Maverick County Water	861499895	EAGLE_HY	EAGLE_HY_EAGLE_HY1	92	Maverick County Water	Hydro	34674
Capricorn Ridge Wind, LLC	Capricorn Ridge Wind, LLC	Capricorn Ridge Wind	Capricorn Ridge	CAPRIDGE	93	Brian Harris	Wind	34549
Mission Wind LLC	Wildorado Wind, LLC	Mission Wind	Mission Wind	Mission Wind	94	Maria Litos	Wind	32900
WM Renewable Energy, LLC	WM Renewable Energy II, LLC	Austin	Austin	DG_SPRIN	95	Steven Korsgaard	Landfill gas	34906
Snyder Wind Farm, LLC	Snyder Wind Farm, LLC	20187	Snyder Wind Farm	ENAS	96	Roberto Rosner	Wind	34754
Rio Grande Valley Sugar Growers, Inc.	RGVSugar	RGVSugar	RGVSugar	RGVSugar	97	Steve Bearden	Biomass	33421
Goat Wind, LP	Goat Wind, LP	809226603	GOAT WIND LP	GOAT WIND	98	Johnny Johnson	Wind	35439
Champion Wind Farm, LLC	Airtricity Champion Wind Farm, LLC	242	Champion Wind Farm	TKWSW	99	Audrey Fogarty	Wind	35177
Roscoe Wind Farm, LLC	Airtricity Roscoe Wind Farm, LLC	243	Roscoe Wind Farm	TKWSW1	100	Audrey Fogarty	Wind	35176
Scurry County Wind II LLC	Scurry County Wind II LLC	scurry county wind II	Camp Springs Energy Center	CSEC	101	Seyi Adeyemi	Wind	35290
Stanton Wind Energy LLC	Stanton Wind Energy LLC	stanton wind	Stanton Wind Energy LLC	SWEC	102	Seyi Adeyemi	Wind	35206
Whirlwind Energy, LLC	Whirlwind Energy, LLC	WELLC	Whirlwind Energy Center	WEC	103	Matthew Burt	Wind	33835
Exelon Wind 9 LLC	JD Wind 9	20189	JD Wind 9	JD Wind 9	104	Steve Maller	Wind	34924
Exelon Wind 8 LLC	JD Wind 8	20194	JD Wind 8	JD Wind 8	105	Steven Maller	Wind	34991
Exelon Wind 10 LLC	JD Wind 10	20195	JD Wind 10	JD Wind 10	106	Steven Maller	Wind	34992
Exelon Wind 11 LLC	JD Wind 11	20196	JD Wind 11	JD Wind 11	107	Steven Maller	Wind	34993

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
Exelon Wind 7 LLC	JD Wind 7	20193	JD Wind 7	JD Wind 7	108	Steven Maller	Wind	34990
Snider Industries, LLP	Snider Industries, LLP	Snider_1	Snider_1	Snider_1	109	Julianna Parr	Biomass	35526
Buffalo Gap Wind Farm 3, LLC	Buffalo Gap Wind Farm 3, LLC	Buffalo Gap Wind Farm 3, LLC	Buffalo Gap Wind Farm	BUFF_GAP	110	Fang Qing	Wind	35247
High Plains Wnd Power LLC	High Plains Wind Power LLC	20197	High Plains Wind Power	High Plains Wind Power	111	Steven Maller	Wind	34994
Texas Gulf Wind LLC	Texas Gulf Wind LLC	Texas Gulf Wind LLC	Texas Gulf Wind LLC	TGW	112	Kim Takayesu	Wind	35810
ECR Panther Creek Wind Farm I and II, LLC	ECR Panther Creek Wind Farm I, LLC.	259	PANTHER CREEK	PC_NORTH	113	George Nelson	Wind	35779
Capricorn Ridge Wind II, LLC	Capricorn Ridge Wind II, LLC	CR4	CR4	CR4	114	Daniel Sexton	Wind	35488
South Trent Wind LLC	South Trent Wind LLC	35778	South Trent Wind Farm	STWF	115	Kim Takayesu	Wind	35750
Biofuels Power Corporation	Biofuels Power Inc.	20174	BFP Conroe	35861	116	Christopher Dufour	Biomass	35861
Majestic Wind Power LLC	Majestic Wind Power LLC	Majestic Wind Power LLC	Majestic Wind Power LLC	Majestic Wind Power LLC	117	Kim Takayesu	Wind	35871
Biofuels Power Corporation	Biofuels Power Corporation	20174	Oak Ridge North	DG_RA	118	Chris Dufour	Biomass	34211
McAdoo Wind Energy LLC	McAdoo Wind Energy LLC	McAdoo Wind	McAdoo Wind Energy Center	MWEC	119	Seyi Adeyemi	Wind	35935
Noble Great Plains Windpark, LLC	Noble Great Plains Windpark, LLC	Noble Great Plains Windpark, LLC	Noble Great Plains Windpark, LLC	Noble Great Plains Windpark, LLC	120	Harry Silton	Wind	36122
Sherbino I Wind Farm LLC	Sherbino I Wind Farm, LLC	20220	Sherbino I Wind Farm	KEO	121	Eric Stidman	Wind	35887
Ocotillo Windpower, LP	Ocotillo Windpower LP	Ocotillo Windpower	Ocotillo Windfarm	OWF	122	Jason Allen	Wind	35453
Silver Star I Power Partners, LLC	Silver Star I Power Partners LLC	20186	Silver Star Wind	FLTCK	123	James C Holly	Wind	35551
Hackberry Wind, LLC	Hackberry Wind LLC	HWFLLC	Hackberry Wind Farm	HWF	124	Matthew Burt	Wind	34708
PYCO Industries, Inc.	PYCO Industries, Inc.	70047	PYCO Industries Plant #2	2	125	PYCO Industries, Inc. Wind Farm	Wind	36175
ECR Panther Creek Wind Farm I and II, LLC	EC and R Panther Creek Wind Farm II, LLC	259	PANTHER CREEK	PC_SOUTH	126	George Nelson	Wind	35779
Elbow Creek Wind Project, LLC	Elbow Creek Wind Project LLC	Elbow Creek	Elbow Creek	Elbow Creek	127	Scott McBride	Wind	36188

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
Turkey Track Wind Energy LLC	Turkey Track Wind Energy LLC	Turkey Track Wind	Turkey Track Wind Energy Center	TTWEC	128	Seyi Adeyemi	Wind	36369
Wolf Ridge Wind, LLC	Wolf Ridge Wind, LLC	C41483	WOLF RIDGE	WLFRIDGE	129	Rory Robinson	Wind	36015
Bull Creek Wind LLC	Bull Creek Wind LLC	Bull Creek Wind LLC	Bull Creek Wind LLC	Bull Creek Wind LLC	131	Seiichi Seo	Wind	36239
Diamond Shamrock Refining Company LP	Sunray Wind, LLC	20234	Sunray Wind, LLC Wind Farm	Sunray Wind, LLC	132	William Root	Wind	36672
Texas State Technical College	Texas State Technical College West Texas	TSTC	TSTC West Texas	DG ROSC2	133	Ray Fried	Wind	36692
Inadale Wind Farm, LLC	Inadale Wind Farm, LLC	Inadale Wind Farm, LLC	Inadale Wind Farm, LLC	INDL_INADALE1	134	Dean Tuel	Wind	36500
Pyron Wind Farm, LLC	Pyron Wind Farm, LLC	Pyron Wind Farm, LLC	Pyron Wind Farm, LLC	PYR_PYRON1	135	Dean Tuel	Wind	36501
Trinity Oaks LLC	G2 Energy (Trinity Oaks) LLC	828961529	Trinity Oaks LFG Generating Facility	DG KLBRG	136	Michael Caplan	Landfill gas	36679
Notrees Windpower, LP	Notrees Windpower LP	Notrees	Notrees Windfarm	NWF	137	Jason Allen	Wind	36350
Iberdrola Renewables, LLC	Barton Chapel Wind LLC	Barton Chapel	Barton Chapel	Barton Chapel	138	Bobby Clark	Wind	36825
Iberdrola Renewables, LLC	Penascal Wind Power LLC	Penascal	Penascal	Penascal	139	Dan Pitts	Wind	36829
Denton Power, LLC	Denton Power, LLC	Denton Power	Denton Power	Denton Power	140	Frank Prior	Landfill gas	36717
ECR Panther Creek Wind Farm III, LLC	ECR Panther Creek Creek Wind Farm III, LLC	ECR Panther Creek Creek Wind Farm III, LLC	PANTHER3	PANTHER3	141	Dean Tuel	Wind	37092
Iberdrola Renewables, LLC	Penascal Wind Power LLC	Penascal/STEC	Penascal/STEC	Penascal/STEC	142	Dan Pitts	Wind	36829
WM Renewable Energy, LLC	WM Renewable Energy, L.L.C.	???	DFW II	DG_BIO2	143	Jim Kilpatrick	Landfill gas	36832
Papalote Creek I LLC	ECR Papalote I, LLC	ECR Papalote I, LLC	ECR Papalote I, LLC	ECR Papalote I, LLC	144	John Franklin	Wind	37352
Langford Wind Power, LLC	Langford Wind Power, LLC	Langford Wind Power, LLC	Langford	Langford	145	Scott McBride	Wind	37206
Capricorn Ridge Wind, LLC	Capricorn Ridge Wind, LLC	Capricorn Ridge Wind	Capricorn Ridge	CAPRIDGE	146	Brian Harris	Wind	34549
Capricorn Ridge Wind, LLC	Capricorn Ridge Wind, LLC	Capricorn Ridge Wind	Capricorn Ridge	CAPRIDGE	147	Brian Harris	Wind	34549
Michael Laurie Blank	Michael Laurie Blank	Solar	Michael Laurie Blank	Texas	148	Michael Laurie Blank	Solar	37542

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
Orange County Container Group LLC	Orange County Container Group LLC	Corrugated Services Inc	Liner Mill Bio-boiler	Liner Mill Bio-boiler	149	David Garrick	Biomass	37531
Loraine Windpark Project, LLC	LORAIN WINDPARK PROJECT LLC	LORAIN WINDPARK PROJECT LLC	LORAIN WINDPARK PROJECT LLC	LONEWOLF	150	Jim Kutey	Wind	37533
Pattern Gulf Wind LLC	Pattern Gulf Wind LLC	Pattern Gulf Wind LLC	Texas Gulf Wind	TGW	151	Anh Le	Wind	37781
Rio Grande Valley Sugar Growers, Inc.	RGVSG	2	Santa Rosa	2	152	Mark Nittler	Biomass	39181
TX Solar I LLC	TX Solar I LLC	TX Solar I	TX Solar I	DG BROOK	153	Dreama Brower	Solar	38359
TX Solar I LLC	TX Solar I LLC	TX Solar I	TX Solar I	DG ELMEN	154	Dreama Brower	Solar	38359
WM Renewable Energy, LLC	WM Renewable Energy, LLC IV	Westside	Westside	DG_WSTHL	155	Phil Keim	Landfill gas	37711
Aspen Power LLC	Aspen Power LLC	7.91294E+12	Lufkin Biomass	LFBio	156	Neil Leibman	Biomass	38864
WM Renewable Energy, LLC	WM Renewable Energy, LLC VI	DG_HBR	Farmers Branch Landfill gas-to-energy	DG_HBR	157	LaToya Glenn	Landfill gas	38696
Cedro Hill Wind, LLC	Cedro Hill Wind, LLC	CEDROHIL	Cedro Hill Wind Farm	CEDROHIL	158	Joe LoCoco	Wind	38336
Papalote Creek II LLC	ECR Papalote Creek II, LLC	Papalote II	ECR Papalote Creek II, LLC	Papalote II	159	JohnFranklin	Wind	38252
McKinney LFG, LLC	McKinney LFG, LLC	McKinney LFG, LLC	McKinney LFG, LLC	DG_MKNSW	160	Sharon R. Frank	Landfill gas	39210
Golden Spread Panhandle Wind Ranch, LLC	Golden Spread Panhandle Wind Ranch, LLC	Golden Spread Panhandle Wind Ranch, LLC	Golden Spread Panhandle Wind Ranch, LLC	Golden Spread Panhandle Wind Ranch, LLC	161	Matt Moore	Wind	39641
Rio Grande Valley Sugar Growers Inc.	RGVSG	2	DG_S_SNR	DG_S_SNR	162	Mark Nittler	Biomass	39181
FRV AE Solar, LLC	FRV AE Solar,	FRV AE	FRV AE	FRV AE	163	Scott Pryor	Solar	39808
Little Pringle 1 LLC	LittlePringle1, LLC	Little Pringle 1	Little Pringle 1	Little Pringle 1	164	John Kim	Wind	39653
Little Pringle 2 LLC	LittlePringle2, LLC	Little Pringle 2	Little Pringle 2	Little Pringle 2	165	John Kim	Wind	39701
Sherbino II Wind Farm LLC	Sherbino II Wind Farm LLC	20274	Sherbino II Wind Farm	KEO	166	James Holly	Wind	39664
Trinity Hills Wind Farm LLC	Trinity Hills Wind Farm LLC	20277	Trinity Hills Wind Farm LLC	TRINITY	168	James Holly	Wind	40082
Trinity Hills Wind Farm LLC	Trinity Hills Wind Farm LLC	20277	Trinity Hills Wind Farm LLC	TRINITY	169	James Holly	Wind	40082

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
DeWind Frisco LLC	DeWind Frisco, LLC	DeWind Frisco	DeWind Frisco	DeWind Frisco	170	John Kim	Wind	39974
Iberdrola Renewables, LLC	Penascal II Wind Project, LLC	Penascal II	Penascal II	Penascal II	171	Dan Piits	Wind	38237
El Paso Electric Company	El Paso Electric Company	EPE	Newman	Newman Solar PV #1	172	Brad Green	Solar	39175
SunE CPS1LLC	SunE CPS1, LLC	n/a	n/a	n/a	173	Elyssa Jaffe	Solar	40012
SunE CPS2, LLC	SunE CPS2, LLC	n/a	n/a	n/a	174	Elyssa Jaffe	Solar	40014
Rio Grande Valley Sugar Growers Inc.	RGVSG	1	Santa Rosa Sugar Mill	Santa Rosa Old TG Building	175	Mark Nittler	Biomass	40005
Nacogdoches Power LLC	Nacogdoches Power LLC	8.32386E+12	Nacogdoches Power LLC	NACPW	176	Erik Olsen	Biomass	36159
High Majestic Wind II, LLC	High Majestic Wind II, LLC	Majestic II	Majestic II	Majestic II	177	William Mundt	Wind	40397
Magic Valley Wind Farm I, LLC	Magic Valley Wind Farm I, LLC	MVI	MAGIC VALLEY I	REDFISH	178	George Nelson	Wind	40353
El Paso Electric Company	El Paso Electric Company	EPE	Wrangler	Wrangler Solar Facility	179	Roberto Favela	Solar	40387
El Paso Electric Company	El Paso Electric Company	EPE	Stanton	Stanton Solar Installation	180	Roberto Favela	Solar	40386
El Paso Electric Company	El Paso Electric Company	EPE	EPCC Solar Installation	EPCC Solar Installation	181	Roberto Favela	Solar	40385
Harbor Wind LLC	Harbor Wind LLC	20289	HARBOR WIND	DG_NUECE	182	Tibor Hegedus	Wind	40407
KODE Novus II	KODE Novus II	KODE Novus II	KODE Novus II	KODE Novus II	184	ELAINE JIAH PARK	Wind	40502
Ralls Wind Farm LLC	Ralls Wind Farm LLC	Ralls	Ralls Wind Farm	Ralls	185	David Liu	Wind	40455
KODE Novus I	KODE Novus I	KODE Novus I	KODE Novus I	KODE Novus I	186	Elaine Park	Wind	40421
WM Renewable Energy, LLC	WM Renewable Energy, L.L.C. V	Mesquite Creek	Mesquite Creek	DG_FREIH	187	Tim Hopkins	Landfill gas	38611
Blue Summit Wind, LLC	Blue Summit Wind LLC	BLSUMMIT	BLUE SUMMIT	BLSUMMIT	188	Daniel Gerard	Wind	40710
Senate Wind, LLC	Senate Wind, LLC	Senate	Senate	Senate	189	Jay Regnier	Wind	40734
Bobcat Bluff Wind Project, LLC	Bobcat Bluff Wind Project, LLC	BCATWIND	Bobcat Bluff Wind Project	BCATWIND	190	Jay Temple	Wind	20295

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
SunE CPS3, LLC	SunE CPS3, LLC	n/a	n/a	n/a	191	Elyssa Jaffe	Solar	40013
Spinning Spur Wind, LLC	Spinning Spur Wind	Spinning Spur Wind	Spinning Spur Wind	Spinning Spur Wind	192	Jeff Shultz	Wind	40821
Los Vientos Windpower IA, LLC	Los Vientos Windpower IA, LLC	LV1A	Los Vientos Windpower IA, LLC	LV1A	193	Robert C. Jones Jr.	Wind	40781
Los Vientos Windpower IB, LLC	Los Vientos Windpower IB, LLC	LV1B	Los Vientos Windpower IB, LLC	LV1B	194	Robert C. Jones Jr.	Wind	40782
Whitetail Wind Energy, LLC	Exelon Wind, LLC	20137	Whitetail Wind Energy, LLC	Whitetail Wind	195	Daniel Heim	Wind	41063
Anacacho Wind Farm, LLC	Anacacho Wind Farm, LLC	Anacacho	Anacacho Wind Farm, LLC	ANACACHO	196	George Nelson	Wind	40732
Cirrus Wind 1, LLC	Cirrus Wind 1, LLC	Cirrus	Cirrus	Cirrus	197	Jason Yang	Wind	41071
Suzlon Project VIII, LLC	Suzlon Project VIII, LLC	Suzlon Project VIII, LLC	Suzlon Project VIII, LLC	Suzlon Project VIII, LLC	198	M. Hope Whitfield	Wind	40954
Mozart Wind, LLC	BayWa r.e. Wind, LLC	20303	Mozart_Wind_1	09INR0061	199	Eric Johnston	Wind	41303
OCI Alamo 1 LLC	OCI ALAMO 1 LLC	OCI ALAMO 1	OCI ALAMO 1	OCI_ALM1	201	Guy B. Pickrel	Solar	41465
Goldthwaite Wind Energy LLC	Goldthwaite Wind Energy LLC	Goldthwaite Wind	Goldthwaite Wind Energy Center	GWEC	202	Seyi Adeyemi	Wind	41670
Bryan Solar LLC	Bryan Solar, LLC	Bryan Solar, LLC	Bryan Solar, LLC	Bryan Solar, LLC	203	Scott Pryor	Solar	40598
Lubbock Wind, LLC	Lubbock Wind, LLC	Lubbock Wind	Lubbock Wind Ranch	Lubbock Wind	204	Karen Burks	Wind	41833
OCI Alamo 2, LLC	OCI ALAMO 2 LLC	OCI ALAMO 2	ST HEDWIG SOLAR	DG_STHWG	205	Guy B Pickrel	Solar	41777
El Paso Electric Company	El Paso Electric Company	EPE	Van Horn Solar Power Facility	Van Horn Solar Power Facility	206	Roberto Favela	Solar	42283
OCI Alamo 4 LLC	OCI Alamo 4 LLC	OCI Alamo 4	BRACKETTVILLE SOLAR	ECLIPSE	207	F. Lee Samaie	Solar	42208
Nelson Gardens Energy, LLC	Nelson Gardens Energy, LLC	Nelson Gardens Energy	DG_78252	DG_78252	208	W. Gary Craig	Biomass	42188
Miami Wind I, LLC	Miami Wind I, LLC	Miami Wind	Miami Wind Energy Center	MIAMI	209	Seyi Adeyemi	Wind	42350
The Tangent Group, LLC.	The Tangent Group, LLC.	42473	Hanger Solar 1	N/A	210	The Tangent Group, LLC.	Solar	42473
Pattern Panhandle Wind 2 LLC	PATTERN PANHANDLE WIND 2 LLC	7.92237E+11	PATTERN PANHANDLE WIND 2	PH2	212	SERGIO GONSALES	Wind	42293

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
Pattern Panhandle Wind LLC	PATTERN PANHANDLE WIND LLC	7.92237E+11	PATTERN PAHANDLE WIND	PH1	213	SERGIO GONSALES	Wind	42246
Windthorst-2, LLC	Windthorst-2	WNDTHST2	Windthorst-2	WNDTHST2	214	Dwynne Igau	Wind	42391
Desert Sky Wind Farm LP	AEP Desert Sky Wind Farm LP	999	Desert Sky Wind Farm LP	INDNENR	215	Jay Oliver	Wind	24922
Spinning Spur Wind Two LLC	Spinning Spur Wind Two LLC	7.84585E+11	SPINNING SPUR WIND TWO	SSPURTWO	216	Dwynne Igau	Wind	42500
NRG Residential Solar Solutions LLC	NRG Residential Solar Solutions, LLC.	NRG RSS LLC	SolarSPARC	NRG RSS LLC	217	Jennifer Rodriguez	Solar	42517
Keechi Wind, LLC	Keechi Wind, LLC	20330	Keechi_U1	Keechi Wind	218	Mitchell Kerley	Wind	42632
Barilla Solar, LLC	Barilla Solar, LLC	Barilla Solar	HOVEY UNIT 1	BARL	219	Jeff King	Solar	42202
East Texas Electric Cooperative, Inc.	East Texas Electric Cooperative	East Texas Electric Cooperative	Woodville Renewable Power Plant	Woodville Renewable Power Plant	220	LA Williams	Biomass	42692
GRANDVIEW WIND FARM, LLC	Grandview Wind Farm	Grandview	GRANDVW1	grandvw1_gv1a	221	Travis Carmen	Wind	42781
Stephens Ranch Wind Energy, LLC	Stephens Ranch Wind Energy, LLC	7.92803E+11	Stephens Ranch Wind Energy Project Phase 1	SRWE1	222	Rita Brady	Wind	43485
OCI Alamo 3 LLC	OCI Alamo 3 LLC	OCI Alamo 3	WALZEM SOLAR	DG_WALZM	223	Cathy Williams	Solar	42749
Newman Solar, LLC	Newman Solar	Newman Solar	Newman Solar	Newman Solar	224	Bill Diffley	Solar	43861
Mesquite Creek Wind LLC	Mesquite Creek Wind LLC	Mesquite Creek Wind	Mesquite Creek Wind	Mesquite Creek Wind	225	Casey Keller	Wind	42905
Palo Duro Wind Energy, LLC	Palo Duro Wind Energy, LLC	Palo Duro Wind Energy, LLC	Palo Duro Wind Energy, LLC	Palo Duro Wind Energy, LLC	226	Juan Hernandez	Wind	43618
Logans Gap Wind LLC	Logans Gap Wind LLC	7.9253E+11	Logans Gap Wind LLC	LGW	227	Sergio Gonsales	Wind	44235
TX Hereford Wind, LLC	TX Hereford Wind LLC	TX Hereford Wind LLC	Hereford Wind	HRFDWIND	228	Dwynne Igau	Wind	43785
Iberdrola Renewables, LLC	Baffin Wind LLC	Baffin	Baffin	Baffin	229	Kelley Biskey	Wind	44483
Stephens Ranch Wind Energy II, LLC	Stephens Ranch Wind Energy II, LLC	7.94208E+11	Stephens Ranch Wind Energy Project Phase 2	SRWE1	230	Rita Brady	Wind	44634
Mark Duane Butler	Mark Duane Butler	N/A	N/A	N/A	231	Mark Butler	Solar	44631
Green Pastures Wind I, LLC	GREEN PASTURES WIND I LLC	7.93386E+11	GREEN PASTURES WIND	GPASTURE	232	Jon Faltis	Wind	42762

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
Rattlesnake Wind I LLC	Rattlesnake Wind I LLC	RSNAKE	Rattlesnake Wind I Energy Center	RSNAKE	233	Seyi Adeyemi	Wind	44475
TX Jumbo Road Wind, LLC	TX Jumbo Road Wind, LLC	TX Jumbo Road Wind, LLC	HRFDWIND	HRFDWIND_JRDWIND 1 and HRFDWIND_JRDWIND 2	234	Janet Peck	Wind	44202
Green Pastures Wind II, LLC	GREEN PASTURES WIND II LLC	7.94187E+11	GREEN PASTURES WIND	GPASTURE	235	Michele Doty	Wind	43885
Los Vientos Windpower III, LLC	Los Vientos Windpower III, LLC	20356	Los Vientos III	LV3	236	Tim Umberg	Wind	44638
Tarrant Regional Water District	Tarrant Regional Water District	DG_OAKHL	Arlington Outlet Hydroelectric Facility	DG_OAKHL	237	Gabriel Savage	Hydro	44787
Longhorn Wind Project, LLC	Longhorn Wind Project, LLC	Longhorn Wind Project, LLC	Longhorn Wind	LHORN_N	1237	Dan Summa	Wind	44408
Route 66 Wind Power, LLC	Route 66 Wind Power	ROUTE_66	ROUTE_66	ROUTE_66_WIND1	1238	Donald Theriault	Wind	43912
Briscoe Wind Farm, LLC	BRISCOE WIND FARM LLC	7.96189E+11	BRISCOE WIND FARM	BRISCOE	1239	Jon Faltis	Wind	43892
SOUTH PLAINS WIND ENERGY	SOUTH PLAINS WIND ENERGY	SPLAIN1	SPLAIN1	SPLAIN1_WIND1	1240	Donald Theriault	Wind	45027
NRG Solar SC Stadium LLC	NRG Solar SC Stadium LLC	NRG Solar	NRG Stadium	NRG Solar	1241	Thomas Neri	Solar	45102
Javelina Wind Energy LLC	Javelina Wind Energy, LLC	20377	Javelina Wind	20377	1242	Business Management, attn: Travis Nels	Wind	45416
Pleasant Hill Wind Energy, LLC	Pleasant Hill Wind Energy, LLC	20370	Pleasant Hill Wind Energy	none	1243	Pleasant Hill Wind Energy	Wind	45130
Los Vientos Windpower V, LLC	Los Vientos Windpower V, LLC	20374	Los Vientos V	LV5	1244	Tim Umberg	Wind	45258
Cameron Wind I, LLC	Cameron Wind I, LLC	Cameron Wind	Cameron Wind	Cameron Wind	1245	John Kaminski	Wind	45042
Shannon Wind, LLC	Shannon Wind, LLC	111NR0079	Shannon Wind	SHANNONW	1246	Matt Allsup	Wind	44674
Harvest Moon Renewable Energy Company LLC	Harvest Moon Renewable Energy Company LLC	471	HM SEALY	SEALY	1247	Joey Romano	Solar	45519
Spinning Spur Wind Three, LLC	Spinning Spur Wind Three, LLC	7.96067E+11	Spinning Spur Wind Three	SSPURWIND	1248	Dan Summa	Wind	45101
South Plains Wind Energy II, LLC	South Plains Wind Energy II, LLC	SPLAIN2	SPLAIN2	SPLAIN2_WIND21	1249	Donald Theriault	Wind	45642
Colbecks Corner, LLC	Colbecks Corner Wind Farm	Colbecks Corner	GRANDVIEW WIND FARM	GRANDVW1_2	1250	Travis Carmen	Wind	45598
Gunsight Mountain Wind Energy LLC	Gunsight Mountain Wind Energy LLC	GUNMTN	Gunsight Mountain	GUNMTN	1251	Patrick York	Wind	45628

Table 7-1: ERCOT REC Generator List up to 2015 (cont.)

Company Name	Power Generating Company Name	Power Generating Company Code	Generator Site Name	Generator Site Code	Facility Identification Number	Unit Contact Information	Technology Type	Facility Noncompetitive Certification Data
Sendero Wind Energy, LLC	Sendero Wind Energy, LLC	45202	Sendero	Sendero	1252	Dan Heim	Wind	45202
CED Alamo 5 LLC	CED Alamo 5 LLC	CED Alamo 5	Alamo 5	Alamo5	1253	Cathy Williams	Solar	44277
Wake Wind Energy LLC	Wake Wind Energy LLC	WAKEWE	Wake Wind Energy	WAKEWE	1254	Patrick York	Wind	45852
Los Vientos Windpower IV, LLC	Los Vientos Windpower IV, LLC	1017583M80355DELSO L	Los Vientos Windpower IV	LV4_Unit_1	1255	Cynthia Peterson	Wind	45668

Table 7-2: Quarterly Electricity Generation by Renewable Sources, in MWh, for 2001–2015

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2001	0	0	0	0	0
Hydro	2001	0	0	11,293	19,346	30,639
Landfill gas	2001	0	0	0	0	0
Solar	2001	0	0	0	0	0
Wind	2001	0	0	201,118	364,479	565,597
Totals		0	0	212,411	383,825	596,236

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2002	0	0	0	0	0
Hydro	2002	105,817	69,165	80,154	56,956	312,093
Landfill gas	2002	8,216	7,073	6,986	7,137	29,412
Solar	2002	0	29	37	21	87
Wind	2002	611,708	716,896	622,262	500,618	2,451,484
Totals		725,741	793,163	709,440	564,732	2,793,076

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2003	8,876	11,253	10,999	8,368	39,496
Hydro	2003	92,680	52,592	71,699	22,713	239,684
Landfill gas	2003	29,995	44,629	39,920	39,662	154,206
Solar	2003	32	70	69	49	220
Wind	2003	561,994	670,248	617,794	665,446	2,515,482
Totals		693,577	778,792	740,481	736,238	2,949,087

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2004	6,274	11,459	11,482	7,725	36,940
Hydro	2004	55,638	52,735	52,350	74,067	234,791
Landfill gas	2004	52,801	47,964	53,659	49,018	203,443
Solar	2004	31	67	70	44	211
Wind	2004	815,010	1,014,396	610,157	770,066	3,209,630
Totals		929,755	1,126,621	727,718	900,920	3,685,014

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2005	13,921	15,069	14,764	14,883	58,637
Hydro	2005	108,974	106,893	61,189	33,246	310,302
Landfill gas	2005	52,118	51,193	56,166	54,301	213,777
Solar	2005	46	69	67	46	227
Wind	2005	801,232	1,246,182	869,508	1,304,646	4,221,568
Totals		976,291	1,419,406	1,001,693	1,407,122	4,804,512

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2006	16,327	10,479	17,152	16,610	60,569
Hydro	2006	55,000	83,064	44,870	27,143	210,077
Landfill gas	2006	69,191	78,650	75,665	82,580	306,087
Solar	2006	26	43	41	360	470
Wind	2006	1,478,927	1,584,166	1,376,540	2,091,295	6,530,928
Totals		1,619,471	1,756,403	1,514,268	2,217,988	7,108,131

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2007	13,052	15,870	13,073	12,105	54,101
Hydro	2007	66,084	120,486	139,965	56,346	382,882
Landfill gas	2007	84,367	86,372	85,612	99,987	356,339
Solar	2007	339	503	541	461	1,844
Wind	2007	1,961,153	2,029,807	2,020,870	3,339,338	9,351,168
Totals		2,124,995	2,253,039	2,260,062	3,508,238	10,146,333

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2008	21,154	14,019	12,564	23,095	70,833
Hydro	2008	98,510	177,051	78,751	91,116	445,428
Landfill gas	2008	105,217	97,361	88,470	96,062	387,110
Solar	2008	446	862	992	1,038	3,338
Wind	2008	4,030,973	4,737,188	2,639,509	4,878,770	16,286,440
Totals		4,256,300	5,026,481	2,820,287	5,090,081	17,193,150

Table 7-2: Quarterly Electricity Generation by Renewable Sources, in MWh, for 2001–2015 (cont.)

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2009	25,083	18,938	17,187	12,156	73,364
Hydro	2009	76,480	179,512	88,491	163,024	507,507
Landfill gas	2009	94,377	101,709	104,854	111,983	412,923
Solar	2009	101	1,409	1,761	1,222	4,492
Wind	2009	5,413,648	5,385,203	4,248,223	5,549,030	20,596,105
Totals		5,609,689	5,686,771	4,460,516	5,837,415	21,594,390

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2010	20,974	27,769	17,407	31,385	97,535
Hydro	2010	196,238	133,408	192,252	87,358	609,257
Landfill gas	2010	110,511	114,893	116,789	122,711	464,904
Solar	2010	1,385	2,042	3,483	7,539	14,449
Wind	2010	6,459,442	7,806,011	5,307,840	7,255,367	26,828,660
Totals		6,788,550	8,084,123	5,637,771	7,504,361	28,014,805

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2011	26,692	20,039	24,890	65,383	137,004
Hydro	2011	60,614	102,583	55,029	48,887	267,113
Landfill gas	2011	121,232	135,365	122,790	118,258	497,645
Solar	2011	7,390	10,160	11,202	7,827	36,580
Wind	2011	7,447,218	9,540,116	5,849,557	7,932,783	30,769,674
Totals		7,663,146	9,808,263	6,063,468	8,173,139	31,708,016

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2012	41,567	95,834	100,633	50,954	288,988
Hydro	2012	122,942	125,992	68,908	71,355	389,197
Landfill gas	2012	129,505	132,653	144,644	142,235	549,037
Solar	2012	17,299	41,246	44,007	36,887	139,439
Wind	2012	8,938,807	8,399,672	6,376,312	9,031,743	32,746,534
Totals		9,250,120	8,795,396	6,734,504	9,333,174	34,113,195

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2013	36,648	36,622	78,316	48,976	200,564
Hydro	2013	118,008	58,910	37,467	79,853	294,238
Landfill gas	2013	132,757	138,876	136,378	142,834	550,845
Solar	2013	36,112	44,268	57,165	40,781	178,326
Wind	2013	9,702,680	11,386,839	6,708,823	9,111,043	36,909,385
Totals		10,026,205	11,665,516	7,018,149	9,423,488	38,133,358

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2014	67,700	88,454	111,573	75,743	343,469
Hydro	2014	39,915	106,890	47,850	46,138	240,792
Landfill gas	2014	130,630	130,738	126,337	130,876	518,580
Solar	2014	54,330	80,675	100,351	77,402	312,757
Wind	2014	10,474,109	11,930,083	7,735,157	10,505,013	40,644,362
Totals		10,766,684	12,336,839	8,121,267	10,835,171	42,059,961

Technology Type	Year	Quarter1	Quarter2	Quarter3	Quarter4	Total MWh
Biomass	2015	101,209	60,737	111,231	76,422	349,600
Hydro	2015	88,592	153,061	76,269	96,366	414,289
Landfill gas	2015	136,295	132,252	145,414	147,953	561,915
Solar	2015	79,124	109,563	137,757	83,875	410,318
Wind	2015	8,957,407	11,909,543	10,763,871	13,534,520	45,165,341
Totals		9,362,627	12,365,157	11,234,542	13,939,137	46,901,462

Table 7-3: Annual Electricity Generation by Renewable Sources (MWh, ERCOT: 2001–2015)

Year	Biomass (MWh)	Hydro	Landfill gas (MWh)	Solar (MWh)	Wind (MWh)	Total (MWh)
2001	0	30,639	0	0	565,597	596,236
2002	0	312,093	29,412	87	2,451,484	2,793,076
2003	39,496	239,684	154,206	220	2,515,482	2,949,087
2004	36,940	234,791	203,443	211	3,209,630	3,685,014
2005	58,637	310,302	213,777	227	4,221,568	4,804,512
2006	60,569	210,077	306,087	470	6,530,928	7,108,131
2007	54,101	382,882	356,339	1,844	9,351,168	10,146,333
2008	70,833	445,428	387,110	3,338	16,286,440	17,193,150
2009	73,364	507,507	412,923	4,492	20,596,105	21,594,390
2010	97,535	609,257	464,904	14,449	26,828,660	28,014,805
2011	137,004	267,113	497,645	36,580	30,769,674	31,708,016
2012	288,988	389,197	549,037	139,439	32,746,534	34,113,195
2013	200,564	294,238	550,845	178,326	36,909,385	38,133,358
2014	343,469	240,792	518,580	312,757	40,644,362	42,059,961
2015	349,600	414,289	561,915	410,318	45,165,341	46,901,462

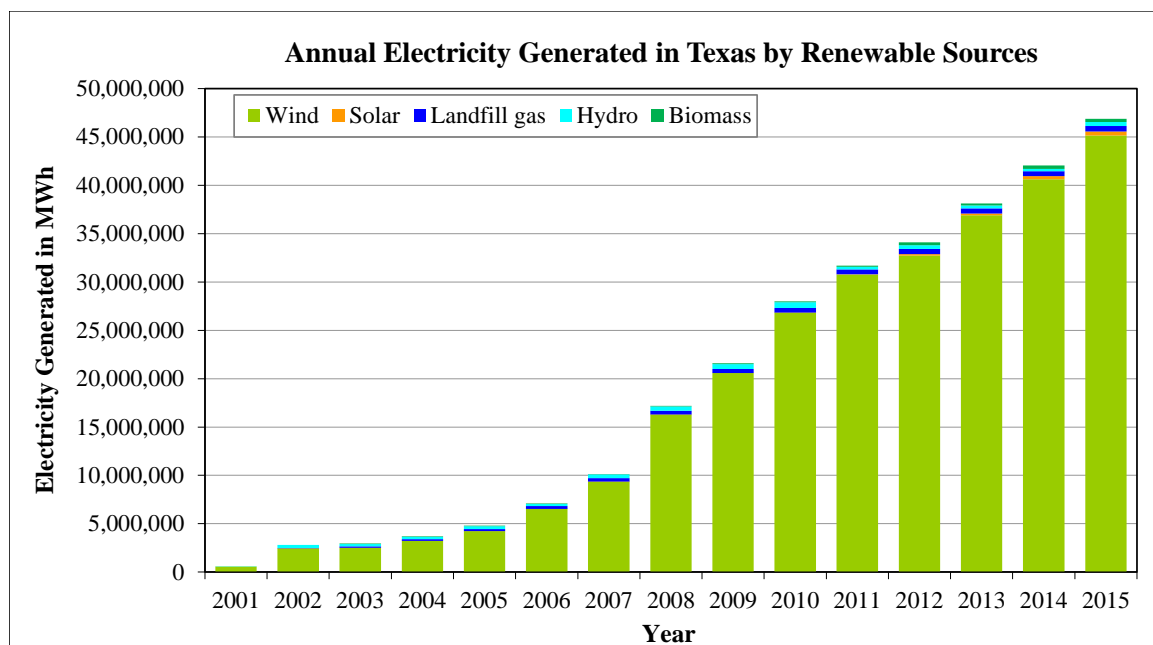


Figure 7-1: Electricity Generation by Renewable Sources (ERCOT: 2001–2015 Annually)

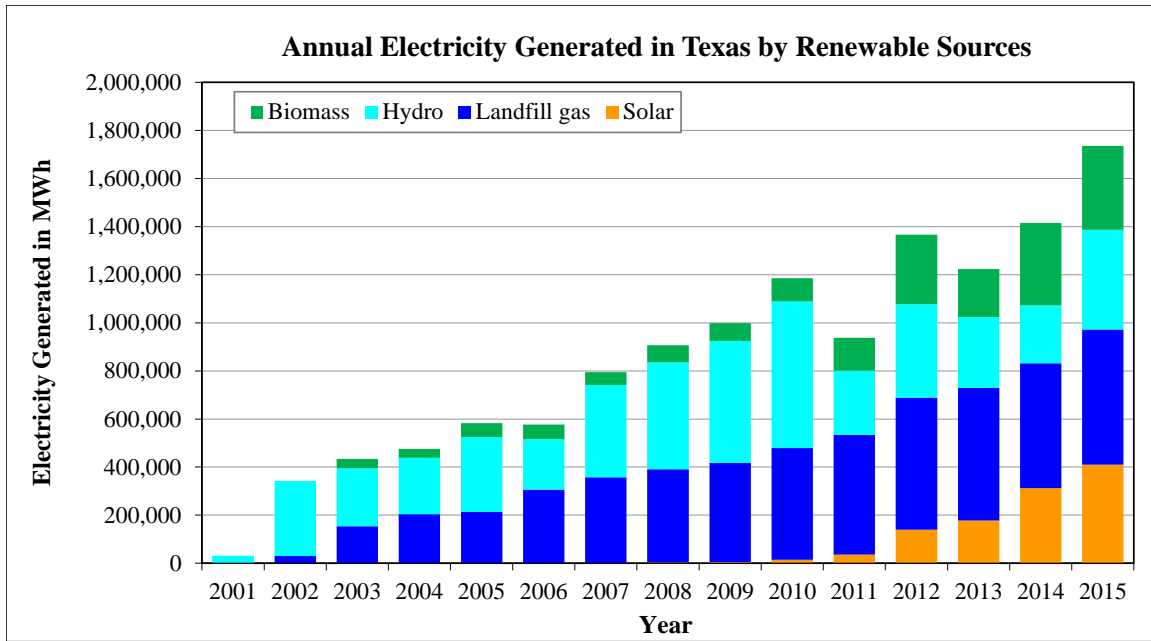


Figure 7-2: Electricity Generation by Renewable Sources Other Than Wind (ERCOT: 2001–2015 Annually)

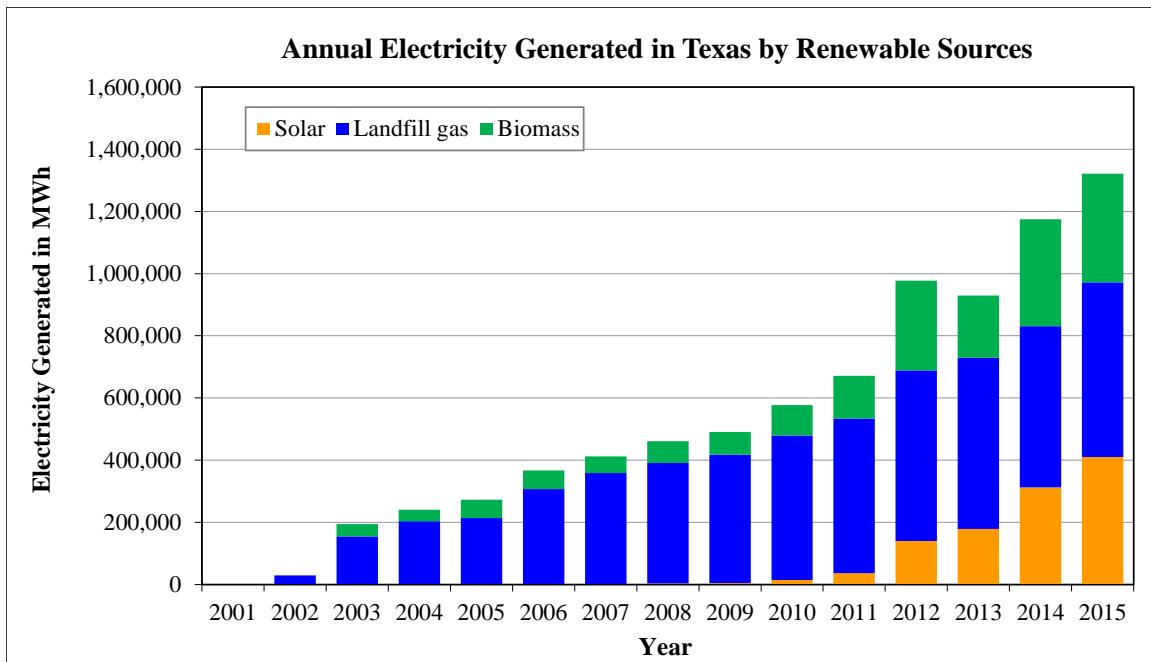


Figure 7-3: Electricity Generation by Renewable Sources from Solar, Landfill Gas, and Biomass (ERCOT: 2001–2015 Annually)

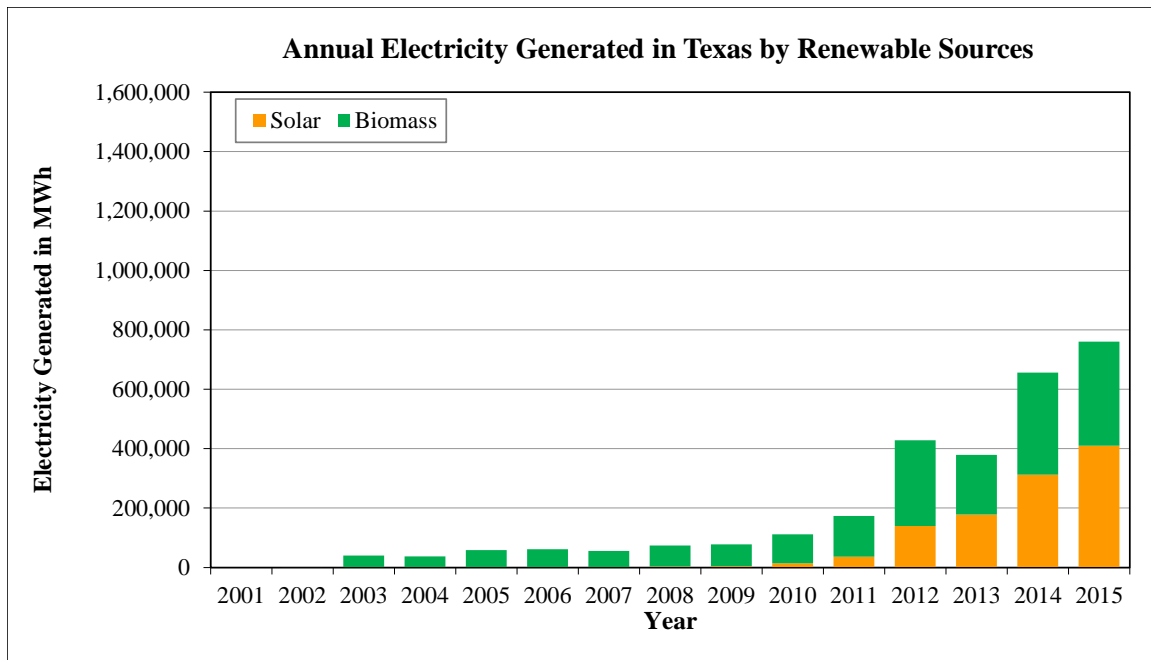


Figure 7-4: Electricity Generation by Renewable Sources from Solar and Biomass (ERCOT: 2001–2015 Annually)

8 APPENDIX A

In December 2015, the Energy Systems Lab presented the Emissions Reduction Impact of Renewables at the CATEE conference:

Haberl, J.; Yazdani, B., 2015 “Energy Efficiency and Renewable Energy Impacts on Emission Reductions” *Clean Air Through Energy Efficiency Conference, Galveston, Texas, December 2015*

ENERGY SYSTEMS LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION

Energy Efficiency and Renewable Energy Impacts on Emission Reductions

Jeff Haberl, Ph.D.
Bahman Yazdani, P.E.

CATEE 2015
Clean Air Through Energy Efficiency Conference
December 1-3, 2015
Galveston, Texas

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ACKNOWLEDGEMENTS

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TCEQ: Vince Maitor, Bob Gifford
PUCT: Karis Rich, Truesha Harris
SECO: Dub Taylor, Stephen Ross
ERCOT: Paul Wastles, Kevin Hanson, Warren Lasher
USEPA: James Yarbrough, Art Dem, Julie Rosenberg

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LEGISLATIVE RESPONSE

Legislation to reduce energy/emissions 2001 to Present

- 2001 HB 1786 (Energy Efficiency)
- 2002 HB 2021 (Energy Efficiency)
- 2003 HB 2021 (Energy Efficiency)
- 2004 HB 2021 (Energy Efficiency)
- 2005 HB 2021 (Energy Efficiency)
- 2006 HB 2021 (Energy Efficiency)
- 2007 HB 2021 (Energy Efficiency)
- 2008 HB 2021 (Energy Efficiency)
- 2009 HB 2021 (Energy Efficiency)
- 2010 HB 2021 (Energy Efficiency)
- 2011 HB 2021 (Energy Efficiency)
- 2012 HB 2021 (Energy Efficiency)
- 2013 HB 2021 (Energy Efficiency)
- 2014 HB 2021 (Energy Efficiency)
- 2015 HB 2021 (Energy Efficiency)

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EPA CRITERIA FOR SIP CREDITS (2004)

Quantifiable: The emission reductions generated by measures to reduce emissions must be quantifiable and include procedures to evaluate and verify over time the level of emission reductions actually achieved.

Surplus: Emission reductions are surplus as long as they are not otherwise relied on to meet air quality attainment requirements in air quality programs related to your SIP.

Enforceability: Measures that reduce emissions from electricity generation may be: (1) Enforceable directly against a source; (2) Enforceable against another party responsible for the energy efficiency or renewable energy activity; or (3) Included under our voluntary measures policy.

Record Keeping: The measure should be permanent throughout the term for which the credit is granted unless it is replaced by another measure or the State demonstrates in a SIP revision that the emission reductions from the measure are no longer needed to meet applicable requirements.

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ENERGY SAVINGS & NOx EMISSIONS REDUCTION

ESL Calculates NOx Emissions Reductions for:

- Code-Compliant Construction:** Energy savings from new constructions
 - ESL Single-family construction
 - ESL Multi-family construction
 - ESL Commercial construction
- Green Power Production:** Wind and other renewables
- PUC SB7:** Energy efficiency programs implemented by electric utilities under the Public Utility Regulatory Act. §39.905
- SECO:** Energy efficiency programs towards school districts, government agencies, city and county governments, private industries and residential energy consumers
- A/C Retrofits:** Installation of SEER 13/14 replacement air conditioners in existing residences

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SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 IC3v: 3.14.4 **Current 2009 Version**

IC3 version 3.0 is still the most popular version. IC3 version 3.14.4 is the most current version. IC3 version 3.14.4 is the most current version.

User Login:

Enter your IC3 username and password to access the software. You may also access your results using your user name and password.

Site Address: _____
Password: _____
Login

Register Forgot Password

Login Screen

ENERGY SYSTEMS LABORATORY
TEEE
CATEE 2015
SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3v. 3.14.4 Current 2009 Version

Energy Code/Site Address/Project Details

2.7

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TEEE
CATEE 2015
SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3v. 3.14.4 Current 2009 Version

Floors/BedRooms/Foundation

2.8

ENERGY SYSTEMS LABORATORY
TEEE
CATEE 2015
SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3v. 3.14.4 Current 2009 Version

Windows

2.9

ENERGY SYSTEMS LABORATORY
TEEE
CATEE 2015
SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3v. 3.14.4 Current 2009 Version

Mechanical System/Insulation

2.10

ENERGY SYSTEMS LABORATORY
TEEE
CATEE 2015
SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3v. 3.14.4 Current 2009 Version

HVAC/DHW

2.11

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SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3v. 3.14.4 Current 2009 Version


Roof/Ceiling

2.12

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Check It Right! Energy Efficiency Score

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 **IC3v. 3.14.4** Current 2009 Version




Shading

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CATEE 2015
Check It Right! Energy Efficiency Score

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TEES AND ASSOCIATED CONTRACTORS, LTD. INC.
CATEE 2015
Check It Right! Energy Efficiency Score

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Energy Report

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IC3 **IC3v. 3.14.4** Current 2009 Version




Energy Report

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Certificate

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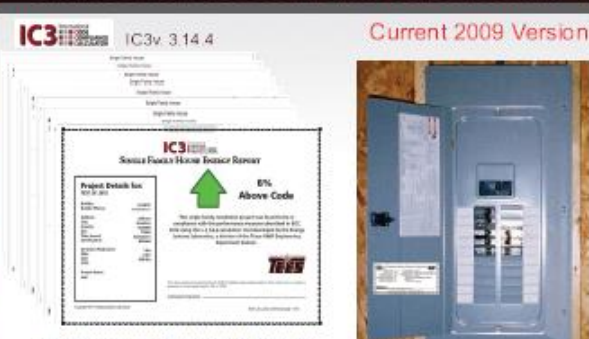
Certificate

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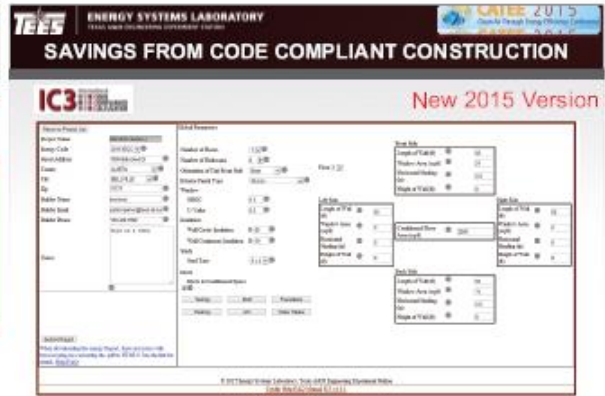


Certificate on Electrical Panel

ENERGY SYSTEMS LABORATORY
TEES AND ASSOCIATED CONTRACTORS, LTD. INC.
CATEE 2015
Check It Right! Energy Efficiency Score



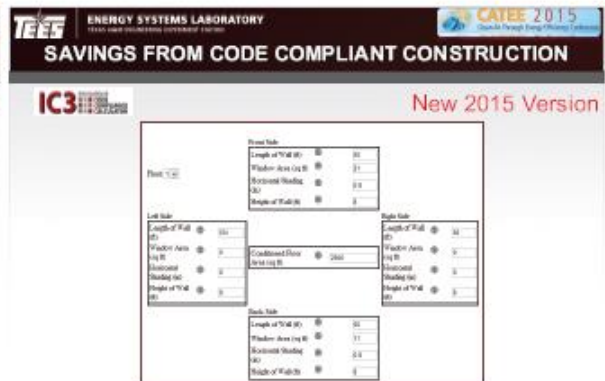
Login Screen



Main Page



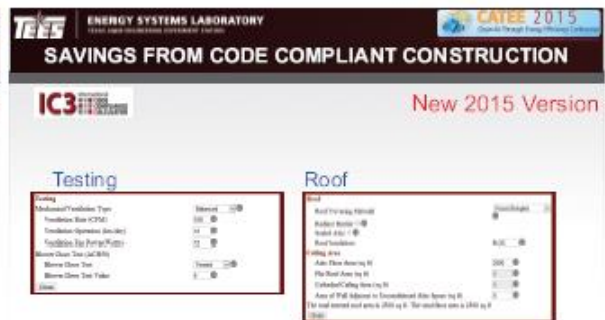
Energy Code/Site Address/Project Details



Floors/BedRooms/Foundation



Global Parameters



ENERGY SYSTEMS LABORATORY
Texas A&M University System

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 New 2015 Version

Foundation

Cost of Foundation: 200/12000 1200
Insulation Inside: R-13 13
Total: 1200

A/C

SEER: 13 13
Tonnage: 2 2
Total: 2600

Heating

Heating Type: Gas Furnace 130
Energy Efficiency (SEER): 13 13
Total: 130

Water Heater

Water Heater: Tank Water Heater 130
Energy Factor: The Annual Energy Factor 13 13
Total: 130

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Texas A&M University System

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 New 2015 Version

Single Family Home Energy Report

↑

7% Above Code

Energy Savings: 1000 kWh/yr
Annual Energy Cost: \$100
Annual Energy Savings: \$100
Annual Energy Savings Potential: \$100

Project Details

Project Name: 123456789
Builder Name: ABC
Builder Phone: (123) 456-7890
Builder Email: abc@def.com
Project Start: 12/31/2014
Project End: 12/31/2014
City: Houston, TX
County: Harris
Construction #: 123456789
Inspector #: 123456789
Inspector Name: ABC
Inspector Phone: (123) 456-7890
Inspector Email: abc@def.com
Inspector License #: 123456789
Inspector State: TX
Inspector Title: Inspector
Inspector Address: 123456789
Inspector City: Houston, TX
Inspector State: TX
Inspector Zip: 77000

Certificate

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Texas A&M University System

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 New 2015 Version

Residential Energy Efficiency Certificate

Window U-Value: 0.82 0.82
Window SHGC: 0.62 0.62
Wall Ceiling Insulation: R-13 13
Roof Ceiling Insulation: R-30 30
Floor/Ceiling Insulation: R-8 8
Supply Duct Insulation: R-6 6
Return/Duct Insulation: R-6 6
Minimum Door In SW/DOOR: 5 5

Builder or Registered Design/Professional
This certificate was generated by IC3 in compliance with 2015 IECC



Certificate on Electrical Panel

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ENERGY SYSTEMS LABORATORY
Texas A&M University System

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 New 2015 Version

Residential Energy Efficiency Certificate

Window U-Value: 0.82 0.82
Window SHGC: 0.62 0.62
Wall Ceiling Insulation: R-13 13
Roof Ceiling Insulation: R-30 30
Floor/Ceiling Insulation: R-8 8
Supply Duct Insulation: R-6 6
Return/Duct Insulation: R-6 6
Minimum Door In SW/DOOR: 5 5

Builder or Registered Design/Professional
This certificate was generated by IC3 in compliance with 2015 IECC



Certificate on Electrical Panel

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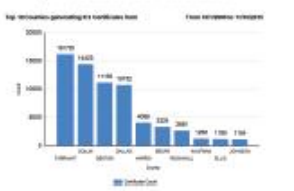
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Texas A&M University System

IC3 REGISTRY

IC3

Certificates
Jan. 2015 to Date: 23,728
Total to Date: 116,763

Top 10 Counties for 2009 to 2015



Average SEER Across Counties
Average A/C SEER across Counties for 2015

County	SEER
Harris	13.00
Dallas	13.00
Tarrant	13.00
Bexar	13.00
El Paso	13.00
Travis	13.00
Collin	13.00
DALLAS	13.00
Tarrant	13.00
Bexar	13.00

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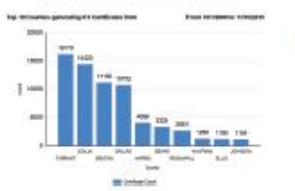
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Texas A&M University System

IC3 REGISTRY

IC3

Certificates
Jan. 2015 to Date: 23,728
Total to Date: 116,763

Top 10 Counties for 2009 to 2015



Average SEER Across Counties
Average A/C SEER across Counties for 2015

County	SEER
Harris	13.00
Dallas	13.00
Tarrant	13.00
Bexar	13.00
El Paso	13.00
Travis	13.00
Collin	13.00
DALLAS	13.00
Tarrant	13.00
Bexar	13.00

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TEES ENERGY SYSTEMS LABORATORY CATEE 2015

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 International CODE COMPLIANCE CALCULATOR

Has an analysis been performed to determine actual measured energy savings (i.e., real utility bills)?

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TEES ENERGY SYSTEMS LABORATORY CATEE 2015

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 International CODE COMPLIANCE CALCULATOR

Yes!

Verification of Energy Savings from the Implementation of the Residential Building Codes in Texas

ABSTRACT

INTRODUCTION

CONCLUSIONS

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TEES ENERGY SYSTEMS LABORATORY CATEE 2015

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 International CODE COMPLIANCE CALCULATOR

The Laboratory has analyzed actual utility bills from 2003 – 2009 in College Station for the same builder in the same subdivision using the Princeton Scorekeeping method and a three parameter analysis*

Verification of Energy Savings from the Implementation of the Residential Building Codes in Texas

ABSTRACT

INTRODUCTION

CONCLUSIONS

*Results published in the 2014 ASHRAE Transactions

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TEES ENERGY SYSTEMS LABORATORY CATEE 2015

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 International CODE COMPLIANCE CALCULATOR

Verification of Energy Savings from the Implementation of the Residential Building Codes in Texas

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TEES ENERGY SYSTEMS LABORATORY CATEE 2015

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 International CODE COMPLIANCE CALCULATOR

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TEES ENERGY SYSTEMS LABORATORY CATEE 2015

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 International CODE COMPLIANCE CALCULATOR

This analysis looked at houses built:

- before 2001
- after the 2001 IECC and
- after the 2006 IECC (SEER 13)

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ENERGY SYSTEMS LABORATORY
TEES | CATEE 2015

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 International
CODE COMPLIANCE CALCULATOR

The results showed: electricity savings from the the 2000/2001 IECC and the 2006 IECC were 20% and 19%, respectively when compared to houses built prior to the code.

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TEES | CATEE 2015

SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 International
CODE COMPLIANCE CALCULATOR

The results showed: electricity savings from the the 2000/2001 IECC and the 2006 IECC were 20% and 19%, respectively when compared to houses built prior to the code.

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SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 International
CODE COMPLIANCE CALCULATOR

These results match simulations performed with IC3 simulations

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SAVINGS FROM CODE COMPLIANT CONSTRUCTION

IC3 International
CODE COMPLIANCE CALCULATOR

Results for the 2009 IECC are currently underway.

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TEES | CATEE 2015

New API for IC3

IC3 International
CODE COMPLIANCE CALCULATOR

IC3Web: <http://ic3.2015.tamu.edu>

Benefits from API:

- Single screen allowing access to the same DOE-2 model used by the IC3 webpage
- Tablet/iPad/Phone friendly
- XML input/output
- Easily integrate d into existing *third party software*

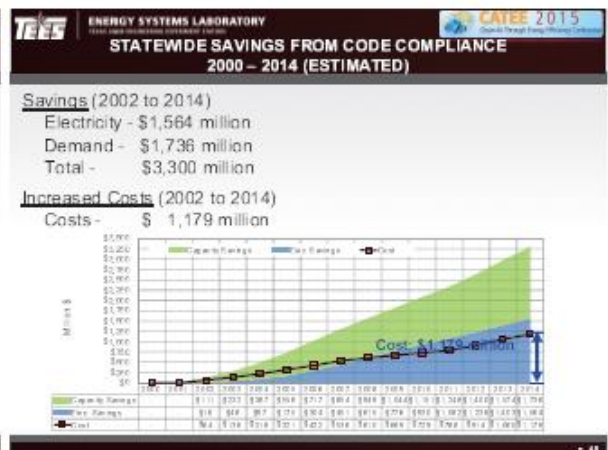
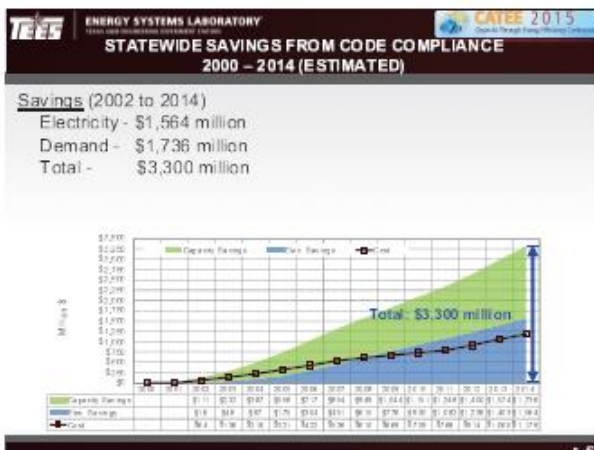
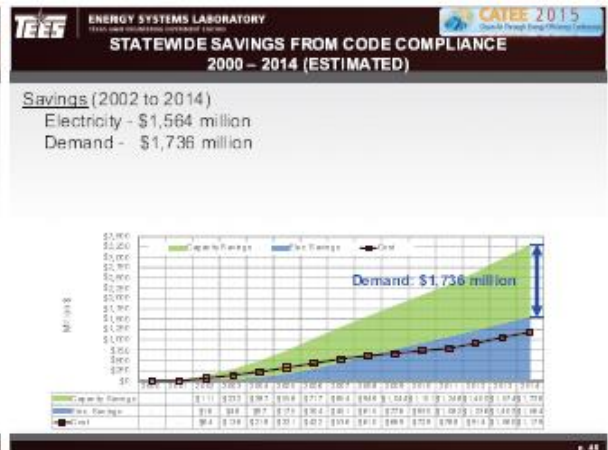
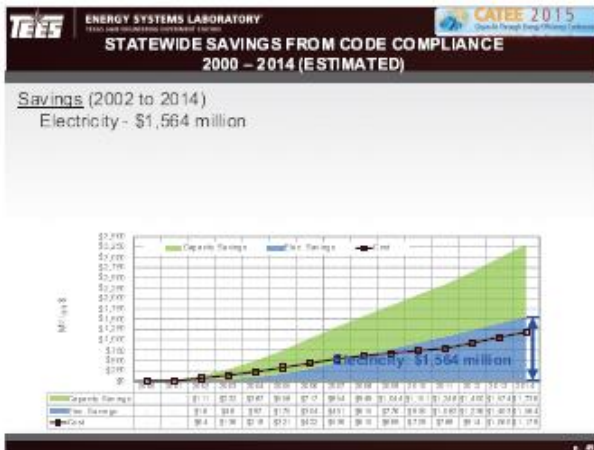
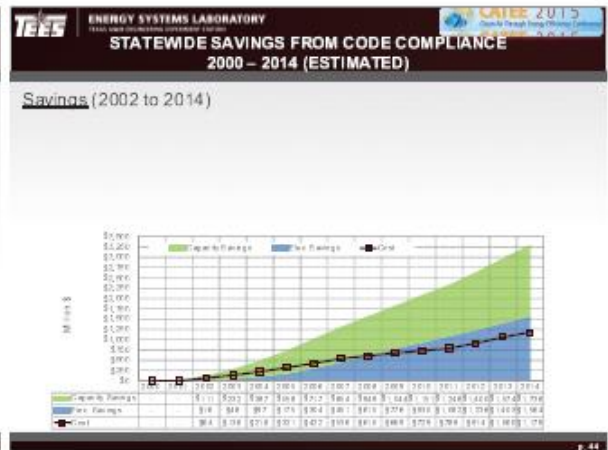
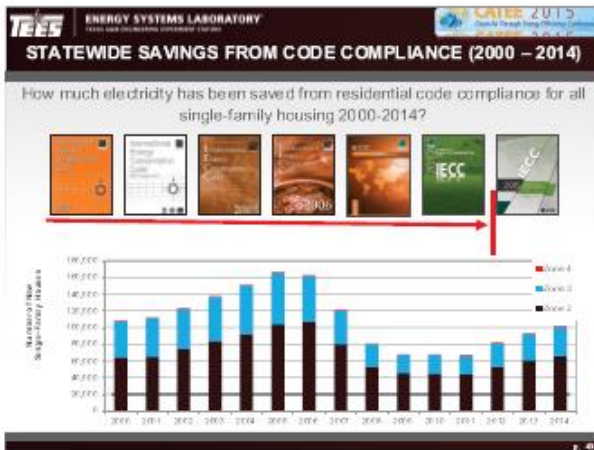
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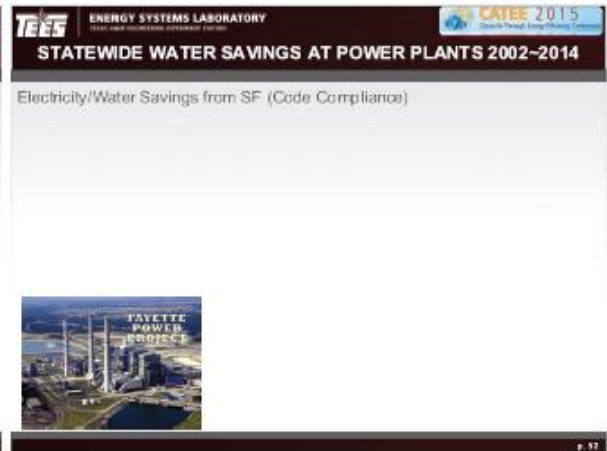
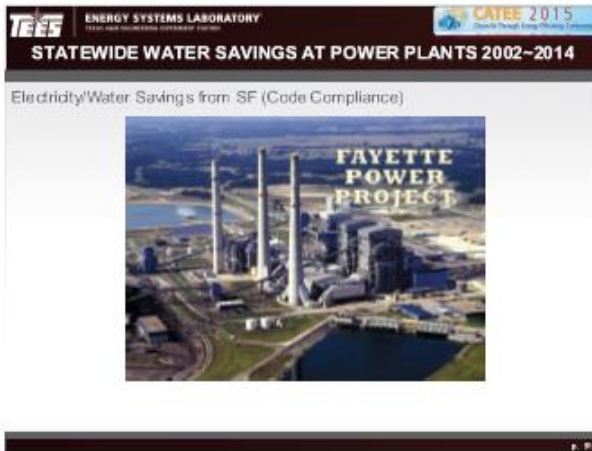
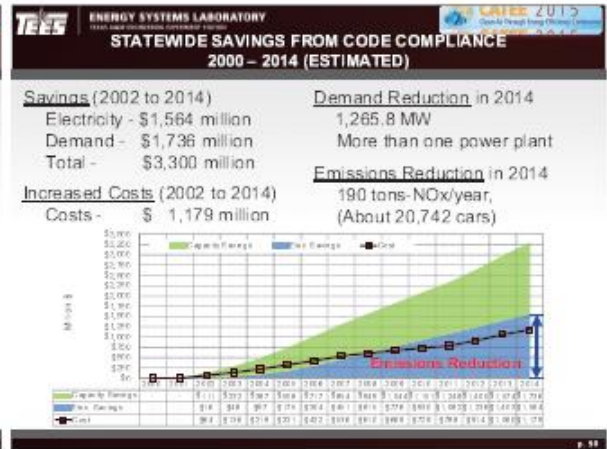
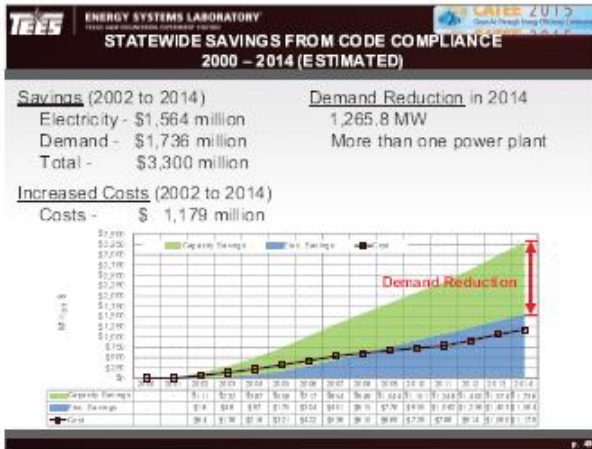
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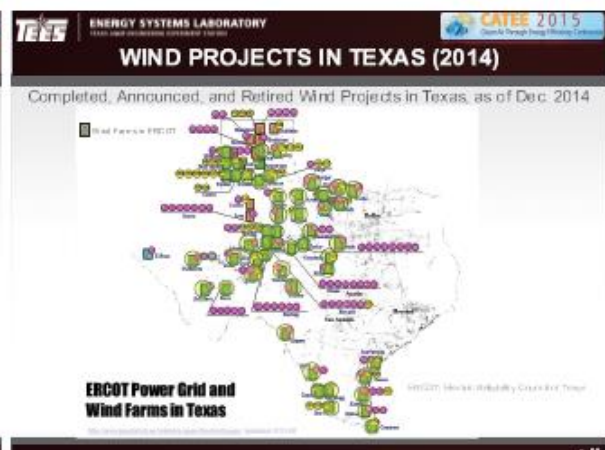
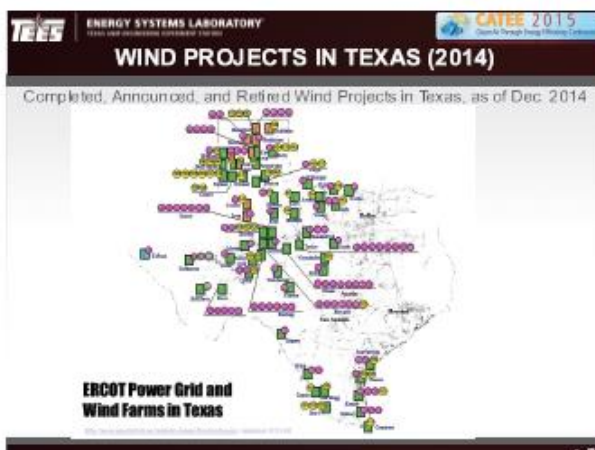
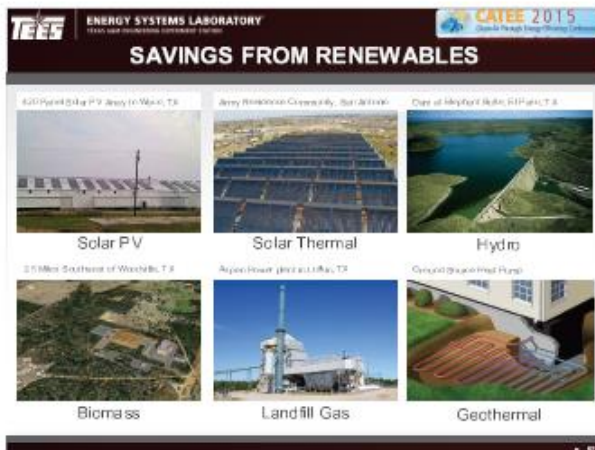
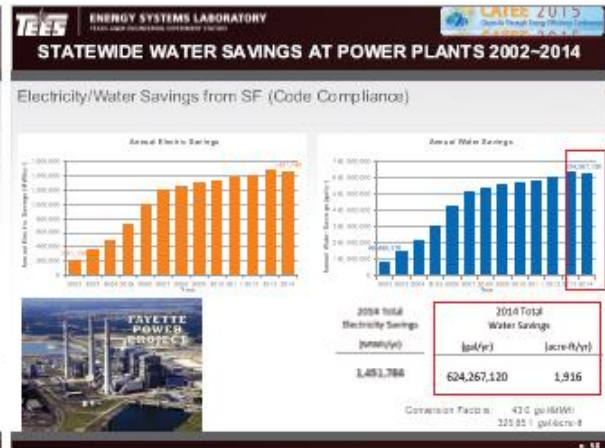
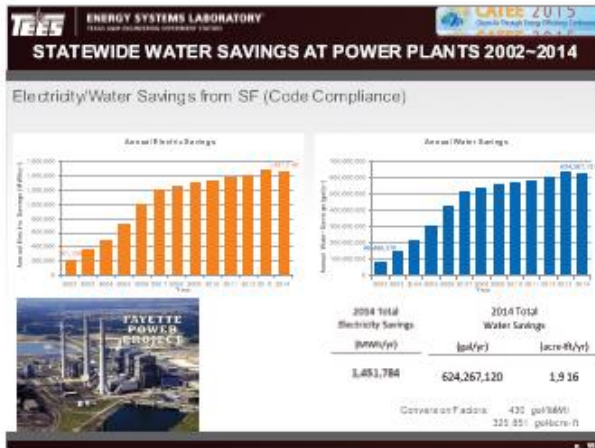
STATEWIDE SAVINGS FROM CODE COMPLIANCE (2000 – 2014)

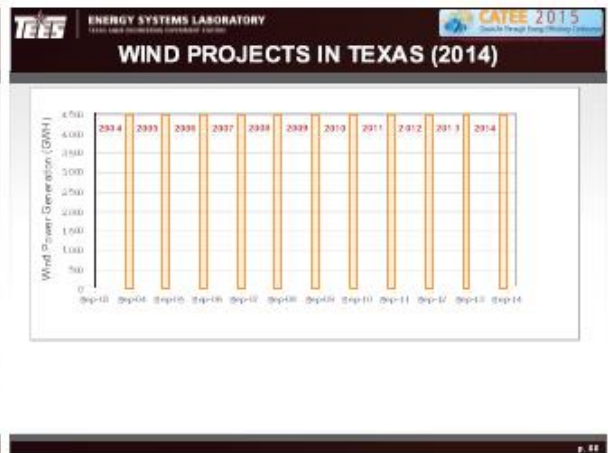
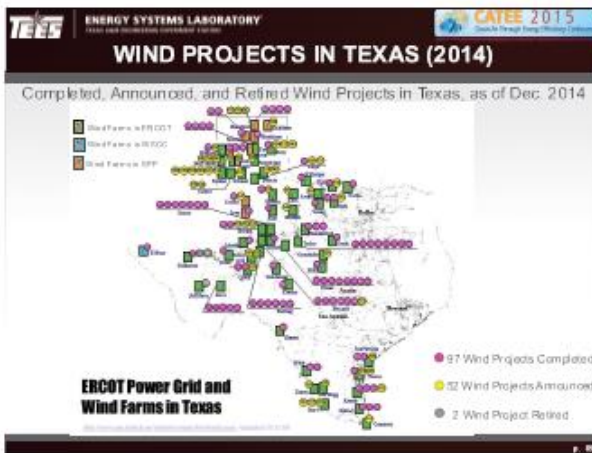
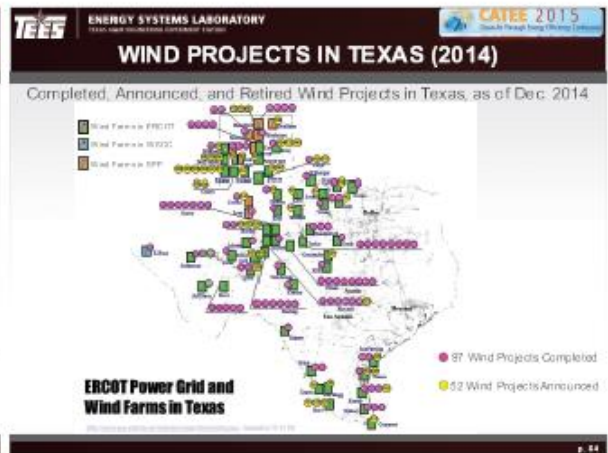
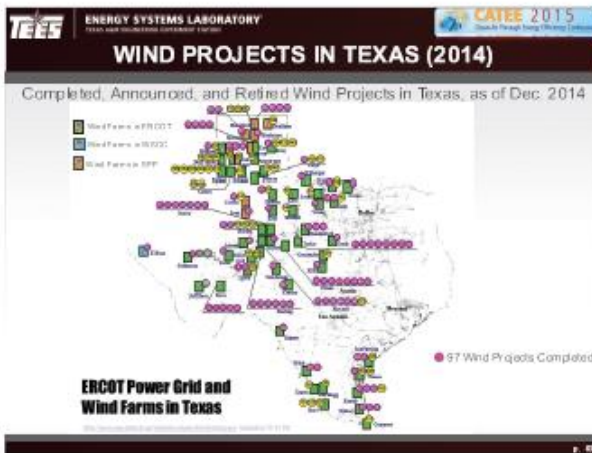
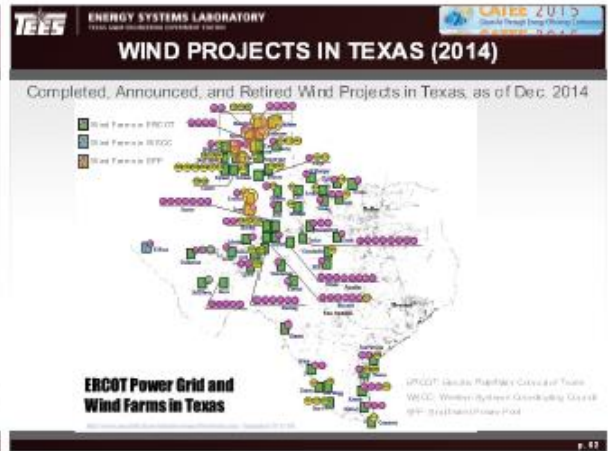
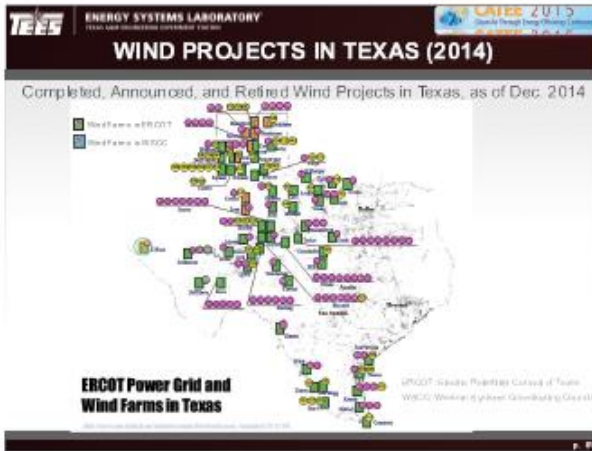
How much electricity has been saved from residential code compliance for all single-family housing 2000-2014?

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WIND PROJECTS IN TEXAS (2014)



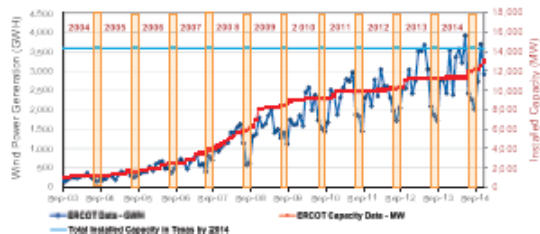
Substantial increases in measured electricity from wind energy

WIND PROJECTS IN TEXAS (2014)



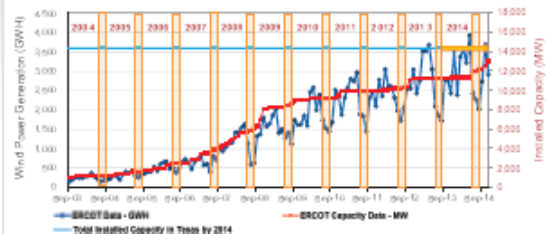
Substantial increases in measured electricity from wind energy

WIND PROJECTS IN TEXAS (2014)



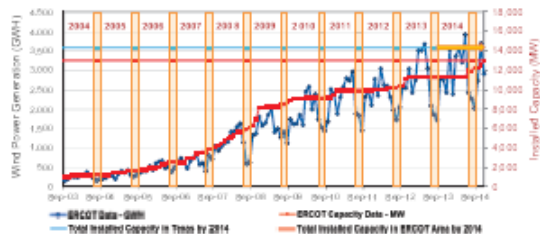
Substantial increases in measured electricity from wind energy

WIND PROJECTS IN TEXAS (2014)



Substantial increases in measured electricity from wind energy
Total capacity: 14,327 MW in Texas

WIND PROJECTS IN TEXAS (2014)

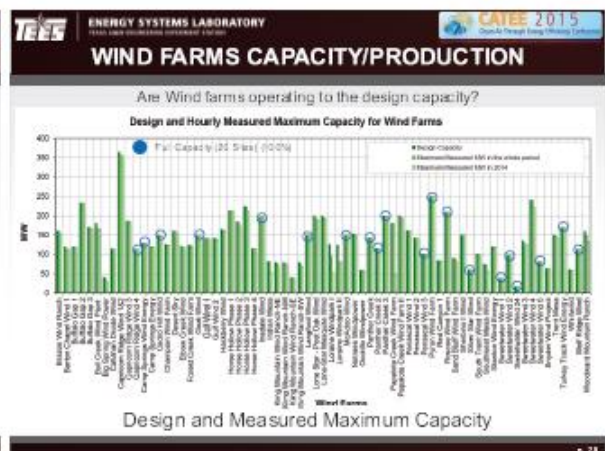
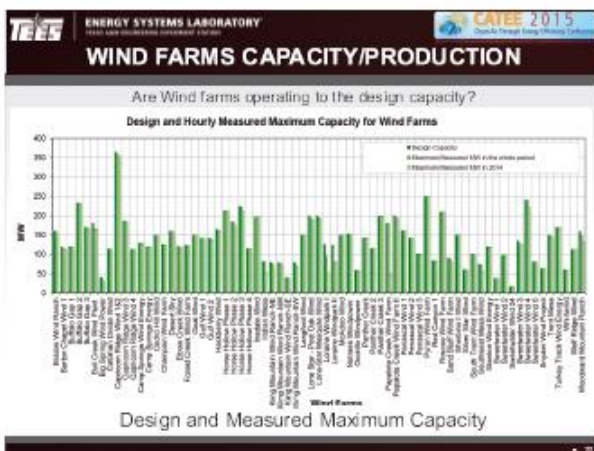
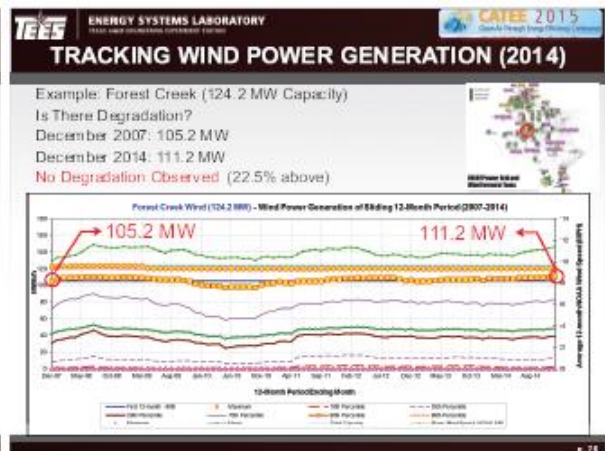
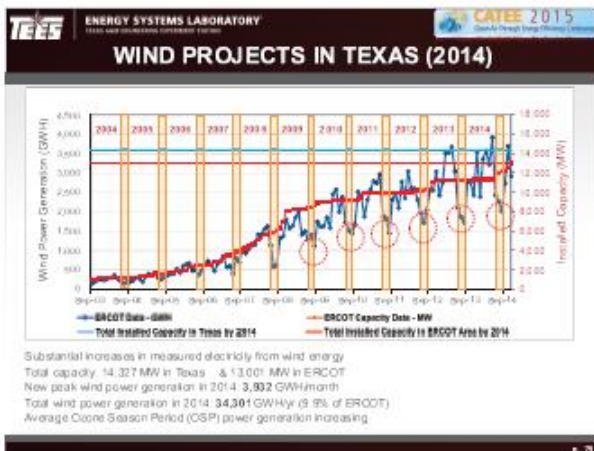
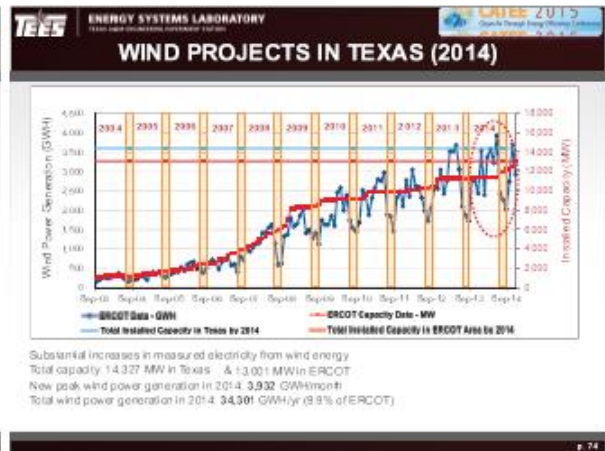
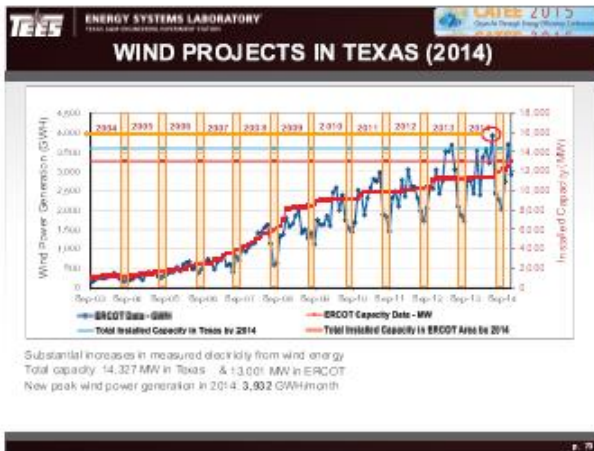


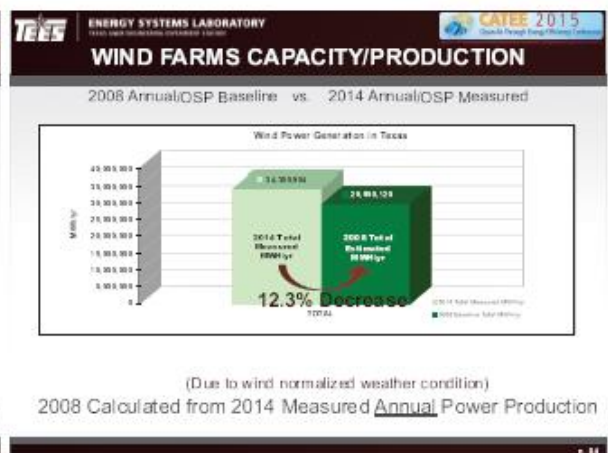
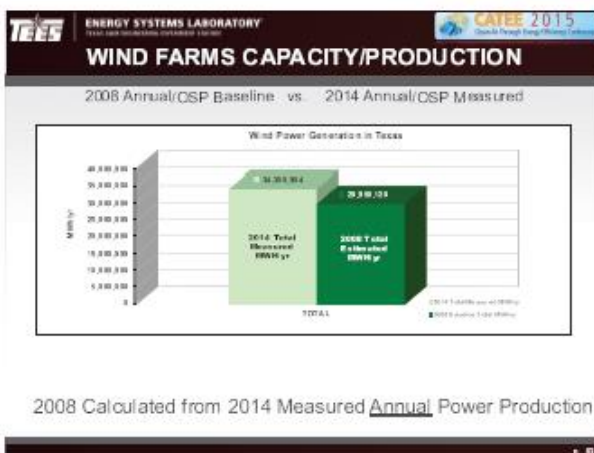
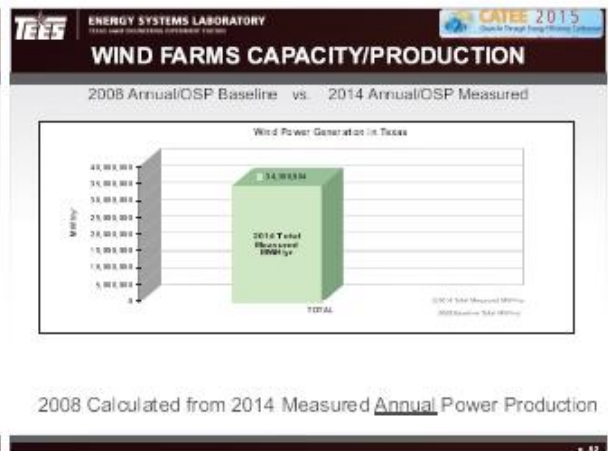
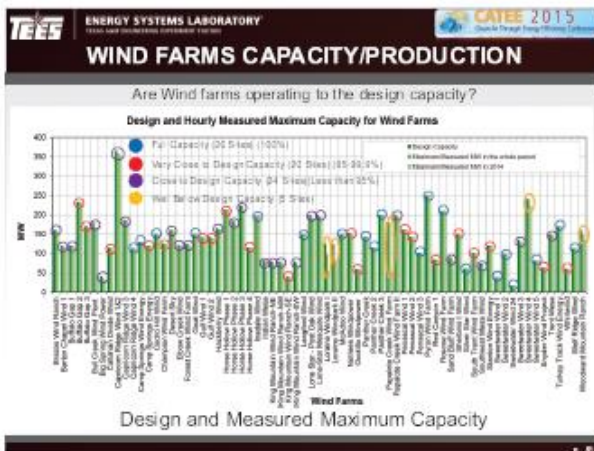
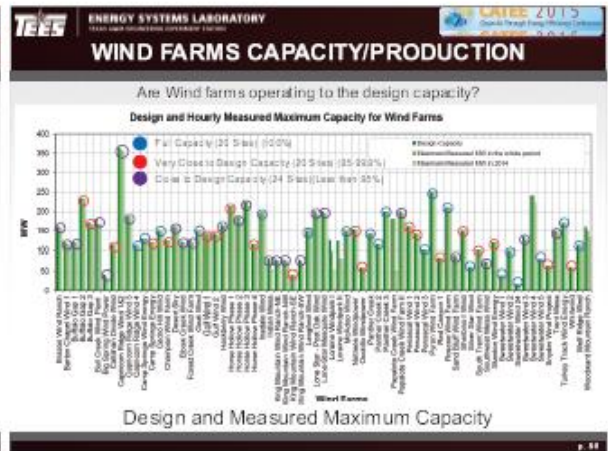
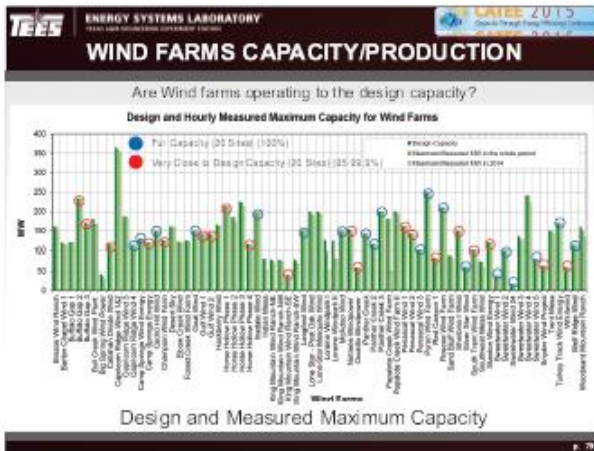
Substantial increases in measured electricity from wind energy
Total capacity: 14,327 MW in Texas

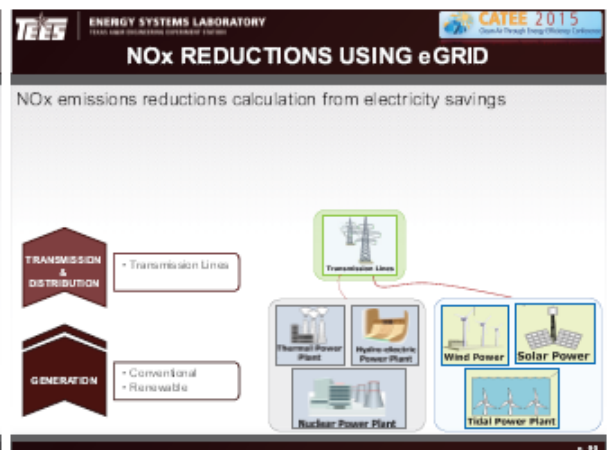
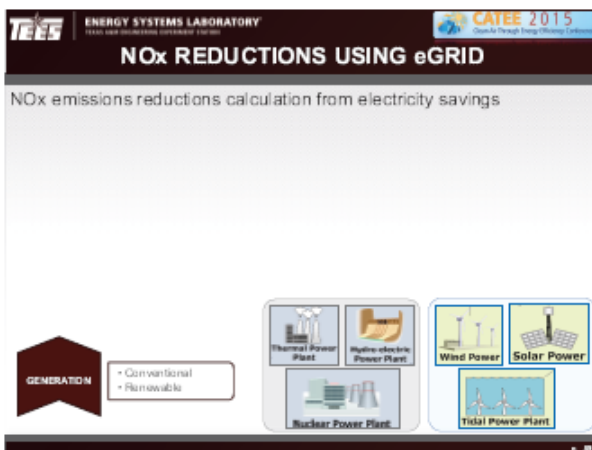
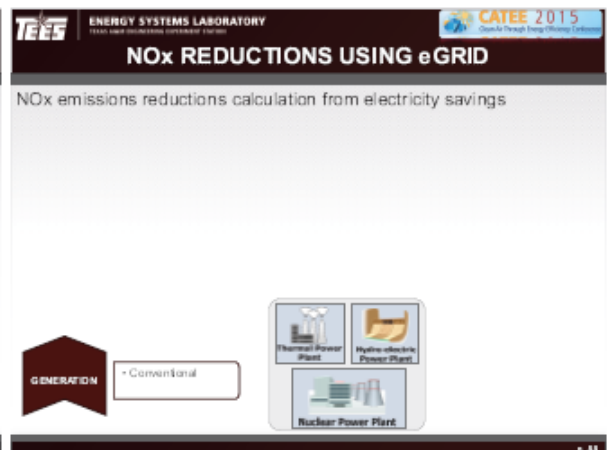
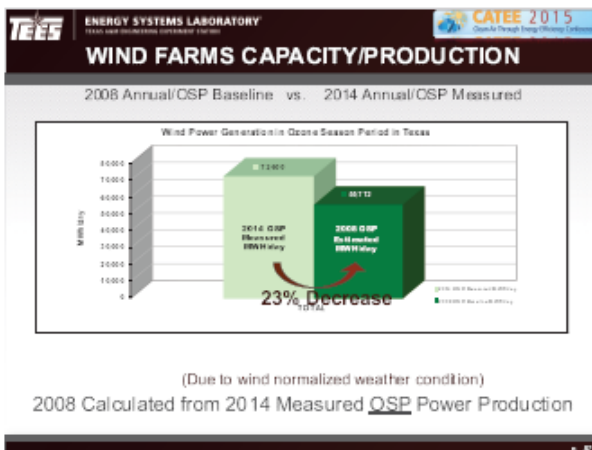
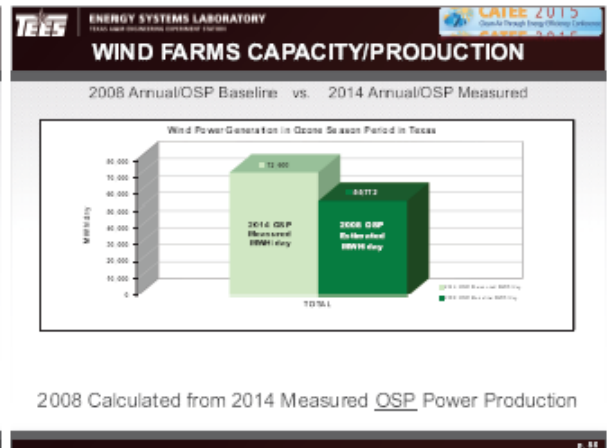
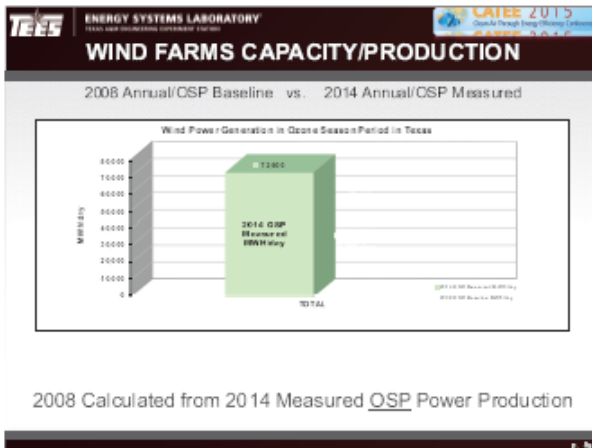
WIND PROJECTS IN TEXAS (2014)

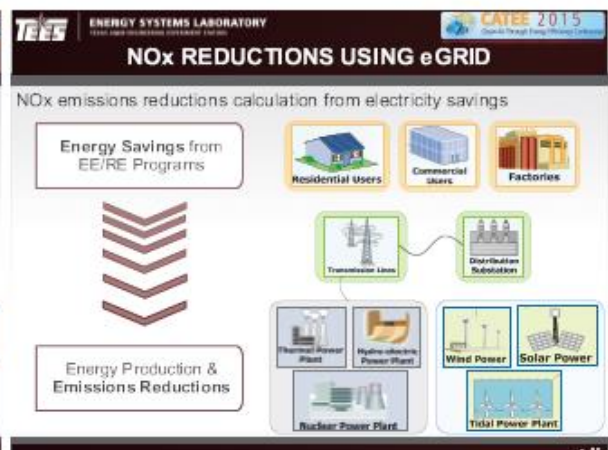
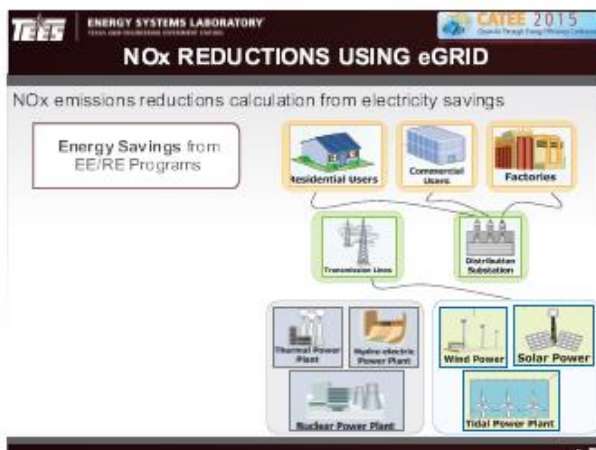
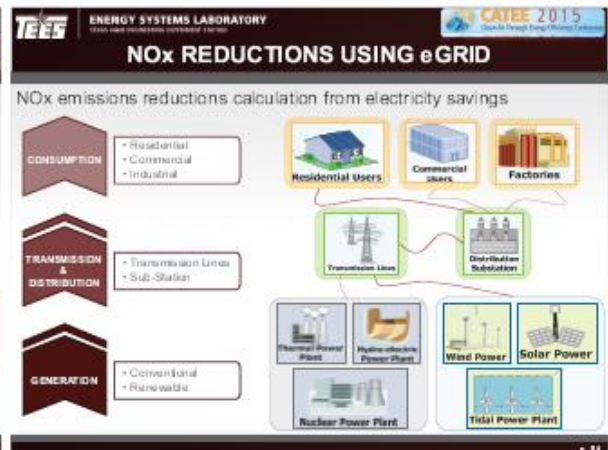
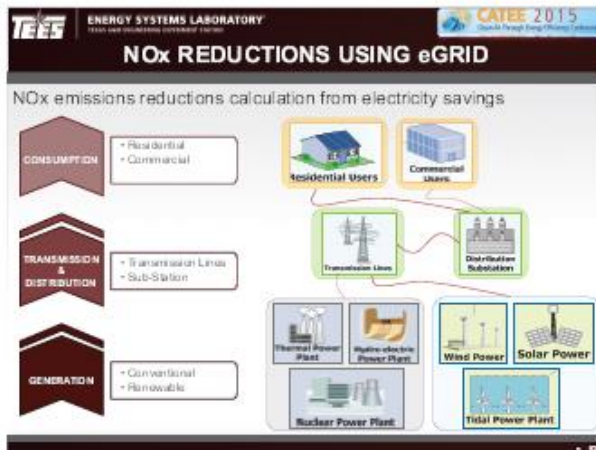
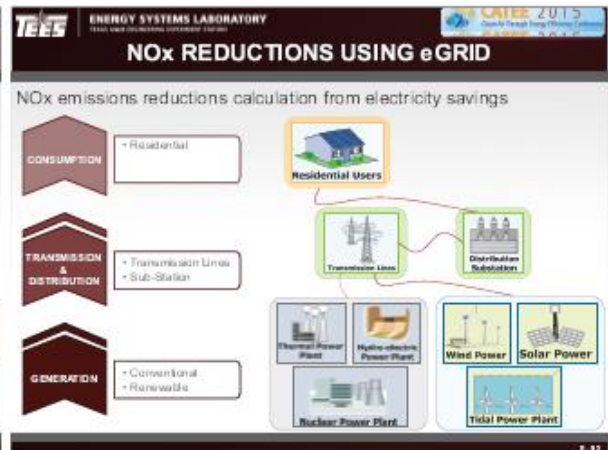
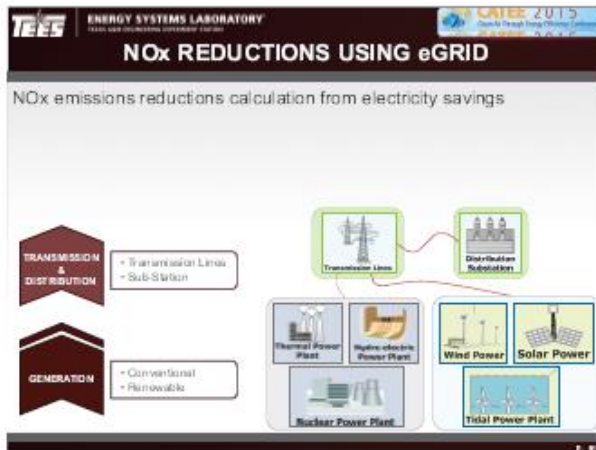


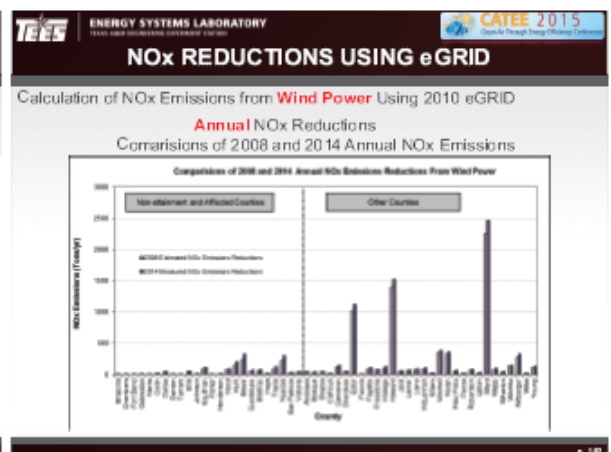
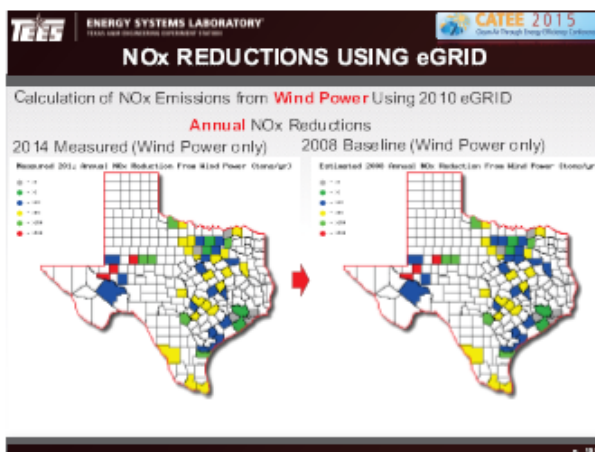
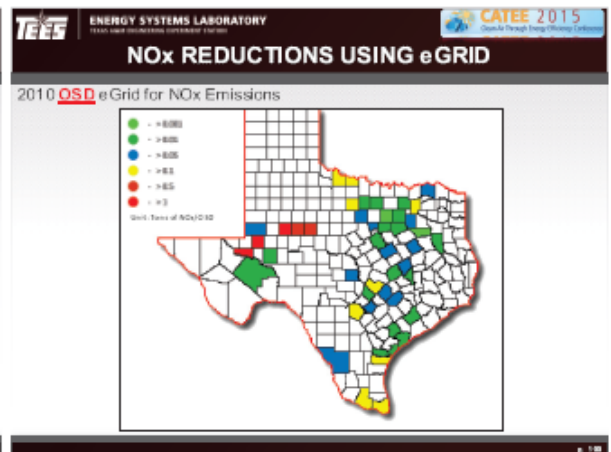
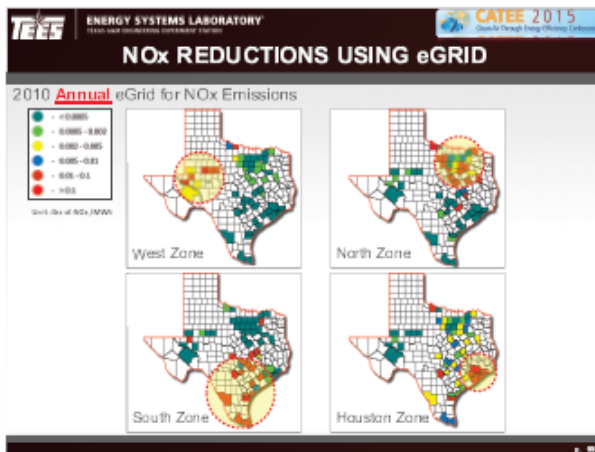
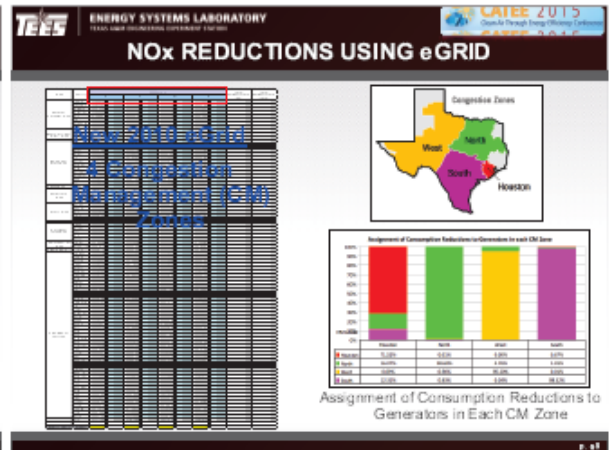
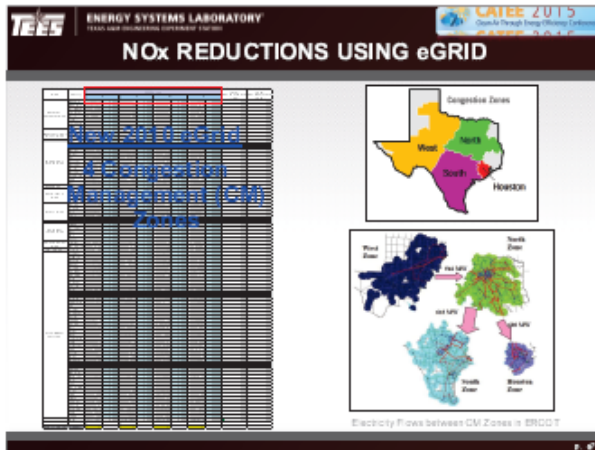
Substantial increases in measured electricity from wind energy
Total capacity: 14,327 MW in Texas & 13,001 MW in ERCOT

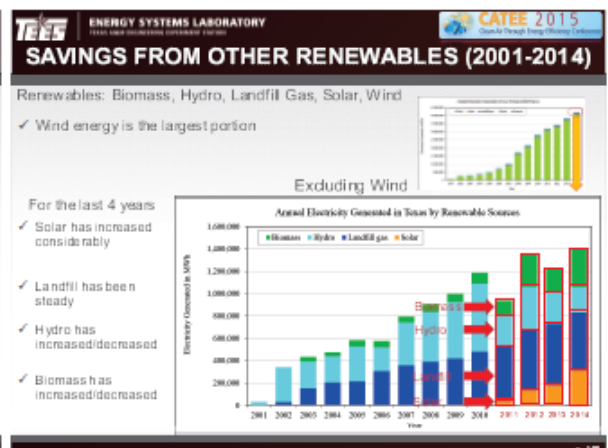
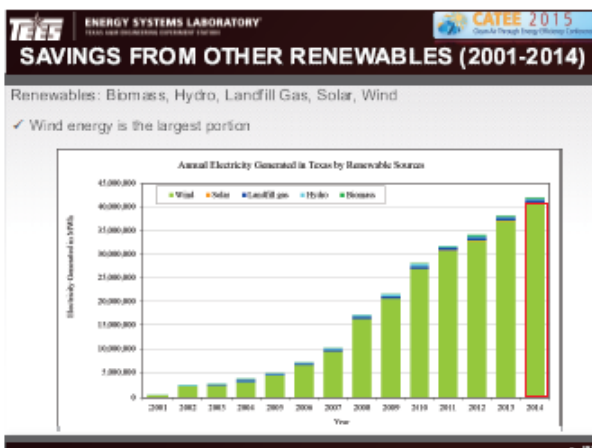
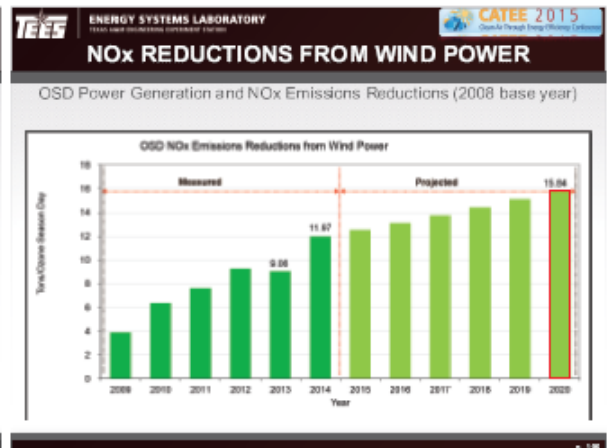
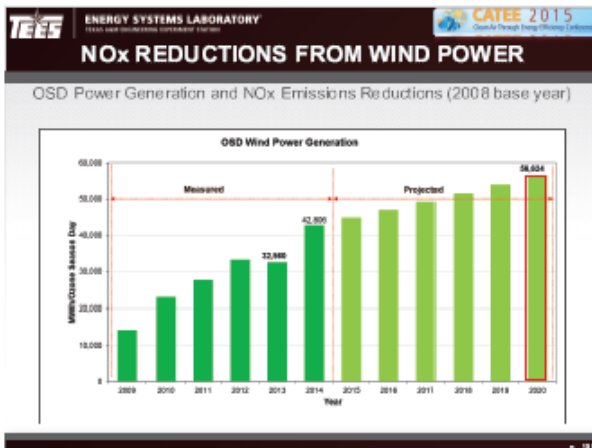
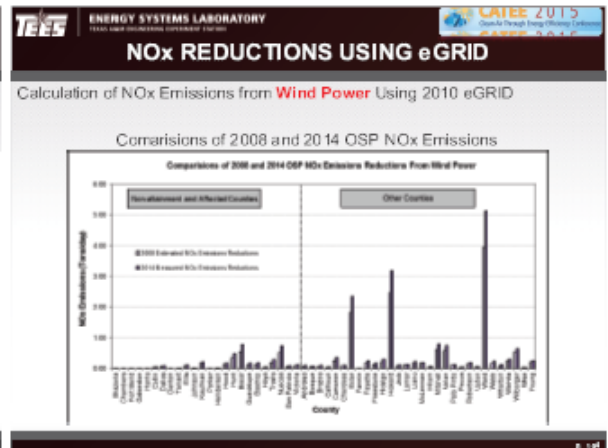
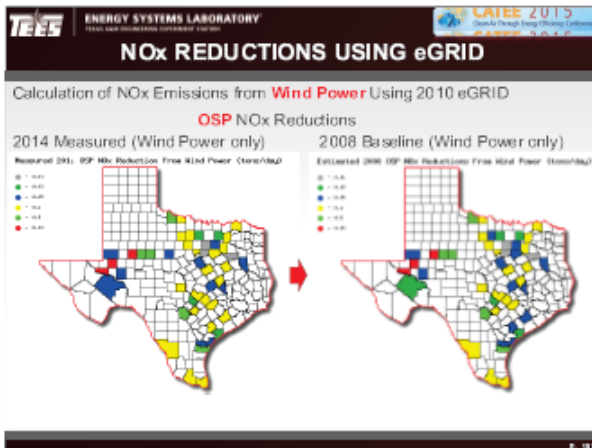


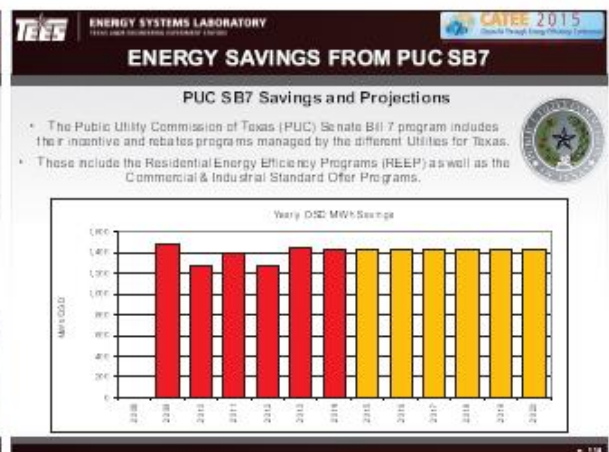
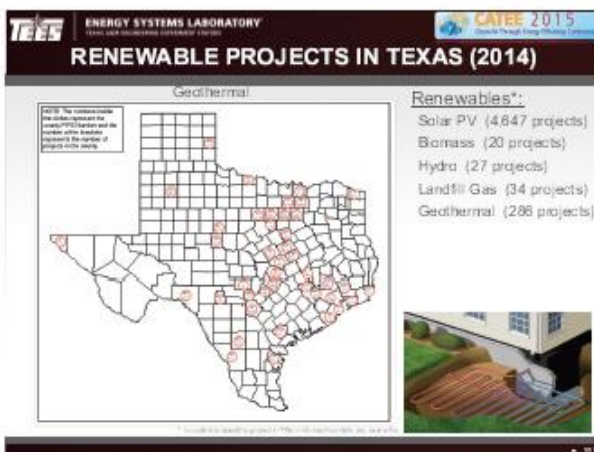
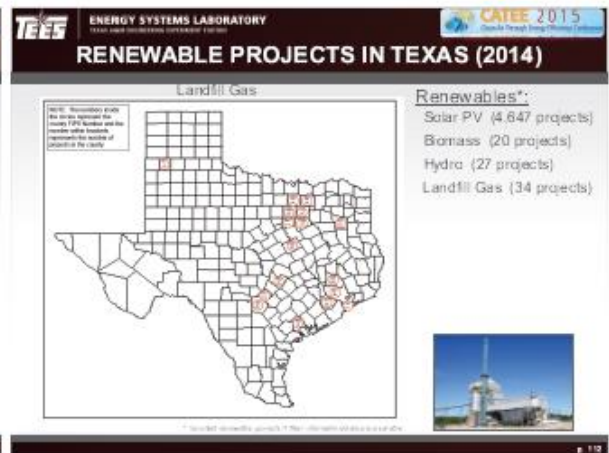
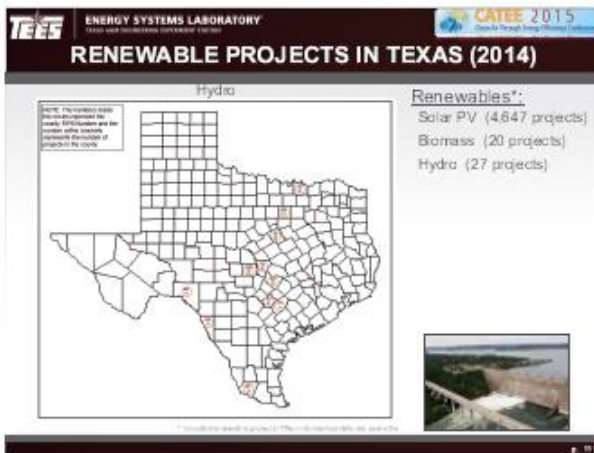
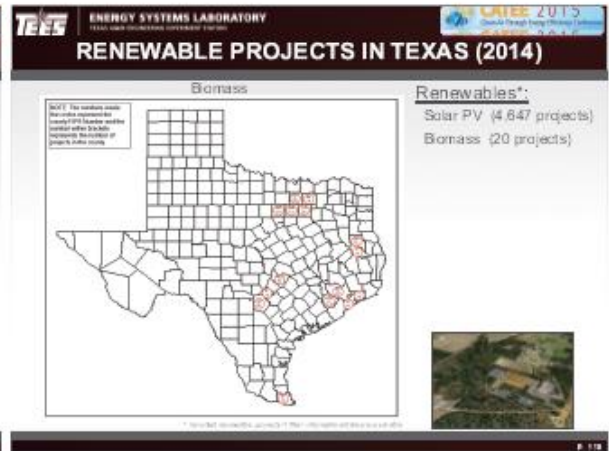
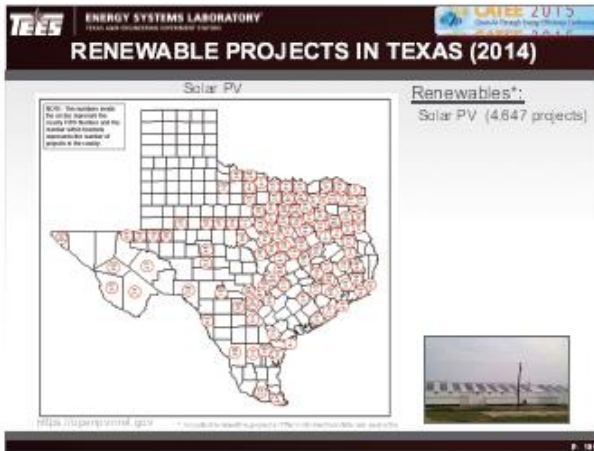


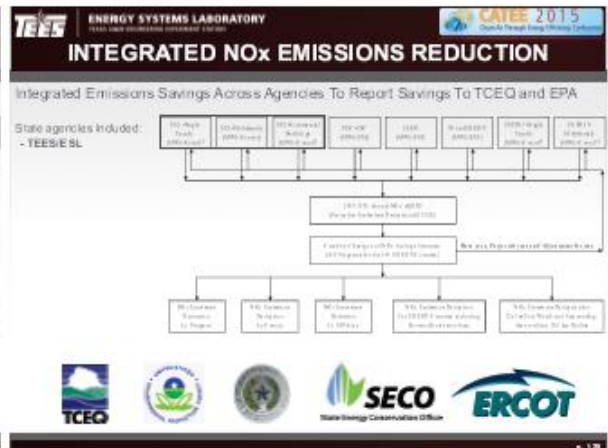
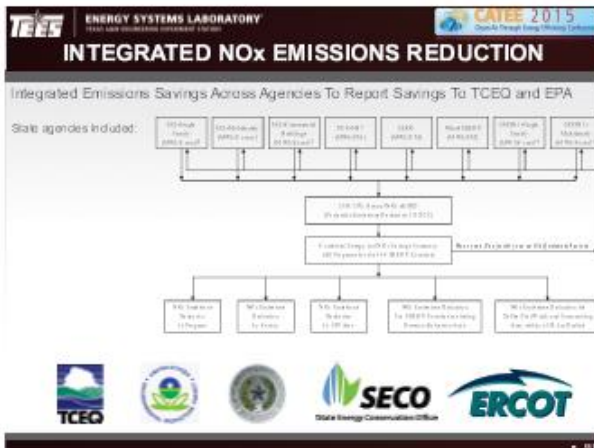
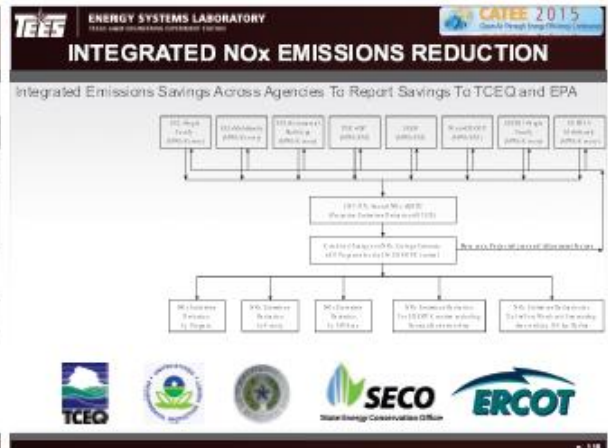
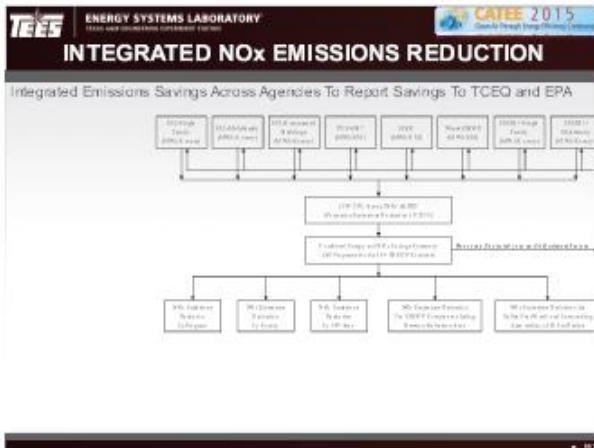
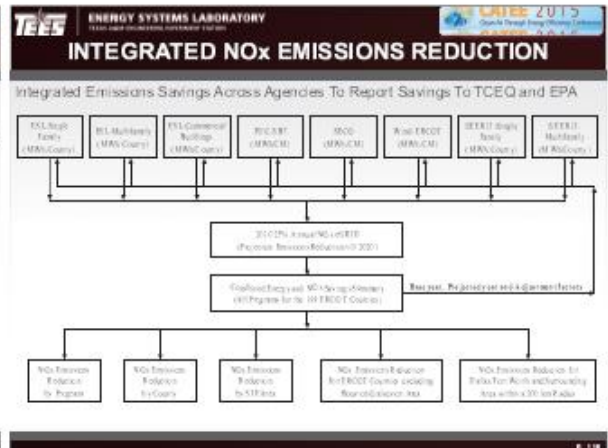
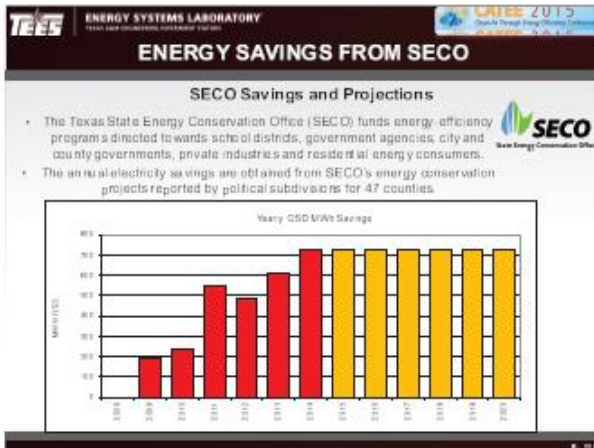


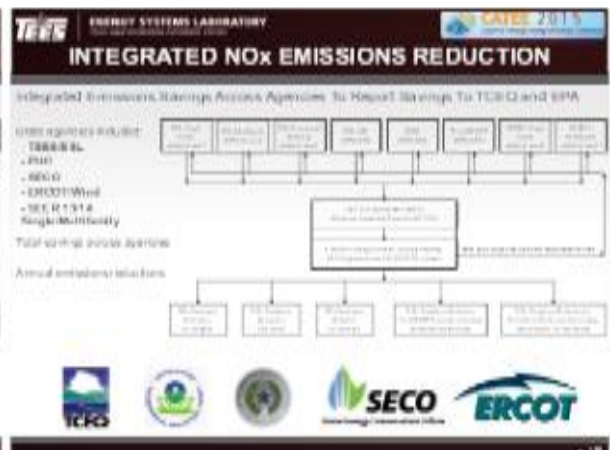
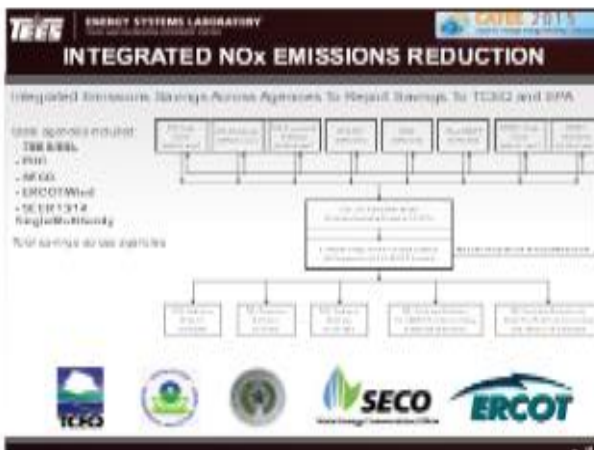
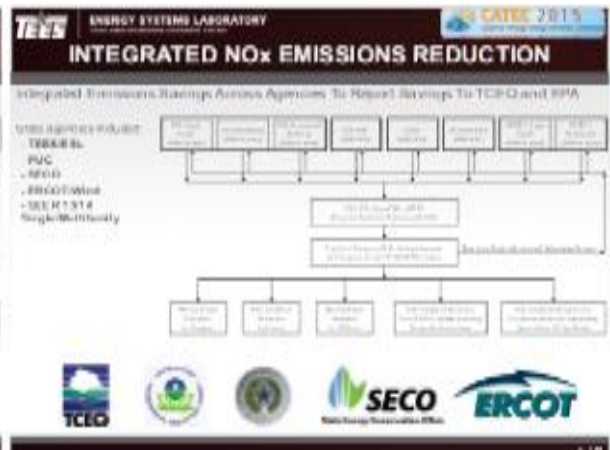
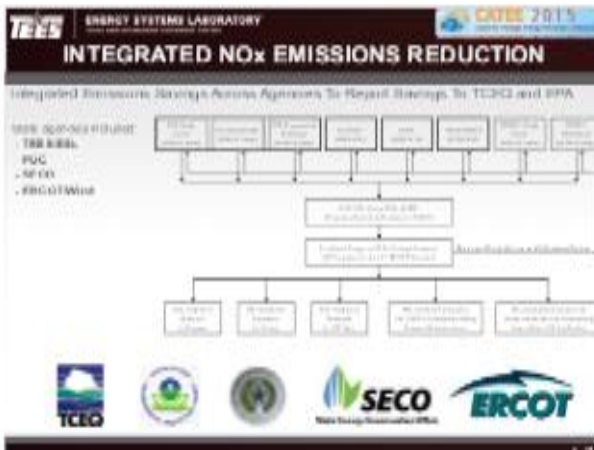
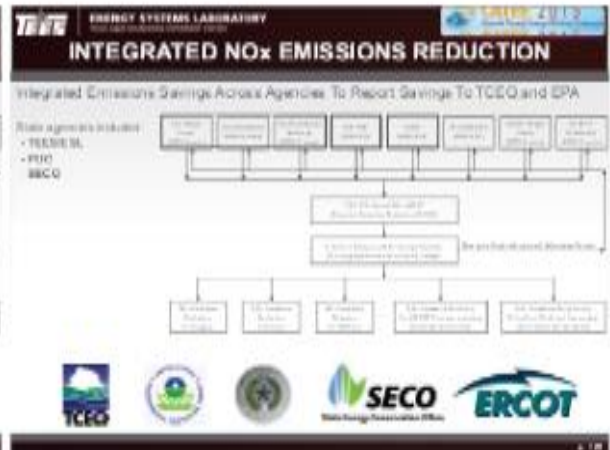
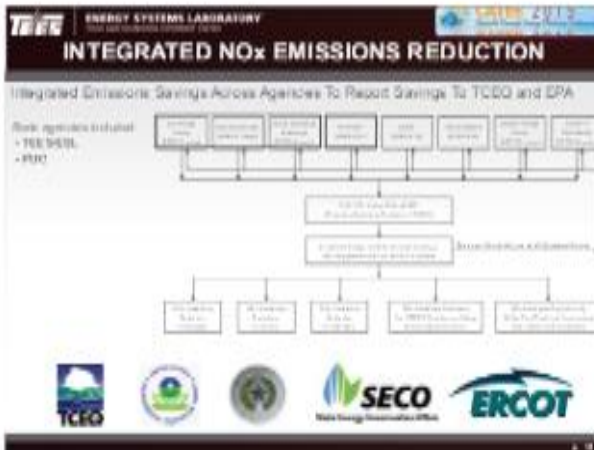


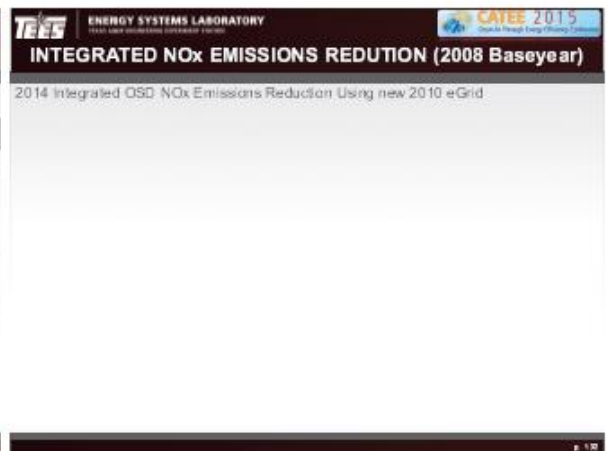
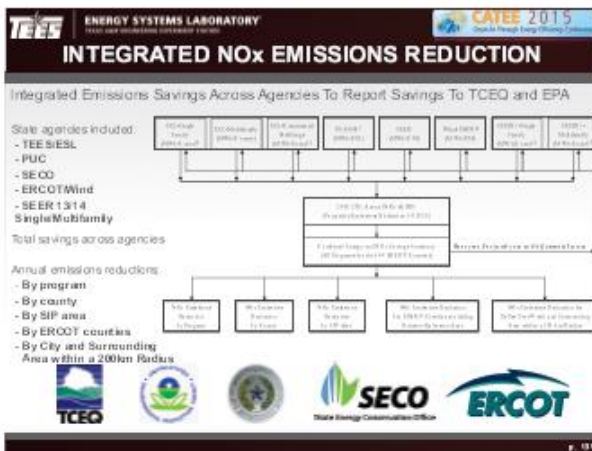
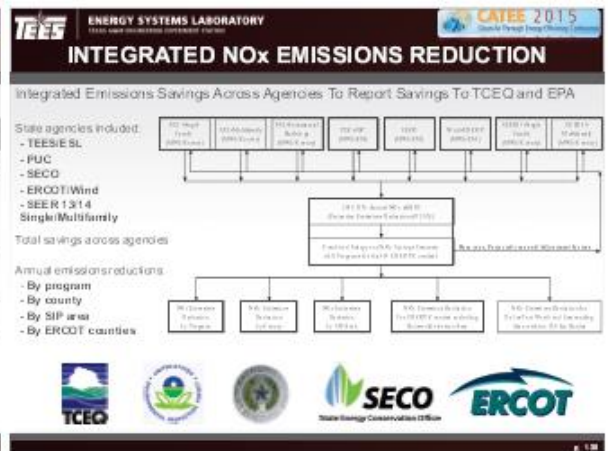
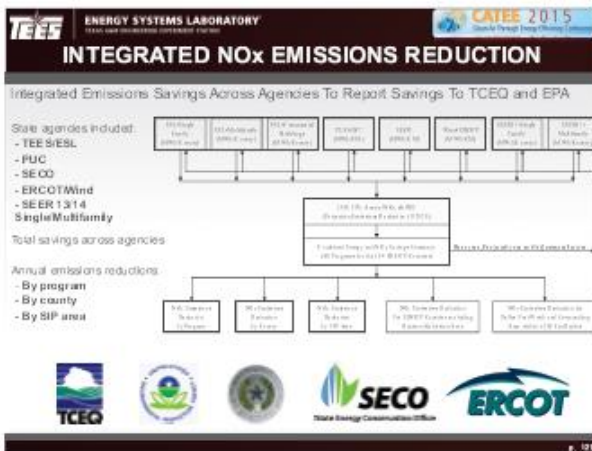
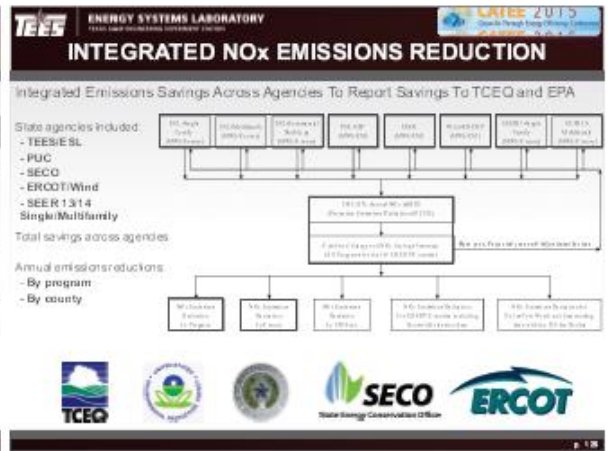
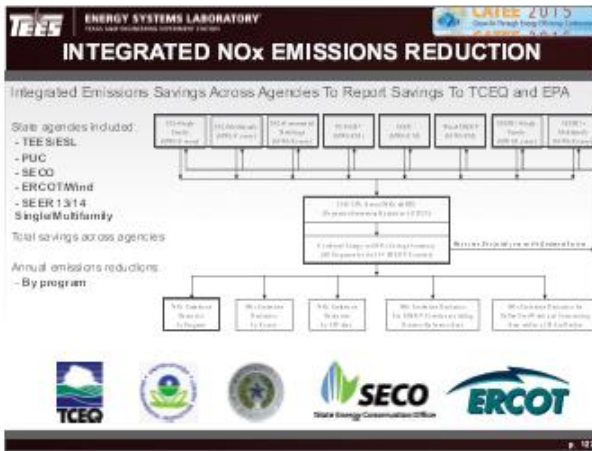


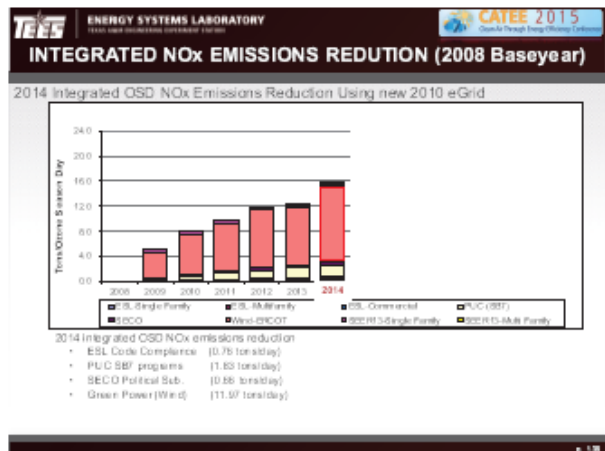
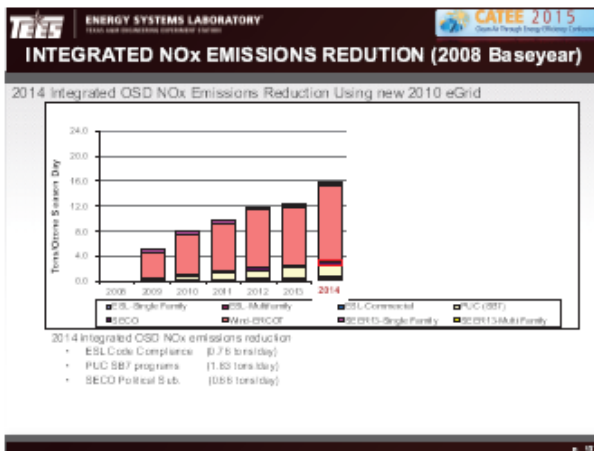
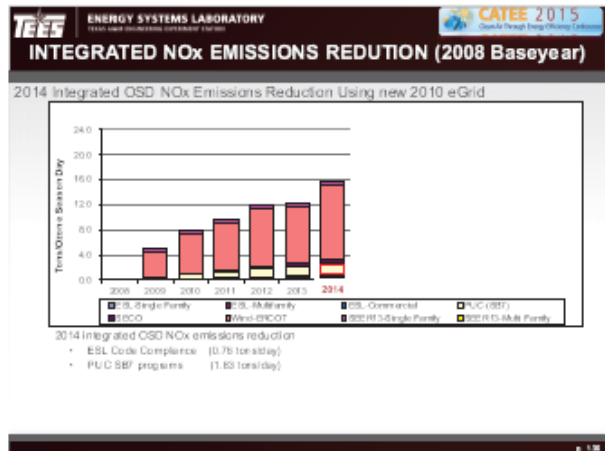
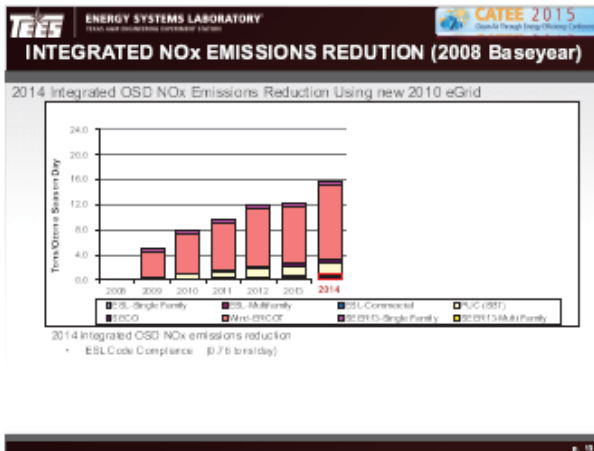
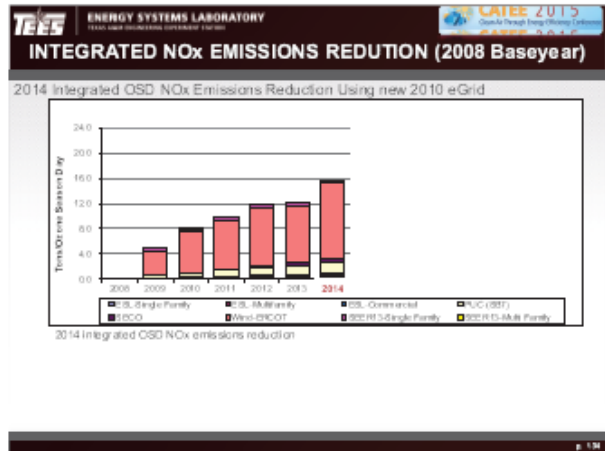
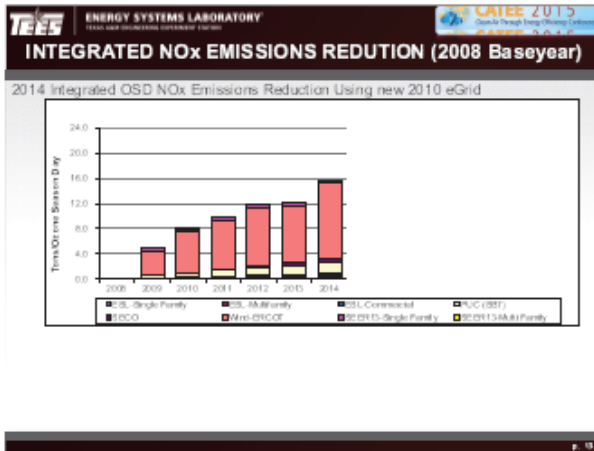


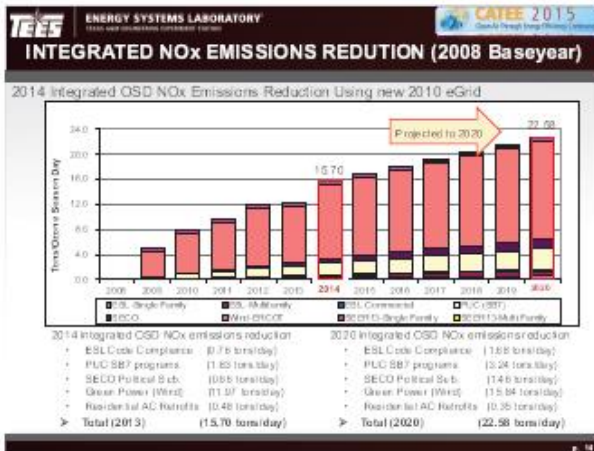
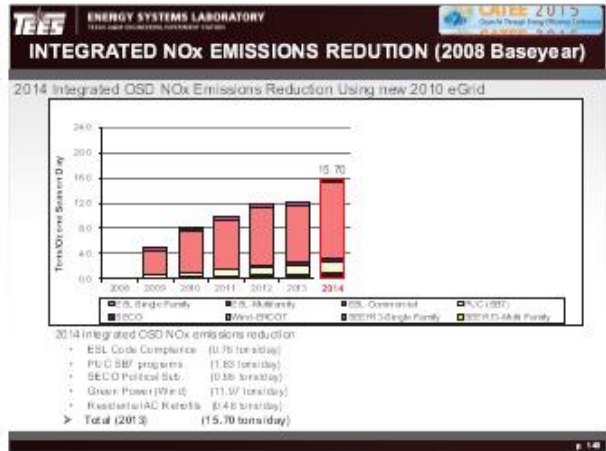
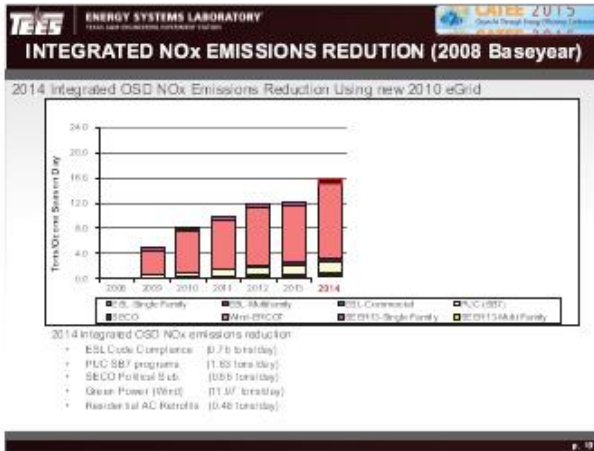












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The Energy Systems Laboratory website features a navigation menu with links to Home, About, Services, and Publications. The main content area includes a video player showing a man speaking, and a list of publications with titles and dates.

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Reports: 2002 through 2013

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- Comparing the commercial portions of the 2015 IECC with the 2012 IECC.

2014 Papers:

- Verification of the energy savings from the implementation of the residential building code in Texas.

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- Comparing the commercial portions of the 2015 IECC with the 2012 IECC.

2014 Papers:

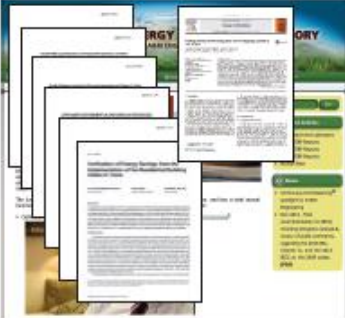
- Verification of the energy savings from the implementation of the residential building code in Texas.
- Developing a physical EMS theory for building thermal energy simulation.

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2014 Reports:

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- Simulate electrical load demand capacity savings from the IECC
- Analysis of Proposed Amendments to 2015 IECC and the 2015 IECC
- Comparing the commercial provisions of the 2015 IECC with the 2012 IECC

2014 Papers:


- Verification of the energy savings from the implementation of the residential building codes in Texas
- Developing a physical BIM library for building thermal energy simulation
- BIM based daylighting simulation and analysis
- Modeling BIM in Building Energy Modeling

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- Development and application of weather resistant monthly building water use model

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- Developing a physical BIM library for building thermal energy simulation
- BIM based daylighting simulation and analysis
- Modeling BIM in Building Energy Modeling
- Development and application of weather resistant monthly building water use model

2015 Papers:


- A Framework for Integrated Object Oriented Physical Modeling with BIM for Building Thermal Simulation

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- Comparing the commercial provisions of the 2015 IECC with the 2012 IECC

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- Verification of the energy savings from the implementation of the residential building codes in Texas
- Developing a physical BIM library for building thermal energy simulation
- BIM based daylighting simulation and analysis
- Modeling BIM in Building Energy Modeling
- Development and application of weather resistant monthly building water use model

2015 Papers:

- A Framework for Integrated Object Oriented Physical Modeling with BIM for Building Thermal Simulation
- Development of Methodology to Collect 3D Building Data for Energy Efficient Buildings

CATEE 2015
October 19-21, 2015

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2014 Reports:

- Comparing the residential provisions of the 2015 IECC with the 2012 IECC
- Developing a residential energy demand response program from the IECC
- Analysis of 17 approved Amendments to the IECC and the 2015 IECC
- Comparing the commercial provisions of the 2015 IECC with the 2012 IECC

2014 Papers:

- Validation of the energy savings from the implementation of the residential building Code in Texas
- Developing a hybrid BIM/BREEAM for building thermal energy simulation
- BIM based energy modeling validation and analysis
- Integrating BIM to Building Energy Modeling
- Development and application of a new residential energy modeling tool

2015 Papers:

- A Framework to Integrate Object Oriented Physical Modeling with BIM for Building Thermal Simulation
- Development of Modeling the Calibrated Building in Single Family Residential Building
- Development of a Power Energy and Multiphysics to Calibrate Energy Efficient

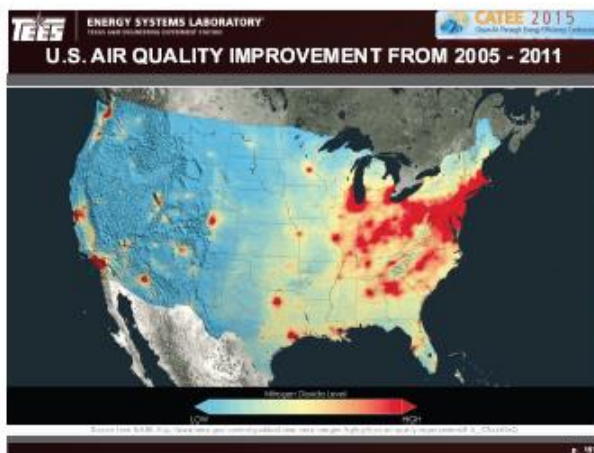
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ACEEE: NATIONAL RECOGNITION FOR CODE CHANGES (2015)

As did 20 states rise in the State Scorecard rankings, California, a leading state, is also one of the most improved states this year. Maryland, Illinois, the District of Columbia, and Texas also deserve recognition for improvement over the past year. Maryland increased its commitment to energy efficiency in 2015 by establishing new, more aggressive energy savings targets for utilities. Illinois is one of the first states to adopt the newest building energy codes, and has increased the amount of energy efficiency available to utilities through procurement agreements with the Illinois Power Agency. Like Illinois, Texas has been aggressive in adopting the latest building energy codes, and has also taken notable actions to ensure code compliance across the state. The District of Columbia is among the most improved for the second year in a row, due to its progress across a number of policy areas and the ramping up of DC Sustainable Energy Utility programs.

ACEEE State Scorecard: Massachusetts Piques Out California As Most Energy Efficient State, Maryland Among Most Improved

Available online at www.aceee.org/press-releases. The following are key findings of the 2015 State Scorecard.



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<http://esl.tamu.edu/terp>

Error! Reference source not found.: Presentation to the Clean Air Through Energy Efficiency onference

9 APPENDIX B

In this section, the linear regression models developed, based on the 2015 wind power generation data, are presented for each wind farm. The estimated 2008 annual and OSP power productions using the 2015 daily models and the resulting emissions reduction are also shown in details for each wind farm. A list of the wind farms analyzed in this year's report is illustrated in Table 9-1.

Table 9-1: Listing of Wind Farms Analyzed for Base-year Calculations

No.	Wind Farms
1	Anacacho Wind Farm
2	Bobcat Bluff Wind Project
3	Blue Summit Wind Energy Center
4	Brazos Wind Ranch
5	Barton Chapel Wind 1
6	Buffalo Gap 1
7	Buffalo Gap 2
8	Buffalo Gap 3
9	Bull Creek Wind Plant
10	Capricorn Ridge Wind
11	Capricorn Ridge Wind exp.
12	Cedro Hill Wind
13	Champion Wind Farm
14	Camp Springs Wind Energy Center
15	Camp Springs Wind Energy Expansion
16	Elbow Creek Wind
17	Snyder Wind Project
18	Whitetail Wind Project
19	Silver Star Phase I
20	Goat Wind
21	Goldthwaite Wind 1
22	Callahan Divide Wind Energy Center
23	Harbor Wind Project
24	Horse Hollow Phase 1
25	Horse Hollow Phase 2
26	Horse Hollow Phase 3
27	Horse Hollow Phase 4
28	Hackberry Wind Farm
29	Inadale Wind
30	Desert Sky
31	Indian Mesa
32	Sherbino 1 Wind Farm
33	Sherbino 2 Wind Farm
34	King Mountain Wind Ranch
35	Langford Wind Power
36	Lone Star - Post Oak Wind
37	Lone-star Mesquite Wind
38	Lorraine Windpark
39	Lorraine Windpark III
40	Lorraine Windpark IV
41	Los Vientos I
42	Los Vientos II

Table 9-1: Listing of Wind Farms Analyzed for Base-year Calculations (Cont.)

No.	Wind Farms
43	Forest Creek Wind Farm
44	Sand Bluff Wind Farm
45	Mozart Wind Farm
46	McAdoo Wind Energy
47	Notrees Windpower
48	Ocotillo Windpower 1
49	Papalote Creek Wind Farm
50	Papalote Creek Phase II
51	Panther Creek 1
52	Panther Creek 2
53	Panther Creek 3
54	Penascal Wind Farm
55	Penascal 3
56	Pyron Wind Farm
57	Magic Valley Wind Farm
58	Red Canyon
59	Senate Wind Farm
60	Big Spring Wind Power
61	South Trent Wind Farm
62	Stanton Wind Energy
63	Southwest Mesa Wind Project
64	Sweetwater Wind 1
65	Sweetwater Wind 2
66	Sweetwater Wind 3
67	Sweetwater Wind 4
68	Sweetwater Wind 5
69	Gulf Wind
70	Roscoe Wind Farm
71	Trent Mesa
72	Trinity Hills Wind Farm
73	Turkey Track Energy Center
74	Whirlwind Energy
75	Wolf Ridge Wind Farm
76	Woodward Mountain Ranch
77	Baffin Wind 1
78	Baffin Wind 2
79	Grandview Wind 1 GV1A
80	Grandview Wind 1 GV1B
81	Hereford Wind G
82	Hereford Wind V
83	Keechi Wind
84	Miami Wind G1
85	Miami Wind G2
86	Panhandle Wind 1 U1
87	Panhandle Wind 1 U2
88	Panhandle Wind 2 U1
89	Panhandle Wind 2 U2
90	Stephens Ranch Wind 1
91	Spinning Spur Wind Two
92	Windthorst 2 Wind

9.1 Anacacho Wind Farm

Table 9-2: Site Information for ANACACHO_ANA

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
ANACACHO_ANA	Wind	-	Kinney	Dec-12	100	EOn Climate & Renewables	Anacacho	-	ERCOT	South	South Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
ANACACHO_ANA	ANACACHO_ANA	100

9.1.1 Anacacho Wind Farm – ANACACHO_ANA

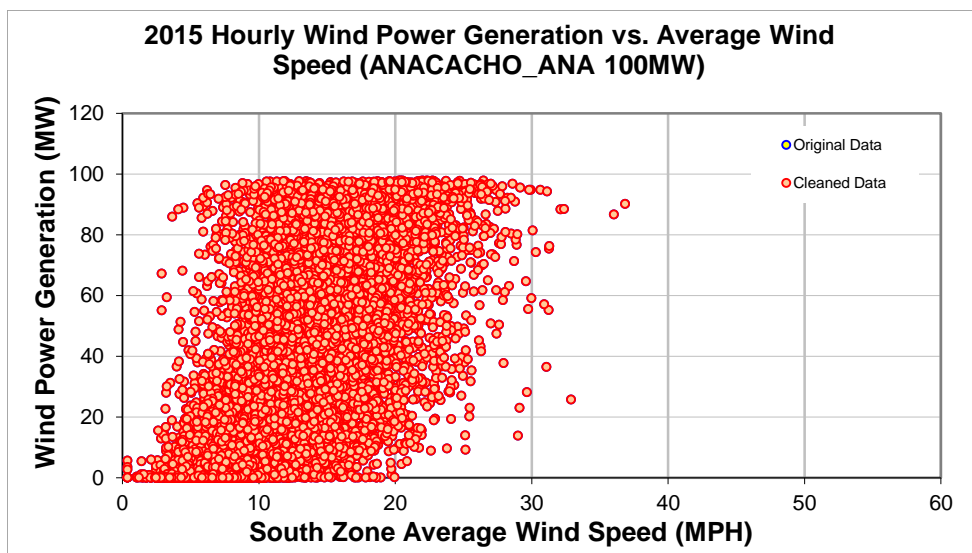


Figure 9-1: ANACACHO_ANA - Hourly Wind Power vs Average Wind Speed (2015)

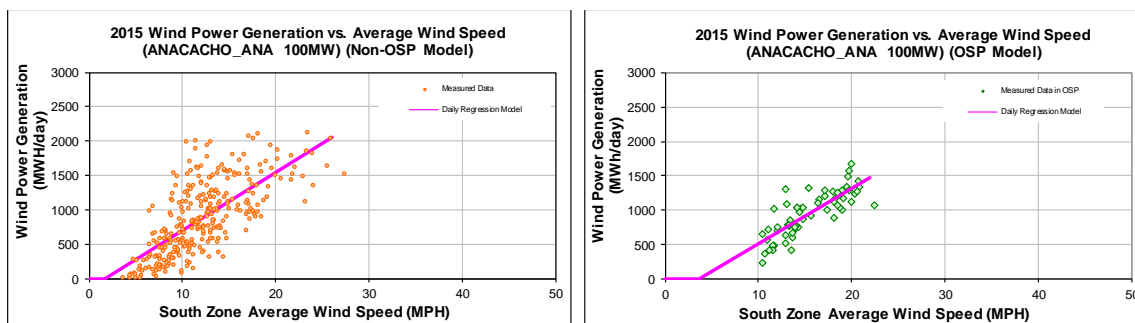


Figure 9-2: ANACACHO_ANA - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-3: ANACACHO_ANA – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-140.0851
Left Slope (MWh/mph-day)	84.2761
RMSE (MWh/day)	374.7803
R2	0.4894
CV-RMSE	42.4%
Daily Maximum (MWh/day)	2400

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-286.8530
Left Slope (MWh/mph-day)	79.7849
RMSE (MWh/day)	190.9552
R2	0.6558
CV-RMSE	20.0%
Daily Maximum (MWh/day)	2400

Table 9-4: ANACACHO_ANA – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (South) Zone	Average Wind Speed (South) Zone	Average Wind Speed (South) Zone	Average Wind Speed (South) Zone		Average Wind Speed (South) Zone
Jan-15	31	8.72	16,258	18,449	-13.48%	22%	25%
Feb-15	28	12.35	20,685	25,226	-21.95%	31%	38%
Mar-15	31	12.22	19,881	27,591	-38.78%	27%	37%
Apr-15	30	13.30	24,815	29,412	-18.52%	34%	41%
May-15	31	14.07	38,704	32,421	16.23%	52%	44%
Jun-15	30	13.71	28,675	30,449	-6.19%	40%	42%
Jul-15	31	19.35	40,841	42,331	-3.65%	55%	57%
Aug-15	31	15.42	26,551	29,237	-10.12%	36%	39%
Sep-15	30	11.87	23,708	22,726	4.14%	33%	32%
Oct-15	31	9.96	32,465	21,682	33.21%	44%	29%
Nov-15	30	9.01	27,719	18,584	32.95%	38%	26%
Dec-15	31	12.69	26,607	28,799	-8.24%	36%	39%
Total	365	12.73	326,909	326,909	0.00%	37%	37%
Total in OSP (07/15-09/15)	63	15.58	60,217	60,217	0.00%	40%	40%

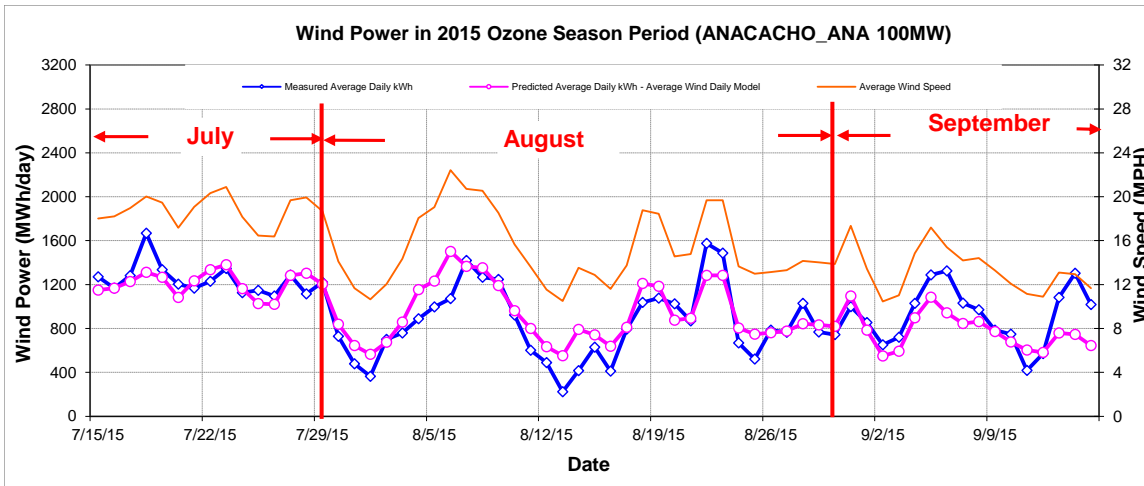


Figure 9-3: ANACACHO_ANA - Predicted Wind Power in OSP Using Average Wind Speed (2015)

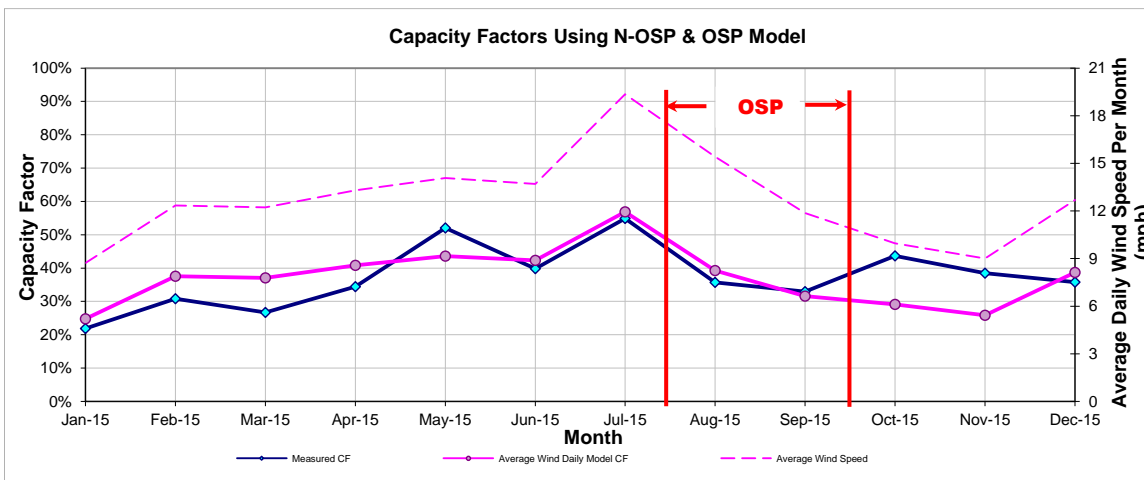


Figure 9-4: ANACACHO_ANA – Predicted Capacity Factors Using Daily Models (2015)

Table 9-5: ANACACHO_ANA – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
287,422	326,909	434	956

9.2 Bobcat Bluff Wind Project

Table 9-6: Site Information for Bobcat Bluff Wind Project

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BCATWIND_WIND_1	Wind	-	Clay	Mar-13	150	EDF Renewable	Bobcat Bluff	-	ERCOT	North	North Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BCATWIND_WIND_1	BCATWIND_WIND_1	150

9.2.1 Bobcat Bluff Wind Project – BCATWIND_WIND_1

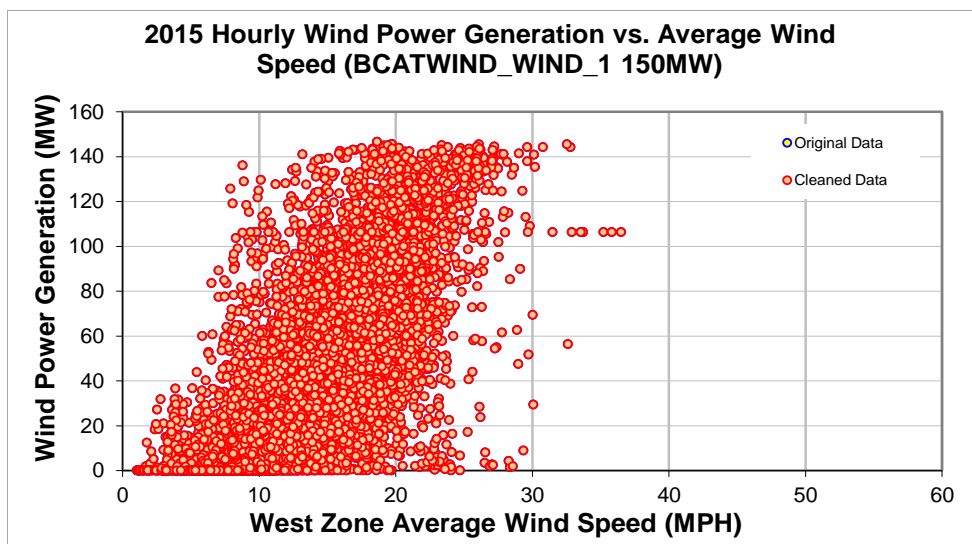


Figure 9-5: BCATWIND_WIND_1 - Hourly Wind Power vs. Average Wind Speed (2015)

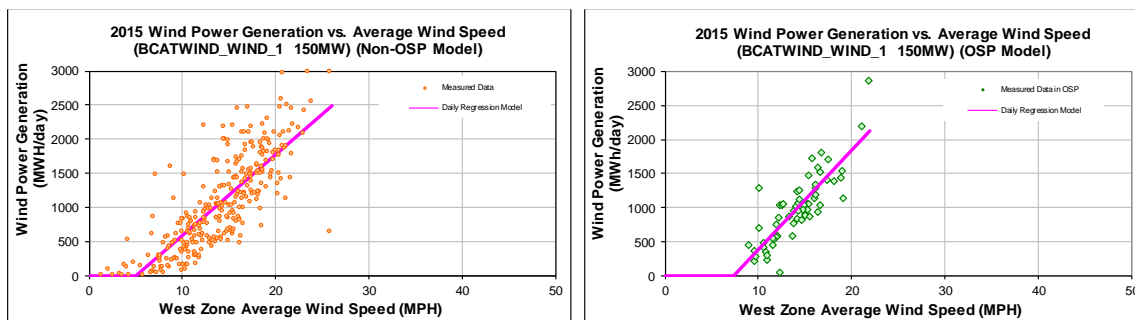


Figure 9-6: BCATWIND_WIND_1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-7: BCATWIND_WIND_1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-599.9256
Left Slope (MWh/mph-day)	118.5465
RMSE (MWh/day)	410.4683
R2	0.6345
CV-RMSE	38.4%
Daily Maximum (MWh/day)	3600

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1078.8634
Left Slope (MWh/mph-day)	145.4913
RMSE (MWh/day)	273.6927
R2	0.6996
CV-RMSE	27.6%
Daily Maximum (MWh/day)	3600

Table 9-8: BCATWIND_WIND_1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	31	11.10	32,417	23,195	28.45%	29%	21%
Feb-15	28	13.78	32,240	29,410	8.78%	32%	29%
Mar-15	31	11.39	25,532	23,492	7.99%	23%	21%
Apr-15	30	15.35	39,070	36,604	6.31%	36%	34%
May-15	31	16.18	35,024	40,849	-16.63%	31%	37%
Jun-15	30	14.18	26,612	32,421	-21.83%	25%	30%
Jul-15	31	15.36	34,256	36,622	-6.91%	31%	33%
Aug-15	31	13.34	28,918	26,713	7.63%	26%	24%
Sep-15	30	14.14	27,412	31,171	-13.71%	25%	29%
Oct-15	31	13.95	28,458	32,674	-14.81%	26%	29%
Nov-15	30	15.20	34,924	36,322	-4.00%	32%	34%
Dec-15	31	15.34	40,363	37,765	6.44%	36%	34%
Total	365	14.10	385,226	387,238	-0.52%	29%	29%
Total in OSP (07/15-09/15)	63	14.23	62,438	62,438	0.00%	28%	28%

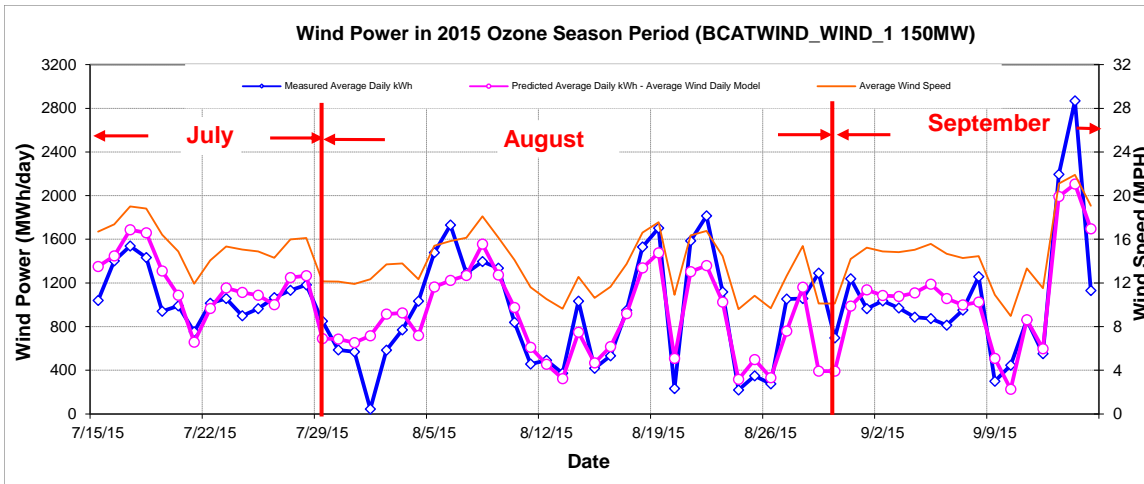


Figure 9-7: BCATWIND_WIND_1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

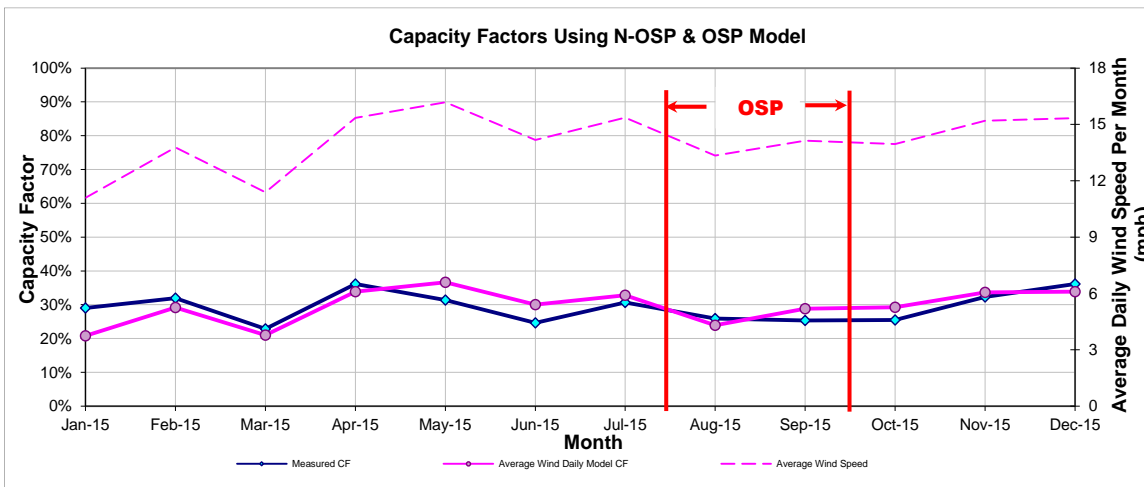


Figure 9-8: BCATWIND_WIND_1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-9: BCATWIND_WIND_1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
266,389	385,226	270	991

9.3 Blue Summit Wind Energy Center

Table 9-10: Site Information for Blue Summit Wind Energy Center

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BLSUMMIT_BLSMT1	Wind	-	Wilbarger	Dec-12	135.4	NextEra	Blue Summit Windfarm 1&2	-	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BLSUMMIT_BLSMT1	BLSUMMIT_BLSMT1	135.4

9.3.1 Blue Summit Wind Energy Center – BLSUMMIT_BLSMT1

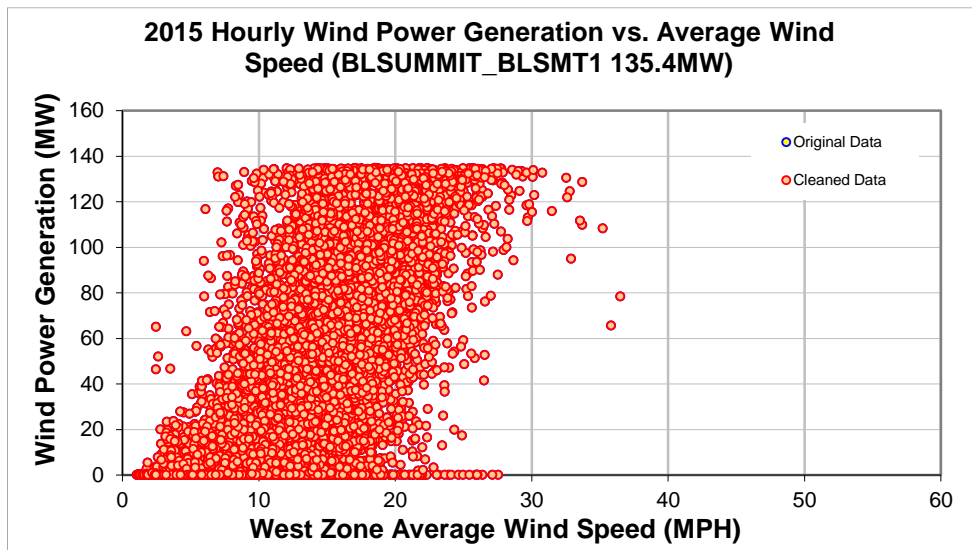


Figure 9-9: BLSUMMIT_BLSMT1 - Hourly Wind Power vs. Average Wind Speed (2015)

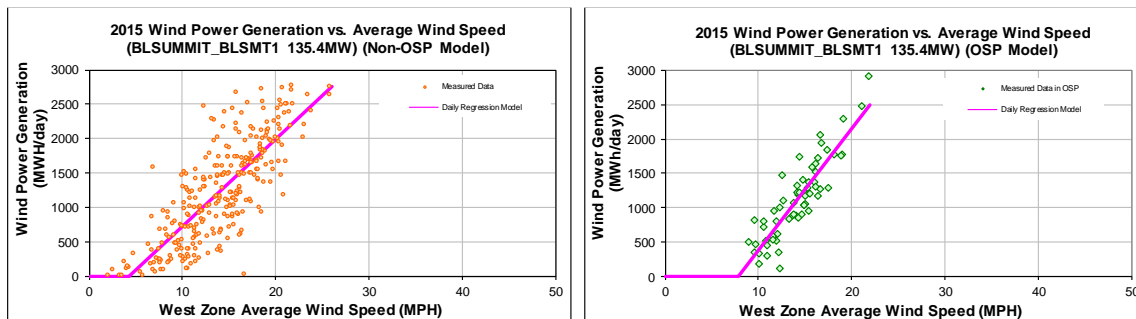


Figure 9-10: BLSUMMIT_BLSMT1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-11: BLSUMMIT_BLSMT1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-532.1082
Left Slope (MWh/mph-day)	125.7970
RMSE (MWh/day)	439.0608
R2	0.6270
CV-RMSE	35.5%
Daily Maximum (MWh/day)	3250

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1376.9650
Left Slope (MWh/mph-day)	176.1997
RMSE (MWh/day)	265.9097
R2	0.7835
CV-RMSE	23.5%
Daily Maximum (MWh/day)	3250

Table 9-12: BLSUMMIT_BLSMT1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	38,477	27,540	28.43%	39%	28%
Feb-15	28	13.78	37,663	33,926	9.92%	41%	37%
Mar-15	31	11.39	29,982	27,925	6.86%	30%	28%
Apr-15	30	15.35	45,979	41,978	8.70%	47%	43%
May-15	25	16.11	31,877	37,370	-17.23%	39%	46%
Jun-15	30	14.18	30,870	37,539	-21.60%	32%	39%
Jul-15	31	15.36	37,076	41,986	-13.24%	37%	42%
Aug-15	31	13.34	32,372	30,169	6.81%	32%	30%
Sep-15	30	14.14	34,525	36,087	-4.53%	35%	37%
Oct-15	31	13.95	34,407	37,912	-10.19%	34%	38%
Nov-15	30	15.20	43,478	41,470	4.62%	45%	43%
Dec-15	31	15.34	39,713	43,314	-9.07%	39%	43%
Total	358	14.10	436,420	437,217	-0.18%	38%	38%
Total in OSP (07/15-09/15)	63	14.23	71,182	71,182	0.00%	35%	35%

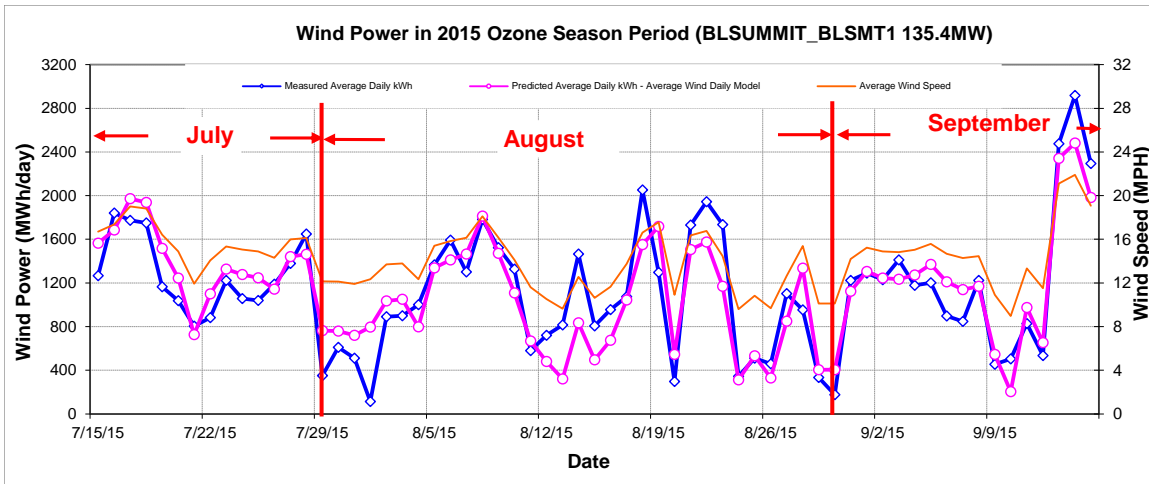


Figure 9-11: BLSUMMIT_BLSMT1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

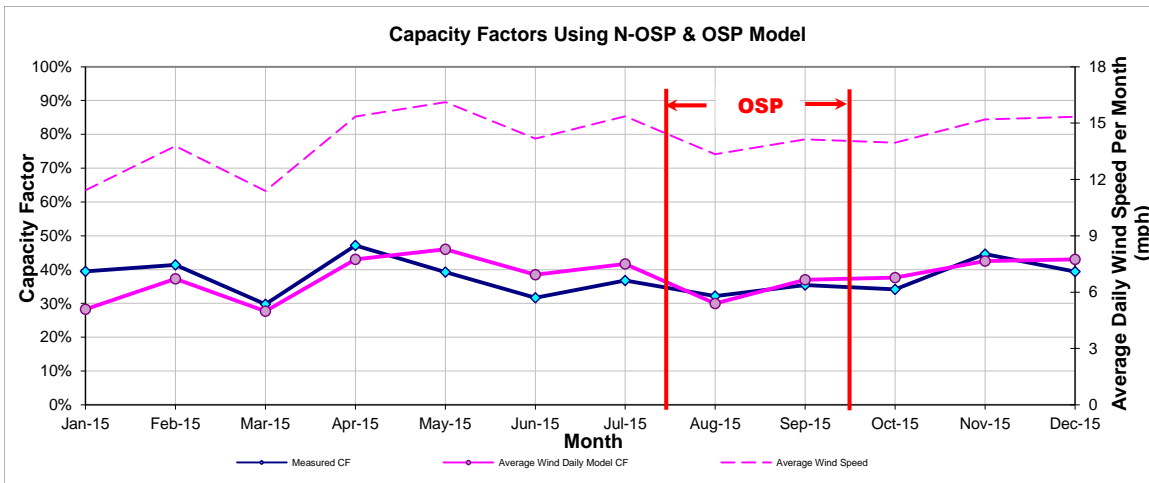


Figure 9-12: BLSUMMIT_BLSMT1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-13: BLSUMMIT_BLSMT1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
313,464	444,954	283	1,130

9.4 Brazos Wind Ranch

Table 9-14: Site Information for Brazos Wind Ranch

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BRAZ_WIND	Wind	Fluvana	Scurry	Dec-03	160	Cielo/Orion/Green Mountain	Brazos Wind Ranch	Mitsubishi 1000 (160)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BRAZ_WND_WND1	BRAZ_WIND	99
BRAZ_WND_WND2	BRAZ_WIND	61

9.4.1 Brazos Wind Ranch – BRAZ_WND_WND1

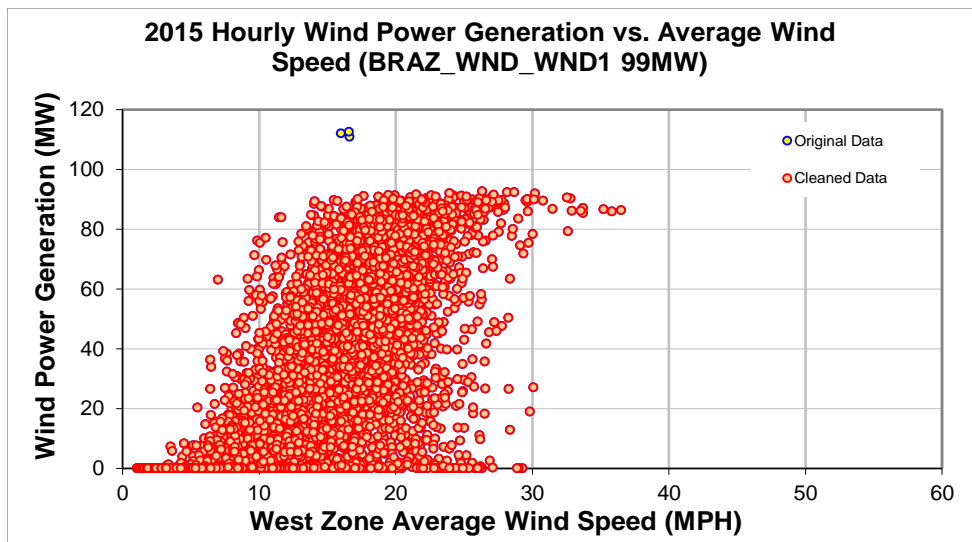


Figure 9-13: BRAZ_WND_WND1 - Hourly Wind Power vs. Average Wind Speed (2015)

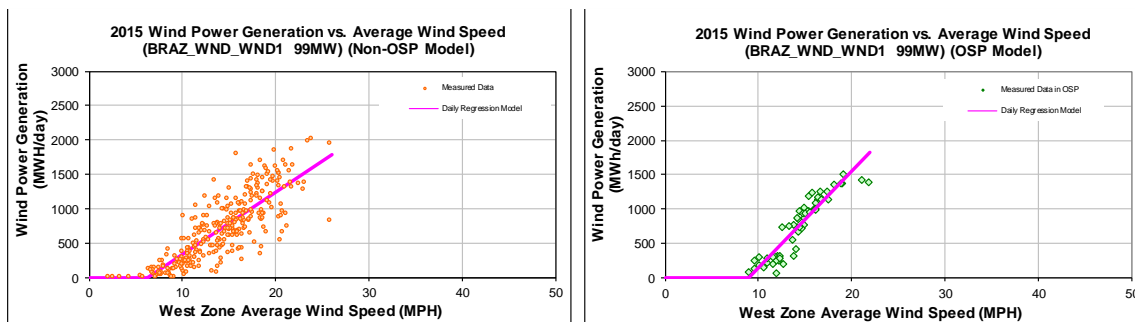


Figure 9-14: BRAZ_WND_WND1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-15: BRAZ_WND_WND1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-562.6763
Left Slope (MWh/mph-day)	89.8595
RMSE (MWh/day)	275.8239
R2	0.6678
CV-RMSE	38.2%
Daily Maximum (MWh/day)	2376

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1265.3284
Left Slope (MWh/mph-day)	140.4299
RMSE (MWh/day)	157.5802
R2	0.8634
CV-RMSE	21.0%
Daily Maximum (MWh/day)	2376

Table 9-16: BRAZ_WND_WND1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	18,296	14,560	20.42%	26%	20%
Feb-15	27	14.16	23,272	19,487	16.26%	36%	30%
Mar-15	28	11.91	16,309	14,388	11.78%	25%	22%
Apr-15	30	15.35	19,543	24,509	-25.41%	27%	34%
May-15	31	16.18	22,037	27,618	-25.33%	30%	37%
Jun-15	30	14.18	20,972	21,337	-1.74%	29%	30%
Jul-15	31	15.36	26,763	26,391	1.39%	36%	36%
Aug-15	29	13.55	19,089	18,488	3.15%	28%	27%
Sep-15	30	14.14	22,668	22,107	2.47%	32%	31%
Oct-15	31	13.95	19,349	21,421	-10.71%	26%	29%
Nov-15	28	16.00	24,565	24,578	-0.05%	37%	37%
Dec-15	31	15.34	26,070	25,329	2.84%	35%	34%
Total	356	14.31	258,933	260,215	-0.50%	31%	31%
Total in OSP (07/15-09/15)	61	14.36	45,803	45,808	-0.01%	32%	32%

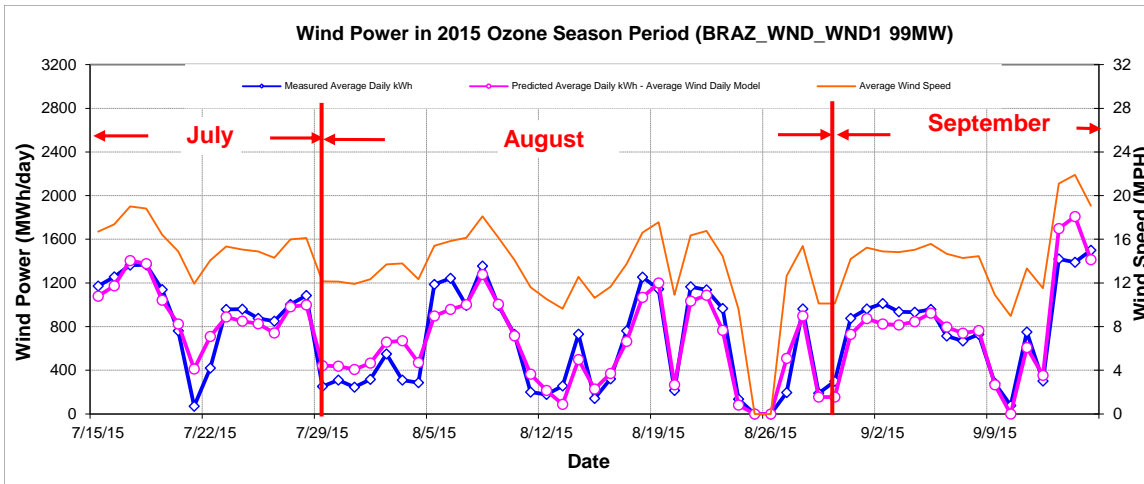


Figure 9-15: BRAZ_WND_WND1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

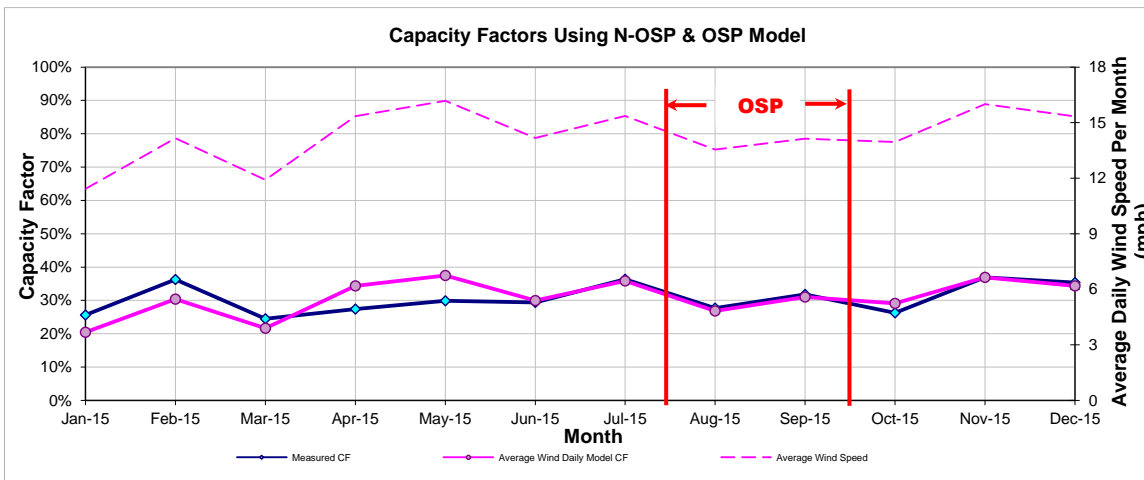


Figure 9-16: BRAZ_WND_WND1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-17: BRAZ_WND_WND1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
167,359	265,479	140	751

9.4.2 Brazos Wind Ranch – BRAZ_WND_WND2

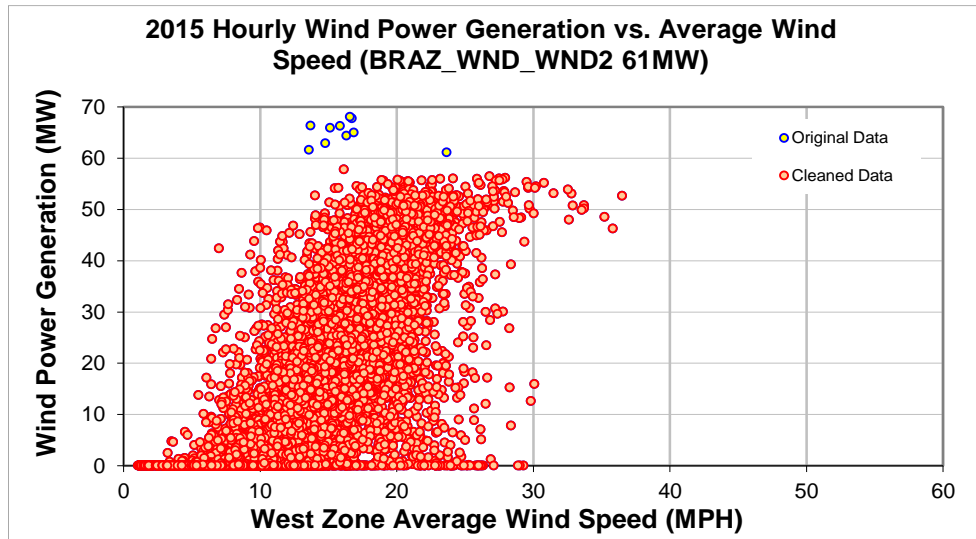


Figure 9-17: BRAZ_WND_WND2 - Hourly Wind Power vs. Average Wind Speed (2015)

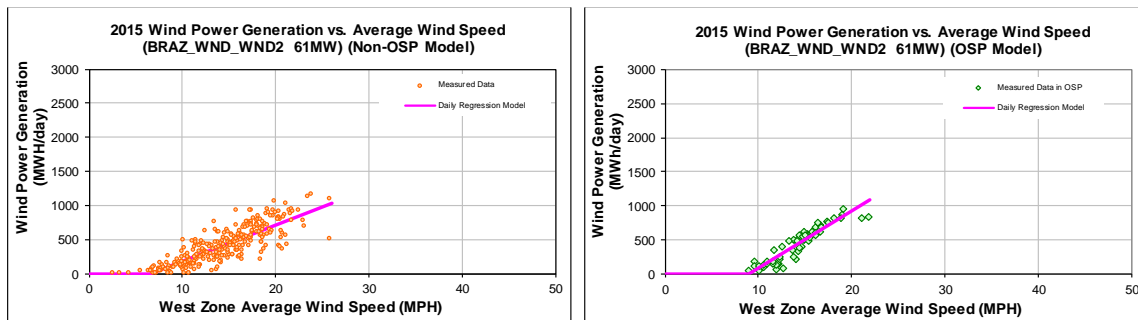


Figure 9-18: BRAZ_WND_WND2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-18: BRAZ_WND_WND2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-338.7939
Left Slope (MWh/mph-day)	52.5517
RMSE (MWh/day)	148.1402
R2	0.6977
CV-RMSE	35.6%
Daily Maximum (MWh/day)	1464

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-738.5926
Left Slope (MWh/mph-day)	82.5985
RMSE (MWh/day)	93.7023
R2	0.8608
CV-RMSE	20.9%
Daily Maximum (MWh/day)	1464

Table 9-19: BRAZ_WND_WND2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	27	11.73	8,458	7,661	9.42%	21%	19%
Feb-15	27	14.16	12,753	11,144	12.62%	32%	28%
Mar-15	28	11.69	7,907	7,830	0.97%	19%	19%
Apr-15	30	15.35	11,236	14,041	-24.97%	26%	32%
May-15	31	16.18	14,365	15,850	-10.34%	32%	35%
Jun-15	30	14.18	13,145	12,187	7.29%	30%	28%
Jul-15	31	15.36	15,520	15,443	0.49%	34%	34%
Aug-15	29	13.55	11,423	11,038	3.37%	27%	26%
Sep-15	30	14.14	13,508	12,907	4.45%	31%	29%
Oct-15	31	13.95	11,296	12,226	-8.23%	25%	27%
Nov-15	28	16.00	14,288	14,111	1.24%	35%	34%
Dec-15	30	15.66	14,525	14,521	0.03%	33%	33%
Total	352	14.37	148,423	148,959	-0.36%	29%	29%
Total in OSP (07/15-09/15)	61	14.36	27,285	27,285	0.00%	31%	31%

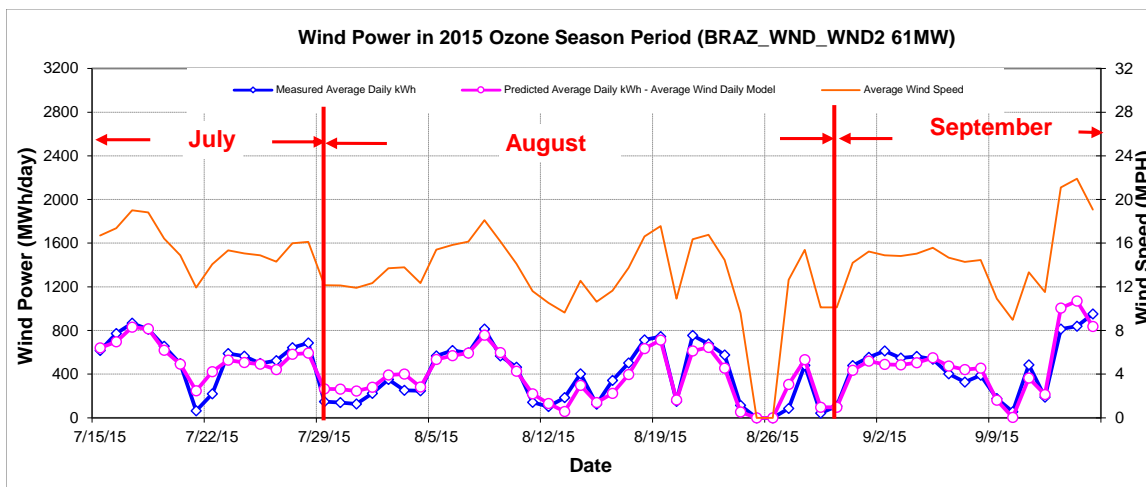


Figure 9-19: BRAZ_WND_WND2 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

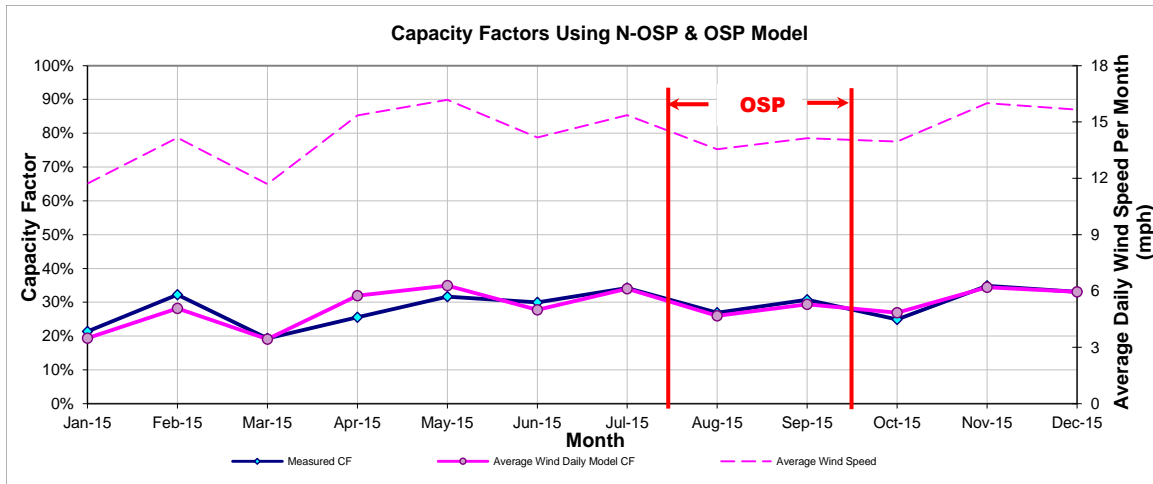


Figure 9-20: BRAZ_WND_WND2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-20: BRAZ_WND_WND2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
95,423	153,904	85	447

9.5 Barton Chapel Wind1

Table 9-21: Site Information for Barton Chapel Wind 1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BRTSW_BCW1	Wind	-	Jack	Dec-07	120	Gamesa Energy	Barton Chapel Wind 1	-	ERCOT	North	North Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BRTSW_BCW1	BRTSW_BCW1	120

9.5.1 Barton Chapel Wind 1– BRTSW_BCW1

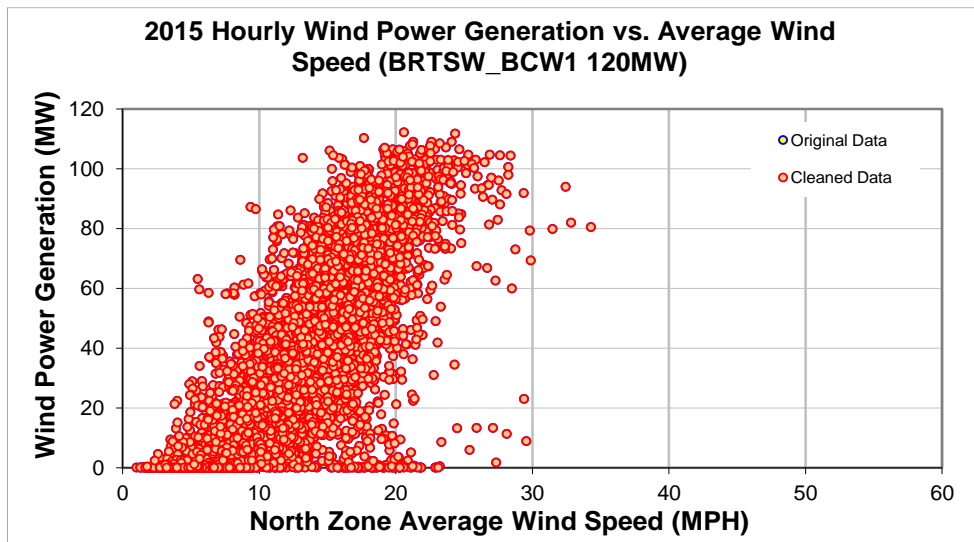


Figure 9-21: BRTSW_BCW1 – Hourly Wind Power vs. Average Wind Speed (2015)

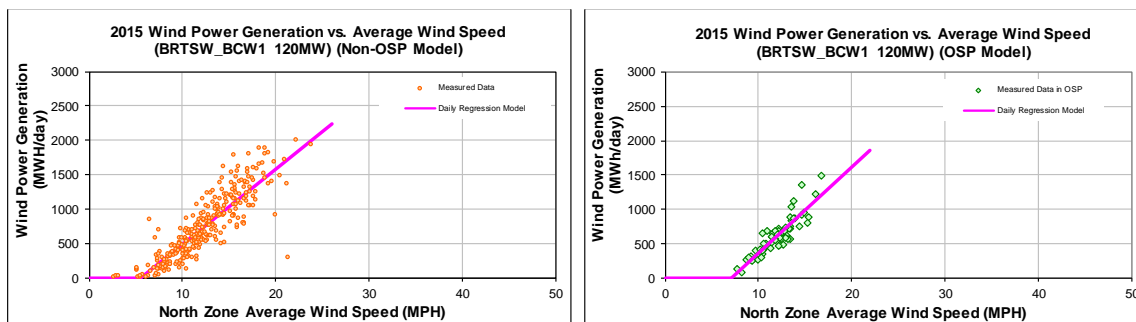


Figure 9-22: BRTSW_BCW1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-22: BRTSW_BCW1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-592.0788
Left Slope (MWh/mph-day)	108.1391
RMSE (MWh/day)	226.1801
R2	0.7548
CV-RMSE	29.9%
Daily Maximum (MWh/day)	2880

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-888.2540
Left Slope (MWh/mph-day)	125.0298
RMSE (MWh/day)	125.7087
R2	0.7963
CV-RMSE	20.5%
Daily Maximum (MWh/day)	2880

Table 9-23: BRTSW_BCW1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone		Average Wind Speed (North) Zone
Jan-15	31	12.58	24,387	23,869	2.12%	27%	27%
Feb-15	28	12.49	23,878	21,585	9.60%	30%	27%
Mar-15	31	10.61	17,469	17,754	-1.63%	20%	20%
Apr-15	30	12.91	26,889	24,130	10.26%	31%	28%
May-15	31	12.07	25,001	22,094	11.63%	28%	25%
Jun-15	30	11.84	18,619	20,662	-10.97%	22%	24%
Jul-15	31	13.82	21,233	26,612	-25.33%	24%	30%
Aug-15	31	11.47	17,840	16,920	5.16%	20%	19%
Sep-15	30	11.64	19,024	18,645	1.99%	22%	22%
Oct-15	31	12.08	21,619	22,135	-2.38%	24%	25%
Nov-15	30	13.67	24,612	26,611	-8.12%	28%	31%
Dec-15	31	13.52	26,430	26,962	-2.01%	30%	30%
Total	365	12.39	267,001	267,977	-0.37%	25%	25%
Total in OSP (07/15-09/15)	63	12.02	38,701	38,701	0.00%	21%	21%

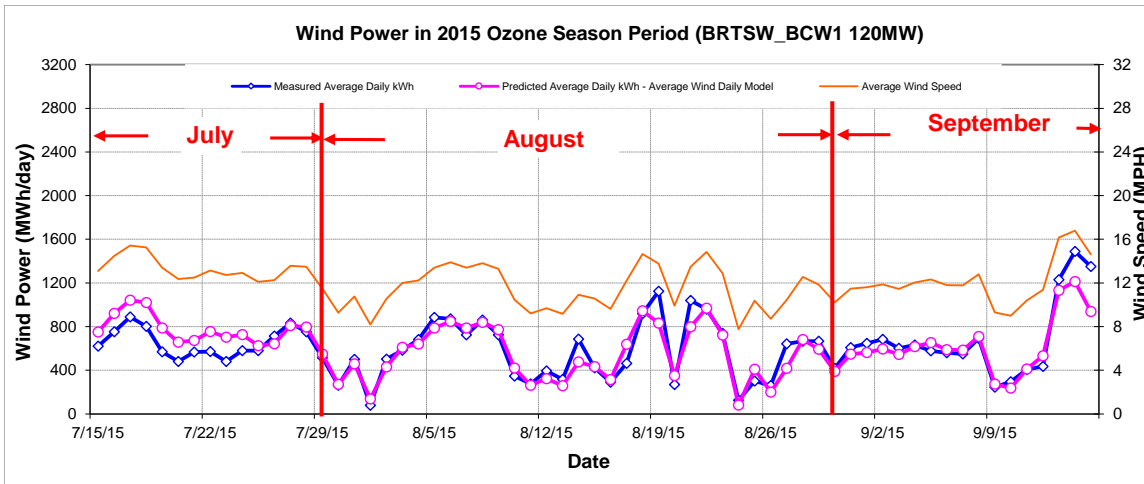


Figure 9-23: BRTSW_BCW1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

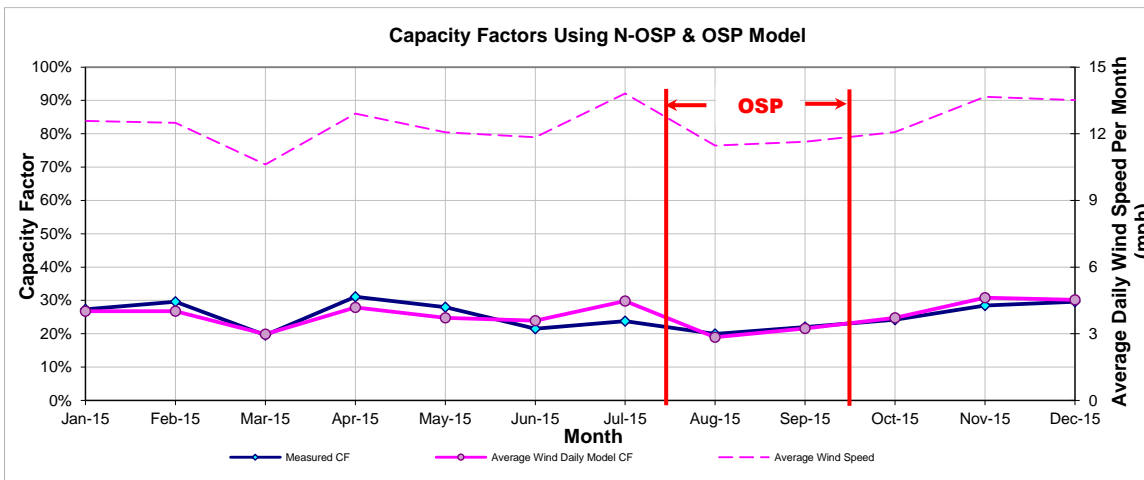


Figure 9-24: BRTSW_BCW1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-24: BRTSW_BCW1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
230,840	267,001	258	614

9.6 Buffalo Gap 1

Table 9-25: Site Information for Buffalo Gap 1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BUFF_GAP_UNIT1	Wind	Abilene	Taylor	Sep-05	120	AES Corporation	Buffalo Gap1	Vestas 1.8 MW (67)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BUFF_GAP_UNIT1	BUFF_GAP_UNIT1	120

9.6.1 Buffalo Gap 1 – BUFF_GAP_UNIT1

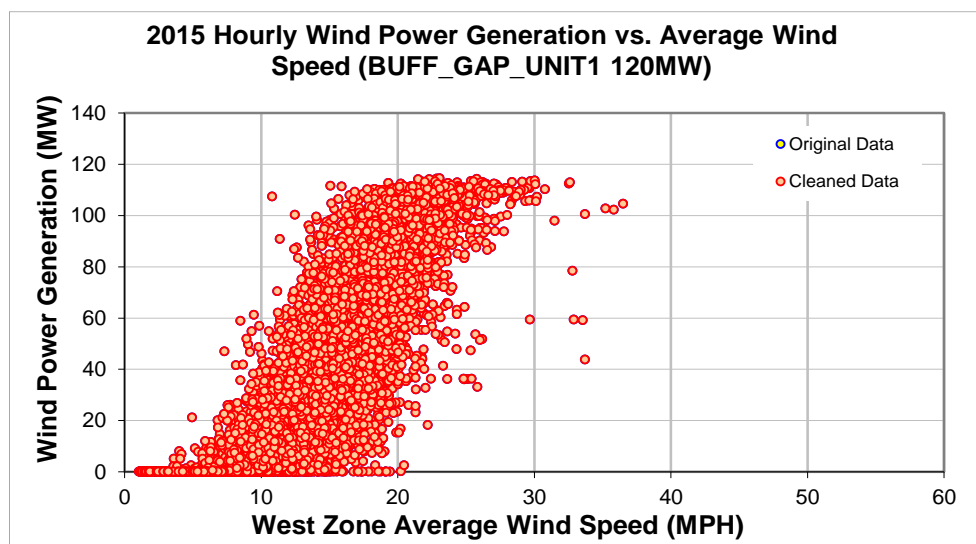


Figure 9-25: BUFF_GAP_UNIT1 – Hourly Wind Power vs. Average Wind Speed (2015)

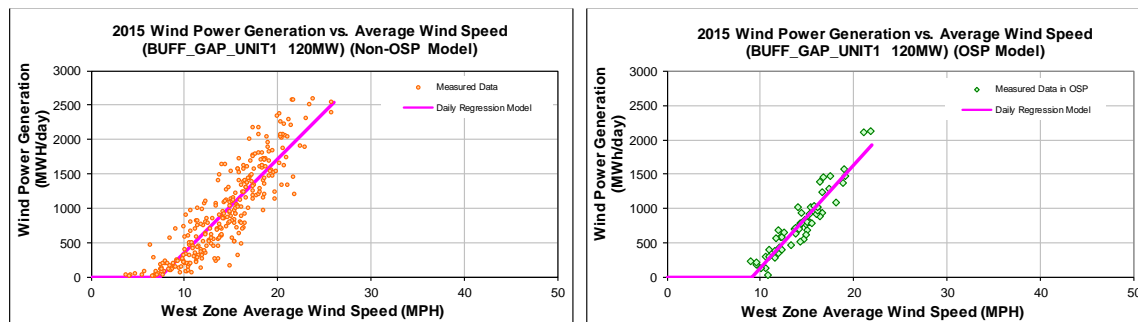


Figure 9-26: BUFF_GAP_UNIT1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-26: BUFF_GAP_UNIT1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-996.9109
Left Slope (MWh/mph-day)	135.7294
RMSE (MWh/day)	304.2897
R2	0.7870
CV-RMSE	32.2%
Daily Maximum (MWh/day)	2880

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1355.0671
Left Slope (MWh/mph-day)	149.3983
RMSE (MWh/day)	154.0799
R2	0.8835
CV-RMSE	19.4%
Daily Maximum (MWh/day)	2880

Table 9-27: BUFF_GAP_UNIT1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	25,976	18,008	30.68%	32%	22%
Feb-15	26	14.60	29,172	25,681	11.97%	39%	34%
Mar-15	30	11.63	19,973	18,489	7.43%	23%	21%
Apr-15	30	15.35	32,382	32,609	-0.70%	37%	38%
May-15	31	16.18	33,005	37,159	-12.59%	37%	42%
Jun-15	30	14.18	23,618	27,819	-17.79%	27%	32%
Jul-15	31	15.36	29,939	31,136	-4.00%	34%	35%
Aug-15	27	13.54	18,969	18,040	4.90%	24%	23%
Sep-15	30	14.14	23,678	25,377	-7.18%	27%	29%
Oct-15	31	13.95	23,856	27,817	-16.60%	27%	31%
Nov-15	30	15.20	34,250	33,247	2.93%	40%	38%
Dec-15	31	15.34	31,649	33,884	-7.06%	35%	38%
Total	355	14.32	326,467	329,267	-0.86%	32%	32%
Total in OSP (07/15-09/15)	59	14.38	46,813	46,828	-0.03%	28%	28%

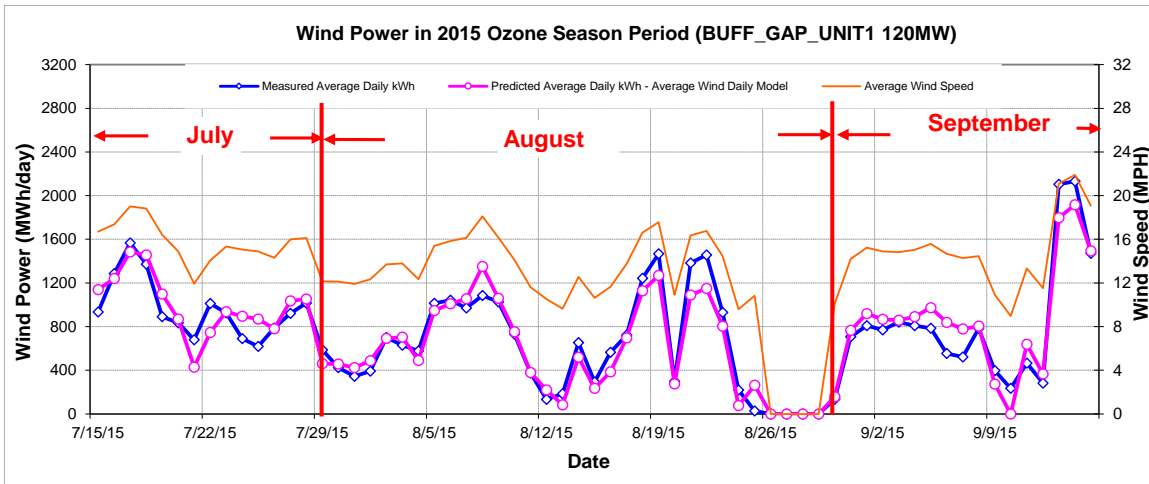


Figure 9-27: BUFF_GAP_UNIT1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

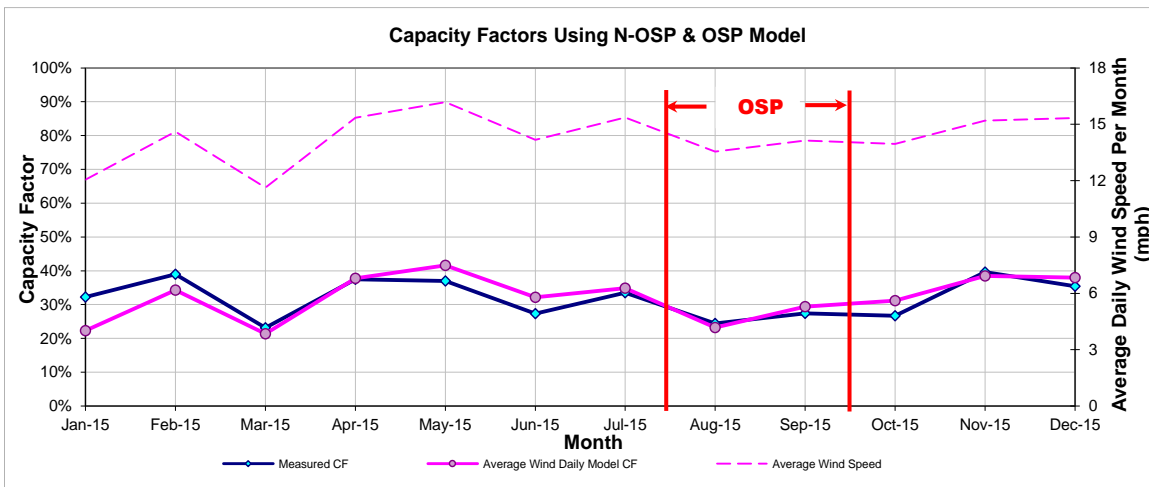


Figure 9-28: BUFF_GAP_UNIT1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-28: BUFF_GAP_UNIT1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
210,413	335,663	146	793

9.7 Buffalo Gap 2

Table 9-29: Site Information for Buffalo Gap 2

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BUFF_GAP_UNIT2	Wind	Abilene	Taylor	Aug-07	233	AES Corporation	Buffalo Gap2	Vestas 1.8 MW (67)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BUFF_GAP_UNIT2	BUFF_GAP_UNIT2	233

9.7.1 Buffalo Gap 2-BUFF_GAP_UNIT2

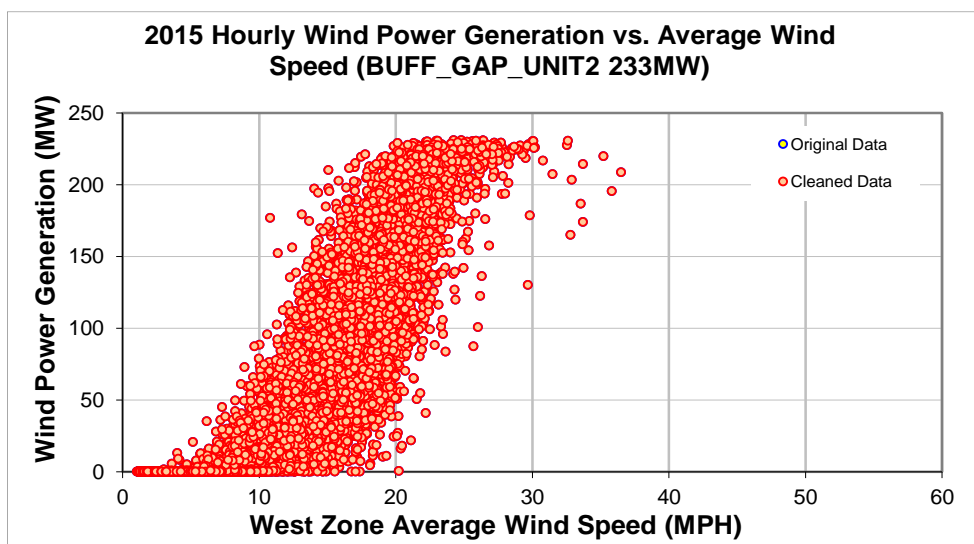


Figure 9-29: BUFF_GAP 2_UNIT2 – Hourly Wind Power vs. Average Wind Speed (2015)

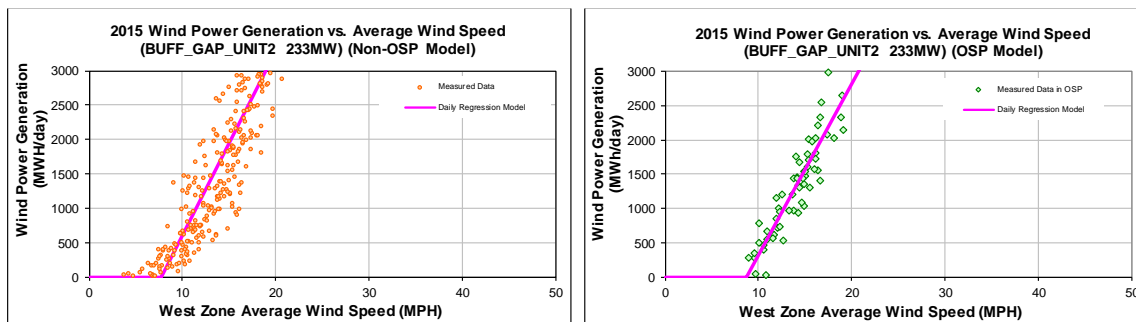


Figure 9-30: BUFF_GAP 2_UNIT2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-30: BUFF_GAP 2_UNIT2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-2080.2815
Left Slope (MWh/mph-day)	267.8106
RMSE (MWh/day)	523.1336
R2	0.8272
CV-RMSE	29.7%
Daily Maximum (MWh/day)	5592

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-2193.9682
Left Slope (MWh/mph-day)	250.0199
RMSE (MWh/day)	280.1043
R2	0.8678
CV-RMSE	20.5%
Daily Maximum (MWh/day)	5592

Table 9-31: BUFF_GAP 2_UNIT2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	48,741	32,537	33.25%	31%	21%
Feb-15	26	14.60	52,731	47,840	9.27%	36%	33%
Mar-15	30	11.63	33,445	33,783	-1.01%	20%	20%
Apr-15	30	15.35	59,634	61,013	-2.31%	36%	36%
May-15	31	16.18	64,296	69,820	-8.59%	37%	40%
Jun-15	30	14.18	42,901	51,523	-20.10%	26%	31%
Jul-15	31	15.36	51,802	56,498	-9.07%	30%	33%
Aug-15	31	13.34	37,858	35,365	6.59%	22%	20%
Sep-15	30	14.14	40,808	45,494	-11.48%	24%	27%
Oct-15	31	13.95	44,105	51,526	-16.82%	25%	30%
Nov-15	29	15.58	67,068	62,656	6.58%	41%	39%
Dec-15	31	15.34	61,742	63,572	-2.96%	36%	37%
Total	358	14.32	605,131	611,626	-1.07%	30%	31%
Total in OSP (07/15-09/15)	63	14.23	85,877	85,877	0.00%	24%	24%

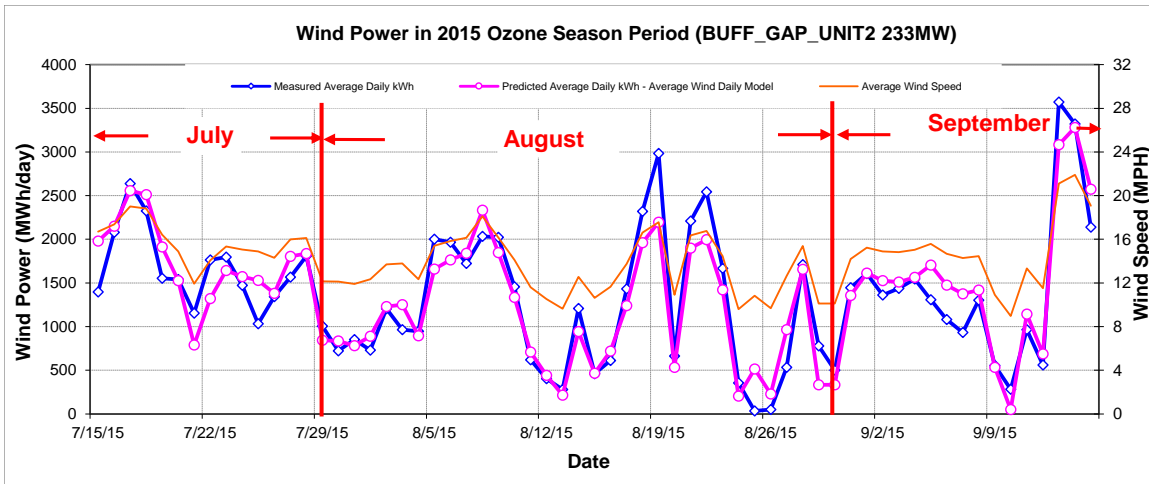


Figure 9-31: BUFF_GAP 2_UNIT2 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

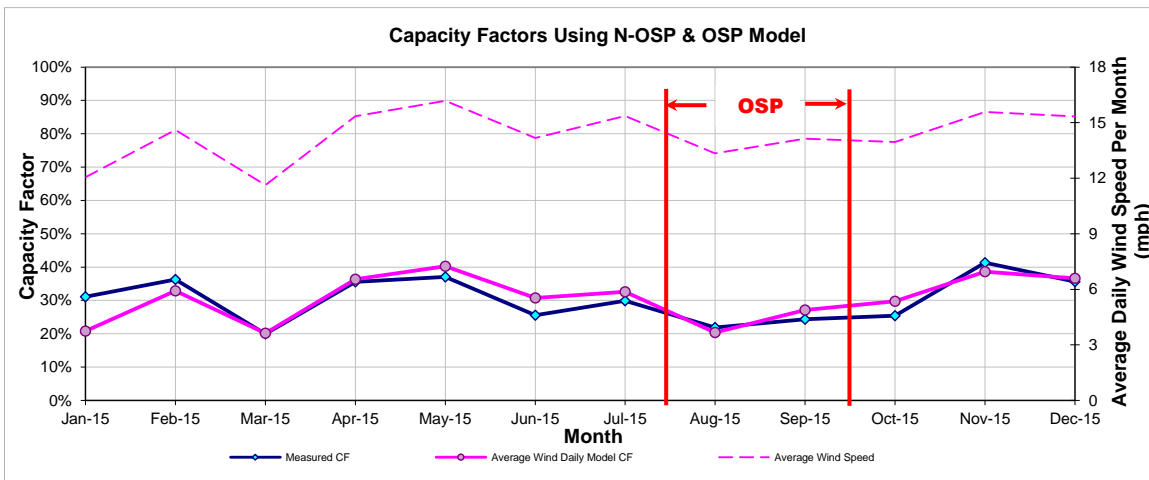


Figure 9-32: BUFF_GAP 2_UNIT2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-32: BUFF_GAP 2_UNIT2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
386,712	616,963	276	1,363

9.8 Buffalo Gap 3

Table 9-33: Site Information for Buffalo Gap 3

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BUFF_GAP 3	Wind	Abilene	Taylor	Apr-08	170	AES Corporation	Buffalo Gap3	-	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BUFF_GAP_UNIT3	BUFF_GAP	170

9.8.1 Buffalo Gap 3-BUFF_GAP_UNIT3

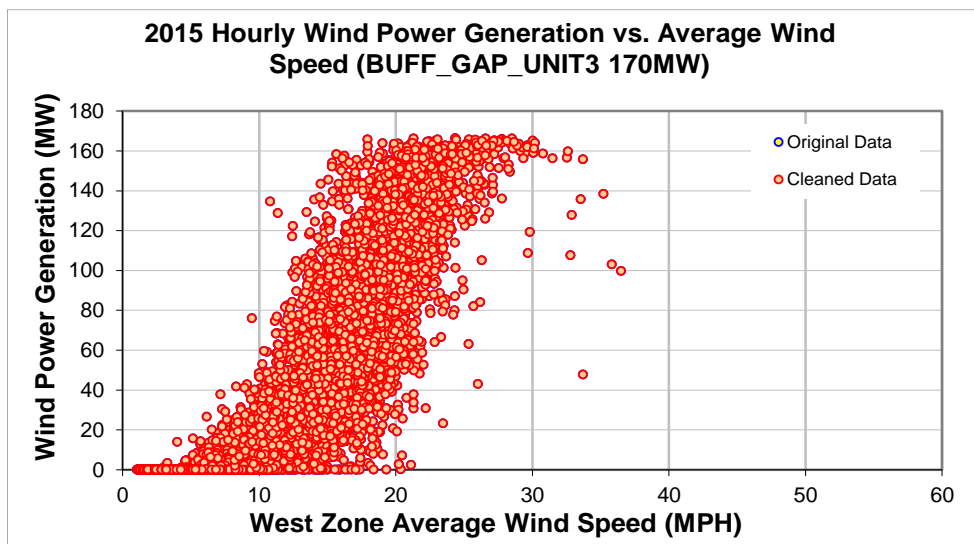


Figure 9-33: BUFF_GAP 3_UNIT3 – Hourly Wind Power vs. Average Wind Speed (2015)

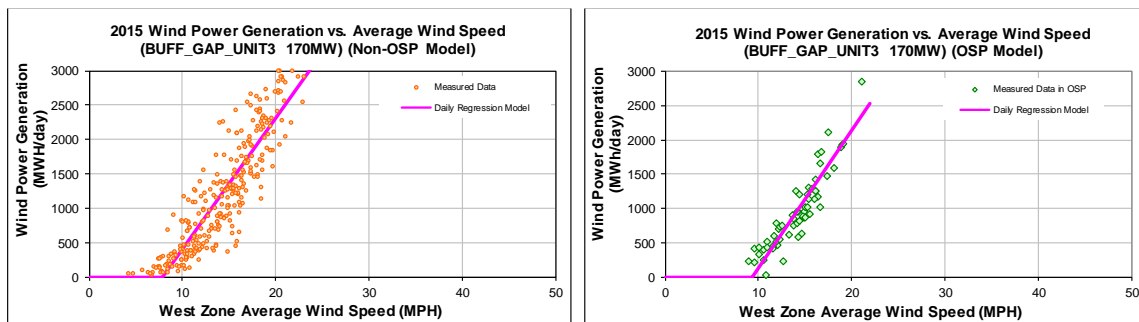


Figure 9-34: BUFF_GAP 3_UNIT3 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-34: BUFF_GAP 3_UNIT3 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1476.4143
Left Slope (MWh/mph-day)	189.0048
RMSE (MWh/day)	388.3857
R2	0.8054
CV-RMSE	30.9%
Daily Maximum (MWh/day)	4080

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1860.4977
Left Slope (MWh/mph-day)	199.5056
RMSE (MWh/day)	238.7835
R2	0.8486
CV-RMSE	24.1%
Daily Maximum (MWh/day)	4080

Table 9-35: BUFF_GAP 3_UNIT3 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	32,771	22,747	30.59%	29%	20%
Feb-15	25	14.91	36,926	33,556	9.13%	36%	33%
Mar-15	30	11.63	24,073	23,653	1.74%	20%	19%
Apr-15	30	15.35	41,822	42,819	-2.38%	34%	35%
May-15	31	16.18	45,554	49,027	-7.62%	36%	39%
Jun-15	30	14.18	31,648	36,122	-14.13%	26%	30%
Jul-15	31	15.36	38,164	40,378	-5.80%	30%	32%
Aug-15	30	13.46	26,726	24,743	7.42%	22%	20%
Sep-15	30	14.14	29,983	32,585	-8.68%	24%	27%
Oct-15	31	13.95	33,001	36,124	-9.46%	26%	29%
Nov-15	27	16.39	46,596	44,004	5.56%	42%	40%
Dec-15	30	15.61	39,807	44,625	-12.10%	33%	36%
Total	353	14.43	427,072	430,383	-0.78%	30%	30%
Total in OSP (07/15-09/15)	62	14.30	61,536	61,607	-0.11%	24%	24%

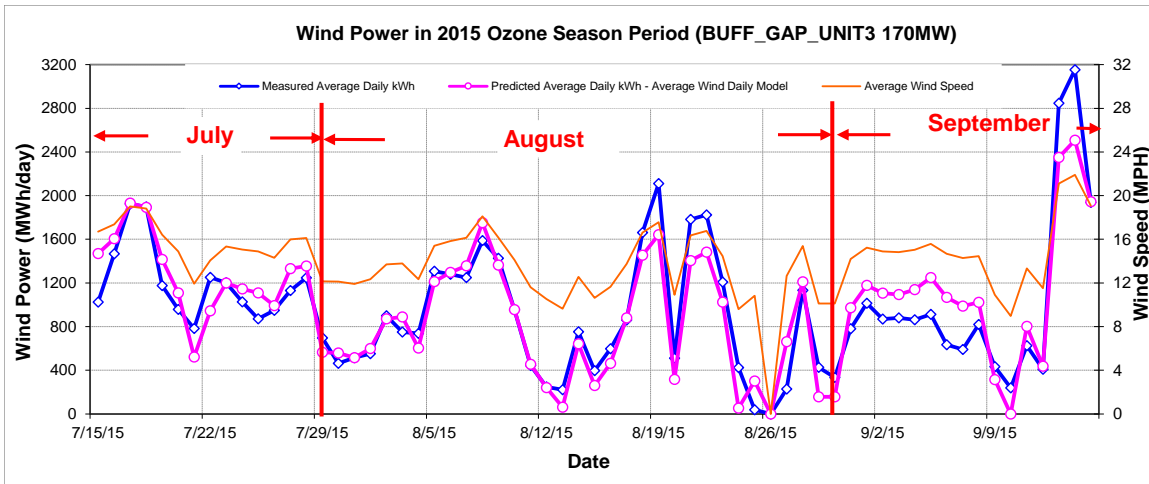


Figure 9-35: BUFF_GAP 3_UNIT3 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

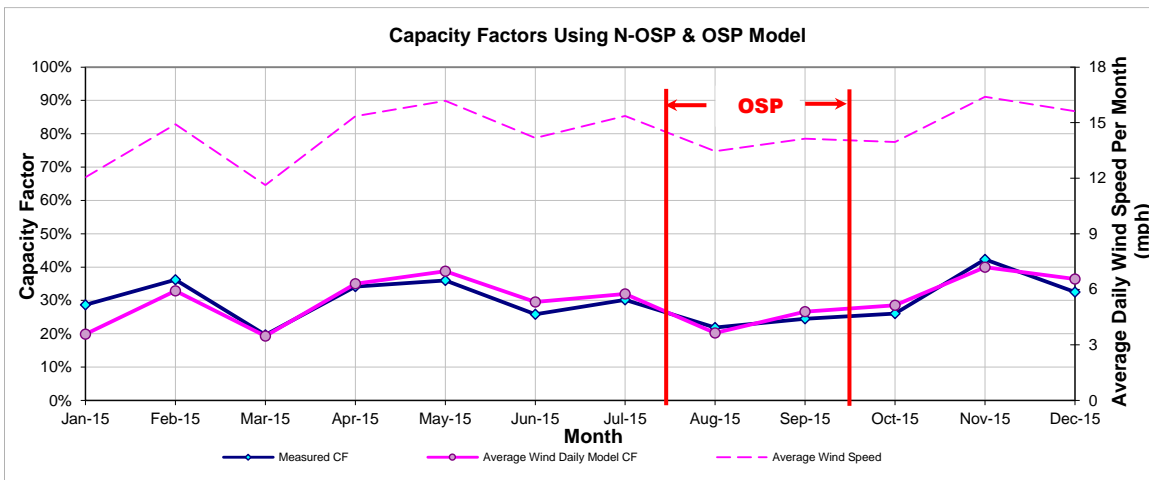


Figure 9-36: BUFF_GAP 3_UNIT3 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-36: BUFF_GAP 3_UNIT3 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
269,575	441,590	174	993

9.9 Bull Creek Wind Plant

Table 9-37: Site Information for Bull Creek Wind Plant

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BULLCRK_WND1	Wind	-	Borden	Nov-08	180	Eurus Energy Holdings	Bull Creek Wind Plant	-	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BULLCRK_WND1	BULLCRK_WND1	89
BULLCRK_WND2	BULLCRK_WND2	91

9.9.1 Bull Creek Wind Plant – BULLCRK_WND1

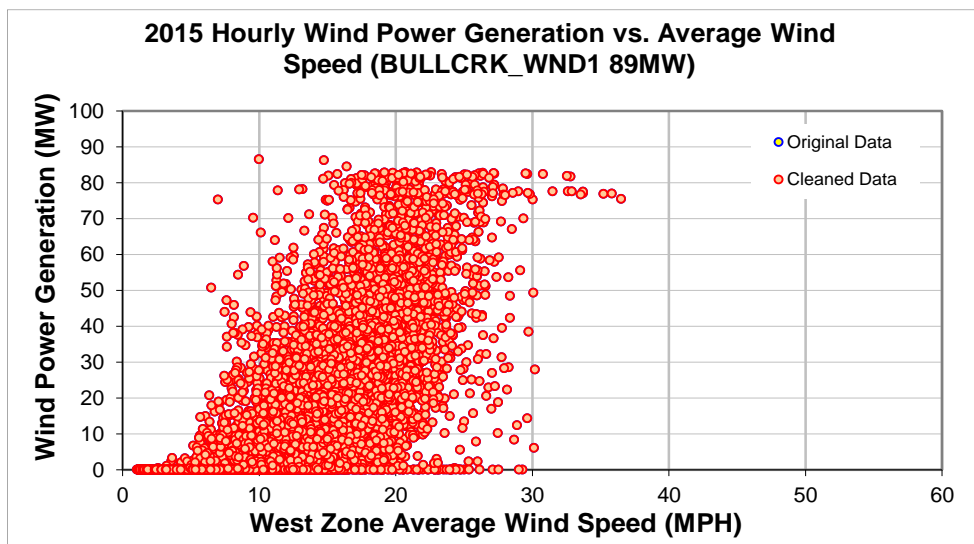


Figure 9-37: BULLCRK_WND1 - Hourly Wind Power vs. Average Wind Speed (2015)

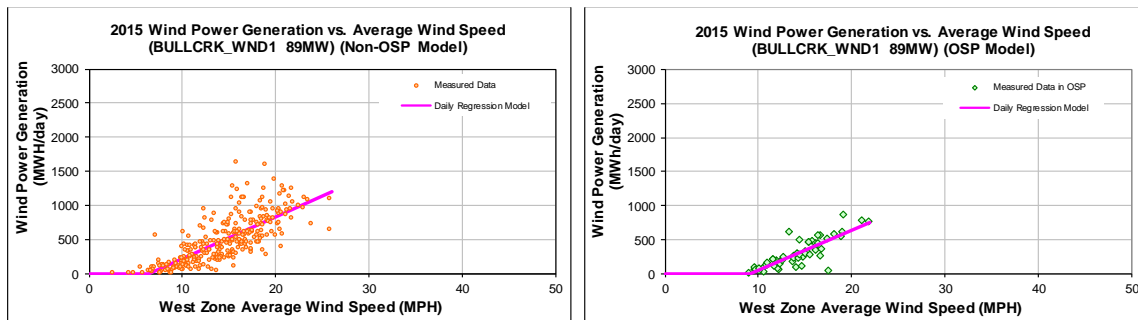


Figure 9-38: BULLCRK_WND1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-38: BULLCRK_WND1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-392.2151
Left Slope (MWh/mph-day)	61.1439
RMSE (MWh/day)	225.3363
R2	0.5734
CV-RMSE	46.4%
Daily Maximum (MWh/day)	2136

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-529.5107
Left Slope (MWh/mph-day)	58.0331
RMSE (MWh/day)	112.4255
R2	0.6871
CV-RMSE	38.0%
Daily Maximum (MWh/day)	2136

Table 9-39: BULLCRK_WND1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	14,859	9,648	35.07%	25%	16%
Feb-15	27	14.16	16,078	13,017	19.04%	28%	23%
Mar-15	30	11.63	9,143	9,798	-7.17%	14%	15%
Apr-15	30	15.35	20,579	16,396	20.33%	32%	26%
May-15	31	16.18	15,733	18,503	-17.60%	24%	28%
Jun-15	30	14.18	11,393	14,238	-24.98%	18%	22%
Jul-15	31	15.36	10,355	13,816	-33.42%	16%	21%
Aug-15	31	13.34	7,540	7,581	-0.54%	11%	11%
Sep-15	30	14.14	9,758	11,409	-16.92%	15%	18%
Oct-15	30	14.18	11,978	14,237	-18.86%	19%	22%
Nov-15	28	16.00	16,249	16,471	-1.37%	27%	28%
Dec-15	31	15.34	17,827	16,954	4.90%	27%	26%
Total	357	14.34	161,492	162,069	-0.36%	21%	21%
Total in OSP (07/15-09/15)	63	14.23	18,657	18,666	-0.05%	14%	14%

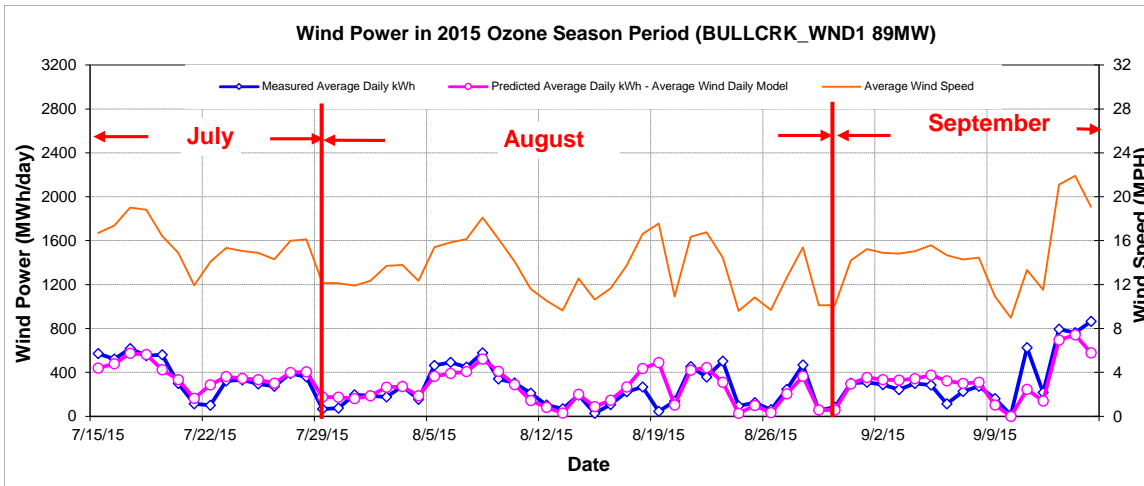


Figure 9-39: BULLCRK_WND1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

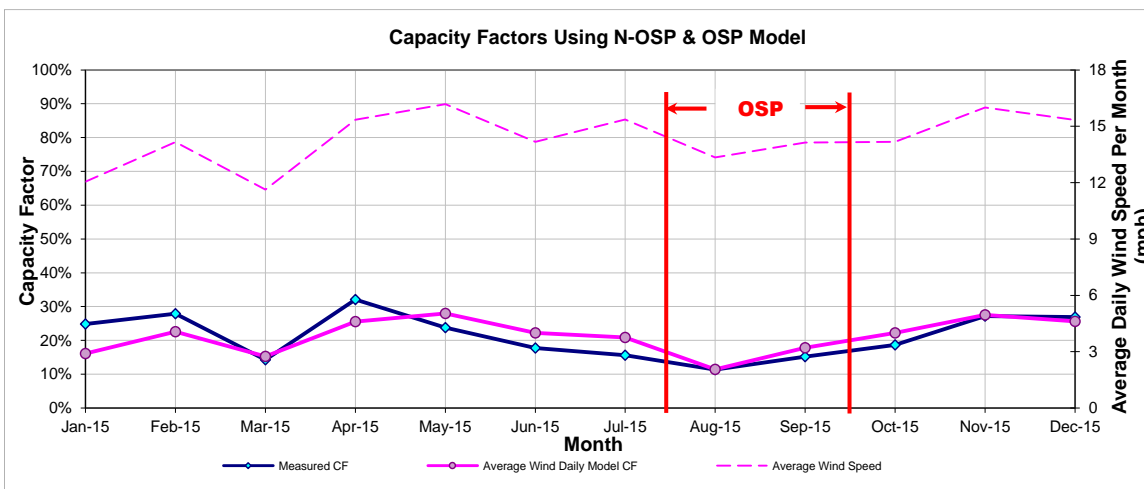


Figure 9-40: BULLCRK_WND1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-40: BULLCRK_WND1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
116,322	165,111	52	296

9.9.2 Bull Creek Wind Plant – BULLCRK_WND2

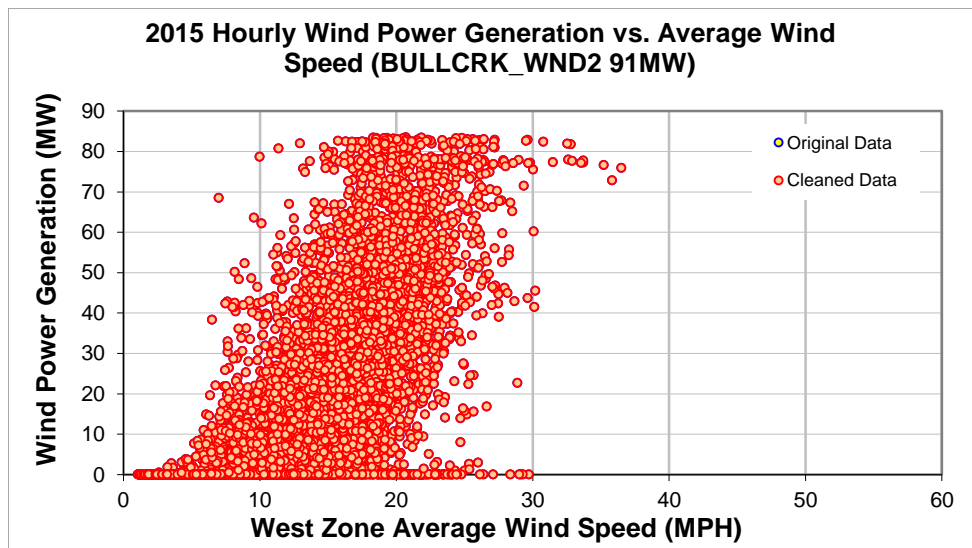


Figure 9-41: BULLCRK_WND2 – Hourly Wind Power vs. Average Wind Speed (2015)

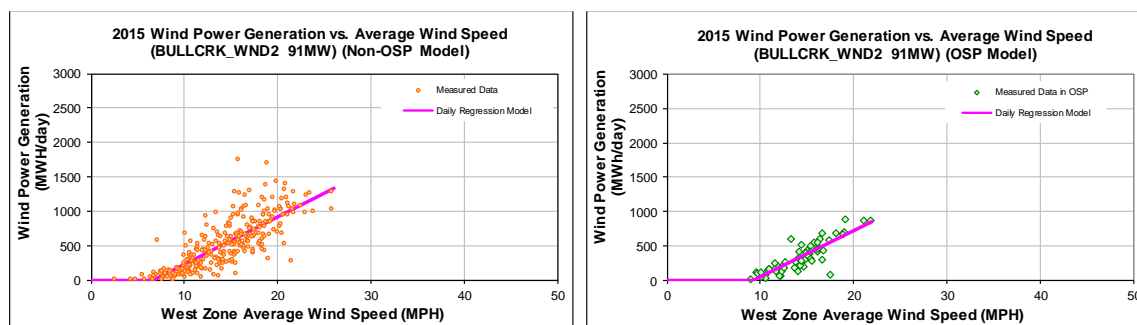


Figure 9-42: BULLCRK_WND2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-41: BULLCRK_WND2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-452.2296
Left Slope (MWh/mph-day)	68.3843
RMSE (MWh/day)	226.9714
R2	0.6227
CV-RMSE	43.1%
Daily Maximum (MWh/day)	2184

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-613.7892
Left Slope (MWh/mph-day)	66.5034
RMSE (MWh/day)	114.8488
R2	0.7343
CV-RMSE	34.6%
Daily Maximum (MWh/day)	2184

Table 9-42: BULLCRK_WND2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	15,004	10,424	30.52%	25%	17%
Feb-15	27	14.16	17,357	14,205	18.16%	29%	24%
Mar-15	30	11.63	10,141	10,579	-4.32%	15%	16%
Apr-15	30	15.35	22,288	17,931	19.55%	34%	27%
May-15	31	16.18	17,210	20,273	-17.80%	25%	30%
Jun-15	30	14.18	12,882	15,517	-20.46%	20%	24%
Jul-15	31	15.36	12,157	15,306	-25.90%	18%	23%
Aug-15	31	13.34	8,301	8,470	-2.04%	12%	13%
Sep-15	30	14.14	10,969	12,601	-14.88%	17%	19%
Oct-15	27	13.73	9,751	13,132	-34.67%	17%	22%
Nov-15	28	16.00	17,993	18,056	-0.35%	29%	30%
Dec-15	31	15.34	20,263	18,555	8.43%	30%	27%
Total	354	14.30	174,315	175,048	-0.42%	23%	23%
Total in OSP (07/15-09/15)	63	14.23	20,939	20,957	-0.08%	15%	15%

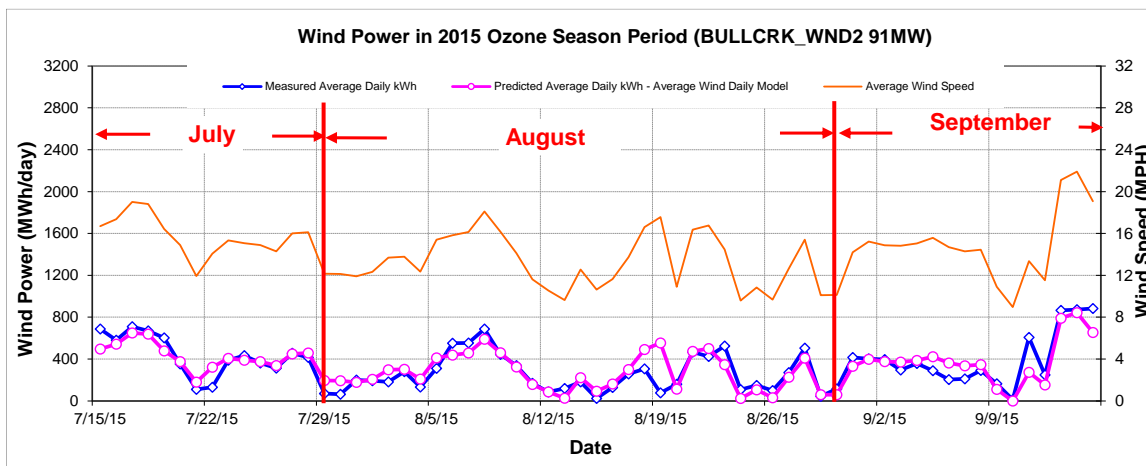


Figure 9-43: BULLCRK_WND2 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

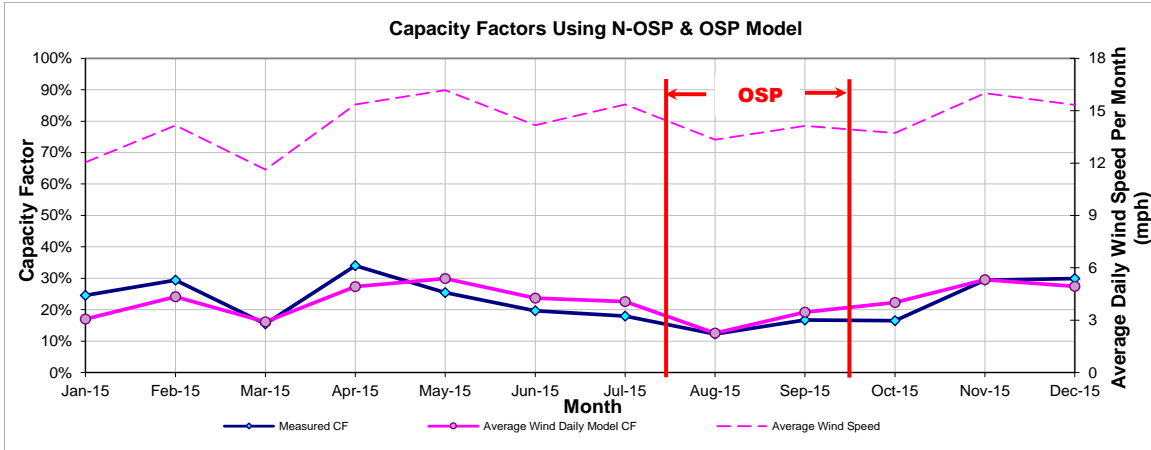


Figure 9-44: BULLCRK_WND2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-43: BULLCRK_WND2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
126,119	179,731	56	332

9.10 Capricorn Ridge Wind

Table 9-44: Site Information for Capricorn Ridge Wind

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
CAPRIDGE_CR1	Wind	Abilene	Sterling	Sep-07	364	FPL Energy	Capricorn Ridge Wind	FPL Energy	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
CAPRIDGE_CR1	CAPRIDGE_CR1	214.5
CAPRIDGE_CR2	CAPRIDGE_CR2	149.5

9.10.1 Capricorn Ridge Wind – CAPRIDGE_CR1

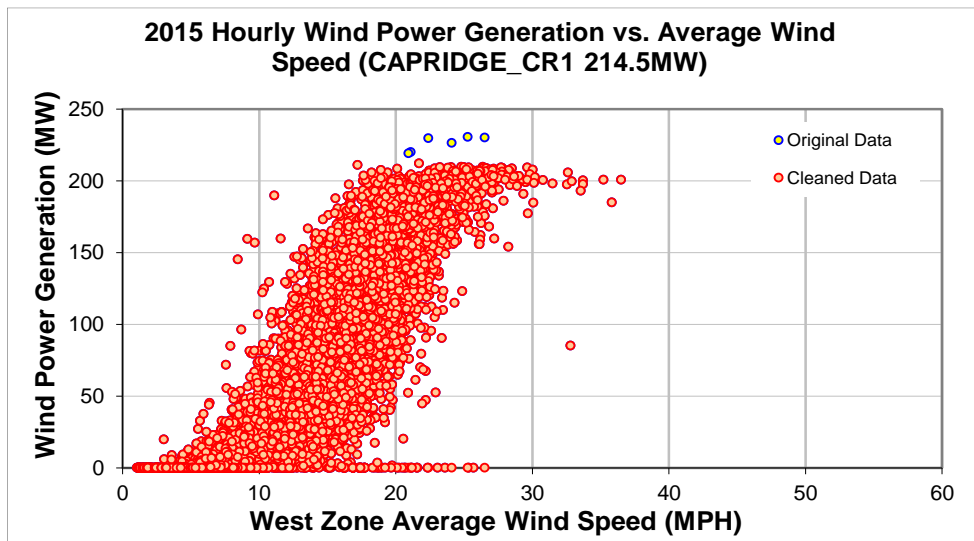


Figure 9-45: CAPRIDGE_CR1– Hourly Wind Power vs. Average Wind Speed (2015)

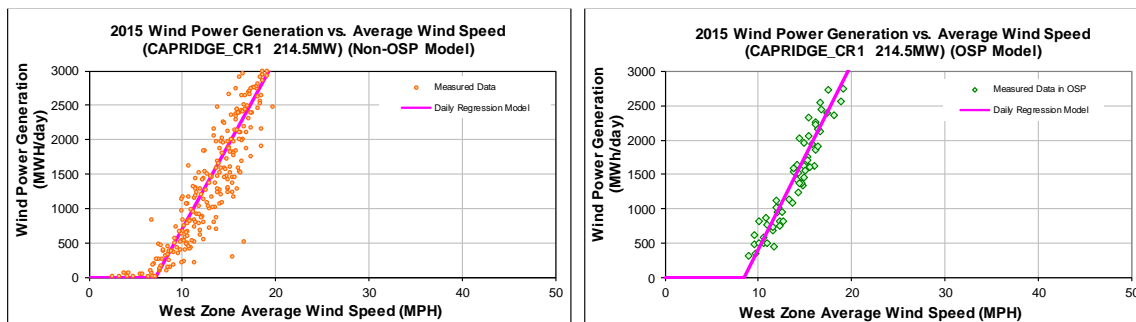


Figure 9-46: CAPRIDGE_CR1– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-45: CAPRIDGE_CR1– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1749.1005
Left Slope (MWh/mph-day)	245.8327
RMSE (MWh/day)	439.7133
R2	0.8594
CV-RMSE	25.3%
Daily Maximum (MWh/day)	5148

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-2295.0609
Left Slope (MWh/mph-day)	269.1594
RMSE (MWh/day)	230.4490
R2	0.9183
CV-RMSE	15.0%
Daily Maximum (MWh/day)	5148

Table 9-46: CAPRIDGE_CR1– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	38,864	34,141	12.15%	26%	23%
Feb-15	27	14.16	53,516	47,926	10.45%	39%	34%
Mar-15	31	11.39	36,325	34,843	4.08%	23%	22%
Apr-15	30	15.35	61,168	60,757	0.67%	40%	39%
May-15	30	16.06	57,672	65,953	-14.36%	37%	43%
Jun-15	30	14.18	47,199	52,081	-10.34%	31%	34%
Jul-15	31	15.36	59,156	59,524	-0.62%	37%	37%
Aug-15	31	13.34	42,093	40,145	4.63%	26%	25%
Sep-15	30	14.14	45,018	48,850	-8.51%	29%	32%
Oct-15	31	13.95	47,501	52,101	-9.68%	30%	33%
Nov-15	30	15.20	63,366	61,686	2.65%	41%	40%
Dec-15	31	15.34	62,099	63,008	-1.46%	39%	39%
Total	361	14.19	613,979	621,014	-1.15%	33%	33%
Total in OSP (07/15-09/15)	63	14.23	96,664	96,664	0.00%	30%	30%

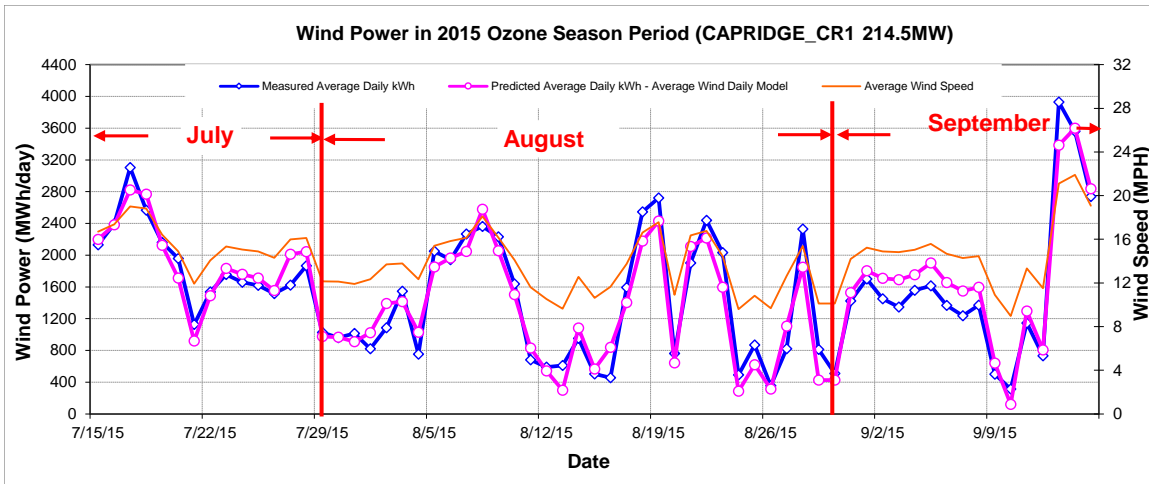


Figure 9-47: CAPRIDGE_CR1– Predicted Wind Power in OSP Using Average Wind Speed (2015)

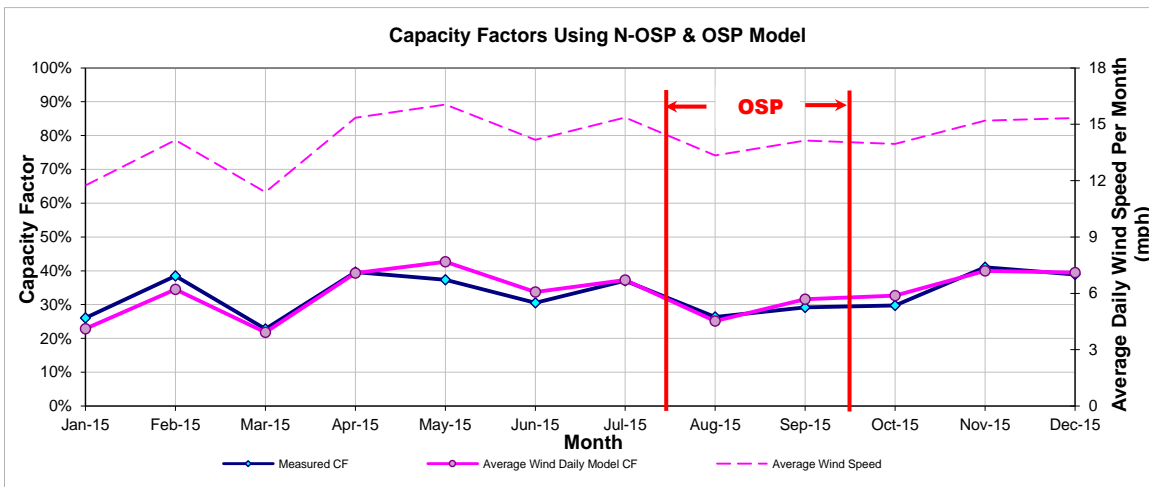


Figure 9-48: CAPRIDGE_CR1– Predicted Capacity Factors Using Daily Models (2015)

Table 9-47: CAPRIDGE_CR1– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
399,300	620,782	329	1,534

9.10.2 Capricorn Ridge Wind – CAPRIDGE_CR2

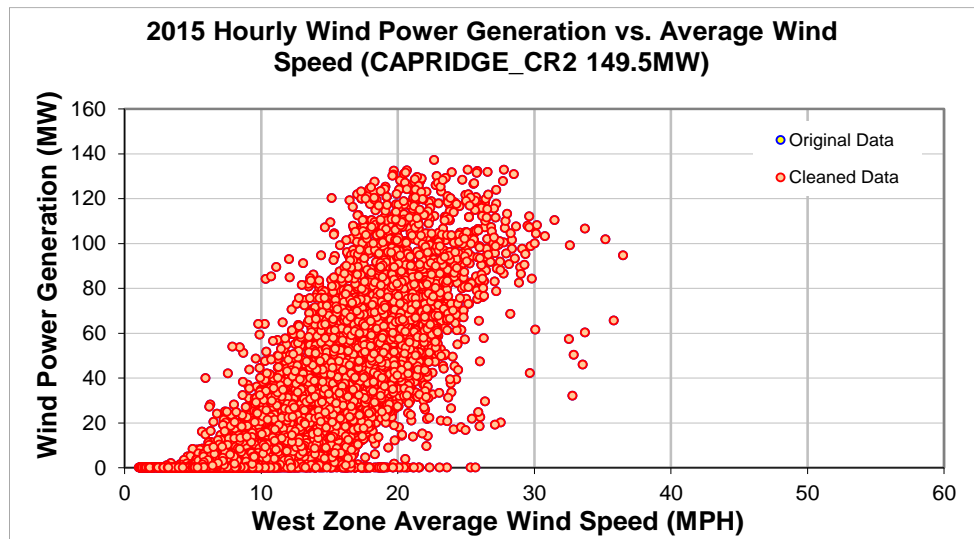


Figure 9-49: CAPRIDGE_CR2– Hourly Wind Power vs. Average Wind Speed (2015)

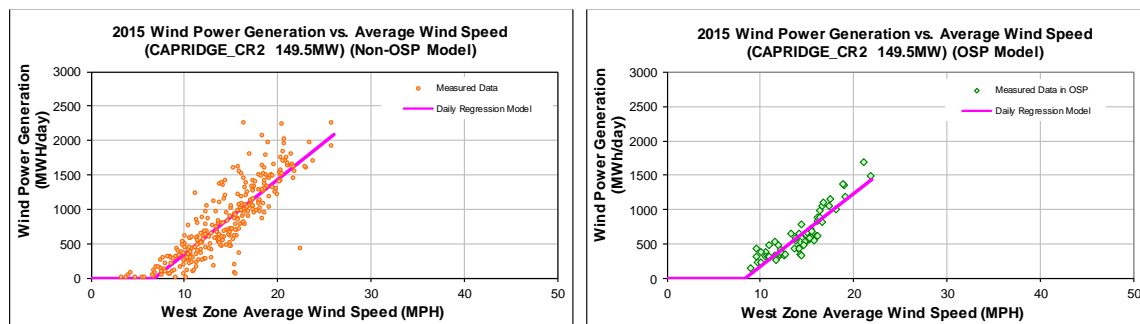


Figure 9-50: CAPRIDGE_CR2– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-48: CAPRIDGE_CR2– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-720.2662
Left Slope (MWh/mph-day)	107.8326
RMSE (MWh/day)	274.8335
R2	0.7405
CV-RMSE	33.4%
Daily Maximum (MWh/day)	3588

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-872.4408
Left Slope (MWh/mph-day)	105.1283
RMSE (MWh/day)	149.2540
R2	0.8035
CV-RMSE	23.9%
Daily Maximum (MWh/day)	3588

Table 9-49: CAPRIDGE_CR2– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	11.94	20,179	16,244	19.50%	20%	16%
Feb-15	25	14.91	25,687	22,196	13.59%	29%	25%
Mar-15	31	11.39	16,886	16,481	2.40%	15%	15%
Apr-15	30	15.35	31,845	28,059	11.89%	30%	26%
May-15	29	16.04	25,312	29,261	-15.60%	24%	28%
Jun-15	30	14.18	22,288	24,254	-8.82%	21%	23%
Jul-15	31	15.36	24,376	25,724	-5.53%	22%	23%
Aug-15	31	13.34	17,319	16,423	5.18%	16%	15%
Sep-15	30	14.14	18,899	21,226	-12.31%	18%	20%
Oct-15	31	13.95	24,701	24,310	1.59%	22%	22%
Nov-15	29	15.58	27,144	28,279	-4.18%	26%	27%
Dec-15	30	15.61	25,158	29,000	-15.27%	23%	27%
Total	355	14.30	279,793	281,456	-0.59%	22%	22%
Total in OSP (07/15-09/15)	63	14.23	39,265	39,265	0.00%	17%	17%

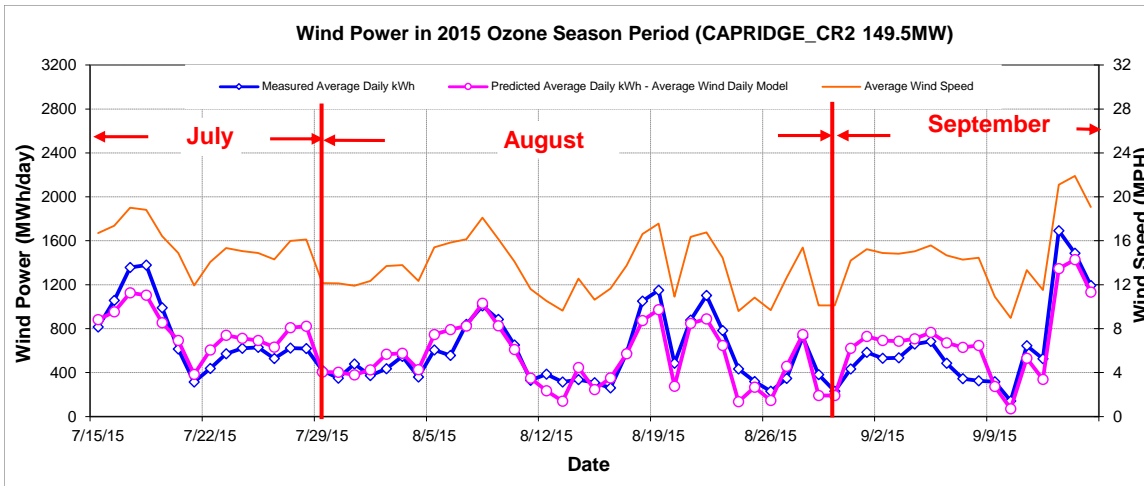


Figure 9-51: CAPRIDGE_CR2– Predicted Wind Power in OSP Using Average Wind Speed (2015)

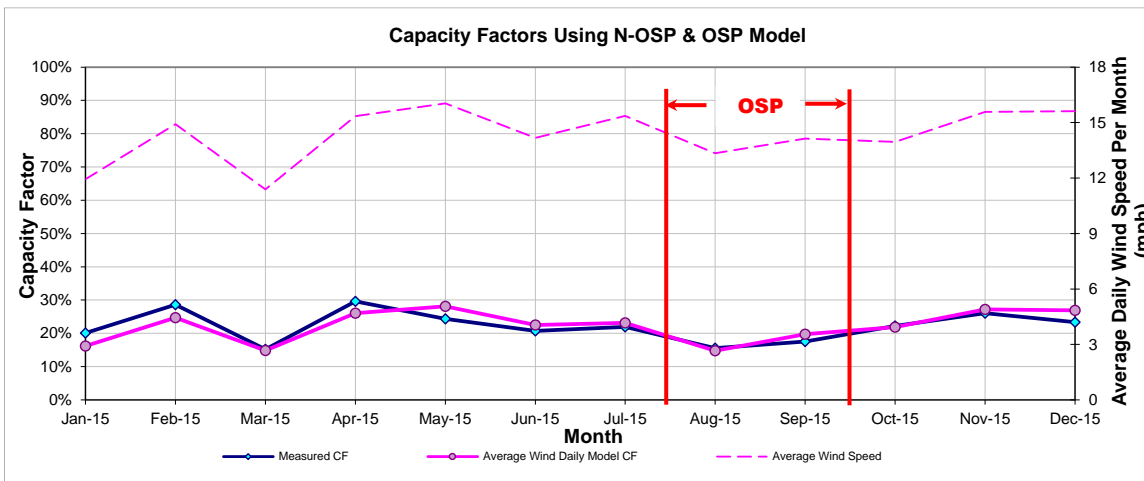


Figure 9-52: CAPRIDGE_CR2– Predicted Capacity Factors Using Daily Models (2015)

Table 9-50: CAPRIDGE_CR2– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
187,029	287,675	141	623

9.11 Capricorn Ridge Wind Expansion

Table 9-51: Site Information for Capricorn Ridge Wind Expansion

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
CAPRIDGE	Wind	Abilene	Sterling	May-08	298.5	FPL Energy	Capricorn Ridge Wind exp.	-	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
CAPRIDGE_CR3	CAPRIDGE_CR3	186
CAPRIDG4_CR4	CAPRIDG4_CR4	112.5

9.11.1 Capricorn Ridge Wind Expansion – CAPRIDGE_CR3

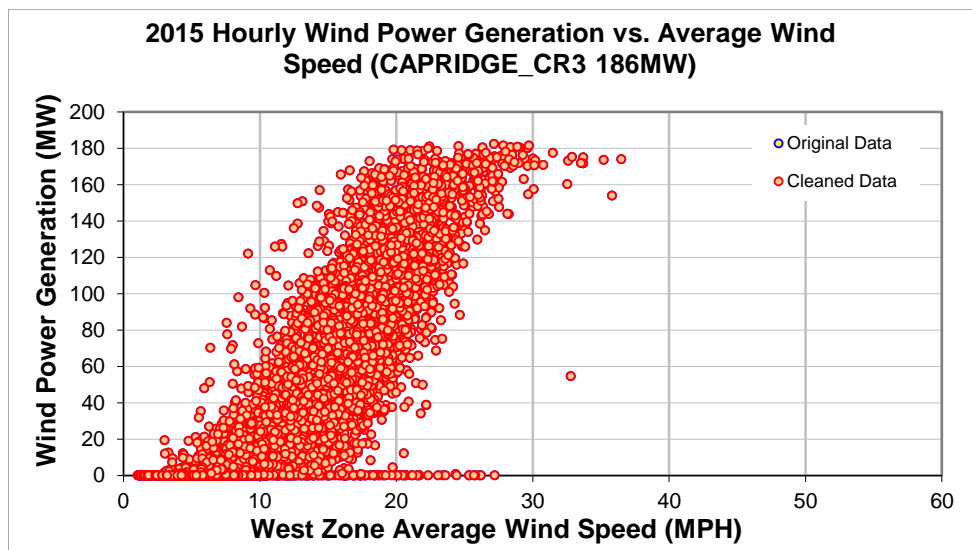


Figure 9-53: CAPRIDGE_CR3– Hourly Wind Power vs. Average Wind Speed (2015)

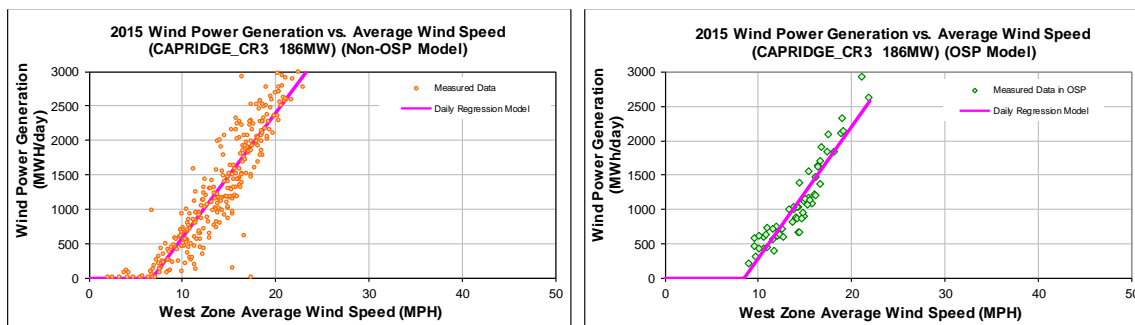


Figure 9-54: CAPRIDGE_CR3– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-52: CAPRIDGE_CR3– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1216.9346
Left Slope (MWh/mph-day)	180.4913
RMSE (MWh/day)	358.2564
R2	0.8360
CV-RMSE	26.7%
Daily Maximum (MWh/day)	4464

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1622.4460
Left Slope (MWh/mph-day)	190.8775
RMSE (MWh/day)	210.4542
R2	0.8715
CV-RMSE	19.3%
Daily Maximum (MWh/day)	4464

Table 9-53: CAPRIDGE_CR3– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	26	11.45	22,823	23,637	-3.56%	20%	20%
Feb-15	27	14.16	40,179	36,887	8.19%	33%	31%
Mar-15	31	11.39	28,918	27,268	5.71%	21%	20%
Apr-15	30	15.35	47,257	46,626	1.34%	35%	35%
May-15	30	16.06	45,804	50,441	-10.12%	34%	38%
Jun-15	30	14.18	36,107	40,256	-11.49%	27%	30%
Jul-15	31	15.36	42,142	43,976	-4.35%	30%	32%
Aug-15	31	13.34	30,492	28,628	6.11%	22%	21%
Sep-15	30	14.14	33,061	36,292	-9.77%	25%	27%
Oct-15	31	13.95	40,901	40,338	1.38%	30%	29%
Nov-15	30	15.20	49,575	47,039	5.12%	37%	35%
Dec-15	31	15.34	47,369	48,273	-1.91%	34%	35%
Total	358	14.18	464,629	469,659	-1.08%	29%	29%
Total in OSP (07/15-09/15)	63	14.23	68,873	68,873	0.00%	24%	24%

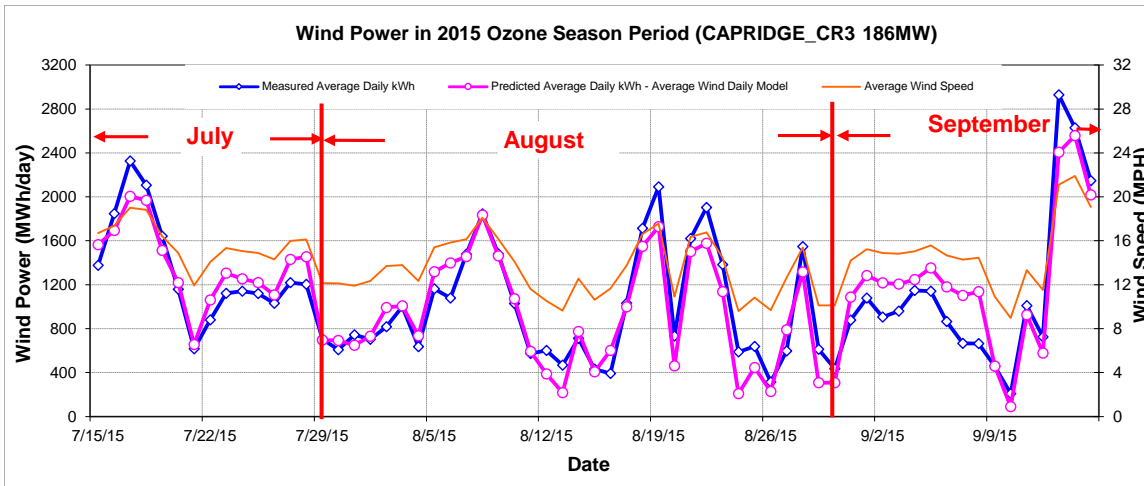


Figure 9-55: CAPRIDGE_CR3– Predicted Wind Power in OSP Using Average Wind Speed (2015)

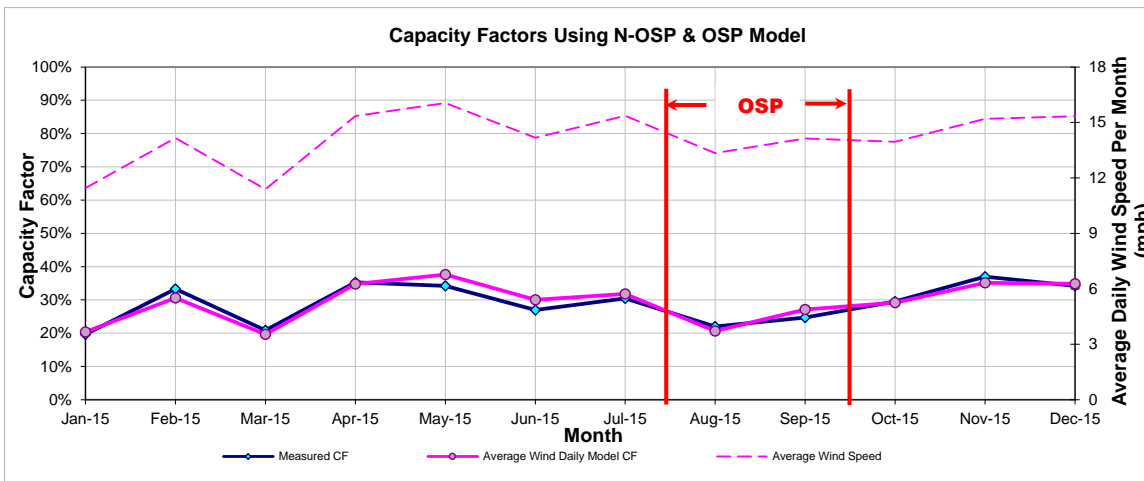


Figure 9-56: CAPRIDGE_CR3– Predicted Capacity Factors Using Daily Models (2015)

Table 9-54: CAPRIDGE_CR3– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
310,075	473,714	236	1,093

9.11.2 Capricorn Ridge Wind Expansion – CAPRIDGE4_CR4

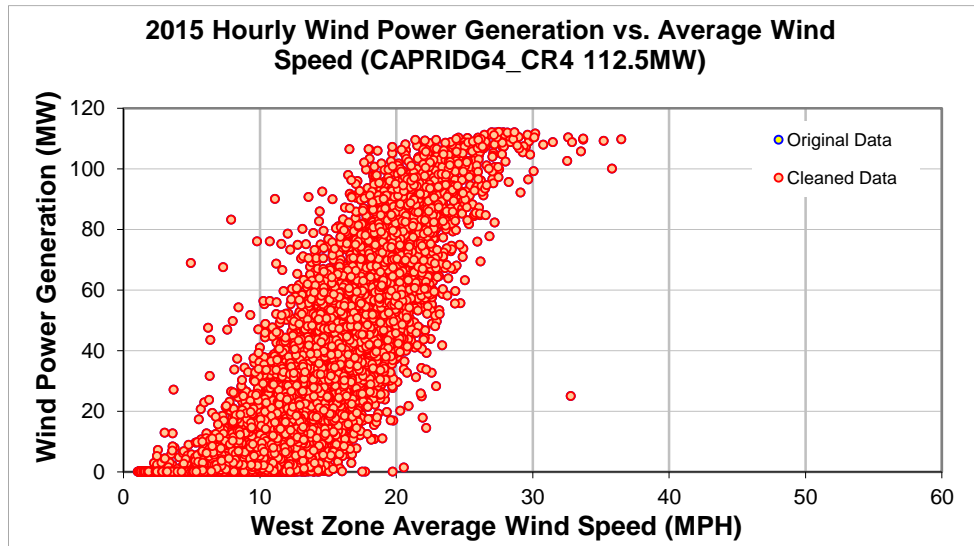


Figure 9-57: CAPRIDGE4_CR4 – Hourly Wind Power vs. Average Wind Speed (2015)

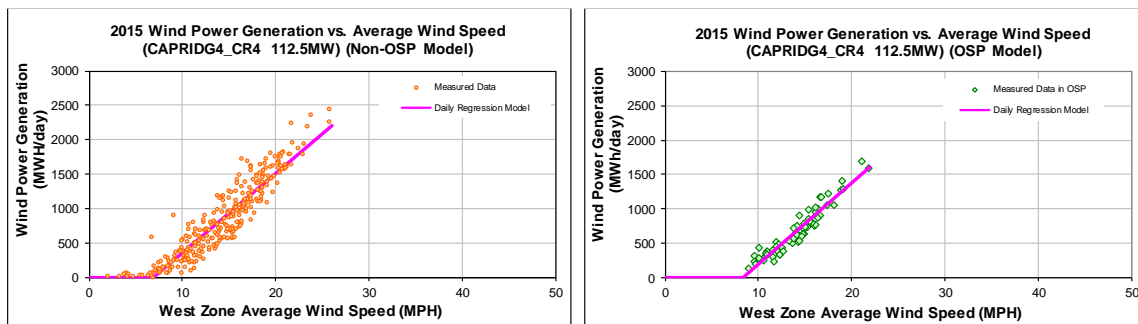


Figure 9-58: CAPRIDGE4_CR4 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-55: CAPRIDGE4_CR4 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-786.2919
Left Slope (MWh/mph-day)	114.3365
RMSE (MWh/day)	209.1533
R2	0.8544
CV-RMSE	25.0%
Daily Maximum (MWh/day)	2700

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-990.1182
Left Slope (MWh/mph-day)	117.8418
RMSE (MWh/day)	107.1096
R2	0.9089
CV-RMSE	15.6%
Daily Maximum (MWh/day)	2700

Table 9-56: CAPRIDGE4_CR4 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	20,947	16,614	20.69%	26%	21%
Feb-15	26	14.60	25,071	22,971	8.38%	36%	33%
Mar-15	31	11.39	17,463	16,870	3.40%	21%	20%
Apr-15	30	15.35	28,329	29,074	-2.63%	35%	36%
May-15	31	16.18	29,638	32,961	-11.21%	35%	39%
Jun-15	30	14.18	21,297	25,039	-17.57%	26%	31%
Jul-15	31	15.36	26,224	27,492	-4.83%	31%	33%
Aug-15	31	13.34	18,891	18,031	4.55%	23%	22%
Sep-15	30	14.14	20,540	22,630	-10.17%	25%	28%
Oct-15	31	13.95	23,704	25,076	-5.78%	28%	30%
Nov-15	30	15.20	30,926	29,398	4.94%	38%	36%
Dec-15	31	15.34	30,331	30,118	0.70%	36%	36%
Total	362	14.20	293,362	296,273	-0.99%	30%	30%
Total in OSP (07/15-09/15)	63	14.23	43,246	43,246	0.00%	25%	25%

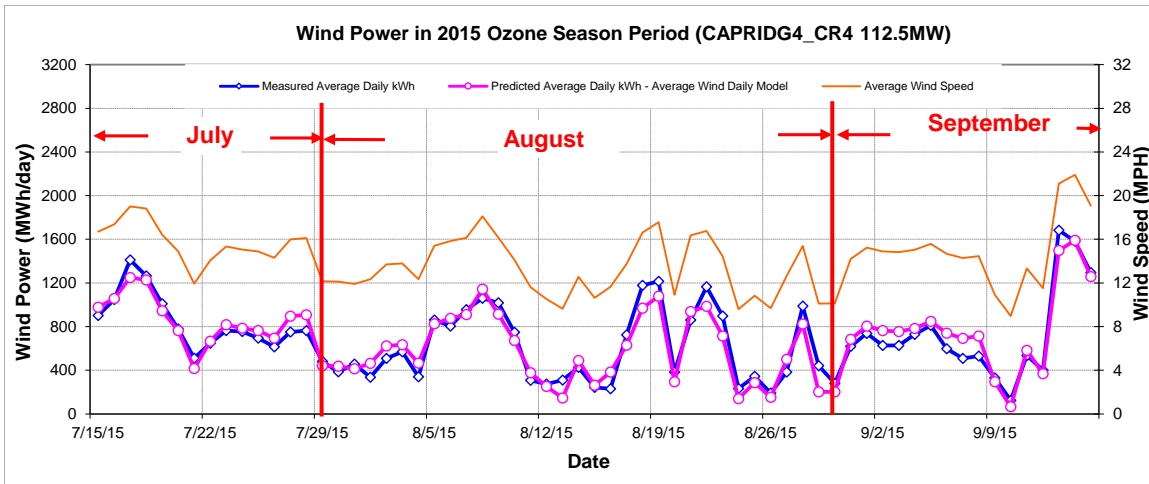


Figure 9-59: CAPRIDGE4_CR4 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

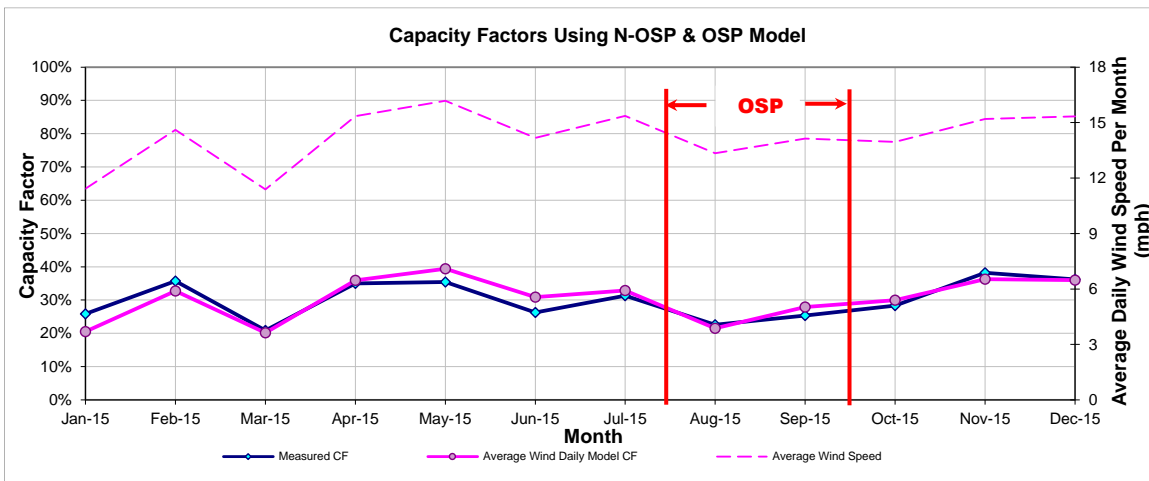


Figure 9-60: CAPRIDGE4_CR4 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-57: CAPRIDGE4_CR4 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
192,540	295,793	152	686

9.12 Cedro Hill Wind

Table 9-58: Site Information for Cedro Hill Wind

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
CEDROHILL_CHW1	Wind	-	Webb	Oct-10	150	Edison Mission group	-	-	ERCOT	South	South Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
CEDROHILL_CHW1	CEDROHILL_CHW1	150

9.12.1 Cedro Hill Wind - CEDROHILL

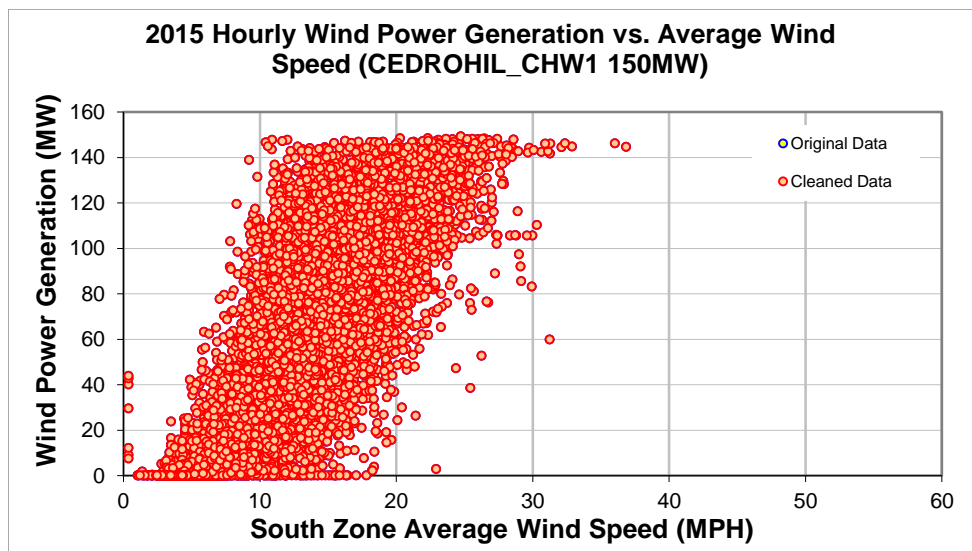


Figure 9-61: CEDROHILL – Hourly Wind Power vs. Average Wind Speed (2015)

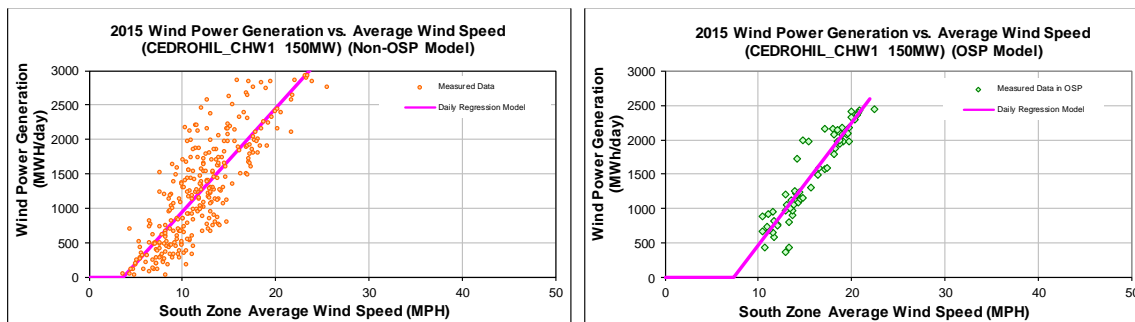


Figure 9-62: CEDROHILL – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-59: CEDROHILL – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-545.2369
Left Slope (MWh/mph-day)	149.8252
RMSE (MWh/day)	424.0106
R2	0.7030
CV-RMSE	33.3%
Daily Maximum (MWh/day)	3600

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1301.6055
Left Slope (MWh/mph-day)	176.9684
RMSE (MWh/day)	223.7673
R2	0.8731
CV-RMSE	15.3%
Daily Maximum (MWh/day)	3600

Table 9-60: CEDROHILL – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (South) Zone	Average Wind Speed (South) Zone	Average Wind Speed (South) Zone	Average Wind Speed (South) Zone		Average Wind Speed (South) Zone
Jan-15	31	8.72	27,689	23,617	14.71%	25%	21%
Feb-15	28	12.35	33,263	36,553	-9.89%	33%	36%
Mar-15	31	12.22	27,037	39,869	-47.46%	24%	36%
Apr-15	30	13.30	33,326	43,403	-30.24%	31%	40%
May-15	31	14.07	55,524	48,456	12.73%	50%	43%
Jun-15	30	13.71	42,853	45,246	-5.59%	40%	42%
Jul-15	31	19.35	65,504	68,444	-4.49%	59%	61%
Aug-15	30	15.49	40,570	43,198	-6.48%	38%	40%
Sep-15	30	11.87	30,595	30,973	-1.23%	28%	29%
Oct-15	31	9.96	40,098	29,365	26.77%	36%	26%
Nov-15	30	9.01	34,594	24,158	30.17%	32%	22%
Dec-15	31	12.69	44,240	42,017	5.02%	40%	38%
Total	364	12.73	475,294	475,299	0.00%	36%	36%
Total in OSP (07/15-09/15)	62	15.61	90,624	90,624	0.00%	41%	41%

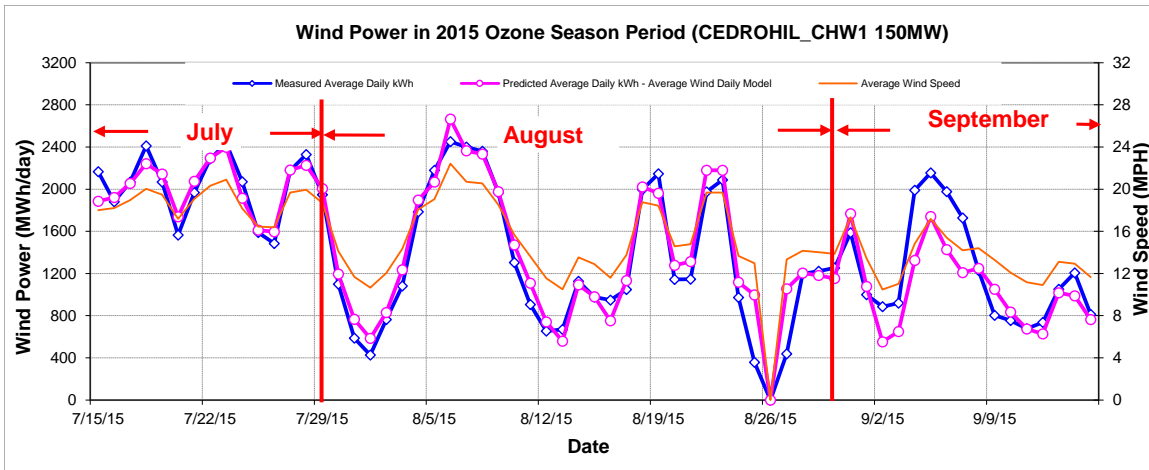


Figure 9-63: CEDROHILL – Predicted Wind Power in OSP Using Average Wind Speed (2015)

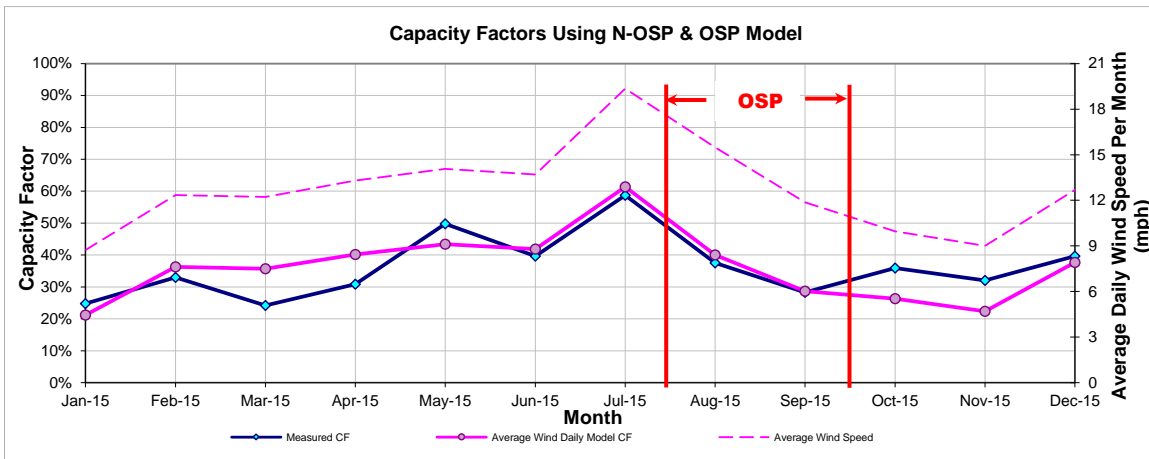


Figure 9-64: CEDROHILL – Predicted Capacity Factors Using Daily Models (2015)

Table 9-61: CEDROHILL – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
395,254	476,599	359	1,462

9.13 Champion Wind Farm

Table 9-62: Site Information for Champion Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
TKWSW_CHAMPION	Wind	-	Scurry	Jan-08	126.5	Airtricity	Champion Wind Farm	Siemens	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
TKWSW_CHAMPION	TKWSW_CHAMPION	126.5

9.13.1 Champion Wind Farm – CHAMPION_UNIT1

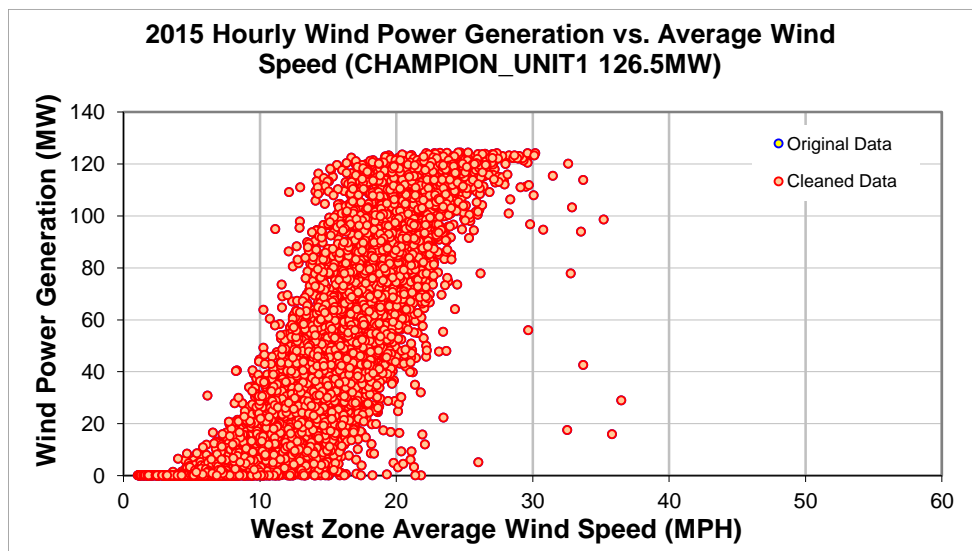


Figure 9-65: CHAMPION_UNIT1 – Hourly Wind Power vs. Average Wind Speed (2015)

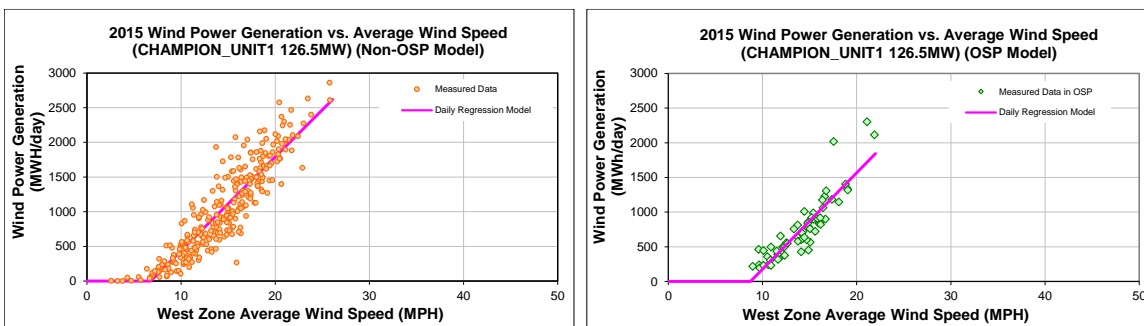


Figure 9-66: CHAMPION_UNIT1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-63: CHAMPION_UNIT1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-918.5100
Left Slope (MWh/mph-day)	135.4622
RMSE (MWh/day)	271.1001
R2	0.8243
CV-RMSE	26.6%
Daily Maximum (MWh/day)	3036

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1214.6224
Left Slope (MWh/mph-day)	139.0347
RMSE (MWh/day)	196.4944
R2	0.8049
CV-RMSE	25.7%
Daily Maximum (MWh/day)	3036

Table 9-64: CHAMPION_UNIT1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	25,990	20,036	22.91%	30%	23%
Feb-15	26	14.44	32,573	27,541	15.45%	41%	35%
Mar-15	30	11.63	20,325	20,327	-0.01%	22%	22%
Apr-15	30	15.35	36,455	34,838	4.44%	40%	38%
May-15	31	16.18	37,688	39,456	-4.69%	40%	42%
Jun-15	30	14.18	25,581	30,057	-17.50%	28%	33%
Jul-15	31	15.36	27,344	31,898	-16.65%	29%	34%
Aug-15	31	13.34	21,243	19,835	6.63%	23%	21%
Sep-15	30	14.14	24,054	26,253	-9.14%	26%	29%
Oct-15	31	13.95	27,136	30,114	-10.97%	29%	32%
Nov-15	29	15.58	36,464	35,169	3.55%	41%	40%
Dec-15	30	15.61	34,242	36,034	-5.23%	38%	40%
Total	358	14.30	349,097	351,557	-0.70%	32%	32%
Total in OSP (07/15-09/15)	63	14.23	48,098	48,098	0.00%	25%	25%

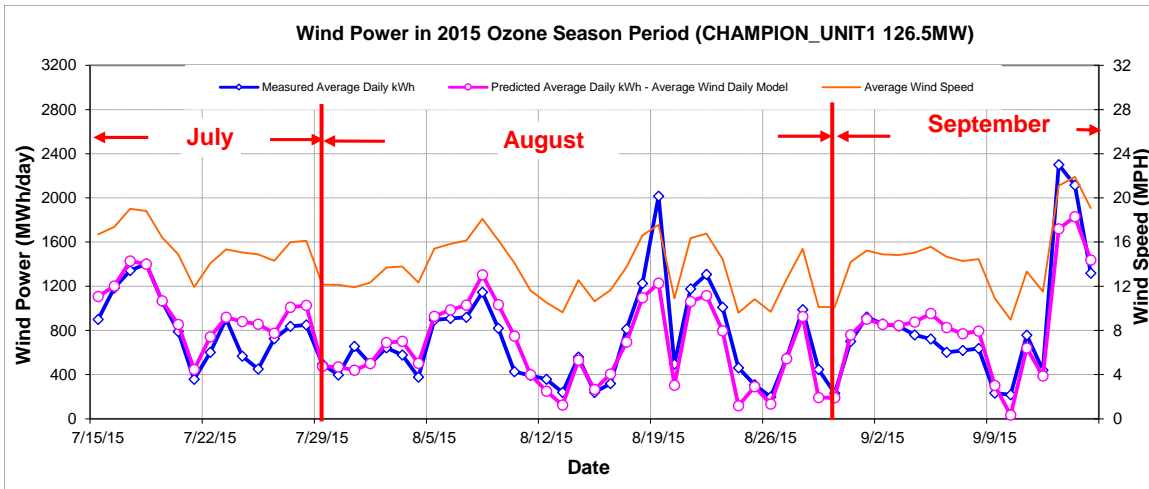


Figure 9-67: CHAMPION_UNIT1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

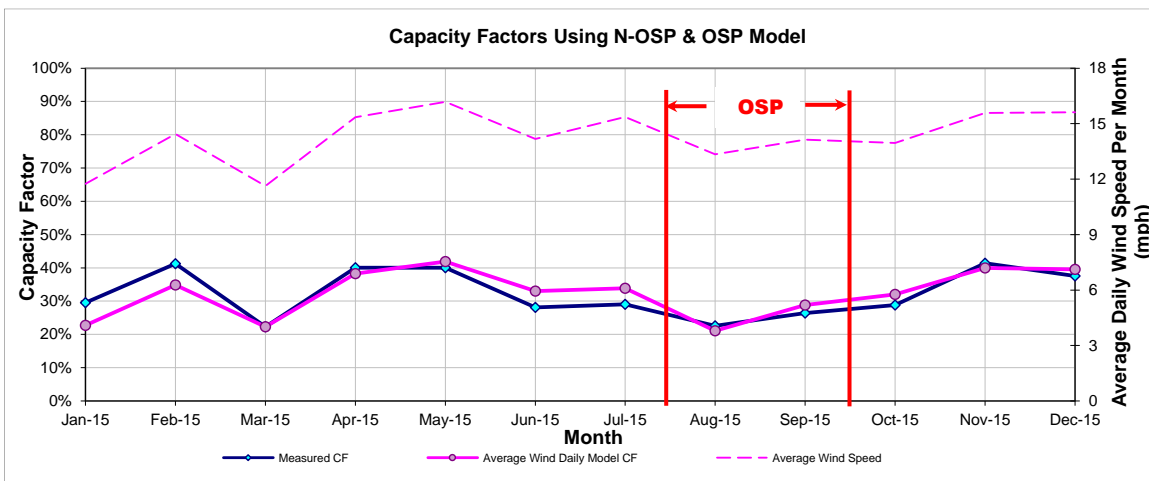


Figure 9-68: CHAMPION_UNIT1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-65: CHAMPION_UNIT1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
246,290	355,923	155	763

9.14 Camp Springs Wind Energy Center

Table 9-66: Site Information for Camp Springs Wind Energy Center

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
CSEC_CSECG1	Wind	Lubbock	Scurry	Jul-07	130	Invenergy	Camp Springs Wind Energy Center	GE Energy	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
CSEC_CSECG1	CSEC_CSECG1	130

9.14.1 Camp Springs Wind Energy Center – CSEC_CSECG1

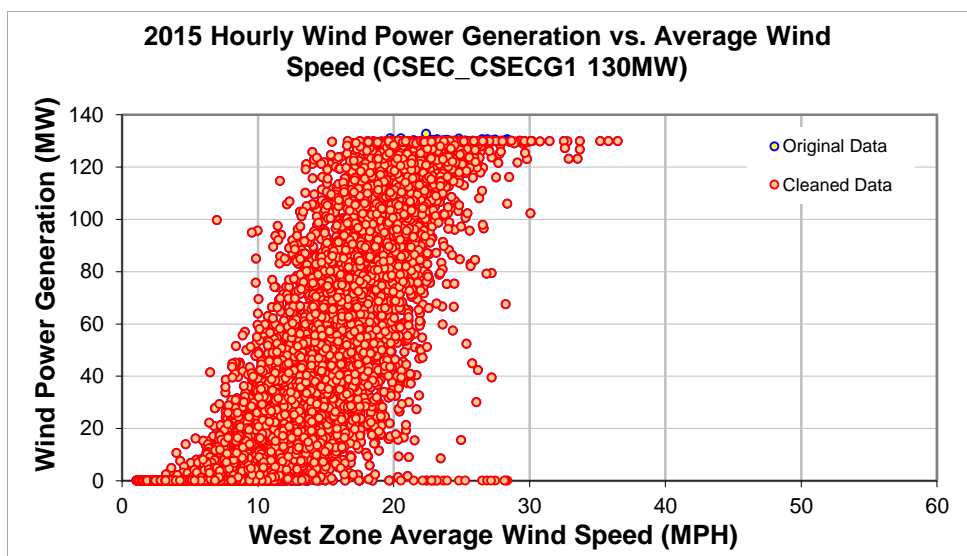


Figure 9-69: CSEC_CSECG1 – Hourly Wind Power vs. Average Wind Speed (2015)

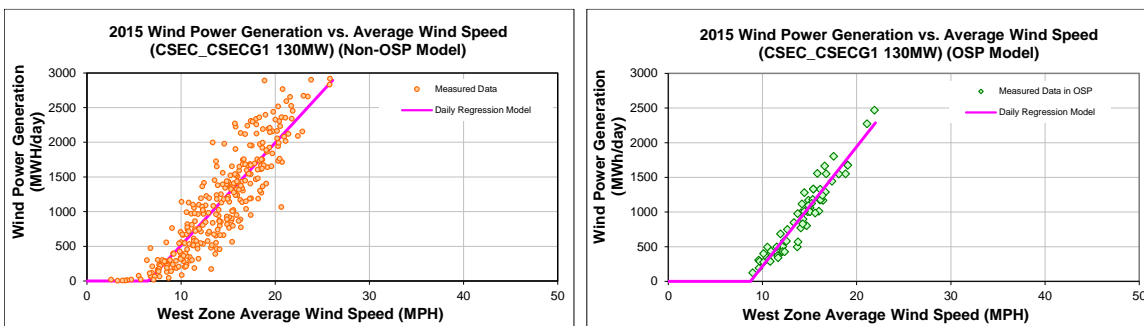


Figure 9-70: CSEC_CSECG1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-67: CSEC_CSECG1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-960.7006
Left Slope (MWh/mph-day)	147.6441
RMSE (MWh/day)	331.3373
R2	0.7932
CV-RMSE	29.1%
Daily Maximum (MWh/day)	3120

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1500.0615
Left Slope (MWh/mph-day)	172.0458
RMSE (MWh/day)	151.1757
R2	0.9143
CV-RMSE	16.0%
Daily Maximum (MWh/day)	3120

Table 9-68: CSEC_CSECG1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	30,659	22,929	25.21%	34%	25%
Feb-15	27	14.16	36,525	31,078	14.91%	43%	37%
Mar-15	30	11.63	26,871	23,279	13.37%	29%	25%
Apr-15	30	15.35	39,568	39,183	0.97%	42%	42%
May-15	31	16.18	37,820	44,257	-17.02%	39%	46%
Jun-15	30	14.18	27,781	33,973	-22.29%	30%	36%
Jul-15	31	15.36	34,035	37,609	-10.50%	35%	39%
Aug-15	31	13.34	25,999	24,635	5.24%	27%	25%
Sep-15	30	14.14	28,045	31,206	-11.27%	30%	33%
Oct-15	31	13.95	28,432	34,075	-19.85%	29%	35%
Nov-15	30	15.20	41,634	39,406	5.35%	44%	42%
Dec-15	31	15.34	42,100	40,531	3.73%	44%	42%
Total	361	14.23	399,469	402,161	-0.67%	35%	36%
Total in OSP (07/15-09/15)	63	14.23	59,704	59,704	0.00%	30%	30%

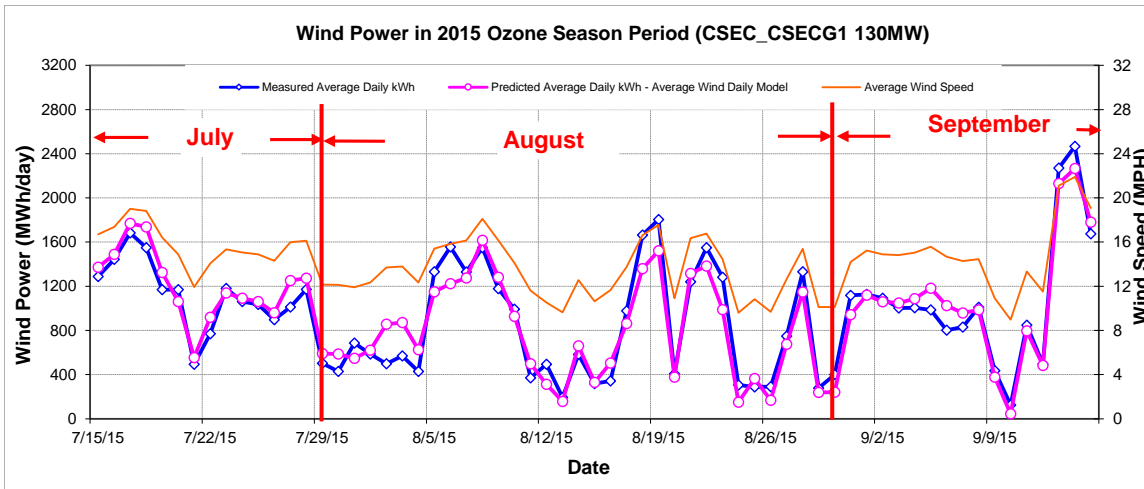


Figure 9-71: CSEC_CSECG1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

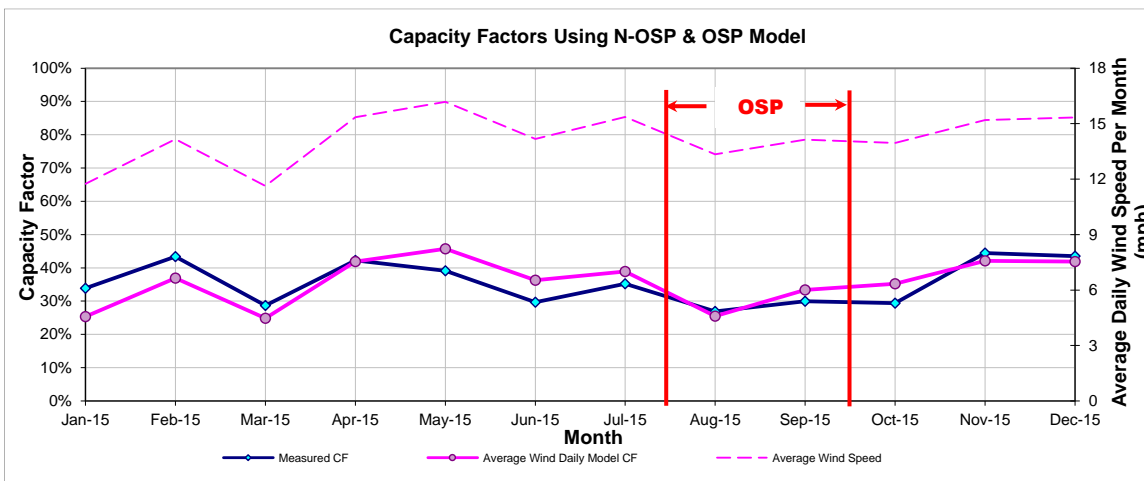


Figure 9-72: CSEC_CSECG1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-69: CSEC_CSECG1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
281,245	403,895	193	948

9.15 Camp Springs Wind Energy Expansion

Table 9-70: Site Information for Camp Springs Wind Energy Expansion

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
CSEC_CSECG2	Wind	Lubbock	Scurry	Jun-08	120	Invenergy	Camp Springs Wind Energy Center	-	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
CSEC_CSECG2	CSEC_CSECG2	120

9.15.1 Camp Springs Wind Energy Expansion – CSEC_CSECG2

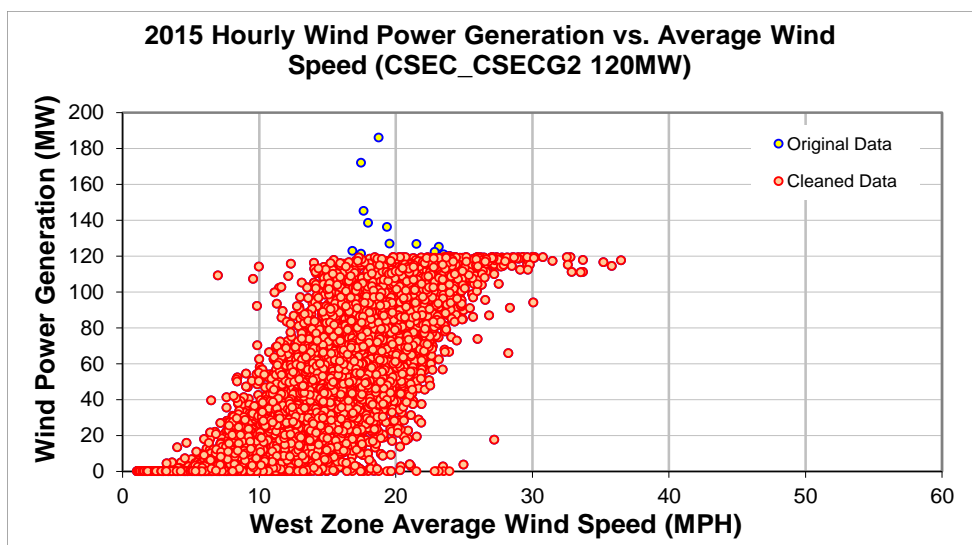


Figure 9-73: CSEC_CSECG2 – Hourly Wind Power vs. Average Wind Speed (2015)

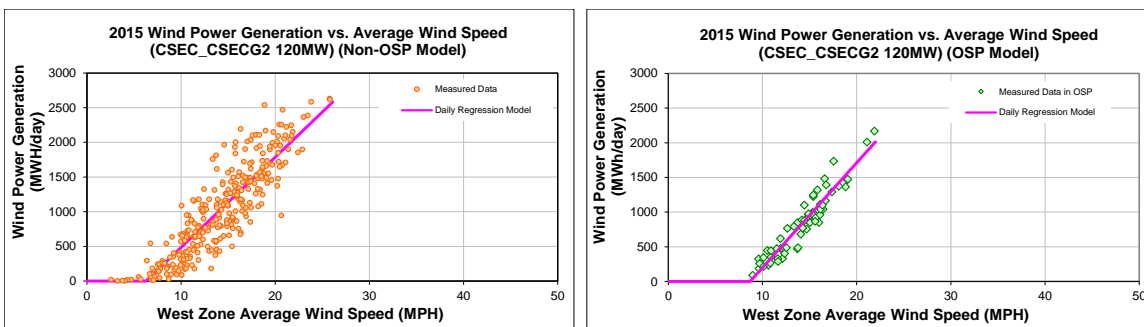


Figure 9-74: CSEC_CSECG2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-71: CSEC_CSECG2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-818.0841
Left Slope (MWh/mph-day)	130.2157
RMSE (MWh/day)	305.4828
R2	0.7782
CV-RMSE	29.5%
Daily Maximum (MWh/day)	2880

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1315.5021
Left Slope (MWh/mph-day)	151.2692
RMSE (MWh/day)	143.2705
R2	0.9018
CV-RMSE	17.1%
Daily Maximum (MWh/day)	2880

Table 9-72: CSEC_CSECG2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	30,028	21,023	29.99%	36%	25%
Feb-15	27	14.16	33,974	28,169	17.09%	44%	36%
Mar-15	30	11.63	24,931	21,349	14.37%	29%	25%
Apr-15	30	15.35	36,052	35,434	1.71%	42%	41%
May-15	31	16.18	35,430	39,938	-12.72%	40%	45%
Jun-15	30	14.18	23,680	30,839	-30.23%	27%	36%
Jul-15	31	15.36	29,719	33,586	-13.01%	33%	38%
Aug-15	31	13.34	23,057	21,766	5.60%	26%	24%
Sep-15	30	14.14	24,828	27,967	-12.64%	29%	32%
Oct-15	31	13.95	25,970	30,958	-19.20%	29%	35%
Nov-15	30	15.20	35,947	35,543	1.12%	42%	41%
Dec-15	31	15.34	37,454	36,623	2.22%	42%	41%
Total	361	14.23	361,071	363,196	-0.59%	35%	35%
Total in OSP (07/15-09/15)	63	14.23	52,709	52,709	0.00%	29%	29%

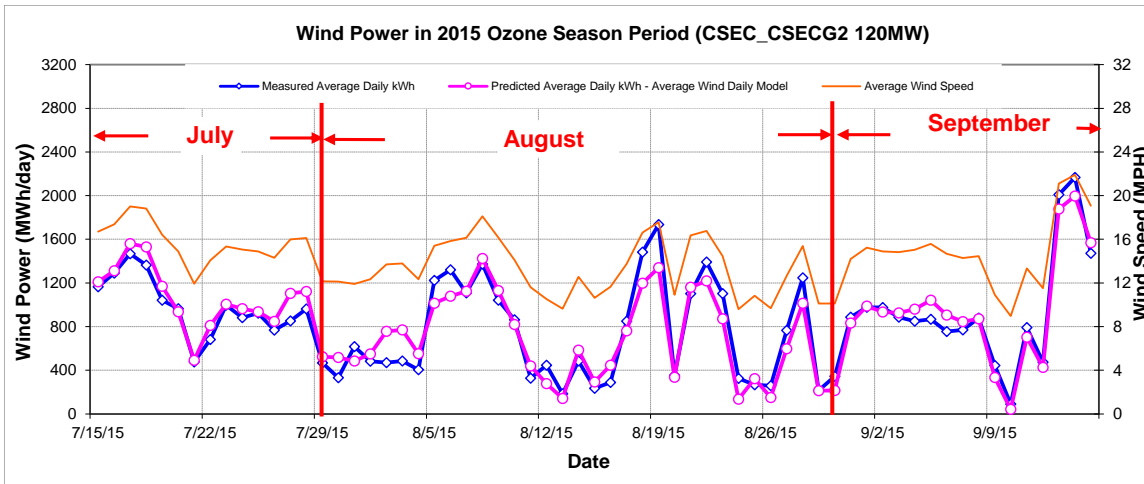


Figure 9-75: CSEC_CSECG2 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

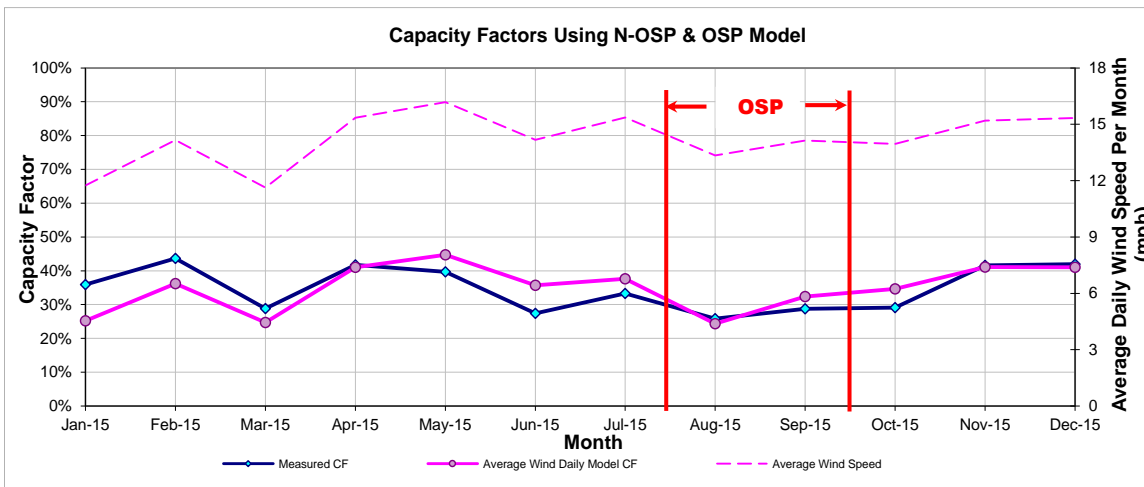


Figure 9-76: CSEC_CSECG2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-73: CSEC_CSECG2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
256,468	365,072	172	837

9.16 Elbow Creek Wind

Table 9-74: Site Information for Elbow Creek Wind

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
ELB_ELBCREEK	Wind	-	Howard	Nov-08	121.9	NRG Padoma Wind	Elbow Creek Wind	Siemens(53)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
ELB_ELBCREEK	ELB_ELBCREEK	121.9

9.16.1 Elbow Creek Wind – ELB_ELBCREEK

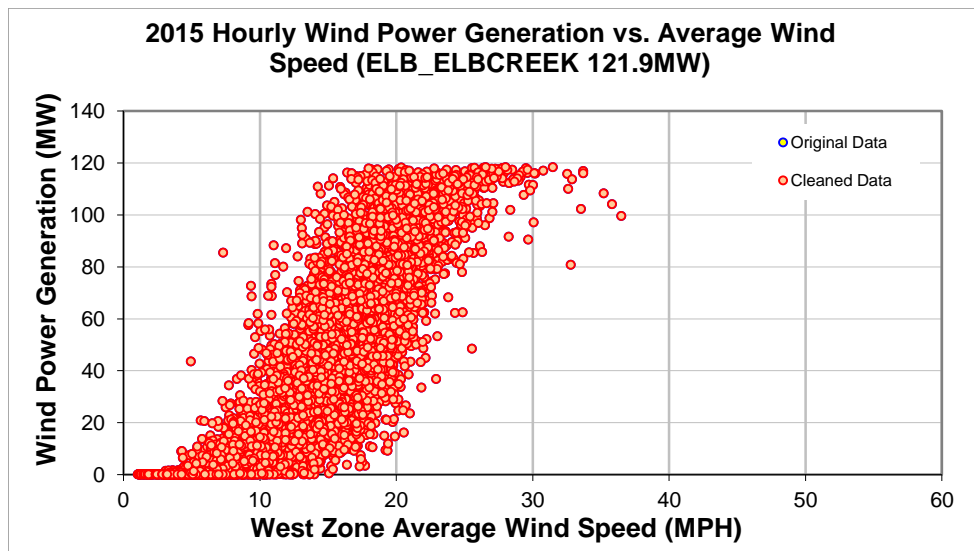


Figure 9-77: ELB_ELBCREEK – Hourly Wind Power vs. Average Wind Speed (2015)

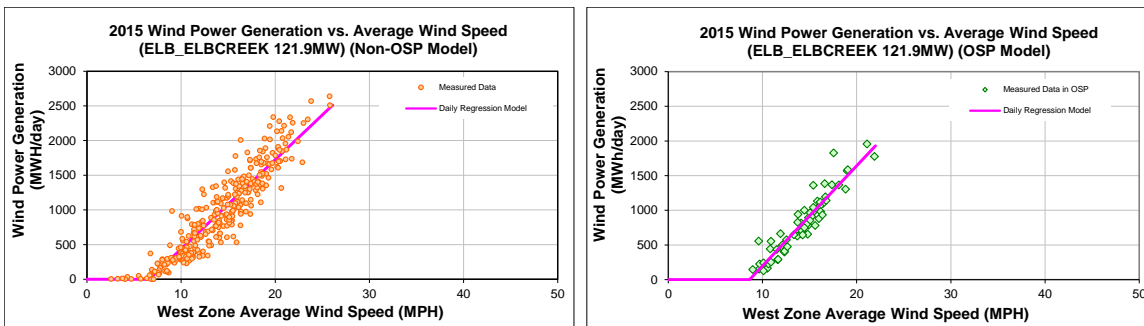


Figure 9-78: ELB_ELBCREEK – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-75: ELB_ELBCREEK – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-852.1851
Left Slope (MWh/mph-day)	128.8810
RMSE (MWh/day)	236.0322
R2	0.8520
CV-RMSE	24.0%
Daily Maximum (MWh/day)	2926

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1242.0063
Left Slope (MWh/mph-day)	144.1129
RMSE (MWh/day)	150.4723
R2	0.8832
CV-RMSE	18.6%
Daily Maximum (MWh/day)	2926

Table 9-76: ELB_ELBCREEK – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	26,829	19,649	26.76%	32%	23%
Feb-15	27	14.16	29,201	26,775	8.31%	37%	34%
Mar-15	30	11.63	20,876	19,941	4.48%	24%	23%
Apr-15	30	15.35	34,153	33,797	1.04%	39%	39%
May-15	31	16.18	35,490	38,212	-7.67%	39%	42%
Jun-15	30	14.18	25,583	29,248	-14.33%	29%	33%
Jul-15	31	15.36	28,907	32,226	-11.48%	32%	36%
Aug-15	31	13.34	22,337	21,085	5.61%	25%	23%
Sep-15	30	14.14	23,392	26,678	-14.05%	27%	30%
Oct-15	31	13.95	25,850	29,324	-13.44%	29%	32%
Nov-15	30	15.20	34,786	34,032	2.17%	40%	39%
Dec-15	31	15.34	36,061	34,973	3.02%	40%	39%
Total	361	14.23	343,466	345,938	-0.72%	33%	33%
Total in OSP (07/15-09/15)	63	14.23	50,925	50,925	0.00%	28%	28%

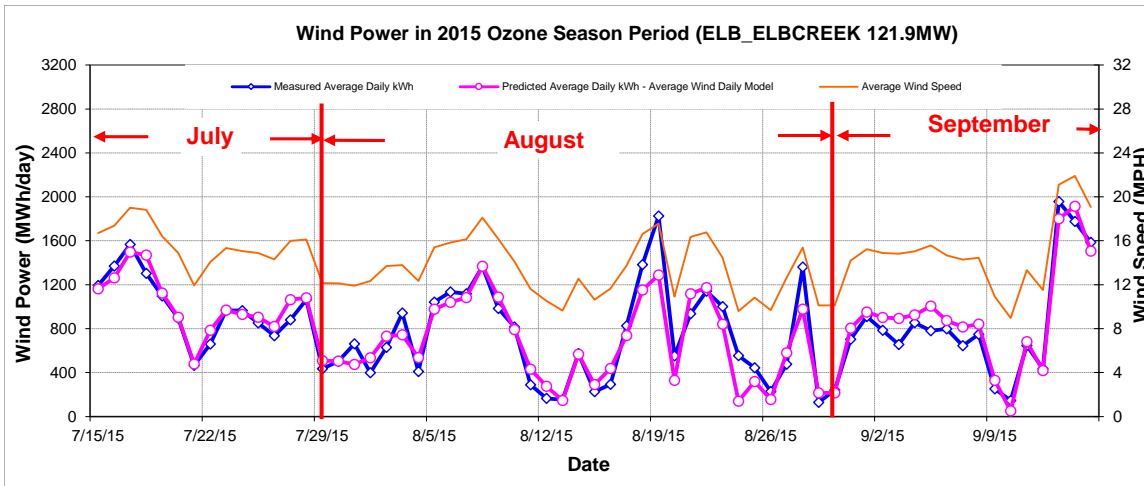


Figure 9-79: ELB_ELBCREEK – Predicted Wind Power in OSP Using Average Wind Speed (2015)

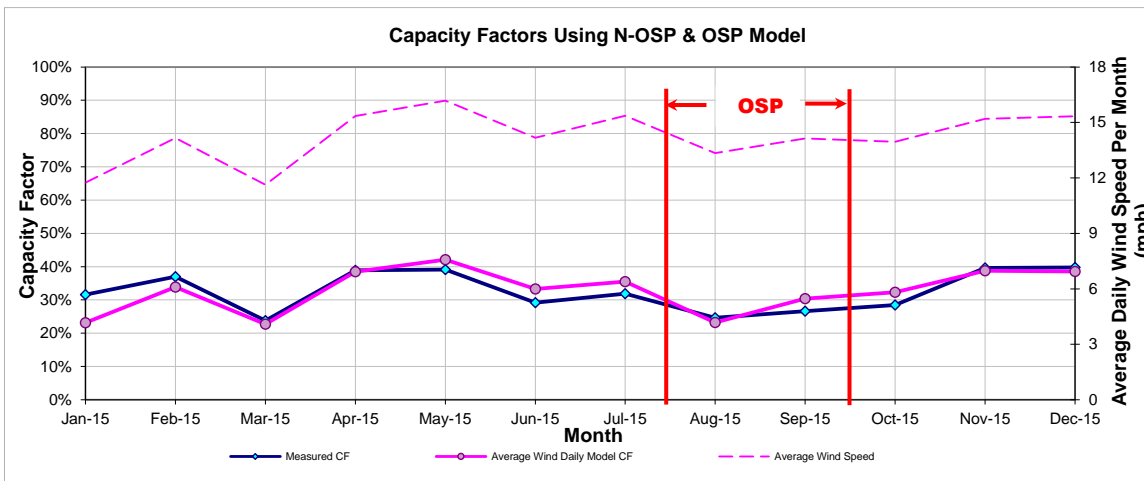


Figure 9-80: ELB_ELBCREEK – Predicted Capacity Factors Using Daily Models (2015)

Table 9-77: ELB_ELBCREEK – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
181,304	347,271	139	808

9.17 Snyder Wind Project

Table 9-78: Site Information for Snyder Wind Project

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
ENAS_ENA1	Wind	Snyder	Scurry	Dec-07	63	Enel North America/WKN USA	Snyder Wind Project	Vestas (21)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
ENAS_ENA1	ENAS_ENA1	63

9.17.1 Snyder Wind Project – ENAS_ENA1

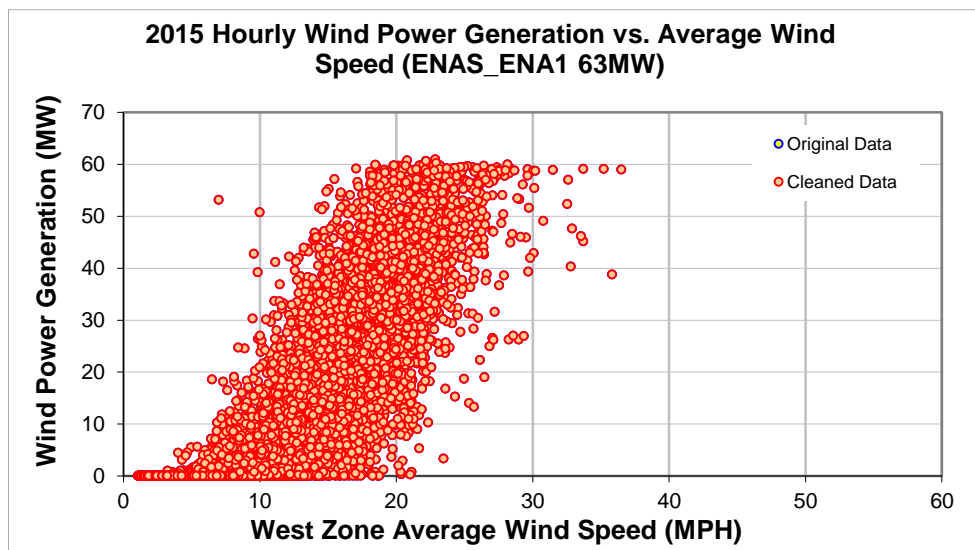


Figure 9-81: ENAS_ENA1– Hourly Wind Power vs. Average Wind Speed (2015)

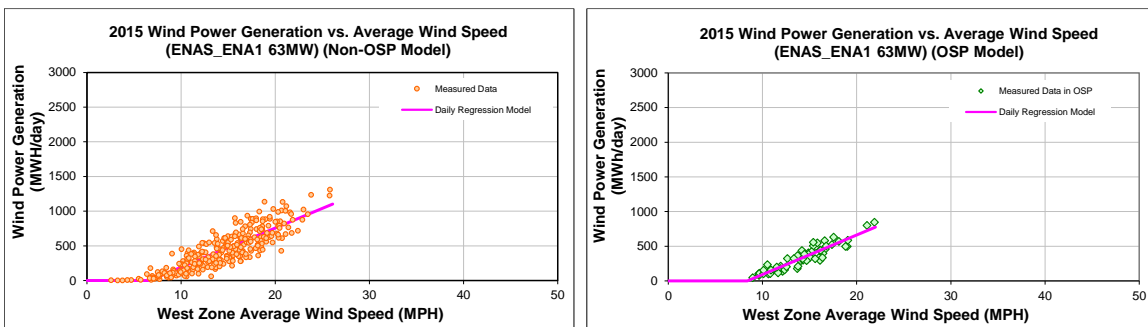


Figure 9-82: ENAS_ENA1– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-79: ENAS_ENA1– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-373.9378
Left Slope (MWh/mph-day)	56.5298
RMSE (MWh/day)	142.4012
R2	0.7499
CV-RMSE	32.9%
Daily Maximum (MWh/day)	1512

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-478.5465
Left Slope (MWh/mph-day)	57.0592
RMSE (MWh/day)	67.5364
R2	0.8547
CV-RMSE	20.3%
Daily Maximum (MWh/day)	1512

Table 9-80: ENAS_ENA1– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	12,368	8,614	30.35%	28%	20%
Feb-15	27	14.16	13,908	11,740	15.59%	34%	29%
Mar-15	30	11.63	10,076	8,742	13.24%	22%	19%
Apr-15	30	15.35	15,978	14,819	7.25%	35%	33%
May-15	31	16.18	12,853	16,756	-30.36%	27%	36%
Jun-15	30	14.18	10,200	12,824	-25.73%	22%	28%
Jul-15	31	15.36	11,467	13,677	-19.27%	24%	29%
Aug-15	31	13.34	9,376	8,758	6.59%	20%	19%
Sep-15	30	14.14	9,702	11,304	-16.51%	21%	25%
Oct-15	31	13.95	11,188	12,857	-14.92%	24%	27%
Nov-15	29	15.58	15,410	14,923	3.16%	35%	34%
Dec-15	31	15.34	16,881	15,335	9.15%	36%	33%
Total	360	14.26	149,407	150,350	-0.63%	27%	28%
Total in OSP (07/15-09/15)	63	14.23	20,995	20,995	0.00%	22%	22%

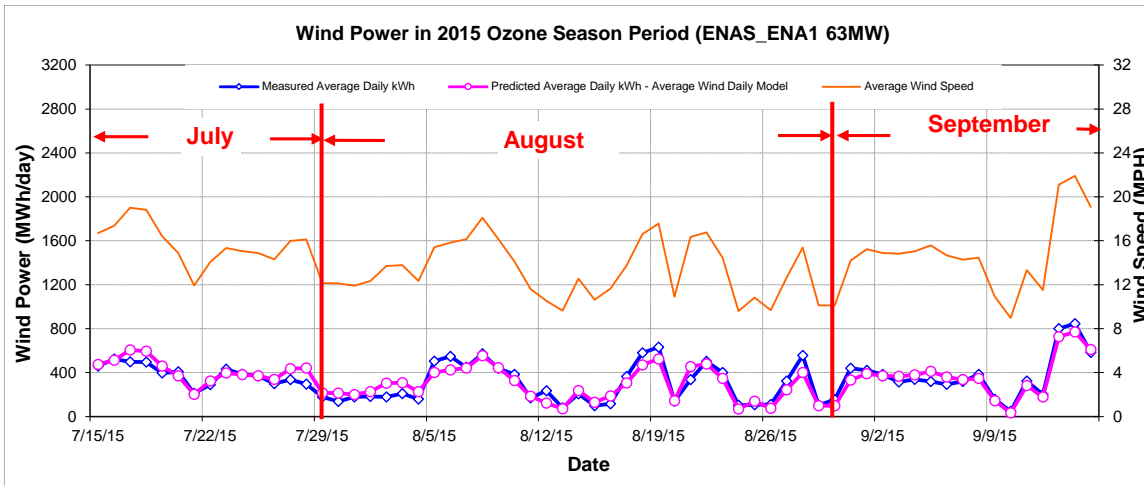


Figure 9-83: ENAS_ENA1– Predicted Wind Power in OSP Using Average Wind Speed (2015)

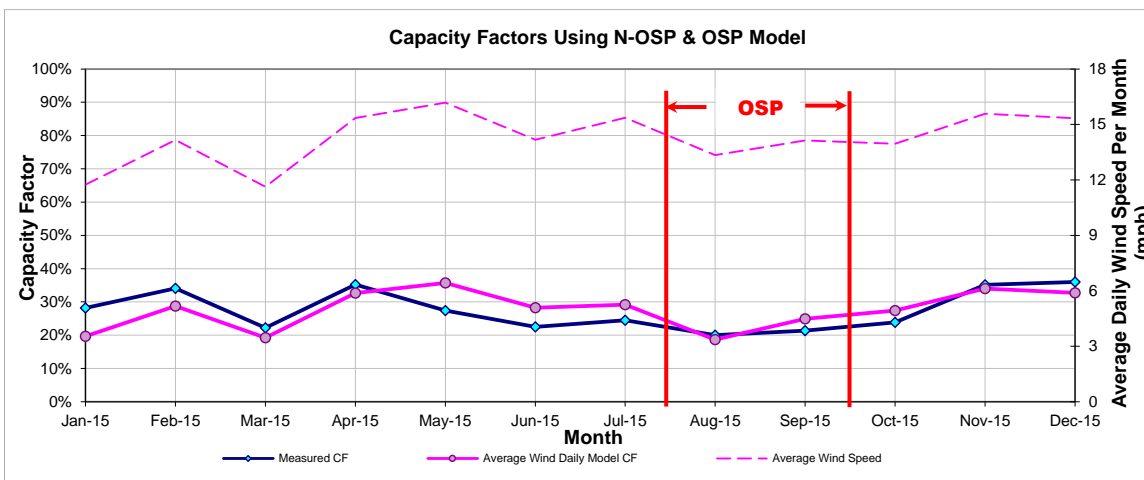


Figure 9-84: ENAS_ENA1– Predicted Capacity Factors Using Daily Models (2015)

Table 9-81: ENAS_ENA1– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
106,053	151,482	75	333

9.18 Whitetail Wind Project

Table 9-82: Site Information for Whitetail Wind Project

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Weather Station
EXGNWTL_WIND_1	Wind	-	Webb	Dec-12	92	Exelon	Whitetail Wind Energy Project	-	ERCOT	South	South Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
EXGNWTL_WIND_1	EXGNWTL_WIND_1	92

9.18.1 Whitetail Wind Project – EXGNWTL_WIND_1

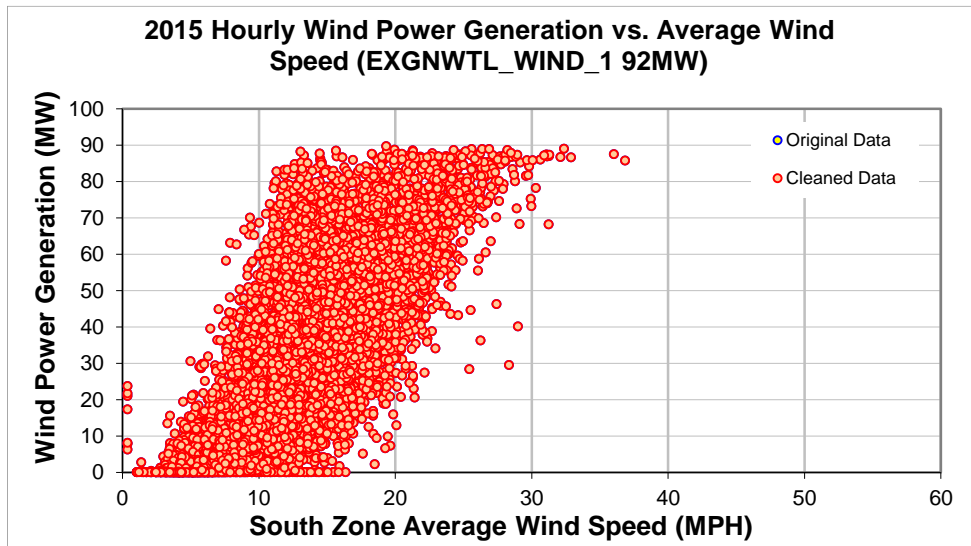


Figure 9-85: EXGNWTL_WIND_1 – Hourly Wind Power vs. Average Wind Speed (2015)

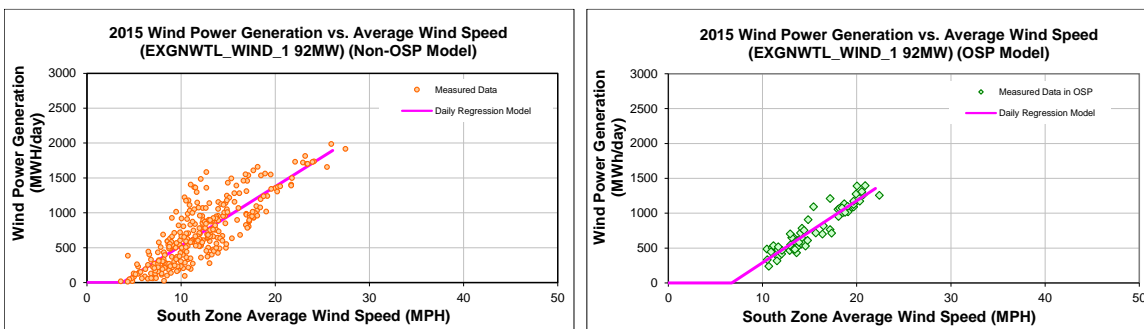


Figure 9-86: EXGNWTL_WIND_1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-83: EXGNWTL_WIND_1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-319.4634
Left Slope (MWh/mph-day)	84.8375
RMSE (MWh/day)	248.5841
R2	0.6884
CV-RMSE	34.9%
Daily Maximum (MWh/day)	2208

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-596.1153
Left Slope (MWh/mph-day)	88.6480
RMSE (MWh/day)	112.1329
R2	0.8722
CV-RMSE	14.3%
Daily Maximum (MWh/day)	2208

Table 9-84: EXGNWTL_WIND_1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (South) Zone	Average Wind Speed (South) Zone	Average Wind Speed (South) Zone	Average Wind Speed (South) Zone		Average Wind Speed (South) Zone
Jan-15	31	8.72	15,778	13,040	17.35%	23%	19%
Feb-15	28	12.35	18,320	20,397	-11.34%	30%	33%
Mar-15	31	12.22	15,022	22,243	-48.07%	22%	32%
Apr-15	30	13.30	18,348	24,255	-32.19%	28%	37%
May-15	31	14.07	31,441	27,105	13.79%	46%	40%
Jun-15	30	13.71	22,487	25,298	-12.50%	34%	38%
Jul-15	31	19.35	36,007	37,449	-4.01%	53%	55%
Aug-15	31	15.42	22,286	23,885	-7.17%	33%	35%
Sep-15	30	11.87	17,284	17,224	0.34%	26%	26%
Oct-15	31	9.96	22,731	16,295	28.31%	33%	24%
Nov-15	28	9.05	18,148	12,575	30.71%	29%	20%
Dec-15	31	12.69	25,363	23,459	7.51%	37%	34%
Total	363	12.76	263,215	263,229	-0.01%	33%	33%
Total in OSP (07/15-09/15)	63	15.58	49,431	49,431	0.00%	36%	36%

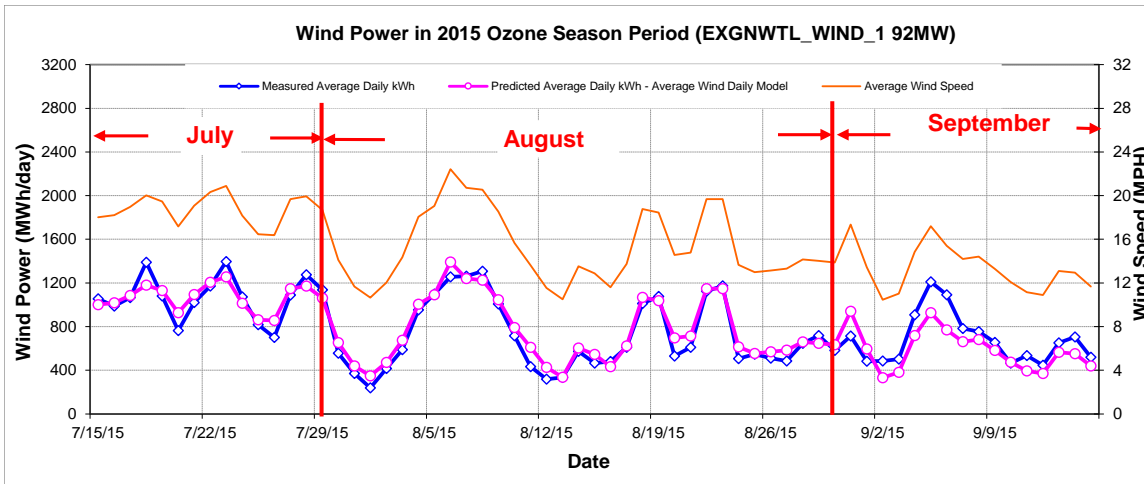


Figure 9-87: EXGNWTL_WIND_1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

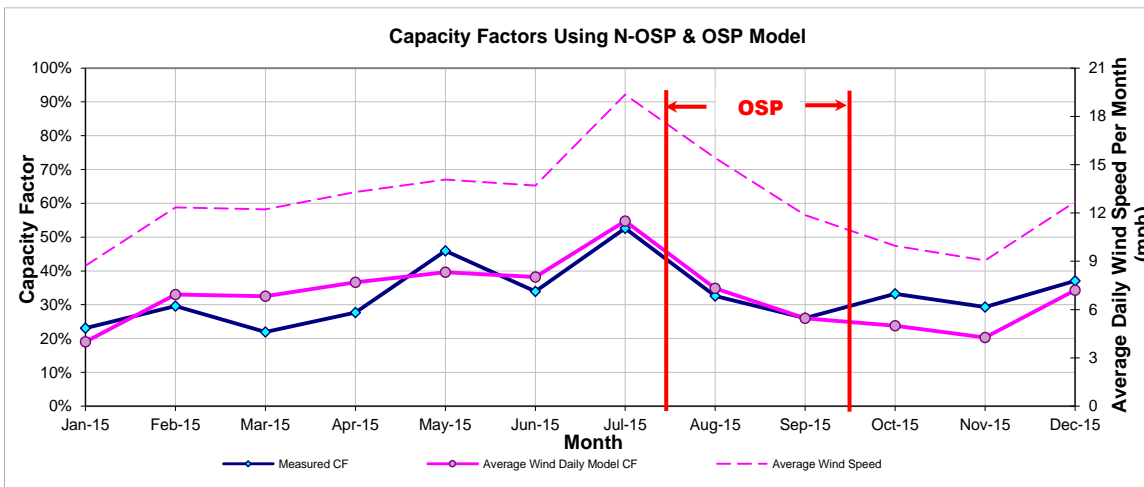


Figure 9-88: EXGNWTL_WIND_1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-85: EXGNWTL_WIND_1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
221,671	264,665	221	785

9.19 Silver Star Phase 1

Table 9-86: Site Information for Silver Star Phase 1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
FLTCK_SSI	Wind	-	Erath	Mar-08	60	BP/Clipper Windpower	Silver Star Phase I	Clipper Windpower(24)	ERCOT	North	North Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
FLTCK_SSI	FLTCK_SSI	60

9.19.1 Silver Star Phase1 – FLTCK_SSI

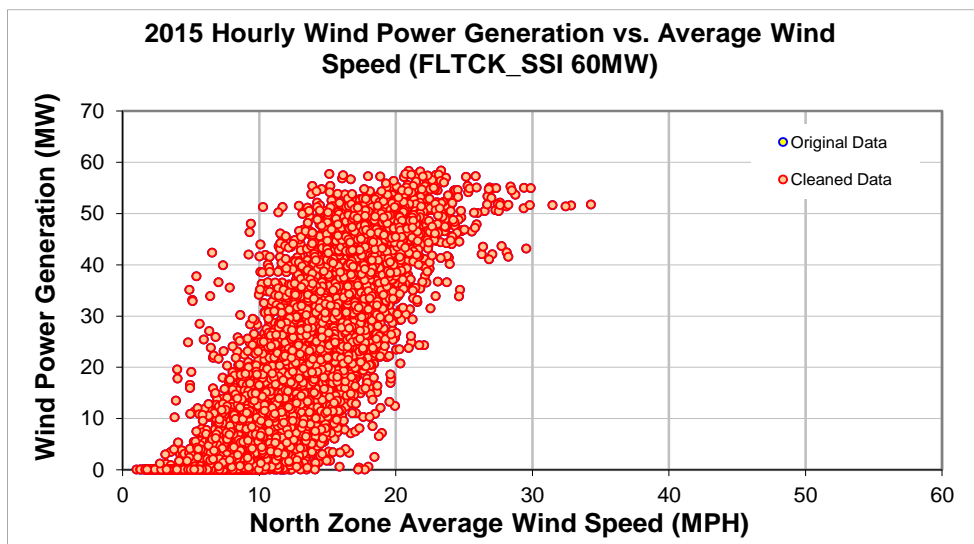


Figure 9-89: FLTCK_SSI – Hourly Wind Power vs. Average Wind Speed (2015)

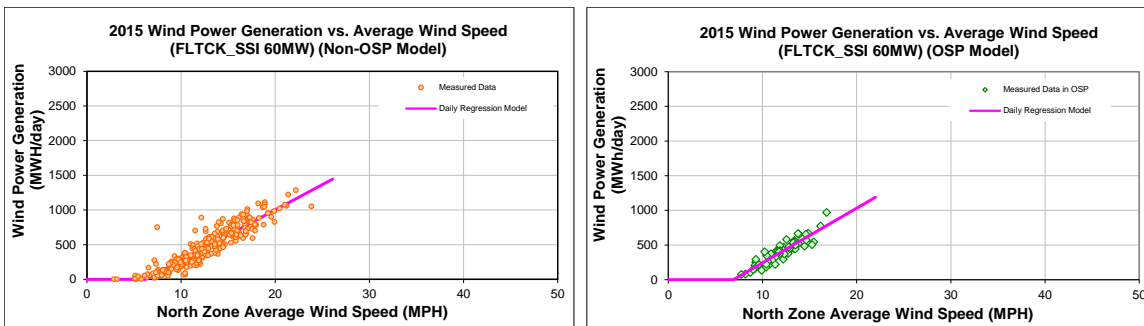


Figure 9-90: FLTCK_SSI – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-87: FLTCK_SSI – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-453.0960
Left Slope (MWh/mph-day)	72.7183
RMSE (MWh/day)	112.7219
R2	0.8447
CV-RMSE	24.6%
Daily Maximum (MWh/day)	1440

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-545.0178
Left Slope (MWh/mph-day)	78.8416
RMSE (MWh/day)	71.1470
R2	0.8292
CV-RMSE	17.7%
Daily Maximum (MWh/day)	1440

Table 9-88: FLTCK_SSI – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone		Average Wind Speed (North) Zone
Jan-15	31	12.58	13,868	14,457	-4.25%	31%	32%
Feb-15	26	13.14	14,322	13,141	8.24%	38%	35%
Mar-15	31	10.61	10,435	10,379	0.54%	23%	23%
Apr-15	30	12.91	14,141	14,578	-3.09%	33%	34%
May-15	31	12.07	15,649	13,154	15.94%	35%	29%
Jun-15	30	11.84	10,548	12,245	-16.09%	24%	28%
Jul-15	31	13.82	14,587	16,872	-15.67%	33%	38%
Aug-15	31	11.47	11,676	11,137	4.61%	26%	25%
Sep-15	30	11.64	11,333	11,538	-1.81%	26%	27%
Oct-15	31	12.08	12,583	13,181	-4.75%	28%	30%
Nov-15	30	13.67	17,045	16,301	4.37%	39%	38%
Dec-15	31	13.52	16,410	16,489	-0.49%	37%	37%
Total	363	12.43	162,596	163,474	-0.54%	31%	31%
Total in OSP (07/15-09/15)	63	12.02	25,355	25,355	0.00%	28%	28%

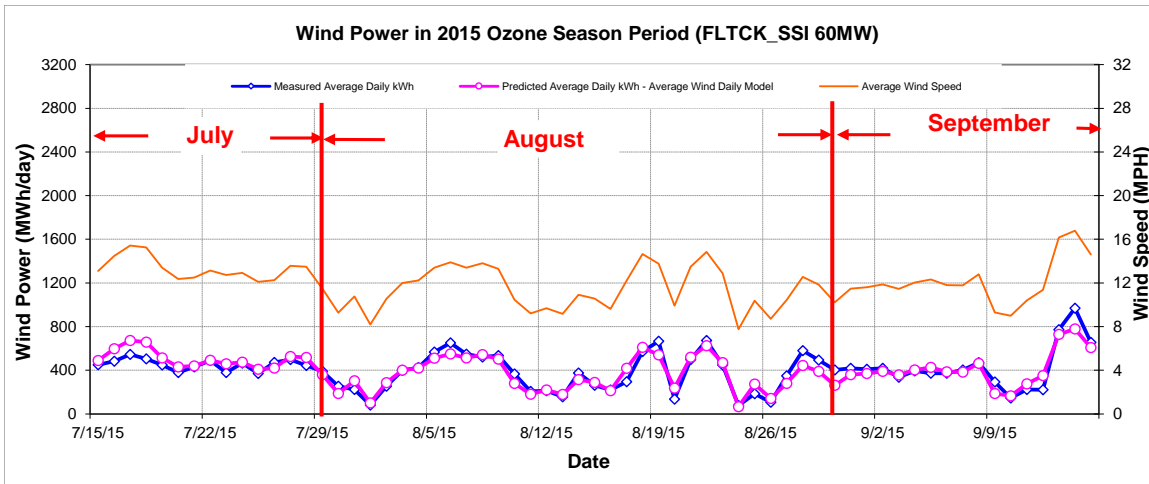


Figure 9-91: FLTCK_SSI – Predicted Wind Power in OSP Using Average Wind Speed (2015)

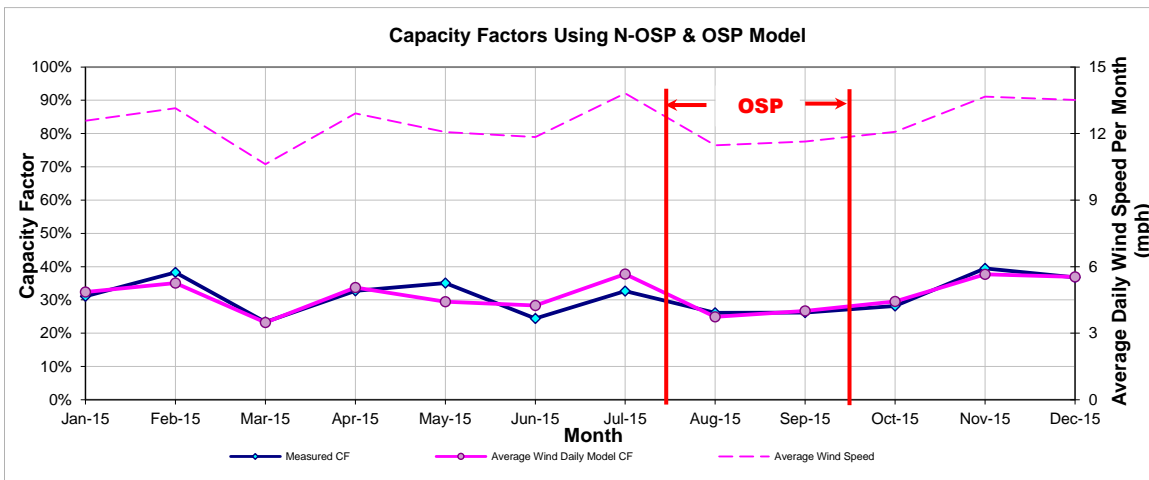


Figure 9-92: FLTCK_SSI – Predicted Capacity Factors Using Daily Models (2015)

Table 9-89: FLTCK_SSI - Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
139,835	163,492	174	402

9.20 Goat Wind

Table 9-90: Site Information for Goat Wind

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
GOAT_GOATWIND	Wind	-	Sterling	Apr-08	150	Edison Mission Group	Goat Wind & Goat Wind Phase 2	Clipper Windpower(24)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
GOAT_GOATWIND	GOAT_GOATWIND	150

9.20.1 Goat Wind – GOAT_GOATWIND

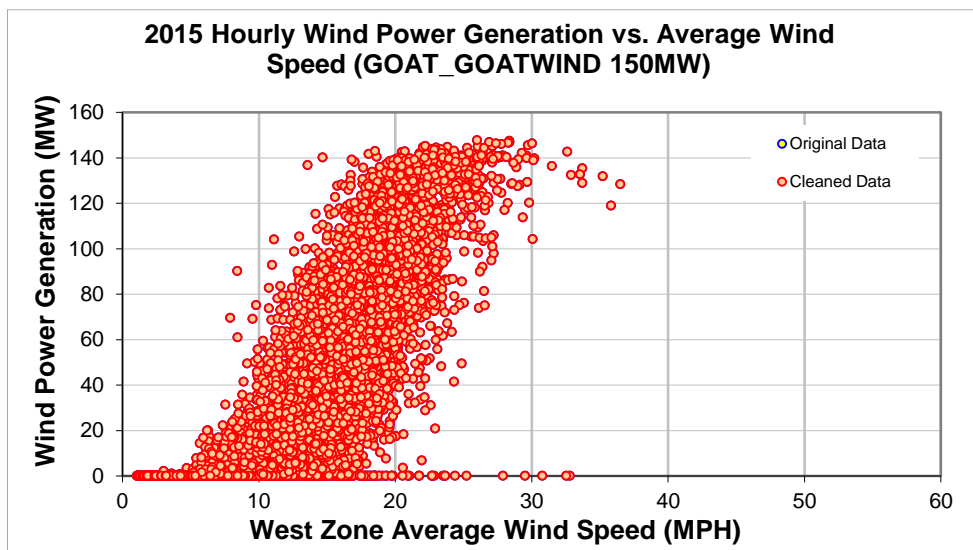


Figure 9-93: GOAT_GOATWIND – Hourly Wind Power vs. Average Wind Speed (2015)

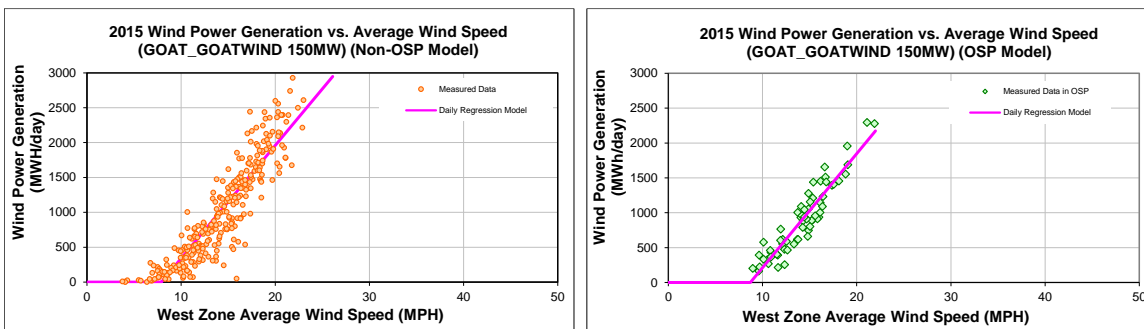


Figure 9-94: GOAT_GOATWIND – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-91: GOAT_GOATWIND – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1279.3623
Left Slope (MWh/mph-day)	161.9440
RMSE (MWh/day)	312.4401
R2	0.8325
CV-RMSE	30.0%
Daily Maximum (MWh/day)	3600

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1422.2394
Left Slope (MWh/mph-day)	163.4547
RMSE (MWh/day)	179.5832
R2	0.8723
CV-RMSE	19.9%
Daily Maximum (MWh/day)	3600

Table 9-92: GOAT_GOATWIND – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	27	12.16	21,005	18,932	9.87%	22%	19%
Feb-15	25	14.91	31,023	28,393	8.48%	34%	32%
Mar-15	28	11.22	14,638	16,998	-16.12%	15%	17%
Apr-15	30	15.35	36,081	36,273	-0.53%	33%	34%
May-15	31	16.18	37,688	41,577	-10.32%	34%	37%
Jun-15	30	14.18	27,425	30,534	-11.34%	25%	28%
Jul-15	31	15.36	36,028	35,394	1.76%	32%	32%
Aug-15	31	13.34	23,794	23,496	1.25%	21%	21%
Sep-15	30	14.14	26,630	28,547	-7.20%	25%	26%
Oct-15	31	13.95	27,741	30,536	-10.08%	25%	27%
Nov-15	30	15.20	39,966	37,331	6.59%	37%	35%
Dec-15	31	15.34	38,866	37,820	2.69%	35%	34%
Total	355	14.31	360,883	365,831	-1.37%	28%	29%
Total in OSP (07/15-09/15)	63	14.23	56,906	56,906	0.00%	25%	25%

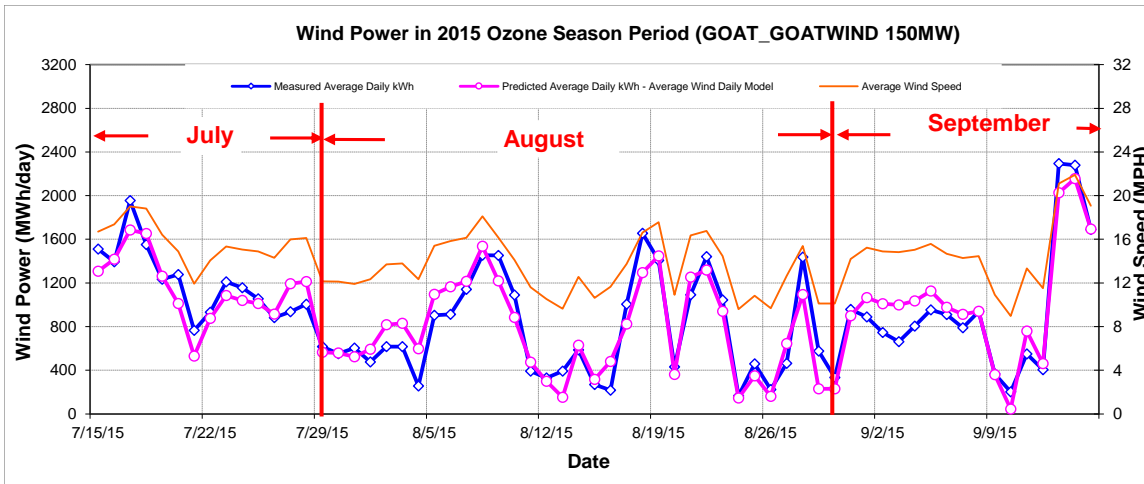


Figure 9-95: GOAT_GOATWIND – Predicted Wind Power in OSP Using Average Wind Speed (2015)

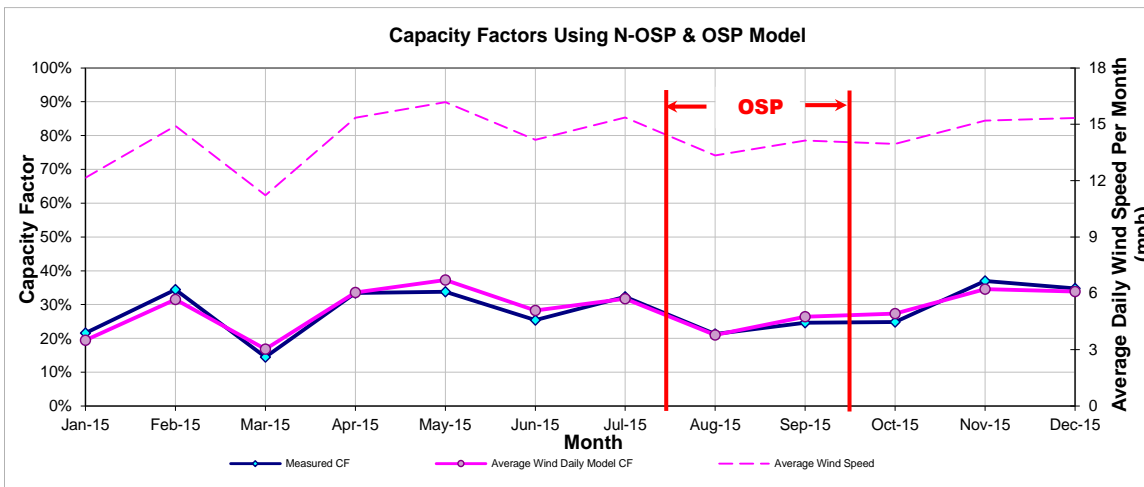


Figure 9-96: GOAT_GOATWIND - Predicted Capacity Factors Using Daily Models (2015)

Table 9-93: GOAT_GOATWIND – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
132,916	371,049	49	903

9.21 Goldthwaite Wind 1

Table 9-94: Site Information for Goldthwaite Wind 1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
GWEC_GWEC_G1	Wind	-	MILLS	Jun-14	148.6	Invenergy	GOLDTHWAITE WIND 1	-	ERCOT	North	North Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
GWEC_GWEC_G1	GWEC_GWEC_G1	148.6

9.21.1 Goldthwaite Wind 1 – GWEC_GWEC_G1

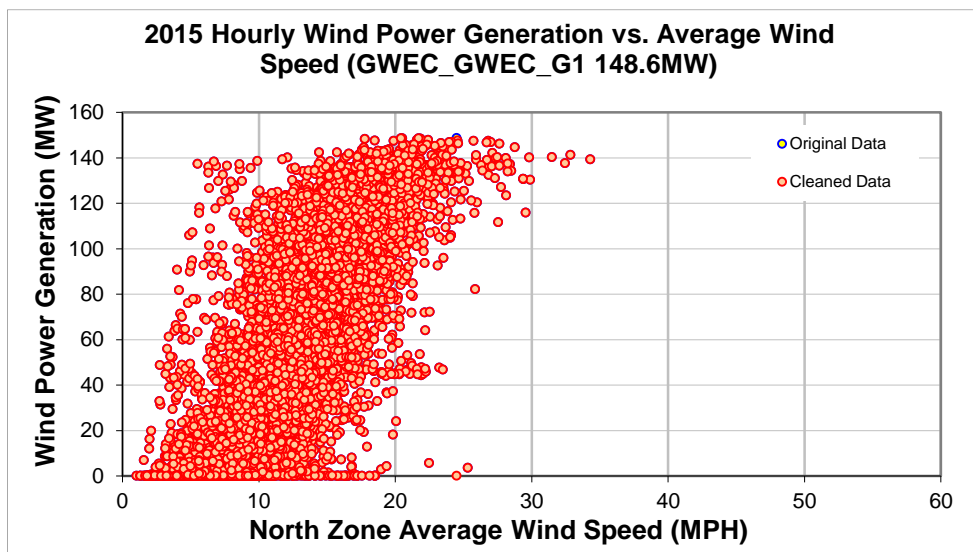


Figure 9-97: GWEC_GWEC_G1 – Hourly Wind Power vs. Average Wind Speed (2015)

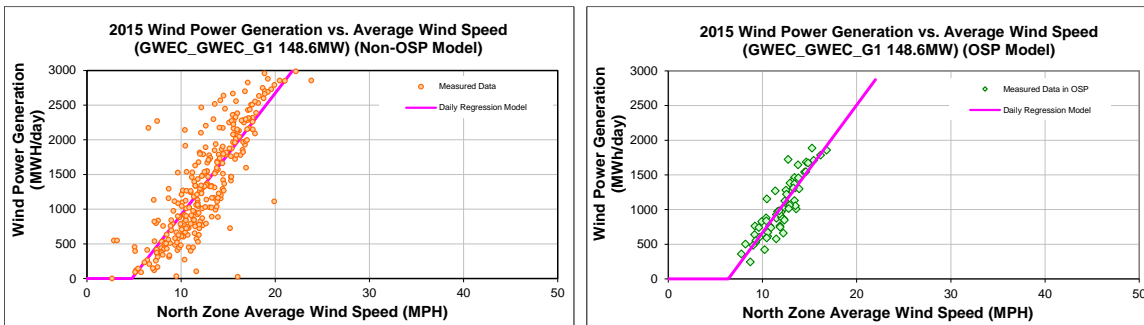


Figure 9-98: GWEC_GWEC_G1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-95: GWEC_GWEC_G1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-836.5793
Left Slope (MWh/mph-day)	175.4883
RMSE (MWh/day)	424.8767
R2	0.6948
CV-RMSE	31.4%
Daily Maximum (MWh/day)	3566

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1168.8853
Left Slope (MWh/mph-day)	183.6611
RMSE (MWh/day)	186.2288
R2	0.7936
CV-RMSE	17.9%
Daily Maximum (MWh/day)	3566

Table 9-96: GWEC_GWEC_G1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone		Average Wind Speed (North) Zone
Jan-15	31	12.58	44,276	42,477	4.06%	40%	38%
Feb-15	27	12.75	36,990	38,199	-3.27%	38%	40%
Mar-15	31	10.61	32,856	32,414	1.34%	30%	29%
Apr-15	30	12.91	40,376	42,885	-6.22%	38%	40%
May-15	31	12.07	44,713	39,706	11.20%	40%	36%
Jun-15	30	11.84	30,152	37,257	-23.56%	28%	35%
Jul-15	31	13.82	47,612	45,360	4.73%	43%	41%
Aug-15	31	11.47	28,793	29,067	-0.95%	26%	26%
Sep-15	30	11.64	26,348	32,683	-24.04%	25%	31%
Oct-15	31	12.08	41,221	39,772	3.52%	37%	36%
Nov-15	30	13.67	48,367	46,851	3.13%	45%	44%
Dec-15	31	13.52	51,598	47,602	7.74%	47%	43%
Total	364	12.41	473,301	474,273	-0.21%	36%	37%
Total in OSP (07/15-09/15)	63	12.02	65,411	65,411	0.00%	29%	29%

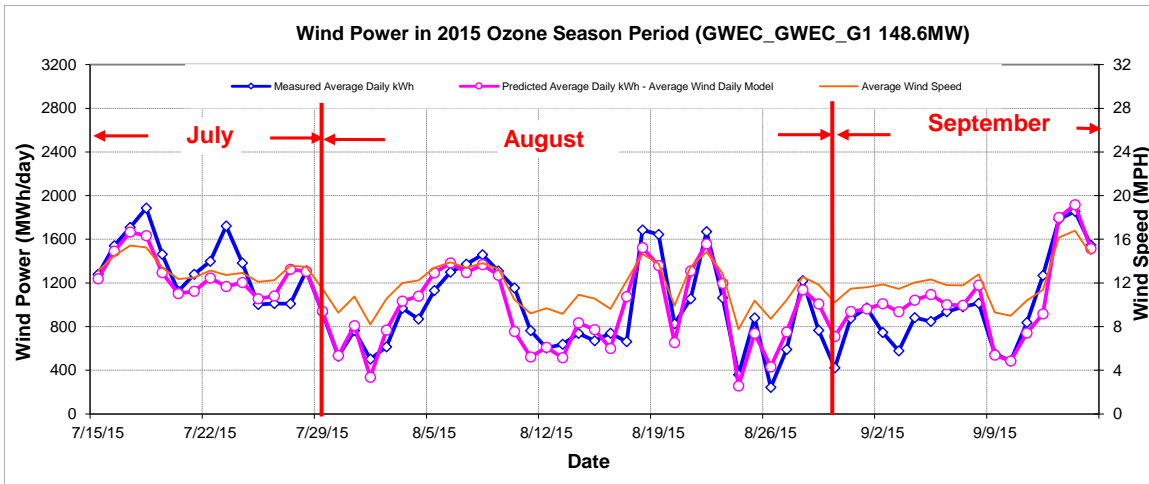


Figure 9-99: GWEC_GWEC_G1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

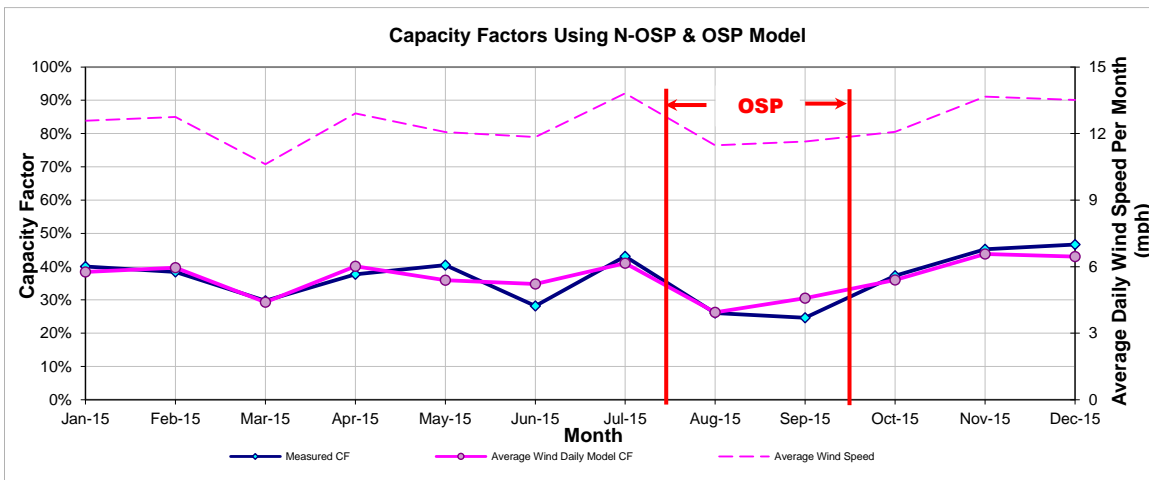


Figure 9-100: GWEC_GWEC_G1 - Predicted Capacity Factors Using Daily Models (2015)

Table 9-97: GWEC_GWEC_G1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
412,202	474,601	523	1,038

9.22 Callahan Divide Wind Energy Center

Table 9-98: Site Information for Callahan Divide Wind Energy Center

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
CALLAHAN_WND1	Wind	Abilene	Taylor	Feb-05	114	FPL Energy	Callahan Divide Wind Energy Center	GE Wind 1500 (76)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
CALLAHAN_WND1	CALLAHAN_WND1	114

9.22.1 Callahan Divide Wind Energy Center – CALLAHAN_WIND1

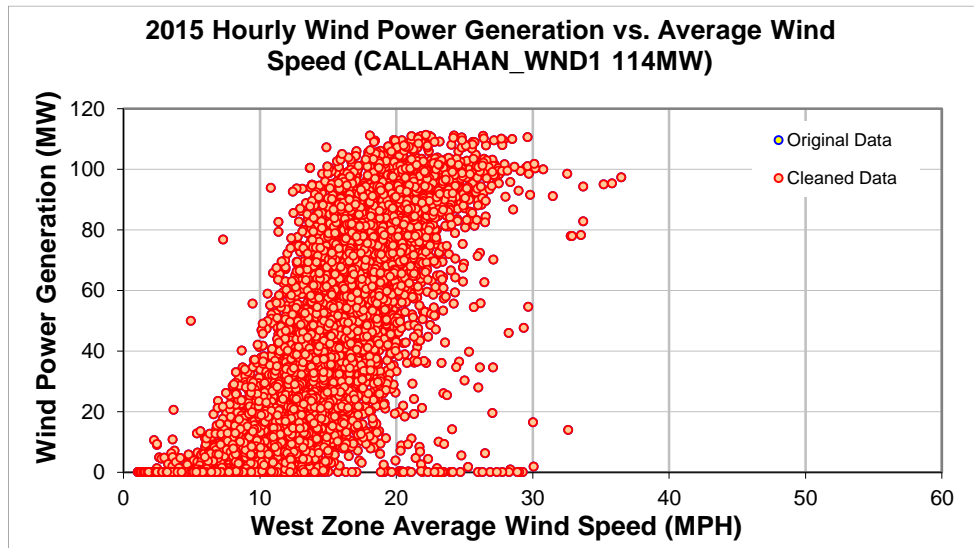


Figure 9-101: CALLAHAN WIND1 – Hourly Wind Power vs. Average Wind Speed (2015)

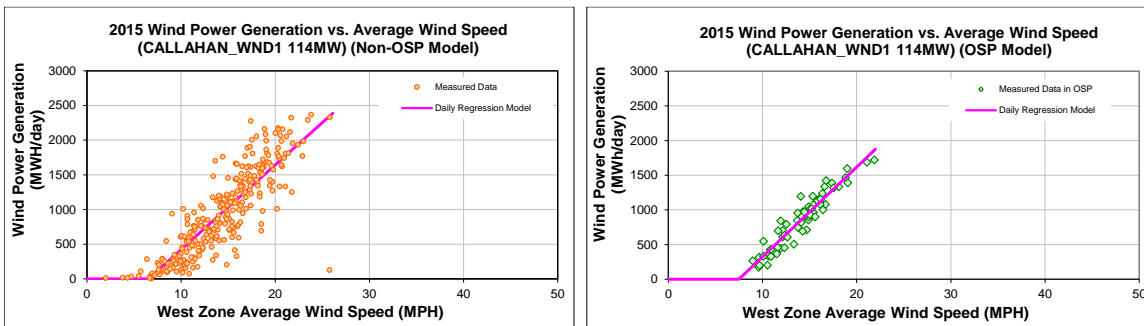


Figure 9-102: CALLAHAN WIND1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-99: CALLAHAN WIND1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-798.0811
Left Slope (MWh/mph-day)	122.0070
RMSE (MWh/day)	314.2163
R2	0.7373
CV-RMSE	33.1%
Daily Maximum (MWh/day)	2736

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-968.1090
Left Slope (MWh/mph-day)	129.2349
RMSE (MWh/day)	122.3062
R2	0.9020
CV-RMSE	14.0%
Daily Maximum (MWh/day)	2736

Table 9-100: CALLAHAN WIND1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.70	26,650	18,834	29.33%	34%	24%
Feb-15	26	14.60	30,319	25,572	15.66%	43%	36%
Mar-15	30	11.63	20,624	19,119	7.29%	25%	23%
Apr-15	30	15.35	31,839	32,254	-1.30%	39%	39%
May-15	31	16.18	35,140	36,442	-3.71%	41%	43%
Jun-15	30	14.18	27,363	27,948	-2.14%	33%	34%
Jul-15	31	15.36	33,568	32,309	3.75%	40%	38%
Aug-15	31	13.34	23,739	23,424	1.33%	28%	28%
Sep-15	30	14.14	24,279	26,876	-10.70%	30%	33%
Oct-15	31	13.95	23,667	28,028	-18.43%	28%	33%
Nov-15	29	15.58	27,588	32,450	-17.62%	35%	41%
Dec-15	30	15.61	30,149	33,301	-10.45%	37%	41%
Total	358	14.31	334,924	336,558	-0.49%	34%	34%
Total in OSP (07/15-09/15)	63	14.23	54,845	54,845	0.00%	32%	32%

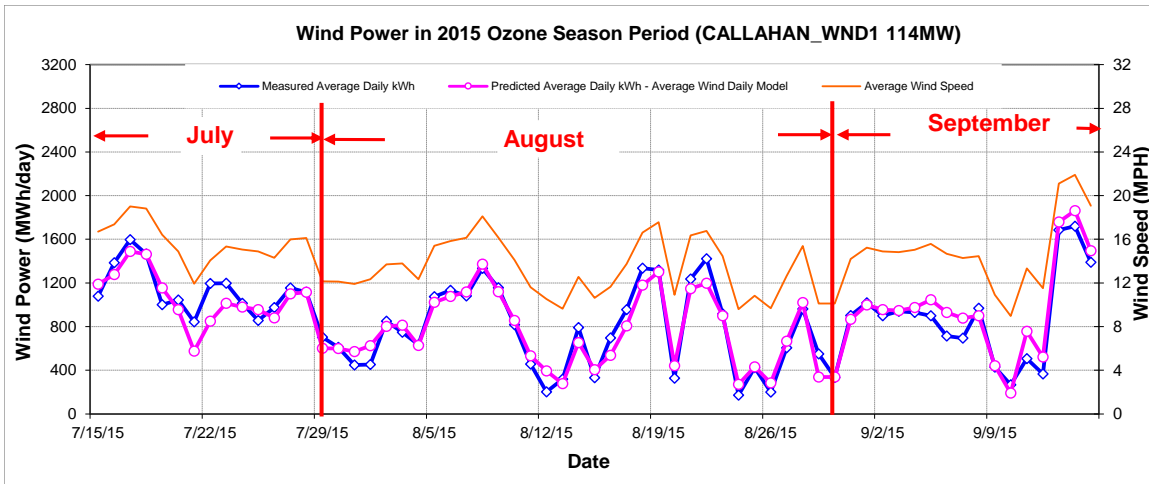


Figure 9-103: CALLAHAN WIND1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

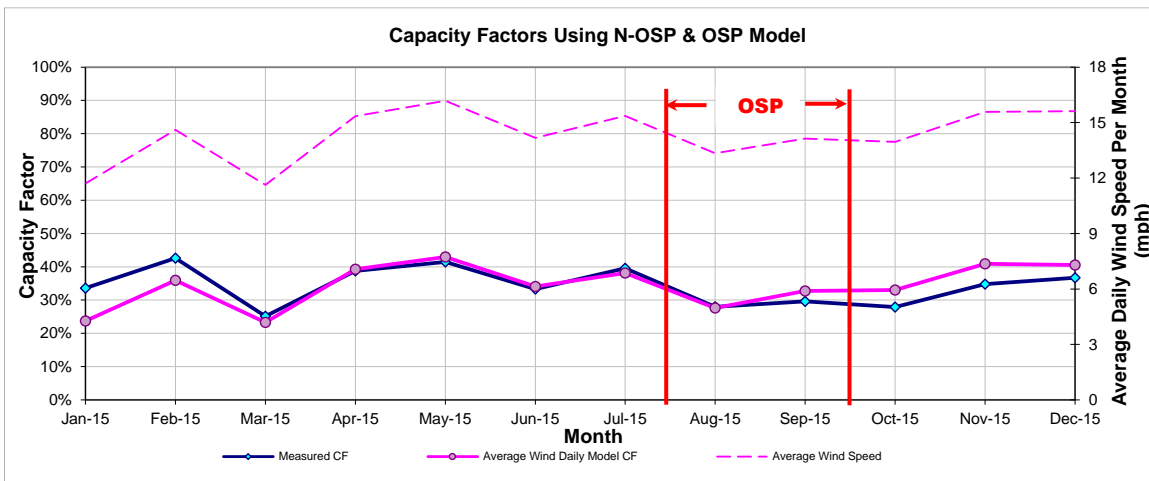


Figure 9-104: CALLAHAN WIND1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-101: CALLAHAN WIND1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
220,757	341,472	234	871

9.23 Harbor Wind Project

Table 9-102: Site Information for Harbor Wind Project

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
DG_NUECE_6UNITS	Wind	-	Nueces	Mar-12	9	Revolution Energy	Harbor Wind	-	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
DG_NUECE_6UNITS	DG_NUECE_6UNITS	9

9.23.1 Harbor Wind Project – DG_NUECE_6UNITS

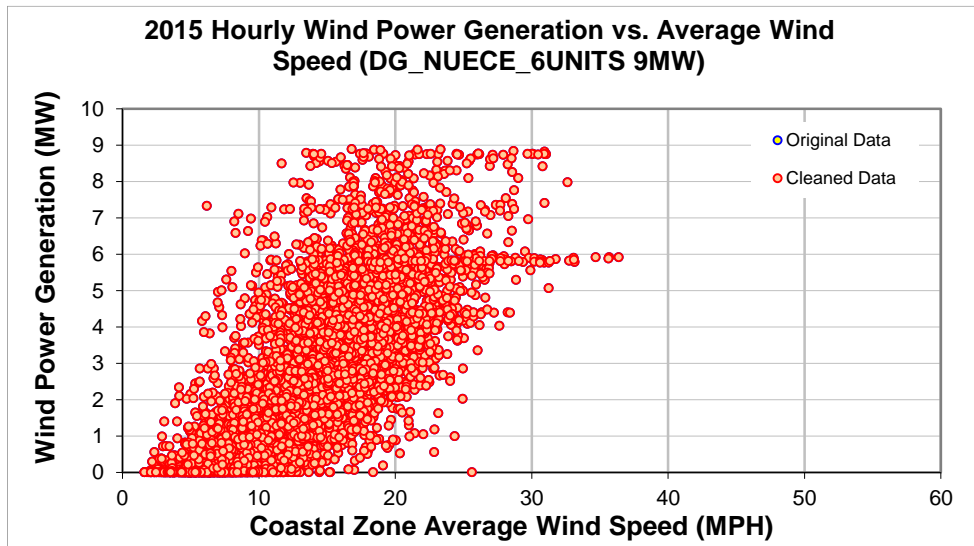


Figure 9-105: DG_NUECE_6UNITS – Hourly Wind Power vs. Average Wind Speed (2015)

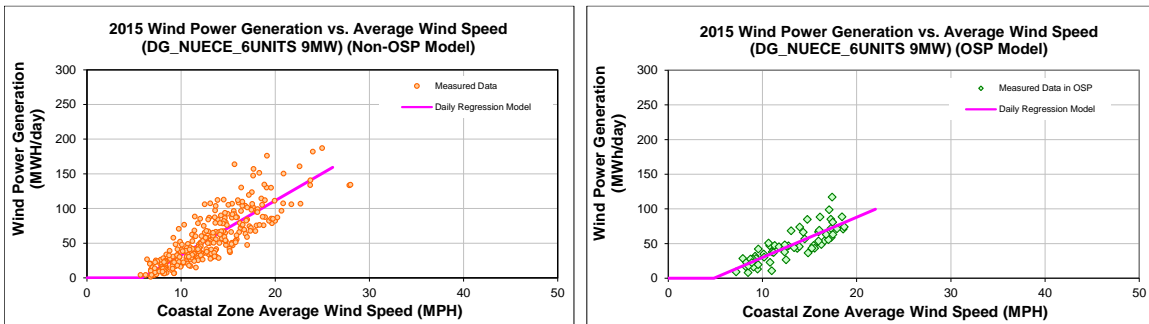


Figure 9-106: DG_NUECE_6UNITS – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-103: DG_NUECE_6UNITS – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-45.7180
Left Slope (MWh/mph-day)	7.8548
RMSE (MWh/day)	20.0388
R2	0.7220
CV-RMSE	36.1%
Daily Maximum (MWh/day)	216

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-28.1568
Left Slope (MWh/mph-day)	5.8069
RMSE (MWh/day)	13.2835
R2	0.6954
CV-RMSE	27.7%
Daily Maximum (MWh/day)	216

Table 9-104: DG_NUECE_6UNITS – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	1,908	1,387	27.32%	28%	21%
Feb-15	28	13.26	1,988	1,636	17.71%	33%	27%
Mar-15	31	11.79	1,510	1,453	3.78%	23%	22%
Apr-15	30	13.30	1,587	1,762	-11.00%	24%	27%
May-15	31	16.69	2,502	2,647	-5.79%	37%	40%
Jun-15	30	12.94	1,240	1,678	-35.30%	19%	26%
Jul-15	31	16.20	1,697	2,274	-34.05%	25%	34%
Aug-15	31	11.97	1,394	1,281	8.10%	21%	19%
Sep-15	30	10.47	1,088	980	9.98%	17%	15%
Oct-15	31	11.17	1,481	1,303	12.04%	22%	19%
Nov-15	30	11.95	1,687	1,444	14.40%	26%	22%
Dec-15	31	13.81	1,705	1,945	-14.03%	25%	29%
Total	365	12.93	19,788	19,789	0.00%	25%	25%
Total in OSP (07/15-09/15)	63	13.11	3,024	3,024	0.00%	22%	22%

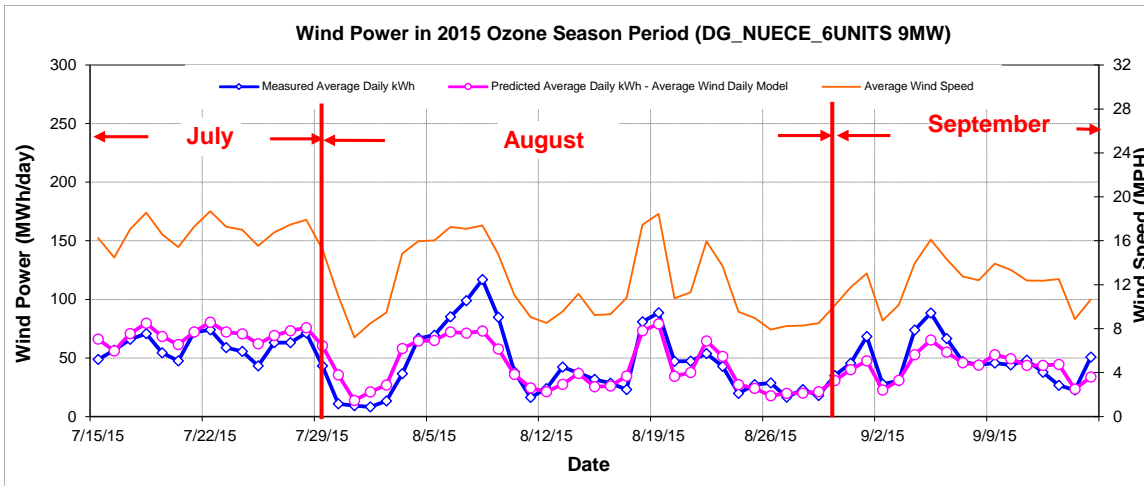


Figure 9-107: DG_NUECE_6UNITS – Predicted Wind Power in OSP Using Average Wind Speed (2015)

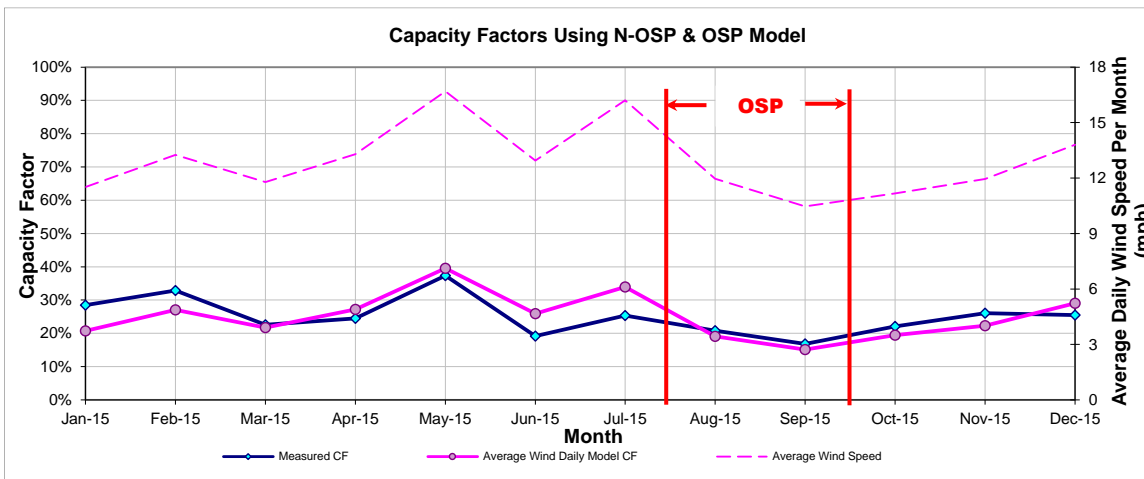


Figure 9-108: DG_NUECE_6UNITS – Predicted Capacity Factors Using Daily Models (2015)

Table 9-105: DG_NUECE_6UNITS – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
15,999	19,788	24	48

9.24 Horse Hollow Phase 1

Table 9-106: Site Information for Horse Hollow Phase 1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
H_HOLLOW_WND1	Wind	Abilene	Taylor	Oct-05	213	FPL Energy	Horse Hollow 1	GE Energy 1.5 MW (142)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
H_HOLLOW_WND1	H_HOLLOW_WND1	213

9.24.1 Horse Hollow Phase 1 – H_HOLLOW_WND1

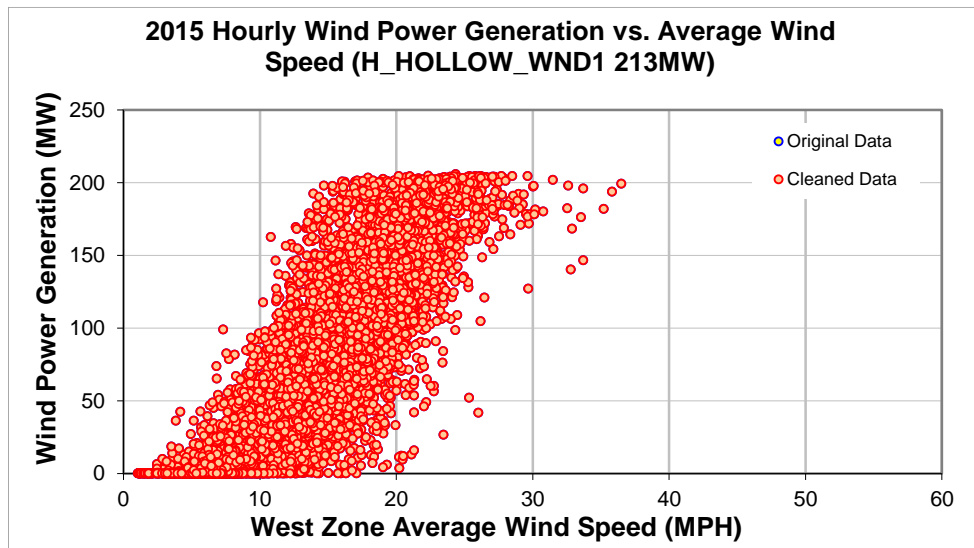


Figure 9-109: H_HOLLOW_WND1– Hourly Wind Power vs. Average Wind Speed (2015)

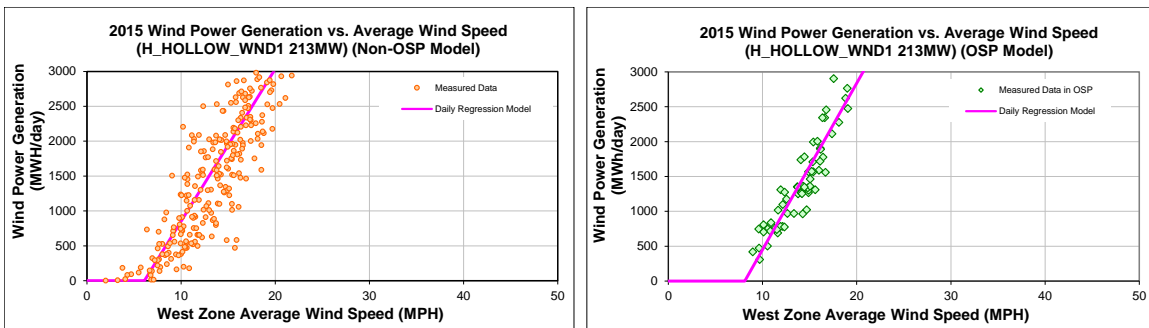


Figure 9-110: H_HOLLOW_WND1– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-107: H_HOLLOW_WND1– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1333.6028
Left Slope (MWh/mph-day)	218.5559
RMSE (MWh/day)	525.4606
R2	0.7701
CV-RMSE	29.6%
Daily Maximum (MWh/day)	5112

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1933.9896
Left Slope (MWh/mph-day)	238.4377
RMSE (MWh/day)	267.0436
R2	0.8679
CV-RMSE	18.3%
Daily Maximum (MWh/day)	5112

Table 9-108: H_HOLLOW_WND1– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	53,038	36,392	31.39%	35%	24%
Feb-15	26	14.60	54,406	48,305	11.21%	41%	36%
Mar-15	30	11.63	37,952	36,938	2.67%	25%	24%
Apr-15	30	15.35	59,417	60,658	-2.09%	39%	40%
May-15	31	16.18	61,895	68,256	-10.28%	39%	43%
Jun-15	30	14.18	45,507	52,945	-16.34%	30%	35%
Jul-15	31	15.36	55,977	57,608	-2.91%	35%	36%
Aug-15	31	13.34	41,650	38,635	7.24%	26%	24%
Sep-15	30	14.14	41,901	48,154	-14.92%	27%	31%
Oct-15	31	13.95	48,649	53,184	-9.32%	31%	34%
Nov-15	30	15.20	61,972	60,722	2.02%	40%	40%
Dec-15	31	15.34	58,709	62,653	-6.72%	37%	40%
Total	361	14.23	621,073	624,451	-0.54%	34%	34%
Total in OSP (07/15-09/15)	63	14.23	91,875	91,875	0.00%	29%	29%

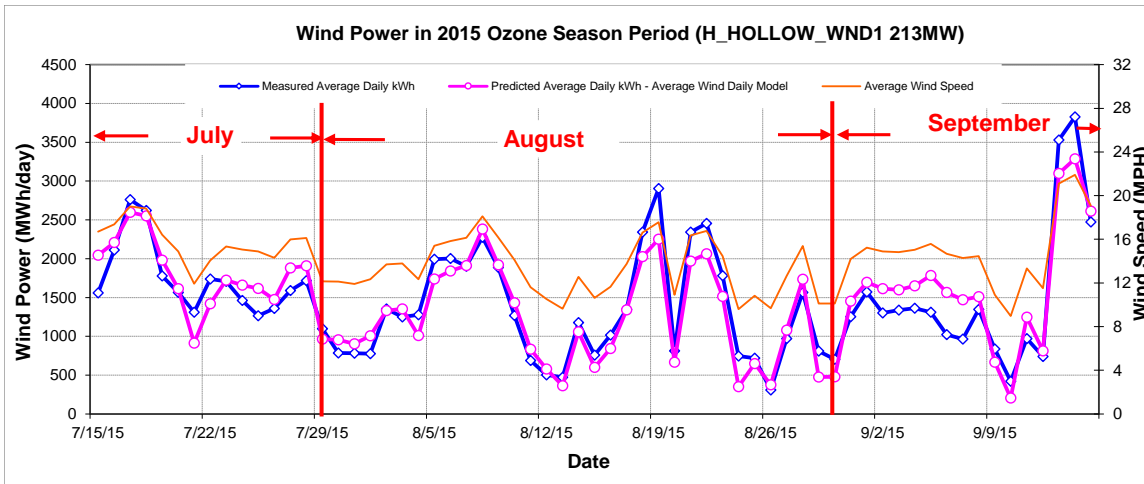


Figure 9-111: H_HOLLOW_WND1– Predicted Wind Power in OSP Using Average Wind Speed (2015)

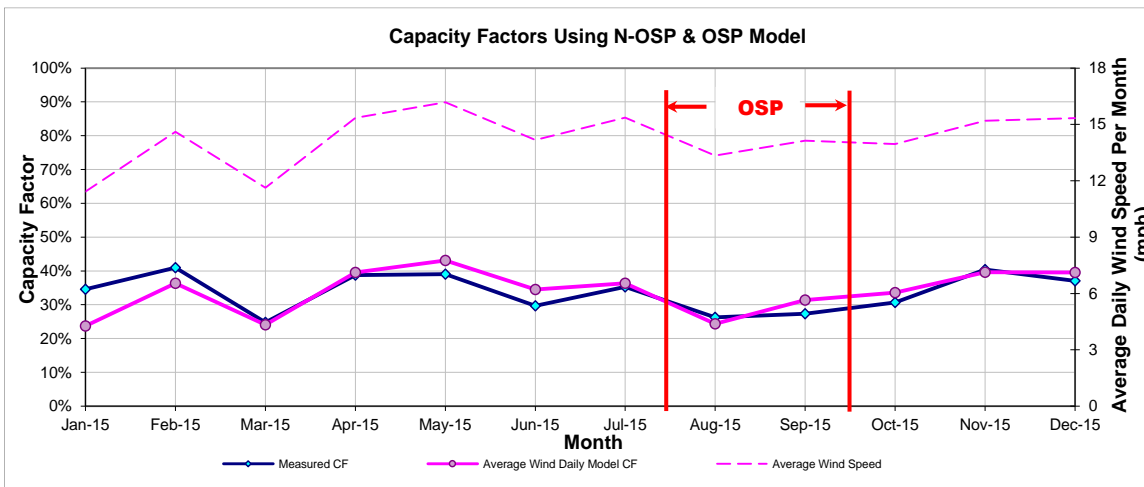


Figure 9-112: H_HOLLOW_WND1– Predicted Capacity Factors Using Daily Models (2015)

Table 9-109: H_HOLLOW_WND1– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
416,712	627,955	343	1,458

9.25 Horse Hollow Phase 2

Table 9-110: Site Information for Horse Hollow Phase 2

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
HHOLLOW2_WIND1	Wind	Abilene	Taylor	May-06	184	FPL Energy	Horse Hollow Phase 2	Mitsubishi 1000 (160)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
HHOLLOW2_WIND1	HHOLLOW2_WIND1	184

9.25.1 Horse Hollow Phase 2 – HHOLLOW2_WIND1

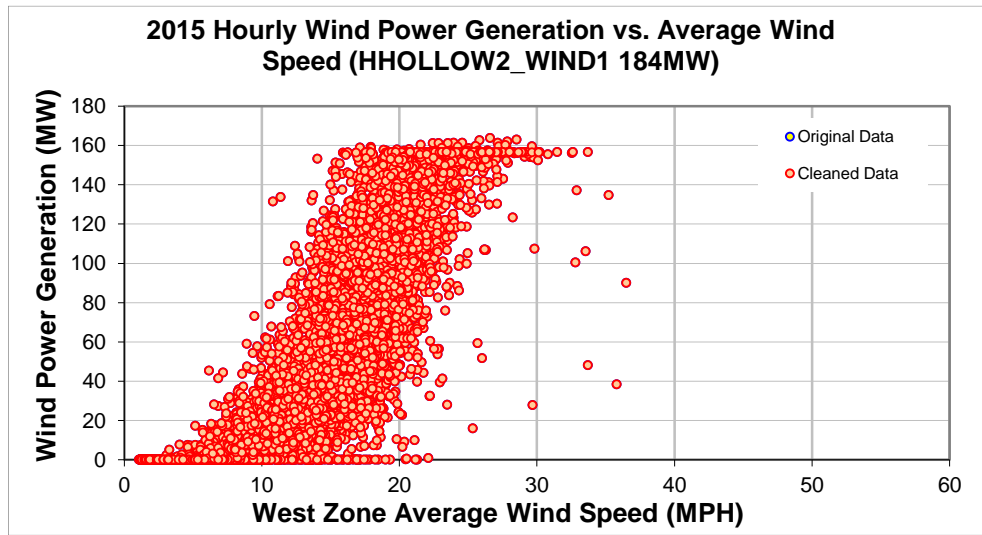


Figure 9-113: HHOLLOW2_WIND1– Hourly Wind Power vs. Average Wind Speed (2015)

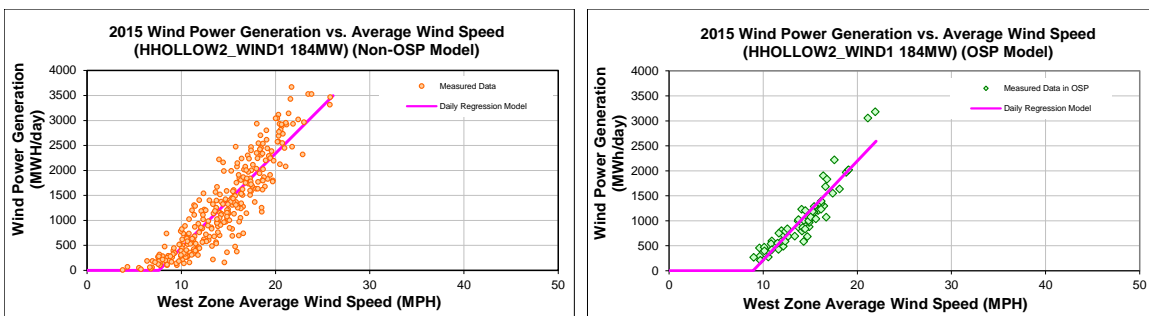


Figure 9-114: HHOLLOW2_WIND1– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-111: HHOLLOW2_WIND1– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1437.0613
Left Slope (MWh/mph-day)	189.0168
RMSE (MWh/day)	386.3827
R2	0.8095
CV-RMSE	30.0%
Daily Maximum (MWh/day)	4416

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1771.9235
Left Slope (MWh/mph-day)	198.3866
RMSE (MWh/day)	231.6302
R2	0.8581
CV-RMSE	22.0%
Daily Maximum (MWh/day)	4416

Table 9-112: HHOLLOW2_WIND1– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	30,280	23,774	21.48%	24%	19%
Feb-15	25	12.13	35,882	34,544	3.73%	33%	31%
Mar-15	29	11.87	23,528	24,577	-4.46%	18%	19%
Apr-15	30	15.35	44,805	43,966	1.87%	34%	33%
May-15	31	16.18	46,080	50,236	-9.02%	34%	37%
Jun-15	30	14.18	34,627	37,278	-7.66%	26%	28%
Jul-15	31	15.36	40,258	42,150	-4.70%	29%	31%
Aug-15	31	13.34	29,037	27,099	6.67%	21%	20%
Sep-15	30	14.14	31,769	34,144	-7.48%	24%	26%
Oct-15	31	13.95	35,024	37,275	-6.43%	26%	27%
Nov-15	29	15.58	48,731	45,032	7.59%	38%	35%
Dec-15	30	15.61	42,628	45,772	-7.38%	32%	35%
Total	355	14.39	442,649	445,848	-0.72%	28%	28%
Total in OSP (07/15-09/15)	63	14.23	66,186	66,186	0.00%	24%	24%

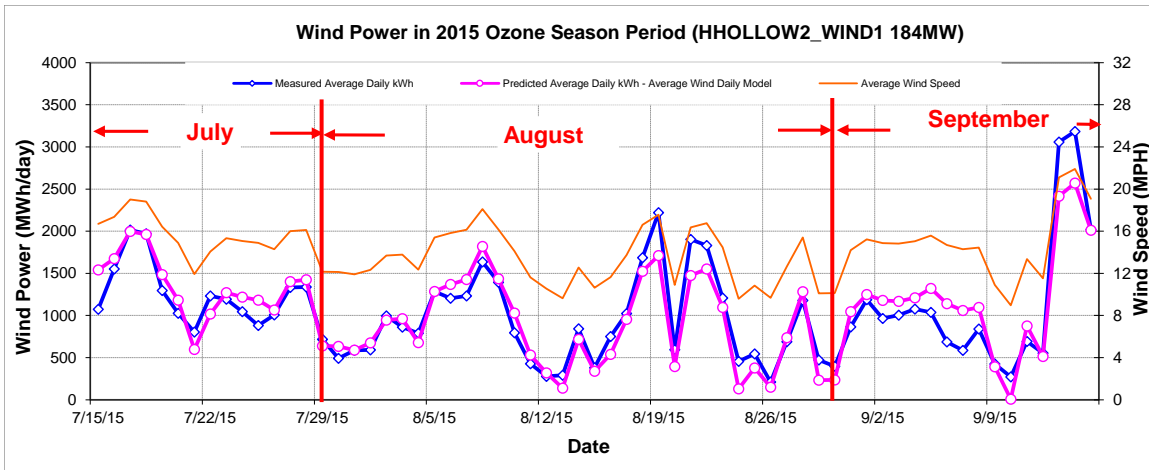


Figure 9-115: HHOLLOW2_WIND1– Predicted Wind Power in OSP Using Average Wind Speed (2015)

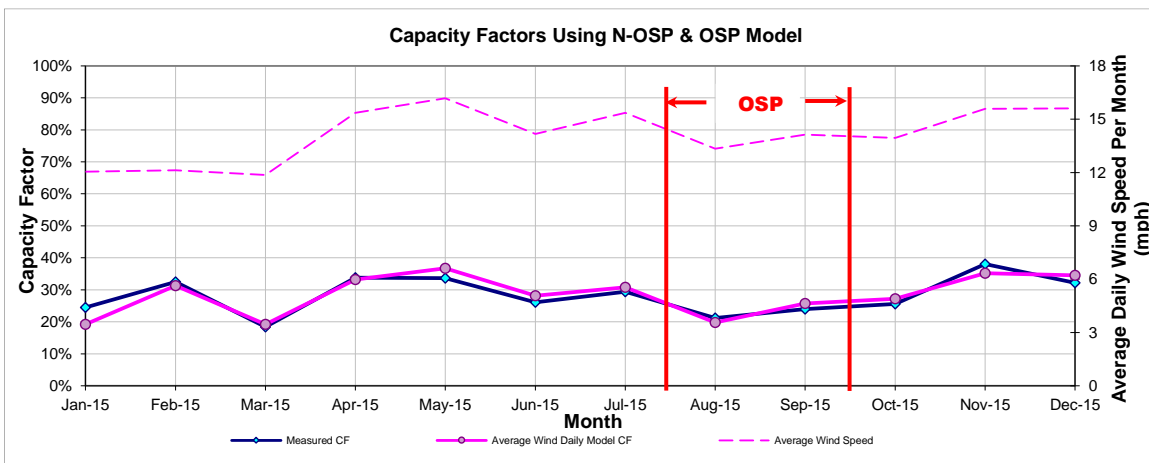


Figure 9-116: HHOLLOW2_WIND1– Predicted Capacity Factors Using Daily Models (2015)

Table 9-113: HHOLLOW2_WIND1– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
281,197	455,118	205	1,051

9.26 Horse Hollow Phase 3

Table 9-114: Site Information for Horse Hollow Phase 3

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
HHOLLOW3_WND_1	Wind	Abilene	Taylor	Sep-06	223.5	FPL Energy	Horse Hollow Phase 3	GE Energy (149)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
HHOLLOW3_WND_1	HHOLLOW3_WND_1	223.5

9.26.1 Horse Hollow Phase 3– HHOLLOW3_WND_3

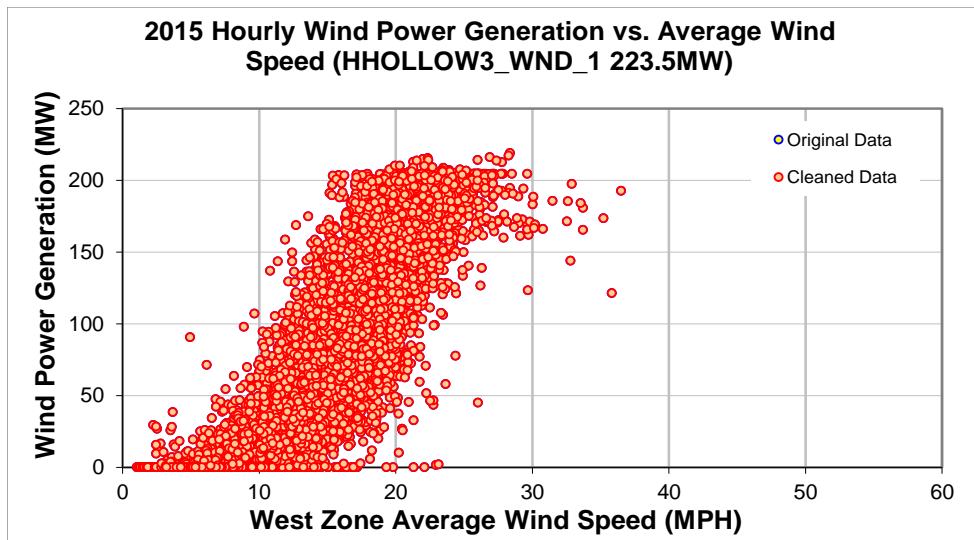


Figure 9-117: HHOLLOW3_WND_3 – Hourly Wind Power vs. Average Wind Speed (2015)

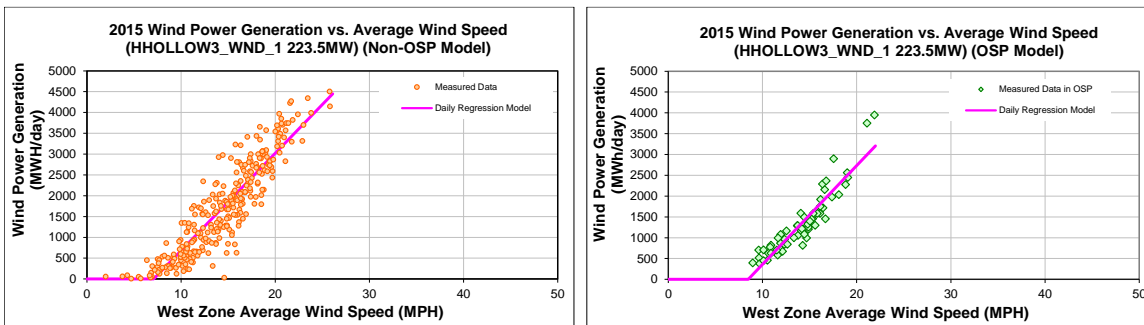


Figure 9-118: HHOLLOW3_WND_3 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-115: HHOLLOW3_WND_3 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1662.0666
Left Slope (MWh/mph-day)	234.1136
RMSE (MWh/day)	476.0685
R2	0.8178
CV-RMSE	28.0%
Daily Maximum (MWh/day)	5364

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-2015.7408
Left Slope (MWh/mph-day)	237.4031
RMSE (MWh/day)	281.4543
R2	0.8543
CV-RMSE	20.7%
Daily Maximum (MWh/day)	5364

Table 9-116: HHOLLOW3_WND_3 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	11.75	42,580	31,879	25.13%	28%	21%
Feb-15	26	14.60	50,605	45,733	9.63%	36%	33%
Mar-15	30	11.63	30,720	33,270	-8.30%	19%	21%
Apr-15	30	15.35	59,079	57,970	1.88%	37%	36%
May-15	31	16.18	62,081	65,876	-6.11%	37%	40%
Jun-15	30	14.18	43,201	49,708	-15.06%	27%	31%
Jul-15	31	15.36	50,285	54,761	-8.90%	30%	33%
Aug-15	31	13.34	38,466	35,673	7.26%	23%	21%
Sep-15	30	14.14	41,064	44,852	-9.22%	26%	28%
Oct-15	31	13.95	47,050	49,730	-5.70%	28%	30%
Nov-15	29	15.58	62,782	58,840	6.28%	40%	38%
Dec-15	29	15.86	55,709	59,785	-7.32%	36%	38%
Total	356	14.33	583,622	588,076	-0.76%	31%	31%
Total in OSP (07/15-09/15)	63	14.23	85,797	85,797	0.00%	25%	25%

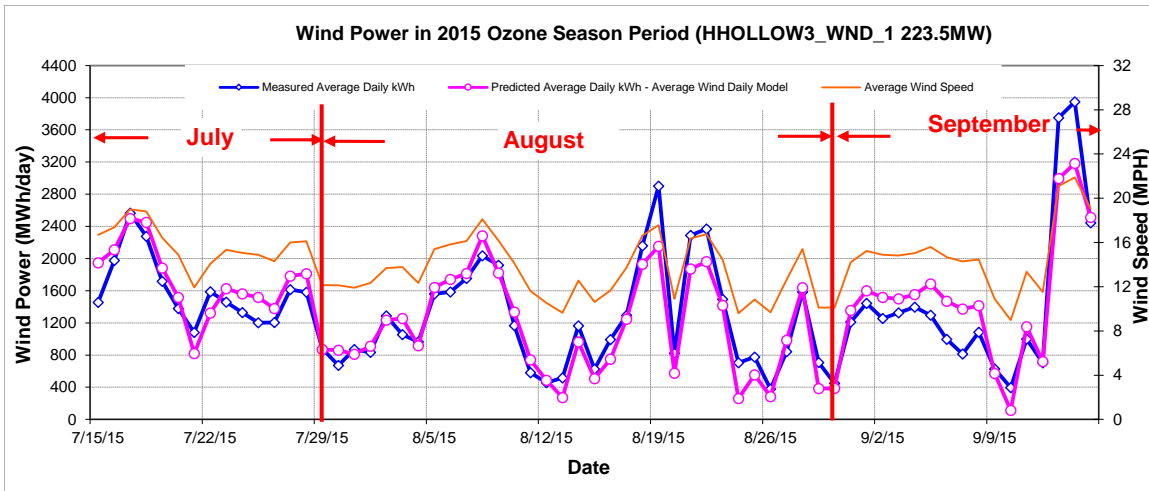


Figure 9-119: HHOLLOW3_WND_3 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

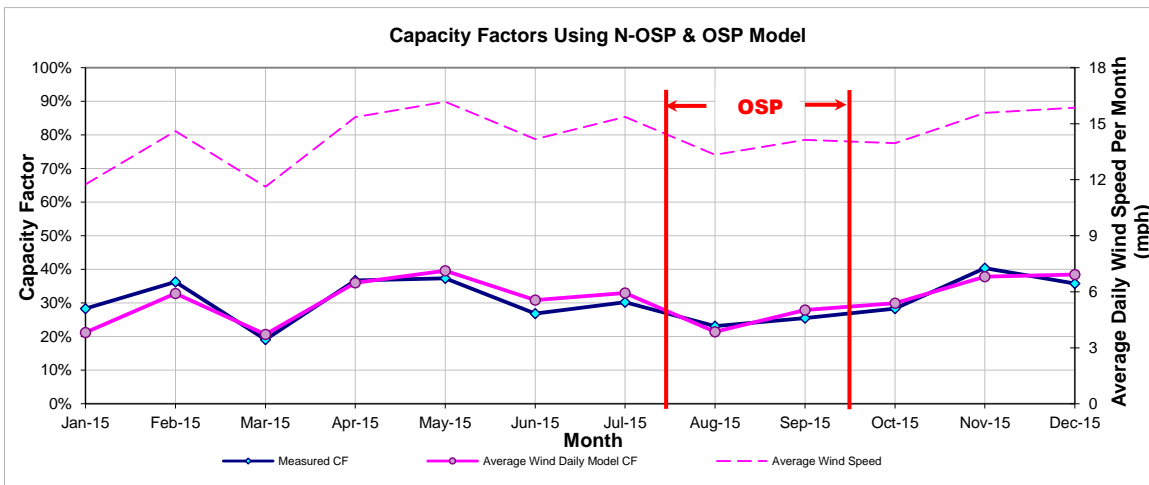


Figure 9-120: HHOLLOW3_WND_3 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-117: HHOLLOW3_WND_3 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
380,000	598,377	295	1,362

9.27 Horse Hollow Phase 4

Table 9-118: Site Information for Horse Hollow Phase 4

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
HHOLLOW4_WND_1	Wind	Abilene	Taylor	May-06	115	FPL Energy	Horse Hollow Phase 4	Siemens	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
HHOLLOW4_WND_1	HHOLLOW4_WND_1	115

9.27.1 Horse Hollow Phase 4 – HHOLLOW4_WND_1

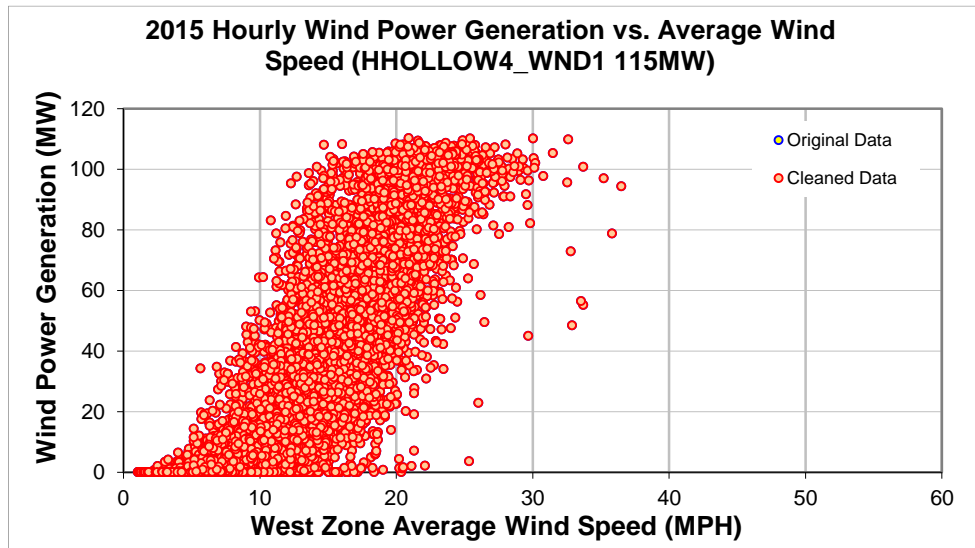


Figure 9-121: HHOLLOW4_WND_1 – Hourly Wind Power vs. Average Wind Speed (2015)

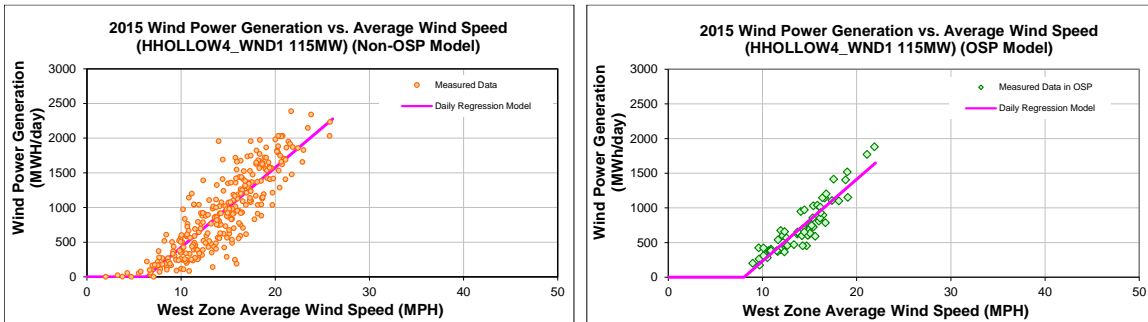


Figure 9-122: HHOLLOW4_WND_1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-119: HHOLLOW4_WND_1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-722.7879
Left Slope (MWh/mph-day)	114.8977
RMSE (MWh/day)	289.5613
R2	0.7490
CV-RMSE	31.5%
Daily Maximum (MWh/day)	2760

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-949.2197
Left Slope (MWh/mph-day)	118.0767
RMSE (MWh/day)	149.8597
R2	0.8365
CV-RMSE	20.5%
Daily Maximum (MWh/day)	2760

Table 9-120: HHOLLOW4_WND_1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	26,233	18,524	29.39%	32%	22%
Feb-15	25	14.91	27,829	24,767	11.00%	40%	36%
Mar-15	30	11.63	19,131	18,811	1.67%	23%	23%
Apr-15	30	15.35	31,542	31,238	0.96%	38%	38%
May-15	31	16.18	30,819	35,211	-14.25%	36%	41%
Jun-15	30	14.18	23,674	27,183	-14.82%	29%	33%
Jul-15	31	15.36	29,357	29,259	0.33%	34%	34%
Aug-15	31	13.34	20,896	19,396	7.18%	24%	23%
Sep-15	30	14.14	19,914	24,360	-22.33%	24%	29%
Oct-15	31	13.95	24,956	27,287	-9.34%	29%	32%
Nov-15	29	15.58	32,829	31,337	4.54%	41%	39%
Dec-15	31	15.34	30,786	32,287	-4.87%	36%	38%
Total	359	14.28	317,966	319,661	-0.53%	32%	32%
Total in OSP (07/15-09/15)	63	14.23	46,033	46,033	0.00%	26%	26%

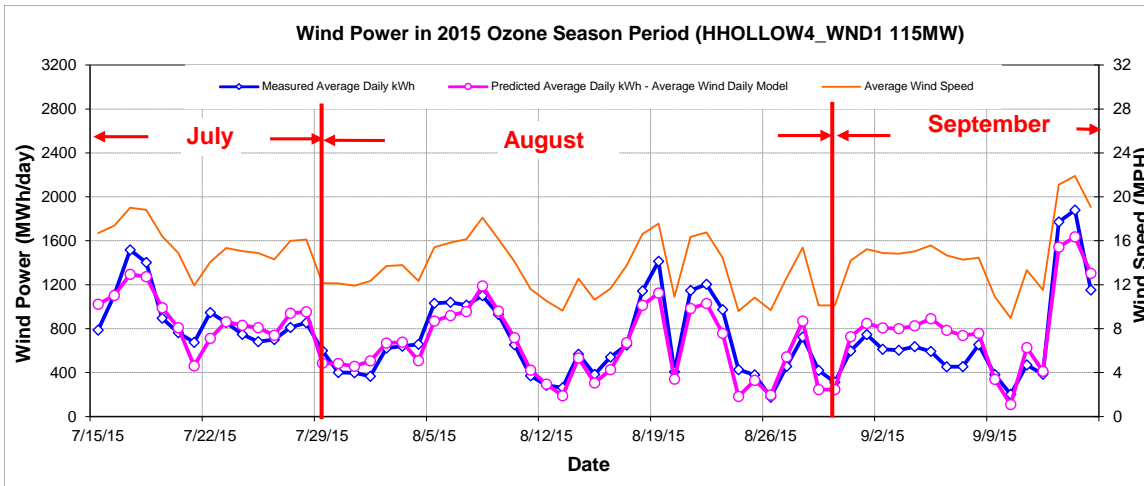


Figure 9-123: HHOLLOW4_WND_1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

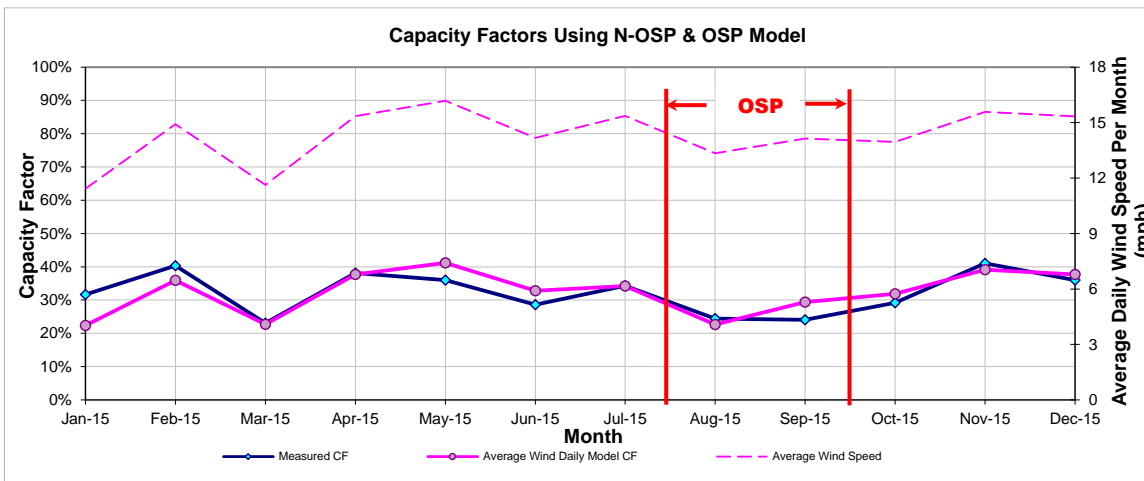


Figure 9-124: HHOLLOW4_WND_1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-121: HHOLLOW4_WND_1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
212,766	323,280	175	731

9.28 Hackberry Wind Farm

Table 9-122: Site Information for Hackberry Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
HWF_HWFG1	Wind	-	Shackleford	Nov-08	165.5	Renewable Energy Systems	Hackberry Wind Farm	Siemens(72)	ERCOT	North	North Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
HWF_HWFG1	HWF_HWFG1	165.5

9.28.1 Hackberry Wind Farm – HWF_HWFG1

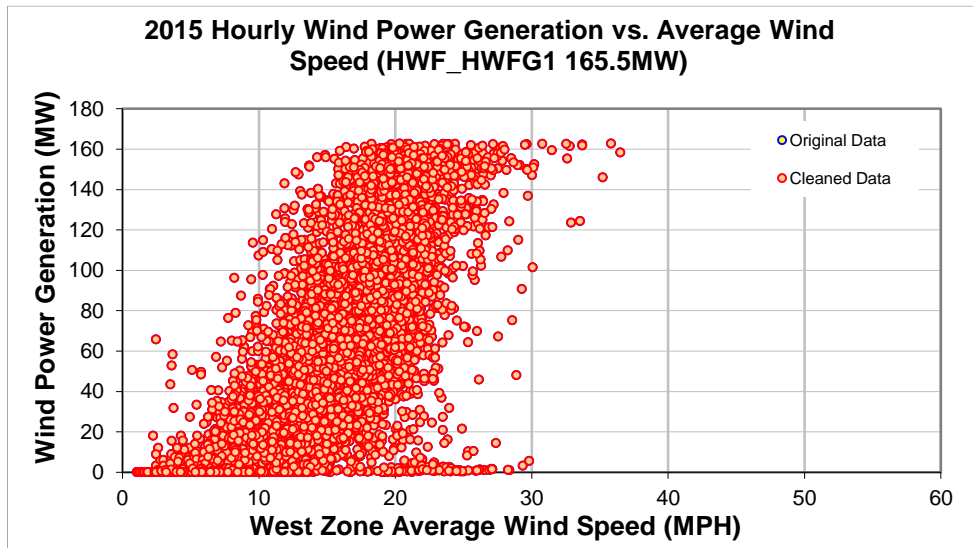


Figure 9-125: HWF_HWFG1 – Hourly Wind Power vs. Average Wind Speed (2015)

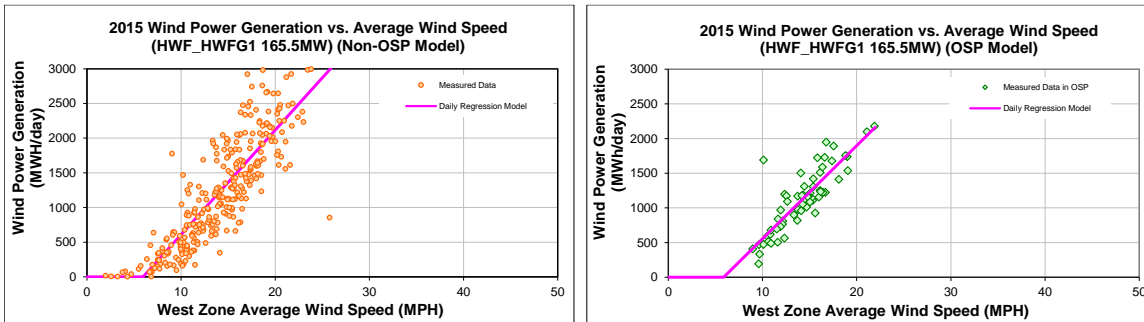


Figure 9-126: HWF_HWFG1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-123: HWF_HWFG1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-900.1353
Left Slope (MWh/mph-day)	150.8059
RMSE (MWh/day)	415.4021
R2	0.7224
CV-RMSE	33.5%
Daily Maximum (MWh/day)	3972

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-789.1864
Left Slope (MWh/mph-day)	134.3060
RMSE (MWh/day)	234.8147
R2	0.7295
CV-RMSE	20.9%
Daily Maximum (MWh/day)	3972

Table 9-124: HWF_HWFG1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	36,130	25,672	28.94%	30%	22%
Feb-15	27	14.16	37,125	33,853	8.81%	35%	32%
Mar-15	30	11.63	29,633	26,049	12.09%	25%	22%
Apr-15	30	15.35	45,026	42,457	5.71%	38%	36%
May-15	31	16.18	42,685	47,720	-11.80%	35%	39%
Jun-15	30	14.18	31,144	37,135	-19.24%	26%	31%
Jul-15	31	15.36	39,353	41,532	-5.54%	32%	34%
Aug-15	31	13.34	32,725	31,068	5.07%	27%	25%
Sep-15	30	14.14	30,810	34,885	-13.22%	26%	29%
Oct-15	31	13.95	33,595	37,320	-11.09%	27%	30%
Nov-15	30	15.20	39,385	42,441	-7.76%	33%	36%
Dec-15	31	15.34	43,672	43,833	-0.37%	35%	36%
Total	362	14.20	441,283	443,964	-0.61%	31%	31%
Total in OSP (07/15-09/15)	63	14.23	70,662	70,662	0.00%	28%	28%

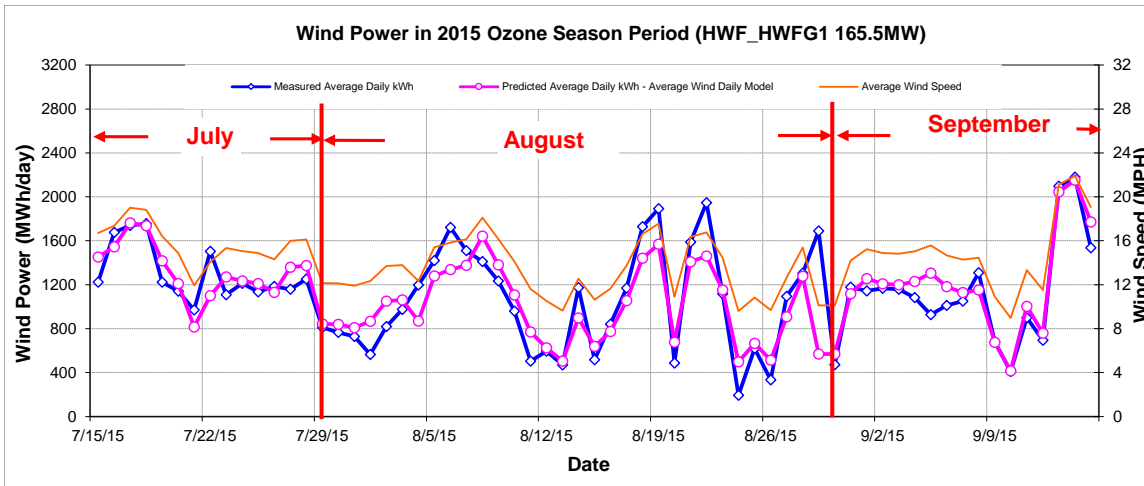


Figure 9-127: HWF_HWFG1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

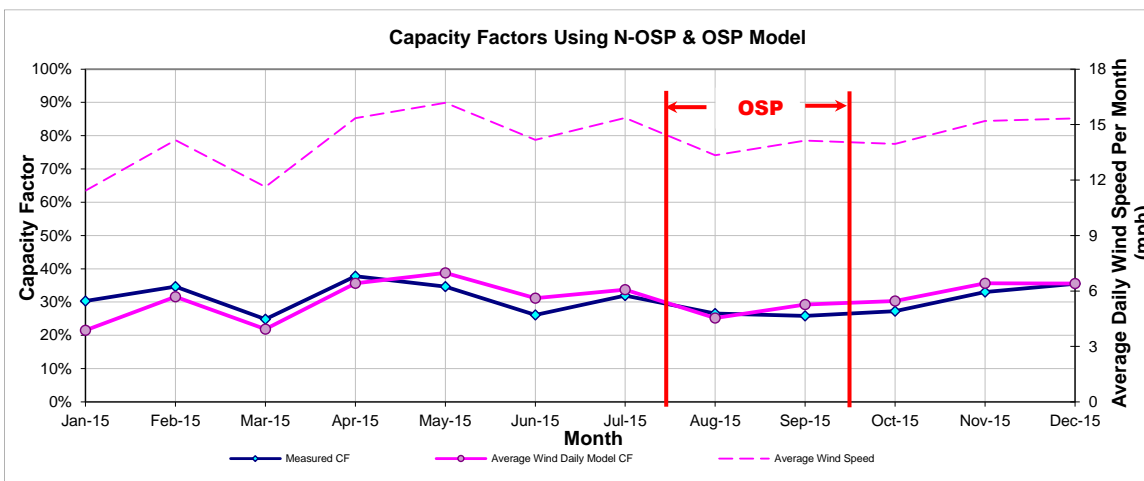


Figure 9-128: HWF_HWFG1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-125: HWF_HWFG1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
303,670	444,940	405	1,122

9.29 Inadale Wind

Table 9-126: Site Information for Inadale Wind

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
INDL_INADALE1	Wind	-	Nolan	Nov-08	197	EOn Climate & Renewables	Inadale	Mitsubishi (197)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
INDL_INADALE1	INDL_INADALE1	197

9.29.1 Inadale Wind – INDL_INADALE1

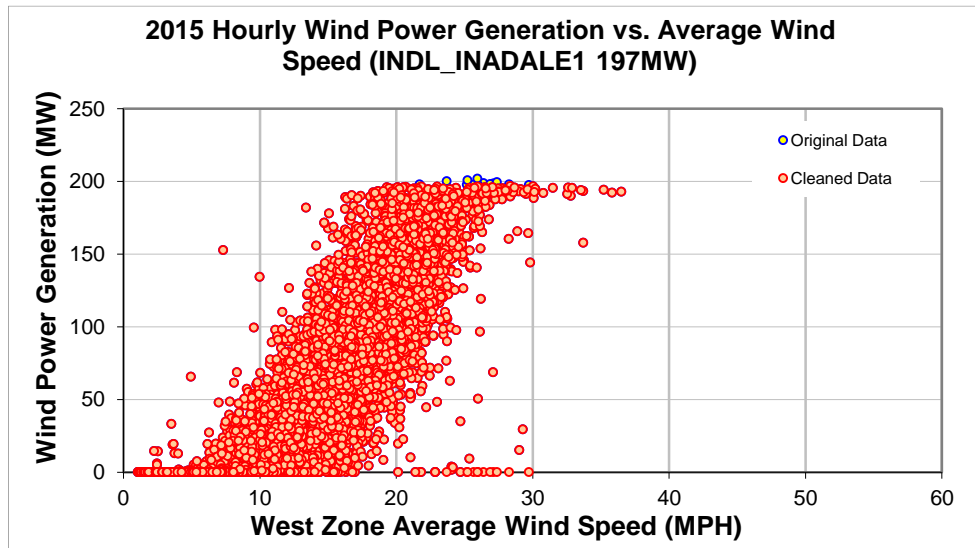


Figure 9-129: INDL_INADALE1 – Hourly Wind Power vs. Average Wind Speed (2015)

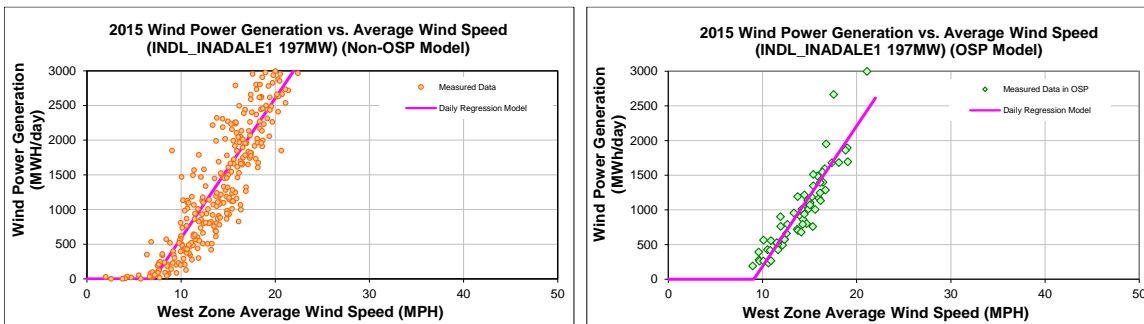


Figure 9-130: INDL_INADALE1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-127: INDL_INADALE1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1429.6560
Left Slope (MWh/mph-day)	201.7233
RMSE (MWh/day)	443.7535
R2	0.8019
CV-RMSE	30.9%
Daily Maximum (MWh/day)	4728

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1834.2974
Left Slope (MWh/mph-day)	202.1219
RMSE (MWh/day)	248.5973
R2	0.8449
CV-RMSE	23.9%
Daily Maximum (MWh/day)	4728

Table 9-128: INDL_INADALE1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.70	42,360	28,166	33.51%	31%	21%
Feb-15	27	14.16	48,371	39,467	18.41%	38%	31%
Mar-15	31	11.39	29,585	28,726	2.90%	20%	20%
Apr-15	30	15.35	51,421	50,023	2.72%	36%	35%
May-15	31	16.18	52,445	56,838	-8.38%	36%	39%
Jun-15	30	14.18	36,031	42,904	-19.08%	25%	30%
Jul-15	31	15.36	38,178	44,936	-17.70%	26%	31%
Aug-15	31	13.34	28,762	26,710	7.14%	20%	18%
Sep-15	30	14.14	31,823	36,693	-15.30%	22%	26%
Oct-15	31	13.95	34,512	42,926	-24.38%	24%	29%
Nov-15	30	15.20	50,148	50,763	-1.23%	35%	36%
Dec-15	30	15.61	50,427	51,865	-2.85%	36%	37%
Total	361	14.22	494,064	500,019	-1.21%	29%	29%
Total in OSP (07/15-09/15)	63	14.23	65,605	65,626	-0.03%	22%	22%

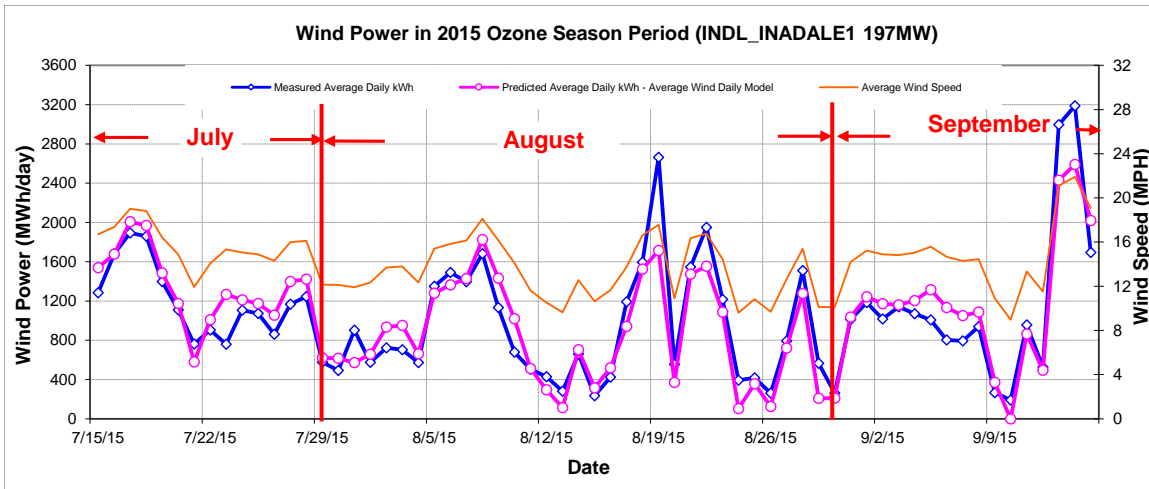


Figure 9-131: INDL_INADALE1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

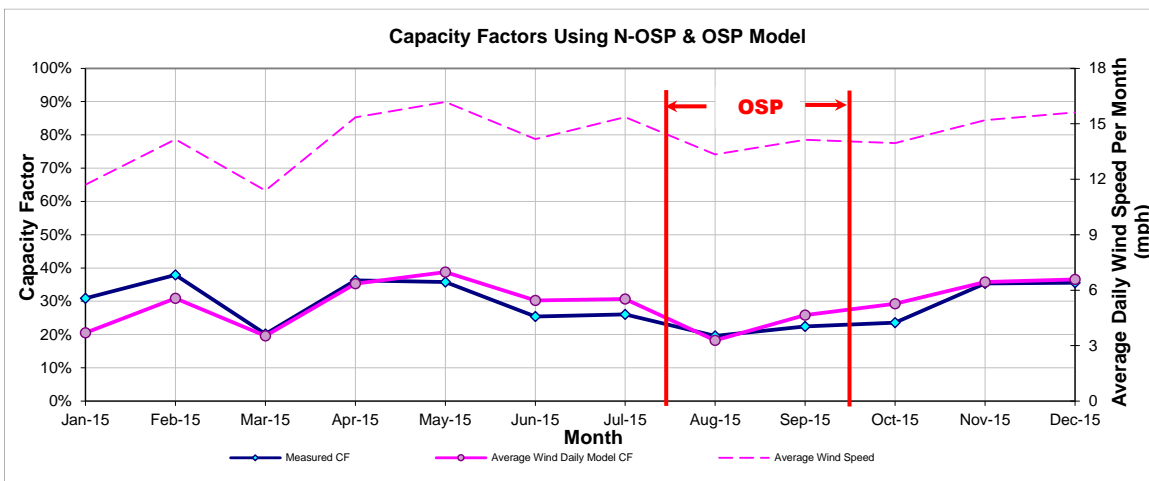


Figure 9-132: INDL_INADALE1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-129: INDL_INADALE1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
324,452	499,538	197	1,041

9.30 Desert Sky

Table 9-130: Site Information for Desert Sky

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
INDNENR	Wind	Iraan	Pecos	Dec-01	160.5	AEP	Desert Sky (Indian Mesa II)	Enron 1500 (107)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
INDNENR_INDNENR	INDNENR	84
INDNENR_INDNENR_2	INDNENR	76.5

9.30.1 Desert Sky – INDNENR_INDNENR

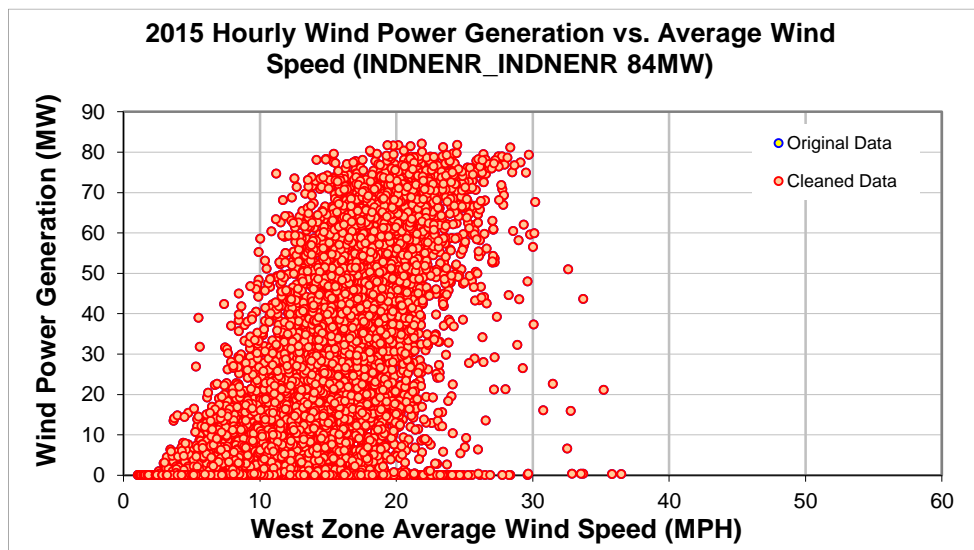


Figure 9-133: INDNENR_INDNENR – Hourly Wind Power vs. Average Wind Speed (2015)

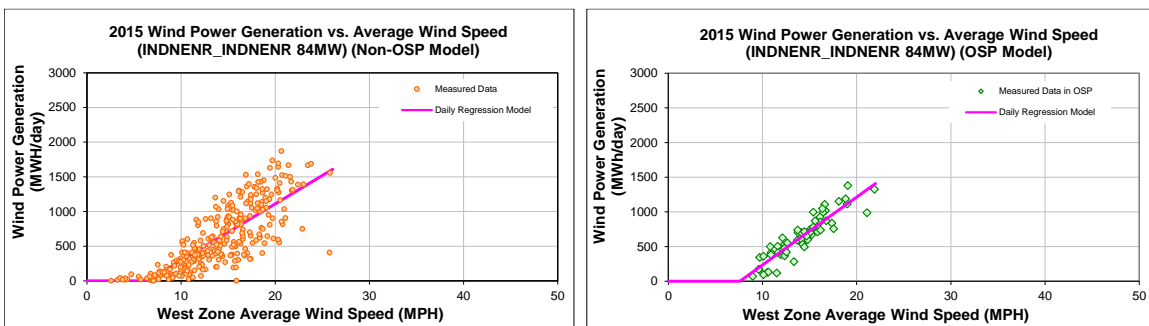


Figure 9-134: INDNENR_INDNENR – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-131: INDNENR_INDNENR – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-526.0356
Left Slope (MWh/mph-day)	81.8560
RMSE (MWh/day)	279.1289
R2	0.6311
CV-RMSE	44.3%
Daily Maximum (MWh/day)	2016

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-745.0828
Left Slope (MWh/mph-day)	97.9402
RMSE (MWh/day)	126.1865
R2	0.8324
CV-RMSE	19.5%
Daily Maximum (MWh/day)	2016

Table 9-132: INDNENR_INDNENR – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	10,641	12,890	-21.13%	18%	22%
Feb-15	28	13.78	14,488	17,401	-20.11%	26%	31%
Mar-15	31	11.39	11,796	13,091	-10.98%	19%	21%
Apr-15	27	15.03	18,412	19,023	-3.32%	34%	35%
May-15	31	16.18	23,961	24,741	-3.26%	38%	40%
Jun-15	30	14.18	23,558	19,033	19.21%	39%	31%
Jul-15	31	15.36	25,567	23,072	9.76%	41%	37%
Aug-15	31	13.34	18,114	17,399	3.95%	29%	28%
Sep-15	30	14.14	19,234	19,276	-0.22%	32%	32%
Oct-15	31	13.95	20,342	19,096	6.13%	33%	31%
Nov-15	30	15.20	22,187	22,025	0.73%	37%	36%
Dec-15	31	15.34	19,552	22,669	-15.94%	31%	36%
Total	360	14.14	227,850	229,715	-0.82%	31%	32%
Total in OSP (07/15-09/15)	63	14.23	40,845	40,845	0.00%	32%	32%

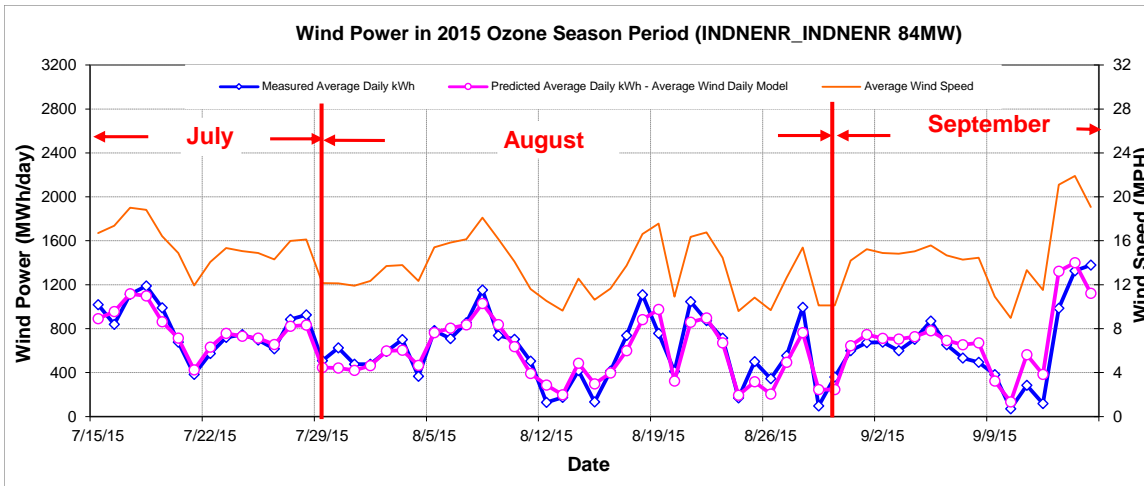


Figure 9-135: INDNENR_INDNENR – Predicted Wind Power in OSP Using Average Wind Speed (2015)

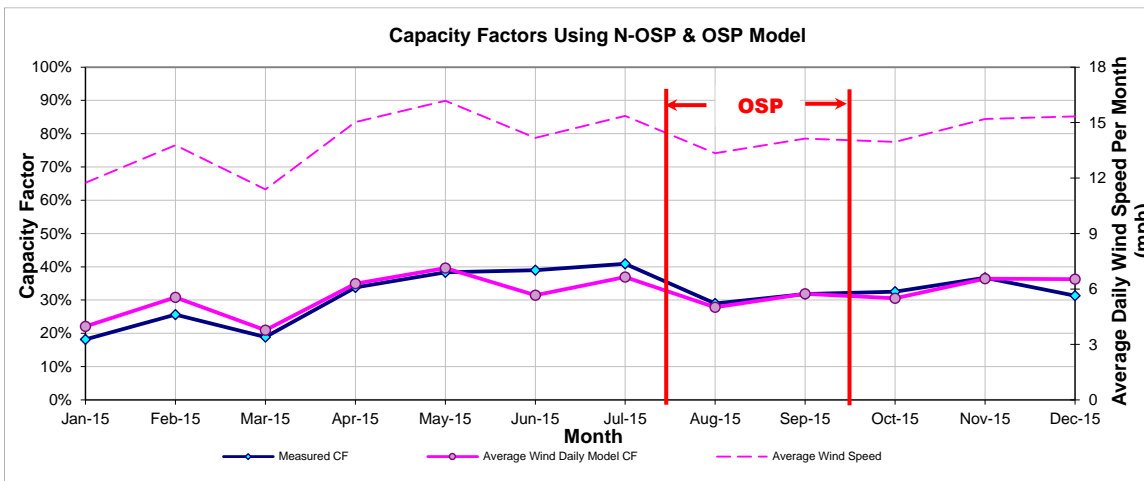


Figure 9-136: INDNENR_INDNENR – Predicted Capacity Factors Using Daily Models (2015)

Table 9-133: INDNENR_INDNENR – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
119,357	214,172	147	624

9.30.2 Desert Sky – INDNENR_INDNENR2

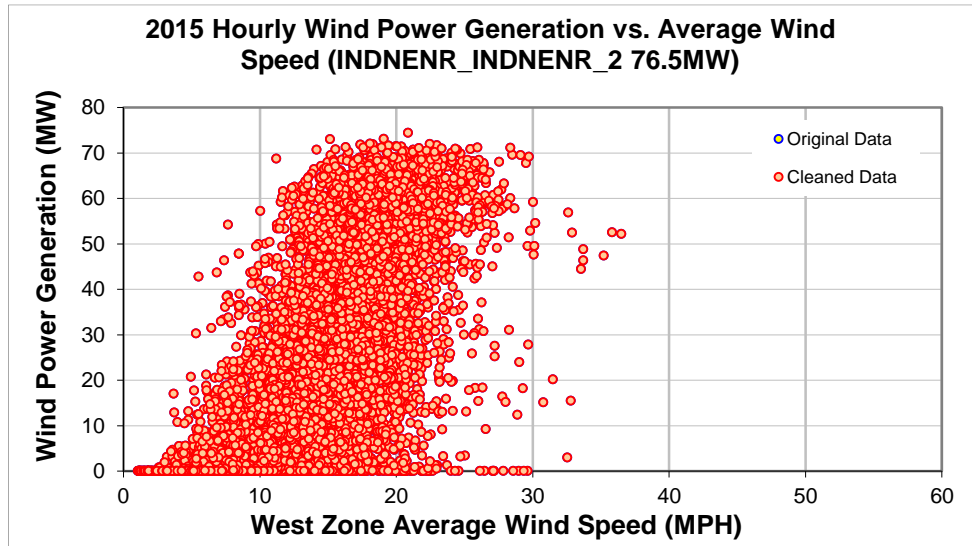


Figure 9-137: INDNENR_INDNENR2 – Hourly Wind Power vs. Average Wind Speed (2015)

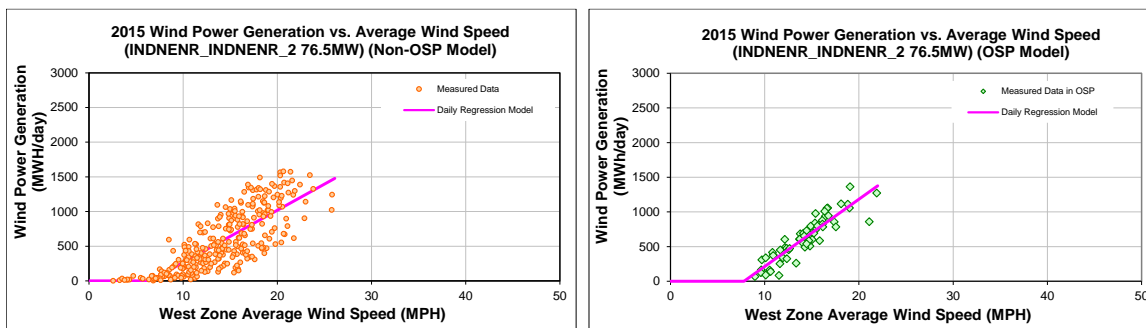


Figure 9-138: INDNENR_INDNENR2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-134: INDNENR_INDNENR2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-486.8270
Left Slope (MWh/mph-day)	75.2664
RMSE (MWh/day)	262.0164
R2	0.6231
CV-RMSE	45.3%
Daily Maximum (MWh/day)	1836

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-753.8096
Left Slope (MWh/mph-day)	96.8108
RMSE (MWh/day)	129.7606
R2	0.8210
CV-RMSE	20.8%
Daily Maximum (MWh/day)	1836

Table 9-135: INDNENR_INDNENR2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	9,283	11,768	-26.77%	17%	22%
Feb-15	28	13.78	13,766	15,919	-15.64%	27%	31%
Mar-15	31	11.39	10,534	11,949	-13.43%	19%	21%
Apr-15	27	15.49	17,353	18,343	-5.71%	35%	37%
May-15	31	16.18	22,485	22,652	-0.74%	40%	40%
Jun-15	30	14.18	22,166	17,406	21.47%	40%	32%
Jul-15	31	15.36	24,674	21,739	11.89%	43%	38%
Aug-15	31	13.34	17,356	16,661	4.01%	30%	29%
Sep-15	30	14.14	18,148	18,171	-0.13%	33%	33%
Oct-15	31	13.95	17,438	17,461	-0.13%	31%	31%
Nov-15	30	15.20	20,170	20,167	0.01%	37%	37%
Dec-15	31	15.34	17,866	20,750	-16.14%	31%	36%
Total	360	14.17	211,238	212,987	-0.83%	32%	32%
Total in OSP (07/15-09/15)	63	14.23	39,283	39,283	0.00%	34%	34%

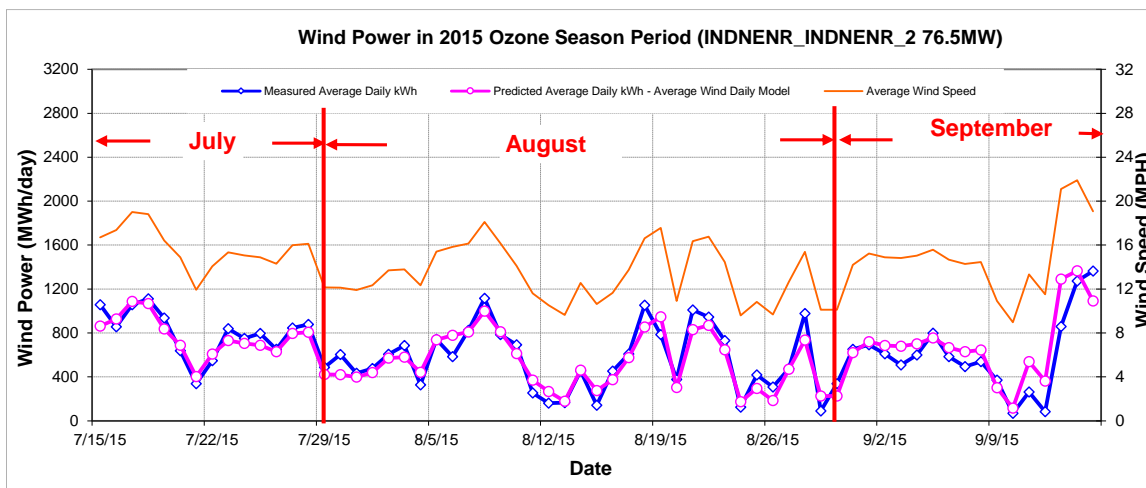


Figure 9-139: INDNENR_INDNENR2 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

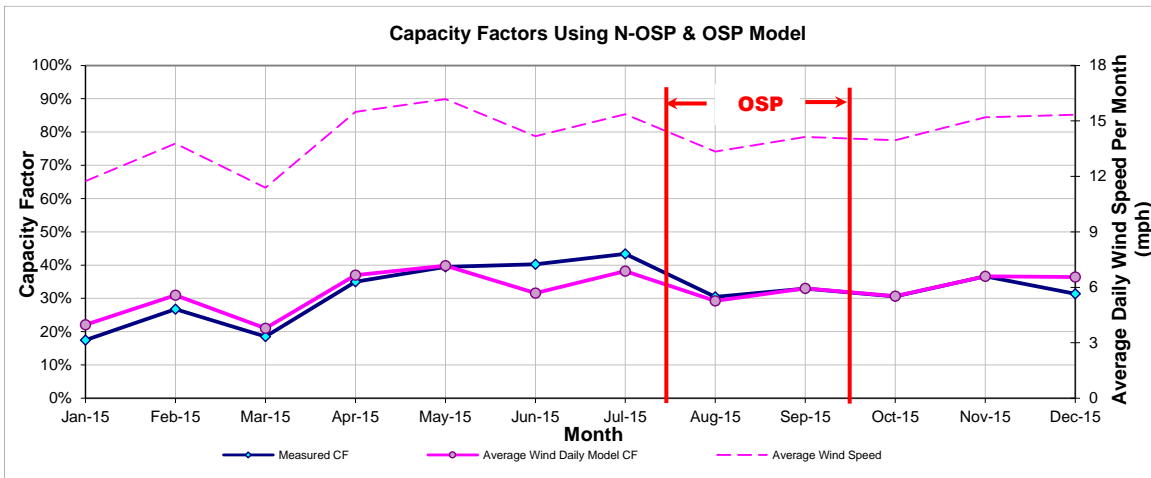


Figure 9-140: INDNENR_INDNENR2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-136: INDNENR_INDNENR2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
119,357	214,172	147	624

9.31 Indian Mesa

Table 9-137: Site Information for Indian Mesa

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
INDNNWP_INDNNWP	Wind	Iraan	Pecos	Jun-01	82.5	Orion Energy/American National Wind Power	Indian Mesa I	Vestas V-47 (125)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
INDNNWP_INDNNWP	INDNNWP_INDNNWP	82.5

9.31.1 Indian Mesa – INDNNWP_INDNNWP

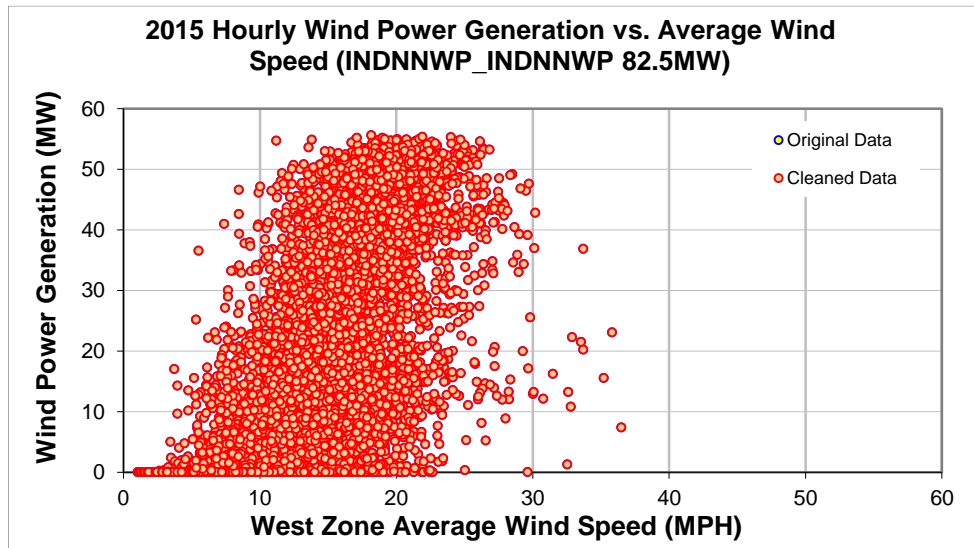


Figure 9-141: INDNNWP_INDNNWP – Hourly Wind Power vs. Average Wind Speed (2015)

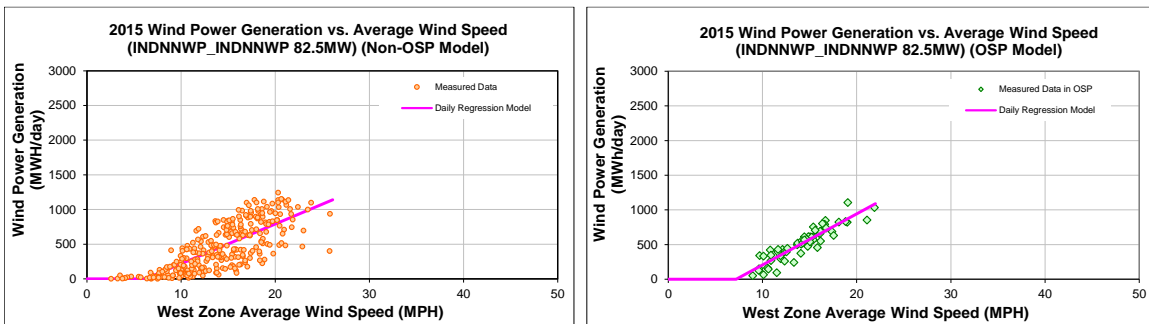


Figure 9-142: INDNNWP_INDNNWP – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-138: INDNNWP_INDNNWP – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-355.8753
Left Slope (MWh/mph-day)	57.3677
RMSE (MWh/day)	219.5462
R2	0.5762
CV-RMSE	48.1%
Daily Maximum (MWh/day)	1980

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-530.6074
Left Slope (MWh/mph-day)	73.6128
RMSE (MWh/day)	94.2207
R2	0.8342
CV-RMSE	18.2%
Daily Maximum (MWh/day)	1980

Table 9-139: INDNNWP_INDNNWP – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	6,144	9,389	-52.82%	11%	16%
Feb-15	28	13.78	11,419	12,528	-9.71%	21%	23%
Mar-15	31	11.39	8,673	9,533	-9.92%	14%	16%
Apr-15	30	15.35	16,074	15,747	2.03%	27%	27%
May-15	31	16.18	19,390	17,736	8.53%	32%	29%
Jun-15	30	14.18	18,735	13,723	26.75%	32%	23%
Jul-15	31	15.36	19,067	17,484	8.30%	31%	28%
Aug-15	31	13.34	14,365	13,988	2.62%	23%	23%
Sep-15	30	14.14	16,458	14,697	10.70%	28%	25%
Oct-15	31	13.95	13,303	13,779	-3.58%	22%	22%
Nov-15	30	15.20	13,694	15,781	-15.24%	23%	27%
Dec-15	31	15.34	12,159	16,271	-33.82%	20%	27%
Total	363	14.17	169,480	170,656	-0.69%	24%	24%
Total in OSP (07/15-09/15)	63	14.23	32,552	32,552	0.00%	26%	26%

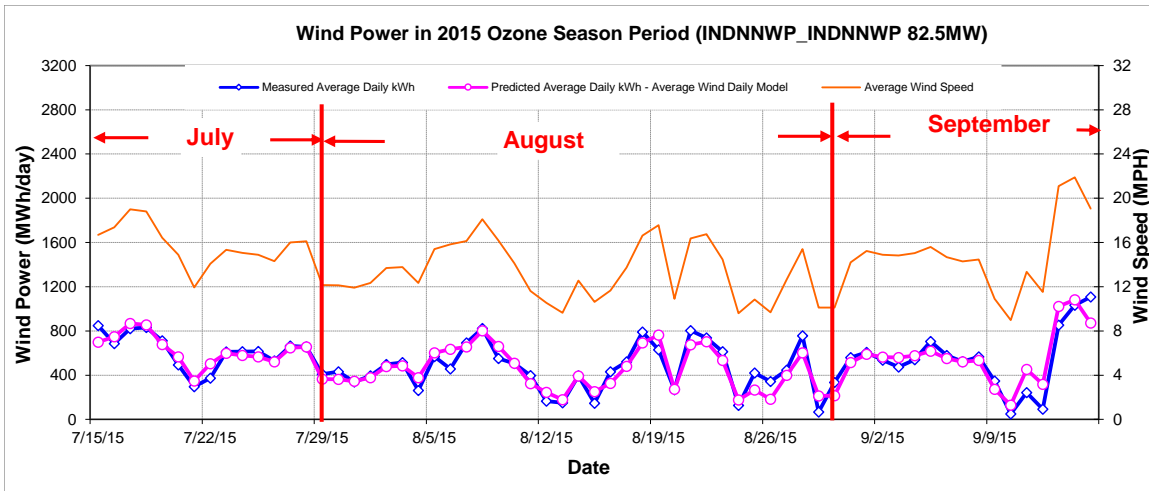


Figure 9-143: INDNNWP_INDNNWP – Predicted Wind Power in OSP Using Average Wind Speed (2015)

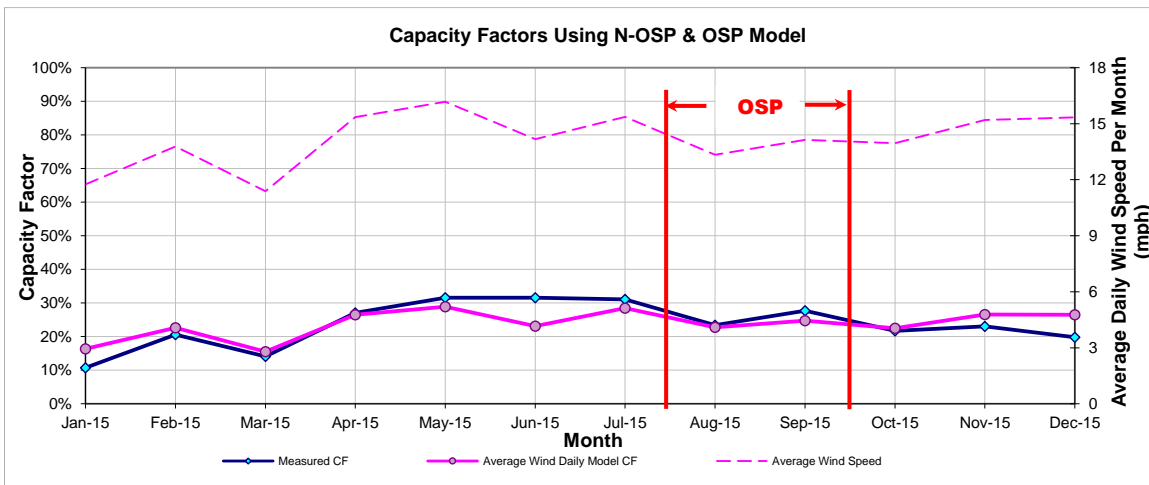


Figure 9-144: INDNNWP_INDNNWP – Predicted Capacity Factors Using Daily Models (2015)

Table 9-140: INDNNWP_INDNNWP – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
97,067	170,414	141	517

9.32 Sherbino 1 Wind Farm

Table 9-141: Site Information for Sherbino 1 Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
KEO_KEO_SM1	Wind	-	Pecos	Sep-08	150	BP Alt. Energy - NRG	Sherbino Mesa Wind Farm	Vestas (50)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
KEO_KEO_SM1	KEO_KEO_SM1	150

9.32.1 Sherbino 1 Wind Farm – KEO_KEO_SM1

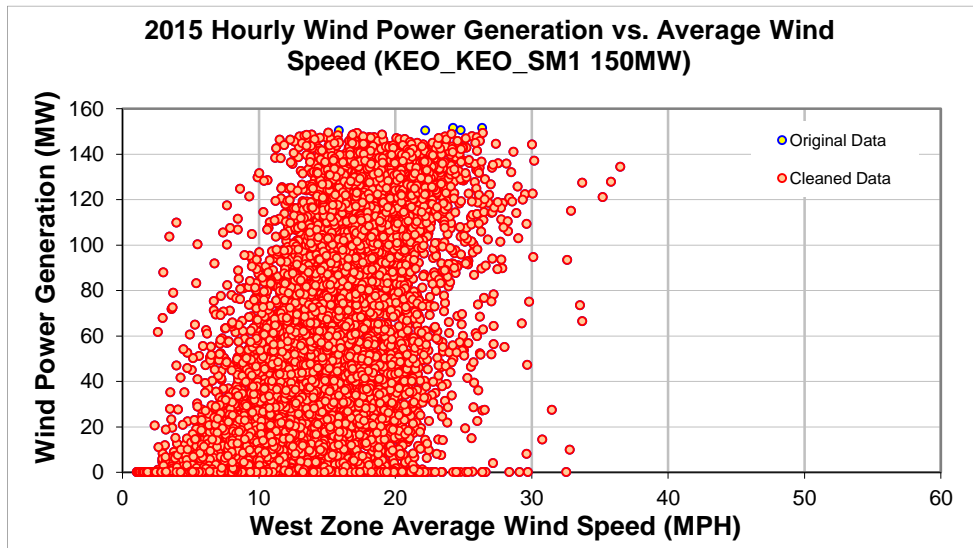


Figure 9-145: KEO_KEO_SM1 – Hourly Wind Power vs. Average Wind Speed (2015)

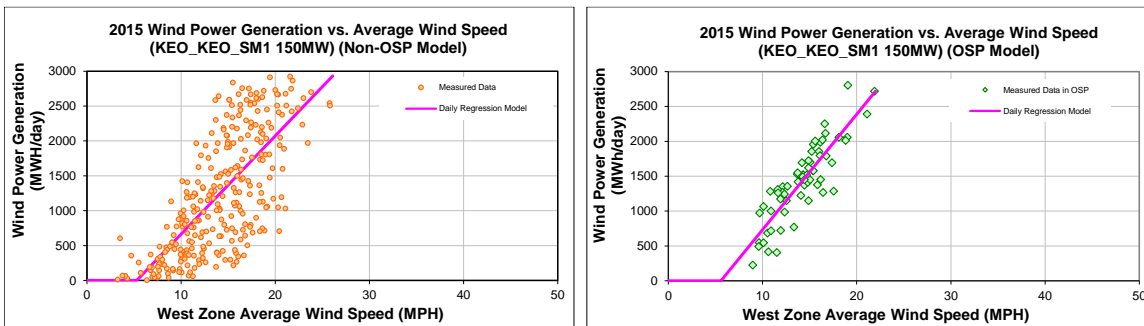


Figure 9-146: KEO_KEO_SM1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-142: KEO_KEO_SM1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-743.9282
Left Slope (MWh/mph-day)	140.8512
RMSE (MWh/day)	612.7228
R2	0.5061
CV-RMSE	48.8%
Daily Maximum (MWh/day)	3600

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-922.8820
Left Slope (MWh/mph-day)	165.4595
RMSE (MWh/day)	269.4925
R2	0.7565
CV-RMSE	18.8%
Daily Maximum (MWh/day)	3600

Table 9-143: KEO_KEO_SM1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	18,598	26,688	-43.50%	18%	26%
Feb-15	26	14.48	30,401	33,915	-11.56%	32%	36%
Mar-15	31	11.39	24,352	27,040	-11.04%	22%	24%
Apr-15	30	15.35	39,391	42,558	-8.04%	36%	39%
May-15	31	16.18	45,813	47,570	-3.84%	41%	43%
Jun-15	30	14.18	50,575	37,587	25.68%	47%	35%
Jul-15	31	15.36	50,694	47,276	6.74%	45%	42%
Aug-15	31	13.34	40,844	39,805	2.54%	37%	36%
Sep-15	30	14.14	43,720	40,282	7.86%	40%	37%
Oct-15	29	13.73	35,059	34,501	1.59%	34%	33%
Nov-15	30	15.20	45,189	42,285	6.43%	42%	39%
Dec-15	31	15.34	37,473	43,905	-17.17%	34%	39%
Total	359	14.21	462,109	463,411	-0.28%	36%	36%
Total in OSP (07/15-09/15)	63	14.23	90,163	90,163	0.00%	40%	40%

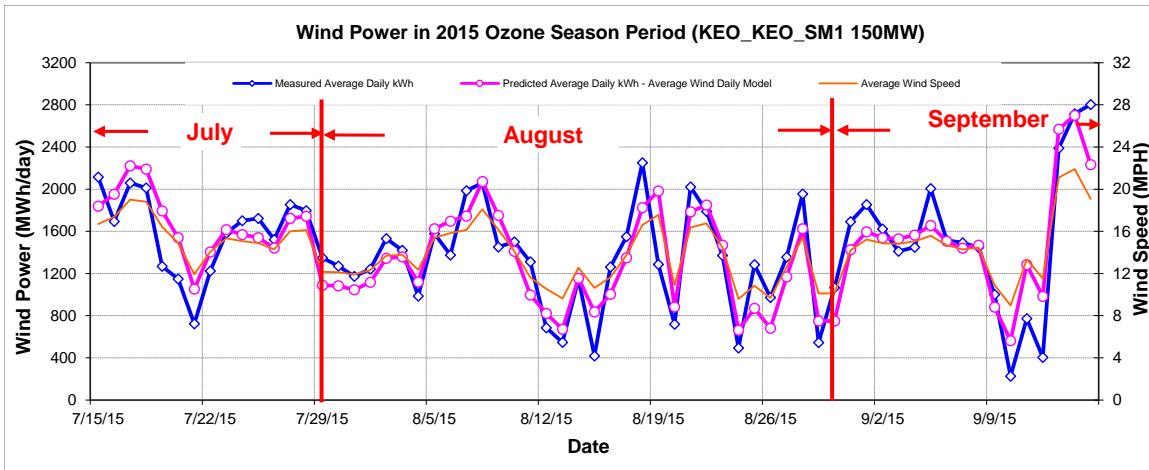


Figure 9-147: KEO_KEO_SM1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

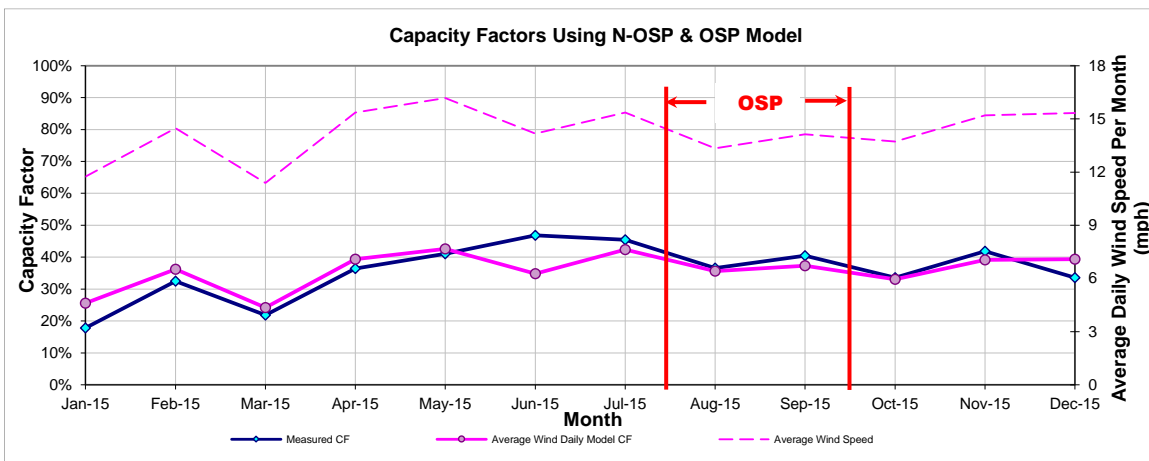


Figure 9-148: KEO_KEO_SM1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-144: KEO_KEO_SM1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
270,809	469,832	527	1,431

9.33 Sherbino 2 Wind Farm

Table 9-145: Site Information for Sherbino 2 Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
KEO_SHRBINO2	Wind	-	PECOS	Nov-11	150	BP Alternative Energy	SHERBINO 2 WIND	-	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
KEO_SHRBINO2	KEO_SHRBINO2	150

9.33.1 Sherbino 2 Wind Farm – KEO_SHRBINO2

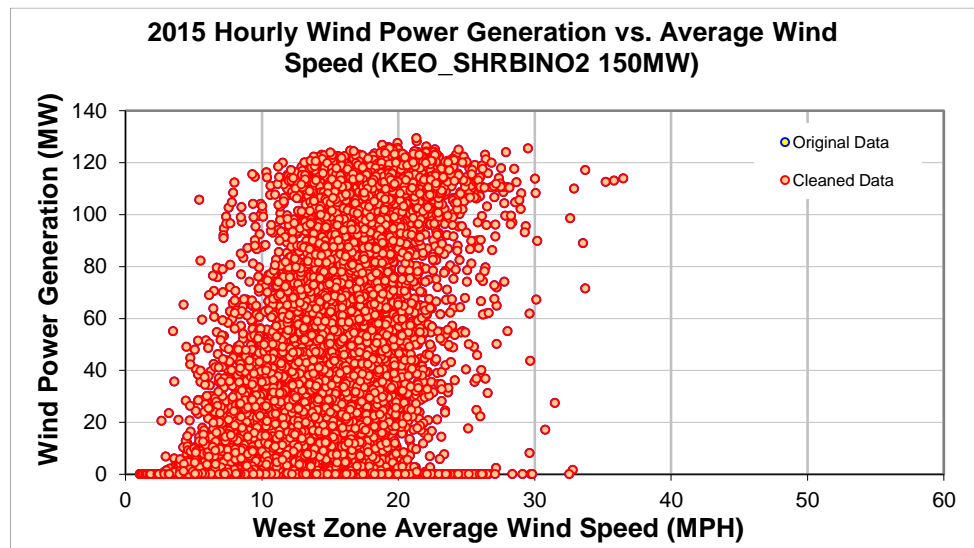


Figure 9-149: KEO_SHRBINO2 – Hourly Wind Power vs. Average Wind Speed (2015)

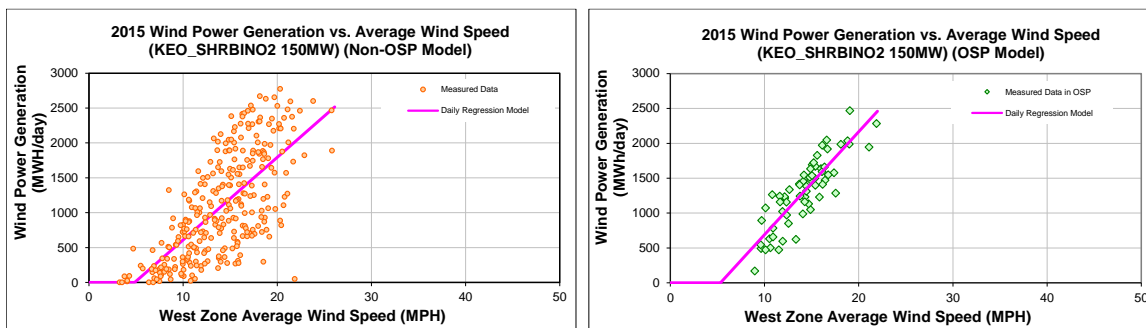


Figure 9-150: KEO_SHRBINO2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-146: KEO_SHRBINO2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-574.1127
Left Slope (MWh/mph-day)	118.4193
RMSE (MWh/day)	536.3695
R2	0.4805
CV-RMSE	49.1%
Daily Maximum (MWh/day)	3600

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-783.9360
Left Slope (MWh/mph-day)	147.3887
RMSE (MWh/day)	250.2680
R2	0.7408
CV-RMSE	19.1%
Daily Maximum (MWh/day)	3600

Table 9-147: KEO_SHRBINO2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	16,569	23,875	-44.09%	16%	23%
Feb-15	27	14.19	24,854	30,033	-20.84%	26%	31%
Mar-15	31	11.39	21,415	24,171	-12.87%	19%	22%
Apr-15	30	15.35	35,802	37,320	-4.24%	33%	35%
May-15	31	16.18	43,344	41,586	4.06%	39%	37%
Jun-15	30	14.18	46,021	33,141	27.99%	43%	31%
Jul-15	31	15.36	47,106	42,457	9.87%	42%	38%
Aug-15	31	13.34	37,909	36,640	3.35%	34%	33%
Sep-15	30	14.14	40,218	36,385	9.53%	37%	34%
Oct-15	29	13.73	29,847	30,495	-2.17%	29%	29%
Nov-15	29	14.91	32,717	34,783	-6.31%	31%	33%
Dec-15	28	14.73	27,126	32,776	-20.83%	27%	33%
Total	356	14.10	402,927	403,663	-0.18%	31%	31%
Total in OSP (07/15-09/15)	63	14.23	82,719	82,719	0.00%	36%	36%

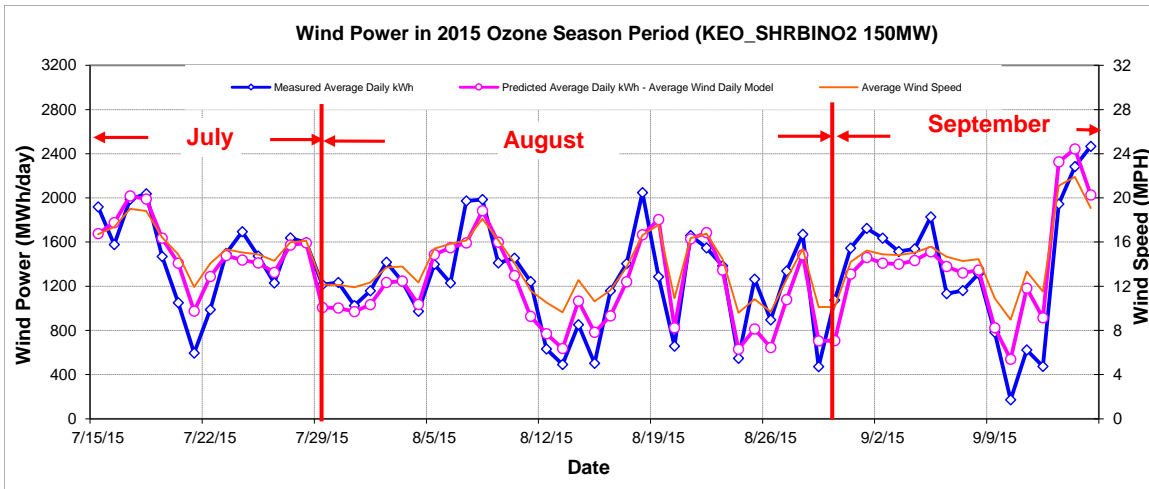


Figure 9-151: KEO_SHRBINO2 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

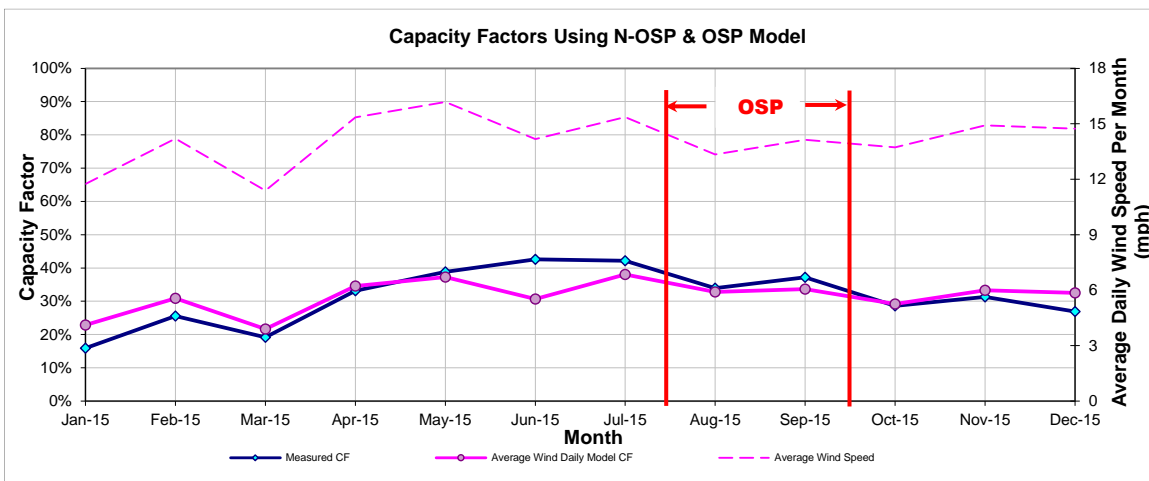


Figure 9-152: KEO_SHRBINO2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-148: KEO_SHRBINO2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
245,833	413,114	504	1,313

9.34 King Mountain Wind Ranch

Table 9-149: Site Information for King Mountain Wind Ranch

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
KING	Wind	McCamey	Upton	Dec-01	278.2	FPL/Cielo	King Mountain Wind Ranch	Bonus 1300 (61)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
KING_NE_KINGNE	KING	79.3
KING_NW_KINGNW	KING	79.3
KING_SE_KINGSE	KING	40.3
KING_SW_KINGSW	KING	79.3

9.34.1 King Mountain Wind Ranch – King_NE_KINGNE

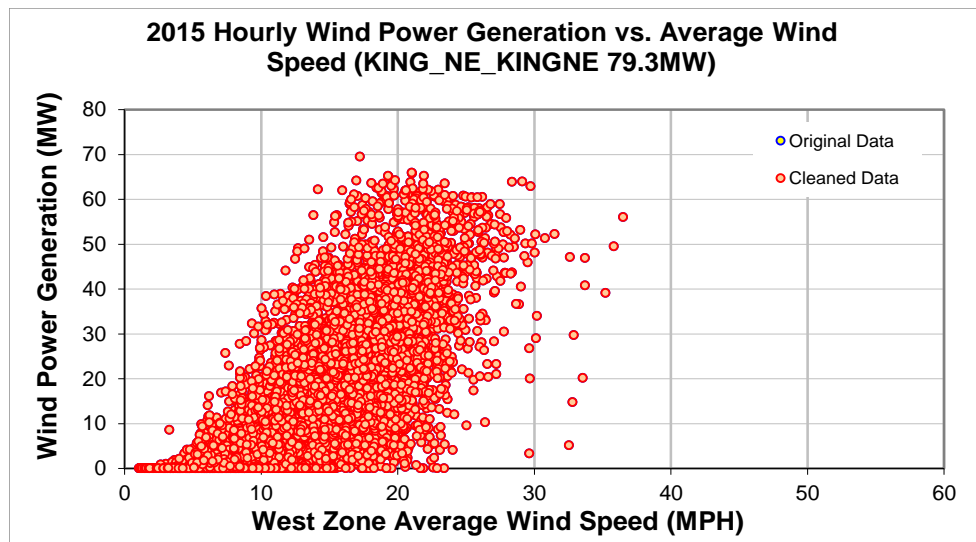


Figure 9-153: King_NE_KINGNE - Hourly Wind Power vs. Average Wind Speed (2015)

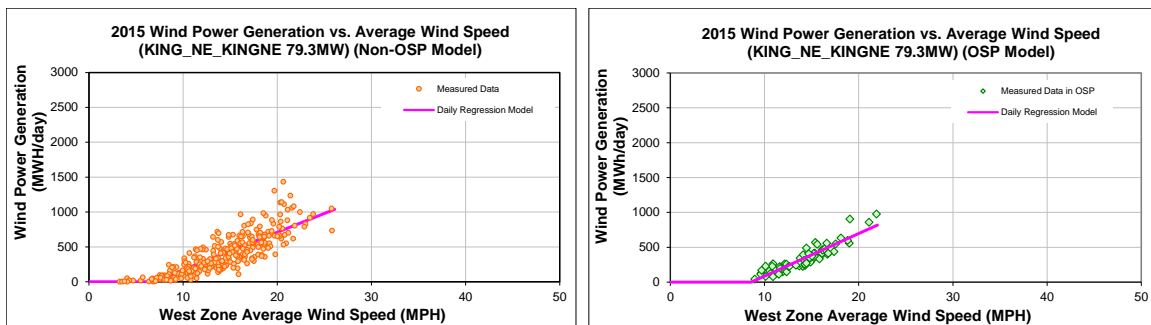


Figure 9-154: King_NE_KINGNE – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-150: King_NE_KINGNE – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-368.1167
Left Slope (MWh/mph-day)	53.8628
RMSE (MWh/day)	154.7371
R2	0.7029
CV-RMSE	39.0%
Daily Maximum (MWh/day)	1903

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-525.2620
Left Slope (MWh/mph-day)	61.1193
RMSE (MWh/day)	79.7713
R2	0.8287
CV-RMSE	23.2%
Daily Maximum (MWh/day)	1903

Table 9-151: King_NE_KINGNE – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	7,694	7,889	-2.53%	14%	14%
Feb-15	27	14.19	9,371	10,879	-16.09%	18%	21%
Mar-15	31	11.39	5,590	8,007	-43.25%	9%	14%
Apr-15	30	15.35	13,459	13,766	-2.28%	24%	24%
May-15	31	16.18	16,784	15,599	7.06%	28%	26%
Jun-15	30	14.18	12,798	11,865	7.29%	22%	21%
Jul-15	31	15.36	11,976	13,424	-12.09%	20%	23%
Aug-15	31	13.34	9,639	8,988	6.75%	16%	15%
Sep-15	30	14.14	12,326	11,078	10.12%	22%	19%
Oct-15	31	13.95	13,849	11,884	14.19%	23%	20%
Nov-15	30	15.20	13,429	13,909	-3.57%	24%	24%
Dec-15	31	15.34	13,374	14,257	-6.60%	23%	24%
Total	362	14.20	140,287	141,544	-0.90%	20%	21%
Total in OSP (07/15-09/15)	63	14.23	21,691	21,691	0.00%	18%	18%

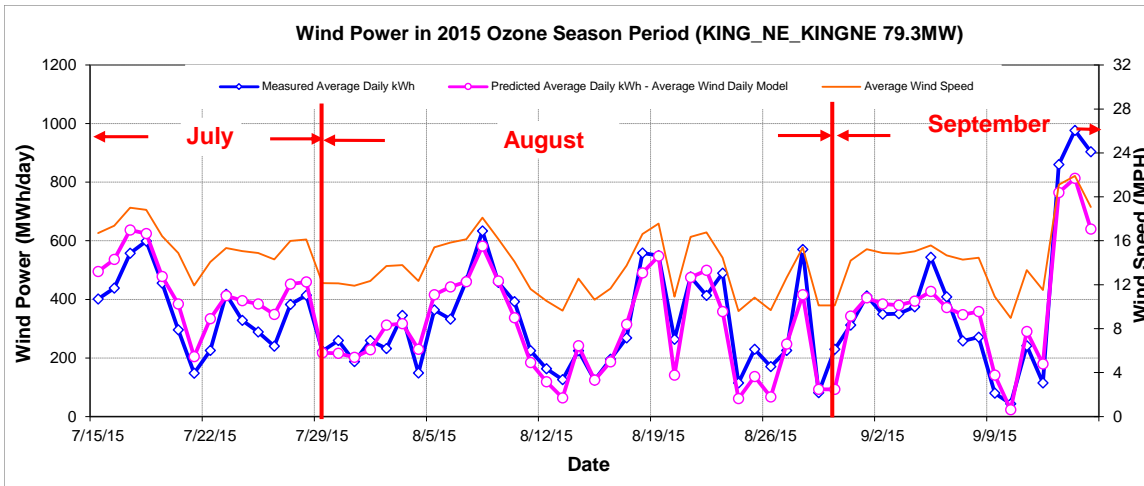


Figure 9-155: King_NE_KINGNE – Predicted Wind Power in OSP Using Average Wind Speed (2015)

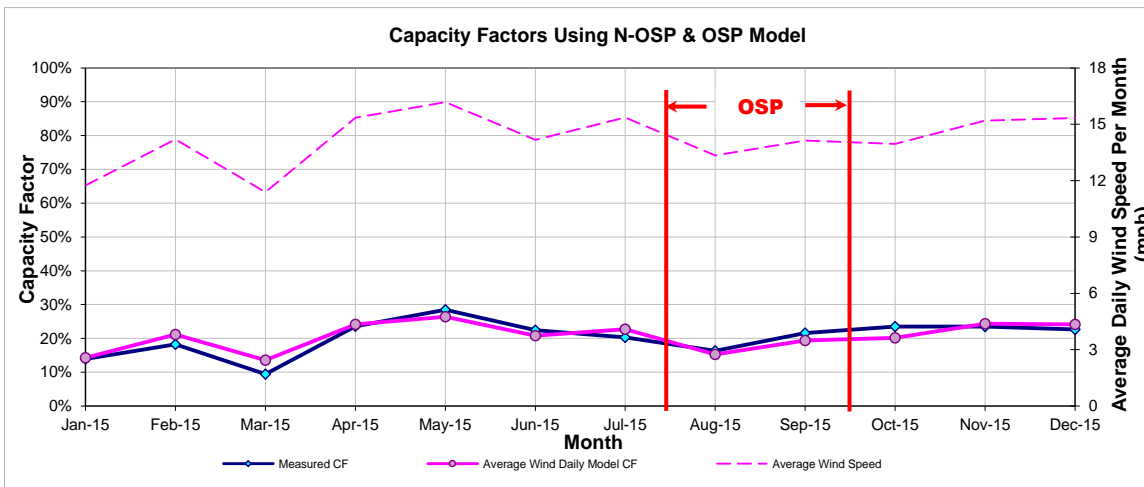


Figure 9-156: King_NE_KINGNE – Predicted Capacity Factors Using Daily Models (2015)

Table 9-152: King_NE_KINGNE – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
72,939	141,450	60	344

9.34.2 King Mountain Wind Ranch – KING_NW_KINGNW

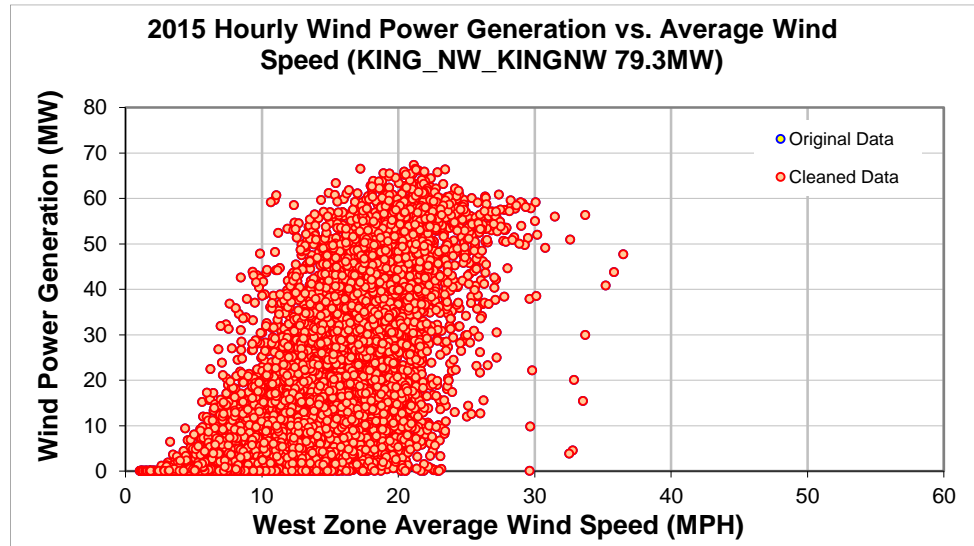


Figure 9-157: KING_NW_KINGNW – Hourly Wind Power vs. Average Wind Speed (2015)

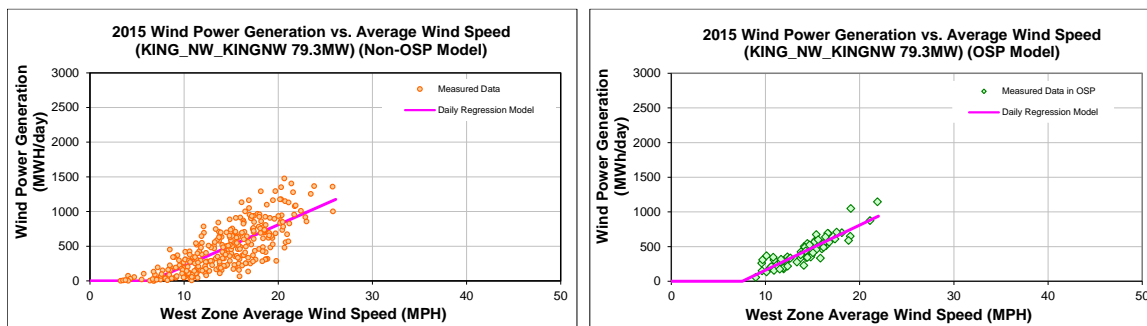


Figure 9-158: KING_NW_KINGNW – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-153: KING_NW_KINGNW – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-390.3971
Left Slope (MWh/mph-day)	60.0172
RMSE (MWh/day)	213.9625
R2	0.6057
CV-RMSE	46.3%
Daily Maximum (MWh/day)	1903

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-489.2997
Left Slope (MWh/mph-day)	64.9916
RMSE (MWh/day)	99.0153
R2	0.7803
CV-RMSE	22.7%
Daily Maximum (MWh/day)	1903

Table 9-154: KING_NW_KINGNW – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	7,028	9,324	-32.67%	13%	17%
Feb-15	27	14.19	10,225	12,636	-23.58%	20%	25%
Mar-15	31	11.39	6,966	9,466	-35.90%	12%	16%
Apr-15	30	15.35	14,629	15,932	-8.90%	26%	28%
May-15	31	16.18	19,160	17,994	6.08%	32%	30%
Jun-15	30	14.18	16,624	13,814	16.90%	29%	24%
Jul-15	31	15.36	15,337	16,067	-4.76%	26%	27%
Aug-15	31	13.34	12,596	11,704	7.08%	21%	20%
Sep-15	30	14.14	15,395	13,378	13.10%	27%	23%
Oct-15	31	13.95	15,913	13,855	12.93%	27%	23%
Nov-15	30	15.20	17,587	16,022	8.90%	31%	28%
Dec-15	31	15.34	14,029	16,480	-17.47%	24%	28%
Total	362	14.20	165,490	166,673	-0.71%	24%	24%
Total in OSP (07/15-09/15)	63	14.23	27,427	27,427	0.00%	23%	23%

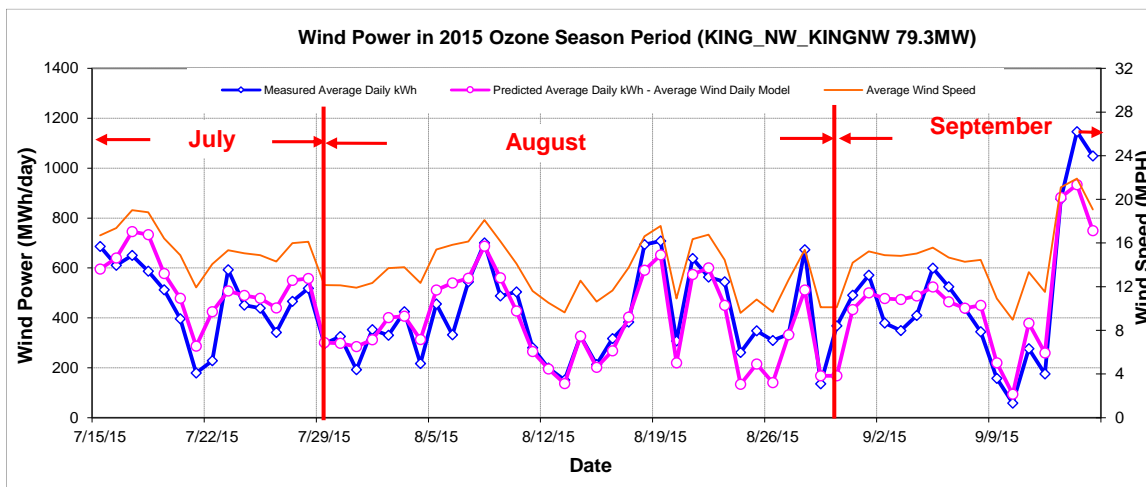


Figure 9-159: KING_NW_KINGNW – Predicted Wind Power in OSP Using Average Wind Speed (2015)

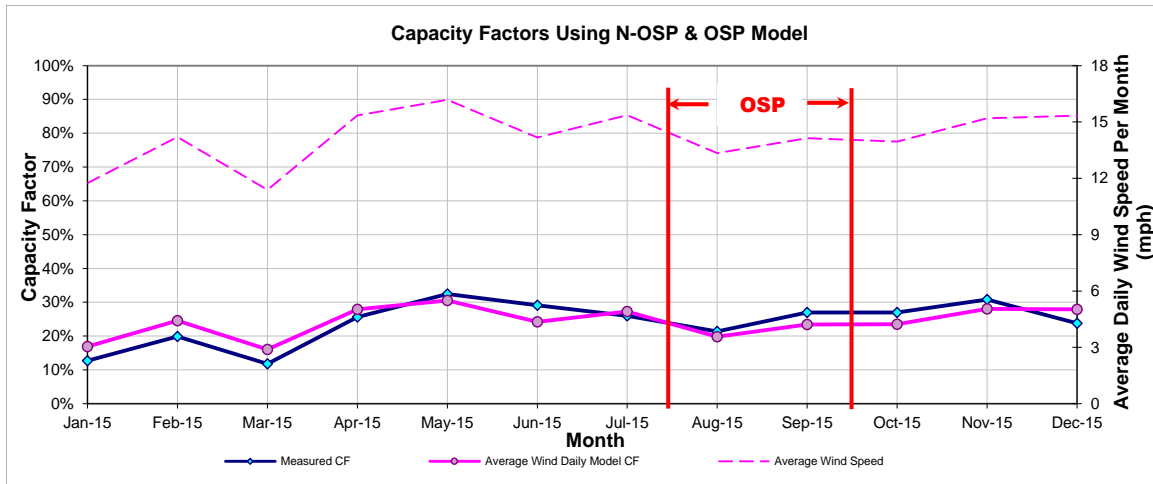


Figure 9-160: KING_NW_KINGNW – Predicted Capacity Factors Using Daily Models (2015)

Table 9-155: KING_NW_KINGNW – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
88,577	166,861	105	435

9.34.3 King Mountain Wind Ranch – KING_SE_KINGSE

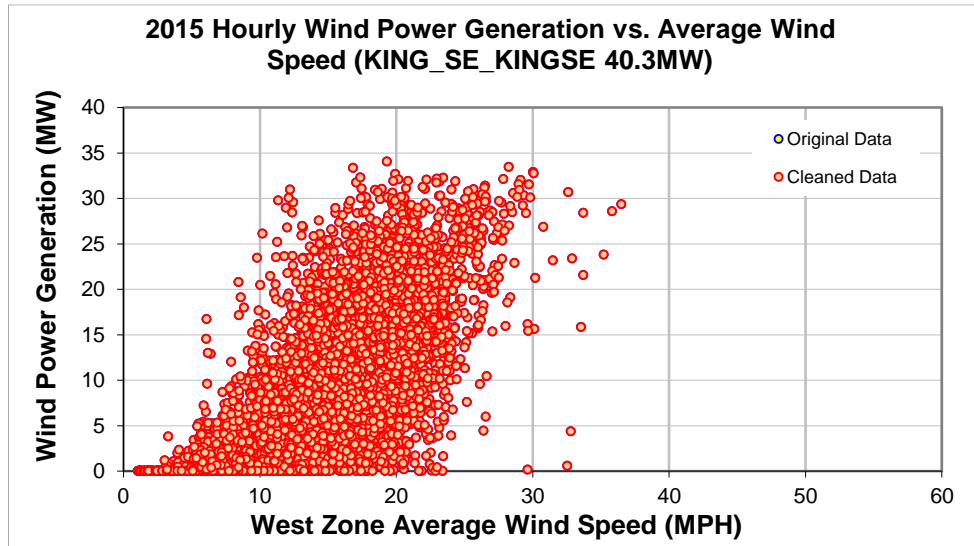


Figure 9-161: KING_SE_KINGSE – Hourly Wind Power vs. Average Wind Speed (2015)

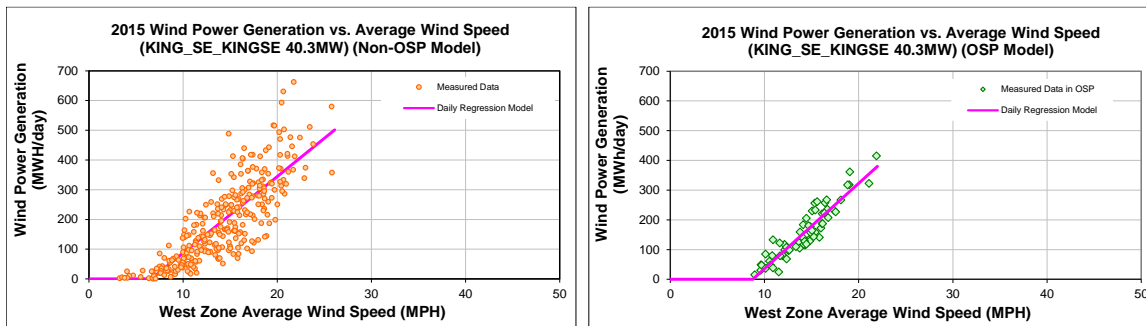


Figure 9-162: KING_SE_KINGSE – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-156: KING_SE_KINGSE – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-170.6370
Left Slope (MWh/mph-day)	25.7570
RMSE (MWh/day)	79.0894
R2	0.6743
CV-RMSE	40.5%
Daily Maximum (MWh/day)	967

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-251.4714
Left Slope (MWh/mph-day)	28.7043
RMSE (MWh/day)	33.1414
R2	0.8608
CV-RMSE	21.1%
Daily Maximum (MWh/day)	967

Table 9-157: KING_SE_KINGSE – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	3,798	3,918	-3.16%	14%	14%
Feb-15	27	14.19	4,449	5,343	-20.10%	17%	20%
Mar-15	31	11.39	2,635	3,976	-50.91%	9%	13%
Apr-15	30	15.35	6,815	6,744	1.04%	23%	23%
May-15	31	16.18	7,522	7,626	-1.39%	25%	25%
Jun-15	30	14.18	7,461	5,835	21.78%	26%	20%
Jul-15	31	15.36	6,761	6,356	6.00%	23%	21%
Aug-15	31	13.34	4,166	4,073	2.22%	14%	14%
Sep-15	30	14.14	5,060	5,256	-3.87%	17%	18%
Oct-15	31	13.95	6,317	5,850	7.39%	21%	20%
Nov-15	30	15.20	7,283	6,792	6.74%	25%	23%
Dec-15	31	15.34	5,944	6,980	-17.42%	20%	23%
Total	362	14.20	68,211	68,750	-0.79%	19%	20%
Total in OSP (07/15-09/15)	63	14.23	9,886	9,886	0.00%	16%	16%

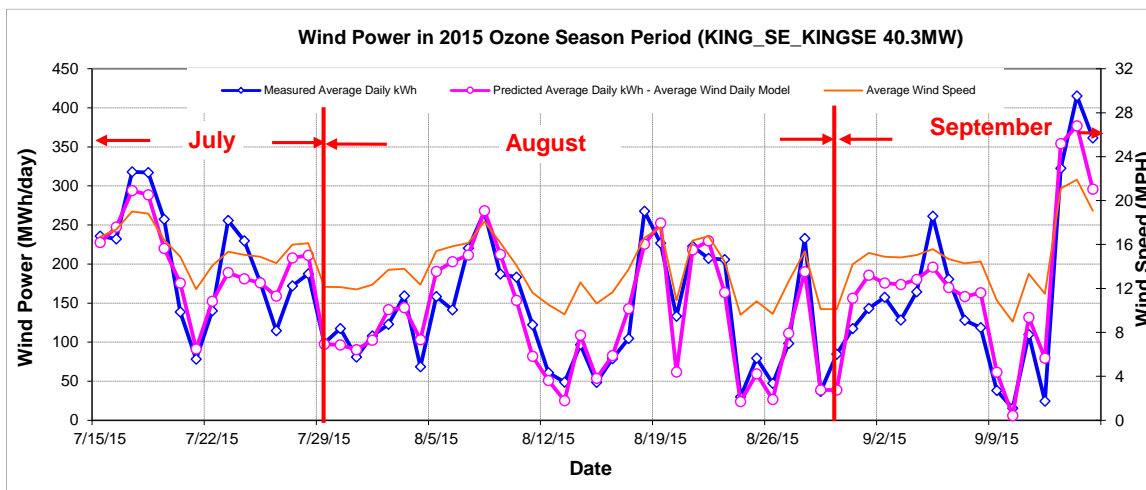


Figure 9-163: KING_SE_KINGSE – Predicted Wind Power in OSP Using Average Wind Speed (2015)

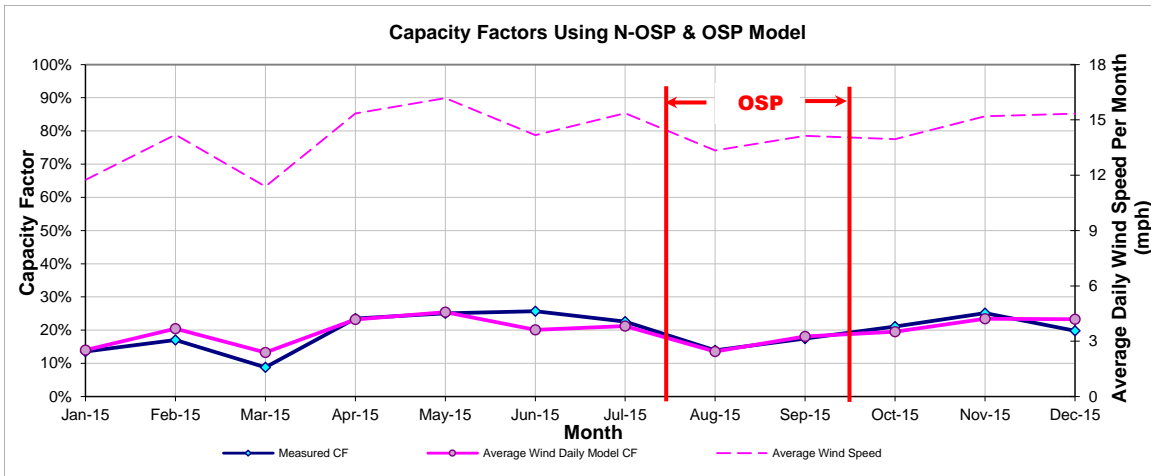


Figure 9-164: KING_SE_KINGSE – Predicted Capacity Factors Using Daily Models (2015)

Table 9-158: KING_SE_KINGSE – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
36,010	68,777	26	157

9.34.4 King Mountain Wind Ranch – KING_SW_KINGSW

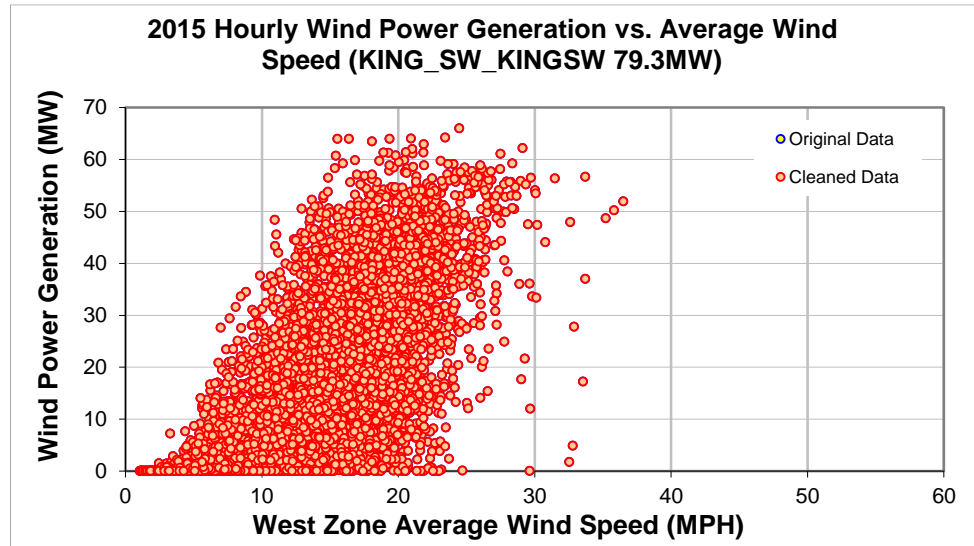


Figure 9-165: KING_SW_KINGSW - Hourly Wind Power vs. Average Wind Speed (2015)

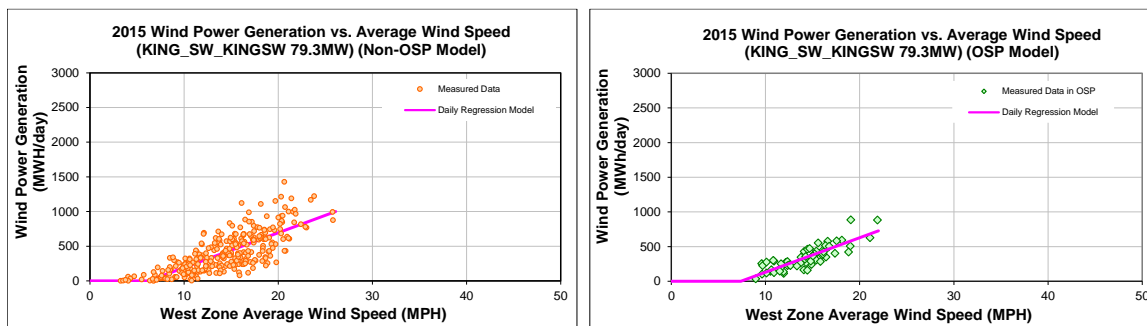


Figure 9-166: KING_SW_KINGSW – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-159: KING_SW_KINGSW – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-311.5803
Left Slope (MWh/mph-day)	50.2883
RMSE (MWh/day)	183.4242
R2	0.5947
CV-RMSE	45.6%
Daily Maximum (MWh/day)	1903

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-367.5413
Left Slope (MWh/mph-day)	49.7854
RMSE (MWh/day)	91.5869
R2	0.7089
CV-RMSE	26.9%
Daily Maximum (MWh/day)	1903

Table 9-160: KING_SW_KINGSW – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	6,596	8,241	-24.94%	12%	15%
Feb-15	27	14.19	9,314	10,992	-18.02%	18%	21%
Mar-15	31	11.39	6,430	8,367	-30.12%	11%	14%
Apr-15	30	15.35	12,381	13,815	-11.58%	22%	24%
May-15	31	16.18	16,046	15,559	3.04%	27%	26%
Jun-15	30	14.18	13,858	12,040	13.12%	24%	21%
Jul-15	31	15.36	11,718	13,200	-12.65%	20%	22%
Aug-15	31	13.34	10,099	9,191	8.99%	17%	16%
Sep-15	30	14.14	12,750	11,025	13.53%	22%	19%
Oct-15	31	13.95	14,686	12,091	17.67%	25%	20%
Nov-15	30	15.20	14,931	13,844	7.28%	26%	24%
Dec-15	31	15.34	12,985	14,274	-9.93%	22%	24%
Total	362	14.20	141,795	142,640	-0.60%	21%	21%
Total in OSP (07/15-09/15)	63	14.23	21,468	21,468	0.00%	18%	18%

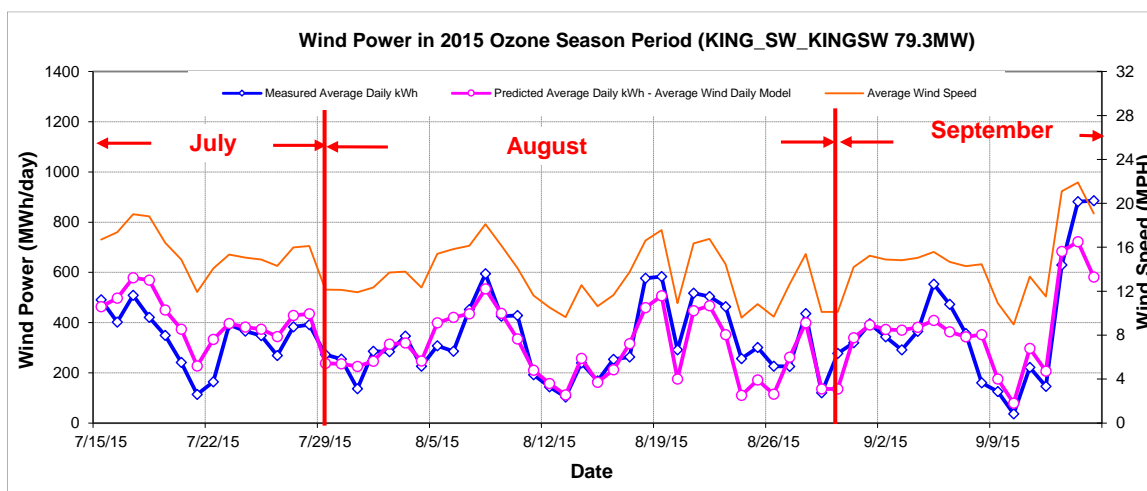


Figure 9-167: KING_SW_KINGSW – Predicted Wind Power in OSP Using Average Wind Speed (2015)

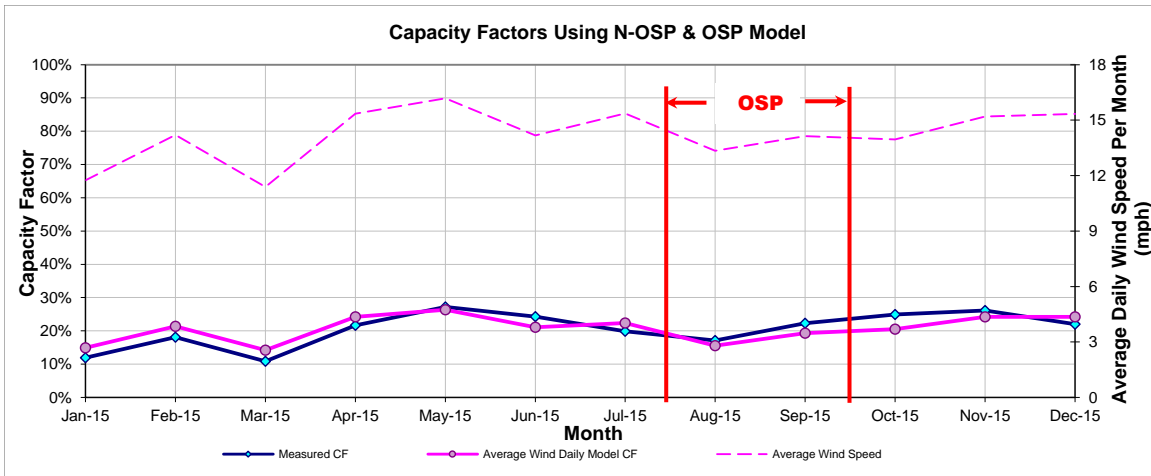


Figure 9-168: KING_SW_KINGSW – Predicted Capacity Factors Using Daily Models (2015)

Table 9-161: KING_SW_KINGSW – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
77,986	142,970	85	341

9.35 Langford Wind Power

Table 9-162: Site Information for Langford Wind Power

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
LGD_LANGFORD	Wind	-	Tom Green	Oct-09	150	Padoma	Langford Wind Power	GE Energy	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
LGD_LANGFORD	LGD_LANGFORD	150

9.35.1 Langford Wind Power – LGD_LANGFORD

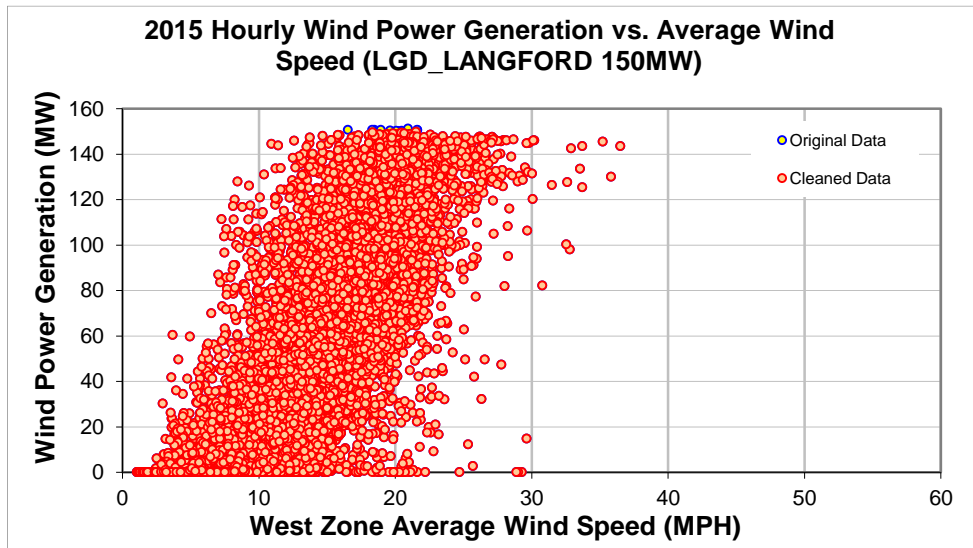


Figure 9-169: LGD_LANGFORD – Hourly Wind Power vs. Average Wind Speed (2015)

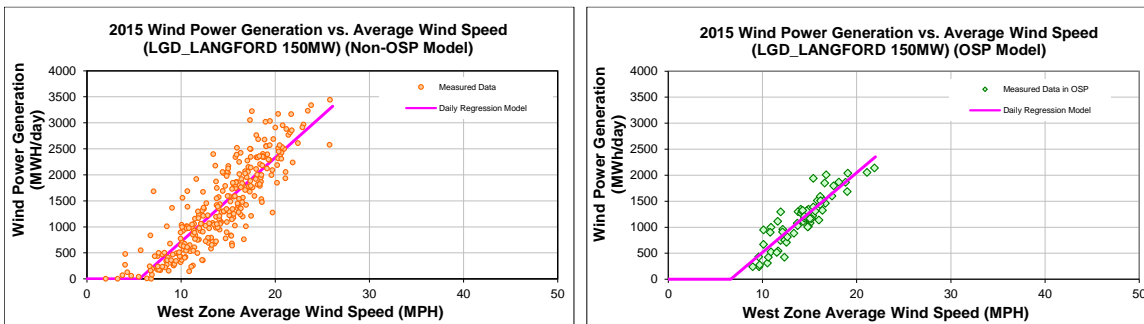


Figure 9-170: LGD_LANGFORD – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-163: LGD_LANGFORD – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-903.9051
Left Slope (MWh/mph-day)	161.8580
RMSE (MWh/day)	407.9242
R2	0.7556
CV-RMSE	29.3%
Daily Maximum (MWh/day)	3600

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1014.0029
Left Slope (MWh/mph-day)	153.0579
RMSE (MWh/day)	212.7791
R2	0.8101
CV-RMSE	18.3%
Daily Maximum (MWh/day)	3600

Table 9-164: LGD_LANGFORD – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	37,326	29,295	21.51%	35%	27%
Feb-15	26	14.60	42,654	37,951	11.03%	46%	41%
Mar-15	31	11.39	31,023	29,700	4.26%	28%	27%
Apr-15	30	15.35	42,527	47,434	-11.54%	39%	44%
May-15	31	16.18	45,200	53,145	-17.58%	41%	48%
Jun-15	30	14.18	36,266	41,722	-15.05%	34%	39%
Jul-15	31	15.36	46,702	44,899	3.86%	42%	40%
Aug-15	31	13.34	33,499	31,852	4.92%	30%	29%
Sep-15	30	14.14	33,796	37,881	-12.09%	31%	35%
Oct-15	31	13.95	38,254	41,983	-9.75%	34%	38%
Nov-15	30	15.20	48,793	47,230	3.20%	45%	44%
Dec-15	31	15.34	53,886	48,934	9.19%	48%	44%
Total	362	14.20	489,925	492,026	-0.43%	38%	38%
Total in OSP (07/15-09/15)	63	14.23	73,306	73,306	0.00%	32%	32%

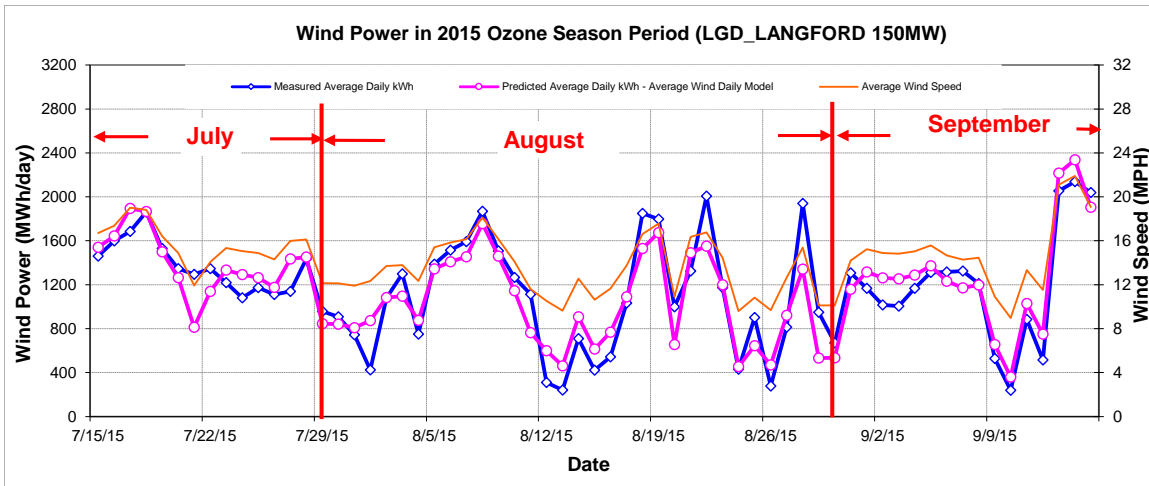


Figure 9-171: LGD_LANGFORD – Predicted Wind Power in OSP Using Average Wind Speed (2015)

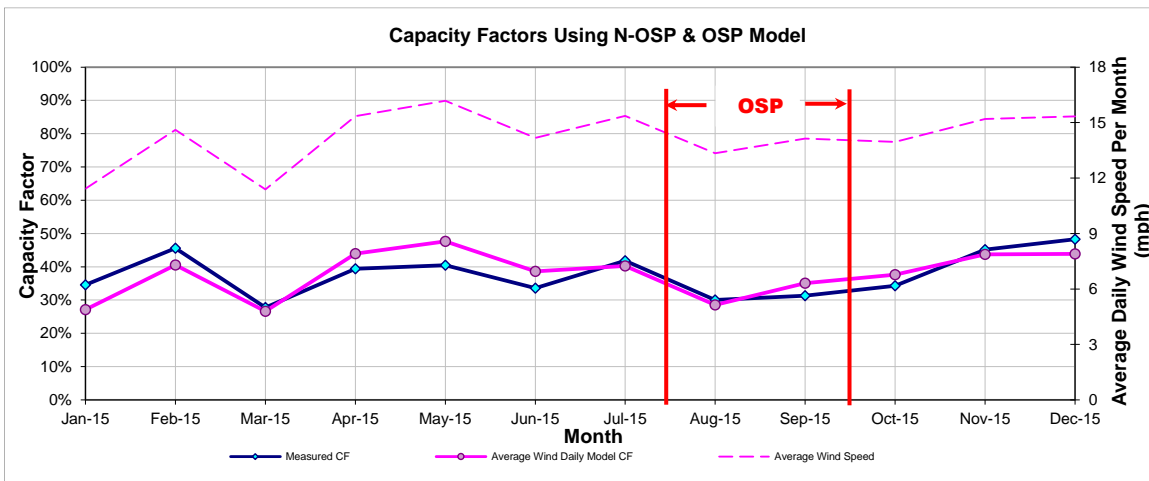


Figure 9-172: LGD_LANGFORD – Predicted Capacity Factors Using Daily Models (2015)

Table 9-165: LGD_LANGFORD – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
225,059	493,986	186	1,164

9.36 Lone Star – Post Oak Wind

Table 9-166: Site Information for Lone Star – Post Oak Wind

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
LNCRK2	Wind	-	Shackelford	Jan-08	200	Horizon Wind Energy	Lone Star-Post Oak Wind	-	ERCOT	West	North Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
LNCRK2_G871	LNCRK2	100
LNCRK2_G872	LNCRK2	100

9.36.1 Lone Star – Post Oak Wind (LNCRK2_G871)

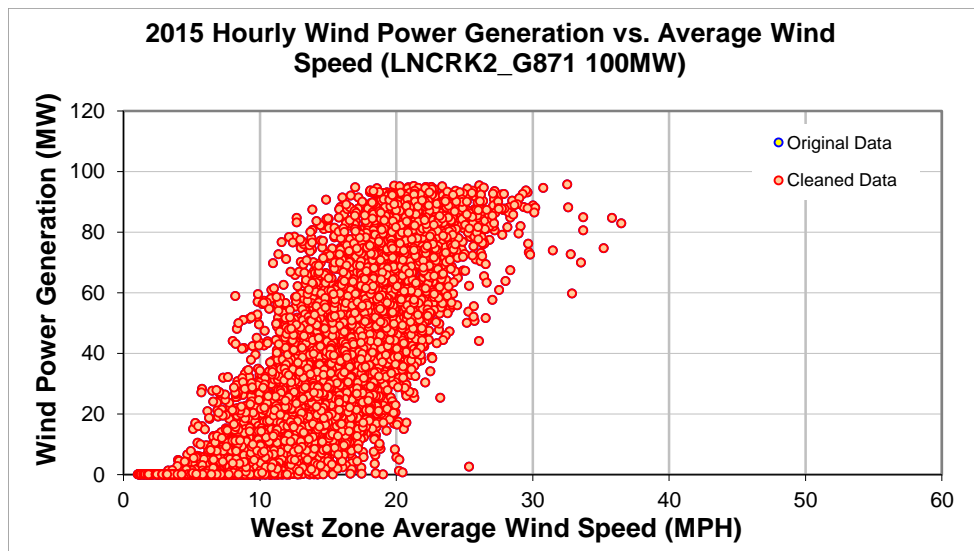


Figure 9-173: LNCRK2_G871– Hourly Wind Power vs.Average Wind Speed (2015)

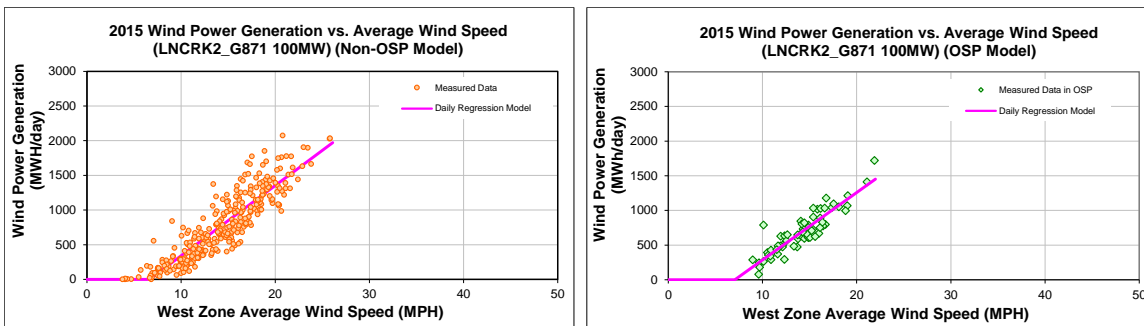


Figure 9-174: LNCRK2_G871– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-167: LNCRK2_G871– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-671.6098
Left Slope (MWh/mph-day)	101.2530
RMSE (MWh/day)	219.8061
R2	0.8001
CV-RMSE	28.4%
Daily Maximum (MWh/day)	2400

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-685.1558
Left Slope (MWh/mph-day)	97.0829
RMSE (MWh/day)	131.3897
R2	0.8182
CV-RMSE	18.9%
Daily Maximum (MWh/day)	2400

Table 9-168: LNCRK2_G871– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	22,025	15,380	30.17%	33%	23%
Feb-15	26	14.60	22,213	20,981	5.55%	36%	34%
Mar-15	31	11.39	17,547	15,607	11.05%	24%	21%
Apr-15	30	15.35	26,805	26,489	1.18%	37%	37%
May-15	31	16.18	26,228	29,955	-14.21%	35%	40%
Jun-15	30	14.18	19,246	22,915	-19.06%	27%	32%
Jul-15	31	15.36	24,904	26,080	-4.72%	33%	35%
Aug-15	31	13.34	19,753	18,902	4.31%	27%	25%
Sep-15	30	14.14	19,500	21,644	-10.99%	27%	30%
Oct-15	31	13.95	19,758	22,972	-16.27%	27%	31%
Nov-15	30	15.20	26,953	26,679	1.01%	37%	37%
Dec-15	31	15.34	28,613	27,413	4.20%	38%	37%
Total	360	14.26	273,545	275,016	-0.54%	32%	32%
Total in OSP (07/15-09/15)	63	14.23	43,852	43,852	0.00%	29%	29%

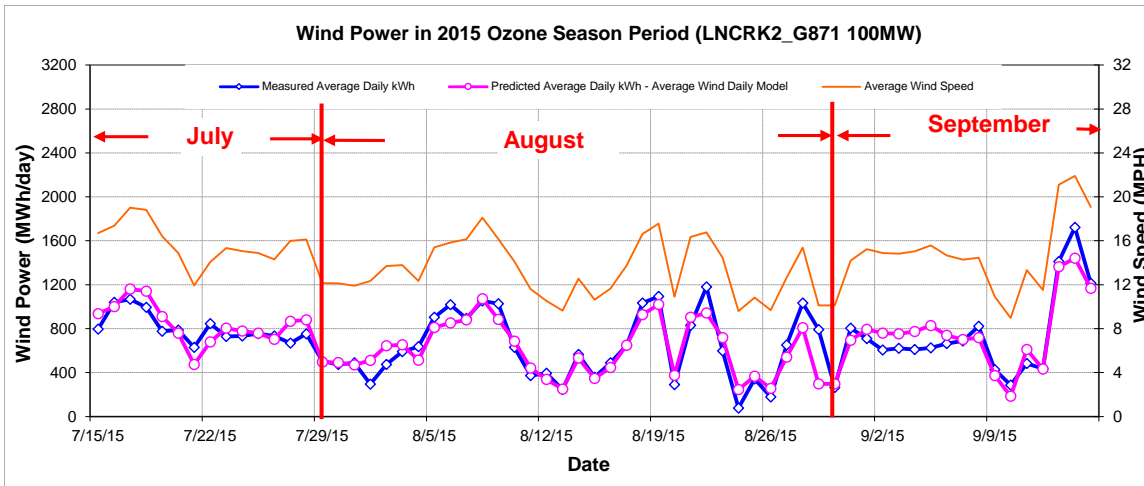


Figure 9-175: LNCRK2_G871– Predicted Wind Power in OSP Using Average Wind Speed (2015)

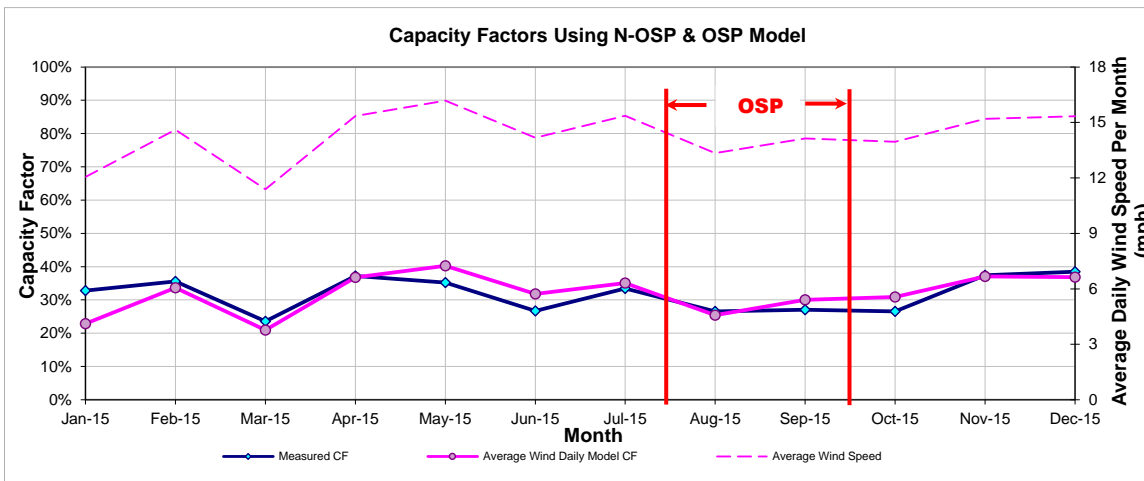


Figure 9-176: LNCRK2_G871– Predicted Capacity Factors Using Daily Models (2015)

Table 9-169: LNCRK2_G871– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
181,366	277,345	204	696

9.36.2 Lone Star – Post Oak Wind (LNCRK2_G872)

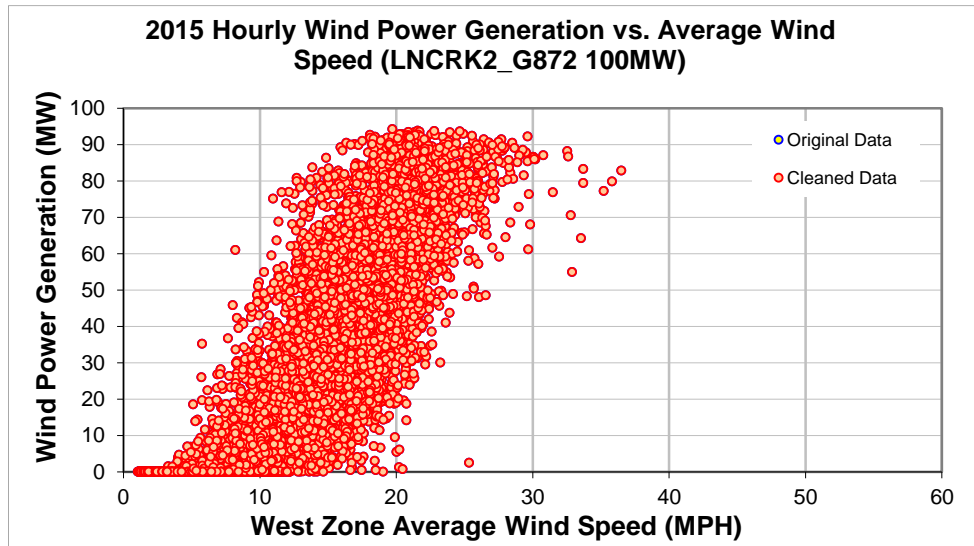


Figure 9-177: LNCRK2_G872– Hourly Wind Power vs. Average Wind Speed (2015)

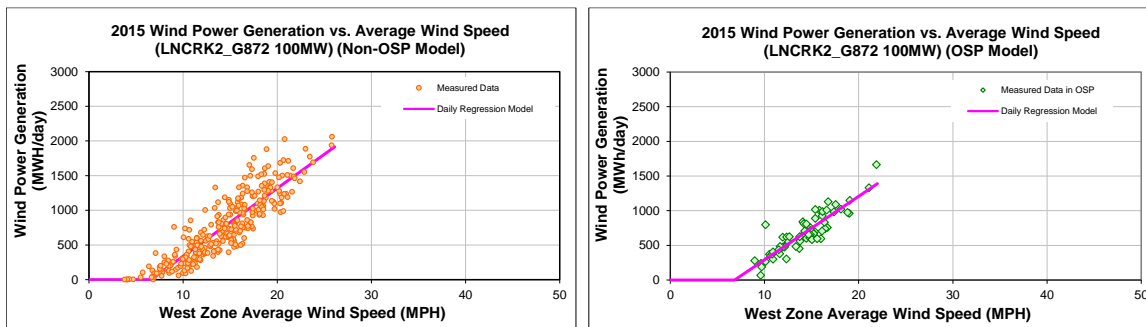


Figure 9-178: LNCRK2_G872– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-170: LNCRK2_G872– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-641.2725
Left Slope (MWh/mph-day)	97.9120
RMSE (MWh/day)	216.5160
R2	0.7941
CV-RMSE	28.6%
Daily Maximum (MWh/day)	2400

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-624.1094
Left Slope (MWh/mph-day)	91.5164
RMSE (MWh/day)	132.2391
R2	0.7979
CV-RMSE	19.5%
Daily Maximum (MWh/day)	2400

Table 9-171: LNCRK2_G872– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	21,825	15,093	30.85%	32%	22%
Feb-15	26	14.60	22,069	20,501	7.11%	35%	33%
Mar-15	31	11.39	16,446	15,321	6.84%	22%	21%
Apr-15	30	15.35	26,306	25,860	1.70%	37%	36%
May-15	31	16.18	25,213	29,220	-15.89%	34%	39%
Jun-15	30	14.18	18,759	22,404	-19.43%	26%	31%
Jul-15	31	15.36	23,972	25,380	-5.87%	32%	34%
Aug-15	31	13.34	19,530	18,493	5.31%	26%	25%
Sep-15	30	14.14	18,791	21,095	-12.26%	26%	29%
Oct-15	31	13.95	20,086	22,468	-11.86%	27%	30%
Nov-15	30	15.20	26,079	26,020	0.23%	36%	36%
Dec-15	31	15.34	28,175	26,754	5.05%	38%	36%
Total	360	14.26	267,251	268,608	-0.51%	31%	31%
Total in OSP (07/15-09/15)	63	14.23	42,709	42,709	0.00%	28%	28%

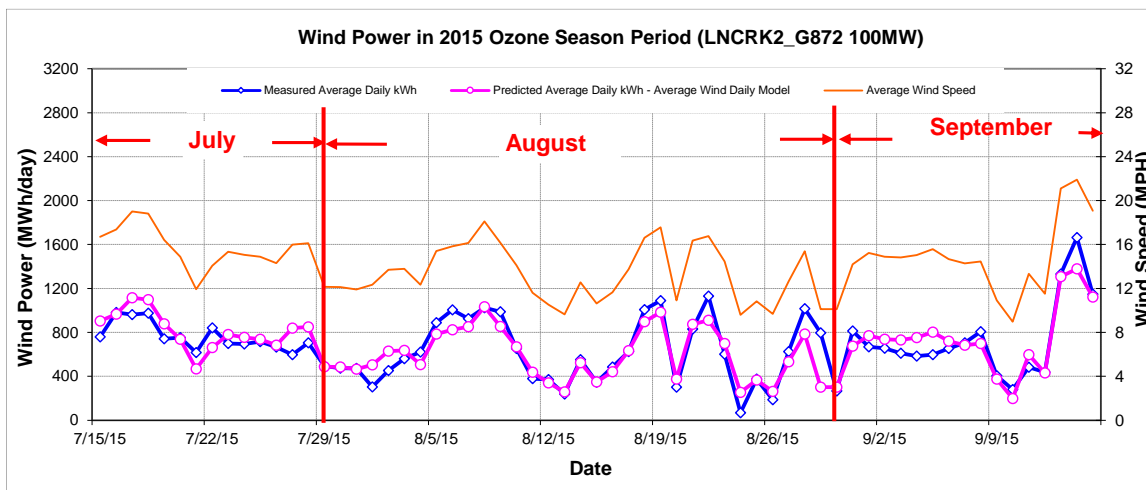


Figure 9-179: LNCRK2_G872– Predicted Wind Power in OSP Using Average Wind Speed (2015)

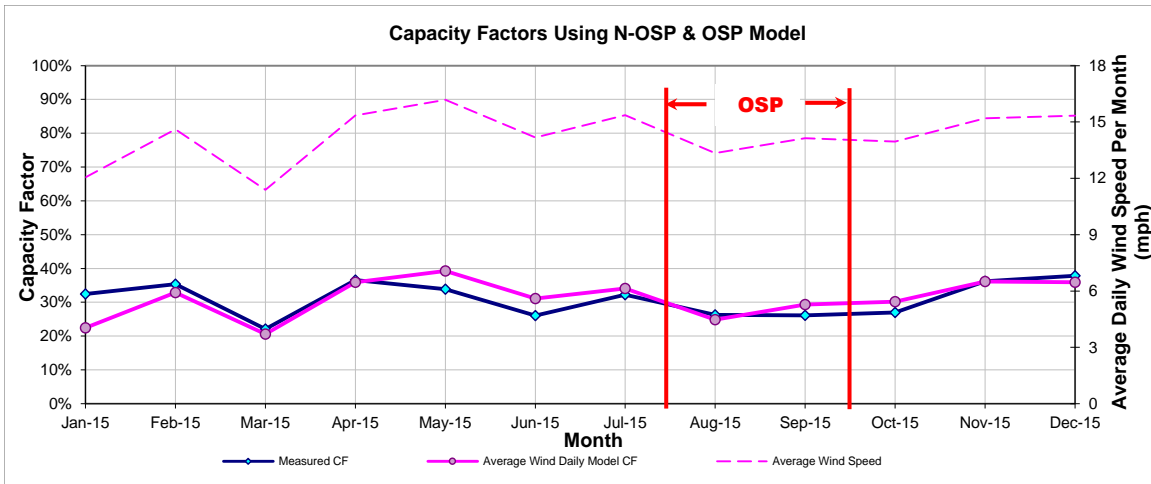


Figure 9-180: LNCRK2_G872– Predicted Capacity Factors Using Daily Models (2015)

Table 9-172: LNCRK2_G872 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
178,247	270,963	208	678

9.37 Lone Star – Mesquite Wind

Table 9-173: Site Information for Lone Star – Mesquite Wind

Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
Wind	Abilene	Shackelford	Dec-07	200	Horizon Wind Energy	LONESTAR - MESQUITE WIND	Vestas 1.8 MW (67)	ERCOT	West	North Zone Average Wind Speed

GENSITECODE_ERCOT	Capacity (MW)
LNCRK_G83	200

9.37.1 Lone Star – Mesquite Wind - LNCRK_G83

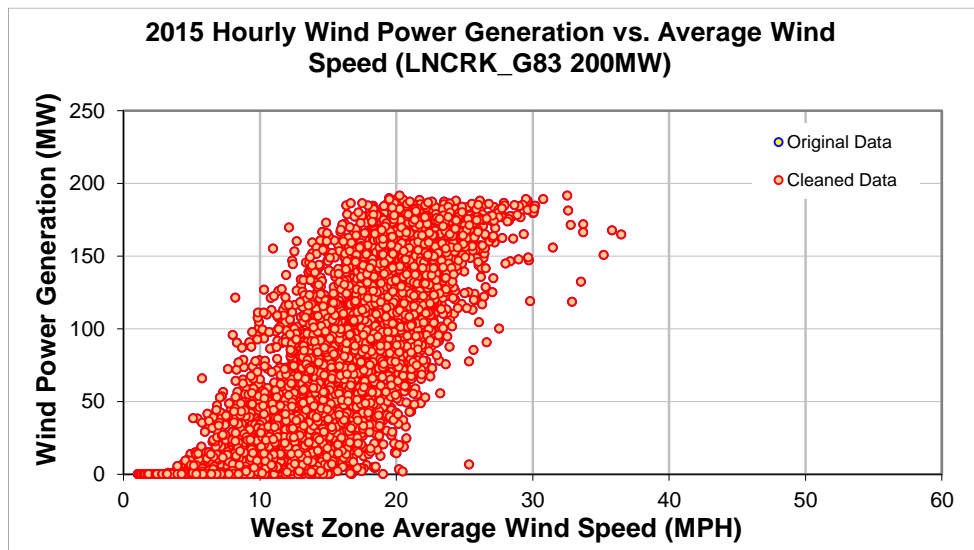


Figure 9-181: LNCRK_G83– Hourly Wind Power vs. Average Wind Speed (2015)

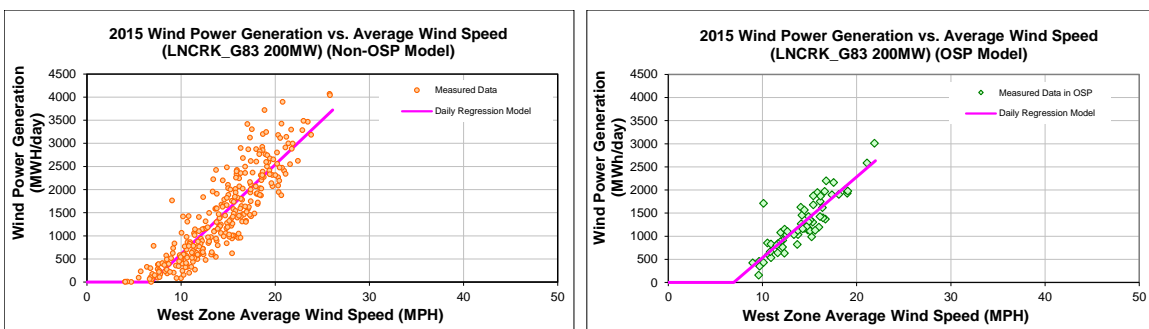


Figure 9-182: LNCRK_G83– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-174: LNCRK_G83– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1329.0207
Left Slope (MWh/mph-day)	193.4663
RMSE (MWh/day)	439.3320
R2	0.7824
CV-RMSE	30.5%
Daily Maximum (MWh/day)	4800

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1211.9354
Left Slope (MWh/mph-day)	174.7262
RMSE (MWh/day)	265.5850
R2	0.7811
CV-RMSE	20.8%
Daily Maximum (MWh/day)	4800

Table 9-175: LNCRK_G83– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	41,509	28,151	32.18%	31%	21%
Feb-15	26	14.60	42,032	38,904	7.44%	34%	31%
Mar-15	31	11.39	32,222	28,583	11.29%	22%	19%
Apr-15	30	15.35	49,845	49,239	1.22%	35%	34%
May-15	31	16.18	46,512	55,817	-20.00%	31%	38%
Jun-15	30	14.18	34,845	42,412	-21.72%	24%	29%
Jul-15	31	15.36	45,448	48,074	-5.78%	31%	32%
Aug-15	31	13.34	37,009	34,675	6.30%	25%	23%
Sep-15	30	14.14	35,131	39,695	-12.99%	24%	28%
Oct-15	31	13.95	37,988	42,475	-11.81%	26%	29%
Nov-15	29	15.59	50,756	49,781	1.92%	36%	36%
Dec-15	31	15.34	52,848	51,005	3.49%	36%	34%
Total	359	14.29	506,145	508,811	-0.53%	29%	30%
Total in OSP (07/15-09/15)	63	14.23	80,258	80,258	0.00%	27%	27%

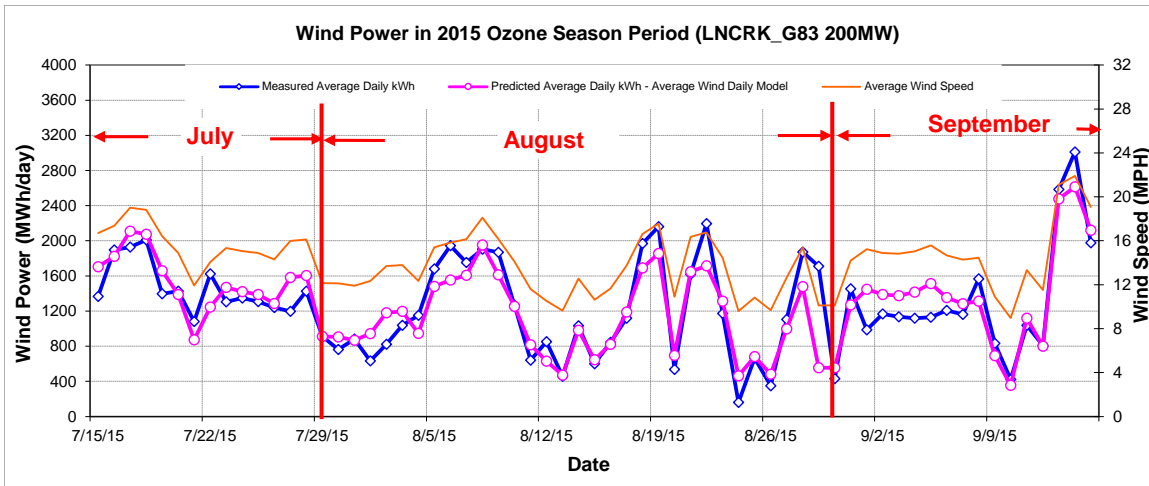


Figure 9-183: LNCRK_G83– Predicted Wind Power in OSP Using Average Wind Speed (2015)

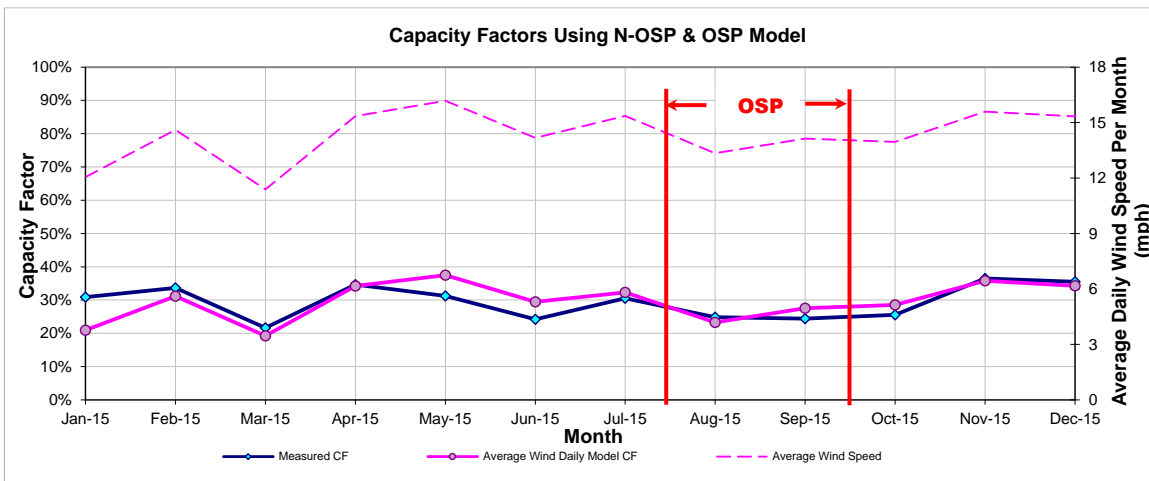


Figure 9-184: LNCRK_G83– Predicted Capacity Factors Using Daily Models (2015)

Table 9-176: LNCRK_G83– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
334,086	514,604	382	1,274

9.38 Loraine Windpark

Table 9-177: Site Information for Loraine Windpark

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
LONEWOLF	Wind	-	Mitchell	Oct-09	250.5	Third Planet Windpower	Loraine Windpark	GE Energy (67)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
LONEWOLF_G1	LONEWOLF_G1	126
LONEWOLF_G2	LONEWOLF_G2	124.5

9.38.1 Loraine Windpark (LONEWOLF_G1)

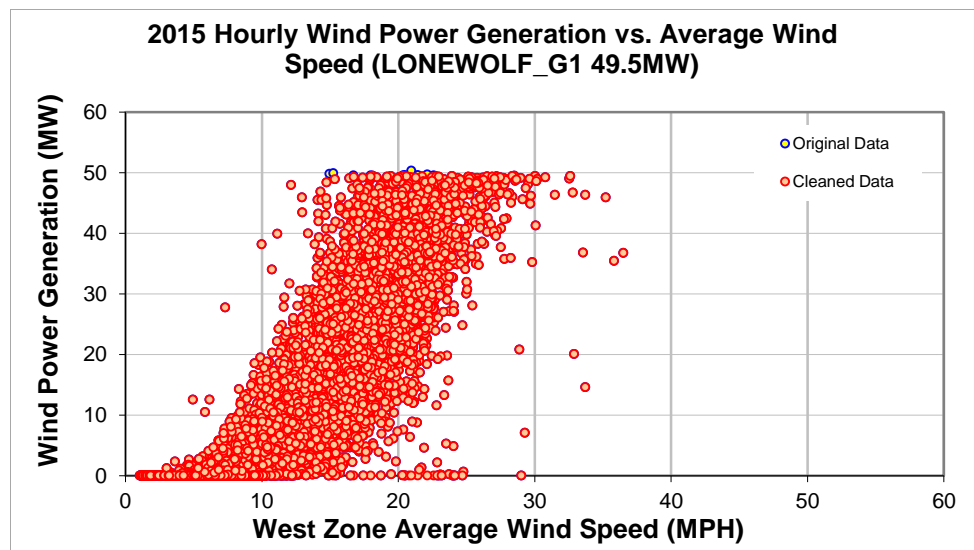


Figure 9-185: LONEWOLF_G1– Hourly Wind Power vs. Average Wind Speed (2015)

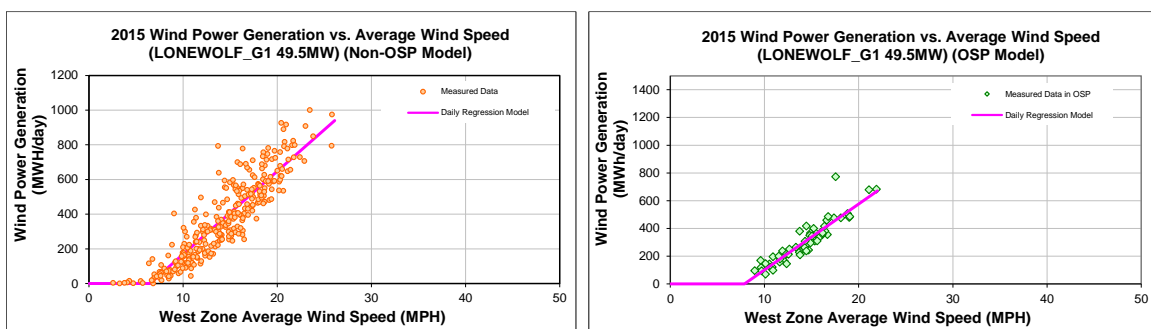


Figure 9-186: LONEWOLF_G1– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-178: LONEWOLF_G1– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-310.6116
Left Slope (MWh/mph-day)	47.8949
RMSE (MWh/day)	101.9752
R2	0.8090
CV-RMSE	27.4%
Daily Maximum (MWh/day)	1188

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-374.0136
Left Slope (MWh/mph-day)	47.4775
RMSE (MWh/day)	59.0248
R2	0.8421
CV-RMSE	19.6%
Daily Maximum (MWh/day)	1188

Table 9-179: LONEWOLF_G1– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	10,157	7,466	26.50%	29%	22%
Feb-15	27	14.16	11,878	10,108	14.90%	37%	32%
Mar-15	30	11.63	7,940	7,581	4.52%	22%	21%
Apr-15	30	15.35	13,571	12,742	6.11%	38%	36%
May-15	31	16.18	13,915	14,389	-3.41%	38%	39%
Jun-15	30	14.18	9,019	11,052	-22.54%	25%	31%
Jul-15	31	15.36	10,646	11,987	-12.60%	29%	33%
Aug-15	31	13.34	8,476	8,036	5.18%	23%	22%
Sep-15	30	14.14	9,001	9,946	-10.50%	25%	28%
Oct-15	31	13.95	9,694	11,086	-14.35%	26%	30%
Nov-15	30	15.20	12,698	12,811	-0.89%	36%	36%
Dec-15	30	15.61	12,495	13,150	-5.24%	35%	37%
Total	360	14.25	129,489	130,353	-0.67%	30%	30%
Total in OSP (07/15-09/15)	63	14.23	18,992	18,992	0.00%	25%	25%

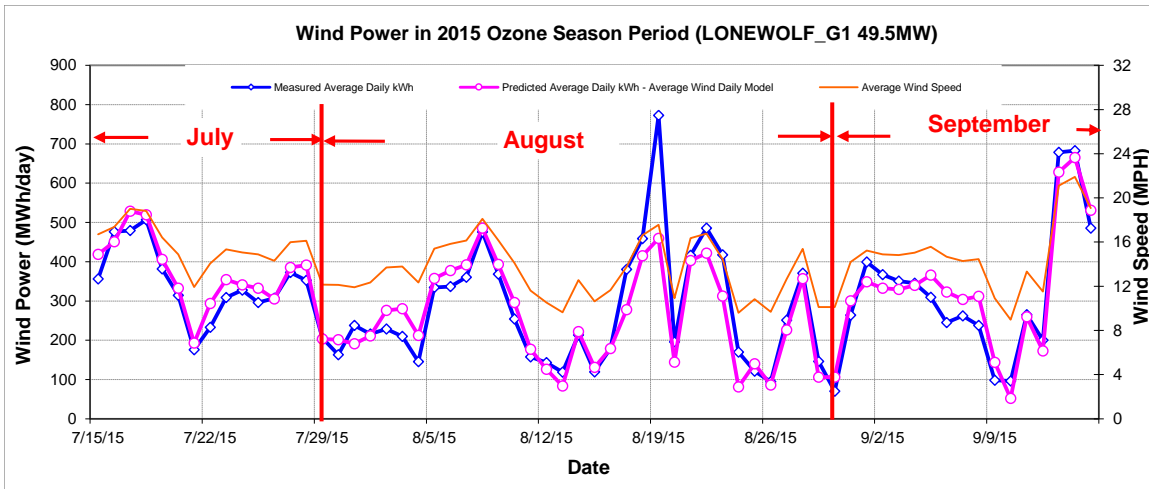


Figure 9-187: LONEWOLF_G1– Predicted Wind Power in OSP Using Average Wind Speed (2015)

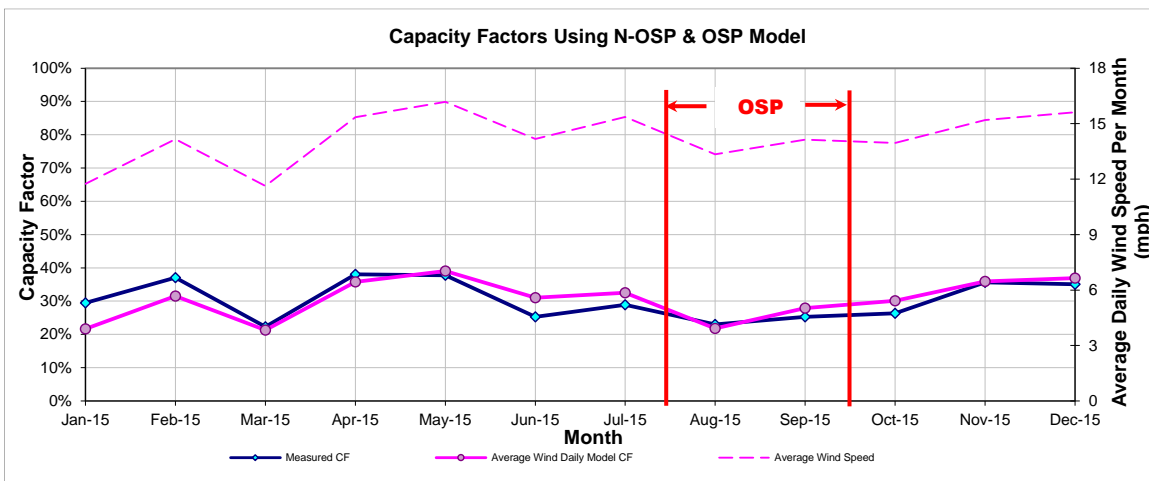


Figure 9-188: LONEWOLF_G1– Predicted Capacity Factors Using Daily Models (2015)

Table 9-180: LONEWOLF_G1– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
86,288	131,288	75	301

9.38.2 Loraine Windpark-(LONEWOLF_G2)

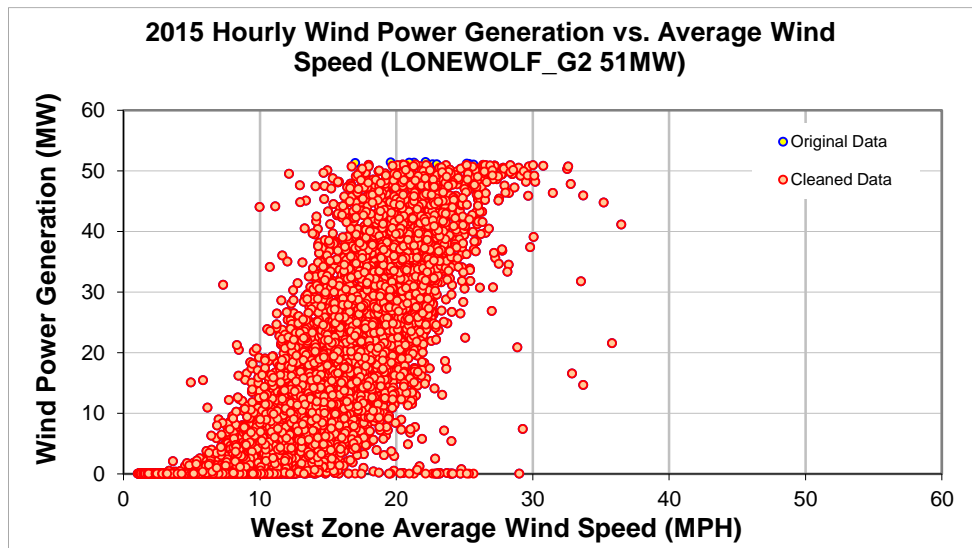


Figure 9-189: LONEWOLF_G2– Hourly Wind Power vs. Average Wind Speed (2015)

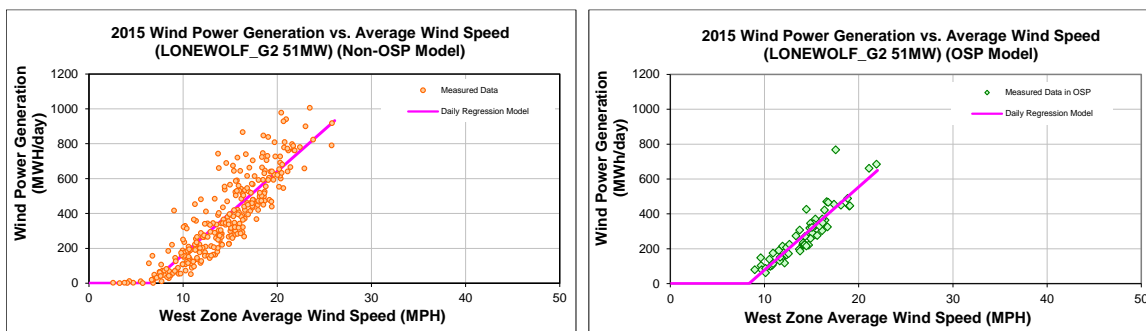


Figure 9-190: LONEWOLF_G2– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-181: LONEWOLF_G2– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-313.1681
Left Slope (MWh/mph-day)	47.7165
RMSE (MWh/day)	110.4359
R2	0.7819
CV-RMSE	30.1%
Daily Maximum (MWh/day)	1224

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-396.6903
Left Slope (MWh/mph-day)	47.5437
RMSE (MWh/day)	63.1196
R2	0.8238
CV-RMSE	22.6%
Daily Maximum (MWh/day)	1224

Table 9-182: LONEWOLF_G2– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	10,084	7,338	27.23%	28%	21%
Feb-15	27	14.16	11,776	9,974	15.30%	36%	30%
Mar-15	30	11.63	7,606	7,448	2.07%	21%	20%
Apr-15	30	15.35	13,591	12,583	7.42%	37%	34%
May-15	31	16.18	14,102	14,220	-0.84%	37%	37%
Jun-15	30	14.18	9,208	10,899	-18.37%	25%	30%
Jul-15	31	15.36	9,945	11,543	-16.07%	26%	30%
Aug-15	31	13.34	7,956	7,361	7.48%	21%	19%
Sep-15	30	14.14	8,535	9,547	-11.86%	23%	26%
Oct-15	31	13.95	9,386	10,929	-16.44%	25%	29%
Nov-15	30	15.20	12,392	12,663	-2.18%	34%	34%
Dec-15	30	15.61	12,025	12,994	-8.06%	33%	35%
Total	360	14.25	126,606	127,500	-0.71%	29%	29%
Total in OSP (07/15-09/15)	63	14.23	17,623	17,623	0.00%	23%	23%

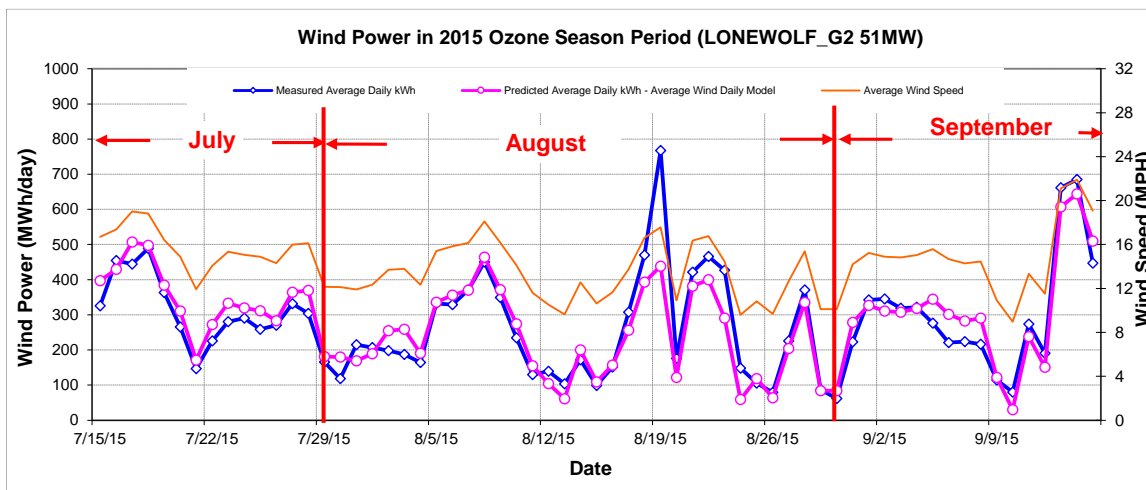


Figure 9-191: LONEWOLF_G2– Predicted Wind Power in OSP Using Average Wind Speed (2015)

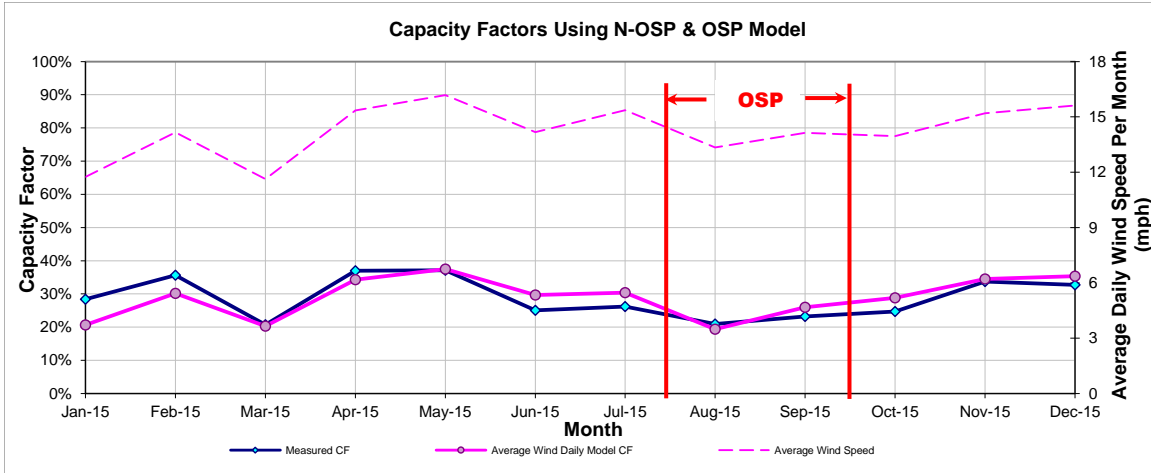


Figure 9-192: LONEWOLF_G2– Predicted Capacity Factors Using Daily Models (2015)

Table 9-183: LONEWOLF_G2– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
84,245	128,364	63	280

9.39 Loraine Windpark III

Table 9-184: Site Information for Loraine Windpark III

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
LONEWOLF_G3	Wind	-	Mitchell	Jan-11	26	Third Planet Windpower	Loraine Windpark III	-	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
LONEWOLF_G3	LONEWOLF_G3	26

9.39.1 Loraine Windpark III – LONEWOLF_G3

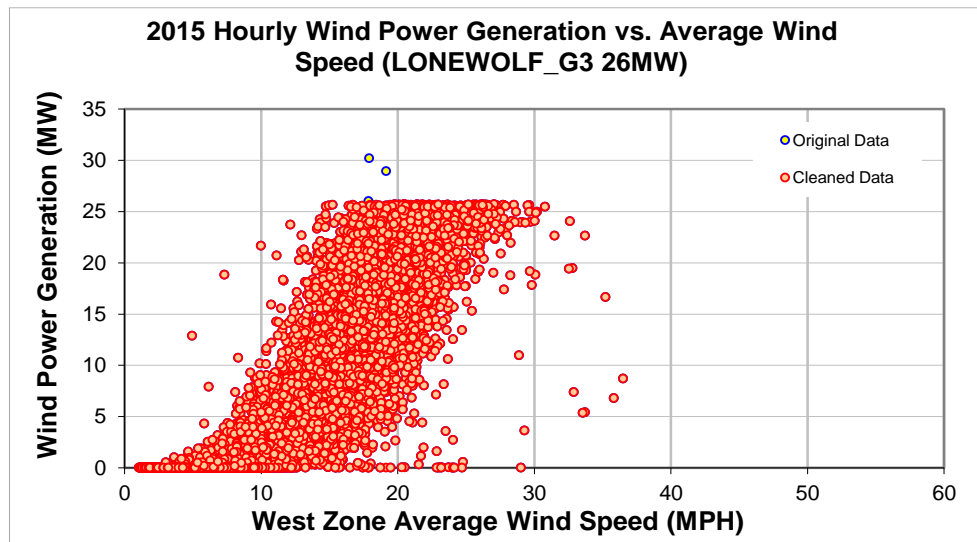


Figure 9-193: LONEWOLF_G3 – Hourly Wind Power vs. Average Wind Speed (2015)

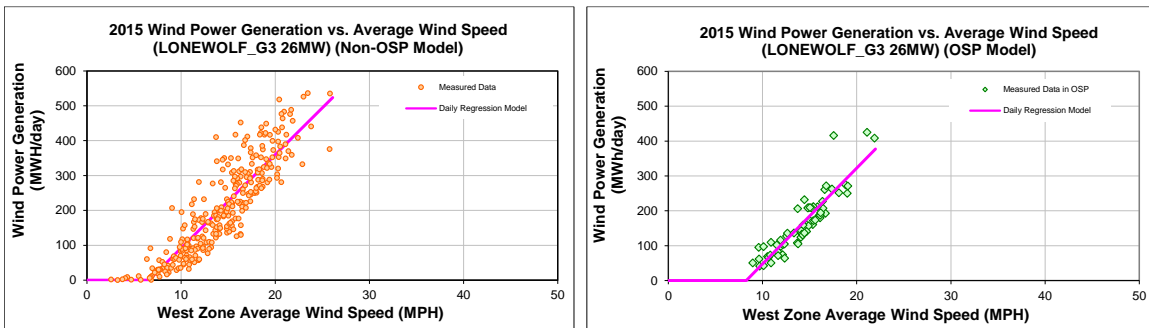


Figure 9-194: LONEWOLF_G3 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-185: LONEWOLF_G3 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-176.1745
Left Slope (MWh/mph-day)	26.8072
RMSE (MWh/day)	60.4389
R2	0.7907
CV-RMSE	29.4%
Daily Maximum (MWh/day)	624

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-227.0938
Left Slope (MWh/mph-day)	27.4671
RMSE (MWh/day)	36.2957
R2	0.8252
CV-RMSE	22.2%
Daily Maximum (MWh/day)	624

Table 9-186: LONEWOLF_G3 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	5,722	4,116	28.07%	32%	23%
Feb-15	27	14.16	6,655	5,597	15.89%	39%	33%
Mar-15	30	11.63	4,570	4,178	8.58%	24%	22%
Apr-15	30	15.35	7,534	7,062	6.26%	40%	38%
May-15	31	16.18	7,796	7,981	-2.37%	40%	41%
Jun-15	30	14.18	4,688	6,116	-30.46%	25%	33%
Jul-15	31	15.36	5,642	6,604	-17.06%	29%	34%
Aug-15	31	13.34	4,575	4,317	5.63%	24%	22%
Sep-15	30	14.14	5,087	5,468	-7.49%	27%	29%
Oct-15	31	13.95	5,381	6,133	-13.96%	28%	32%
Nov-15	30	15.20	6,947	7,108	-2.31%	37%	38%
Dec-15	30	15.61	6,872	7,293	-6.13%	37%	39%
Total	360	14.25	71,469	71,973	-0.71%	32%	32%
Total in OSP (07/15-09/15)	63	14.23	10,312	10,312	0.00%	26%	26%

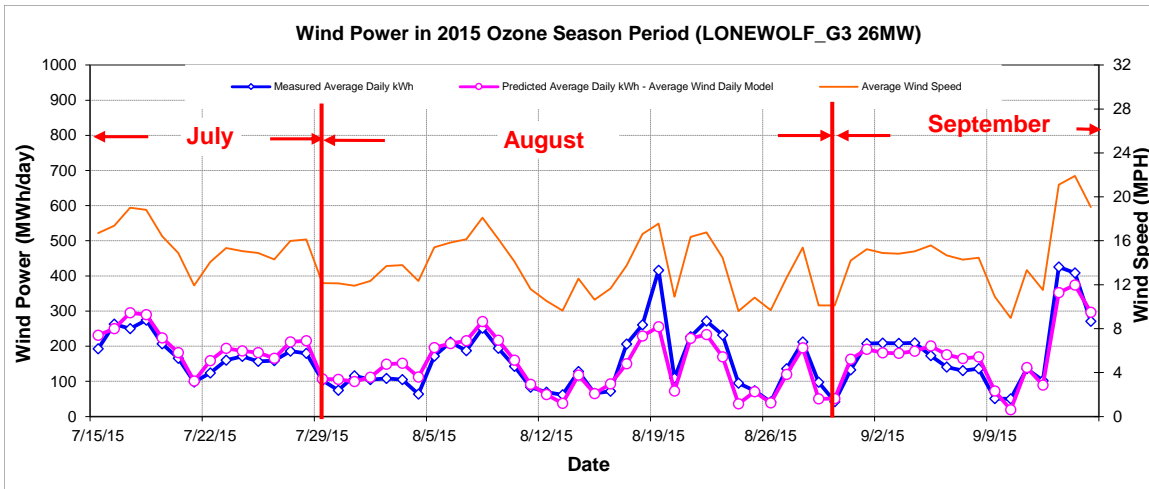


Figure 9-195: LONEWOLF_G3 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

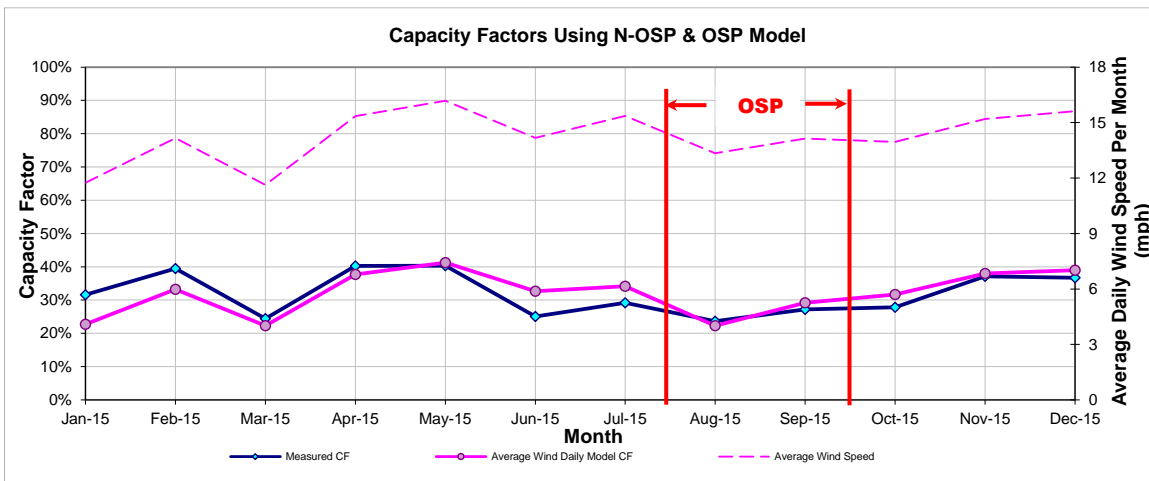


Figure 9-196: LONEWOLF_G3 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-187: LONEWOLF_G3 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
47,398	72,461	37	164

9.40 Loraine Windpark IV

Table 9-188: Site Information for Loraine Windpark IV

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
LONEWOLF_G4	Wind	-	Mitchell	Jan-12	24	Third Planet Windpower	Loraine Windpark IV	-	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
LONEWOLF_G4	LONEWOLF_G4	24

9.40.1 Loraine Windpark IV – LONEWOLF_G4

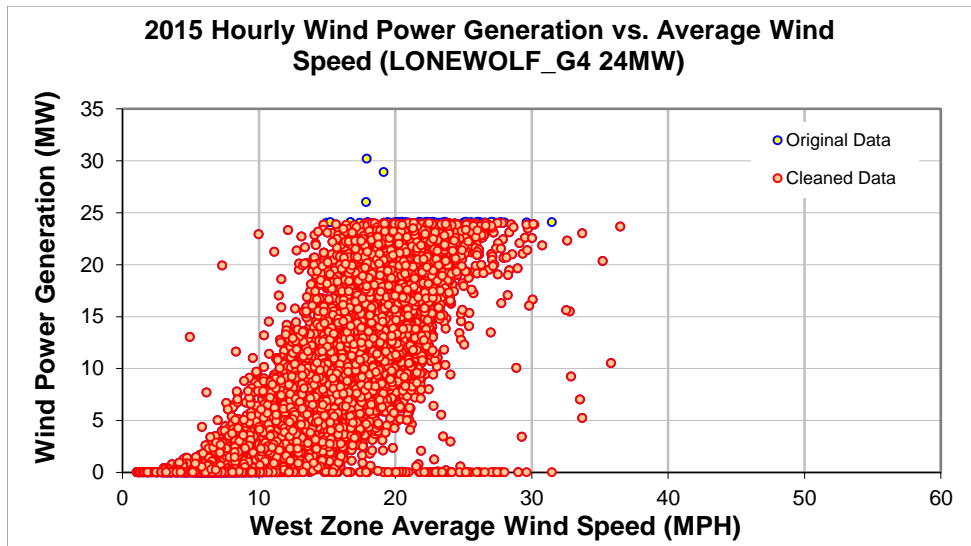


Figure 9-197: LONEWOLF_G4 – Hourly Wind Power vs. Average Wind Speed (2015)

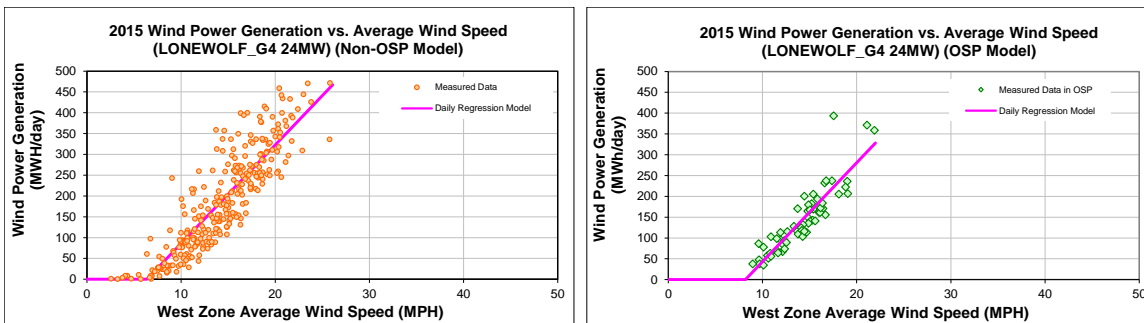


Figure 9-198: LONEWOLF_G4 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-189: LONEWOLF_G4 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-150.9381
Left Slope (MWh/mph-day)	23.6843
RMSE (MWh/day)	56.8346
R2	0.7690
CV-RMSE	30.6%
Daily Maximum (MWh/day)	576

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-194.9444
Left Slope (MWh/mph-day)	23.7746
RMSE (MWh/day)	34.3033
R2	0.7984
CV-RMSE	23.9%
Daily Maximum (MWh/day)	576

Table 9-190: LONEWOLF_G4 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	11.60	4,945	3,541	28.39%	31%	22%
Feb-15	26	13.90	5,627	4,722	16.07%	38%	32%
Mar-15	30	11.63	4,138	3,823	7.60%	24%	22%
Apr-15	30	15.35	6,745	6,381	5.39%	39%	37%
May-15	31	16.18	7,428	7,198	3.10%	42%	40%
Jun-15	30	14.18	4,600	5,545	-20.53%	27%	32%
Jul-15	31	15.36	5,086	5,871	-15.43%	28%	33%
Aug-15	31	13.34	4,076	3,787	7.10%	23%	21%
Sep-15	30	14.14	4,290	4,876	-13.66%	25%	28%
Oct-15	31	13.95	4,694	5,564	-18.53%	26%	31%
Nov-15	30	15.20	6,122	6,407	-4.66%	35%	37%
Dec-15	30	15.61	6,142	6,580	-7.14%	36%	38%
Total	358	14.23	63,892	64,295	-0.63%	31%	31%
Total in OSP (07/15-09/15)	63	14.23	9,028	9,028	0.00%	25%	25%

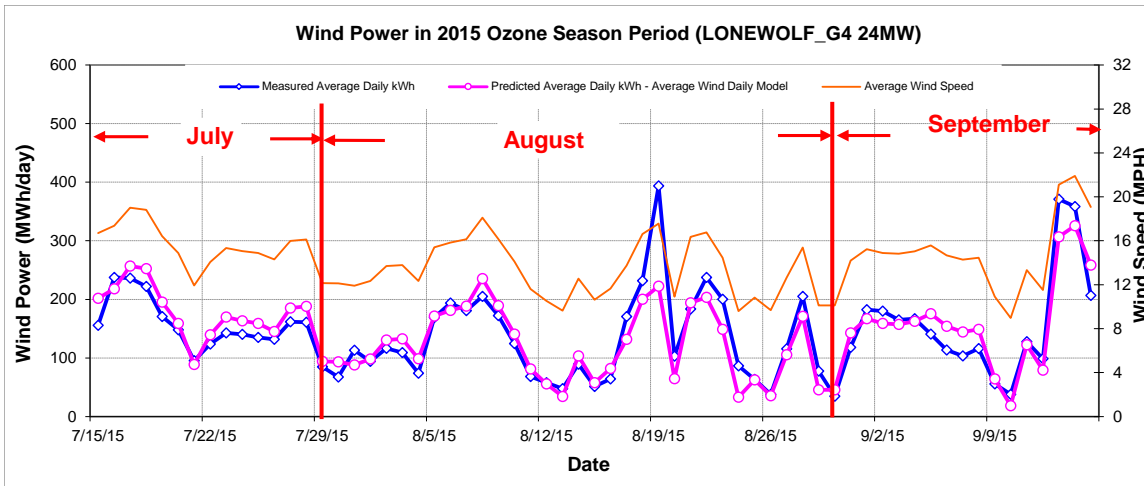


Figure 9-199: LONEWOLF_G4 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

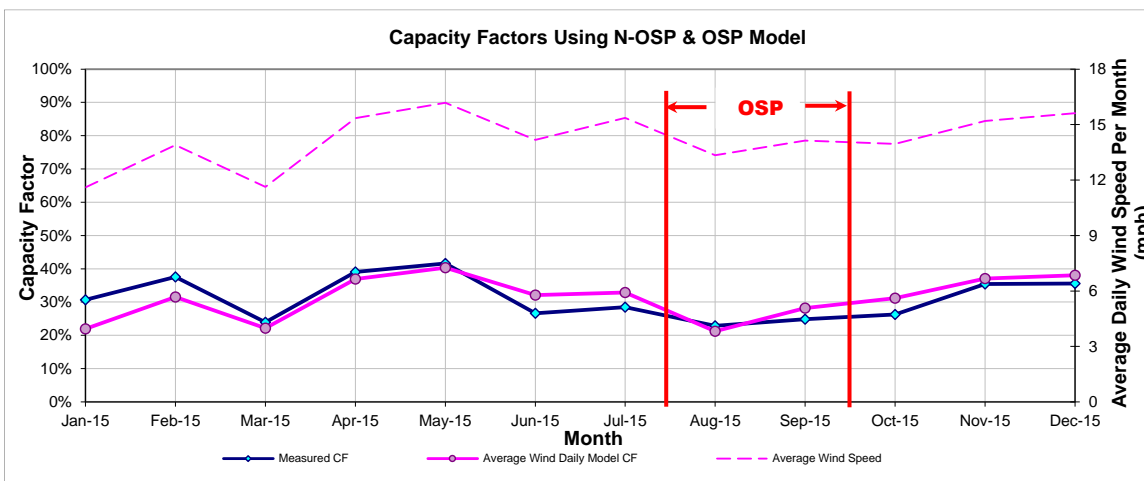


Figure 9-200: LONEWOLF_G4 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-191: LONEWOLF_G4 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
43,148	65,141	33	143

9.41 Los Vientos I

Table 9-192: Site Information for Los Vientos I

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
LV1_LV1A	Wind	-	Willacy	Jan-13	200	Duke Energy	Los Vientos 1	-	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
LV1_LV1A	LV1_LV1A	200

9.41.1 Los Vientos I – LV1_LV1A

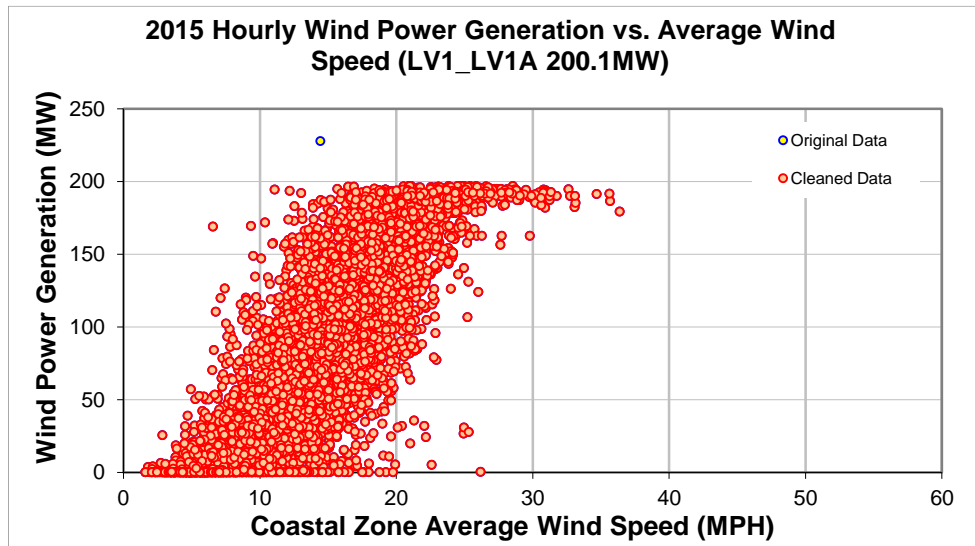


Figure 9-201: LV1_LV1A – Hourly Wind Power vs. Average Wind Speed (2015)

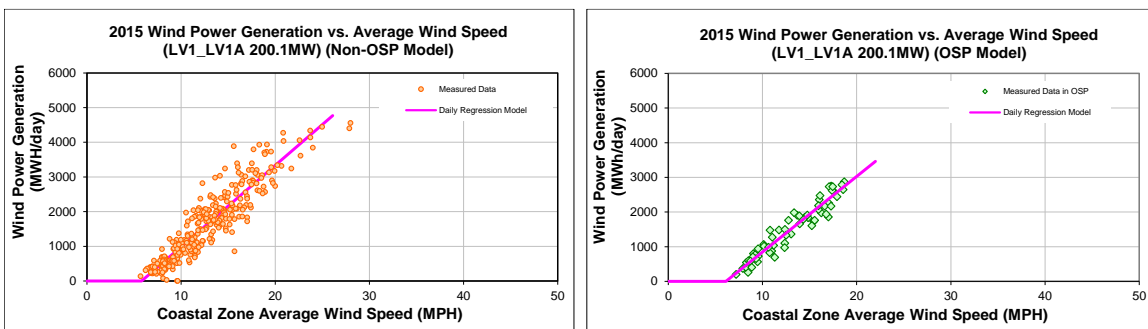


Figure 9-202: LV1_LV1A – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-193: LV1_LV1A – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1362.2357
Left Slope (MWh/mph-day)	234.8458
RMSE (MWh/day)	414.0763
R2	0.8443
CV-RMSE	24.7%
Daily Maximum (MWh/day)	4802

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1332.0020
Left Slope (MWh/mph-day)	217.8399
RMSE (MWh/day)	220.9298
R2	0.9207
CV-RMSE	14.5%
Daily Maximum (MWh/day)	4802

Table 9-194: LV1_LV1A – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	51,896	41,600	19.84%	35%	28%
Feb-15	28	13.26	51,484	49,040	4.75%	38%	36%
Mar-15	31	11.79	42,972	43,585	-1.43%	29%	29%
Apr-15	30	13.30	49,359	52,814	-7.00%	34%	37%
May-15	31	16.69	75,316	79,294	-5.28%	51%	53%
Jun-15	30	12.94	45,069	50,309	-11.63%	31%	35%
Jul-15	31	16.20	65,488	71,658	-9.42%	44%	48%
Aug-15	31	11.97	41,555	39,512	4.92%	28%	27%
Sep-15	30	10.47	31,379	30,216	3.70%	22%	21%
Oct-15	28	11.41	37,715	36,913	2.13%	28%	27%
Nov-15	30	11.95	48,351	43,315	10.42%	34%	30%
Dec-15	31	13.81	55,936	57,489	-2.78%	38%	39%
Total	362	12.96	596,520	595,745	0.13%	34%	34%
Total in OSP (07/15-09/15)	63	13.11	96,059	96,059	0.00%	32%	32%

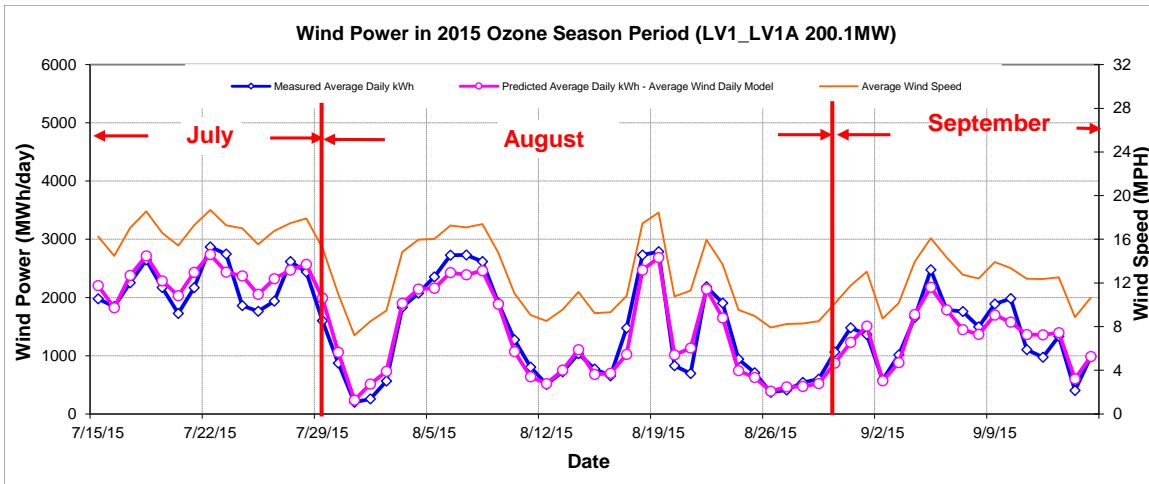


Figure 9-203: LV1_LV1A – Predicted Wind Power in OSP Using Average Wind Speed (2015)

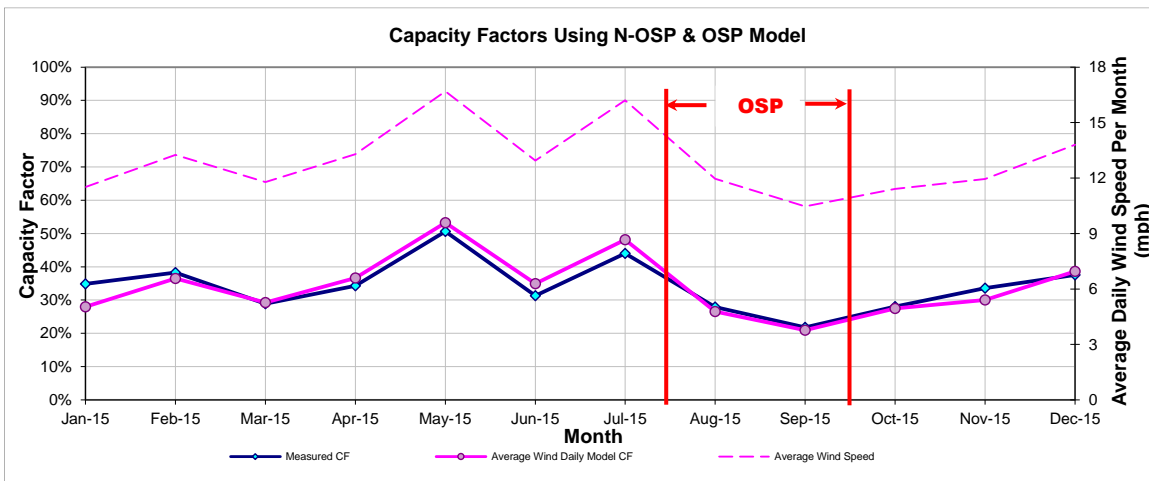


Figure 9-204: LV1_LV1A – Predicted Capacity Factors Using Daily Models (2015)

Table 9-195: LV1_LV1A – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
474,951	601,464	652	1,525

9.42 Los Vientos II

Table 9-196: Site Information for Los Vientos II

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
LV1_LV1B	Wind	-	Willacy	Jan-13	202	Duke Energy	Los Vientos 2	-	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
LV1_LV1B	LV1_LV1B	202

9.42.1 Los Vientos II – LV1_LV1B

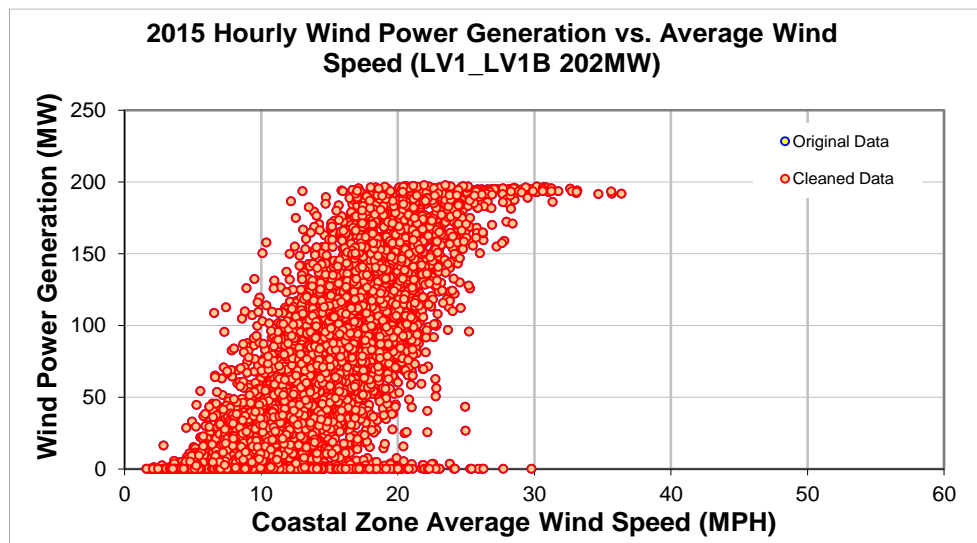


Figure 9-205: LV1_LV1B – Hourly Wind Power vs. Average Wind Speed (2015)

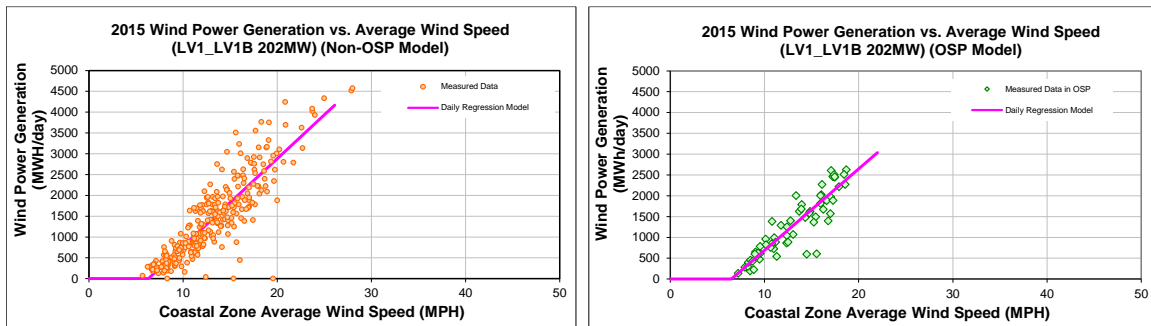


Figure 9-206: LV1_LV1B – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-197: LV1_LV1B – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1332.0849
Left Slope (MWh/mph-day)	210.7353
RMSE (MWh/day)	461.1735
R2	0.7792
CV-RMSE	33.2%
Daily Maximum (MWh/day)	4848

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1268.4362
Left Slope (MWh/mph-day)	195.6940
RMSE (MWh/day)	316.2450
R2	0.8206
CV-RMSE	24.4%
Daily Maximum (MWh/day)	4848

Table 9-198: LV1_LV1B – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	42,834	34,038	20.54%	29%	23%
Feb-15	28	13.26	45,048	40,934	9.13%	33%	30%
Mar-15	31	11.79	34,895	35,710	-2.34%	23%	24%
Apr-15	30	13.30	44,416	44,101	0.71%	31%	30%
May-15	31	16.69	63,400	67,752	-6.86%	42%	45%
Jun-15	30	12.94	35,652	41,853	-17.39%	25%	29%
Jul-15	31	16.20	54,367	61,580	-13.27%	36%	41%
Aug-15	31	11.97	36,463	33,268	8.76%	24%	22%
Sep-15	30	10.47	25,901	24,430	5.68%	18%	17%
Oct-15	28	11.31	33,165	29,414	11.31%	24%	22%
Nov-15	30	11.95	42,522	35,577	16.33%	29%	24%
Dec-15	31	13.81	38,746	48,901	-26.21%	26%	33%
Total	362	12.95	497,409	497,556	-0.03%	28%	28%
Total in OSP (07/15-09/15)	63	13.11	81,767	81,767	0.00%	27%	27%

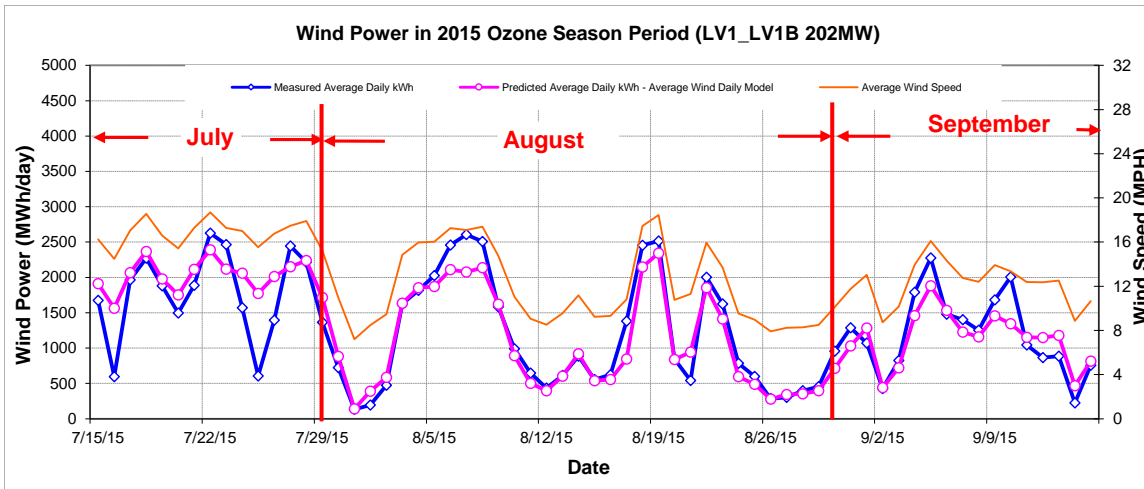


Figure 9-207: LV1_LV1B – Predicted Wind Power in OSP Using Average Wind Speed (2015)

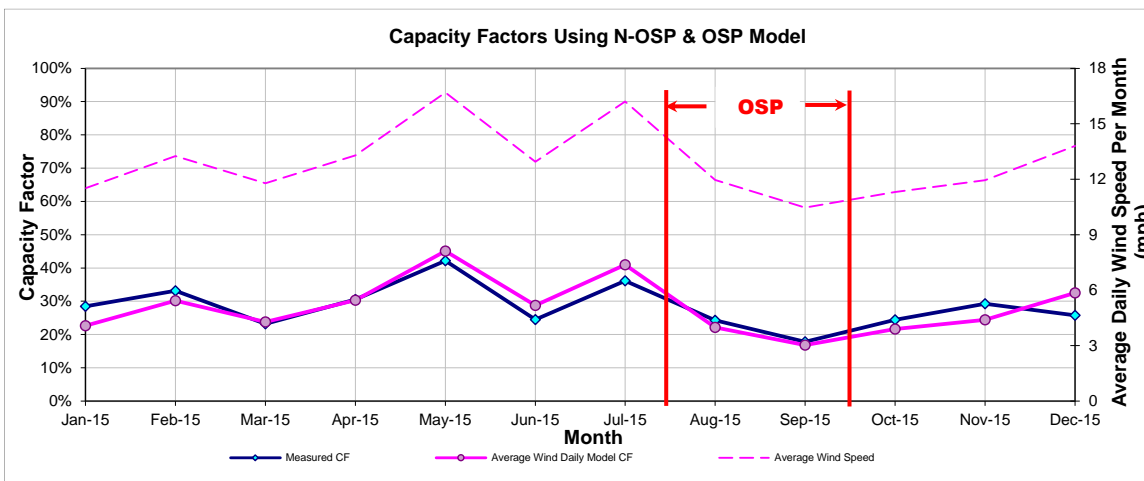


Figure 9-208: LV1_LV1B – Predicted Capacity Factors Using Daily Models (2015)

Table 9-199: LV1_LV1B – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
391,558	501,531	526	1,298

9.43 Forest Creek Wind Farm

Table 9-200: Site Information for Forest Creek Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
MDCDL_D_FCW1	Wind	Abilene	Sterling	Dec-06	124.2	Airtricity	Forest Creek Wind Farm	Siemens	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
MDCDL_D_FCW1	MDCDL_D_FCW1	124.2

9.43.1 Forest Creek Wind Farm – MCDLD_FCW1

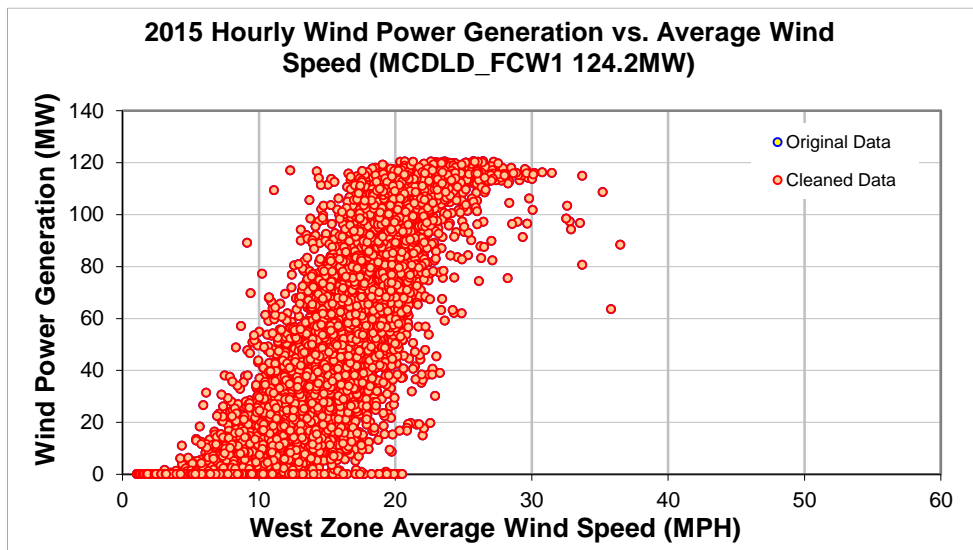


Figure 9-209: MCDLD_FCW1– Hourly Wind Power vs. Average Wind Speed (2015)

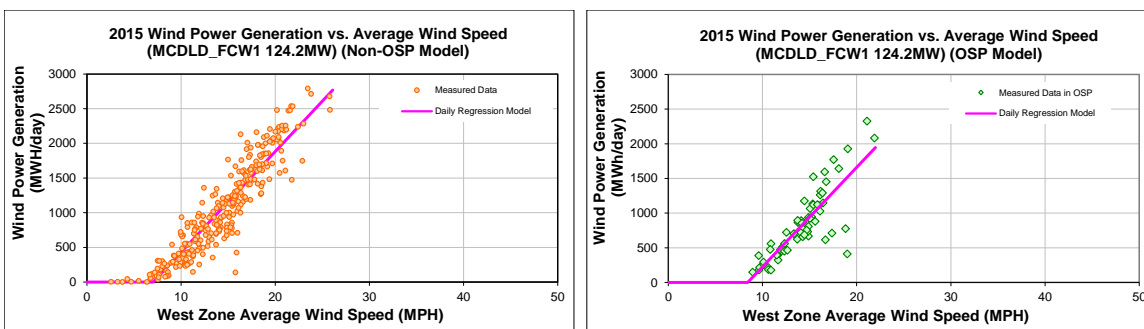


Figure 9-210: MCDLD_FCW1– Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-201: MCDLD_FCW1– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1021.6562
Left Slope (MWh/mph-day)	145.1485
RMSE (MWh/day)	260.3213
R2	0.8519
CV-RMSE	24.4%
Daily Maximum (MWh/day)	2981

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1206.6143
Left Slope (MWh/mph-day)	143.2051
RMSE (MWh/day)	268.4468
R2	0.7011
CV-RMSE	32.3%
Daily Maximum (MWh/day)	2981

Table 9-202: MCDLD_FCW1– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	26,072	20,457	21.53%	30%	24%
Feb-15	26	14.44	29,884	28,574	4.38%	39%	37%
Mar-15	30	11.63	20,306	20,838	-2.62%	23%	23%
Apr-15	30	15.35	37,067	36,205	2.33%	41%	40%
May-15	31	16.18	38,942	41,116	-5.58%	42%	44%
Jun-15	30	14.18	30,973	31,083	-0.35%	35%	35%
Jul-15	31	15.36	28,716	33,784	-17.65%	31%	37%
Aug-15	31	13.34	25,090	21,807	13.08%	27%	24%
Sep-15	30	14.14	26,179	27,688	-5.76%	29%	31%
Oct-15	31	13.95	28,755	31,106	-8.18%	31%	34%
Nov-15	29	15.58	36,933	36,710	0.61%	43%	42%
Dec-15	27	16.49	34,612	37,051	-7.05%	43%	46%
Total	355	14.35	363,529	366,418	-0.79%	34%	35%
Total in OSP (07/15-09/15)	63	14.23	52,341	52,341	0.00%	28%	28%

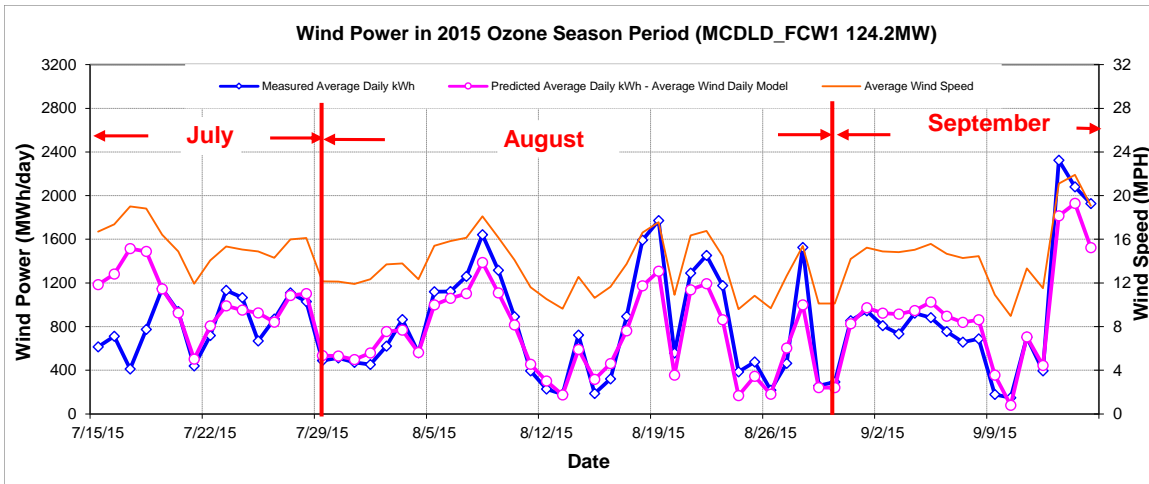


Figure 9-211: MCDLD_FCW1– Predicted Wind Power in OSP Using Average Wind Speed (2015)

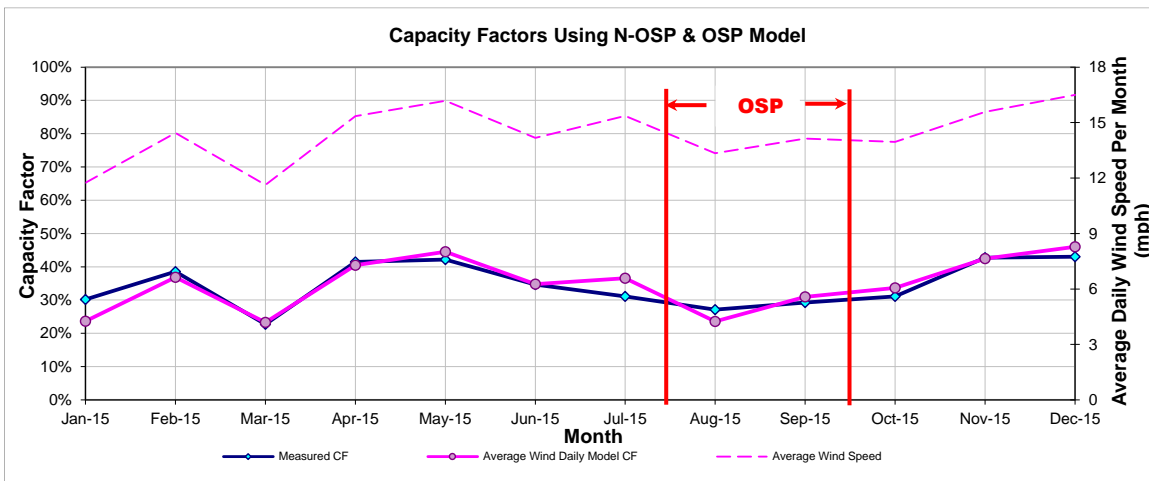


Figure 9-212: MCDLD_FCW1– Predicted Capacity Factors Using Daily Models (2015)

Table 9-203: MCDLD_FCW1– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
237,813	373,769	182	831

9.44 Sand Bluff Wind Farm

Table 9-204: Site Information for Sand Bluff Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
MDCDL_SBW1	Wind	Abilene	Sterling	Dec-06	90	Airtricity	Sand Bluff Wind Farm	Siemens	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
MDCDL_SBW1	MDCDL_SBW1	90

9.44.1 Sand Bluff Wind Farm – MCDLD_SBW1

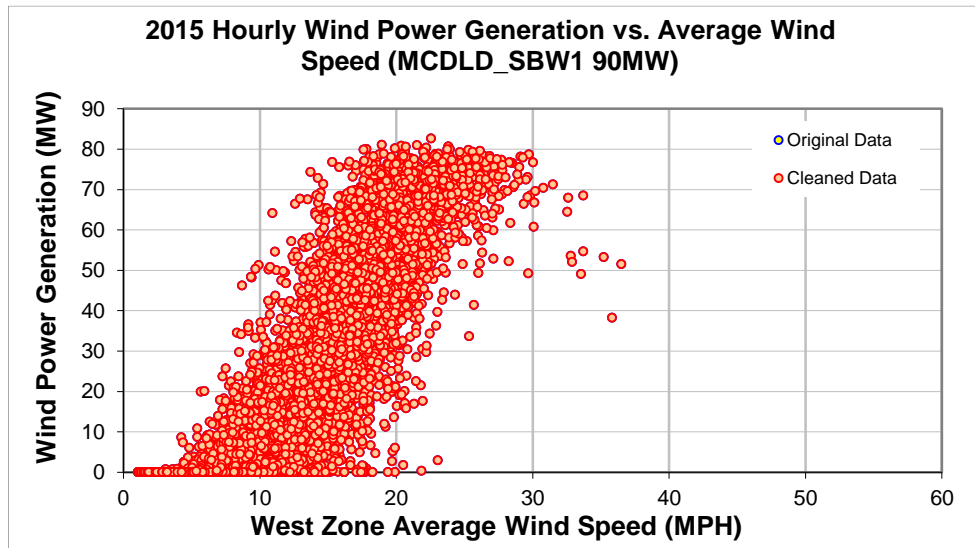


Figure 9-213: MCDLD_SBW1– Hourly Wind Power vs. Average Wind Speed (2015)

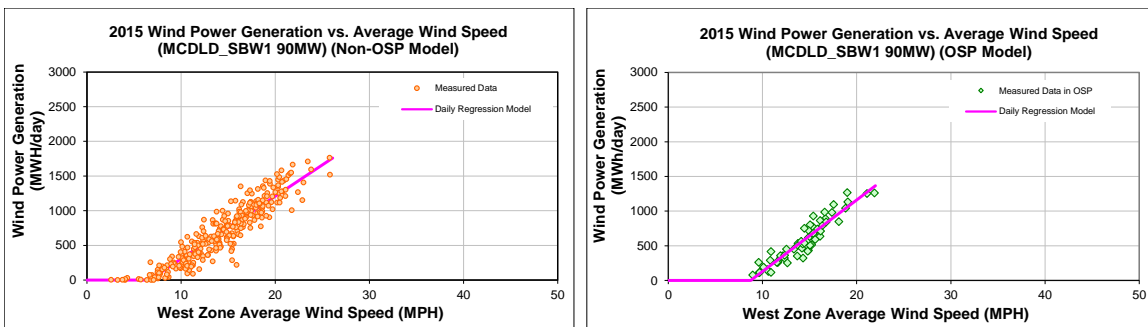


Figure 9-214: MCDLD_SBW1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-205: MCDLD_SBW1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-598.2900
Left Slope (MWh/mph-day)	90.3224
RMSE (MWh/day)	160.2213
R2	0.8602
CV-RMSE	23.3%
Daily Maximum (MWh/day)	2160

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-902.3637
Left Slope (MWh/mph-day)	103.0819
RMSE (MWh/day)	106.0311
R2	0.8862
CV-RMSE	18.8%
Daily Maximum (MWh/day)	2160

Table 9-206: MCDLD_SBW1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	16,754	13,741	17.98%	27%	22%
Feb-15	27	14.16	20,671	18,737	9.35%	35%	32%
Mar-15	30	11.61	14,882	13,945	6.30%	23%	22%
Apr-15	30	15.35	25,672	23,654	7.86%	40%	37%
May-15	31	16.18	22,597	26,747	-18.36%	34%	40%
Jun-15	30	14.18	18,701	20,466	-9.44%	29%	32%
Jul-15	31	15.36	22,150	22,563	-1.86%	33%	34%
Aug-15	31	13.34	15,430	14,649	5.06%	23%	22%
Sep-15	30	14.14	16,258	18,672	-14.85%	25%	29%
Oct-15	31	13.95	18,958	20,518	-8.23%	28%	31%
Nov-15	30	15.20	24,907	23,821	4.36%	38%	37%
Dec-15	31	15.34	23,207	24,478	-5.48%	35%	37%
Total	361	14.23	240,187	241,990	-0.75%	31%	31%
Total in OSP (07/15-09/15)	63	14.23	35,545	35,545	0.00%	26%	26%

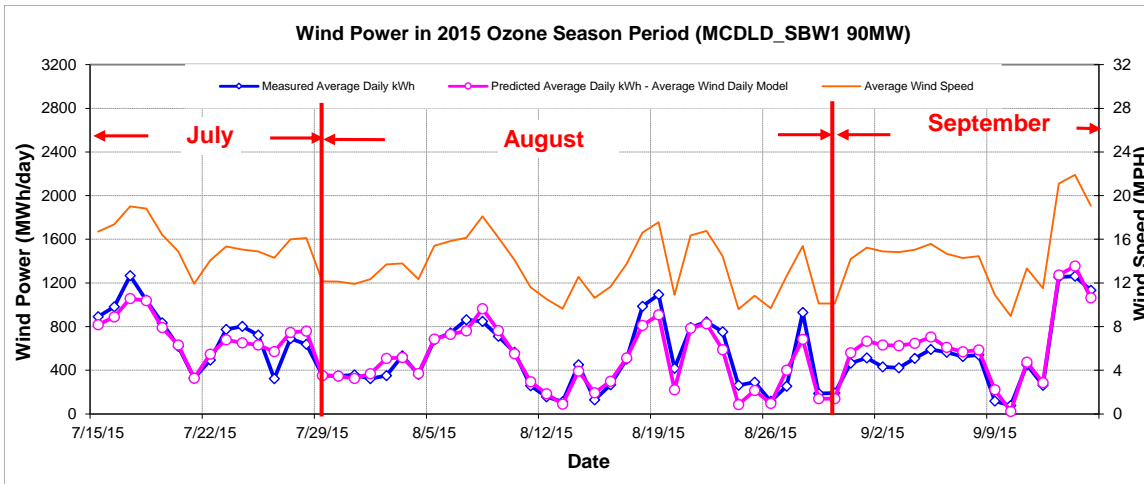


Figure 9-215: MCDLD_SBW1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

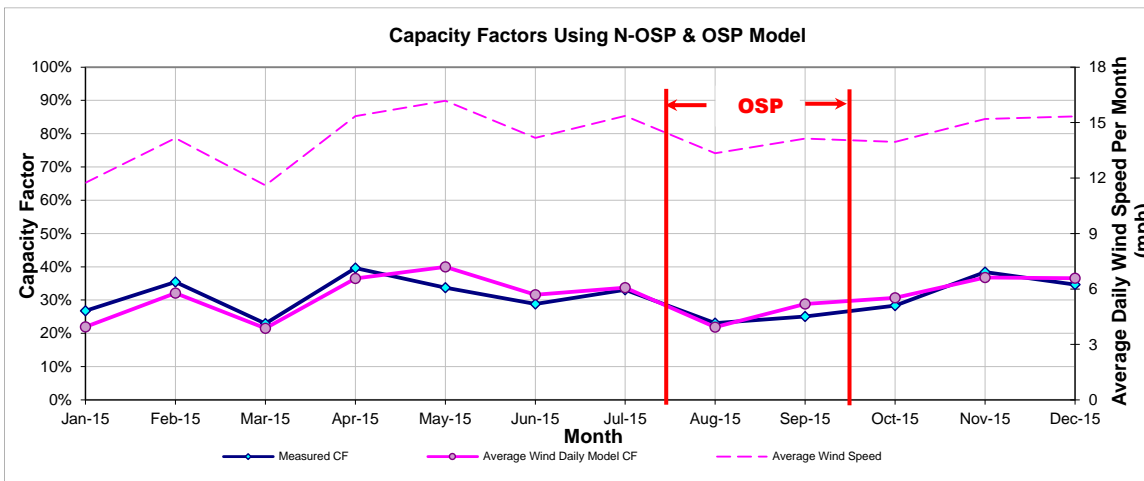


Figure 9-216: MCDLD_SBW1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-207: MCDLD_SBW1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
157,778	242,849	115	564

9.45 Mozart Wind Farm

Table 9-208: Site Information for Mozart Wind Farm

Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
Wind	-	Kent	Dec-12	30	WKN USA	WKN Mozart	-	ERCOT	West	West Zone Average Wind Speed

GENSITECODE_ERCOT	Capacity (MW)
MOZART_WIND_1	30

9.45.1 Mozart Wind Farm – MOZART_WIND_1

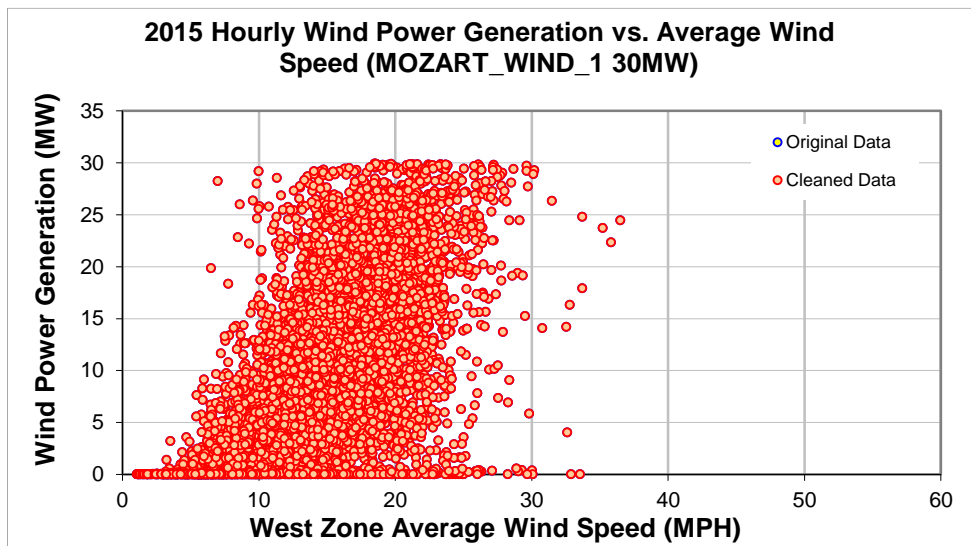


Figure 9-217: MOZART_WIND_1 – Hourly Wind Power vs. Average Wind Speed (2015)

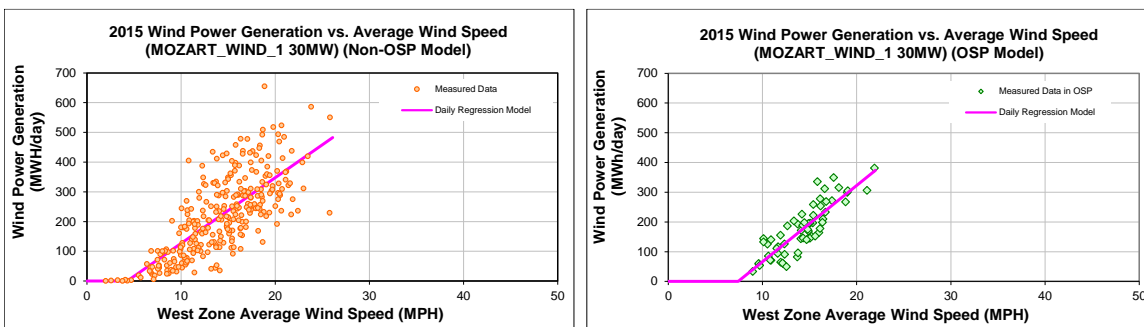


Figure 9-218: MOZART_WIND_1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-209: MOZART_WIND_1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-94.7815
Left Slope (MWh/mph-day)	22.1113
RMSE (MWh/day)	88.6405
R2	0.5521
CV-RMSE	40.5%
Daily Maximum (MWh/day)	720

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-189.9966
Left Slope (MWh/mph-day)	25.6262
RMSE (MWh/day)	43.8059
R2	0.7383
CV-RMSE	25.1%
Daily Maximum (MWh/day)	720

Table 9-210: MOZART_WIND_1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	7,621	4,806	36.94%	35%	22%
Feb-15	27	14.16	7,238	5,931	18.06%	37%	31%
Mar-15	30	11.63	5,041	4,871	3.38%	23%	23%
Apr-15	30	15.35	8,219	7,341	10.68%	38%	34%
May-15	31	16.18	6,392	8,150	-27.49%	29%	37%
Jun-15	30	14.18	5,187	6,561	-26.47%	24%	30%
Jul-15	31	15.36	5,997	6,873	-14.61%	27%	31%
Aug-15	31	13.34	5,210	4,706	9.67%	23%	21%
Sep-15	30	14.14	5,141	5,898	-14.73%	24%	27%
Oct-15	31	13.95	5,930	6,625	-11.72%	27%	30%
Nov-15	30	15.20	6,509	7,254	-11.45%	30%	34%
Dec-15	30	15.32	7,721	7,318	5.22%	36%	34%
Total	361	14.19	76,205	76,332	-0.17%	29%	29%
Total in OSP (07/15-09/15)	63	14.23	10,999	10,999	0.00%	24%	24%

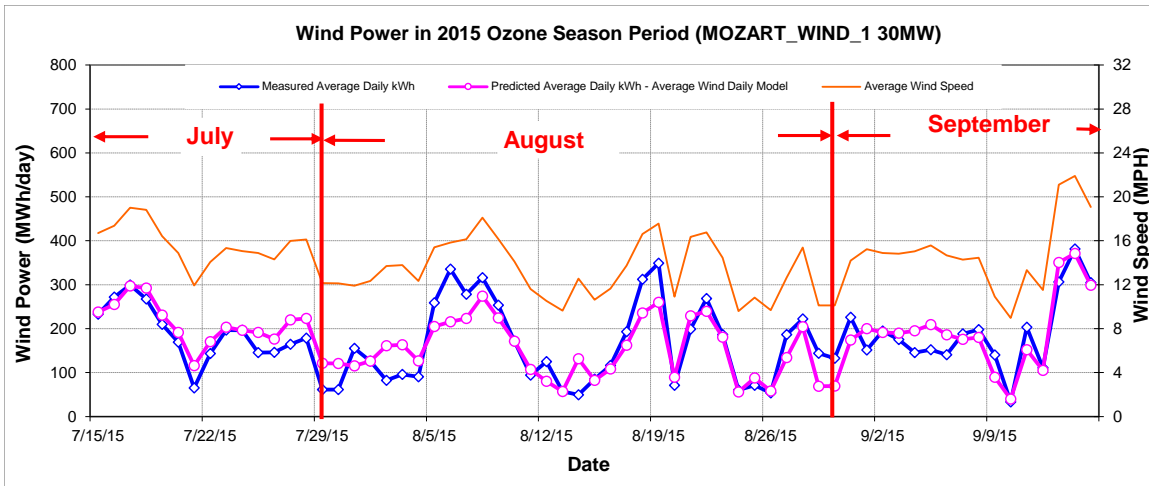


Figure 9-219: MOZART_WIND_1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

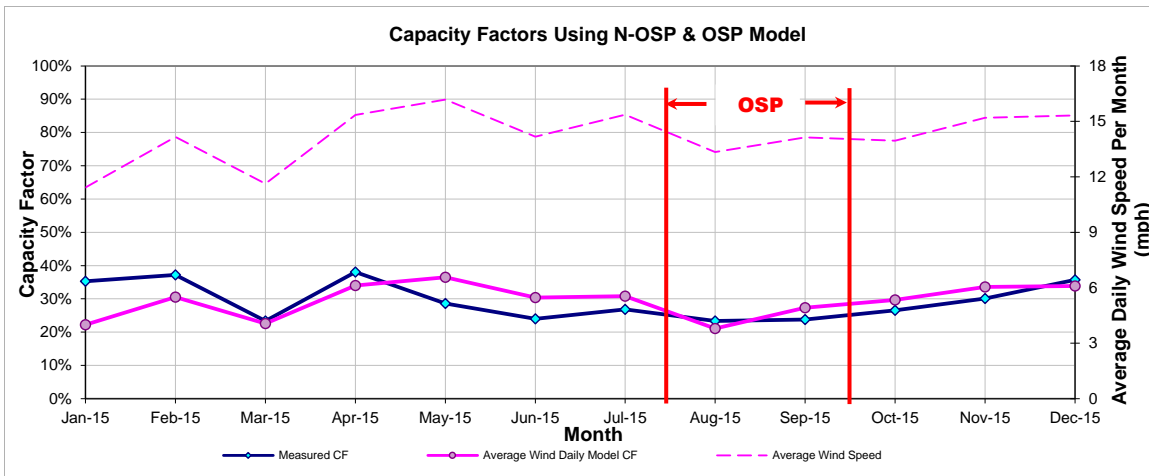


Figure 9-220: MOZART_WIND_1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-211: MOZART_WIND_1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
58,018	77,050	51	175

9.46 McAdoo Wind Energy

Table 9-212: Site Information for McAdoo Wind Energy

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Weather Station
MWEC_G1	Wind	-	Dickens	May-08	150	McAdoo Wind Energy	McAdoo Wind Energy	GE Energy (100)	ERCOT	West	LBB

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
MWEC_G1	MWEC_G1	150

9.46.1 McAdoo Wind Energy – MWEC_G1

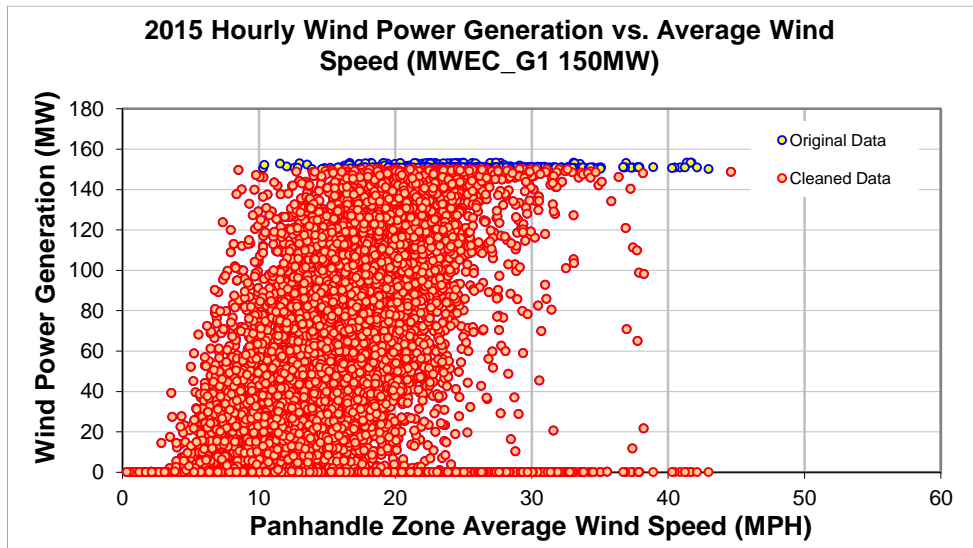


Figure 9-221: MWEC_G1- Hourly Wind Power vs. NOAA Wind Speed (2015)

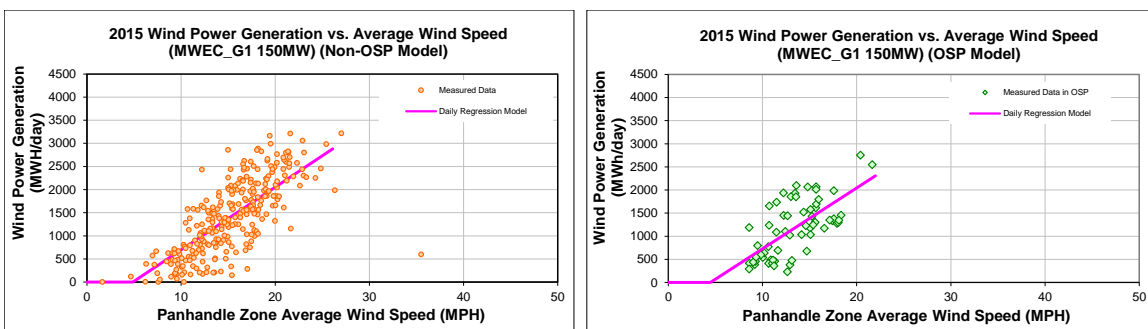


Figure 9-222: MWEC_G1- Daily Wind Power vs. NOAA Wind Speed (Using OSP and Non OSP Model)

Table 9-213: MWEC_G1– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-660.8412
Left Slope (MWh/mph-day)	135.6736
RMSE (MWh/day)	541.9796
R2	0.5398
CV-RMSE	38.0%
Daily Maximum (MWh/day)	3600

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-586.9976
Left Slope (MWh/mph-day)	131.5071
RMSE (MWh/day)	459.3759
R2	0.4493
CV-RMSE	38.9%
Daily Maximum (MWh/day)	3600

Table 9-214: MWEC_G1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	27	15.16	37,553	37,706	-0.41%	39%	39%
Feb-15	26	14.65	42,815	34,482	19.46%	46%	37%
Mar-15	31	14.16	35,956	39,085	-8.70%	32%	35%
Apr-15	28	17.24	47,615	46,985	1.32%	47%	47%
May-15	31	16.47	46,260	48,777	-5.44%	41%	44%
Jun-15	30	15.00	39,046	41,218	-5.56%	36%	38%
Jul-15	31	13.57	41,379	36,877	10.88%	37%	33%
Aug-15	31	12.38	34,068	32,259	5.31%	31%	29%
Sep-15	29	15.34	36,315	41,282	-13.68%	35%	40%
Oct-15	31	14.46	36,764	40,324	-9.69%	33%	36%
Nov-15	24	16.12	38,847	37,054	4.61%	45%	43%
Dec-15	24	16.80	37,821	38,298	-1.26%	44%	44%
Total	343	15.04	474,440	474,347	0.02%	38%	38%
Total in OSP (07/15-09/15)	62	13.44	73,221	73,221	0.00%	33%	33%

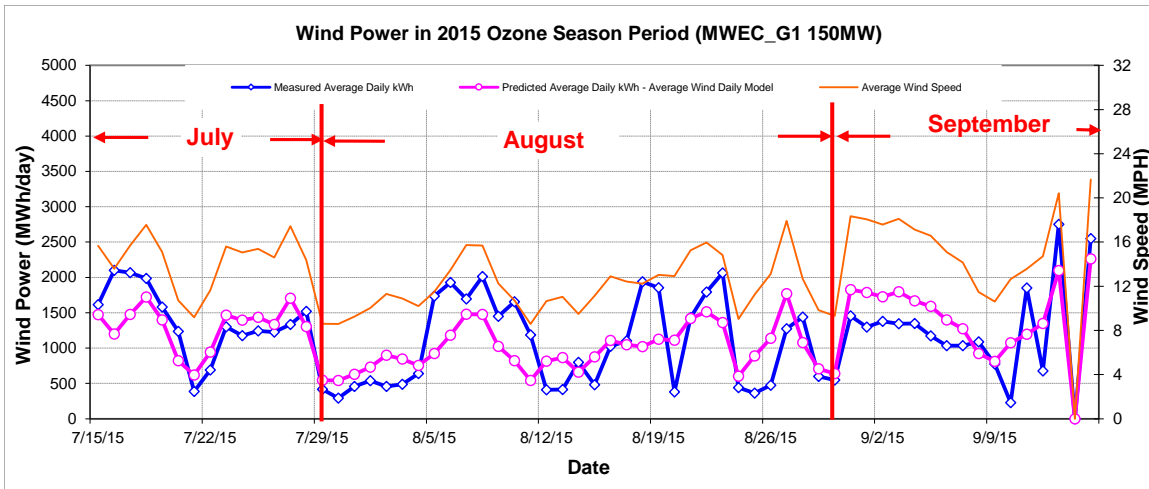


Figure 9-223: MWEC_G1 - Predicted Wind Power in OSP Using NOAA Wind Speed (2015)

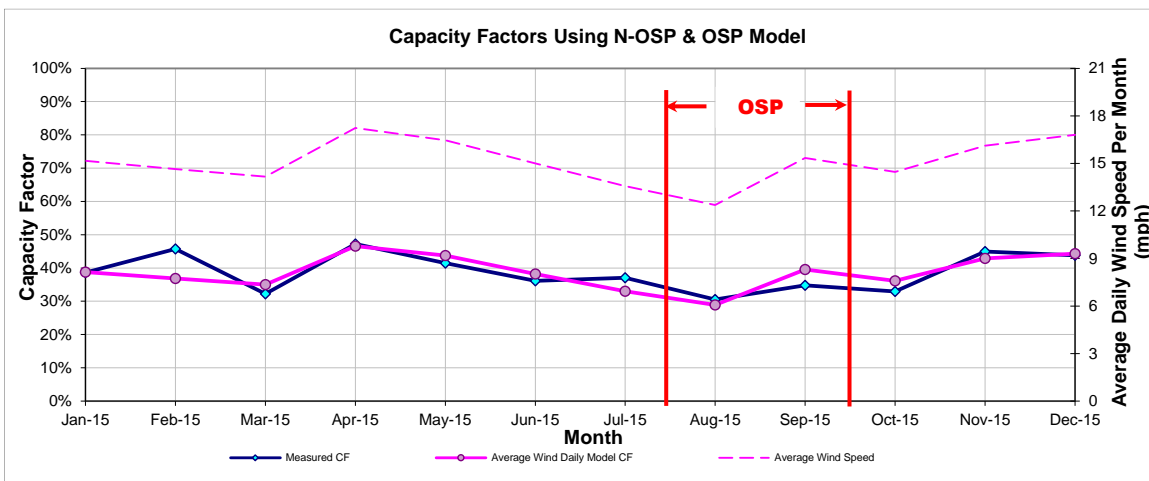


Figure 9-224: MWEC_G1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-215: MWEC_G1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
350,188	504,871	602	1,181

9.47 Notrees Windpower

Table 9-216: Site Information for Notrees Windpower

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Weather Station
NWF_NWF1	Wind	-	Ector	Jan-09	153	Duke Energy	Notrees Windpower	Vestas (55) and GE Energy (40)	ERCOT	West	MAF

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
NWF_NWF1	NWF_NWF1	153

9.47.1 Notrees Windpower – NWF_NWF1

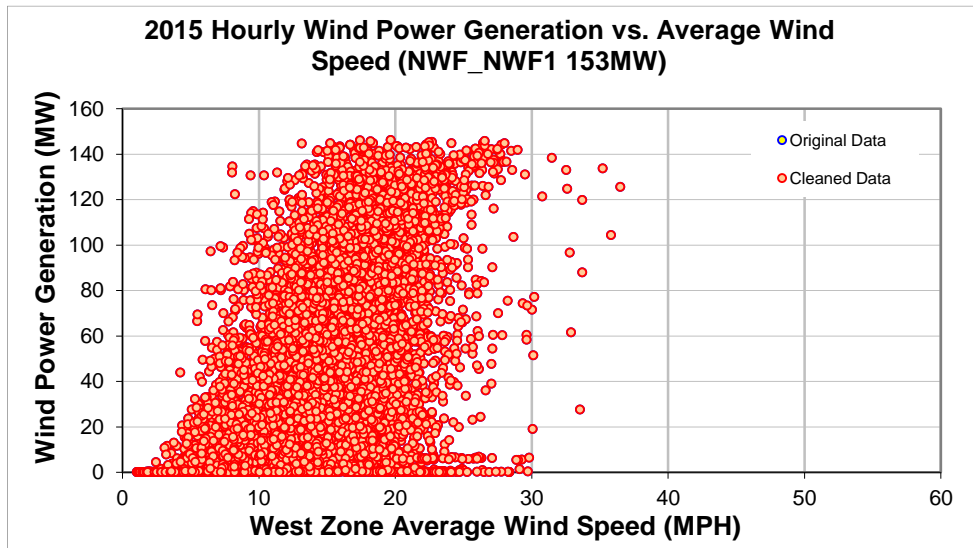


Figure 9-225: NWF_NWF1 - Hourly Wind Power vs. NOAA Wind Speed (2015)

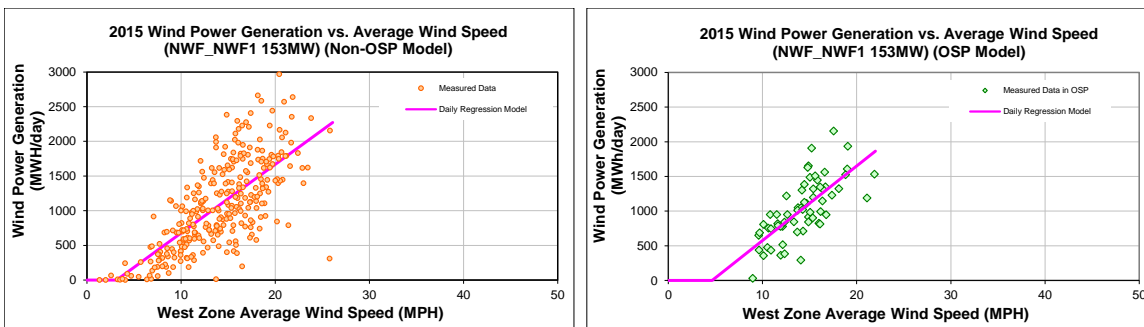


Figure 9-226: NWF_NWF1 - Daily Wind Power vs. NOAA Wind Speed (Using OSP and Non OSP Model)

Table 9-217: NWF_NWF1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-312.4929
Left Slope (MWh/mph-day)	98.9834
RMSE (MWh/day)	441.3640
R2	0.5097
CV-RMSE	41.0%
Daily Maximum (MWh/day)	3672

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-499.2790
Left Slope (MWh/mph-day)	107.5032
RMSE (MWh/day)	303.5189
R2	0.5084
CV-RMSE	29.5%
Daily Maximum (MWh/day)	3672

Table 9-218: NWF_NWF1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	31	11.10	27,145	24,654	9.17%	24%	22%
Feb-15	28	13.78	27,744	29,493	-6.31%	27%	29%
Mar-15	31	11.39	21,125	25,247	-19.51%	19%	22%
Apr-15	30	15.35	38,911	36,217	6.92%	35%	33%
May-15	31	16.18	41,126	39,949	2.86%	36%	35%
Jun-15	30	14.18	32,583	32,723	-0.43%	30%	30%
Jul-15	31	15.36	30,654	36,449	-18.91%	27%	32%
Aug-15	31	13.34	30,799	28,973	5.93%	27%	25%
Sep-15	30	14.14	35,272	31,721	10.07%	32%	29%
Oct-15	29	13.50	31,076	29,693	4.45%	29%	28%
Nov-15	30	15.20	32,335	35,757	-10.58%	29%	32%
Dec-15	31	15.34	39,129	37,374	4.48%	34%	33%
Total	363	14.07	387,898	388,250	-0.09%	29%	29%
Total in OSP (07/15-09/15)	63	14.23	64,902	64,902	0.00%	28%	28%

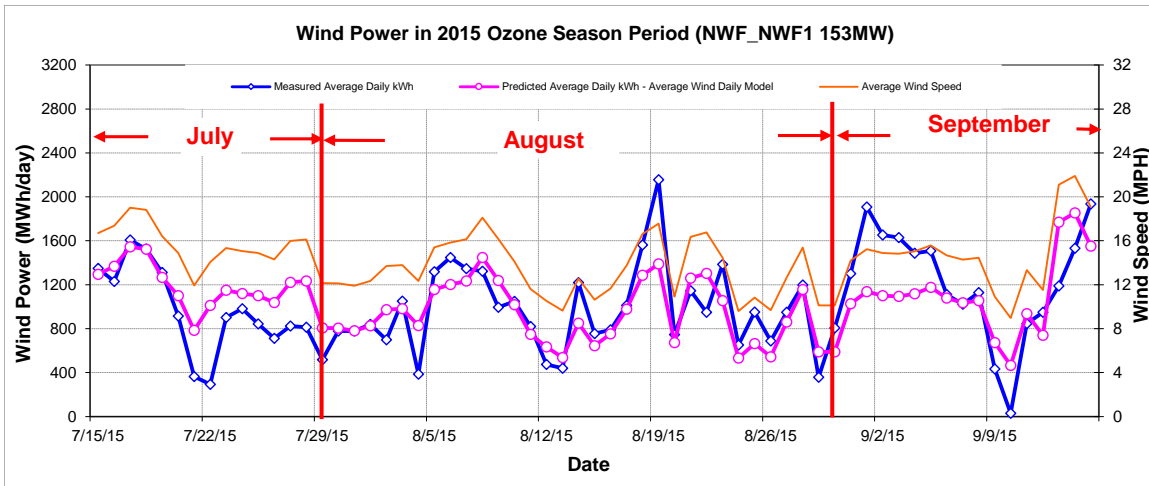


Figure 9-227: NWF_NWF1 - Predicted Wind Power in OSP Using NOAA Wind Speed (2015)

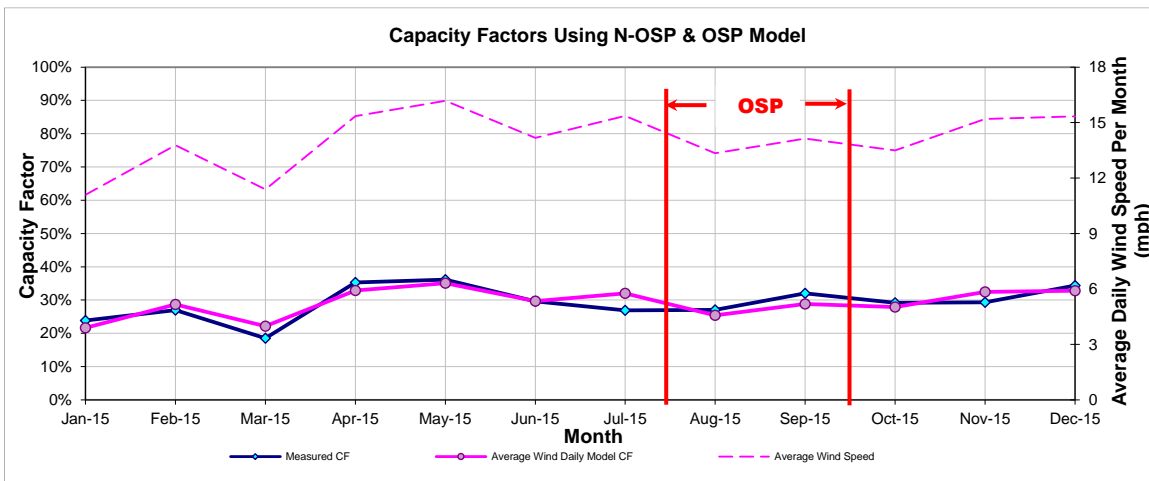


Figure 9-228: NWF_NWF1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-219: NWF_NWF1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
255,315	390,035	436	1,030

9.48 Ocotillo Windpower 1

Table 9-220: Site Information for Ocotillo Windpower 1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
OWF_OWF	Wind	-	Howard	Aug-08	58.8	Duke Energy	Ocotillo Windpower 1	Suzlon (28)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
OWF_OWF	OWF_OWF	58.8

9.48.1 Ocotillo Windpower 1 – OWF_OWF

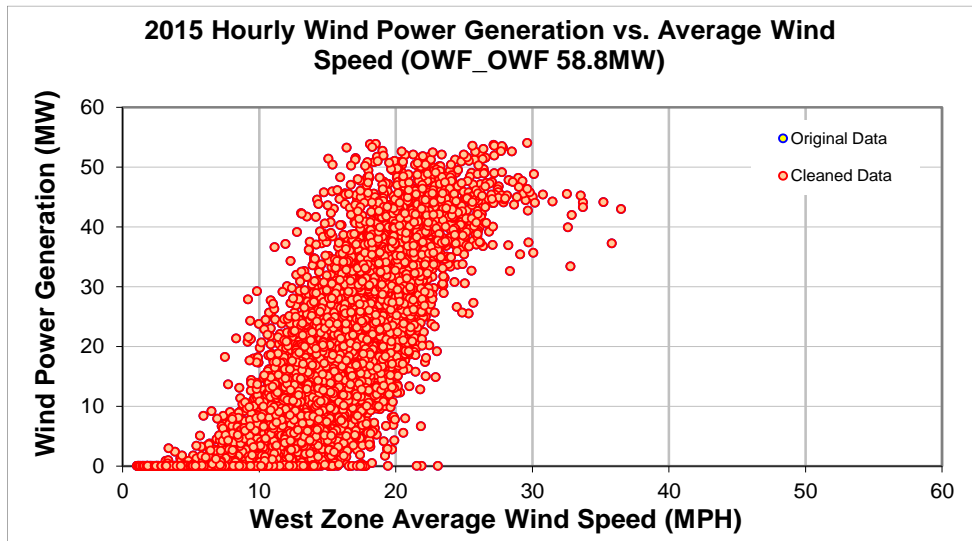


Figure 9-229: OWF_OWF - Hourly Wind Power vs. Average Wind Speed (2015)

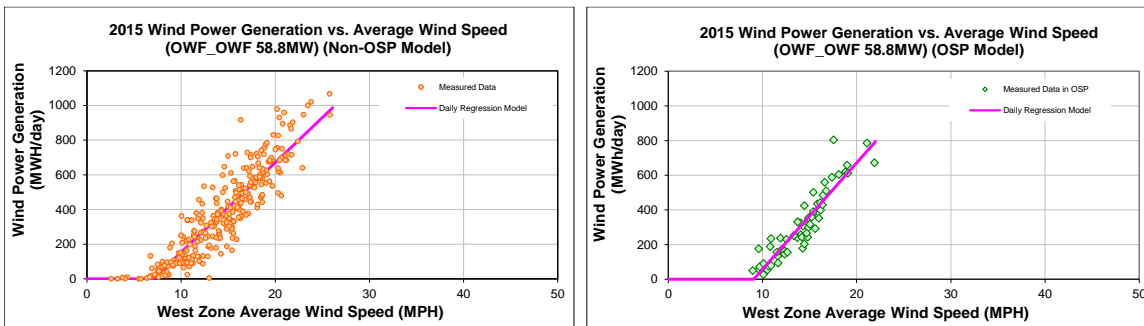


Figure 9-230: OWF_OWF - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-221: OWF_OWF – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-366.0146
Left Slope (MWh/mph-day)	51.8495
RMSE (MWh/day)	108.6282
R2	0.8123
CV-RMSE	29.0%
Daily Maximum (MWh/day)	1411

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-557.0372
Left Slope (MWh/mph-day)	61.4249
RMSE (MWh/day)	70.6900
R2	0.8616
CV-RMSE	22.3%
Daily Maximum (MWh/day)	1411

Table 9-222: OWF_OWF – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	10,662	7,279	31.73%	26%	18%
Feb-15	27	14.16	12,111	10,181	15.94%	32%	27%
Mar-15	29	11.87	7,170	7,418	-3.47%	18%	18%
Apr-15	30	15.35	12,225	12,901	-5.53%	29%	30%
May-15	31	16.18	13,057	14,654	-12.23%	30%	33%
Jun-15	30	14.18	10,805	11,071	-2.46%	26%	26%
Jul-15	31	15.36	11,961	12,551	-4.93%	27%	29%
Aug-15	31	13.34	8,854	8,130	8.18%	20%	19%
Sep-15	30	14.14	8,371	10,309	-23.14%	20%	24%
Oct-15	30	14.03	7,981	10,849	-35.93%	19%	26%
Nov-15	30	15.20	13,973	13,086	6.35%	33%	31%
Dec-15	30	15.61	13,467	13,373	0.69%	32%	32%
Total	358	14.28	130,637	131,802	-0.89%	26%	26%
Total in OSP (07/15-09/15)	63	14.23	19,963	19,969	-0.03%	22%	22%

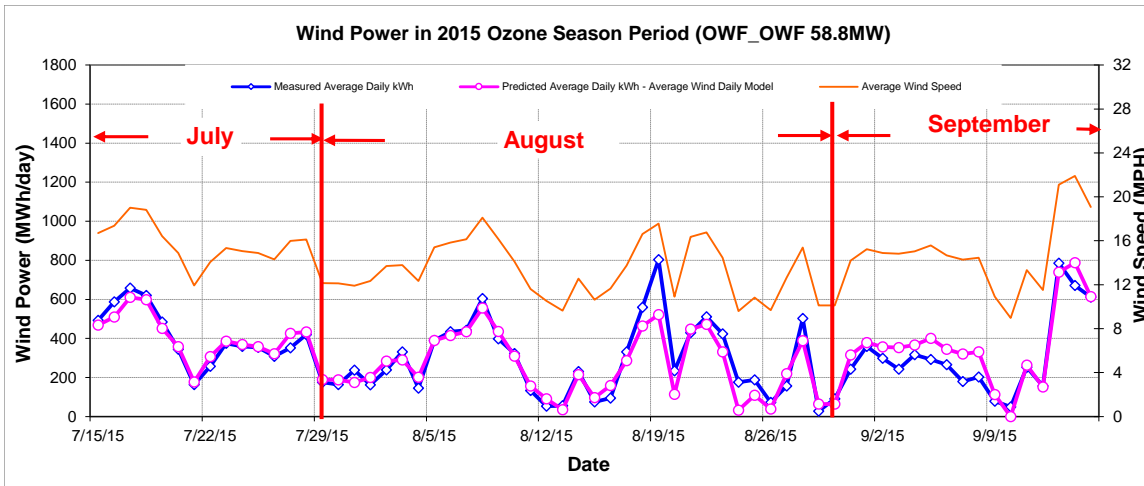


Figure 9-231: OWF_OWF - Predicted Wind Power in OSP Using Average Wind Speed (2015)

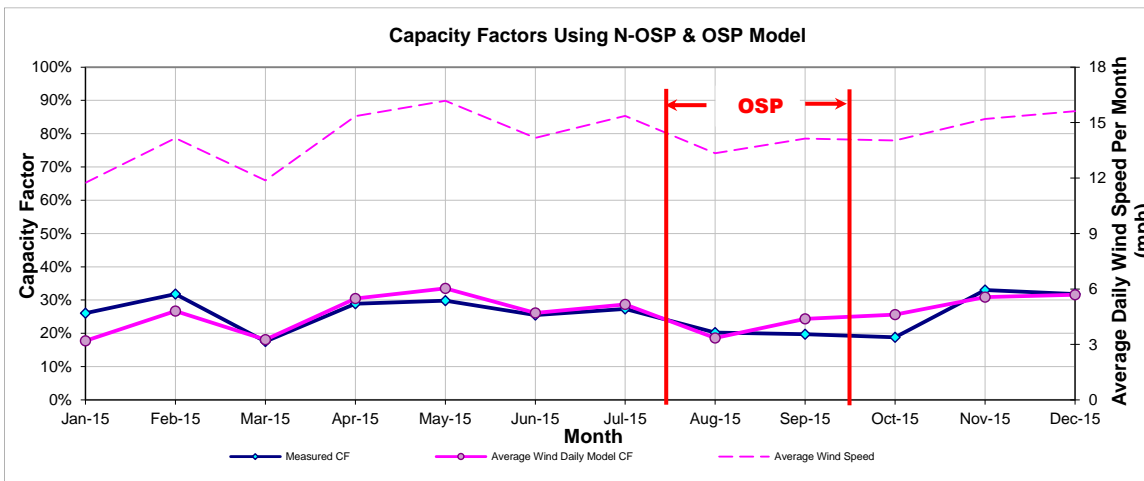


Figure 9-232: OWF_OWF – Predicted Capacity Factors Using Daily Models (2015)

Table 9-223: OWF_OWF – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
66,621	133,192	45	317

9.49 Papalote Creek Wind Farm

Table 9-224: Site Information for Papalote Creek Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PAP1_PAP1	Wind	-	San Patricio	Sep-09	180	EOn Climate & Renewables	Papalote Creek Wind Farm	Vestas (109)	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PAP1_PAP1	PAP1_PAP1	180

9.49.1 Papalote Creek Wind Farm – PAP1_PAP1

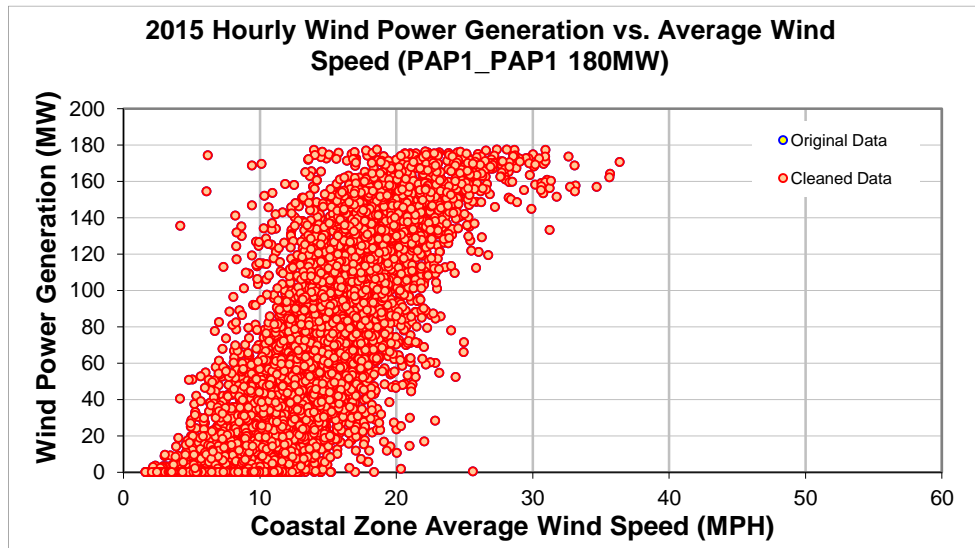


Figure 9-233: PAP1_PAP1 - Hourly Wind Power vs. Average Wind Speed (2015)

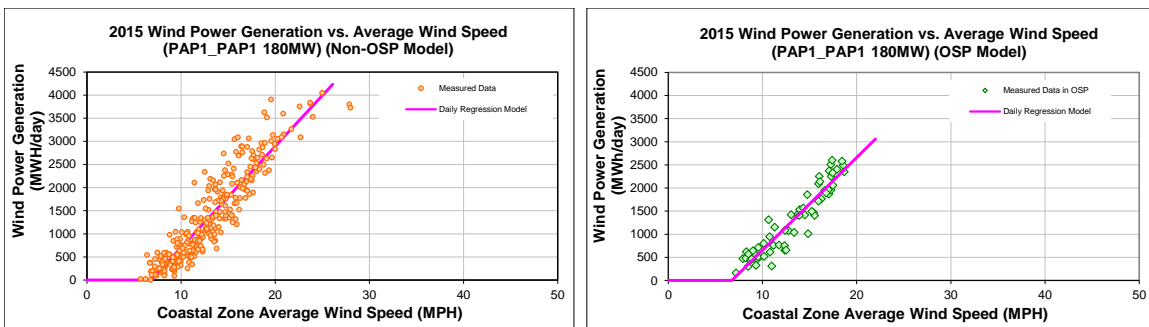


Figure 9-234: PAP1_PAP1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-225: PAP1_PAP1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1491.5531
Left Slope (MWh/mph-day)	219.2466
RMSE (MWh/day)	373.2102
R2	0.8532
CV-RMSE	27.9%
Daily Maximum (MWh/day)	4320

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1353.8366
Left Slope (MWh/mph-day)	200.5725
RMSE (MWh/day)	244.7374
R2	0.8892
CV-RMSE	19.2%
Daily Maximum (MWh/day)	4320

Table 9-226: PAP1_PAP1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	38,035	32,258	15.19%	28%	24%
Feb-15	28	13.26	39,245	39,634	-0.99%	32%	33%
Mar-15	31	11.79	31,110	33,989	-9.26%	23%	25%
Apr-15	30	13.30	40,392	42,712	-5.74%	31%	33%
May-15	31	16.69	68,326	67,213	1.63%	51%	50%
Jun-15	30	12.94	32,643	40,373	-23.68%	25%	31%
Jul-15	31	16.20	57,020	61,191	-7.31%	43%	46%
Aug-15	31	11.97	35,177	32,430	7.81%	26%	24%
Sep-15	29	10.60	22,878	22,866	0.05%	18%	18%
Oct-15	31	11.17	34,175	29,682	13.15%	26%	22%
Nov-15	30	11.95	39,156	33,843	13.57%	30%	26%
Dec-15	31	13.81	45,137	46,969	-4.06%	34%	35%
Total	364	12.94	483,294	483,161	0.03%	31%	31%
Total in OSP (07/15-09/15)	63	13.11	80,417	80,417	0.00%	30%	30%

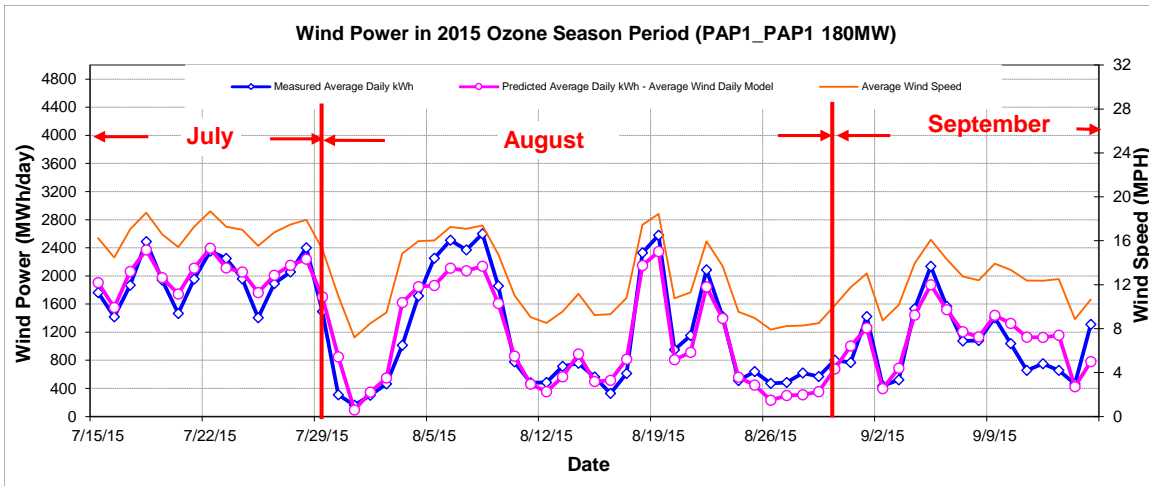


Figure 9-235: PAP1_PAP1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

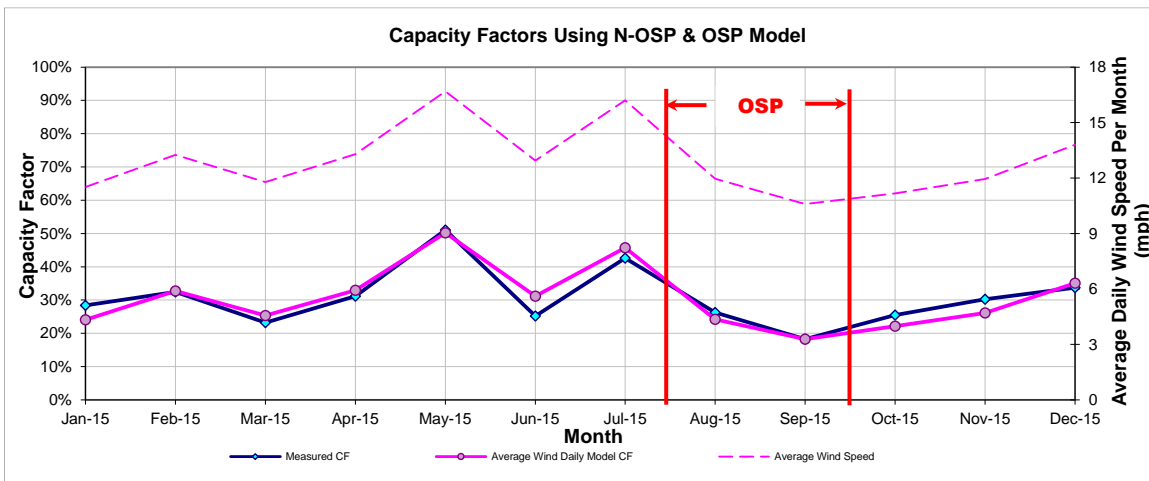


Figure 9-236: PAP1_PAP1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-227: PAP1_PAP1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
375,517	484,621	497	1,276

9.50 Papalote Creek Phase II

Table 9-228: Site Information for Papalote Creek Phase II

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
COTTON_PAP2	Wind	-	San Patricio	Jun-10	200.1	EOn Climate & Renewables	-	-	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
COTTON_PAP2	COTTON_PAP2	200.1

9.50.1 Papalote Creek Phase II – COTTON_PAP2

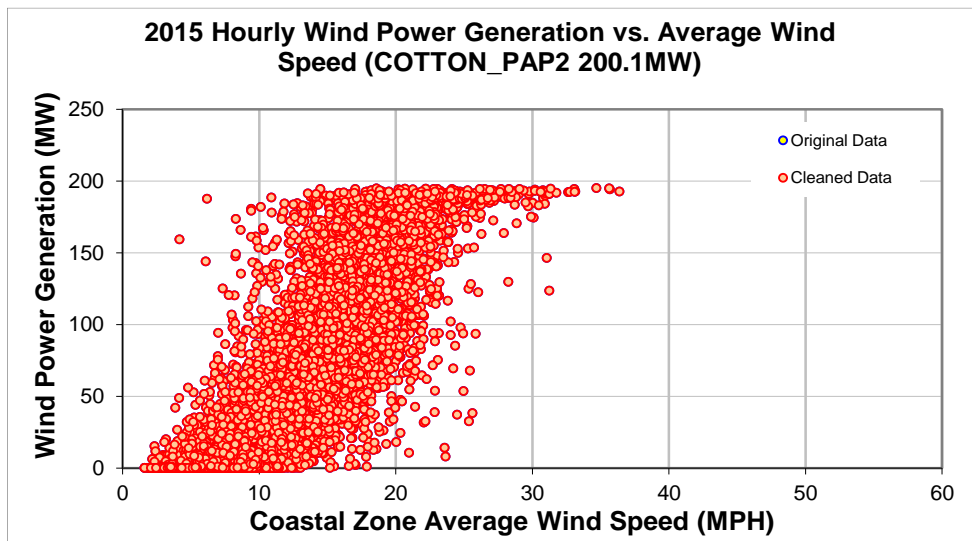


Figure 9-237: COTTON_PAP2 - Hourly Wind Power vs. Average Wind Speed (2015)

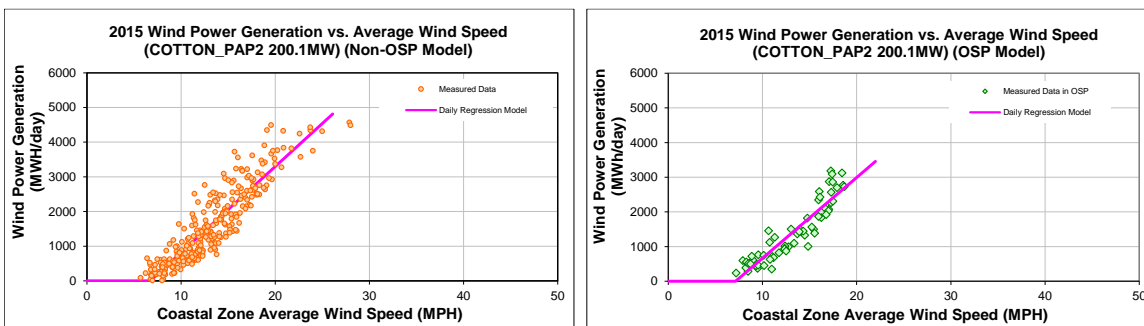


Figure 9-238: COTTON_PAP2 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-229: COTTON_PAP2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1668.7323
Left Slope (MWh/mph-day)	248.3815
RMSE (MWh/day)	449.9741
R2	0.8374
CV-RMSE	29.4%
Daily Maximum (MWh/day)	4802

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1660.2343
Left Slope (MWh/mph-day)	232.6223
RMSE (MWh/day)	332.0528
R2	0.8543
CV-RMSE	23.9%
Daily Maximum (MWh/day)	4802

Table 9-230: COTTON_PAP2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	43,666	37,158	14.90%	29%	25%
Feb-15	28	13.26	45,566	45,483	0.18%	34%	34%
Mar-15	31	11.79	36,440	39,115	-7.34%	24%	26%
Apr-15	30	13.30	46,778	49,019	-4.79%	32%	34%
May-15	31	16.69	74,994	76,797	-2.40%	50%	52%
Jun-15	30	12.94	35,227	46,369	-31.63%	24%	32%
Jul-15	31	16.20	63,394	68,922	-8.72%	43%	46%
Aug-15	31	11.97	38,644	34,820	9.89%	26%	23%
Sep-15	30	10.47	24,290	25,300	-4.16%	17%	18%
Oct-15	31	11.17	40,542	34,279	15.45%	27%	23%
Nov-15	30	11.95	47,228	38,972	17.48%	33%	27%
Dec-15	31	13.81	53,584	53,637	-0.10%	36%	36%
Total	365	12.93	550,354	549,871	0.09%	31%	31%
Total in OSP (07/15-09/15)	63	13.11	87,593	87,593	0.00%	29%	29%

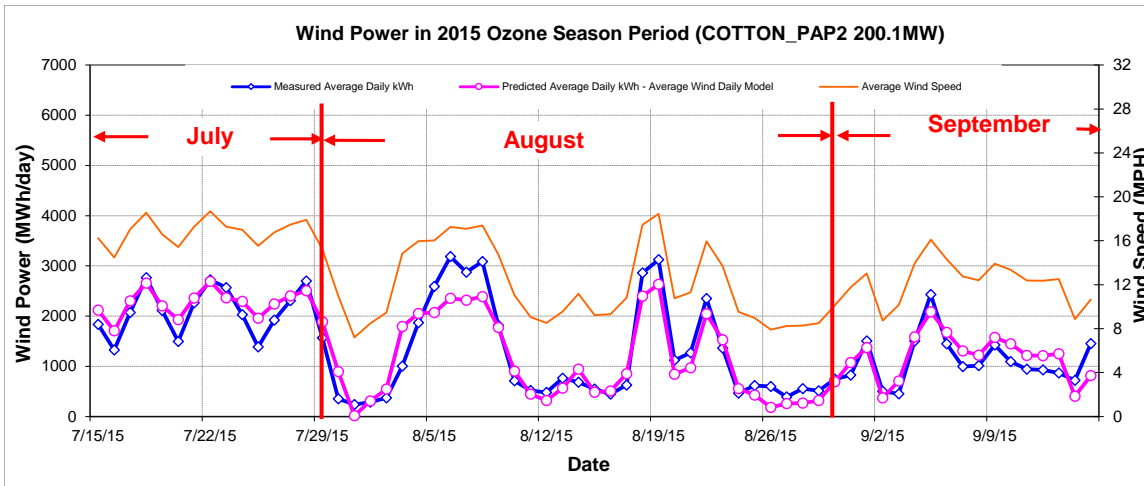


Figure 9-239: COTTON_PAP2 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

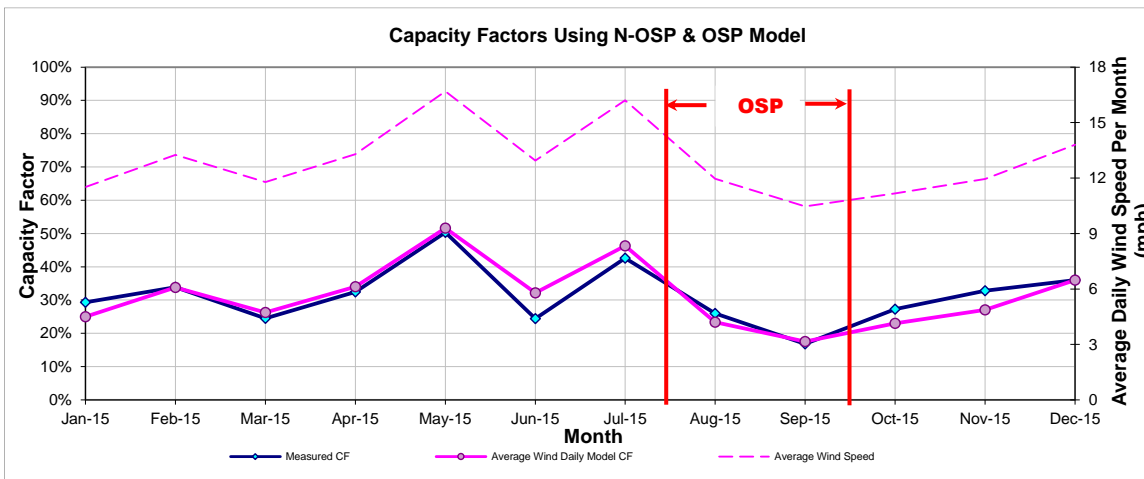


Figure 9-240: COTTON_PAP2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-231: COTTON_PAP2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
427,592	550,354	509	1,390

9.51 Panther Creek 1

Table 9-232: Site Information for Panther Creek 1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PC_NORTH_PANTHER1	Wind	-	Howard	Jun-08	142.5	Airtricity	Panther Creek	GEEnergy (95)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PC_NORTH_PANTHER1	PC_NORTH_PANTHER1	142.5

9.51.1 Panther Creek 1 – PC_NORTH_PANTHER1

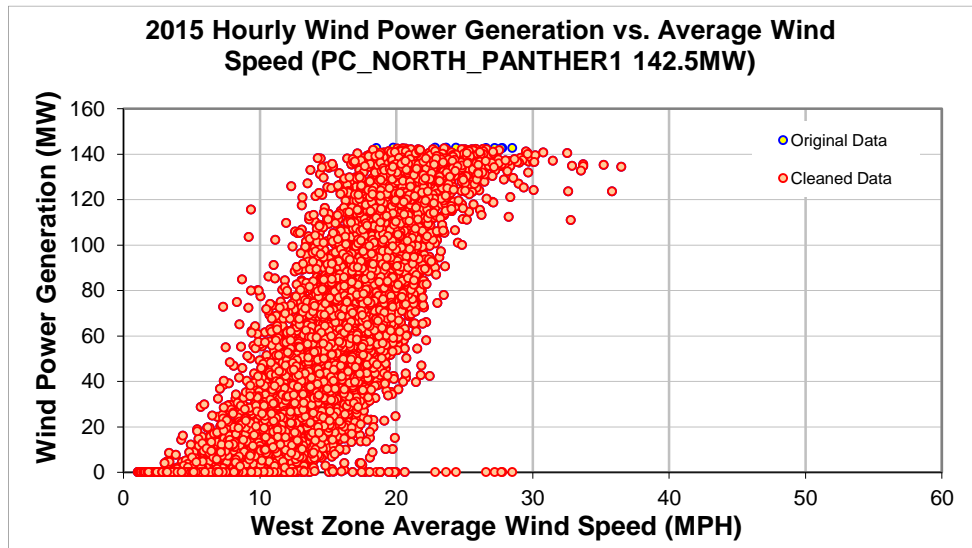


Figure 9-241: PC_NORTH_PANTHER1- Hourly Wind Power vs. Average Wind Speed (2015)

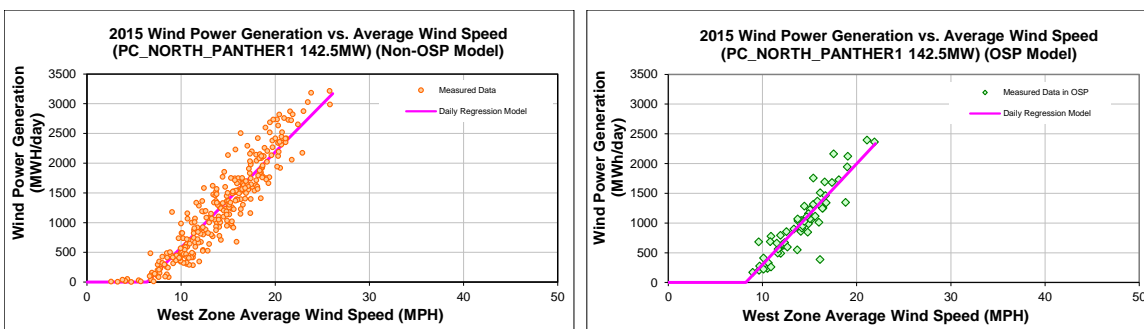


Figure 9-242: PC_NORTH_PANTHER1- Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-233: PC_NORTH_PANTHER1– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1028.0052
Left Slope (MWh/mph-day)	160.8331
RMSE (MWh/day)	277.2845
R2	0.8675
CV-RMSE	22.0%
Daily Maximum (MWh/day)	3420

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1393.2016
Left Slope (MWh/mph-day)	169.4181
RMSE (MWh/day)	226.9573
R2	0.8212
CV-RMSE	22.3%
Daily Maximum (MWh/day)	3420

Table 9-234: PC_NORTH_PANTHER1– Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	11.94	32,977	25,477	22.74%	34%	27%
Feb-15	27	14.16	37,461	34,335	8.34%	41%	37%
Mar-15	31	11.39	26,580	25,877	2.64%	25%	24%
Apr-15	30	15.35	42,391	43,239	-2.00%	41%	42%
May-15	31	16.18	44,070	48,784	-10.70%	42%	46%
Jun-15	30	14.18	32,877	37,563	-14.25%	32%	37%
Jul-15	31	15.36	34,989	40,696	-16.31%	33%	38%
Aug-15	31	13.34	28,934	26,861	7.16%	27%	25%
Sep-15	30	14.14	30,906	33,822	-9.44%	30%	33%
Oct-15	31	13.95	36,898	37,692	-2.15%	35%	36%
Nov-15	30	15.20	44,940	43,426	3.37%	44%	42%
Dec-15	31	15.34	46,318	44,707	3.48%	44%	42%
Total	361	14.22	439,340	442,480	-0.71%	36%	36%
Total in OSP (07/15-09/15)	63	14.23	64,081	64,081	0.00%	30%	30%

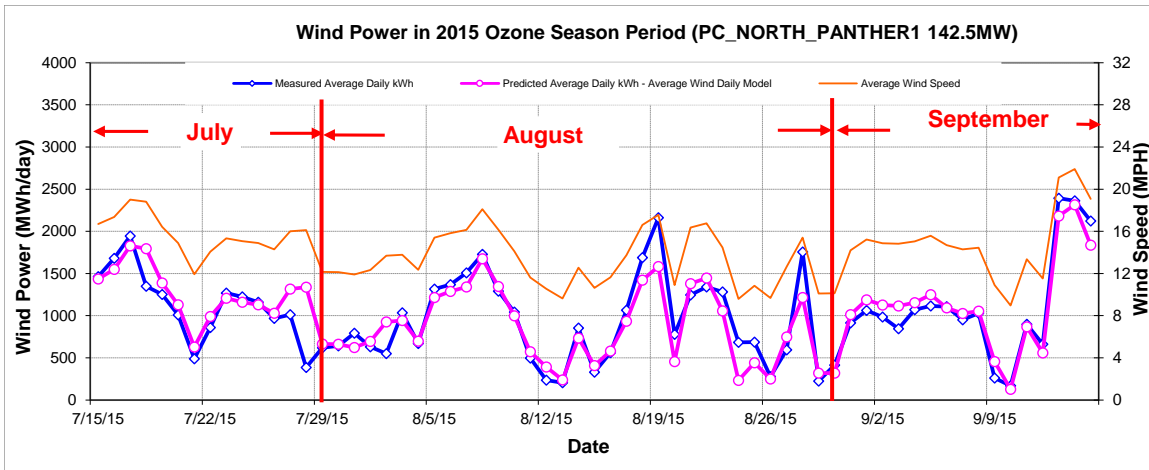


Figure 9-243: PC_NORTH_PANTHER1- Predicted Wind Power in OSP Using Average Wind Speed (2015)

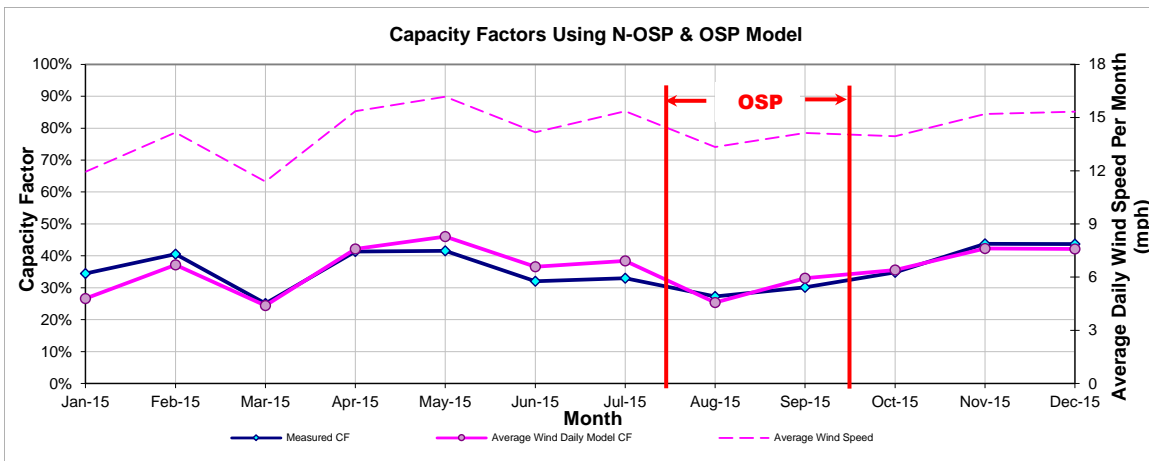


Figure 9-244: PC_NORTH_PANTHER1– Predicted Capacity Factors Using Daily Models (2015)

Table 9-235: PC_NORTH_PANTHER1– Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
236,958	444,208	202	1,017

9.52 Panther Creek 2

Table 9-236: Site Information for Panther Creek 2

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PC_SOUTH_PANTHER2	Wind	-	Howard	Nov-08	115.5	EOn Climate & Renewables	Panther Creek 2	GEEnergy (77)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PC_SOUTH_PANTHER2	PC_SOUTH_PANTHER2	115.5

9.52.1 Panther Creek 2 – PC_SOUTH_PANTHER2

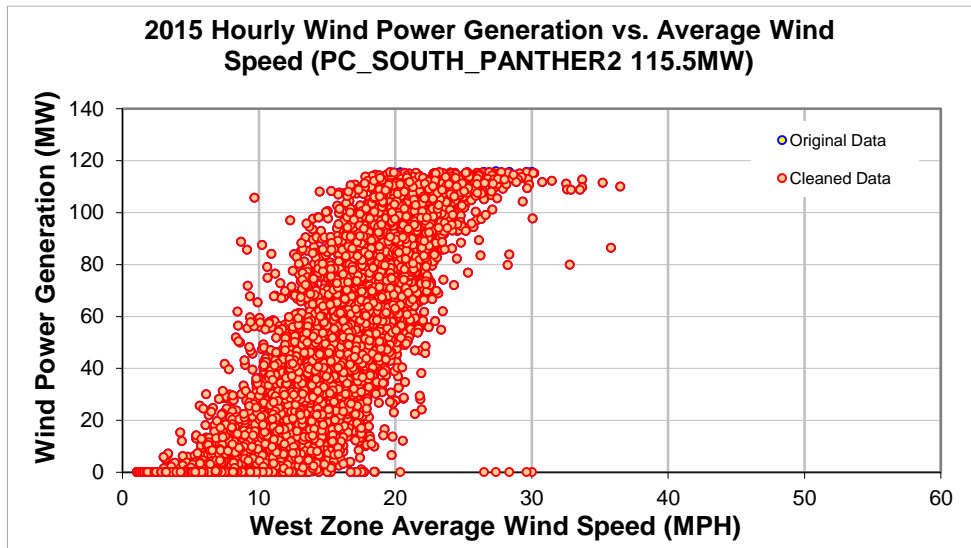


Figure 9-245: PC_SOUTH_PANTHER2 - Hourly Wind Power vs. Average Wind Speed (2015)

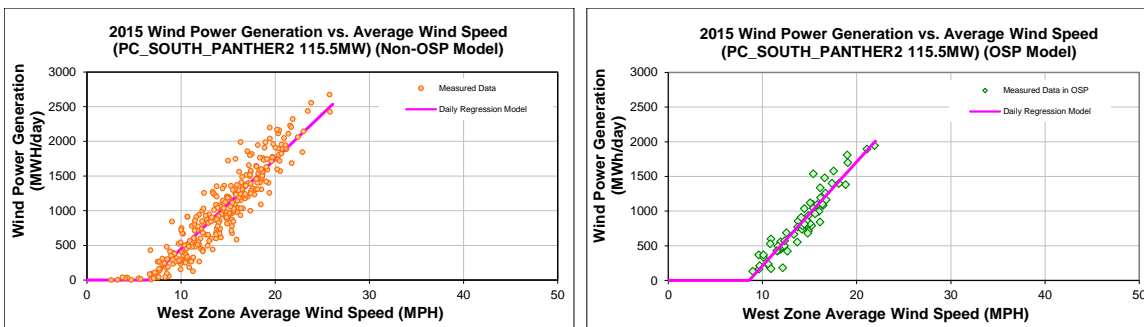


Figure 9-246: PC_SOUTH_PANTHER2 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-237: PC_SOUTH_PANTHER2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-844.4288
Left Slope (MWh/mph-day)	129.4625
RMSE (MWh/day)	221.8476
R2	0.8688
CV-RMSE	22.3%
Daily Maximum (MWh/day)	2772

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1284.4633
Left Slope (MWh/mph-day)	149.7277
RMSE (MWh/day)	152.2851
R2	0.8885
CV-RMSE	18.0%
Daily Maximum (MWh/day)	2772

Table 9-238: PC_SOUTH_PANTHER2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	11.94	25,477	20,050	21.30%	33%	26%
Feb-15	27	14.16	29,581	27,198	8.06%	40%	36%
Mar-15	31	11.39	21,380	20,355	4.79%	25%	24%
Apr-15	30	15.35	33,065	34,297	-3.73%	40%	41%
May-15	31	16.18	34,023	38,744	-13.87%	40%	45%
Jun-15	30	14.18	27,245	29,728	-9.11%	33%	36%
Jul-15	31	15.36	30,441	33,183	-9.01%	35%	39%
Aug-15	31	13.34	23,930	22,091	7.69%	28%	26%
Sep-15	30	14.14	24,361	27,540	-13.05%	29%	33%
Oct-15	31	13.95	28,335	29,815	-5.23%	33%	35%
Nov-15	30	15.20	35,983	34,498	4.13%	43%	41%
Dec-15	31	15.34	36,478	35,479	2.74%	42%	41%
Total	361	14.22	350,300	352,980	-0.77%	35%	35%
Total in OSP (07/15-09/15)	63	14.23	53,282	53,282	0.00%	31%	31%

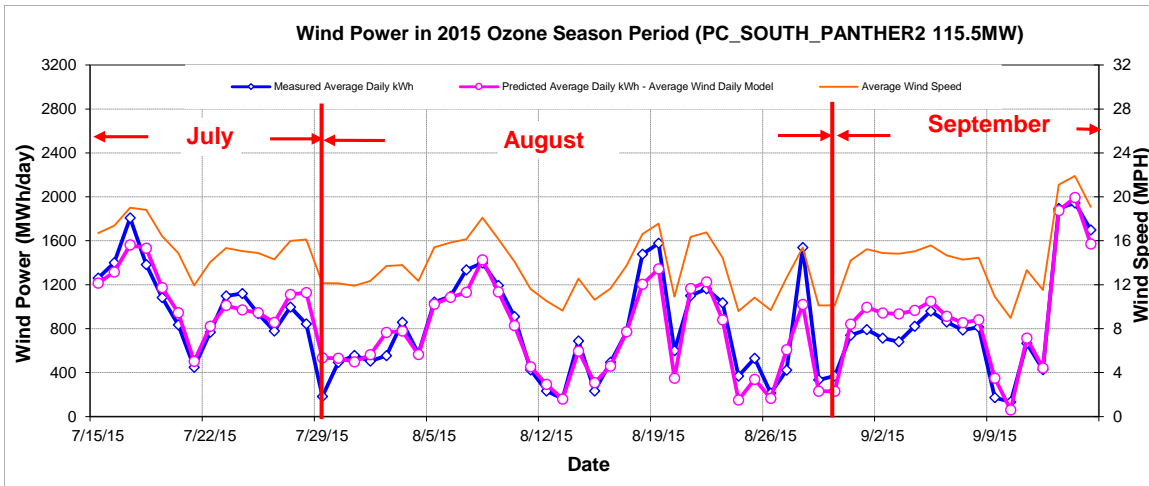


Figure 9-247: PC_SOUTH_PANTHER2 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

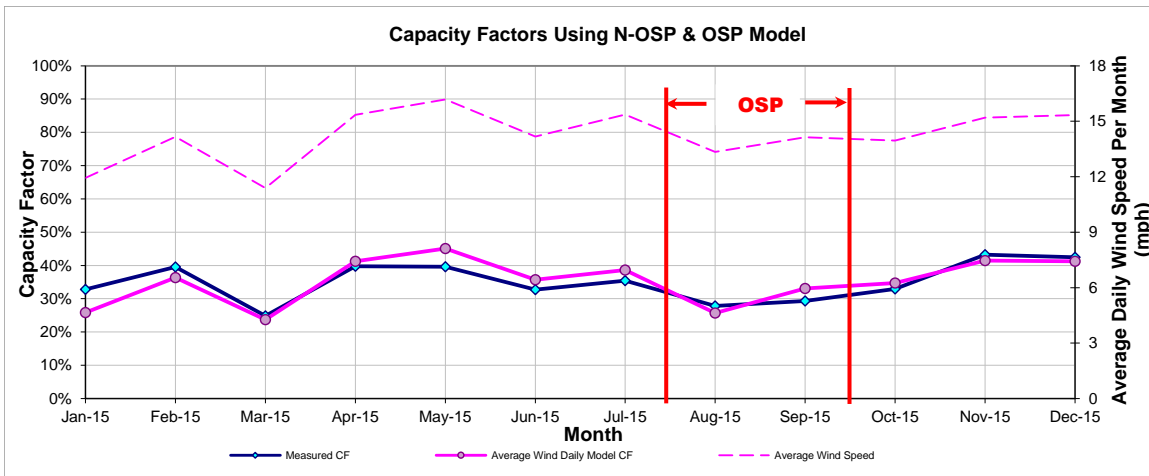


Figure 9-248: PC_SOUTH_PANTHER2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-239: PC_SOUTH_PANTHER2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
185,541	354,181	148	846

9.53 Panther Creek 3

Table 9-240: Site Information for Panther Creek 3

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PC_SOUTH_PANTHER3	Wind	-	Concho	Aug-09	199.5	EOn Climate & Renewables	Panther Creek 3	GEEnergy(133)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PC_SOUTH_PANTHER3	PC_SOUTH_PANTHER3	199.5

9.53.1 Panther Creek 3 – PC_SOUTH_PANTHER3

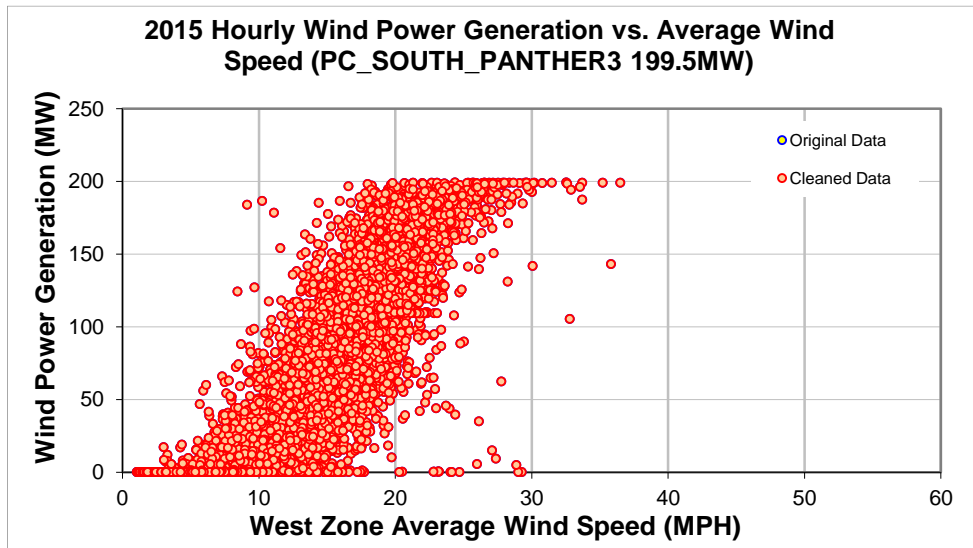


Figure 9-249: PC_SOUTH_PANTHER3 - Hourly Wind Power vs. Average Wind Speed (2015)

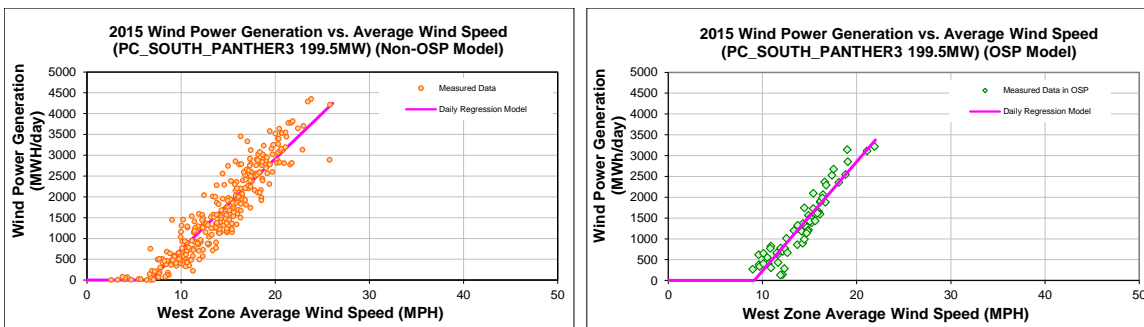


Figure 9-250: PC_SOUTH_PANTHER3 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-241: PC_SOUTH_PANTHER3 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1446.9660
Left Slope (MWh/mph-day)	218.1740
RMSE (MWh/day)	388.1562
R2	0.8609
CV-RMSE	23.5%
Daily Maximum (MWh/day)	4788

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-2394.8057
Left Slope (MWh/mph-day)	262.2664
RMSE (MWh/day)	273.7771
R2	0.8832
CV-RMSE	20.5%
Daily Maximum (MWh/day)	4788

Table 9-242: PC_SOUTH_PANTHER3 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	42,849	33,144	22.65%	31%	24%
Feb-15	27	14.16	46,868	45,213	3.53%	36%	35%
Mar-15	31	11.39	34,175	33,634	1.58%	23%	23%
Apr-15	30	15.35	57,661	57,081	1.01%	40%	40%
May-15	31	16.18	60,838	64,551	-6.10%	41%	43%
Jun-15	30	14.18	44,725	49,382	-10.41%	31%	34%
Jul-15	31	15.36	52,367	54,229	-3.56%	35%	37%
Aug-15	31	13.34	37,197	34,202	8.05%	25%	23%
Sep-15	30	14.14	40,342	44,887	-11.27%	28%	31%
Oct-15	31	13.95	46,102	49,505	-7.38%	31%	33%
Nov-15	30	15.20	54,568	57,492	-5.36%	38%	40%
Dec-15	31	15.34	59,871	59,073	1.33%	40%	40%
Total	362	14.20	577,564	582,393	-0.84%	33%	34%
Total in OSP (07/15-09/15)	63	14.23	84,201	84,243	-0.05%	28%	28%

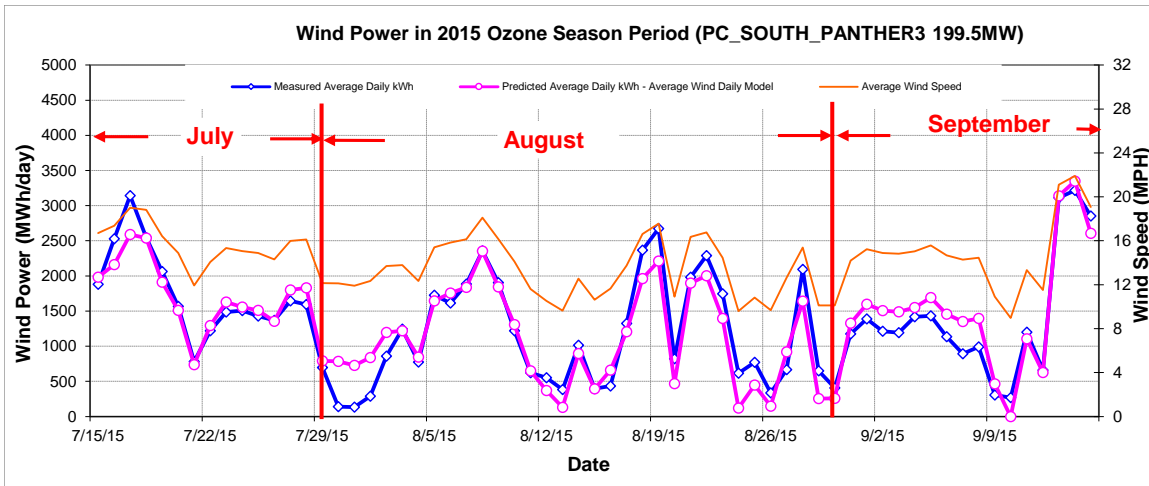


Figure 9-251: PC_SOUTH_PANTHER3 - Predicted Wind Power in OSP Using NOAA Wind Speed (2015)

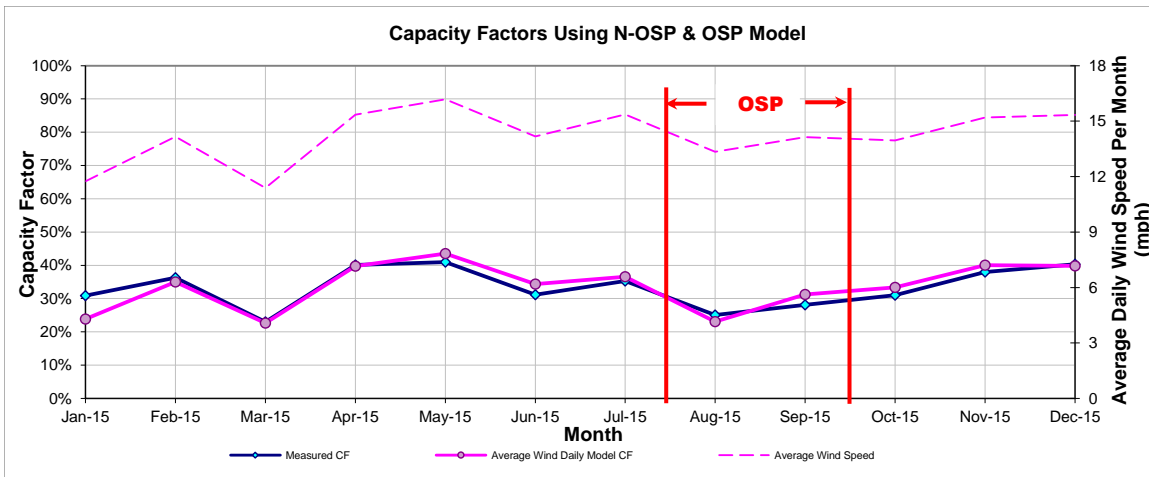


Figure 9-252: PC_SOUTH_PANTHER3 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-243: PC_SOUTH_PANTHER3 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
236,834	582,350	57	1,337

9.54 Penascal Wind Farm

Table 9-244: Site Information for Penascal Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PENA	Wind	-	Kenedy	Nov-08	303	PPM Energy	Penascal Wind Farm	Mitsubishi(42)	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PENA_UNIT1	PENA_UNIT1	161
PENA_UNIT2	PENA_UNIT2	142

9.54.1 Penascal Wind Farm (PENA_UNIT1)

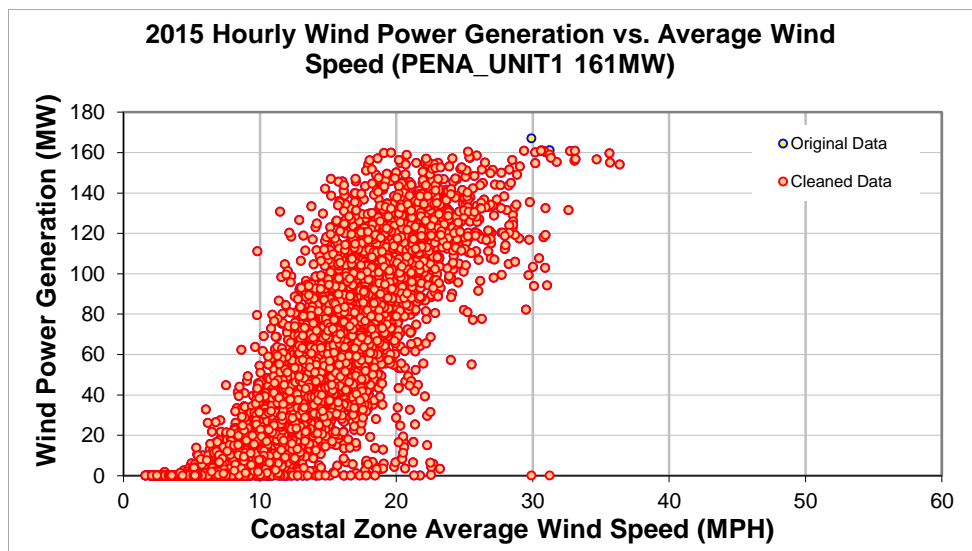


Figure 9-253: PENA_UNIT1 – Hourly Wind Power vs. Average Wind Speed (2015)

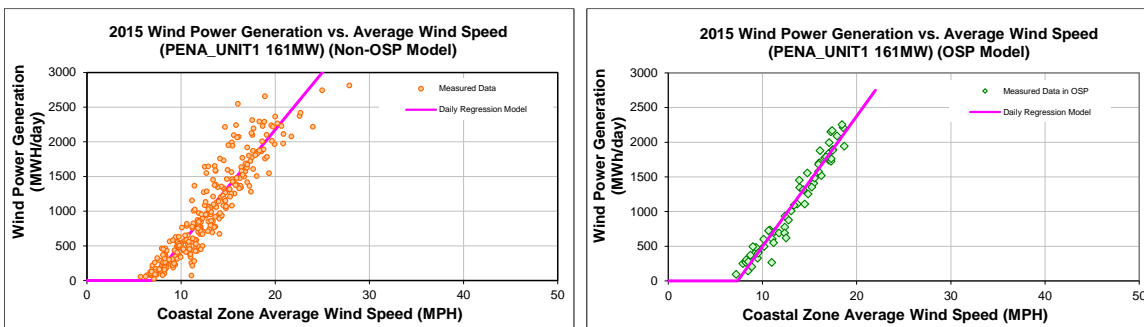


Figure 9-254: PENA_UNIT1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-245: PENA_UNIT1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1122.6243
Left Slope (MWh/mph-day)	164.8908
RMSE (MWh/day)	278.0302
R2	0.8560
CV-RMSE	27.7%
Daily Maximum (MWh/day)	3864

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1381.0958
Left Slope (MWh/mph-day)	187.7409
RMSE (MWh/day)	142.9570
R2	0.9537
CV-RMSE	13.2%
Daily Maximum (MWh/day)	3864

Table 9-246: PENA_UNIT1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	25,876	24,235	6.34%	22%	20%
Feb-15	28	13.26	28,162	29,785	-5.76%	26%	28%
Mar-15	31	11.79	21,765	25,537	-17.33%	18%	21%
Apr-15	30	13.30	28,001	32,097	-14.63%	24%	28%
May-15	31	16.69	48,994	50,523	-3.12%	41%	42%
Jun-15	30	12.94	26,481	30,338	-14.56%	23%	26%
Jul-15	31	16.20	47,847	49,820	-4.12%	40%	42%
Aug-15	31	11.97	28,301	26,826	5.21%	24%	22%
Sep-15	30	10.47	19,802	18,586	6.14%	17%	16%
Oct-15	31	11.17	25,474	22,297	12.47%	21%	19%
Nov-15	30	11.95	33,975	25,427	25.16%	29%	22%
Dec-15	31	13.81	36,154	35,772	1.06%	30%	30%
Total	365	12.93	370,833	371,243	-0.11%	26%	26%
Total in OSP (07/15-09/15)	63	13.11	68,099	68,127	-0.04%	28%	28%

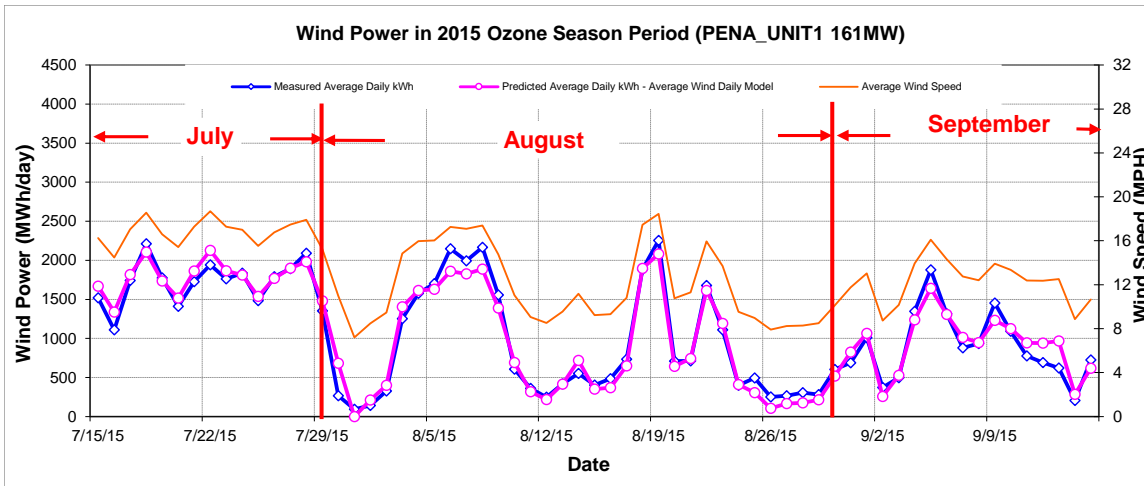


Figure 9-255: PENA_UNIT1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

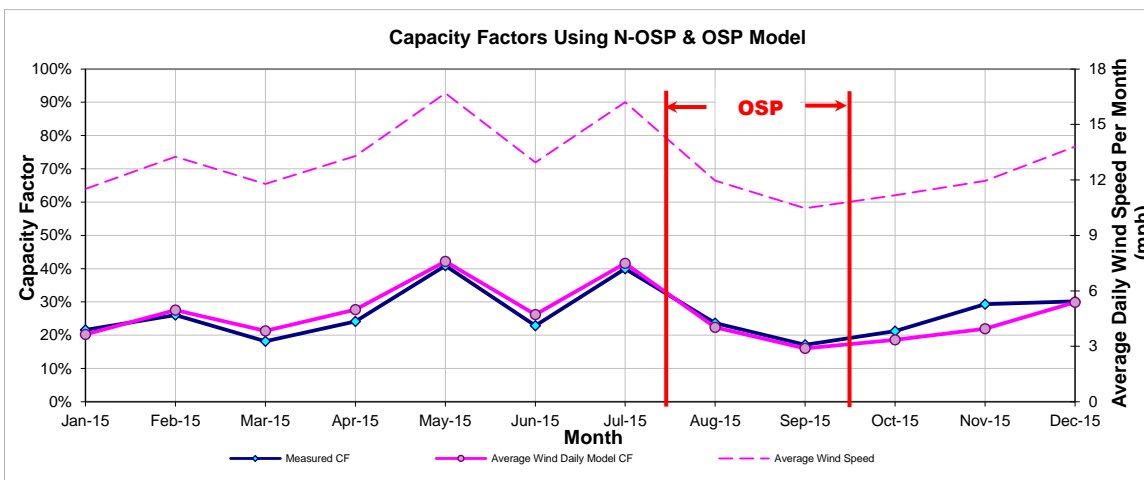


Figure 9-256: PENA_UNIT1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-247: PENA_UNIT1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
282,683	370,833	381	1,081

9.54.2 Penascal Wind Farm (PENA_UNIT2)

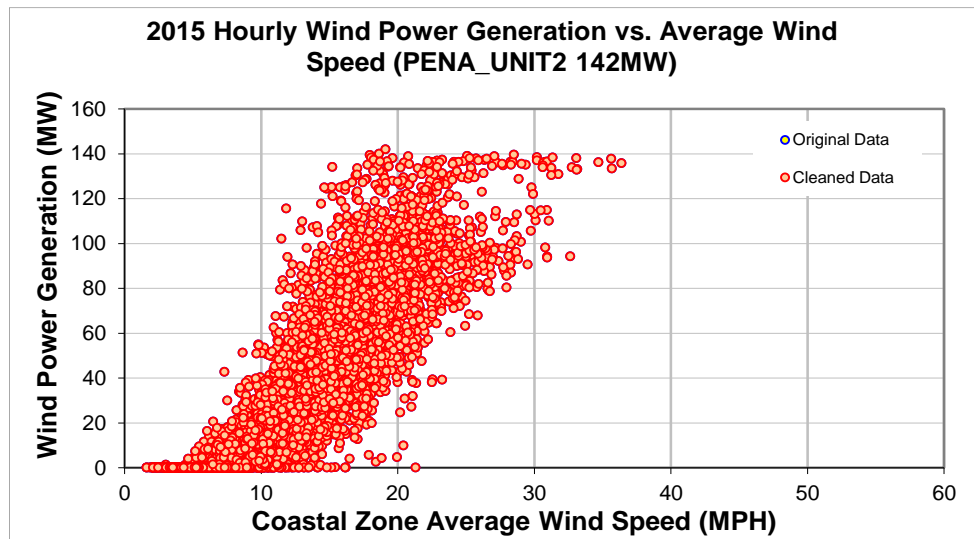


Figure 9-257: PENA_UNIT2 – Hourly Wind Power vs. Average Wind Speed (2015)

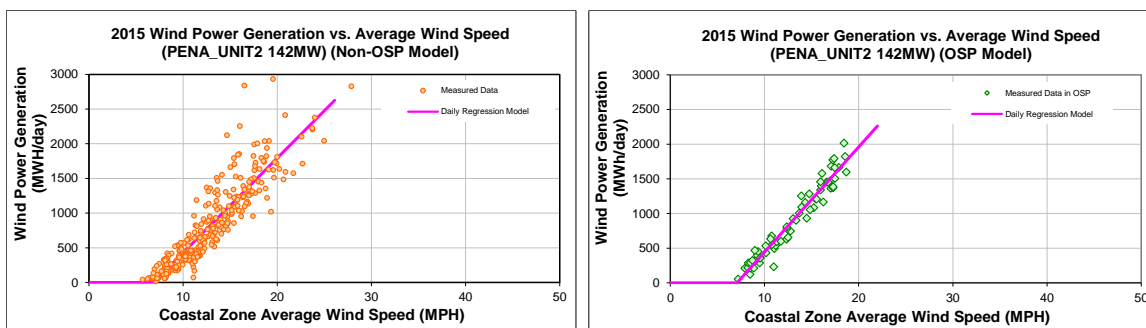


Figure 9-258: PENA_UNIT2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-248: PENA_UNIT2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-934.6235
Left Slope (MWh/mph-day)	136.3753
RMSE (MWh/day)	258.5520
R2	0.8246
CV-RMSE	31.4%
Daily Maximum (MWh/day)	3408

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1074.9634
Left Slope (MWh/mph-day)	151.6022
RMSE (MWh/day)	125.8870
R2	0.9454
CV-RMSE	13.8%
Daily Maximum (MWh/day)	3408

Table 9-249: PENA_UNIT2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	18,551	19,866	-7.09%	18%	19%
Feb-15	28	13.26	22,144	24,468	-10.49%	23%	26%
Mar-15	31	11.79	19,350	20,943	-8.23%	18%	20%
Apr-15	30	13.30	23,612	26,362	-11.65%	23%	26%
May-15	31	16.69	35,958	41,595	-15.68%	34%	39%
Jun-15	30	12.94	20,311	24,913	-22.66%	20%	24%
Jul-15	31	16.20	37,909	41,248	-8.81%	36%	39%
Aug-15	31	11.97	24,424	22,911	6.19%	23%	22%
Sep-15	30	10.47	17,345	15,620	9.95%	17%	15%
Oct-15	31	11.17	24,756	18,251	26.28%	23%	17%
Nov-15	30	11.95	29,295	20,846	28.84%	29%	20%
Dec-15	31	13.81	32,398	29,396	9.27%	31%	28%
Total	365	12.93	306,054	306,419	-0.12%	25%	25%
Total in OSP (07/15-09/15)	63	13.11	57,528	57,528	0.00%	27%	27%

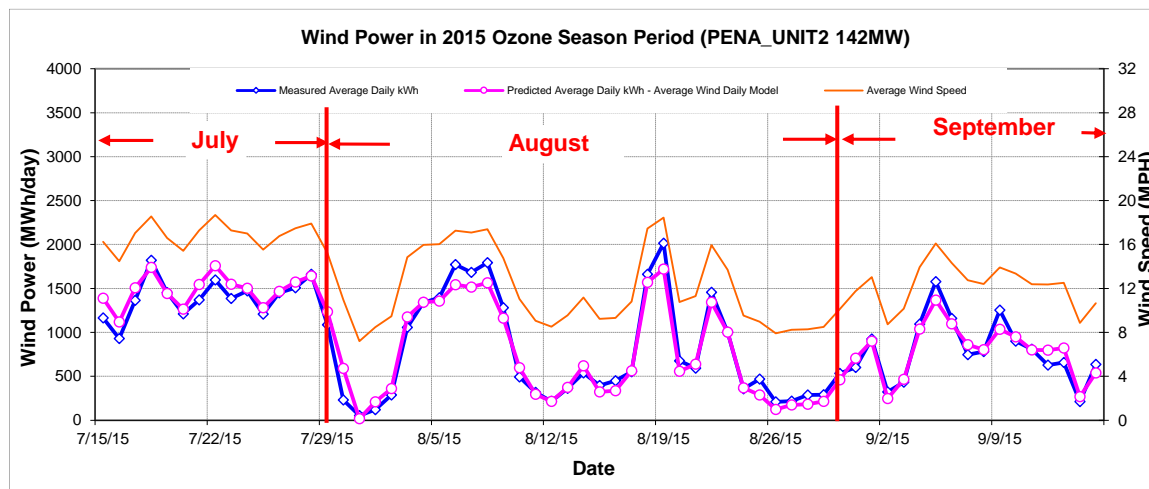


Figure 9-259: PENA_UNIT2 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

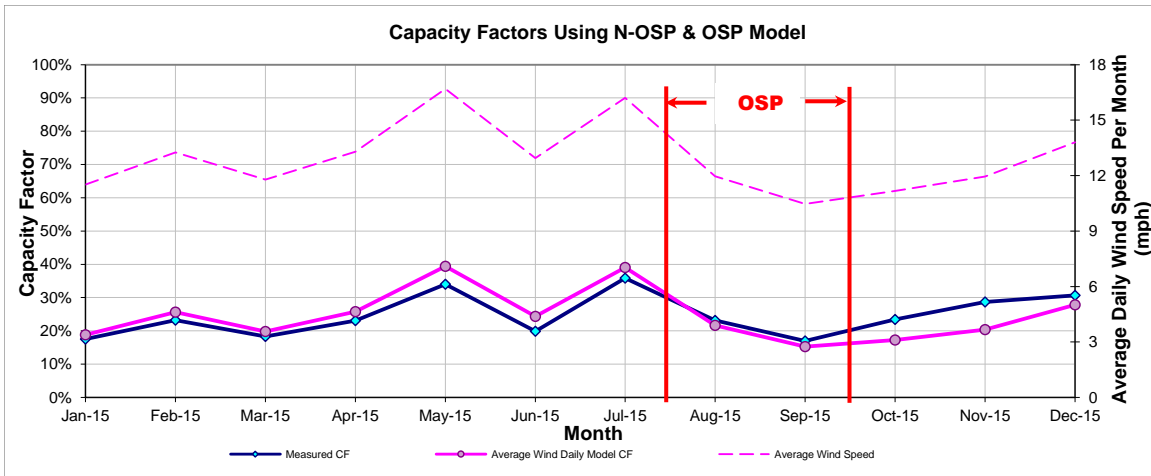


Figure 9-260: PENA_UNIT2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-250: PENA_UNIT2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
233,518	306,054	336	913

9.55 Penascal 3

Table 9-251: Site Information for Penascal 3

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PENA_UNIT3	Wind	-	Kenedy	Oct-10	101	Lberdrola	-	-	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PENA_UNIT3	PENA_UNIT3	101

9.55.1 Penascal 3 – PENA3_UNIT3

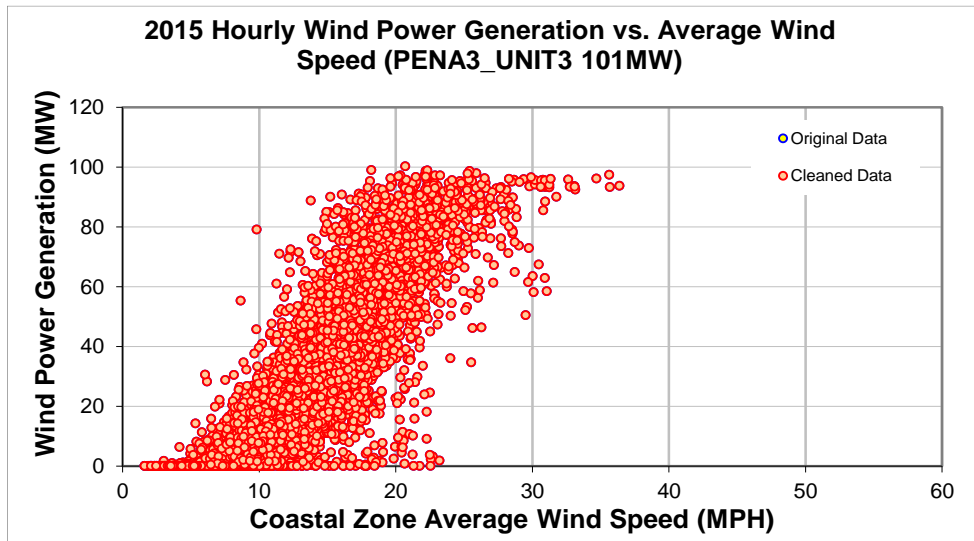


Figure 9-261: PENA_UNIT3- Hourly Wind Power vs. Average Wind Speed (2015)

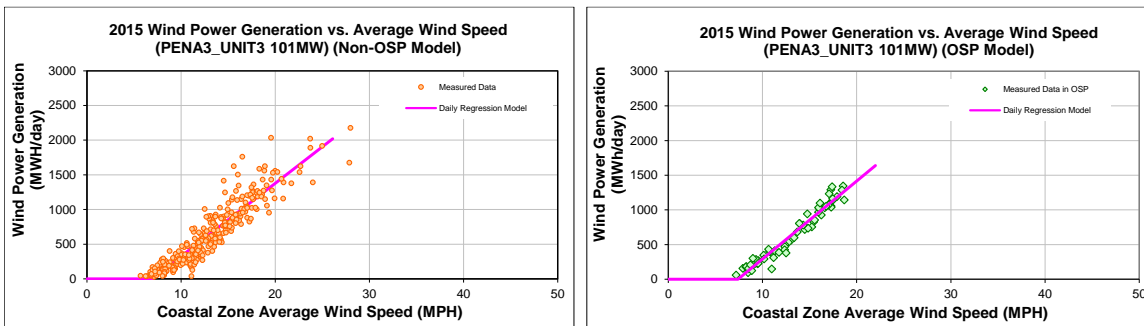


Figure 9-262: PENA_UNIT3- Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-252: PENA_UNIT3 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-728.6698
Left Slope (MWh/mph-day)	105.3333
RMSE (MWh/day)	170.0683
R2	0.8664
CV-RMSE	27.0%
Daily Maximum (MWh/day)	2424

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-828.9486
Left Slope (MWh/mph-day)	112.1417
RMSE (MWh/day)	87.3301
R2	0.9517
CV-RMSE	13.6%
Daily Maximum (MWh/day)	2424

Table 9-253: PENA_UNIT3 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	18,818	15,147	19.50%	25%	20%
Feb-15	28	13.26	18,069	18,715	-3.58%	27%	28%
Mar-15	31	11.79	13,574	15,979	-17.72%	18%	21%
Apr-15	30	13.30	17,373	20,158	-16.03%	24%	28%
May-15	31	16.69	31,932	31,917	0.05%	42%	42%
Jun-15	30	12.94	17,188	19,045	-10.81%	24%	26%
Jul-15	31	16.20	29,649	30,472	-2.78%	39%	41%
Aug-15	31	11.97	16,982	15,900	6.37%	23%	21%
Sep-15	30	10.47	11,407	11,078	2.89%	16%	15%
Oct-15	31	11.17	14,445	13,890	3.84%	19%	18%
Nov-15	30	11.95	19,351	15,897	17.85%	27%	22%
Dec-15	31	13.81	21,545	22,494	-4.40%	29%	30%
Total	365	12.93	230,332	230,693	-0.16%	26%	26%
Total in OSP (07/15-09/15)	63	13.11	40,426	40,446	-0.05%	26%	26%

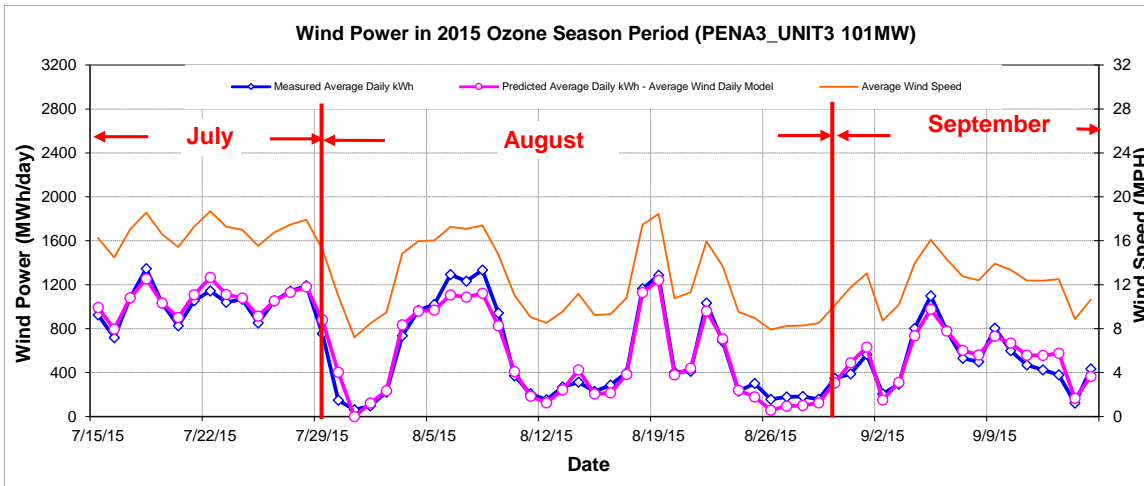


Figure 9-263: PENA_UNIT3 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

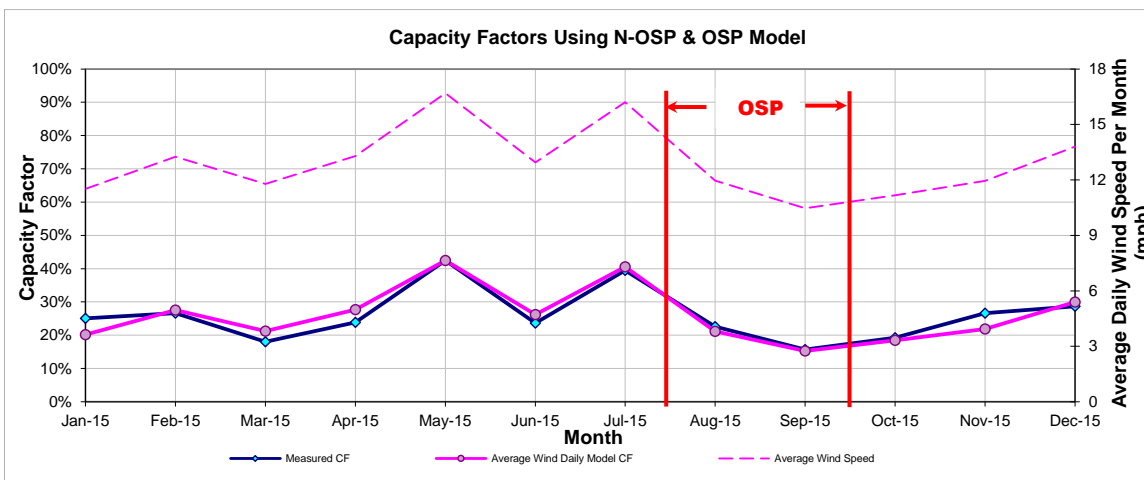


Figure 9-264: PENA_UNIT3 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-254: PENA_UNIT3 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
176,381	230,332	225	642

9.56 Pyron Wind Farm

Table 9-255: Site Information for Pyron Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PYR_PYRON1	Wind	-	Scurry	Nov-08	249	EOn Climate & Renewables	Pyron	-	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PYR_PYRON1	PYR_PYRON1	249

9.56.1 Pyron Wind Farm – PYR_PYRON1

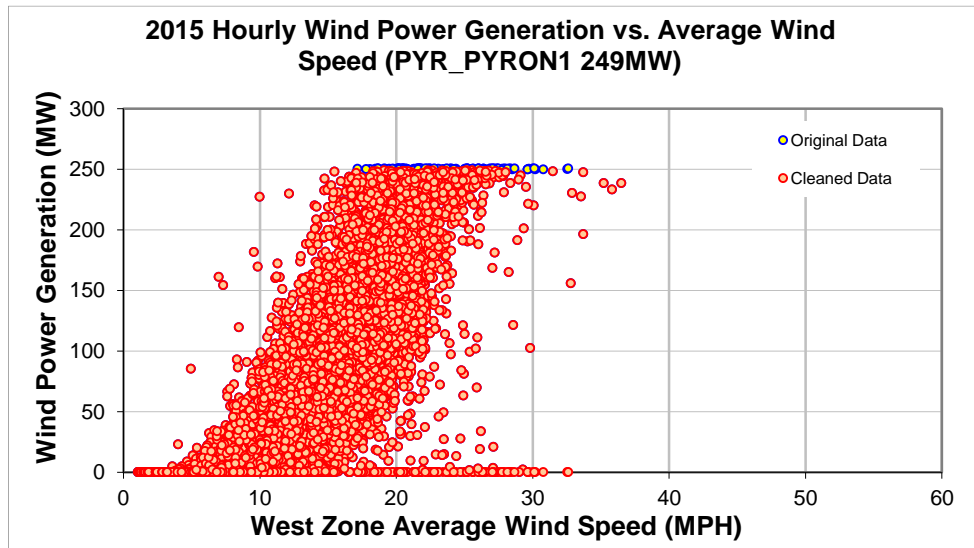


Figure 9-265: PYR_PYRON1- Hourly Wind Power vs. Average Wind Speed (2015)

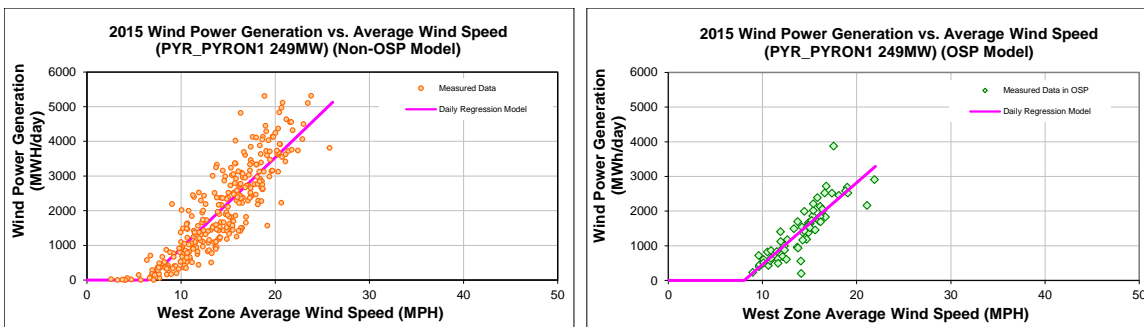


Figure 9-266: PYR_PYRON1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-256: PYR_PYRON1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1690.8346
Left Slope (MWh/mph-day)	261.3188
RMSE (MWh/day)	628.1202
R2	0.7682
CV-RMSE	31.4%
Daily Maximum (MWh/day)	5976

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1899.4237
Left Slope (MWh/mph-day)	235.9622
RMSE (MWh/day)	399.3293
R2	0.7421
CV-RMSE	27.4%
Daily Maximum (MWh/day)	5976

Table 9-257: PYR_PYRON1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	11.56	56,351	38,073	32.44%	34%	23%
Feb-15	26	13.90	62,787	51,467	18.03%	40%	33%
Mar-15	31	11.39	44,437	41,469	6.68%	24%	22%
Apr-15	30	15.35	73,599	69,638	5.38%	41%	39%
May-15	31	16.18	72,756	78,626	-8.07%	39%	42%
Jun-15	30	14.18	50,485	60,415	-19.67%	28%	34%
Jul-15	31	15.36	56,200	61,922	-10.18%	30%	33%
Aug-15	31	13.34	41,542	38,683	6.88%	22%	21%
Sep-15	30	14.14	42,747	51,235	-19.85%	24%	29%
Oct-15	31	13.95	48,918	60,605	-23.89%	26%	33%
Nov-15	30	15.20	68,024	70,003	-2.91%	38%	39%
Dec-15	30	14.99	65,946	66,967	-1.55%	37%	37%
Total	359	14.14	683,792	689,103	-0.78%	32%	32%
Total in OSP (07/15-09/15)	63	14.23	91,833	91,833	0.00%	24%	24%

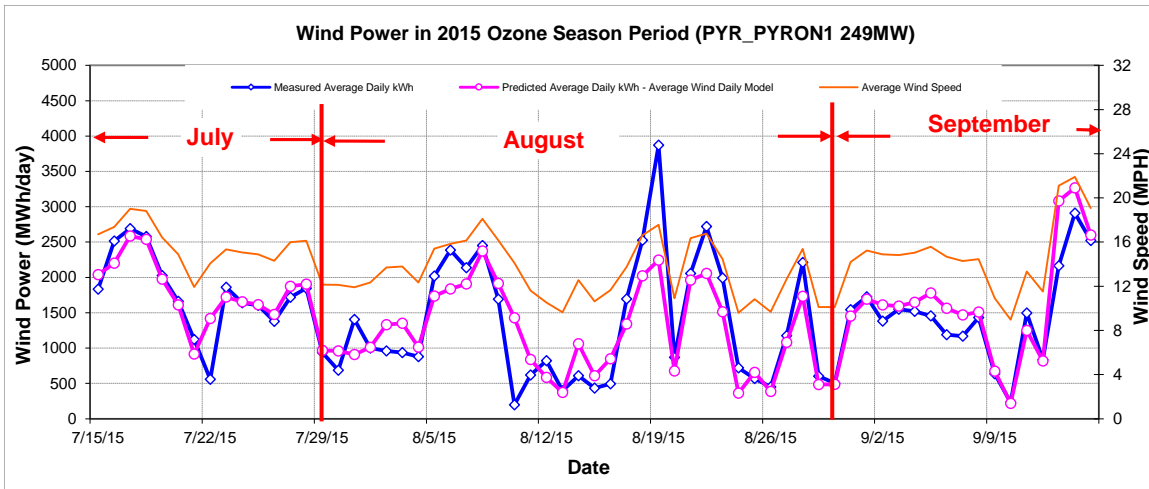


Figure 9-267: PYR_PYRON1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

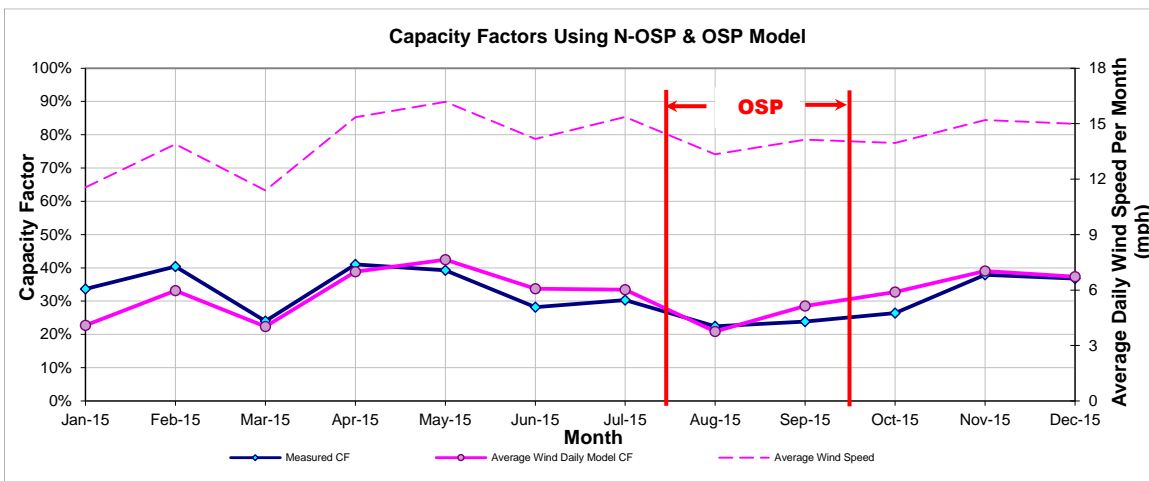


Figure 9-268: PYR_PYRON1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-258: PYR_PYRON1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
468,111	695,220	348	1,458

9.57 Magic Valley Wind Farm

Table 9-259: Site Information for Magic Valley Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
REDFISH_MV1A	Wind	-	Willacy	Apr-12	201.6	EON Climate & Renewables	Magic Valley Wind	-	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
REDFISH_MV1A	REDFISH_MV1A	100.8
REDFISH_MV1B	REDFISH_MV1B	100.8

9.57.1 Magic Valley Wind Farm – REDFISH_MV1A

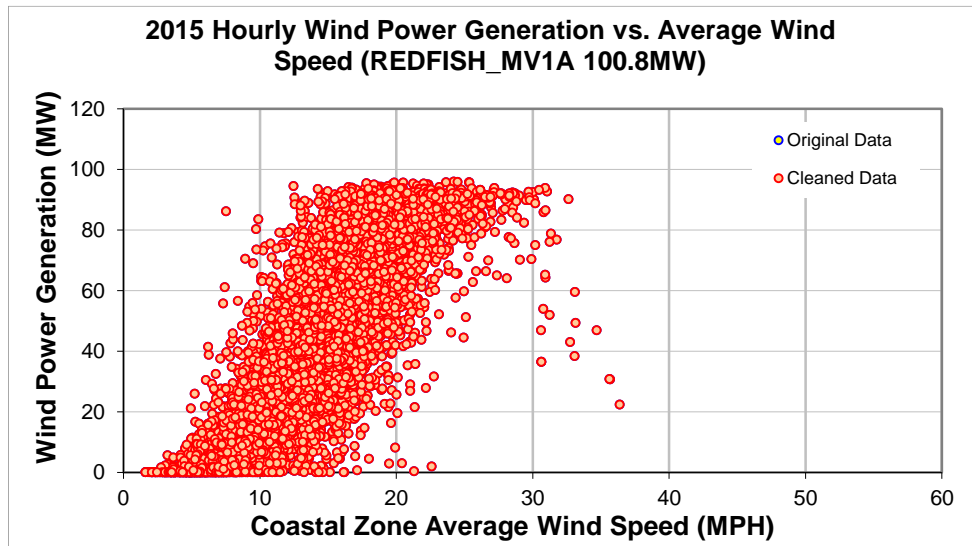


Figure 9-269: REDFISH_MV1A – Hourly Wind Power vs. Average Wind Speed (2015)

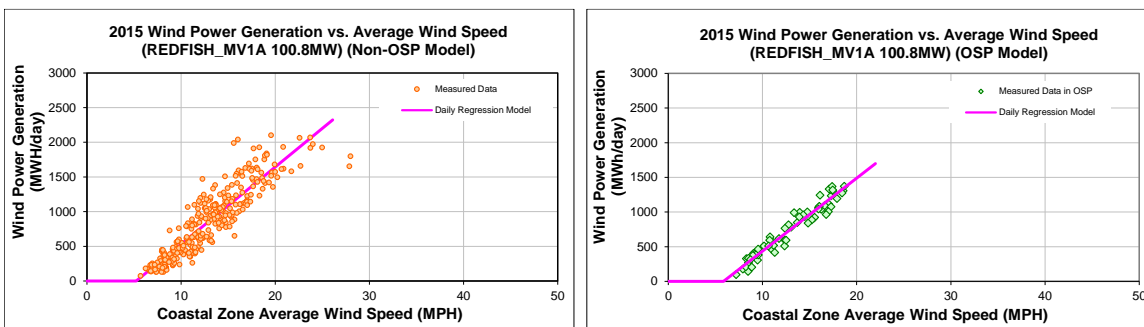


Figure 9-270: REDFISH_MV1A – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-260: REDFISH_MV1A – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-580.6983
Left Slope (MWh/mph-day)	111.2193
RMSE (MWh/day)	214.0874
R2	0.8202
CV-RMSE	25.1%
Daily Maximum (MWh/day)	2419

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-615.4935
Left Slope (MWh/mph-day)	105.2311
RMSE (MWh/day)	91.2547
R2	0.9408
CV-RMSE	11.9%
Daily Maximum (MWh/day)	2419

Table 9-261: REDFISH_MV1A – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	26,096	21,689	16.89%	35%	29%
Feb-15	28	13.26	25,839	25,029	3.14%	38%	37%
Mar-15	31	11.79	21,159	22,639	-6.99%	28%	30%
Apr-15	30	13.30	25,714	26,945	-4.79%	35%	37%
May-15	31	16.69	38,262	39,550	-3.37%	51%	53%
Jun-15	30	12.94	22,358	25,759	-15.21%	31%	35%
Jul-15	31	16.20	32,715	35,656	-8.99%	44%	48%
Aug-15	31	11.97	20,534	19,954	2.83%	27%	27%
Sep-15	30	10.47	16,185	15,889	1.83%	22%	22%
Oct-15	31	11.17	21,190	20,511	3.20%	28%	27%
Nov-15	30	11.95	25,269	22,446	11.17%	35%	31%
Dec-15	31	13.81	30,346	29,384	3.17%	40%	39%
Total	365	12.93	305,666	305,450	0.07%	35%	35%
Total in OSP (07/15-09/15)	63	13.11	48,164	48,164	0.00%	32%	32%

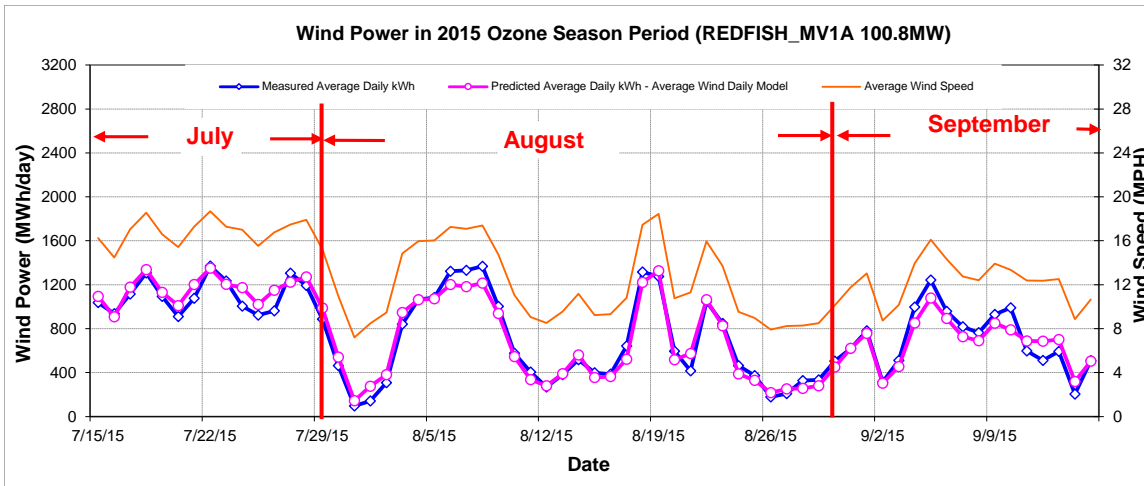


Figure 9-271: REDFISH_MV1A – Predicted Wind Power in OSP Using Average Wind Speed (2015)

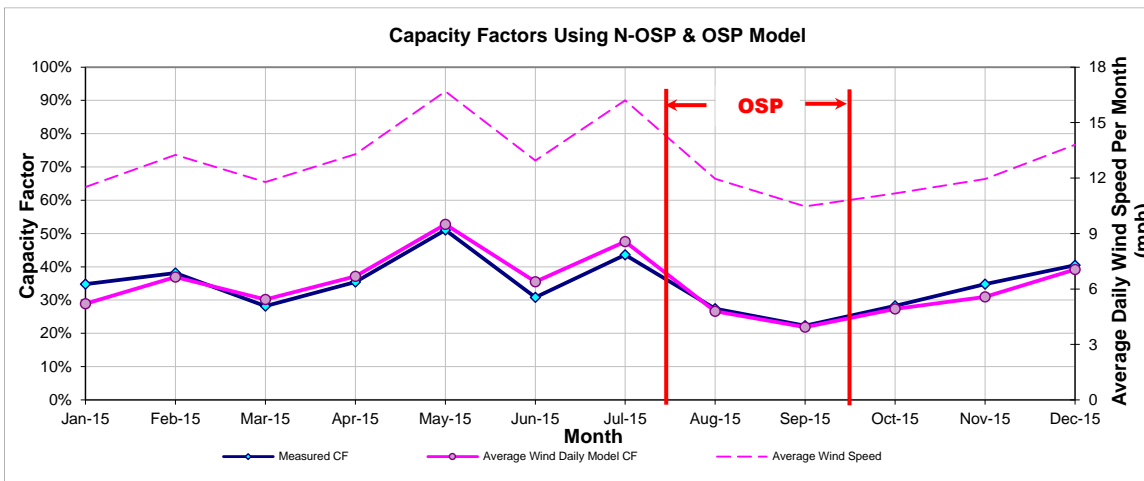


Figure 9-272: REDFISH_MV1A – Predicted Capacity Factors Using Daily Models (2015)

Table 9-262: REDFISH_MV1A – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
245,490	305,666	340	765

9.57.2 Magic Valley Wind Farm – REDFISH_MV1B

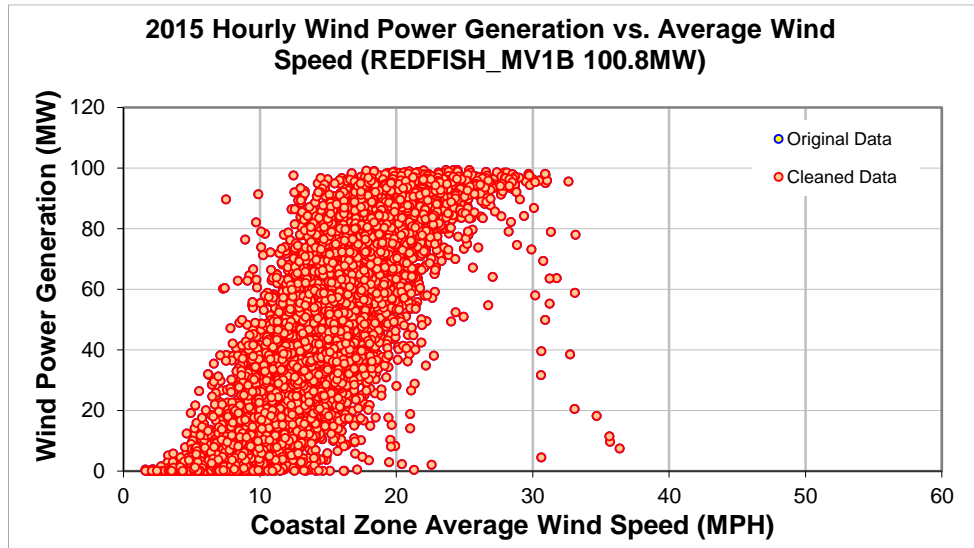


Figure 9-273: REDFISH_MV1B – Hourly Wind Power vs. Average Wind Speed (2015)

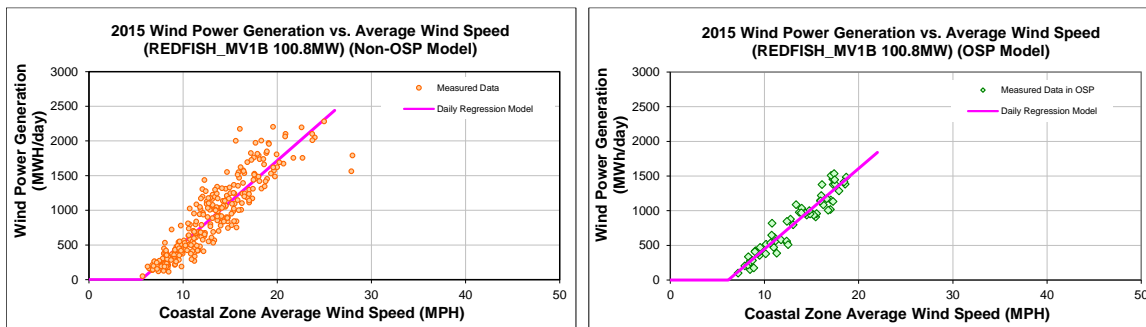


Figure 9-274: REDFISH_MV1B – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-263: REDFISH_MV1B – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-660.3357
Left Slope (MWh/mph-day)	118.8610
RMSE (MWh/day)	226.5782
R2	0.8231
CV-RMSE	26.0%
Daily Maximum (MWh/day)	2419

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-714.8092
Left Slope (MWh/mph-day)	116.1684
RMSE (MWh/day)	122.1015
R2	0.9154
CV-RMSE	15.1%
Daily Maximum (MWh/day)	2419

Table 9-264: REDFISH_MV1B – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	26,730	21,947	17.89%	36%	29%
Feb-15	28	13.26	27,251	25,636	5.93%	40%	38%
Mar-15	31	11.79	21,643	22,962	-6.09%	29%	31%
Apr-15	30	13.30	27,030	27,604	-2.12%	37%	38%
May-15	31	16.69	39,062	41,035	-5.05%	52%	55%
Jun-15	30	12.94	22,699	26,336	-16.02%	31%	36%
Jul-15	31	16.20	34,233	37,580	-9.78%	46%	50%
Aug-15	31	11.97	22,080	20,932	5.20%	29%	28%
Sep-15	30	10.47	16,213	16,217	-0.02%	22%	22%
Oct-15	31	11.17	21,477	20,689	3.67%	29%	28%
Nov-15	30	11.95	25,309	22,796	9.93%	35%	31%
Dec-15	31	13.81	30,410	29,918	1.62%	41%	40%
Total	365	12.93	314,137	313,653	0.15%	36%	36%
Total in OSP (07/15-09/15)	63	13.11	50,943	50,943	0.00%	33%	33%

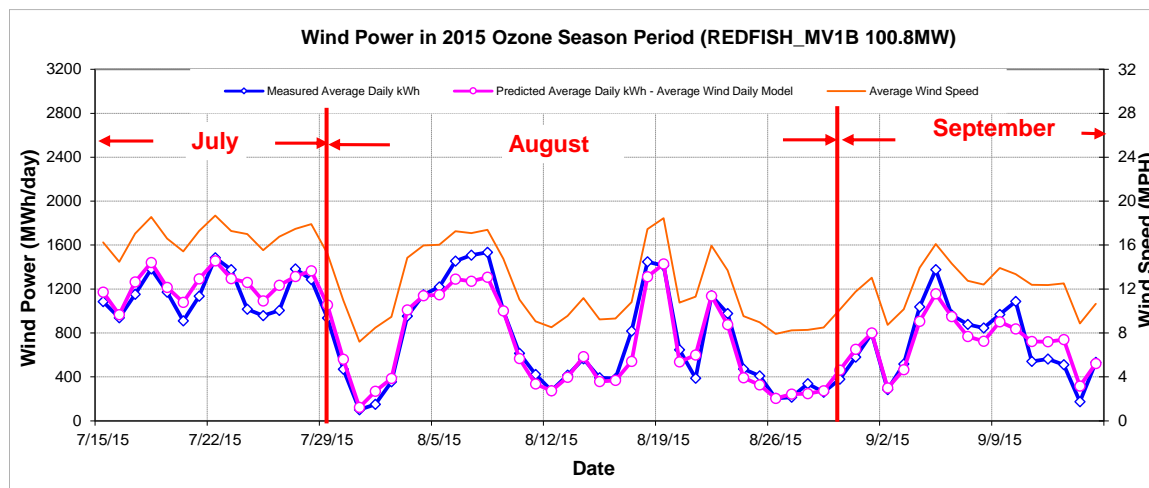


Figure 9-275: REDFISH_MV1B – Predicted Wind Power in OSP Using Average Wind Speed (2015)

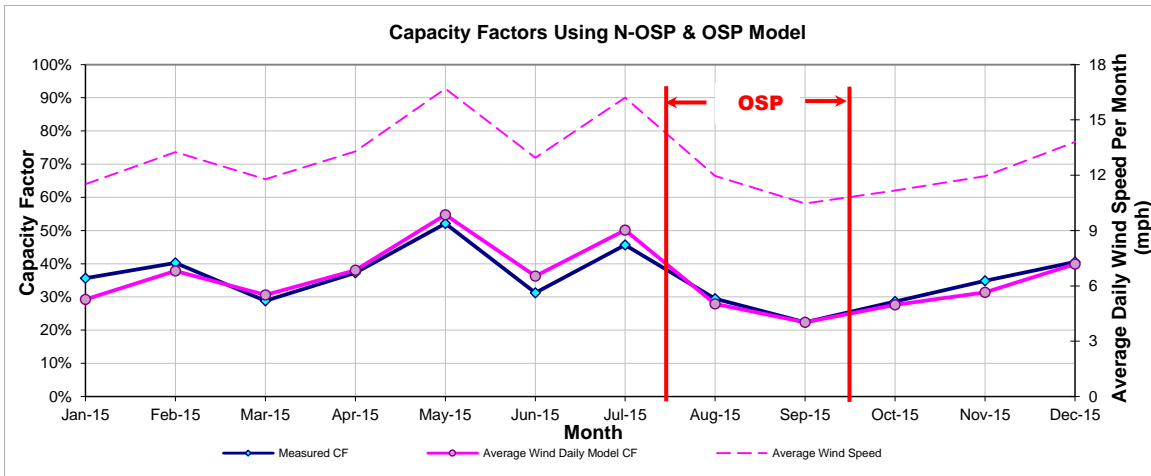


Figure 9-276: REDFISH_MV1B – Predicted Capacity Factors Using Daily Models (2015)

Table 9-265: REDFISH_MV1B – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
249,609	314,137	344	809

9.58 Red Canyon

Table 9-266: Site Information for Red Canyon

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
RDCANYON_RDCNY1	Wind	-	Borden	May-06	84	FPL Energy	Red Canyon1	-	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
RDCANYON_RDCNY1	RDCANYON_RDCNY1	84

9.58.1 Red Canyon - RDCANYON_RDCNY1

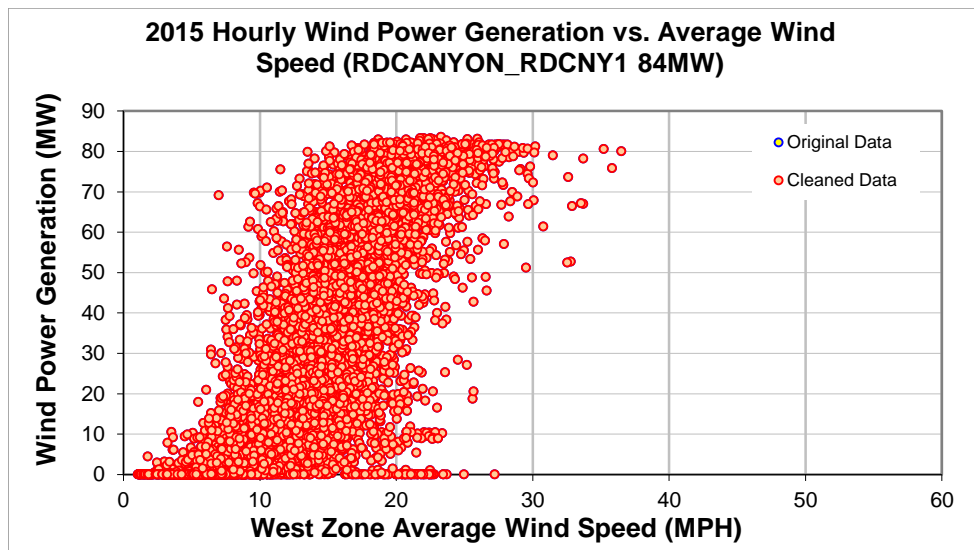


Figure 9-277: RDCANYON_RDCNY1- Hourly Wind Power vs. Average Wind Speed (2015)

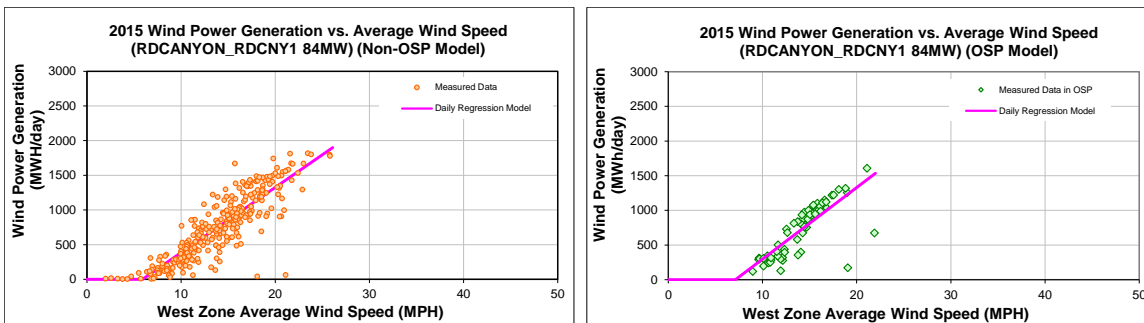


Figure 9-278: RDCANYON_RDCNY1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-267: RDCANYON_RDCNY1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-555.5757
Left Slope (MWh/mph-day)	94.0277
RMSE (MWh/day)	229.6969
R2	0.7648
CV-RMSE	29.5%
Daily Maximum (MWh/day)	2016

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-736.1821
Left Slope (MWh/mph-day)	103.2691
RMSE (MWh/day)	227.6321
R2	0.6291
CV-RMSE	31.1%
Daily Maximum (MWh/day)	2016

Table 9-268: RDCANYON_RDCNY1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	17,771	16,165	9.04%	29%	27%
Feb-15	27	14.16	21,013	21,254	-1.15%	39%	39%
Mar-15	30	11.63	17,213	16,400	4.72%	28%	27%
Apr-15	30	15.35	29,188	26,642	8.73%	48%	44%
May-15	31	16.18	28,191	29,929	-6.16%	45%	48%
Jun-15	30	14.18	22,449	23,323	-3.89%	37%	39%
Jul-15	31	15.36	26,178	26,845	-2.55%	42%	43%
Aug-15	31	13.34	21,290	19,878	6.63%	34%	32%
Sep-15	29	13.92	16,595	21,222	-27.88%	28%	36%
Oct-15	31	13.95	20,950	23,444	-11.91%	34%	38%
Nov-15	29	15.58	28,833	26,615	7.69%	49%	46%
Dec-15	31	15.34	28,095	27,500	2.12%	45%	44%
Total	360	14.21	277,768	279,217	-0.52%	38%	38%
Total in OSP (07/15-09/15)	63	14.23	46,182	46,182	0.00%	36%	36%

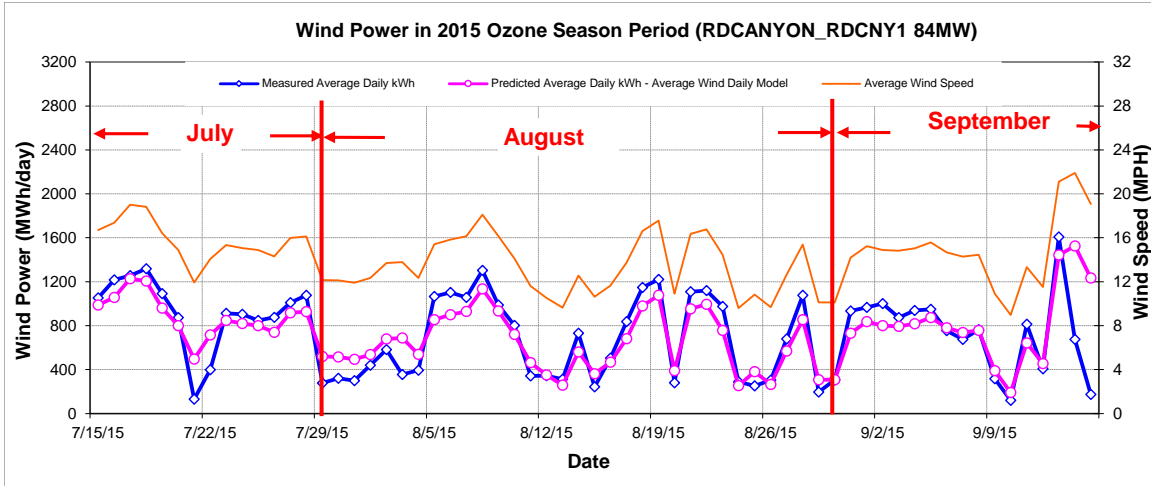


Figure 9-279: RDCANYON_RDCNY1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

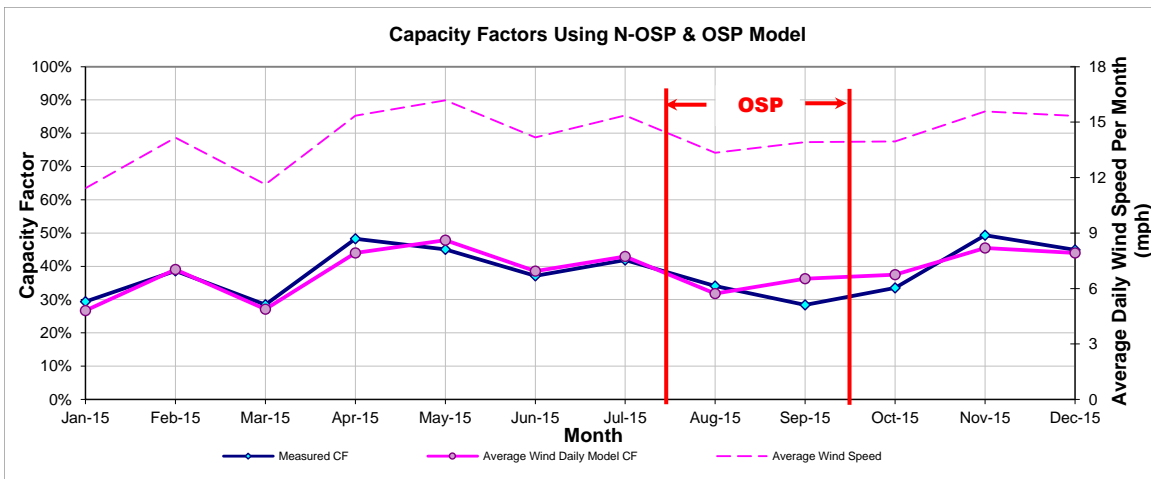


Figure 9-280: RDCANYON_RDCNY1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-269: RDCANYON_RDCNY1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
188,361	281,626	212	733

9.59 Senate Wind Farm

Table 9-270: Site Information for Senate Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
SENATEWD_UNIT1	Wind	-	Jack	Dec-12	150	Gamesa Energy	Senate Wind Project	-	ERCOT	North	North Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SENATEWD_UNIT1	SENATEWD_UNIT1	150

9.59.1 Senate Wind Farm – SENATEWD_UNIT1

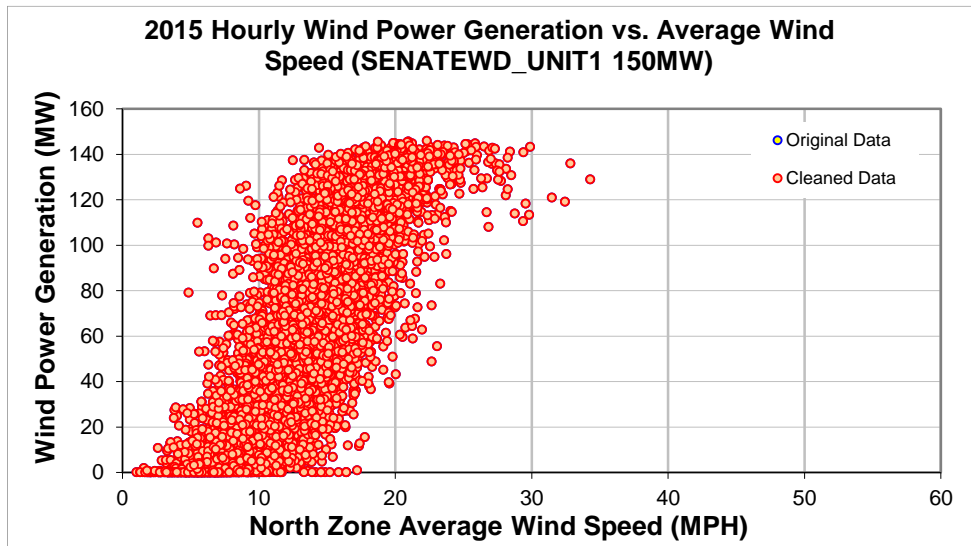


Figure 9-281: SENATEWD_UNIT1 – Hourly Wind Power vs. Average Wind Speed (2015)

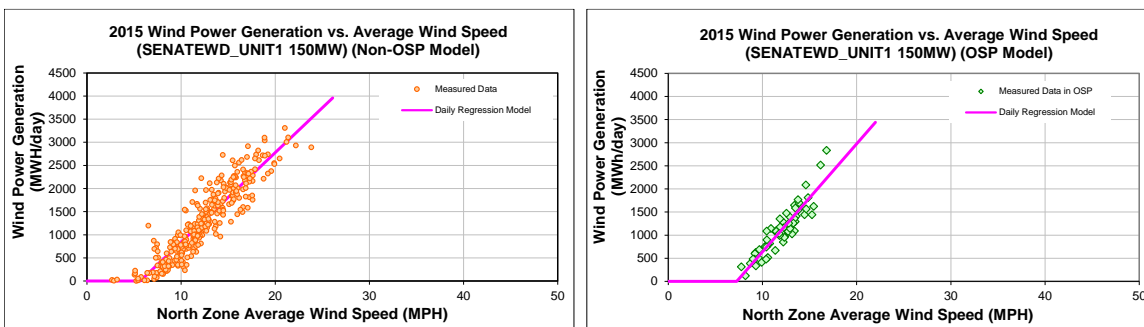


Figure 9-282: SENATEWD_UNIT1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-271: SENATEWD_UNIT1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1098.3143
Left Slope (MWh/mph-day)	193.7009
RMSE (MWh/day)	310.7520
R2	0.8395
CV-RMSE	23.6%
Daily Maximum (MWh/day)	3600

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1695.4622
Left Slope (MWh/mph-day)	233.3925
RMSE (MWh/day)	207.4866
R2	0.8334
CV-RMSE	18.7%
Daily Maximum (MWh/day)	3600

Table 9-272: SENATEWD_UNIT1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone		Average Wind Speed (North) Zone
Jan-15	31	12.58	39,508	41,660	-5.45%	35%	37%
Feb-15	28	12.49	38,861	37,720	2.94%	39%	37%
Mar-15	31	10.61	30,842	30,706	0.44%	28%	28%
Apr-15	30	12.91	44,184	42,089	4.74%	41%	39%
May-15	31	12.07	43,824	38,405	12.36%	39%	34%
Jun-15	30	11.84	31,871	35,877	-12.57%	30%	33%
Jul-15	31	13.82	39,443	47,423	-20.23%	35%	42%
Aug-15	31	11.47	31,811	30,426	4.35%	29%	27%
Sep-15	30	11.64	32,427	32,994	-1.75%	30%	31%
Oct-15	31	12.08	36,768	38,477	-4.65%	33%	34%
Nov-15	30	13.67	48,966	46,570	4.89%	45%	43%
Dec-15	31	13.52	48,915	47,162	3.59%	44%	42%
Total	365	12.39	467,418	469,506	-0.45%	36%	36%
Total in OSP (07/15-09/15)	63	12.02	69,889	69,889	0.00%	31%	31%

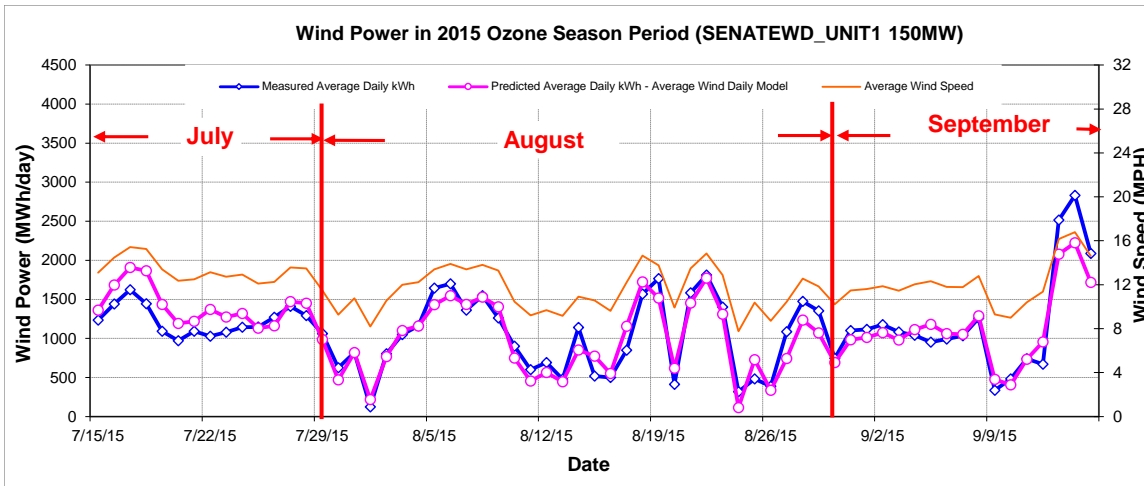


Figure 9-283: SENATEWD_UNIT1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

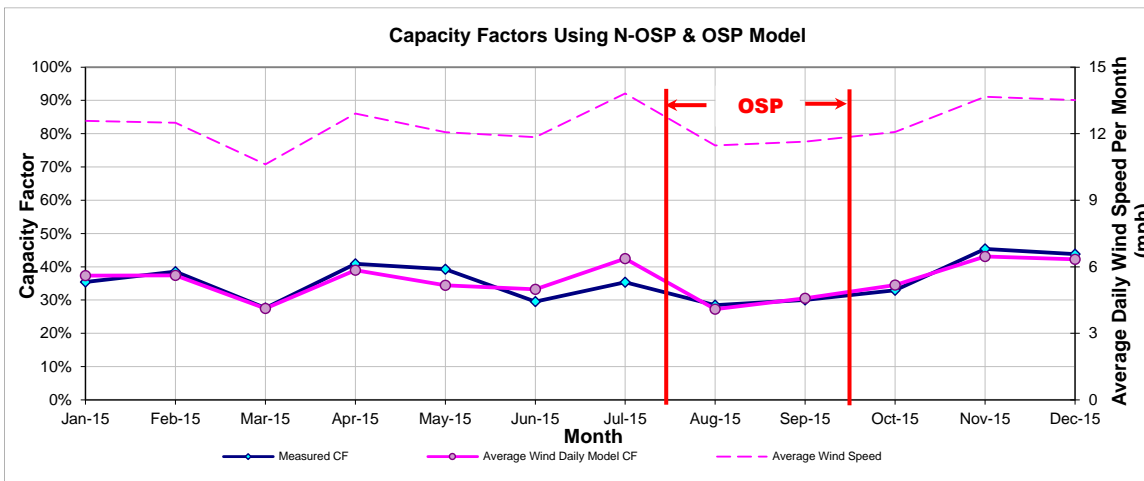


Figure 9-284: SENATEWD_UNIT1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-273: SENATEWD_UNIT1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
402,333	467,418	457	1,109

9.60 Big Spring Wind Power

Table 9-274: Site Information for Big Spring Wind Power

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
SGMTN_SIGNALMT	Wind	Big Spring	Howard	Feb-99	41	York Research	Big Spring Wind Power	Vestas V-47 (42) Vestas (4)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SGMTN_SIGNALMT	SGMTN_SIGNALMT	41

9.60.1 Big Spring Wind Power – SGMTN_SIGNALMT

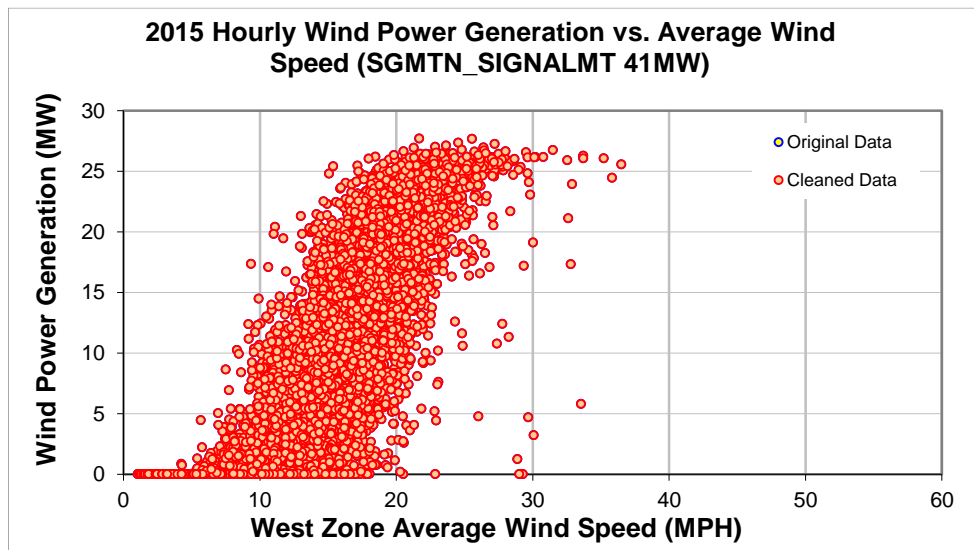


Figure 9-285: SGMTN_SIGNALMT - Hourly Wind Power vs. Average Wind Speed (2015)

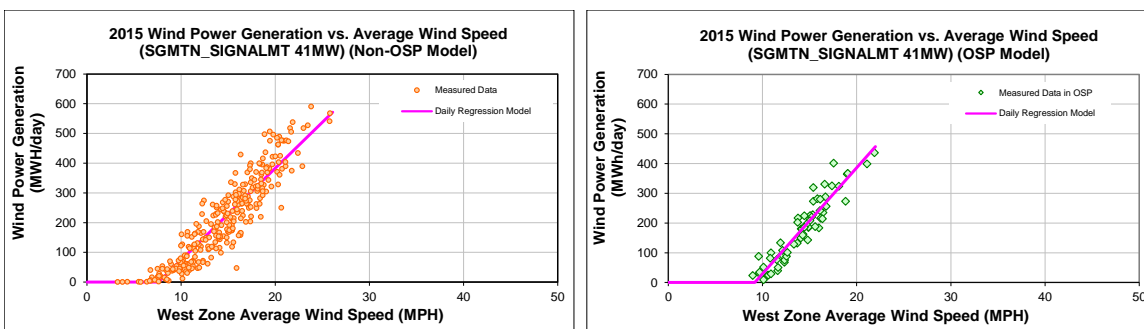


Figure 9-286: SGMTN_SIGNALMT - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-275: SGMTN_SIGNALMT – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-234.8317
Left Slope (MWh/mph-day)	30.8825
RMSE (MWh/day)	56.2587
R2	0.8462
CV-RMSE	27.0%
Daily Maximum (MWh/day)	984

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-326.5722
Left Slope (MWh/mph-day)	35.6060
RMSE (MWh/day)	36.6260
R2	0.8862
CV-RMSE	20.3%
Daily Maximum (MWh/day)	984

Table 9-276: SGMTN_SIGNALMT – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	4,857	3,883	20.04%	17%	14%
Feb-15	26	14.60	6,497	5,643	13.14%	25%	22%
Mar-15	29	11.87	4,239	4,015	5.30%	15%	14%
Apr-15	30	15.35	7,558	7,182	4.97%	26%	24%
May-15	31	16.18	7,383	8,207	-11.16%	24%	27%
Jun-15	30	14.18	5,288	6,090	-15.15%	18%	21%
Jul-15	31	15.36	6,496	7,077	-8.95%	21%	23%
Aug-15	31	13.34	4,894	4,599	6.04%	16%	15%
Sep-15	30	14.14	5,244	5,750	-9.64%	18%	19%
Oct-15	31	13.95	5,314	6,089	-14.59%	17%	20%
Nov-15	29	15.58	7,338	7,357	-0.25%	26%	26%
Dec-15	30	15.61	7,573	7,477	1.26%	26%	25%
Total	357	14.34	72,680	73,368	-0.95%	21%	21%
Total in OSP (07/15-09/15)	63	14.23	11,340	11,347	-0.06%	18%	18%

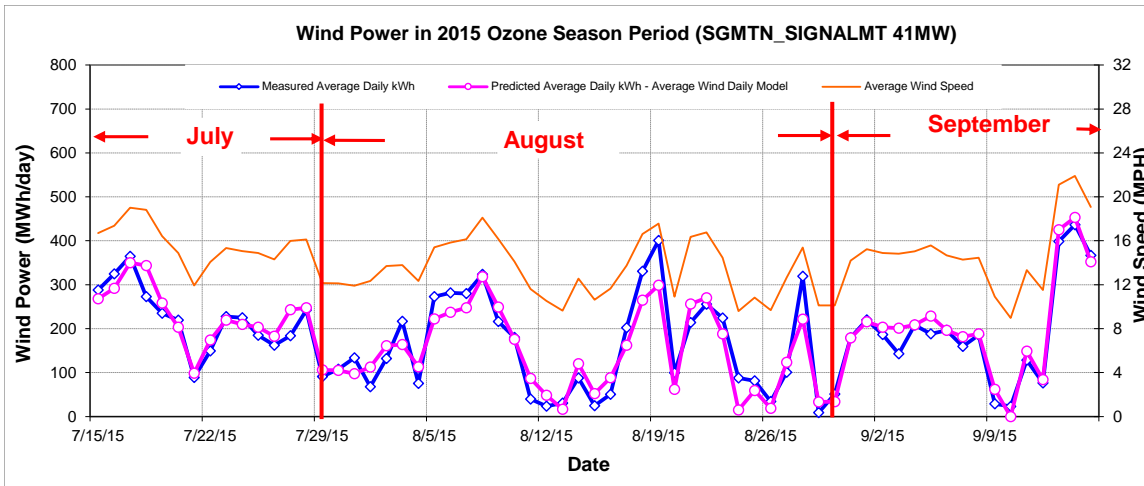


Figure 9-287: SGMTN_SIGNALMT - Predicted Wind Power in OSP Using Average Wind Speed (2015)

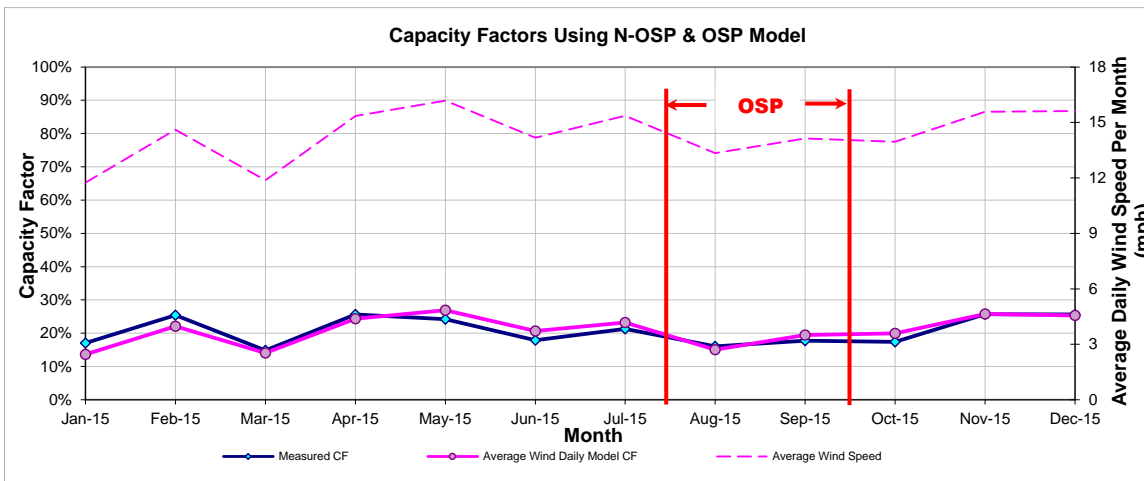


Figure 9-288: SGMTN_SIGNALMT – Predicted Capacity Factors Using Daily Models (2015)

Table 9-277: SGMTN_SIGNALMT – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
35,712	74,309	24	180

9.61 South Trent Wind Farm

Table 9-278: Site Information for South Trent Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
STWF_T1	Wind	-	Taylor	Oct-08	101.2	Babcock & Brown	South Trent Wind Farm	Siemens (44)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
STWF_T1	STWF_T1	101.2

9.61.1 South Trent Wind Farm – STWF_T1

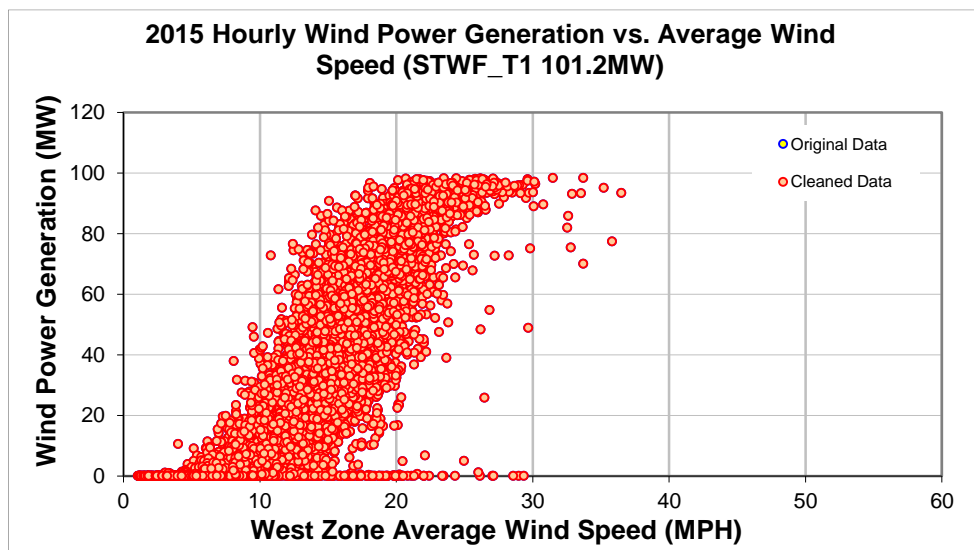


Figure 9-289: STWF_T1 - Hourly Wind Power vs. Average Wind Speed (2015)

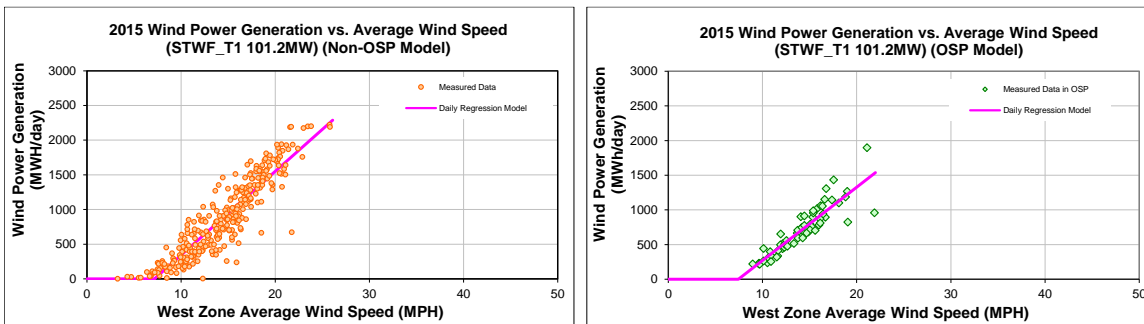


Figure 9-290: STWF_T1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-279: STWF_T1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-865.4642
Left Slope (MWh/mph-day)	120.8642
RMSE (MWh/day)	230.3460
R2	0.8330
CV-RMSE	26.4%
Daily Maximum (MWh/day)	2429

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-784.8024
Left Slope (MWh/mph-day)	105.6080
RMSE (MWh/day)	151.3601
R2	0.8005
CV-RMSE	21.1%
Daily Maximum (MWh/day)	2429

Table 9-280: STWF_T1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	22,971	16,637	27.58%	33%	24%
Feb-15	25	14.91	25,140	23,425	6.82%	41%	39%
Mar-15	30	11.63	18,051	16,998	5.83%	25%	23%
Apr-15	30	15.35	29,239	29,706	-1.59%	40%	41%
May-15	31	16.18	31,251	33,780	-8.09%	42%	45%
Jun-15	30	14.18	23,074	25,440	-10.25%	32%	35%
Jul-15	31	15.36	27,760	28,158	-1.43%	37%	37%
Aug-15	31	13.34	20,651	19,338	6.36%	27%	26%
Sep-15	30	14.14	19,747	23,055	-16.75%	27%	32%
Oct-15	31	13.95	23,229	25,445	-9.54%	31%	34%
Nov-15	27	16.05	29,197	29,254	-0.20%	45%	45%
Dec-15	30	15.61	29,948	30,818	-2.91%	41%	42%
Total	355	14.36	300,260	302,053	-0.60%	35%	35%
Total in OSP (07/15-09/15)	63	14.23	45,216	45,216	0.00%	30%	30%

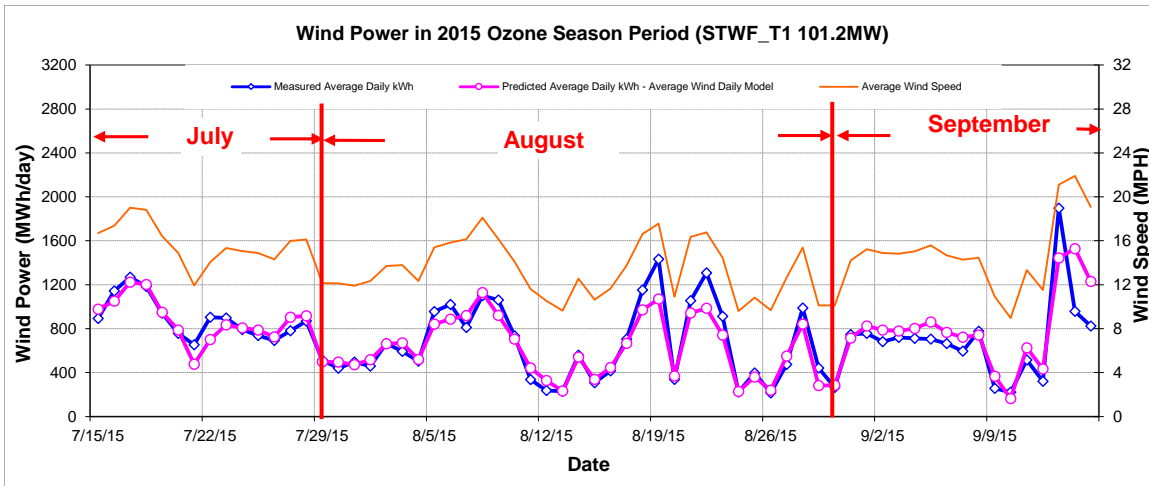


Figure 9-291: STWF_T1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

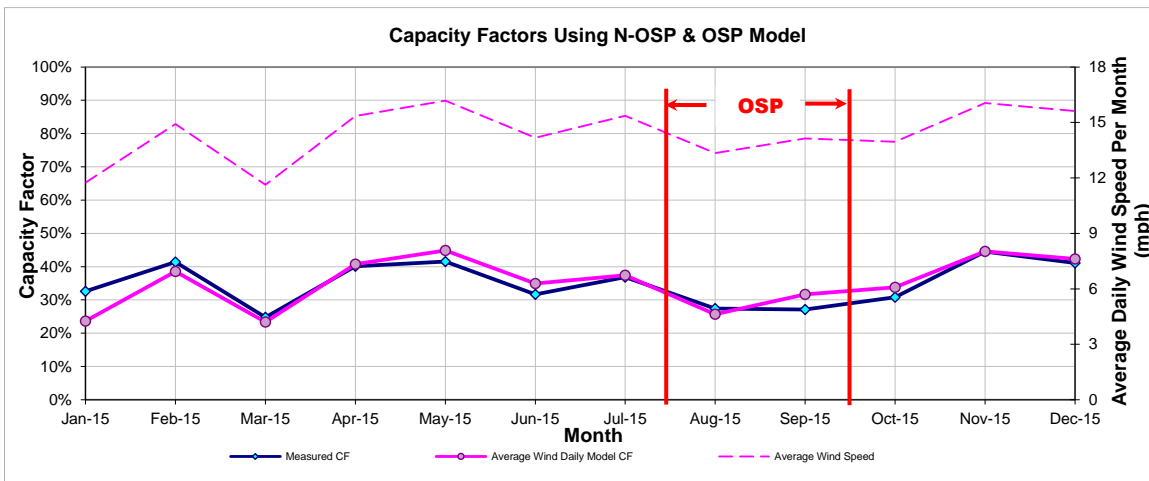


Figure 9-292: STWF_T1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-281: STWF_T1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
197,026	308,718	195	718

9.62 Stanton Wind Energy

Table 9-282: Site Information for Stanton Wind Energy

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Weather Station
SWEC_G1	Wind	-	Martin	Jan-08	120	Invenergy	Stanton Wind Energy	GE Energy	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SWEC_G1	SWEC_G1	120

9.62.1 Stanton Wind Energy– SWEC_G1

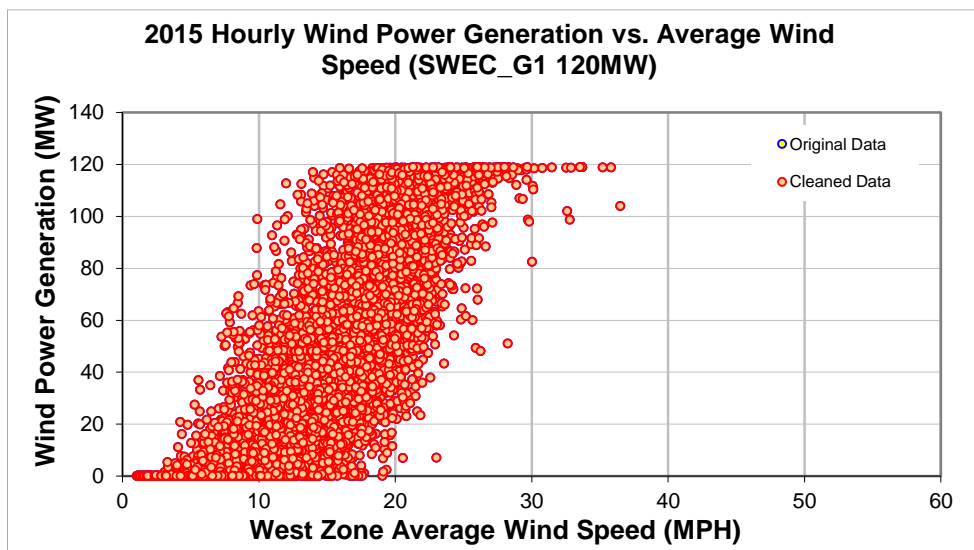


Figure 9-293: SWEC_G1 - Hourly Wind Power vs. Average Wind Speed (2015)

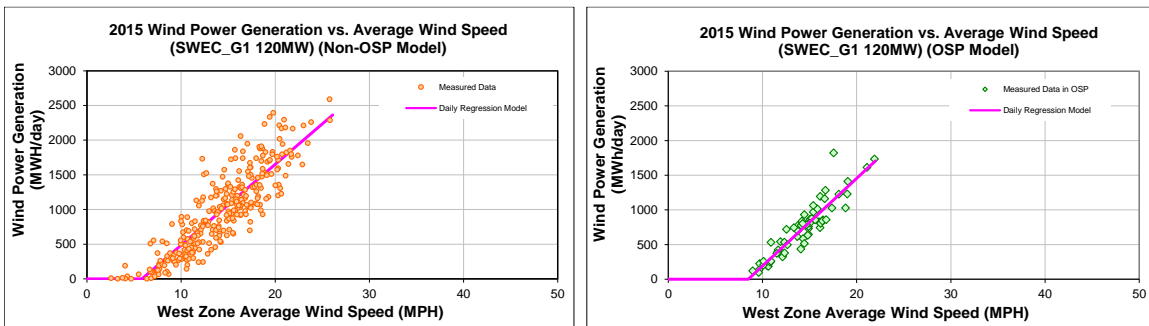


Figure 9-294: SWEC_G1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-283: SWEC_G1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-680.3202
Left Slope (MWh/mph-day)	116.5591
RMSE (MWh/day)	282.5793
R2	0.7676
CV-RMSE	28.9%
Daily Maximum (MWh/day)	2880

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1072.1093
Left Slope (MWh/mph-day)	126.2890
RMSE (MWh/day)	151.6336
R2	0.8511
CV-RMSE	20.9%
Daily Maximum (MWh/day)	2880

Table 9-284: SWEC_G1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	27,685	20,274	26.77%	33%	24%
Feb-15	27	14.16	29,390	26,565	9.61%	38%	34%
Mar-15	31	11.39	21,874	20,565	5.98%	25%	23%
Apr-15	30	15.35	36,405	33,277	8.59%	42%	39%
May-15	31	16.18	34,096	37,360	-9.57%	38%	42%
Jun-15	30	14.18	24,940	29,164	-16.94%	29%	34%
Jul-15	31	15.36	24,332	30,240	-24.28%	27%	34%
Aug-15	31	13.34	20,199	18,982	6.02%	23%	21%
Sep-15	30	14.14	21,939	25,337	-15.49%	25%	29%
Oct-15	31	13.95	26,035	29,322	-12.63%	29%	33%
Nov-15	30	15.20	32,836	33,219	-1.16%	38%	38%
Dec-15	30	15.66	37,235	34,341	7.77%	43%	40%
Total	361	14.22	336,967	338,647	-0.50%	32%	33%
Total in OSP (07/15-09/15)	63	14.23	45,652	45,652	0.00%	25%	25%

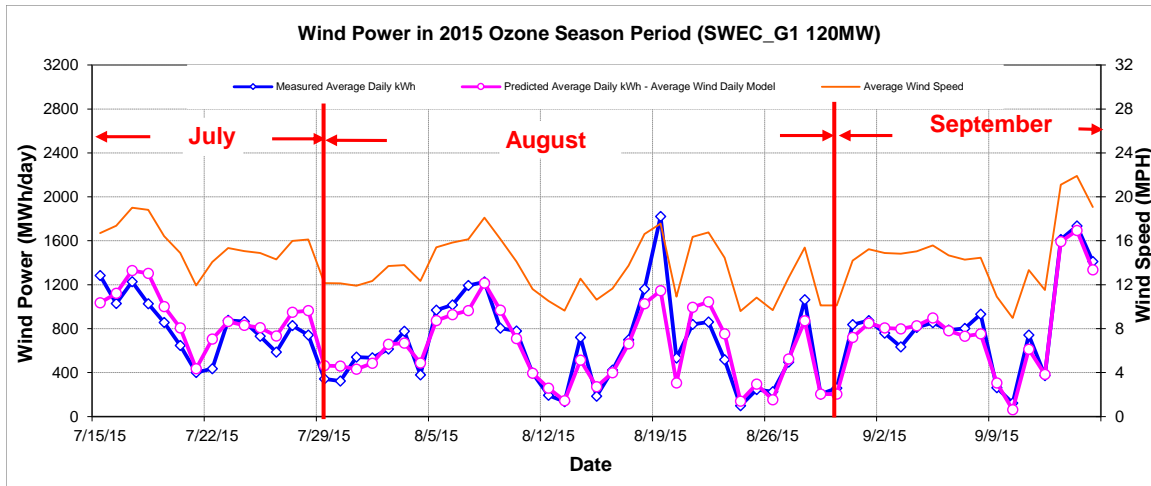


Figure 9-295: SWEC_G1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

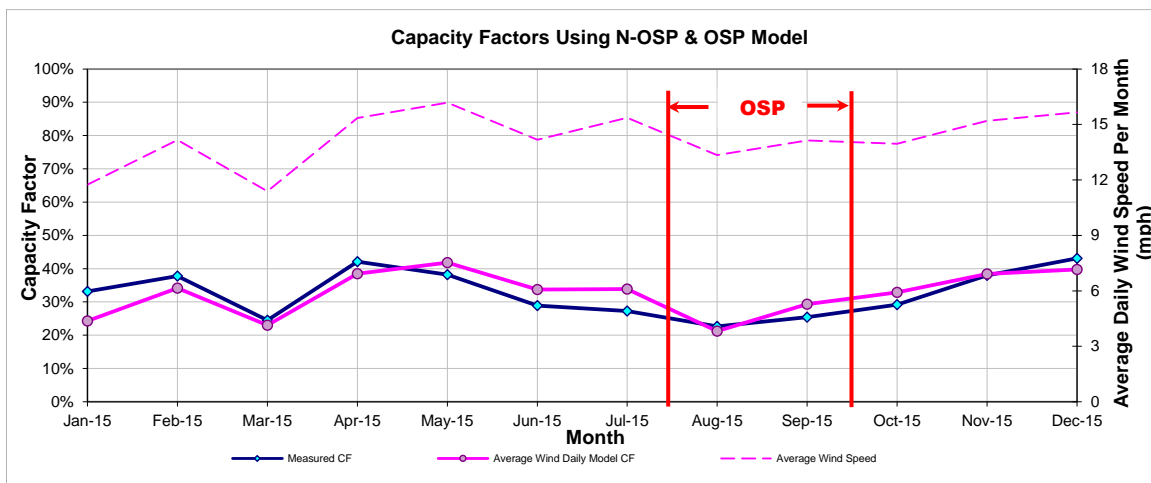


Figure 9-296: SWEC_G1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-285: SWEC_G1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
187,402	340,701	131	725

9.63 Southwest Mesa Wind Project

Table 9-286: Site Information for Southwest Mesa Wind Project

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Weather Station
SW_MESA_SW_MESA	Wind	McCamey	Upton	Jun-99	74.6	FPL Energy	Southwest Mesa Wind Project	NEG Micon (107)	ERCOT	West	MAF

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SW_MESA_SW_MESA	SW_MESA_SW_MESA	74.6

9.63.1 Southwest Mesa Wind Project – SW_MESA_SW_MESA

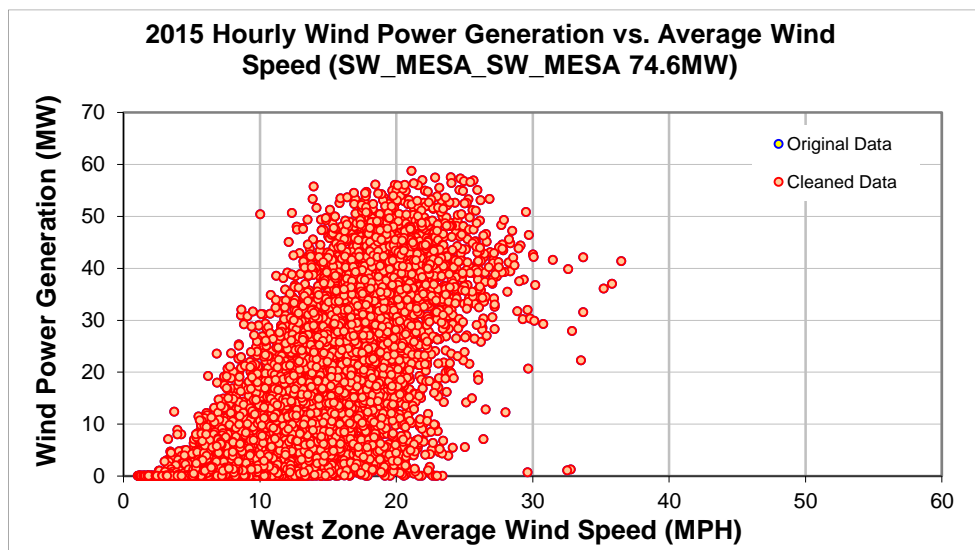


Figure 9-297: SW_MESA_SW_MESA - Hourly Wind Power vs. Average Wind Speed (2015)

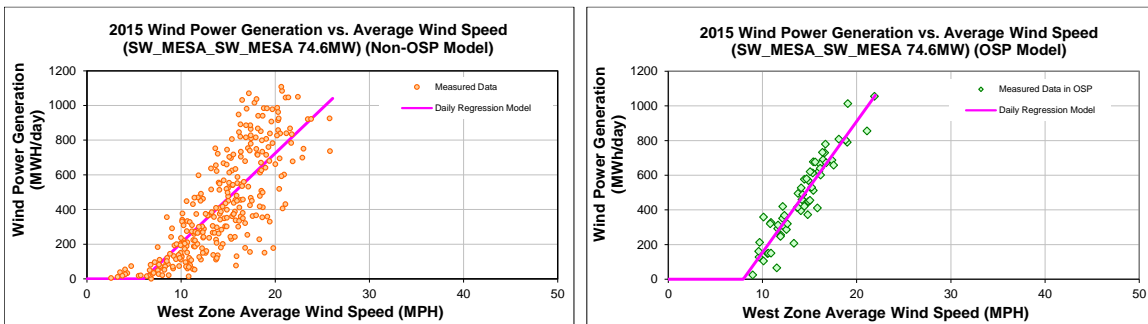


Figure 9-298: SW_MESA_SW_MESA - Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-287: SW_MESA_SW_MESA – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-312.6109
Left Slope (MWh/mph-day)	51.8314
RMSE (MWh/day)	181.5844
R2	0.6186
CV-RMSE	43.1%
Daily Maximum (MWh/day)	1790

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-599.7285
Left Slope (MWh/mph-day)	75.4834
RMSE (MWh/day)	83.4157
R2	0.8710
CV-RMSE	17.6%
Daily Maximum (MWh/day)	1790

Table 9-288: SW_MESA_SW_MESA – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	7,162	8,733	-21.94%	14%	17%
Feb-15	28	13.78	9,091	11,551	-27.06%	18%	23%
Mar-15	31	11.39	7,062	8,862	-25.49%	13%	16%
Apr-15	30	15.35	14,241	14,495	-1.79%	27%	27%
May-15	31	16.18	18,394	16,301	11.38%	33%	29%
Jun-15	30	14.18	18,038	12,666	29.78%	34%	24%
Jul-15	31	15.36	18,554	16,183	12.78%	33%	29%
Aug-15	31	13.34	13,118	12,619	3.80%	24%	23%
Sep-15	30	14.14	14,156	13,634	3.69%	26%	25%
Oct-15	31	13.95	12,581	12,726	-1.16%	23%	23%
Nov-15	30	15.20	13,327	14,499	-8.79%	25%	27%
Dec-15	31	15.34	10,541	14,968	-42.00%	19%	27%
Total	363	14.17	156,264	157,238	-0.62%	24%	24%
Total in OSP (07/15-09/15)	63	14.23	29,874	29,874	0.00%	26%	26%

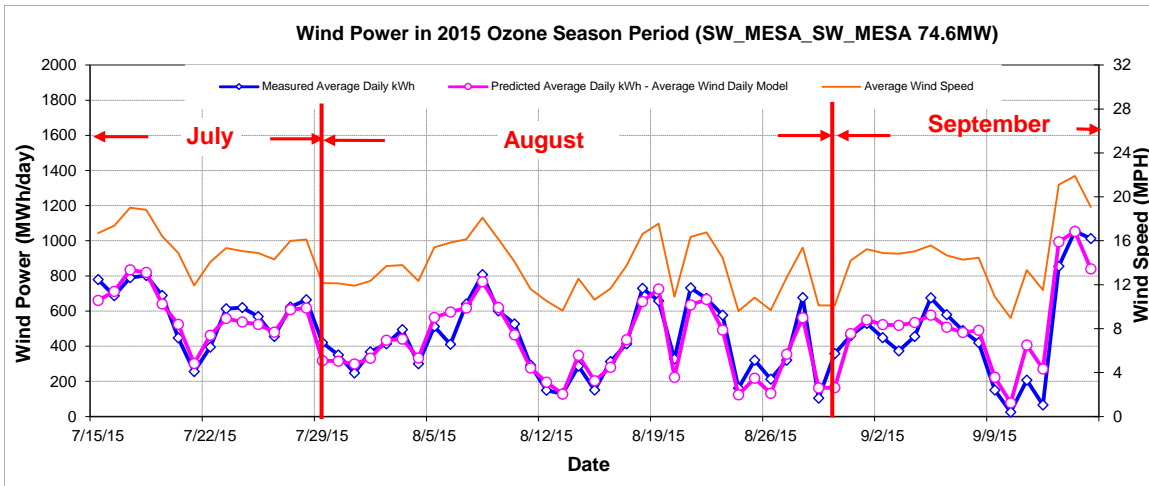


Figure 9-299: SW_MESA_SW_MESA - Predicted Wind Power in OSP Using Average Wind Speed (2015)

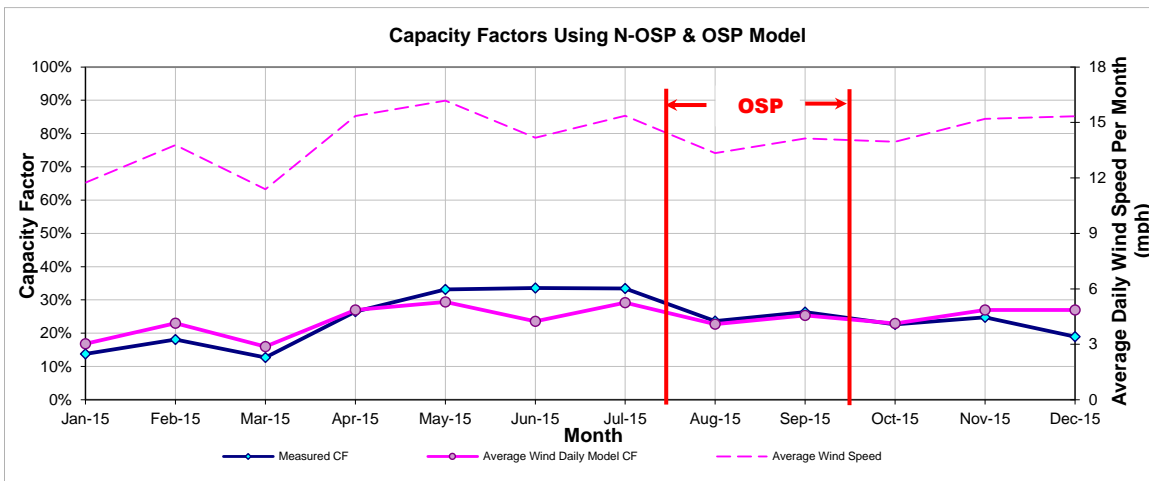


Figure 9-300: SW_MESA_SW_MESA – Predicted Capacity Factors Using Daily Models (2015)

Table 9-289: SW_MESA_SW_MESA – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
83,491	157,125	102	474

9.64 Sweetwater Wind 1

Table 9-290: Site Information for Sweetwater Wind 1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
SWEETWND_WND1	Wind	Sweetwater	Nolan	Dec-03	37.5	DKR Development	Sweetwater Wind 1	GE Wind 1500 (25)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SWEETWND_WND1	SWEETWND_WND1	37.5

9.64.1 Sweetwater Wind 1 – SWEETWND_WND1

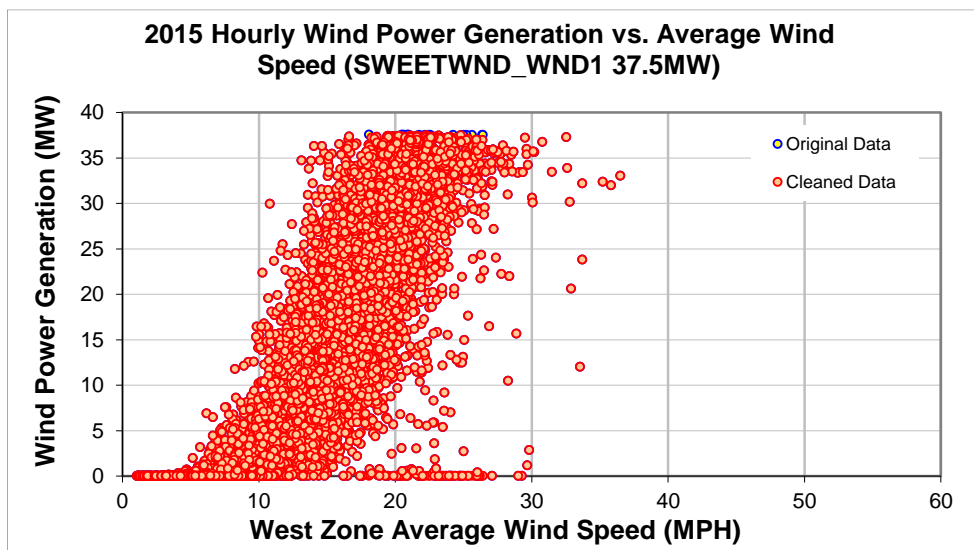


Figure 9-301: SWEETWND_WND1 - Hourly Wind Power vs. Average Wind Speed (2015)

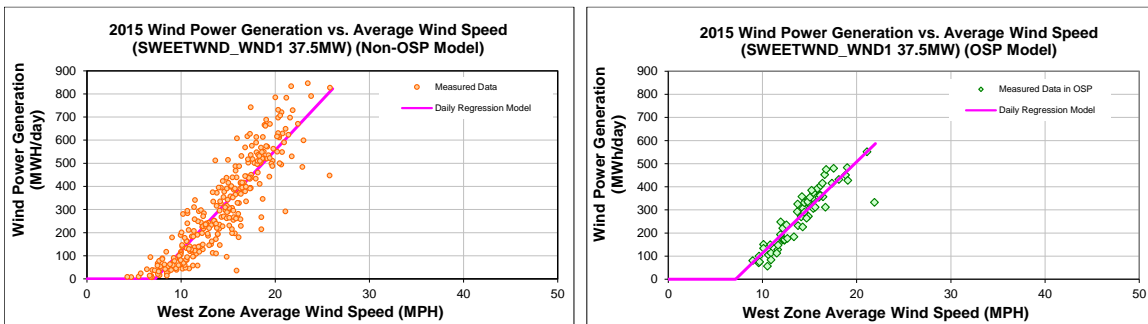


Figure 9-302: SWEETWND_WND1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-291: SWEETWND_WND1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-314.9583
Left Slope (MWh/mph-day)	43.5730
RMSE (MWh/day)	92.8670
R2	0.7970
CV-RMSE	29.7%
Daily Maximum (MWh/day)	900

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-282.1369
Left Slope (MWh/mph-day)	39.4984
RMSE (MWh/day)	52.3290
R2	0.8244
CV-RMSE	18.7%
Daily Maximum (MWh/day)	900

Table 9-292: SWEETWND_WND1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	8,113	5,918	27.05%	32%	23%
Feb-15	26	14.60	9,221	8,371	9.21%	39%	36%
Mar-15	30	11.63	7,022	6,057	13.74%	26%	22%
Apr-15	30	15.35	11,127	10,621	4.55%	41%	39%
May-15	31	16.18	11,511	12,087	-5.00%	41%	43%
Jun-15	30	14.18	7,913	9,083	-14.79%	29%	34%
Jul-15	31	15.36	10,282	10,490	-2.02%	37%	38%
Aug-15	31	13.34	7,883	7,585	3.77%	28%	27%
Sep-15	30	14.14	7,904	8,601	-8.82%	29%	32%
Oct-15	31	13.95	7,712	9,082	-17.78%	28%	33%
Nov-15	28	16.00	10,735	10,805	-0.65%	43%	43%
Dec-15	30	15.61	9,780	11,025	-12.72%	36%	41%
Total	356	14.37	109,202	109,726	-0.48%	34%	34%
Total in OSP (07/15-09/15)	63	14.23	17,629	17,629	0.00%	31%	31%

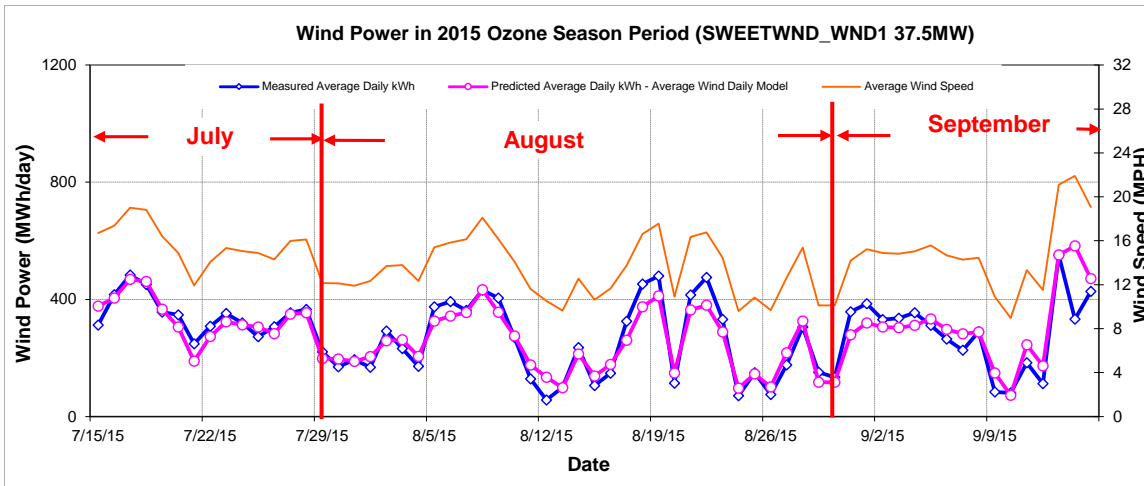


Figure 9-303: SWEETWND_WND1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

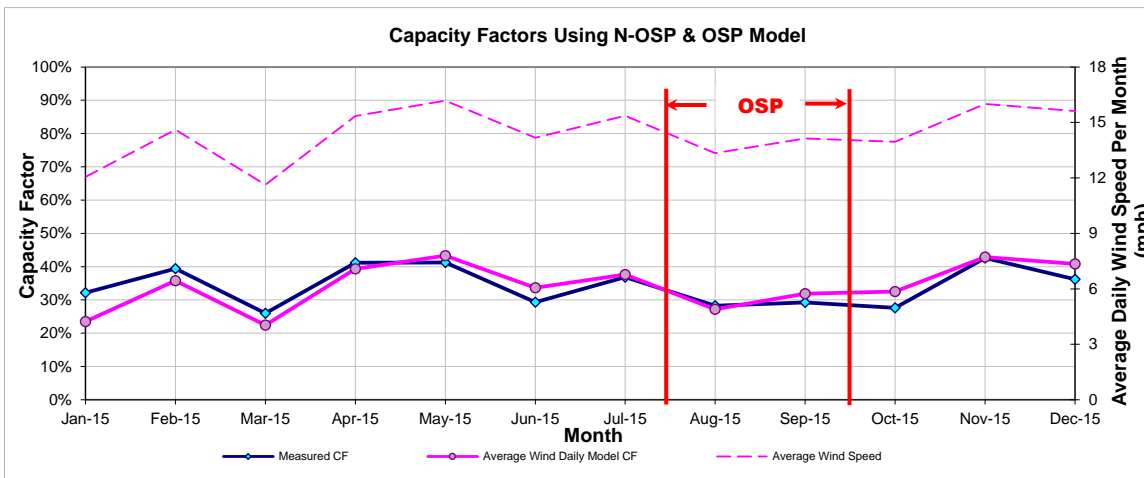


Figure 9-304: SWEETWND_WND1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-293: SWEETWND_WND1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
70,936	111,963	81	280

9.65 Sweetwater Wind 2

Table 9-294: Site Information for Sweetwater Wind 2

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
SWEETWN2_WND2	Wind	Sweetwater	Nolan	Feb-05	113.5	DKRW Development	Sweetwater Wind 2	GE Wind 1500 (61)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SWEETWN2_WND2	SWEETWN2_WND2	97.5
SWEETWN2_WND24	SWEETWN2_WND24	16

9.65.1 Sweetwater Wind 2 (SWEETWN2_WND2)

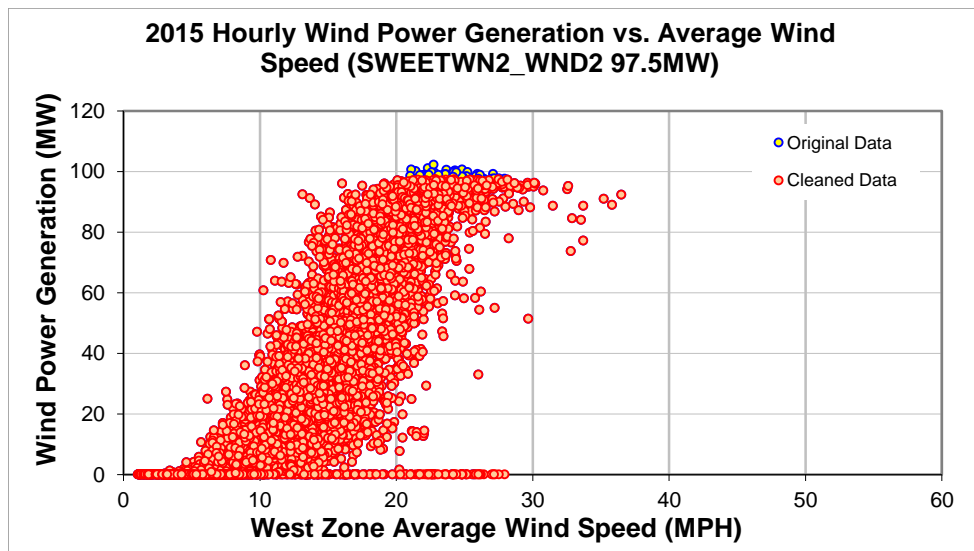


Figure 9-305: SWEETWN2_WND2 – Hourly Wind Power vs. Average Wind Speed (2015)

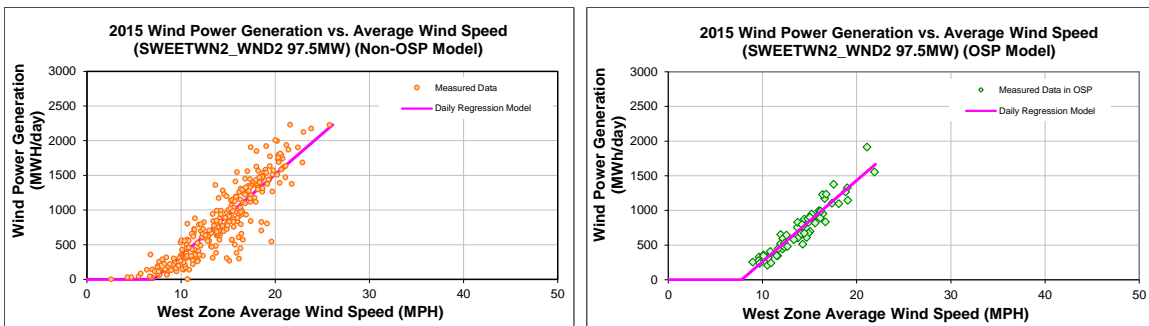


Figure 9-306: SWEETWN2_WND2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-295: SWEETWN2_WND2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-827.7030
Left Slope (MWh/mph-day)	117.1480
RMSE (MWh/day)	232.7980
R2	0.8149
CV-RMSE	27.6%
Daily Maximum (MWh/day)	2340

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-910.9921
Left Slope (MWh/mph-day)	117.1181
RMSE (MWh/day)	113.3673
R2	0.8979
CV-RMSE	15.0%
Daily Maximum (MWh/day)	2340

Table 9-296: SWEETWN2_WND2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	25	12.12	18,081	14,896	17.61%	31%	25%
Feb-15	27	14.16	24,958	22,984	7.91%	40%	36%
Mar-15	30	11.63	18,933	16,743	11.57%	27%	24%
Apr-15	30	15.35	28,849	29,127	-0.96%	41%	41%
May-15	31	16.18	32,233	33,087	-2.65%	44%	46%
Jun-15	30	14.18	19,393	24,993	-28.87%	28%	36%
Jul-15	31	15.36	27,718	28,687	-3.49%	38%	40%
Aug-15	31	13.34	21,028	20,185	4.01%	29%	28%
Sep-15	30	14.14	22,266	23,590	-5.94%	32%	34%
Oct-15	31	13.95	22,839	25,008	-9.50%	31%	34%
Nov-15	25	15.24	25,788	24,176	6.25%	44%	41%
Dec-15	29	15.26	27,662	27,997	-1.21%	41%	41%
Total	350	14.26	289,748	291,472	-0.59%	35%	36%
Total in OSP (07/15-09/15)	63	14.23	47,583	47,583	0.00%	32%	32%

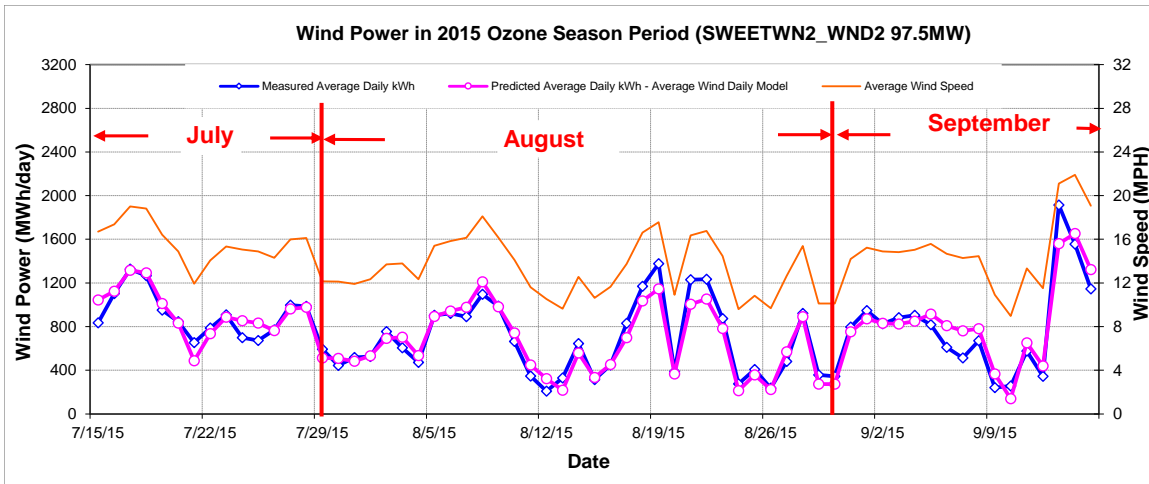


Figure 9-307: SWEETWN2_WND2 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

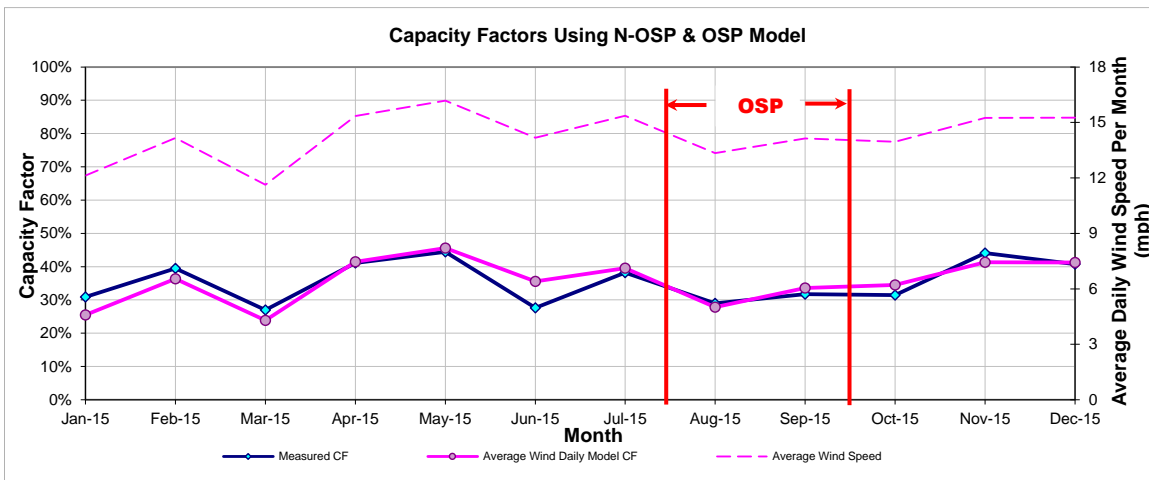


Figure 9-308: SWEETWN2_WND2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-297: SWEETWN2_WND2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
193,884	302,166	191	755

9.65.2 Sweetwater Wind 2 (SWEETWN2_WND24)

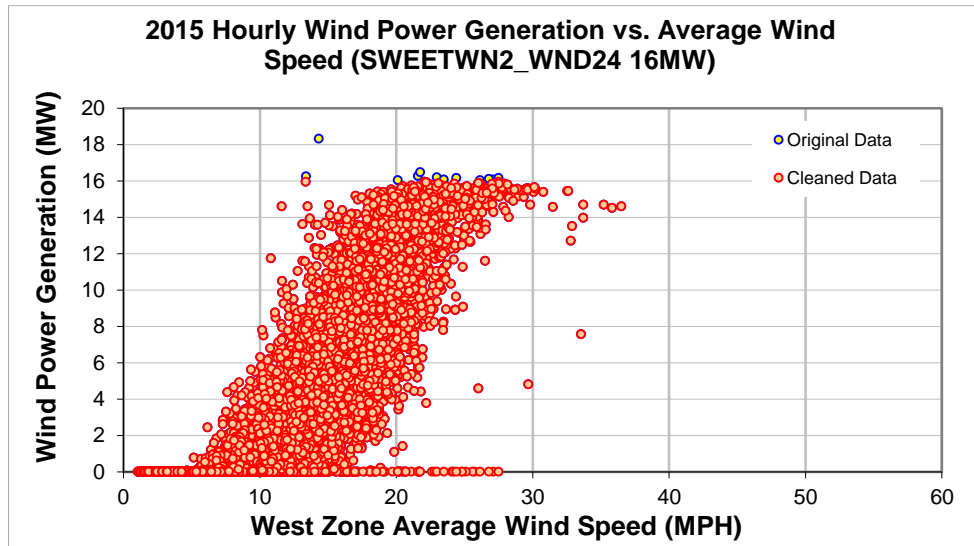


Figure 9-309: SWEETWN2_WND24 – Hourly Wind Power vs. Average Wind Speed (2015)

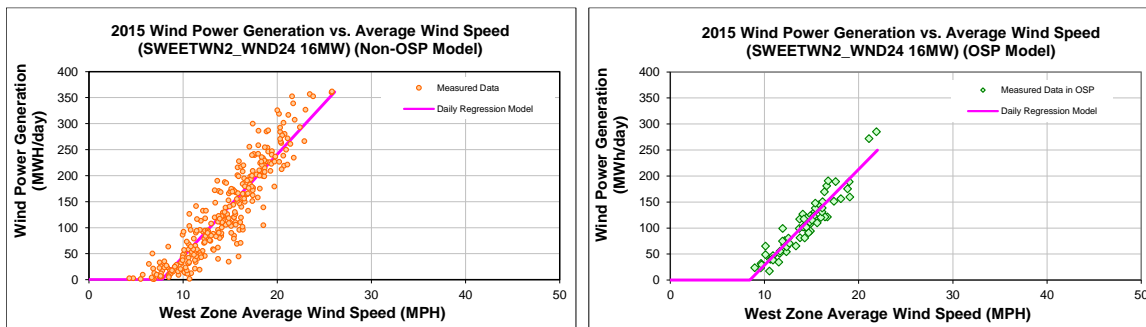


Figure 9-310: SWEETWN2_WND24 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-298: SWEETWN2_WND24 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-152.4890
Left Slope (MWh/mph-day)	19.6734
RMSE (MWh/day)	36.6574
R2	0.8372
CV-RMSE	28.1%
Daily Maximum (MWh/day)	384

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-155.8353
Left Slope (MWh/mph-day)	18.4287
RMSE (MWh/day)	18.4336
R2	0.8918
CV-RMSE	17.3%
Daily Maximum (MWh/day)	384

Table 9-299: SWEETWN2_WND24 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	25	12.12	2,942	2,182	25.83%	31%	23%
Feb-15	26	14.60	3,970	3,523	11.27%	40%	35%
Mar-15	30	11.63	2,773	2,489	10.24%	24%	22%
Apr-15	30	15.35	4,397	4,492	-2.14%	38%	39%
May-15	30	16.16	4,646	4,965	-6.88%	40%	43%
Jun-15	28	13.81	2,751	3,337	-21.32%	26%	31%
Jul-15	31	15.36	4,010	4,262	-6.26%	34%	36%
Aug-15	31	13.34	2,963	2,789	5.88%	25%	23%
Sep-15	30	14.14	3,159	3,441	-8.92%	27%	30%
Oct-15	31	13.95	3,191	3,795	-18.92%	27%	32%
Nov-15	28	16.00	4,913	4,611	6.15%	46%	43%
Dec-15	30	15.61	4,469	4,680	-4.70%	39%	41%
Total	350	14.36	44,186	44,565	-0.86%	33%	33%
Total in OSP (07/15-09/15)	63	14.23	6,700	6,700	0.00%	28%	28%

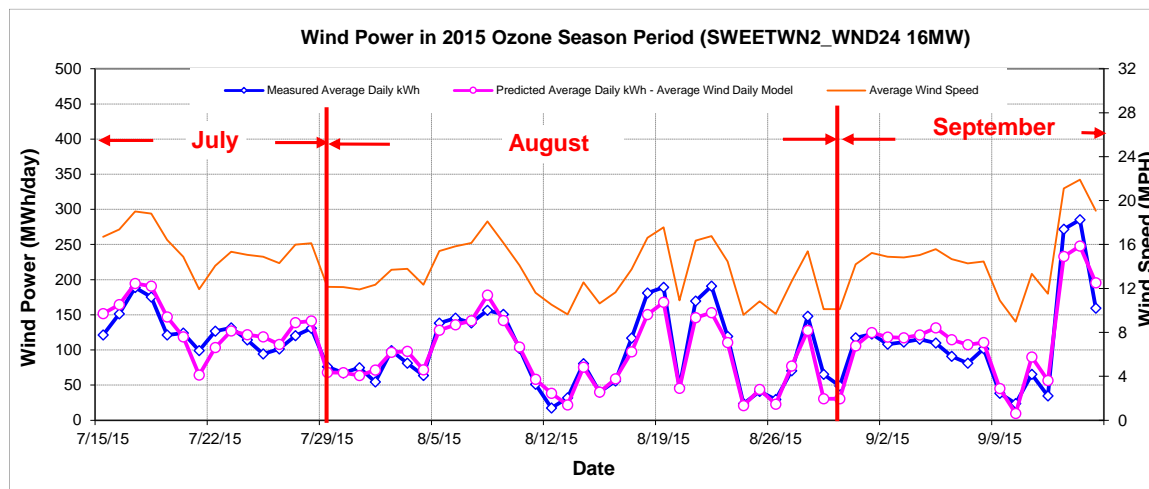


Figure 9-311: SWEETWN2_WND24 – Predicted Wind Power in OSP Using NOAA Wind Speed (2015)

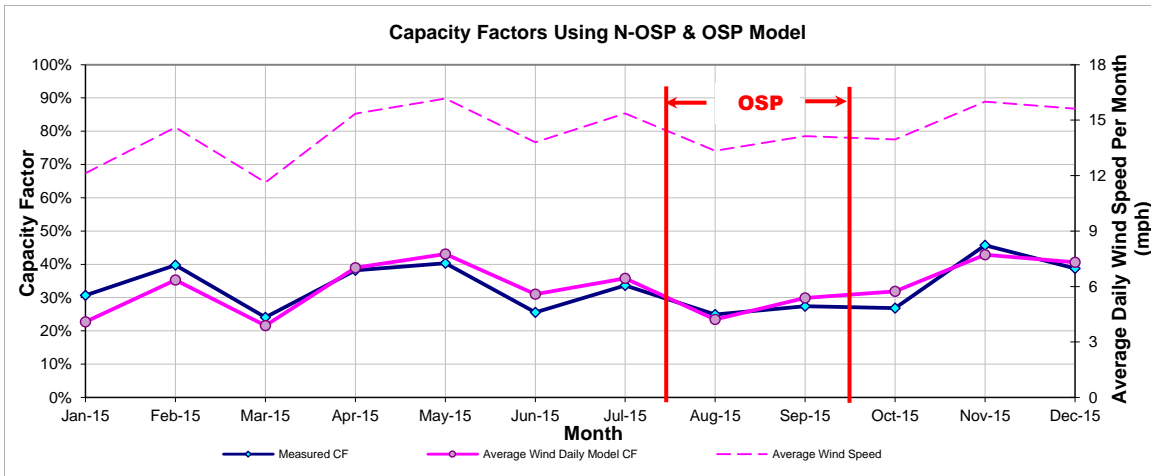


Figure 9-312: SWEETWN2_WND24 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-300: SWEETWN2_WND24 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
28,673	46,080	23	106

9.66 Sweetwater Wind 3

Table 9-301: Site Information for Sweetwater Wind 3

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
SWEETWN3	Wind	Sweetwater	Nolan	Dec-05	135	DKRW Development	Sweetwater Wind 3	GE Energy 1.5 MW (90)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SWEETEN3_WND3	SWEETEN3_WND3	135

9.66.1 Sweetwater Wind 3 – SWEETWN3_WND3

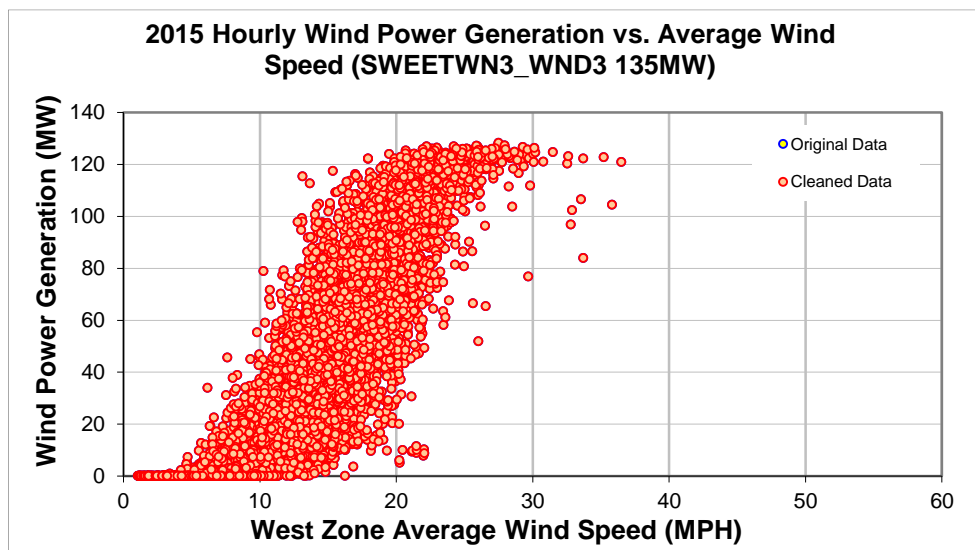


Figure 9-313: SWEETWN3_WND3 - Hourly Wind Power vs. Average Wind Speed (2015)

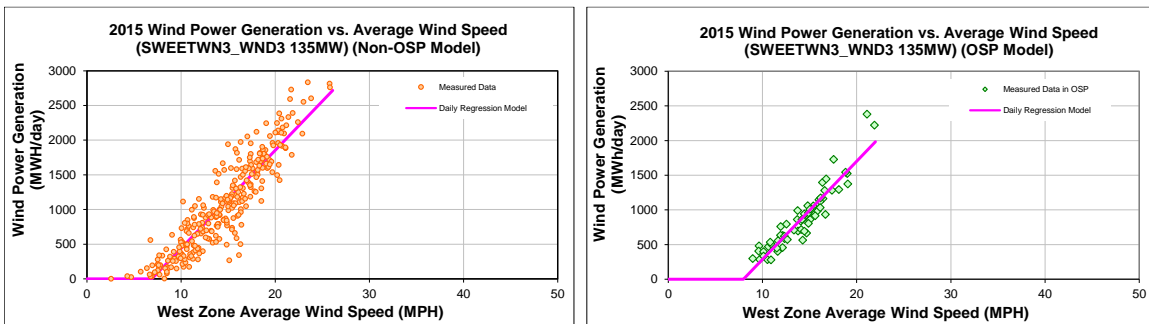


Figure 9-314: SWEETWN3_WND3 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-302: SWEETWN3_WND3 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-974.5382
Left Slope (MWh/mph-day)	141.4859
RMSE (MWh/day)	273.3111
R2	0.8280
CV-RMSE	25.7%
Daily Maximum (MWh/day)	3240

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1128.6919
Left Slope (MWh/mph-day)	141.4701
RMSE (MWh/day)	154.7592
R2	0.8732
CV-RMSE	17.5%
Daily Maximum (MWh/day)	3240

Table 9-303: SWEETWN3_WND3 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	28,942	20,517	29.11%	32%	23%
Feb-15	27	14.16	30,613	28,387	7.27%	35%	32%
Mar-15	30	11.63	22,923	20,836	9.11%	24%	21%
Apr-15	30	15.35	35,818	35,932	-0.32%	37%	37%
May-15	31	16.18	39,437	40,740	-3.30%	39%	41%
Jun-15	30	14.18	24,027	30,939	-28.77%	25%	32%
Jul-15	31	15.36	31,012	34,520	-11.31%	31%	34%
Aug-15	31	13.34	24,658	23,505	4.68%	25%	23%
Sep-15	30	14.14	26,080	28,445	-9.07%	27%	29%
Oct-15	31	13.95	28,628	30,982	-8.22%	29%	31%
Nov-15	27	16.39	39,058	36,338	6.96%	45%	42%
Dec-15	29	15.87	35,382	37,036	-4.67%	38%	39%
Total	355	14.38	366,580	368,176	-0.44%	32%	32%
Total in OSP (07/15-09/15)	63	14.23	55,695	55,695	0.00%	27%	27%

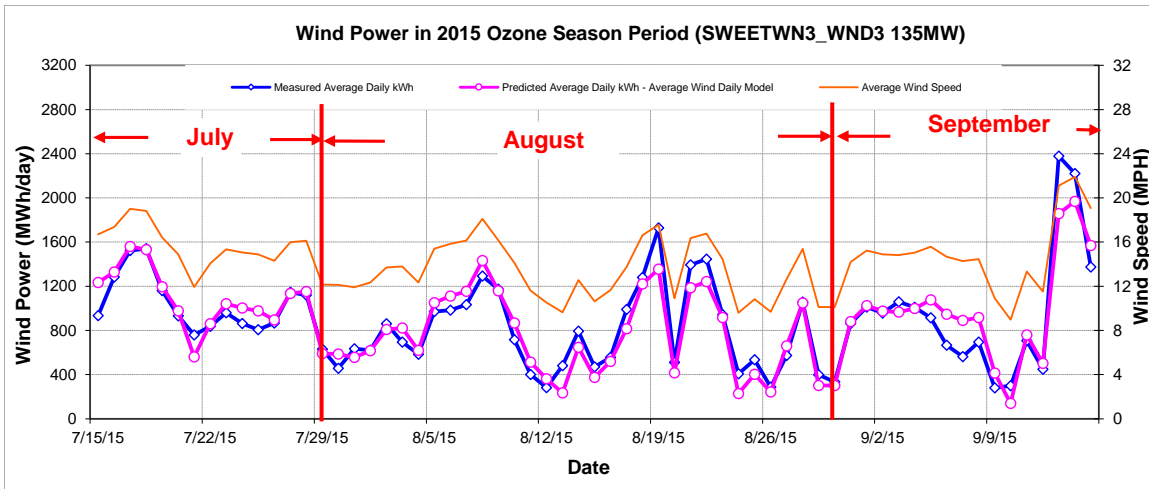


Figure 9-315: SWEETWN3_WND3 - Predicted Wind Power in OSP Using NOAA Wind Speed (2015)

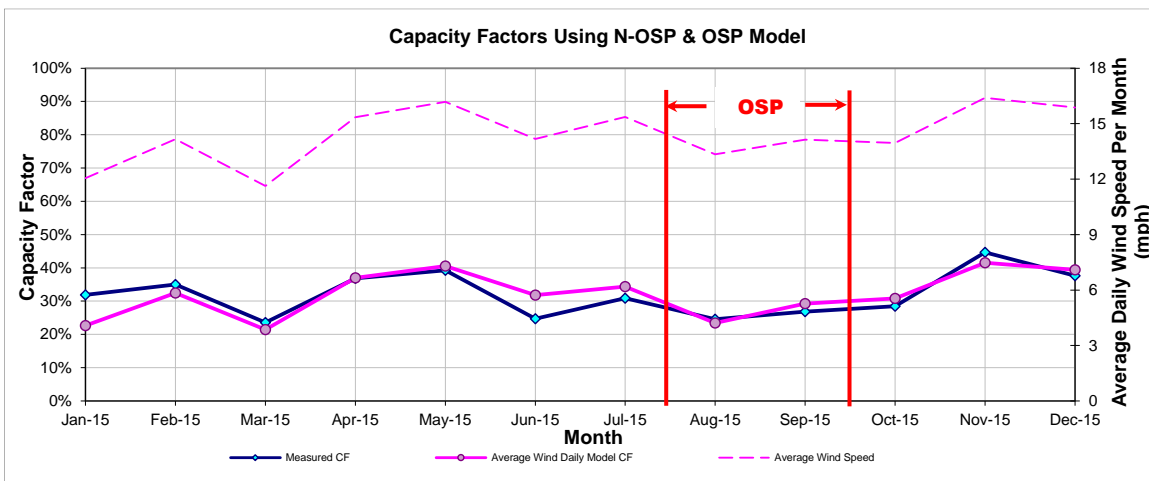


Figure 9-316: SWEETWN3_WND3 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-304: SWEETWN3_WND3 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
239,523	376,906	214	884

9.67 Sweetwater Wind 4

Table 9-305: Site Information for Sweetwater Wind 4

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
SWEETWN4	Wind	Abilene	Nolan	May-07	240.8	DKRW/ Babcock Brown	SWEET WIND 4	Mitsubishi	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SWEETWN4_WND4A	SWEETWN4	135
SWEETWN4_WND4B	SWEETWN4	105.8

9.67.1 Sweetwater Wind 4 (SWEETWN4_WND4A)

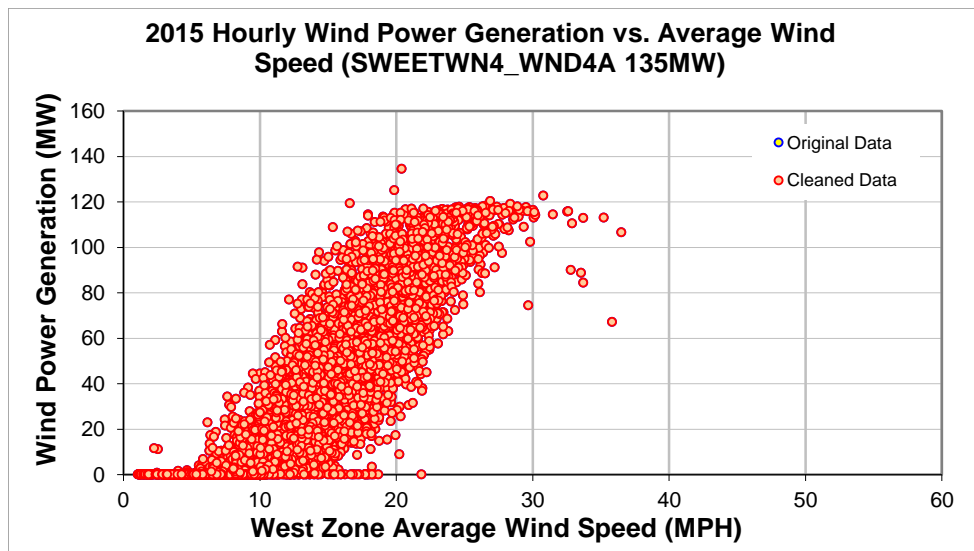


Figure 9-317: SWEETWN4_WND4A – Hourly Wind Power vs. Average Wind Speed (2015)

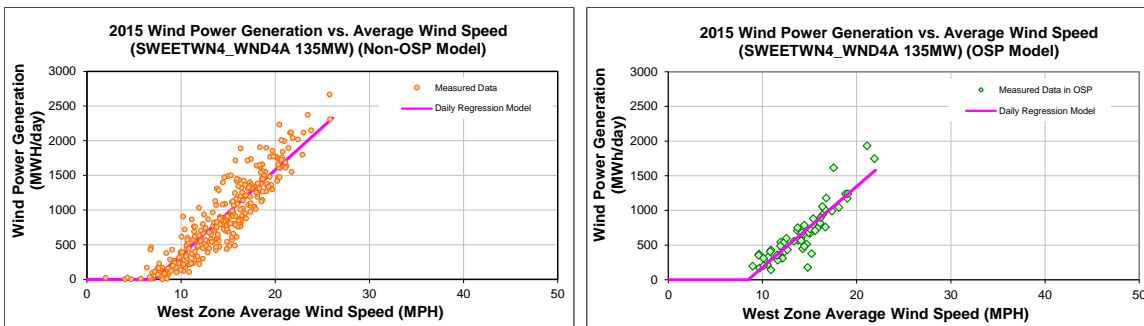


Figure 9-318: SWEETWN4_WND4A – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-306: SWEETWN4_WND4A – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-879.9685
Left Slope (MWh/mph-day)	122.9360
RMSE (MWh/day)	232.3889
R2	0.8373
CV-RMSE	26.3%
Daily Maximum (MWh/day)	3240

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-989.0906
Left Slope (MWh/mph-day)	116.8445
RMSE (MWh/day)	168.6921
R2	0.8007
CV-RMSE	25.1%
Daily Maximum (MWh/day)	3240

Table 9-307: SWEETWN4_WND4A – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.70	23,483	16,931	27.90%	25%	18%
Feb-15	26	14.60	26,336	23,835	9.50%	31%	28%
Mar-15	31	11.39	18,168	17,298	4.79%	18%	17%
Apr-15	30	15.35	29,800	30,225	-1.42%	31%	31%
May-15	31	16.18	33,529	34,369	-2.51%	33%	34%
Jun-15	30	14.18	20,987	25,886	-23.34%	22%	27%
Jul-15	31	15.36	24,222	27,824	-14.87%	24%	28%
Aug-15	31	13.34	19,476	17,651	9.37%	19%	18%
Sep-15	29	14.11	18,957	21,971	-15.90%	20%	23%
Oct-15	31	13.95	24,214	25,891	-6.92%	24%	26%
Nov-15	27	16.39	32,514	30,711	5.55%	37%	35%
Dec-15	30	15.61	30,066	31,356	-4.29%	31%	32%
Total	356	14.33	301,752	303,947	-0.73%	26%	26%
Total in OSP (07/15-09/15)	62	14.22	41,668	41,668	0.00%	21%	21%

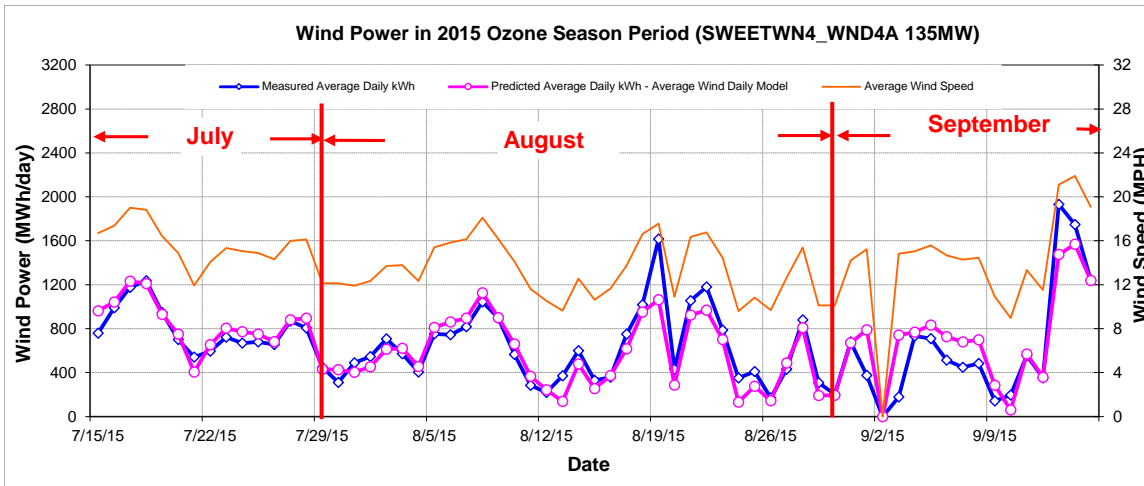


Figure 9-319: SWEETWN4_WND4A – Predicted Wind Power in OSP Using Average Wind Speed (2015)

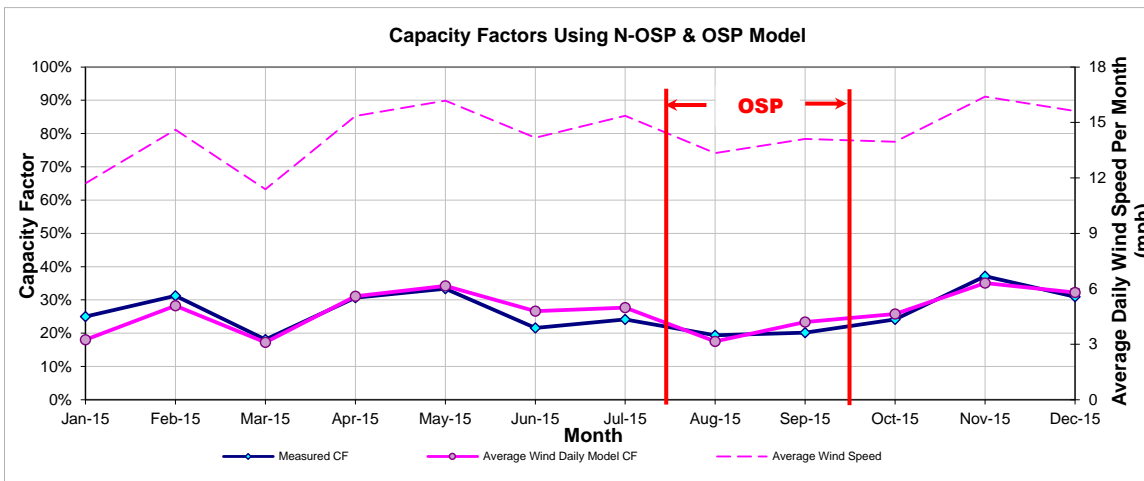


Figure 9-320: SWEETWN4_WND4A – Predicted Capacity Factors Using Daily Models (2015)

Table 9-308: SWEETWN4_WND4A – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
197,214	309,381	147	672

9.67.2 Sweetwater Wind 4 (SWEETWN4_WND4B)

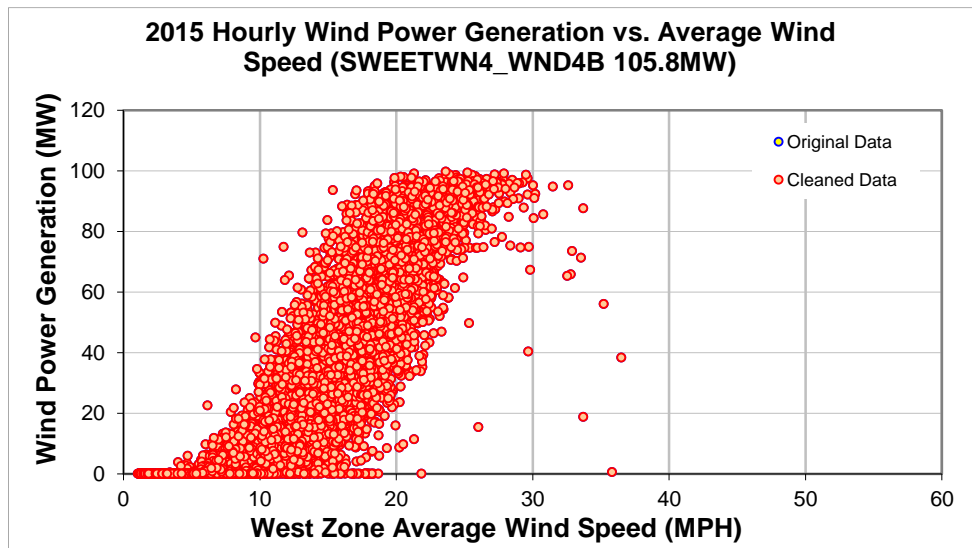


Figure 9-321: SWEETWN4_WND4B – Hourly Wind Power vs. Average Wind Speed (2015)

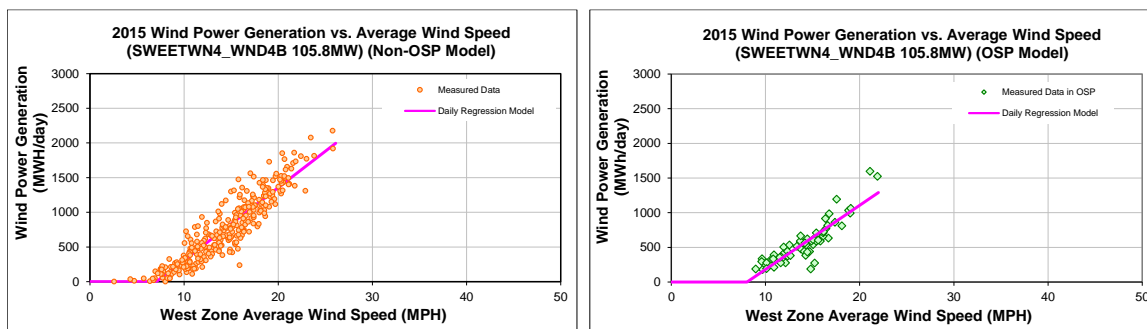


Figure 9-322: SWEETWN4_WND4B – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-309: SWEETWN4_WND4B – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-739.1671
Left Slope (MWh/mph-day)	104.7780
RMSE (MWh/day)	190.7244
R2	0.8438
CV-RMSE	24.7%
Daily Maximum (MWh/day)	2539

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-742.3032
Left Slope (MWh/mph-day)	92.3911
RMSE (MWh/day)	136.7313
R2	0.7927
CV-RMSE	23.9%
Daily Maximum (MWh/day)	2539

Table 9-310: SWEETWN4_WND4B – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	20,268	14,722	27.36%	29%	21%
Feb-15	26	14.44	22,126	20,585	6.96%	34%	31%
Mar-15	30	11.63	15,307	15,003	1.99%	20%	20%
Apr-15	30	15.35	26,995	26,085	3.37%	35%	34%
May-15	31	16.18	29,517	29,628	-0.38%	37%	38%
Jun-15	30	14.18	18,959	22,388	-18.08%	25%	29%
Jul-15	31	15.36	20,574	23,728	-15.33%	26%	30%
Aug-15	31	13.34	16,376	15,190	7.24%	21%	19%
Sep-15	29	14.11	16,591	18,781	-13.19%	23%	26%
Oct-15	31	13.95	21,038	22,403	-6.49%	27%	28%
Nov-15	27	16.39	27,688	26,456	4.45%	40%	39%
Dec-15	30	15.61	25,224	27,039	-7.19%	33%	35%
Total	354	14.38	260,665	262,008	-0.52%	29%	29%
Total in OSP (07/15-09/15)	62	14.22	35,414	35,414	0.00%	22%	22%

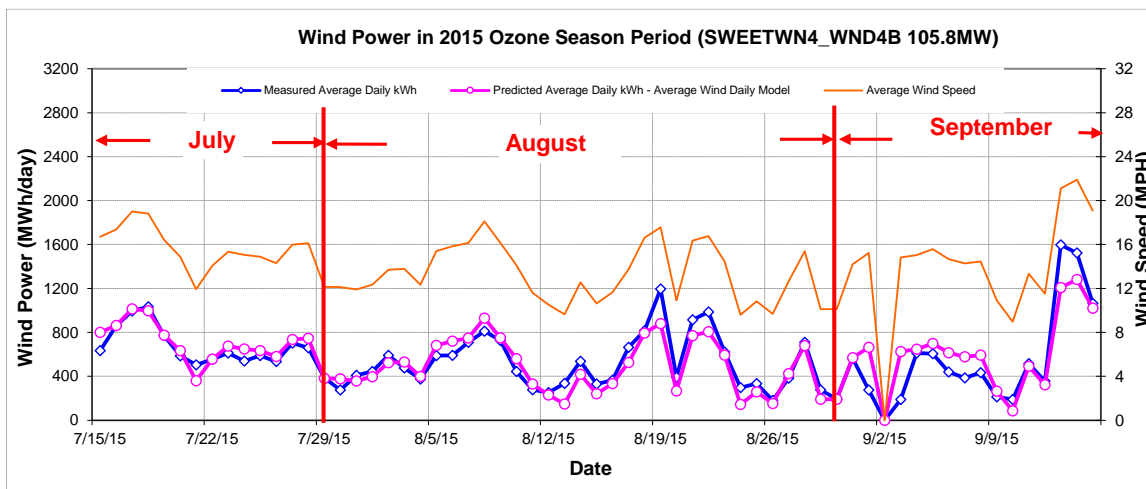


Figure 9-323: SWEETWN4_WND4B – Predicted Wind Power in OSP Using Average Wind Speed (2015)

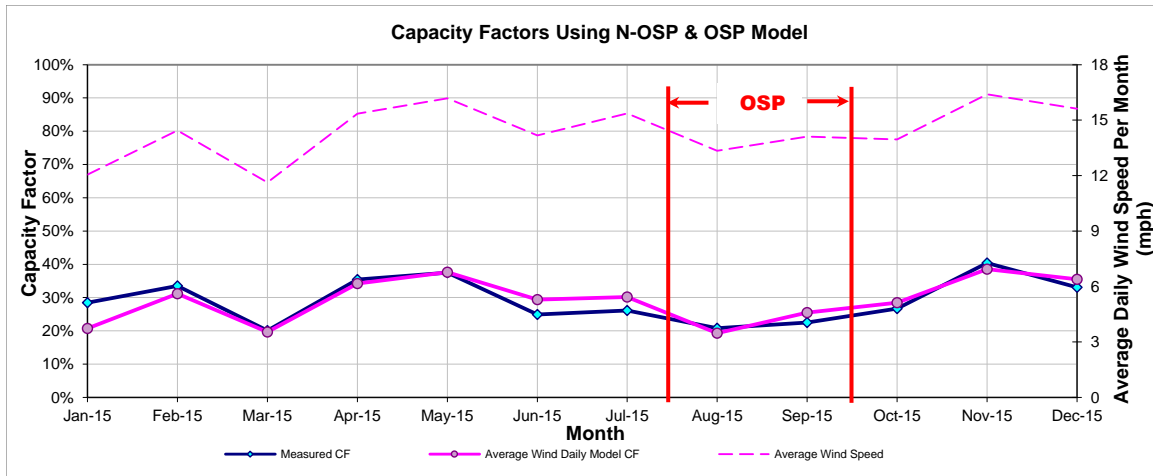


Figure 9-324: SWEETWN4_WND4B – Predicted Capacity Factors Using Daily Models (2015)

Table 9-311: SWEETWN4_WND4B – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
171,572	268,764	137	571

9.68 Sweetwater Wind 5

Table 9-312: Site Information for Sweetwater Wind 5

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
SWEETWIND4_WND5	Wind	Sweetwater	Nolan	Dec-07	80.5	DKRW/BabcockBrown	Sweetwater Wind 5	Siemens	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SWEETWIND4_WND5	SWEETWIND4_WND5	80.5

9.68.1 Sweetwater Wind 5 – SWEETWN4_WND5

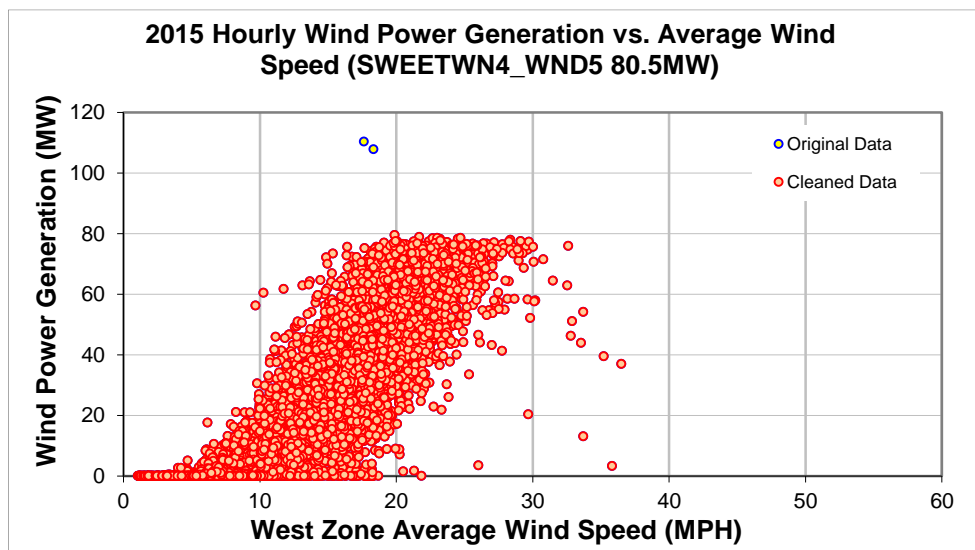


Figure 9-325: SWEETWN4_WND5 - Hourly Wind Power vs. Average Wind Speed (2015)

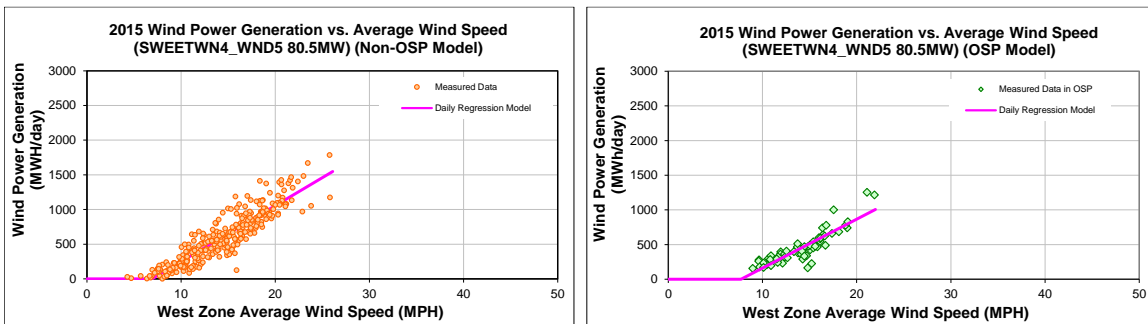


Figure 9-326: SWEETWN4_WND5 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-313: SWEETWN4_WND5 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-557.7161
Left Slope (MWh/mph-day)	80.6699
RMSE (MWh/day)	154.6156
R2	0.8263
CV-RMSE	25.4%
Daily Maximum (MWh/day)	1932

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-543.5927
Left Slope (MWh/mph-day)	70.4872
RMSE (MWh/day)	111.9926
R2	0.7683
CV-RMSE	24.4%
Daily Maximum (MWh/day)	1932

Table 9-314: SWEETWN4_WND5 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	15,570	11,642	25.23%	29%	22%
Feb-15	25	14.91	16,819	16,133	4.08%	35%	33%
Mar-15	30	11.63	11,935	11,826	0.91%	21%	20%
Apr-15	30	15.35	20,903	20,425	2.29%	36%	35%
May-15	31	16.18	22,747	23,164	-1.83%	38%	39%
Jun-15	30	14.18	14,996	17,578	-17.21%	26%	30%
Jul-15	31	15.36	16,545	18,737	-13.25%	28%	31%
Aug-15	31	13.34	13,287	12,294	7.48%	22%	21%
Sep-15	29	14.11	13,206	14,885	-12.71%	24%	27%
Oct-15	31	13.95	18,125	17,601	2.89%	30%	29%
Nov-15	27	16.39	22,936	20,665	9.90%	44%	40%
Dec-15	30	15.61	18,452	21,147	-14.61%	32%	36%
Total	353	14.42	205,523	206,096	-0.28%	30%	30%
Total in OSP (07/15-09/15)	62	14.22	28,428	28,428	0.00%	24%	24%

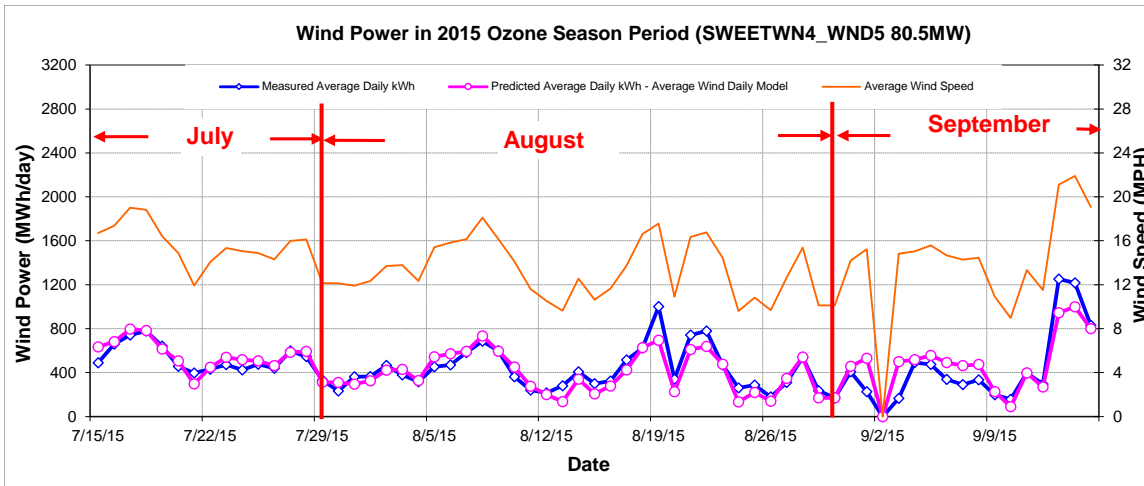


Figure 9-327: SWEETWN4_WND5 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

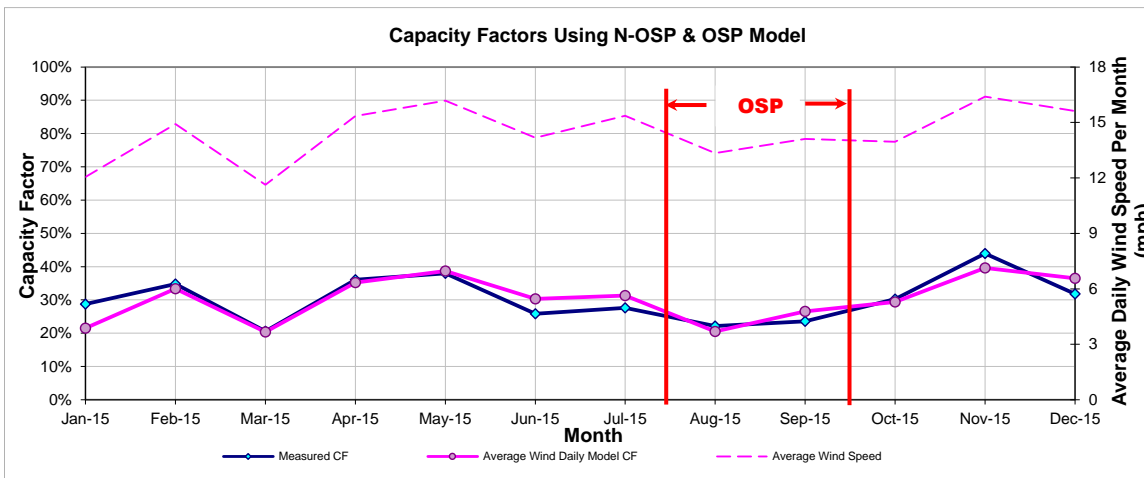


Figure 9-328: SWEETWN4_WND5 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-315: SWEETWN4_WND5 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
135,761	212,509	118	459

9.69 Gulf Wind

Table 9-316: Site Information for Gulf Wind

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
GULFW	Wind	-	Kenedy	Nov-08	283.2	Babcock & Brown	Gulf Wind	Mitsubishi (59)	ERCOT	South	Coastal Zone Average Wind Speed
SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)									
TGW_T1	TGW_T1	141.6									
TGW_T2	TGW_T2	141.6									

9.69.1 Gulf Wind (TGW_T1)

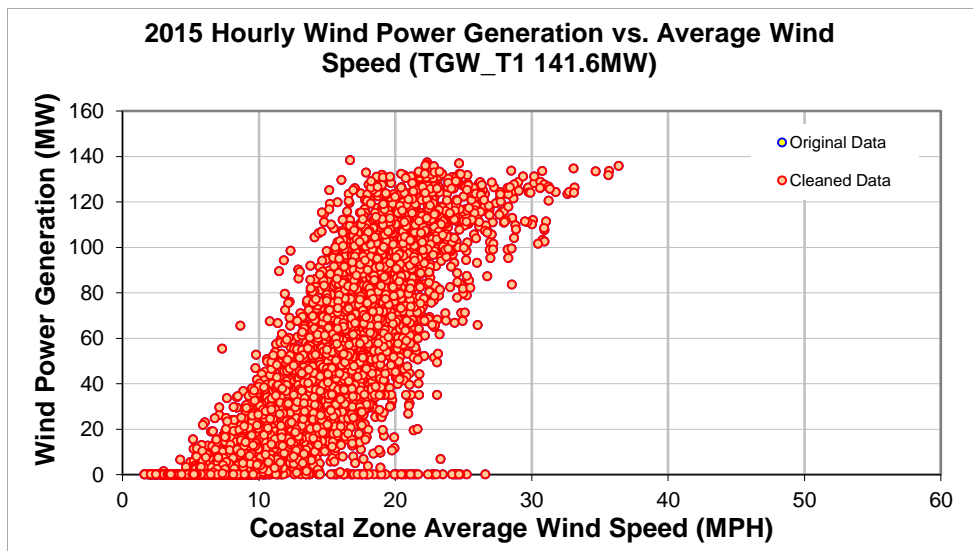


Figure 9-329: TGW_T1– Hourly Wind Power vs. Average Wind Speed (2015)

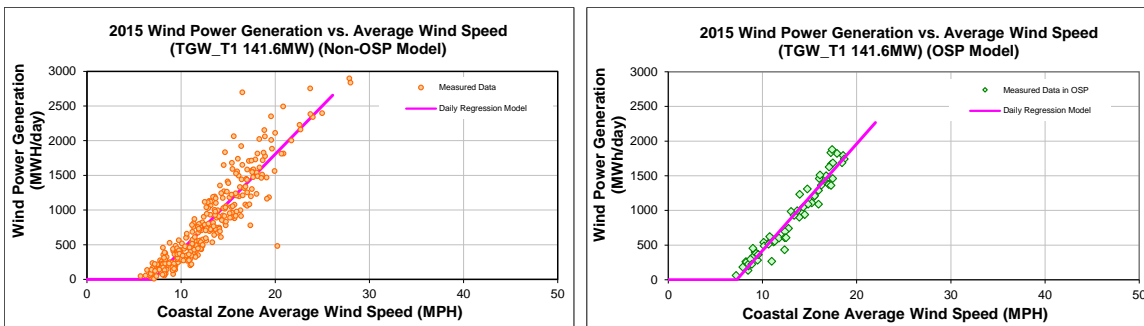


Figure 9-330: TGW_T1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-317: TGW_T1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-978.4829
Left Slope (MWh/mph-day)	139.2673
RMSE (MWh/day)	240.2627
R2	0.8491
CV-RMSE	29.5%
Daily Maximum (MWh/day)	3398

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1115.3347
Left Slope (MWh/mph-day)	153.7866
RMSE (MWh/day)	129.4249
R2	0.9440
CV-RMSE	14.4%
Daily Maximum (MWh/day)	3398

Table 9-318: TGW_T1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	23,745	19,598	17.46%	23%	19%
Feb-15	28	13.26	20,654	24,338	-17.83%	22%	26%
Mar-15	31	11.79	18,079	20,700	-14.50%	17%	20%
Apr-15	30	13.30	21,817	26,200	-20.09%	21%	26%
May-15	31	16.69	43,764	41,732	4.64%	42%	40%
Jun-15	30	12.94	23,206	24,744	-6.63%	23%	24%
Jul-15	30	16.08	36,475	39,442	-8.13%	36%	39%
Aug-15	31	11.97	23,567	22,469	4.66%	22%	21%
Sep-15	30	10.47	15,813	15,192	3.93%	16%	15%
Oct-15	30	11.30	21,621	17,883	17.29%	21%	18%
Nov-15	30	11.95	24,626	20,567	16.48%	24%	20%
Dec-15	31	13.81	28,152	29,274	-3.98%	27%	28%
Total	363	12.92	301,520	302,140	-0.21%	24%	24%
Total in OSP (07/15-09/15)	63	13.11	56,789	56,797	-0.01%	27%	27%

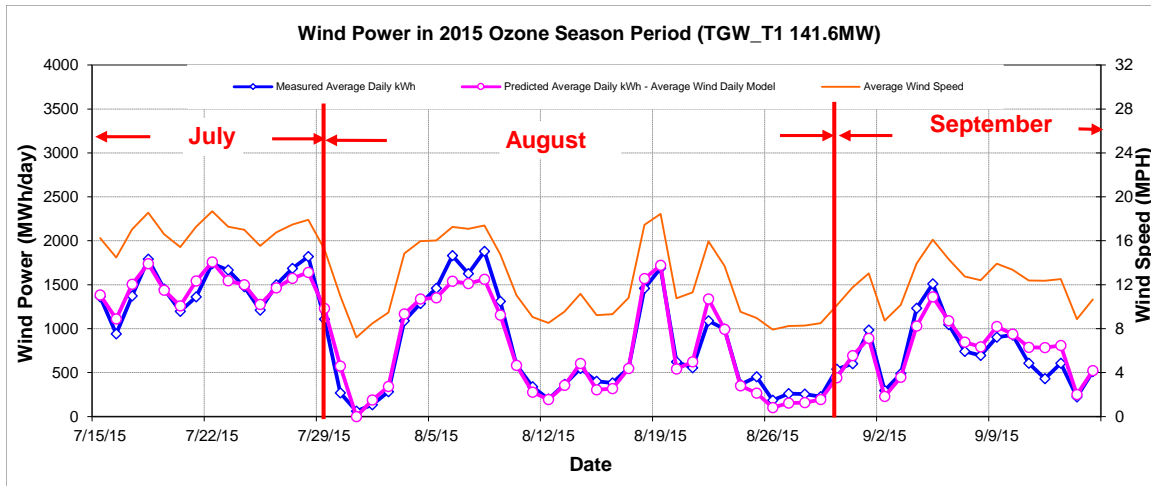


Figure 9-331: TGW_T1 – Predicted Wind Power in OSP Using NOAA Wind Speed (2015)

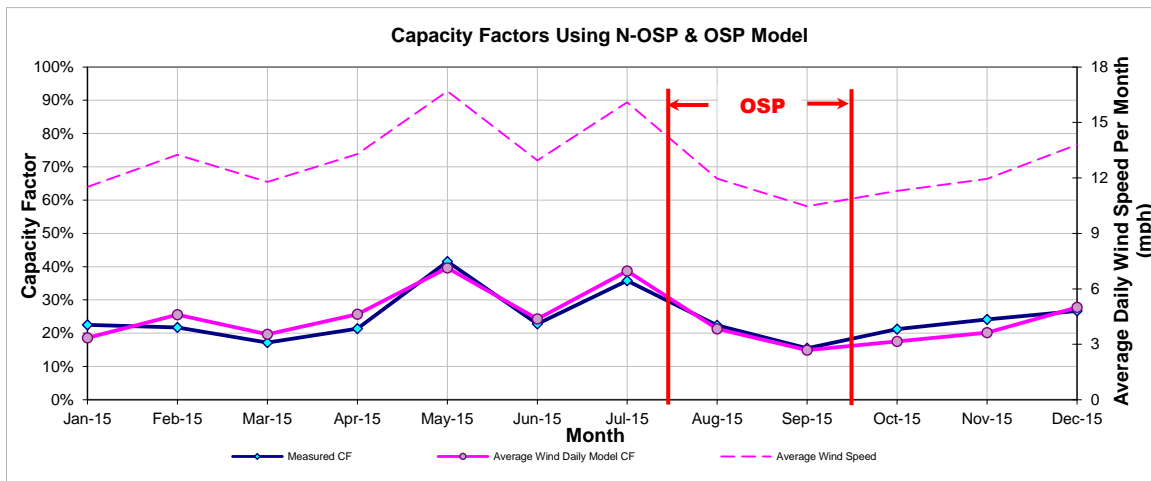


Figure 9-332: TGW_T1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-319: TGW_T1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
230,942	303,182	324	901

9.69.2 Gulf Wind (TGW_T2)

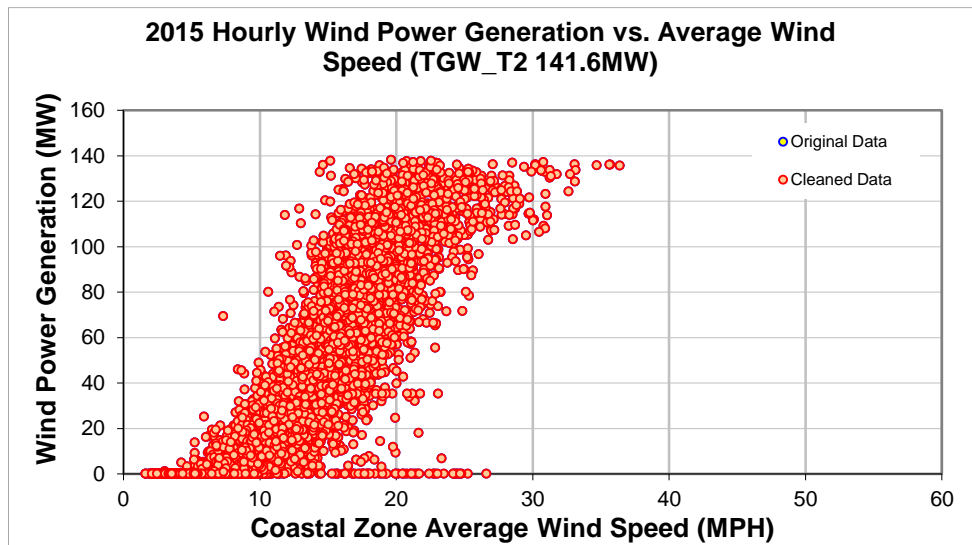


Figure 9-333: TGW_T2 – Hourly Wind Power vs. Average Wind Speed (2015)

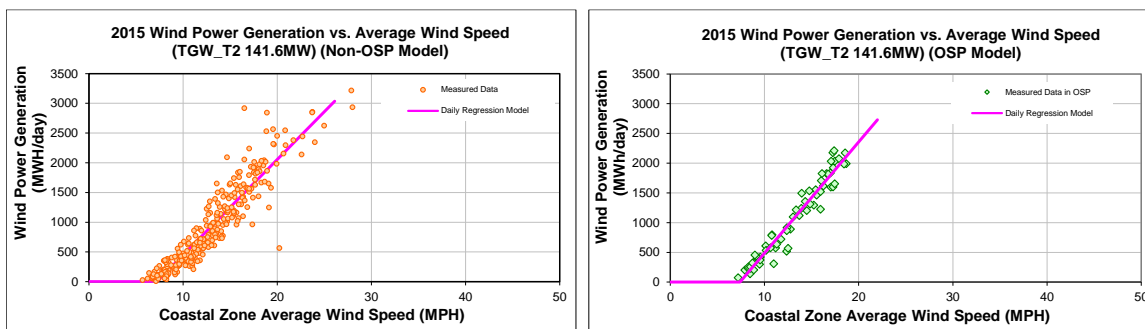


Figure 9-334: TGW_T2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-320: TGW_T2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1156.7778
Left Slope (MWh/mph-day)	160.5832
RMSE (MWh/day)	256.9614
R2	0.8674
CV-RMSE	28.2%
Daily Maximum (MWh/day)	3398

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1384.2760
Left Slope (MWh/mph-day)	186.9089
RMSE (MWh/day)	159.0600
R2	0.9428
CV-RMSE	14.9%
Daily Maximum (MWh/day)	3398

Table 9-321: TGW_T2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	31	11.51	19,877	21,799	-9.67%	19%	21%
Feb-15	28	13.26	24,761	27,305	-10.28%	26%	29%
Mar-15	31	11.79	19,725	23,070	-16.96%	19%	22%
Apr-15	30	13.30	27,053	29,354	-8.51%	27%	29%
May-15	31	16.69	50,802	47,235	7.02%	48%	45%
Jun-15	30	12.94	27,165	27,704	-1.98%	27%	27%
Jul-15	30	16.08	43,931	46,053	-4.83%	43%	45%
Aug-15	31	11.97	27,231	26,418	2.98%	26%	25%
Sep-15	30	10.47	18,427	17,479	5.14%	18%	17%
Oct-15	30	11.30	23,695	19,793	16.47%	23%	19%
Nov-15	30	11.95	27,725	22,858	17.55%	27%	22%
Dec-15	31	13.81	30,450	32,870	-7.95%	29%	31%
Total	363	12.92	340,841	341,939	-0.32%	28%	28%
Total in OSP (07/15-09/15)	63	13.11	67,211	67,249	-0.06%	31%	31%

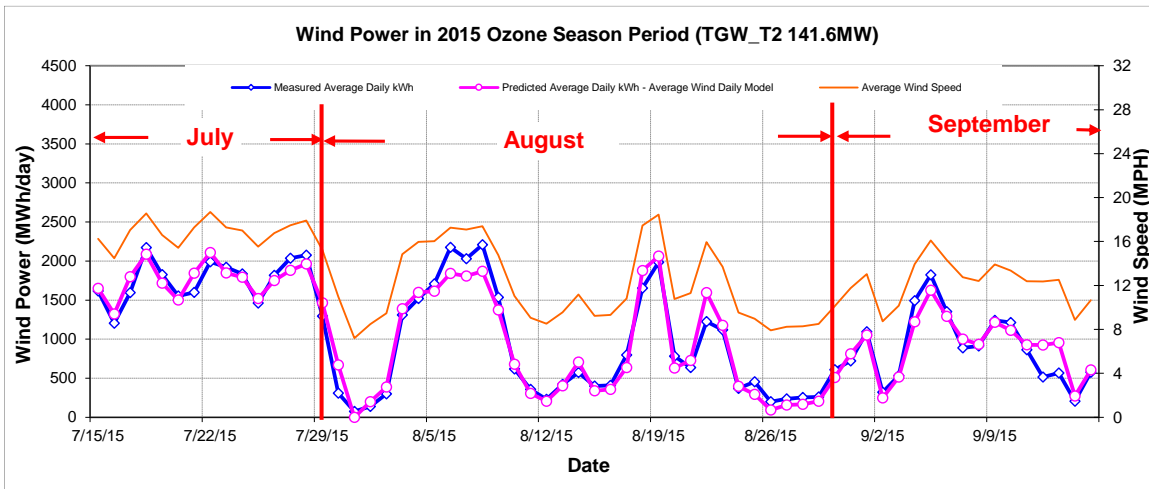


Figure 9-335: TGW_T2 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

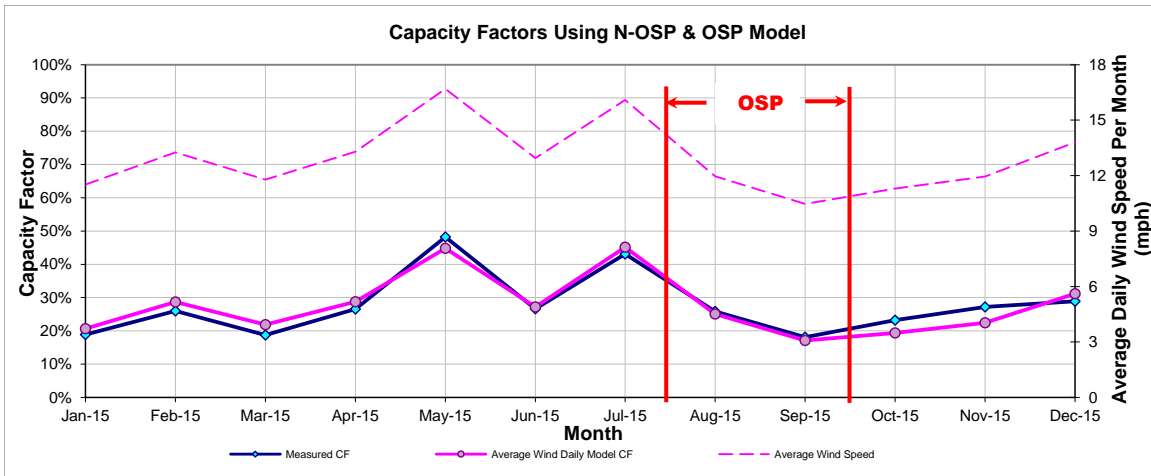


Figure 9-336: TGW_T2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-322: TGW_T2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
258,961	342,719	373	1,067

9.70 Roscoe Wind Farm

Table 9-323: Site Information for Roscoe Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
TKWSW1_ROSCOE	Wind	-	Scurry	Jan-08	209	Airtricity	Roscoe Wind Farm	Mitsubishi	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
TKWSW1_ROSCOE	TKWSW1_ROSCOE	209

9.70.1 Roscoe Wind Farm – TKWSW1_ROSCOE

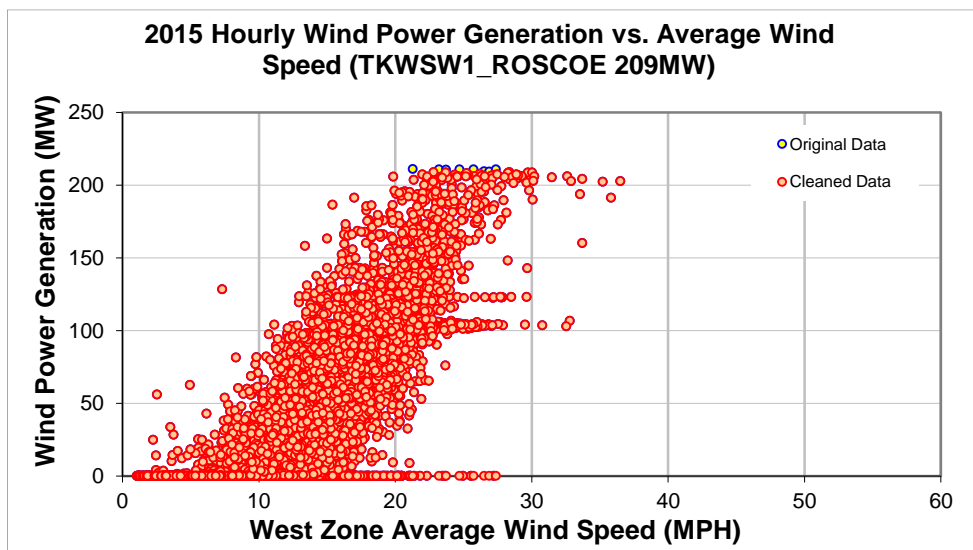


Figure 9-337: TKWSW1_ROSCOE- Hourly Wind Power vs. Average Wind Speed (2015)

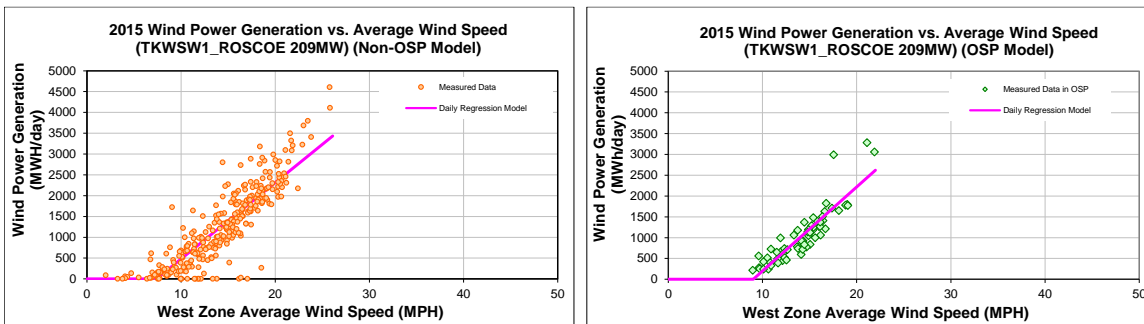


Figure 9-338: TKWSW1_ROSCOE - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-324: TKWSW1_ROSCOE – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1355.4585
Left Slope (MWh/mph-day)	183.4457
RMSE (MWh/day)	460.9198
R2	0.7541
CV-RMSE	36.6%
Daily Maximum (MWh/day)	5016

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1823.3292
Left Slope (MWh/mph-day)	201.9737
RMSE (MWh/day)	289.8924
R2	0.8000
CV-RMSE	27.6%
Daily Maximum (MWh/day)	5016

Table 9-325: TKWSW1_ROSCOE – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	22,250	24,120	-8.41%	15%	16%
Feb-15	26	14.60	37,995	34,507	9.18%	29%	26%
Mar-15	31	11.39	26,217	24,795	5.43%	17%	16%
Apr-15	30	15.35	42,070	43,831	-4.19%	28%	29%
May-15	31	16.18	45,769	49,972	-9.18%	29%	32%
Jun-15	30	14.18	27,988	37,357	-33.48%	19%	25%
Jul-15	31	15.36	36,051	42,121	-16.84%	23%	27%
Aug-15	31	13.34	28,699	26,989	5.96%	18%	17%
Sep-15	30	14.14	32,454	34,303	-5.70%	22%	23%
Oct-15	31	13.95	37,028	37,354	-0.88%	24%	24%
Nov-15	30	15.20	53,227	44,725	15.97%	35%	30%
Dec-15	29	15.95	49,995	45,561	8.87%	34%	31%
Total	360	14.24	439,743	445,635	-1.34%	24%	25%
Total in OSP (07/15-09/15)	63	14.23	66,163	66,174	-0.02%	21%	21%

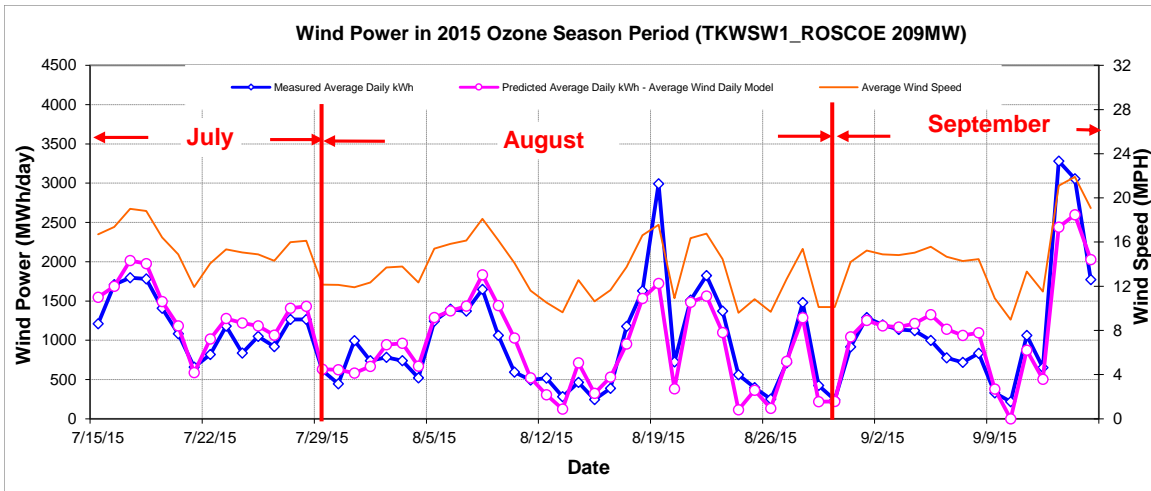


Figure 9-339: TKWSW1_ROSCOE - Predicted Wind Power in OSP Using Average Wind Speed (2015)

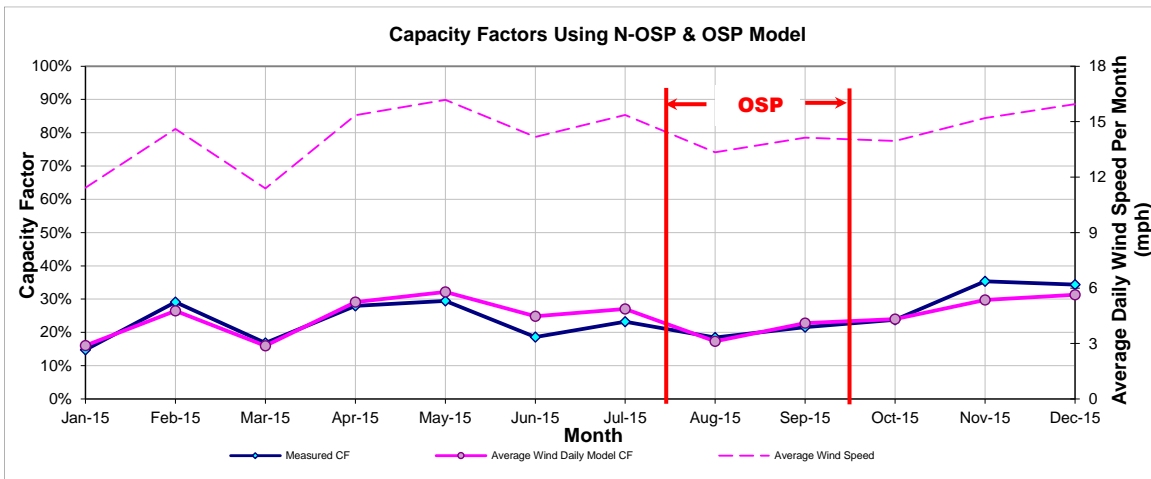


Figure 9-340: TKWSW1_ROSCOE – Predicted Capacity Factors Using Daily Models (2015)

Table 9-326: TKWSW1_ROSCOE – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
302,117	445,850	190	1,050

9.71 Trent Mesa

Table 9-327: Site Information for Trent Mesa

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
TRENT_TRENT	Wind	Trent Mesa	Nolan	Nov-01	150	AEP	Trent Mesa	Enron 1500 (100)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
TRENT_TRENT	TRENT_TRENT	150

9.71.1 Trent Mesa – TRENT_TRENT

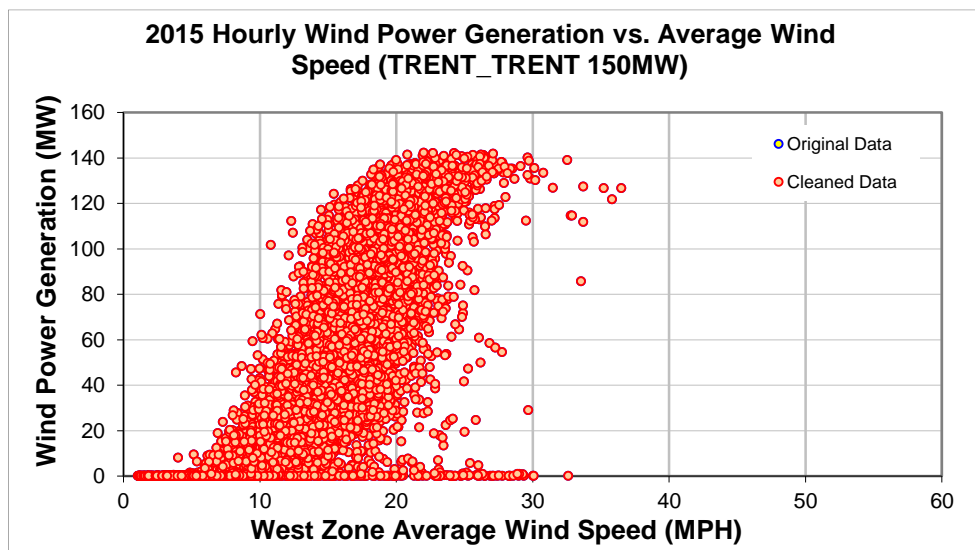


Figure 9-341: TRENT_TRENT - Hourly Wind Power vs. Average Wind Speed (2015)

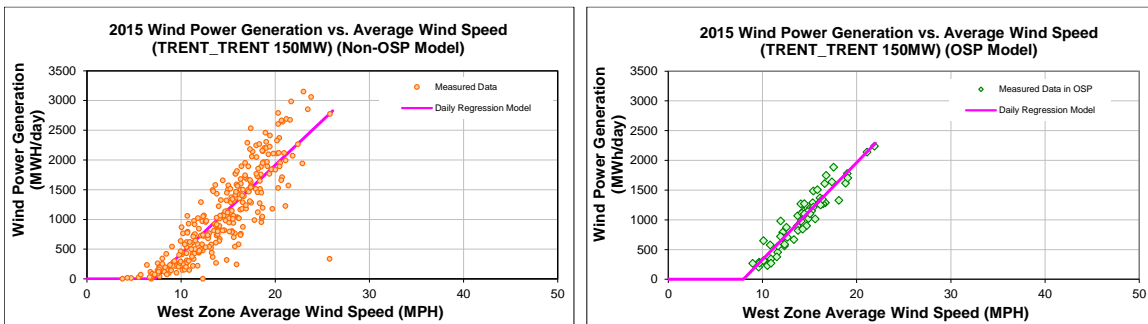


Figure 9-342: TRENT_TRENT - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-328: TRENT_TRENT – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1072.1626
Left Slope (MWh/mph-day)	149.3126
RMSE (MWh/day)	371.7257
R2	0.7448
CV-RMSE	34.8%
Daily Maximum (MWh/day)	3600

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1299.2079
Left Slope (MWh/mph-day)	163.0209
RMSE (MWh/day)	151.6125
R2	0.9050
CV-RMSE	14.9%
Daily Maximum (MWh/day)	3600

Table 9-329: TRENT_TRENT – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	12.05	28,952	20,472	29.29%	29%	20%
Feb-15	26	14.60	33,601	28,864	14.10%	36%	31%
Mar-15	30	11.63	23,723	20,928	11.79%	22%	19%
Apr-15	30	15.35	37,960	36,608	3.56%	35%	34%
May-15	31	16.18	36,425	41,638	-14.31%	33%	37%
Jun-15	30	14.18	28,847	31,339	-8.64%	27%	29%
Jul-15	31	15.36	39,166	37,509	4.23%	35%	34%
Aug-15	31	13.34	27,797	27,130	2.40%	25%	24%
Sep-15	30	14.14	28,197	30,841	-9.38%	26%	29%
Oct-15	31	13.95	23,939	31,341	-30.92%	21%	28%
Nov-15	27	15.38	31,841	33,887	-6.43%	33%	35%
Dec-15	30	15.61	35,868	37,985	-5.90%	33%	35%
Total	355	14.32	376,317	378,541	-0.59%	29%	30%
Total in OSP (07/15-09/15)	63	14.23	64,268	64,268	0.00%	28%	28%

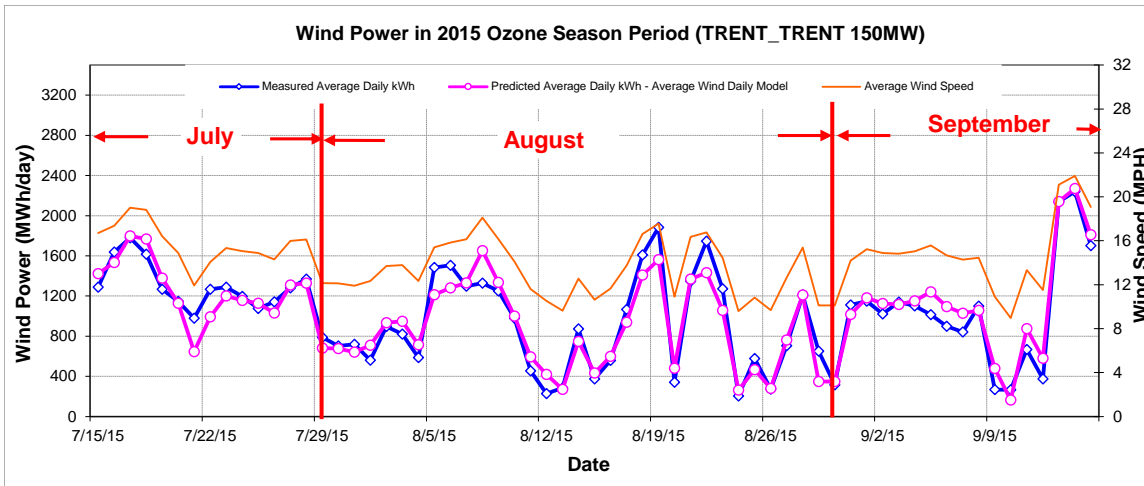


Figure 9-343: TRENT_TRENT - Predicted Wind Power in OSP Using Average Wind Speed (2015)

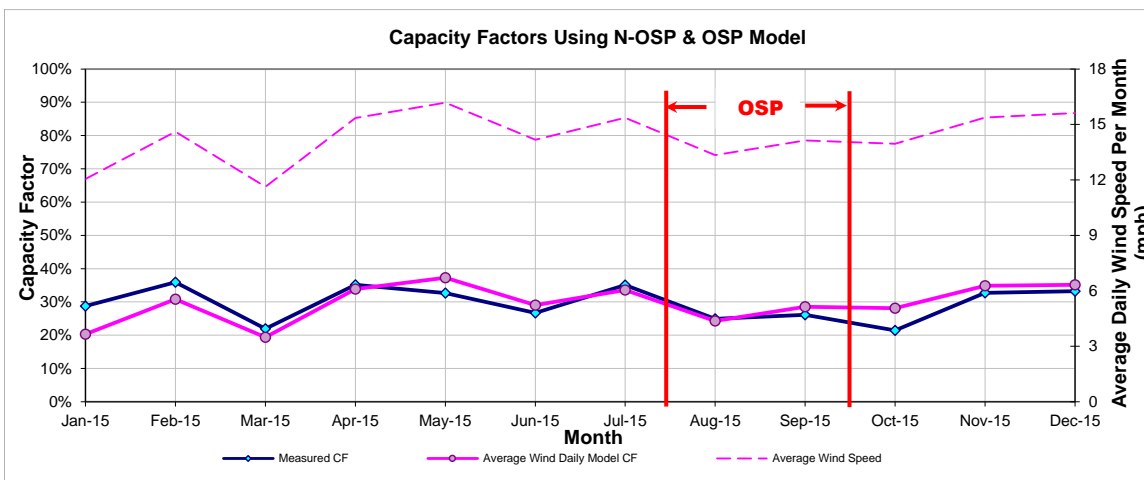


Figure 9-344: TRENT_TRENT – Predicted Capacity Factors Using Daily Models (2015)

Table 9-330: TRENT_TRENT – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
243,043	386,918	247	1,020

9.72 Trinity Hills Wind Farm

Table 9-331: Site Information for Trinity Hills Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
TRINITY_TH1_BUS1	Wind	-	Young	Jan-12	118	BP Wind Power	Trinity Hills Wind Farm	-	ERCOT	North	North Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
TRINITY_TH1_BUS1	TRINITY_TH1_BUS1	118
TRINITY_TH1_BUS2	TRINITY_TH1_BUS2	108

9.72.1 Trinity Hills Wind Farm (TRINITY_TH1_BUS1)

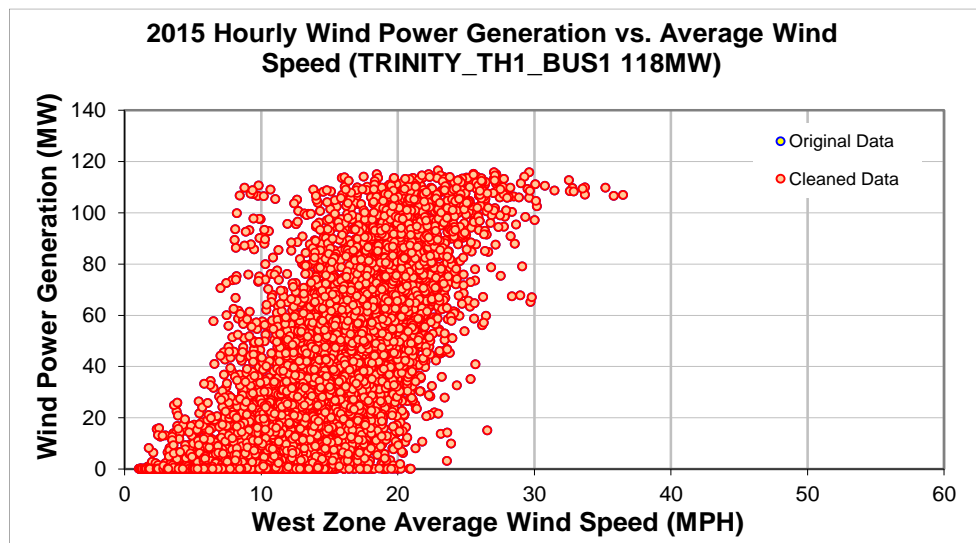


Figure 9-345: TRINITY_TH1_BUS1 – Hourly Wind Power vs. Average Wind Speed (2015)

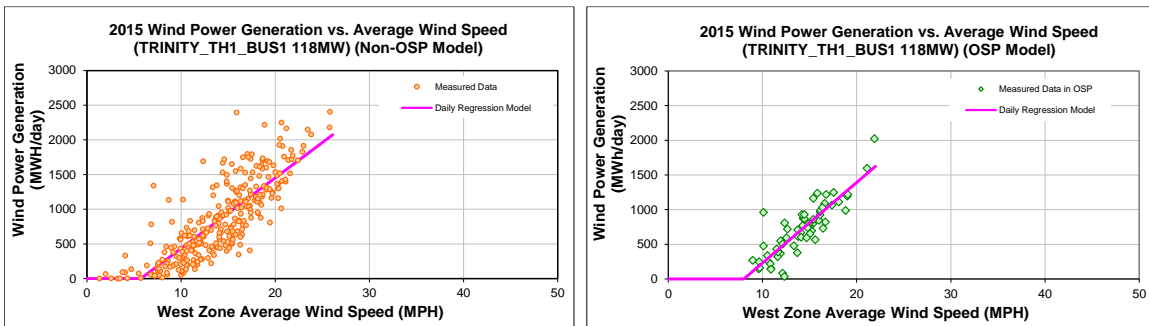


Figure 9-346: TRINITY_TH1_BUS1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-332: TRINITY_TH1_BUS1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-581.7928
Left Slope (MWh/mph-day)	101.7402
RMSE (MWh/day)	322.5443
R2	0.6738
CV-RMSE	37.8%
Daily Maximum (MWh/day)	2832

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-929.1193
Left Slope (MWh/mph-day)	115.9570
RMSE (MWh/day)	193.4615
R2	0.7475
CV-RMSE	26.8%
Daily Maximum (MWh/day)	2832

Table 9-333: TRINITY_TH1_BUS1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	31	11.10	24,237	18,033	25.60%	28%	21%
Feb-15	28	13.78	27,429	23,501	14.32%	35%	30%
Mar-15	31	11.39	19,992	18,287	8.53%	23%	21%
Apr-15	30	15.35	29,893	29,407	1.62%	35%	35%
May-15	31	16.18	27,355	32,984	-20.57%	31%	38%
Jun-15	30	14.18	20,772	25,817	-24.29%	24%	30%
Jul-15	31	15.36	25,367	28,149	-10.97%	29%	32%
Aug-15	31	13.34	20,837	19,143	8.13%	24%	22%
Sep-15	30	14.14	20,589	23,689	-15.06%	24%	28%
Oct-15	31	13.95	21,972	25,967	-18.18%	25%	30%
Nov-15	28	15.55	30,402	28,402	6.58%	38%	36%
Dec-15	31	15.34	32,454	30,336	6.52%	37%	35%
Total	363	14.12	301,299	303,716	-0.80%	29%	30%
Total in OSP (07/15-09/15)	63	14.23	45,400	45,400	0.00%	25%	25%

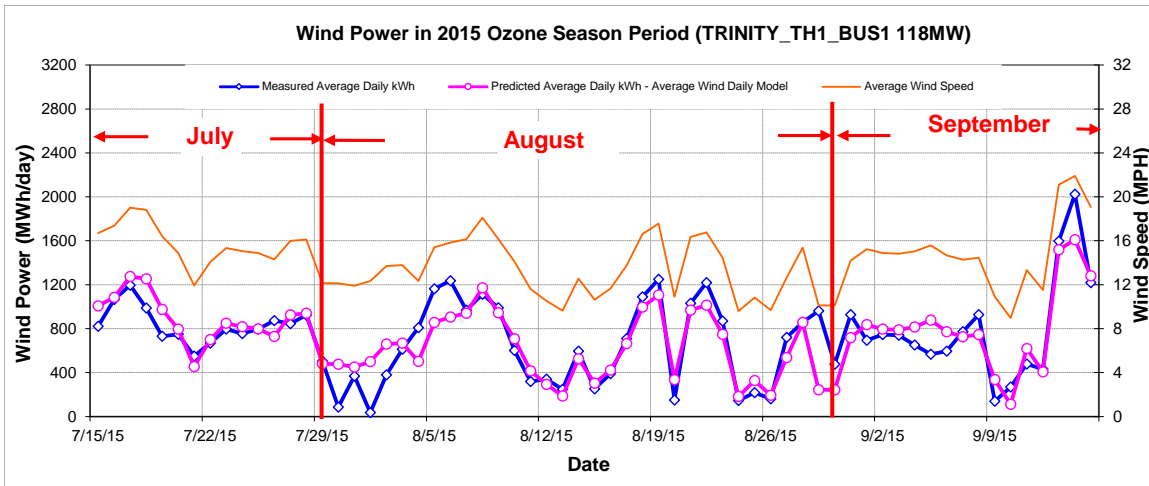


Figure 9-347 TRINITY_TH1_BUS1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

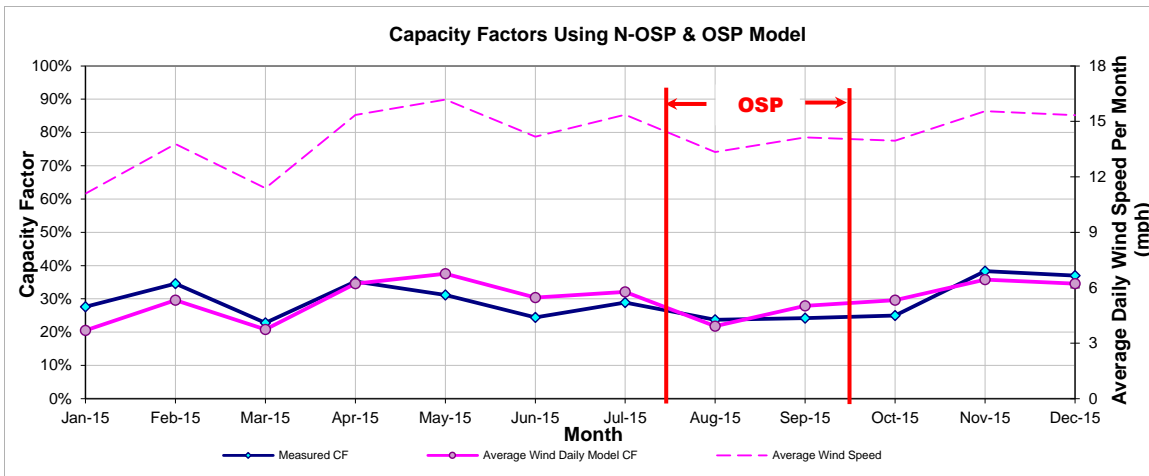


Figure 9-348: TRINITY_TH1_BUS1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-334: TRINITY_TH1_BUS1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
205,711	302,959	173	721

9.72.2 Trinity Hills Wind Farm (TRINITY_TH1_BUS2)

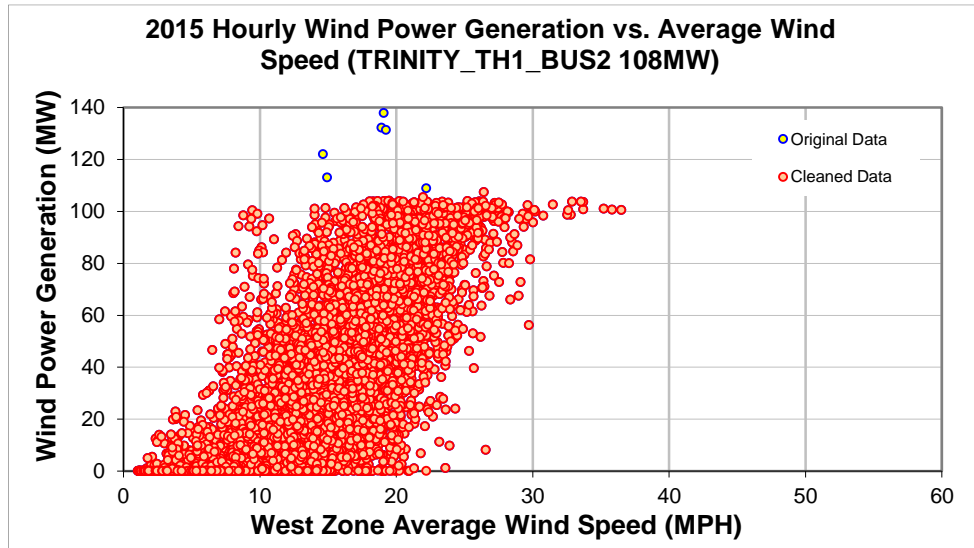


Figure 9-349: TRINITY_TH1_BUS2 – Hourly Wind Power vs. Average Wind Speed (2015)

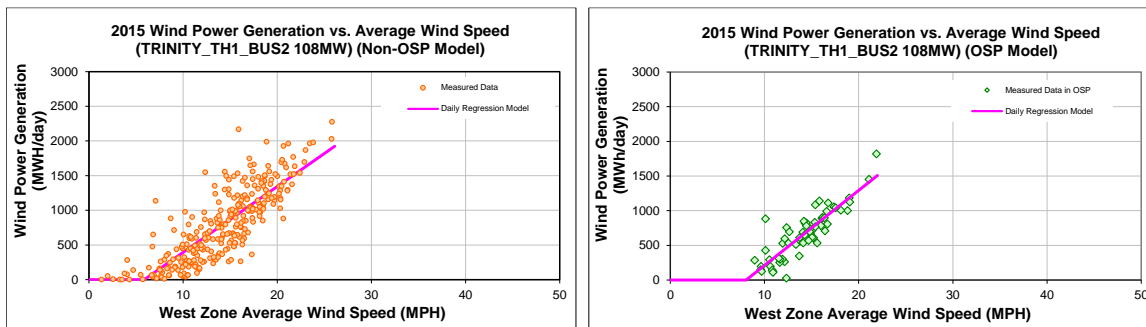


Figure 9-350: TRINITY_TH1_BUS2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-335: TRINITY_TH1_BUS2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-557.1955
Left Slope (MWh/mph-day)	95.0057
RMSE (MWh/day)	295.0626
R2	0.6837
CV-RMSE	37.9%
Daily Maximum (MWh/day)	2592

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-872.5683
Left Slope (MWh/mph-day)	108.2395
RMSE (MWh/day)	171.3911
R2	0.7668
CV-RMSE	25.7%
Daily Maximum (MWh/day)	2592

Table 9-336: TRINITY_TH1_BUS2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	31	11.10	22,919	16,450	28.23%	29%	20%
Feb-15	28	13.78	25,093	21,584	13.99%	35%	30%
Mar-15	31	11.39	18,509	16,687	9.84%	23%	21%
Apr-15	30	15.35	26,838	27,043	-0.77%	35%	35%
May-15	31	16.18	25,000	30,369	-21.48%	31%	38%
Jun-15	30	14.18	19,256	23,691	-23.03%	25%	30%
Jul-15	31	15.36	25,133	25,996	-3.43%	31%	32%
Aug-15	31	13.34	18,661	17,705	5.12%	23%	22%
Sep-15	30	14.14	18,170	21,829	-20.13%	23%	28%
Oct-15	31	13.95	18,933	23,817	-25.80%	24%	30%
Nov-15	28	15.10	26,676	24,960	6.43%	37%	34%
Dec-15	31	15.34	30,429	27,911	8.28%	38%	35%
Total	363	14.09	275,617	278,041	-0.88%	29%	30%
Total in OSP (07/15-09/15)	63	14.23	42,045	42,045	0.00%	26%	26%

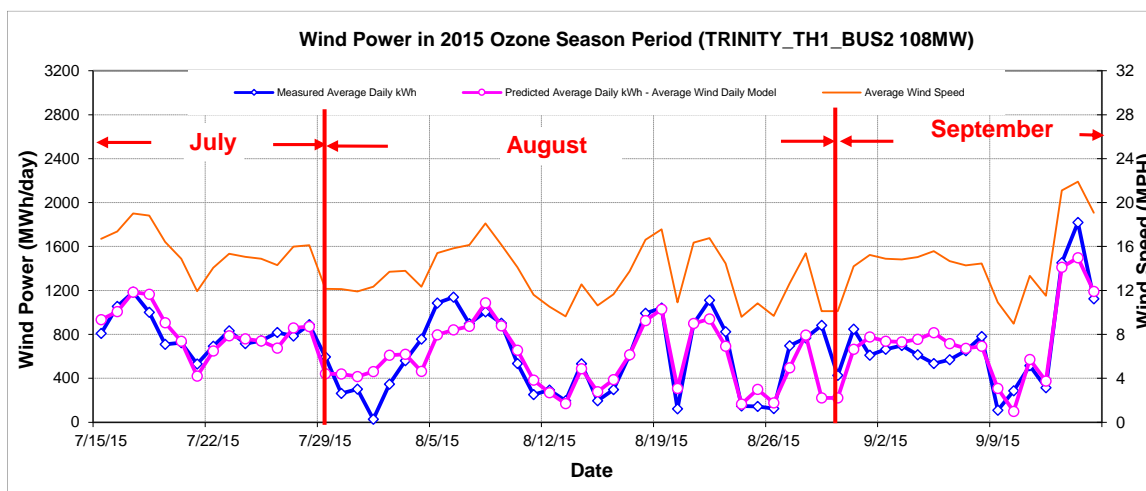


Figure 9-351: TRINITY_TH1_BUS2 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

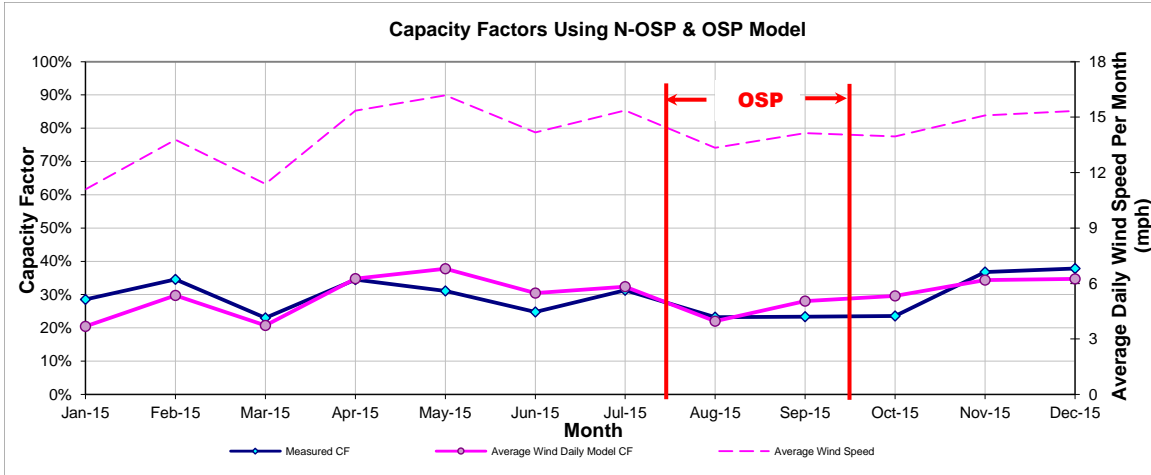


Figure 9-352: TRINITY_TH1_BUS2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-337: TRINITY_TH1_BUS2 – Predicted Power Production in 2008

Annual		OSP	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSP Estimated MWh/day (2015 Daily Model)	2015 OSP Measured MWh/day
188,005	277,136	159	667

9.73 Turkey Track Wind Energy Center

Table 9-338: Site Information for Turkey Track Wind Energy Center

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
TTWEC_G1	Wind	-	Nolan	Nov-08	169.5	Invenergy	Turkey Track Energy Center	GE Energy (113)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
TTWEC_G1	TTWEC_G1	169.5

9.73.1 Turkey Track Wind Energy Center – TTWEC_G1

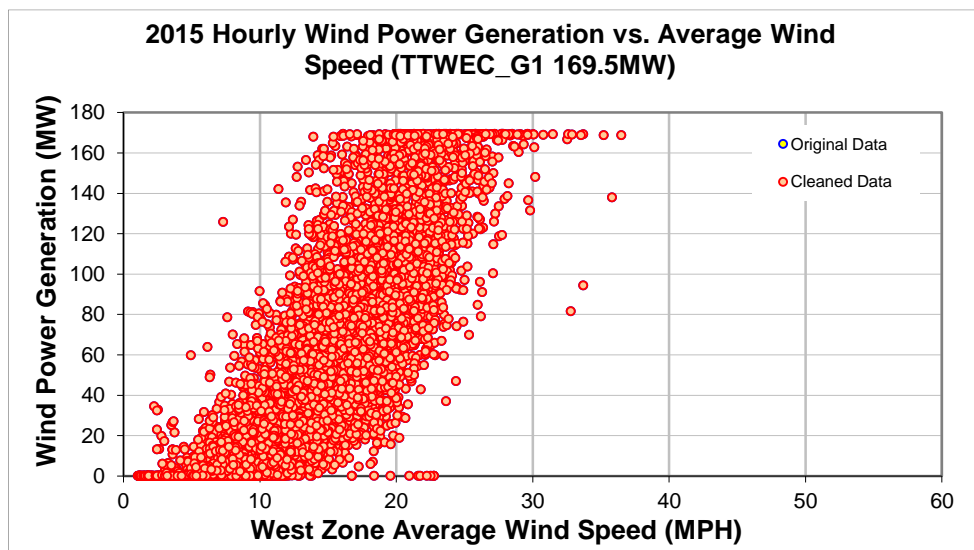


Figure 9-353: TTWEC_G1 - Hourly Wind Power vs. Average Wind Speed (2015)

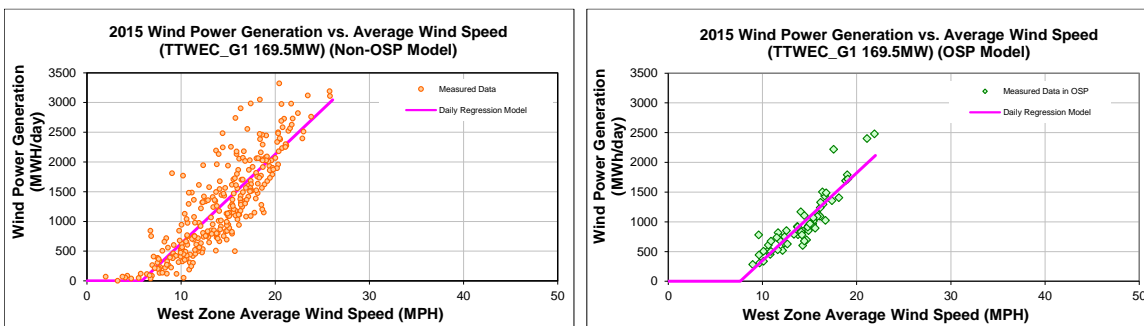


Figure 9-354: TTWEC_G1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-339: TTWEC_G1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-876.0372
Left Slope (MWh/mph-day)	150.1806
RMSE (MWh/day)	407.3681
R2	0.7246
CV-RMSE	32.3%
Daily Maximum (MWh/day)	4068

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1124.0866
Left Slope (MWh/mph-day)	147.2242
RMSE (MWh/day)	202.2439
R2	0.8137
CV-RMSE	20.8%
Daily Maximum (MWh/day)	4068

Table 9-340: TTWEC_G1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	40,117	26,136	34.85%	33%	21%
Feb-15	26	14.60	38,635	34,242	11.37%	37%	32%
Mar-15	30	11.63	25,746	26,512	-2.97%	21%	22%
Apr-15	30	15.35	41,136	42,892	-4.27%	34%	35%
May-15	31	16.18	44,581	48,153	-8.01%	35%	38%
Jun-15	30	14.18	30,618	37,592	-22.78%	25%	31%
Jul-15	31	15.36	35,264	39,360	-11.62%	28%	31%
Aug-15	31	13.34	27,943	26,027	6.86%	22%	21%
Sep-15	30	14.14	28,452	33,015	-16.04%	23%	27%
Oct-15	31	13.95	36,175	37,796	-4.48%	29%	30%
Nov-15	30	15.20	45,163	42,814	5.20%	37%	35%
Dec-15	31	15.34	42,976	44,263	-2.99%	34%	35%
Total	361	14.23	436,804	438,802	-0.46%	30%	30%
Total in OSP (07/15-09/15)	63	14.23	61,142	61,142	0.00%	24%	24%

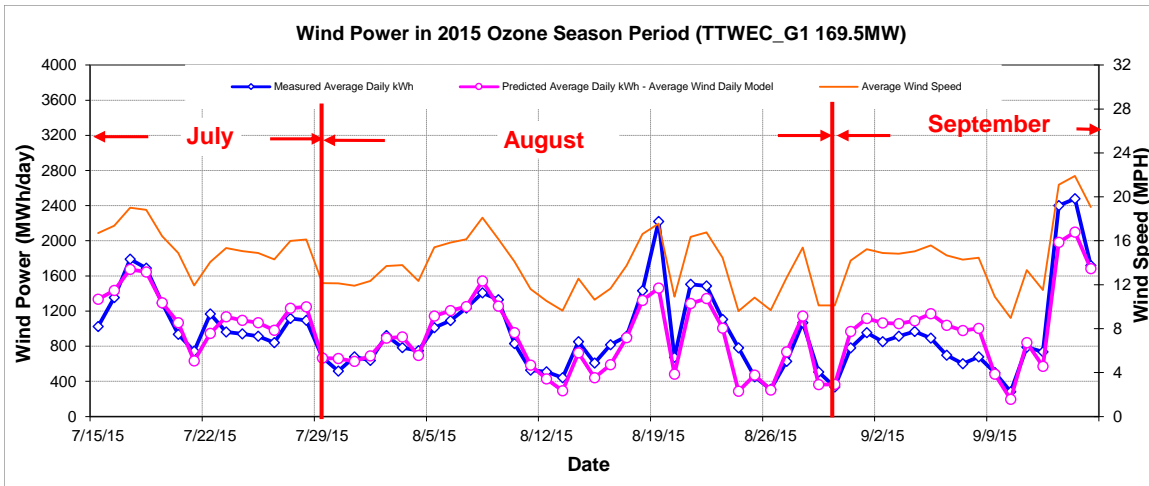


Figure 9-355: TTWEC_G1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

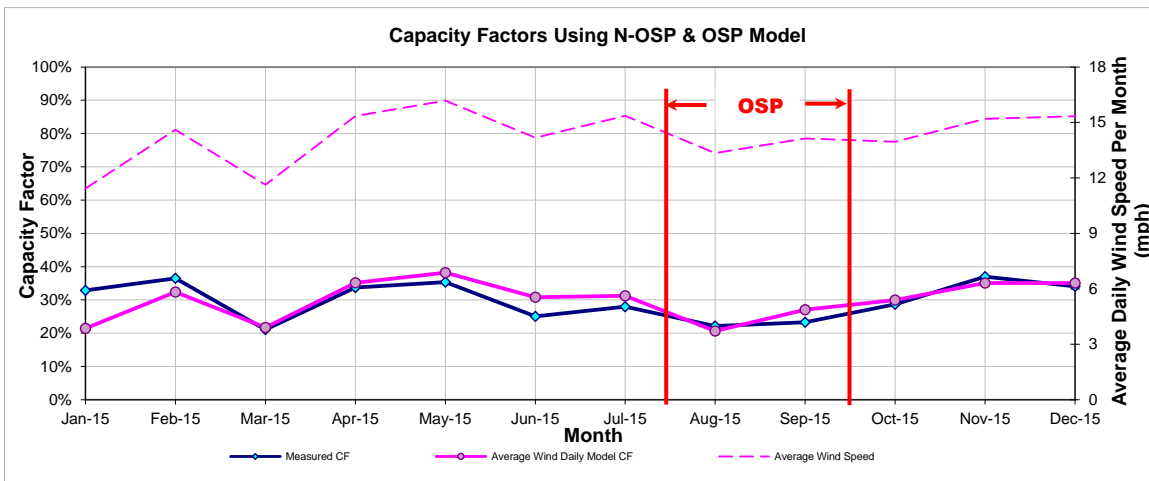


Figure 9-356: TTWEC_G1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-341: TTWEC_G1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
298,633	441,644	253	971

9.74 Whirlwind Energy

Table 9-342: Site Information for Whirlwind Energy

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Weather Station
WEC_WECG1	Wind	-	Floyd	Dec-07	60	Renewable Energy Systems	Whirlwind	Siemens	ERCOT	West	LBB

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
WEC_WECG1	WEC_WECG1	60

9.74.1 Whirlwind Energy – WEC_WECG1

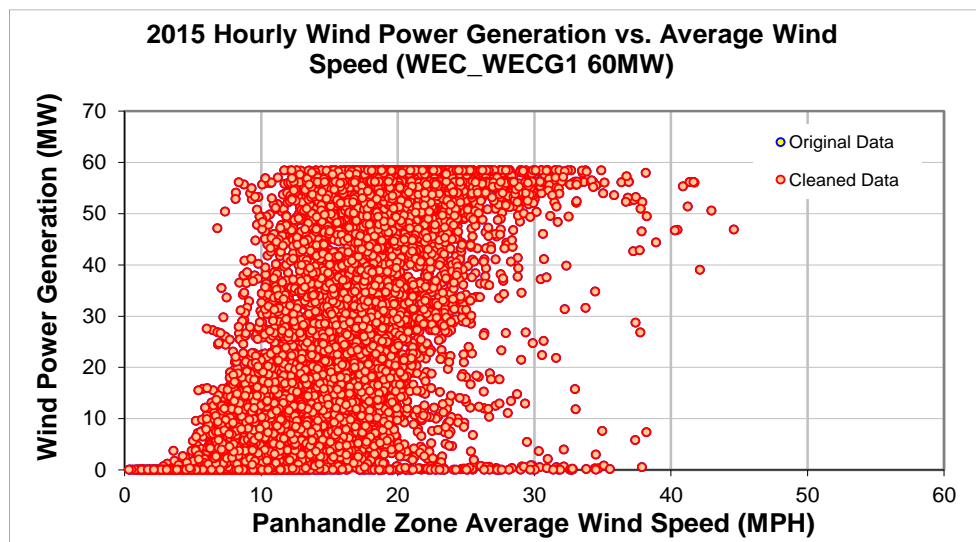


Figure 9-357: WEC_WECG1 - Hourly Wind Power vs. NOAA Wind Speed (2015)

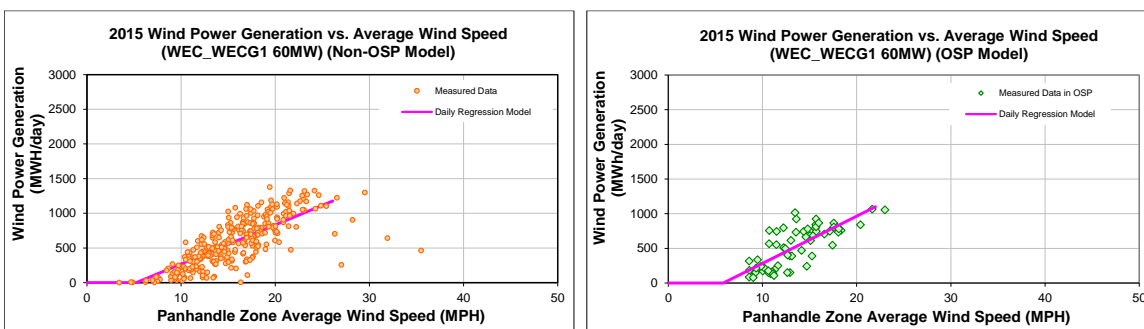


Figure 9-358: WEC_WECG1 - Daily Wind Power vs. NOAA Wind Speed (Using OSP and Non OSP Model)

Table 9-343: WEC_WECG1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-294.9450
Left Slope (MWh/mph-day)	56.4785
RMSE (MWh/day)	225.1684
R2	0.5781
CV-RMSE	37.9%
Daily Maximum (MWh/day)	1440

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-396.8916
Left Slope (MWh/mph-day)	68.0490
RMSE (MWh/day)	188.6466
R2	0.5945
CV-RMSE	35.7%
Daily Maximum (MWh/day)	1440

Table 9-344: WEC_WECG1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	31	14.65	18,106	16,632	8.14%	41%	37%
Feb-15	26	14.65	17,137	13,838	19.25%	46%	37%
Mar-15	31	14.16	15,548	15,675	-0.82%	35%	35%
Apr-15	30	17.64	20,869	21,046	-0.85%	48%	49%
May-15	31	16.47	16,441	19,690	-19.76%	37%	44%
Jun-15	30	15.00	16,649	16,563	0.51%	39%	38%
Jul-15	31	13.57	18,440	15,515	15.86%	41%	35%
Aug-15	31	12.38	13,894	13,805	0.64%	31%	31%
Sep-15	30	15.59	17,921	18,872	-5.30%	41%	44%
Oct-15	30	14.53	14,296	15,775	-10.35%	33%	37%
Nov-15	28	18.06	19,494	20,227	-3.76%	48%	50%
Dec-15	31	17.96	21,056	22,029	-4.62%	47%	49%
Total	360	15.37	209,851	209,666	0.09%	40%	40%
Total in OSP (07/15-09/15)	63	13.60	33,282	33,282	0.00%	37%	37%

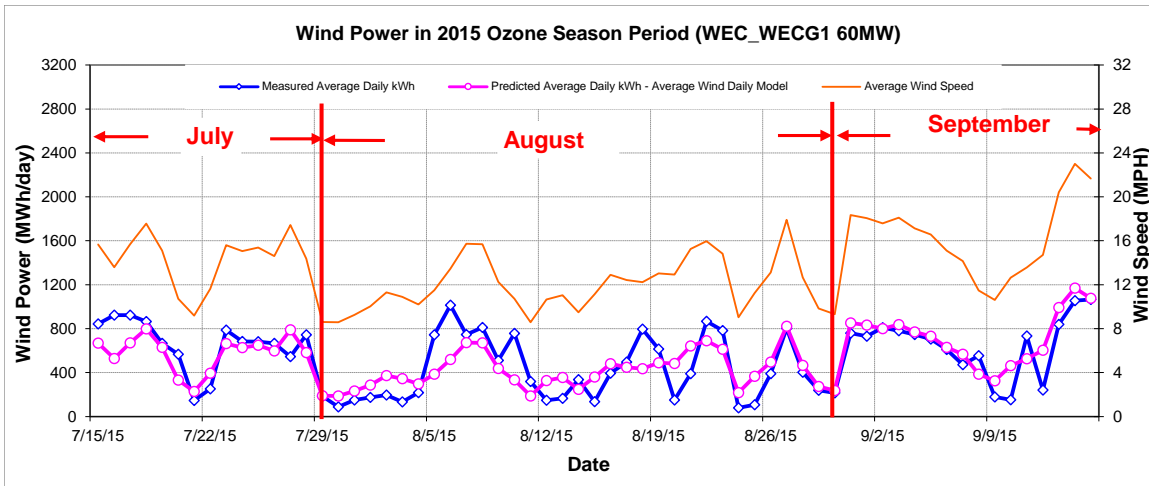


Figure 9-359: WEC_WECG1 - Predicted Wind Power in OSP Using NOAA Wind Speed (2015)

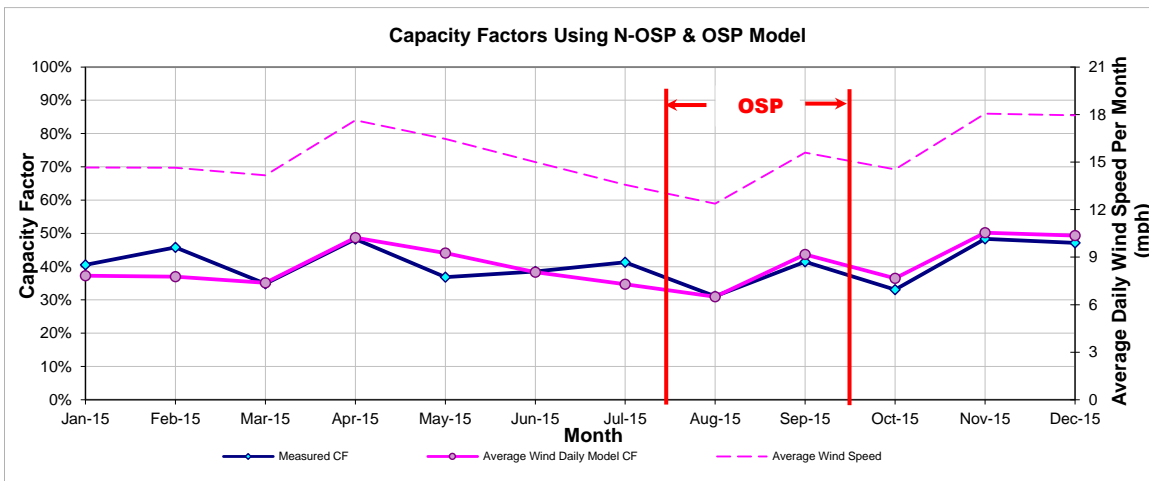


Figure 9-360: WEC_WECG1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-345: WEC_WECG1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
137,991	212,765	221	528

9.75 Wolf Ridge Wind Farm

Table 9-346: Site Information for Wolf Ridge Wind Farm

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
WHTTAIL_WR1	Wind	-	Cooke	Oct-08	112.5	FPL Energy	Wolf Ridge Windfarm	GE Energy (75)	ERCOT	North	North Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
WHTTAIL_WR1	WHTTAIL_WR1	112.5

9.75.1 Wolf Ridge Wind Farm – WHTTAIL_WR1

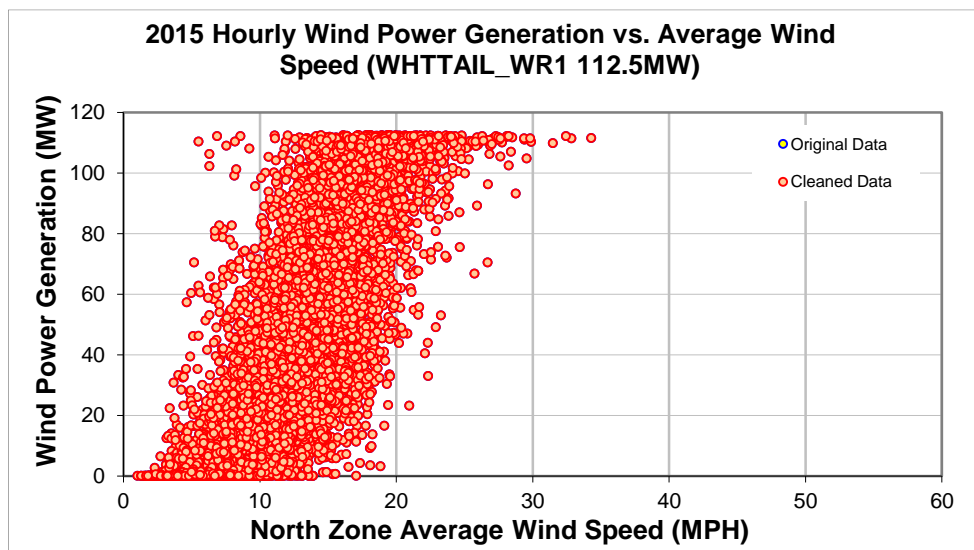


Figure 9-361: WHTTAIL_WR1 - Hourly Wind Power vs. Average Wind Speed (2015)

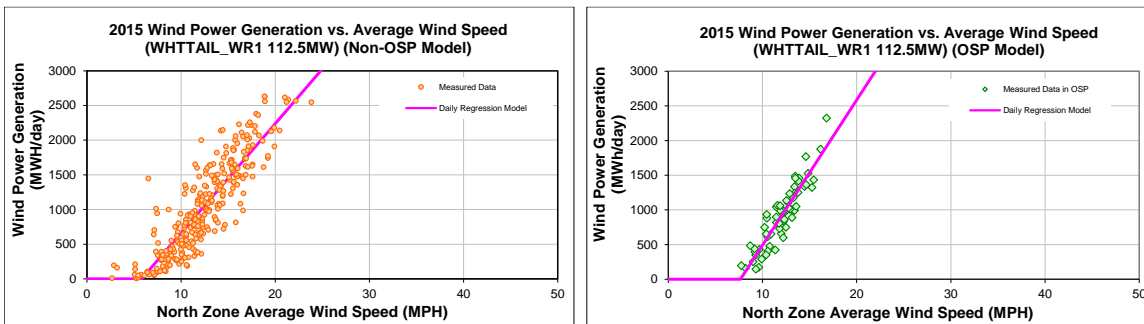


Figure 9-362: WHTTAIL_WR1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-347: WHTTAIL_WR1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-916.2924
Left Slope (MWh/mph-day)	157.7349
RMSE (MWh/day)	316.5623
R2	0.7697
CV-RMSE	30.1%
Daily Maximum (MWh/day)	2700

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1600.9815
Left Slope (MWh/mph-day)	209.2340
RMSE (MWh/day)	182.7652
R2	0.8382
CV-RMSE	20.0%
Daily Maximum (MWh/day)	2700

Table 9-348: WHTTAIL_WR1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone		Average Wind Speed (North) Zone
Jan-15	31	12.58	28,239	33,289	-17.88%	34%	40%
Feb-15	28	12.49	30,805	30,168	2.07%	41%	40%
Mar-15	31	10.61	23,900	24,377	-1.99%	29%	29%
Apr-15	30	12.91	36,765	33,617	8.56%	45%	42%
May-15	31	12.07	35,984	30,595	14.98%	43%	37%
Jun-15	30	11.84	26,119	28,558	-9.34%	32%	35%
Jul-15	31	13.82	35,043	38,751	-10.58%	42%	46%
Aug-15	31	11.47	25,866	24,765	4.26%	31%	30%
Sep-15	30	11.64	26,488	26,749	-0.99%	33%	33%
Oct-15	31	12.08	25,885	30,653	-18.42%	31%	37%
Nov-15	30	13.67	40,116	37,288	7.05%	50%	46%
Dec-15	31	13.52	39,440	37,601	4.66%	47%	45%
Total	365	12.39	374,650	376,410	-0.47%	38%	38%
Total in OSP (07/15-09/15)	63	12.02	57,551	57,551	0.00%	34%	34%

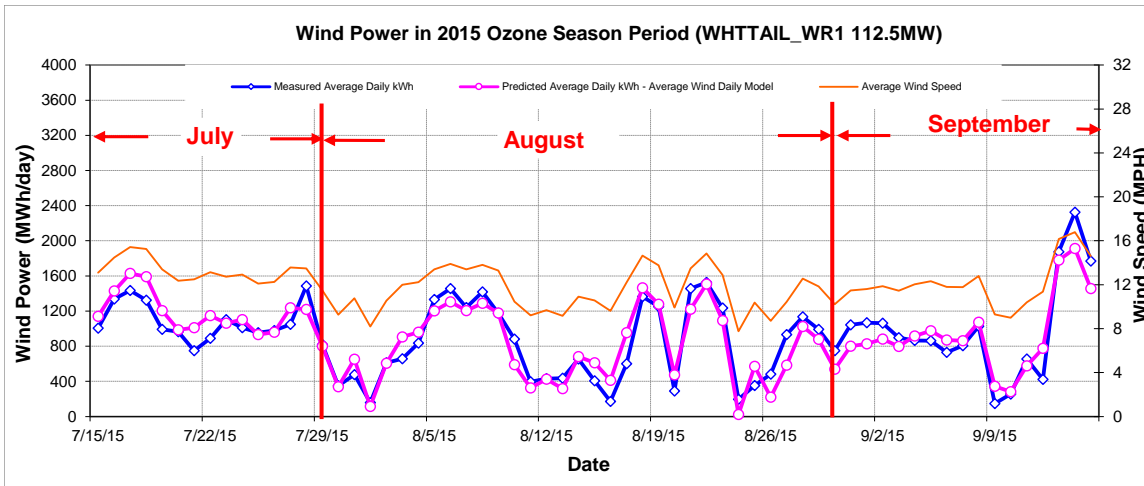


Figure 9-363: WHTTAIL_WR1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

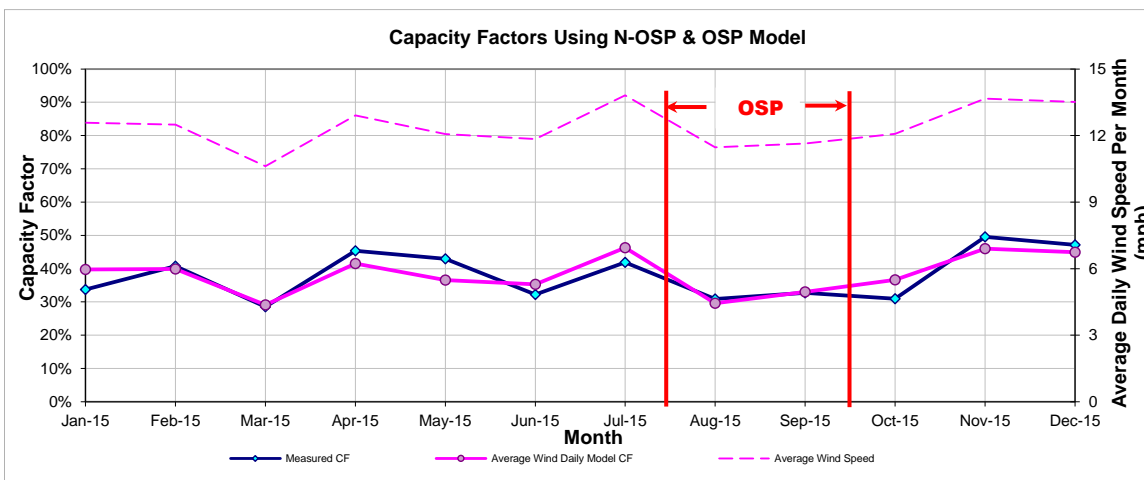


Figure 9-364: WHTTAIL_WR1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-349: WHTTAIL_WR1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
321,225	374,650	405	914

9.76 Woodward Mountain Ranch

Table 9-350: Site Information for Woodward Mountain Ranch

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
WOODWRD	Wind	McCamey	PECOS	Jul-01	159.7	FPL/Cielo/TXU	Woodward Mountain Ranch	Vestas V-47 (121)	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
WOODWRD1_WOODWRD1	WOODWRD	82.5
WOODWRD2_WOODWRD2	WOODWRD	77.2

9.76.1 Woodward Mountain Ranch (WOODWRD1_WOODWRD1)

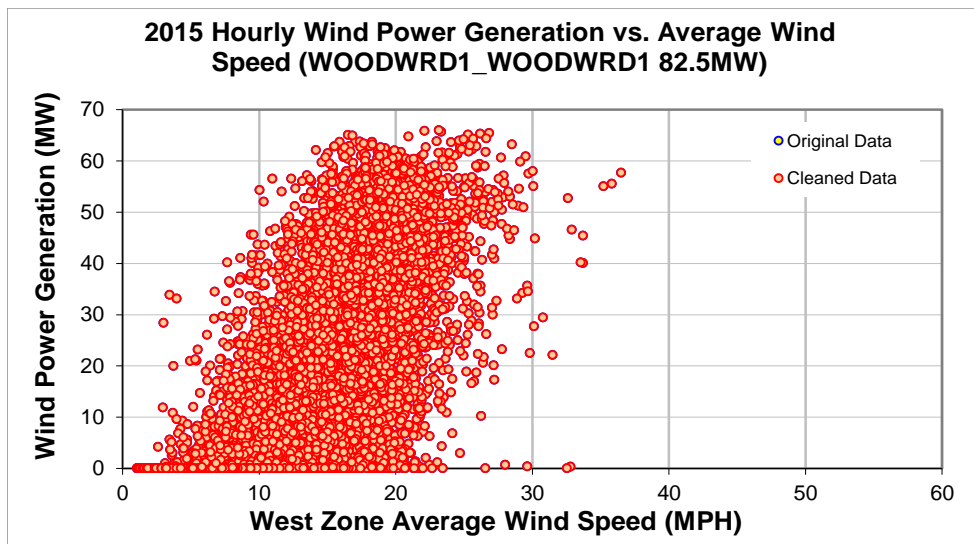


Figure 9-365: WOODWRD1_WOODWRD1 – Hourly Wind Power vs. Average Wind Speed (2015)

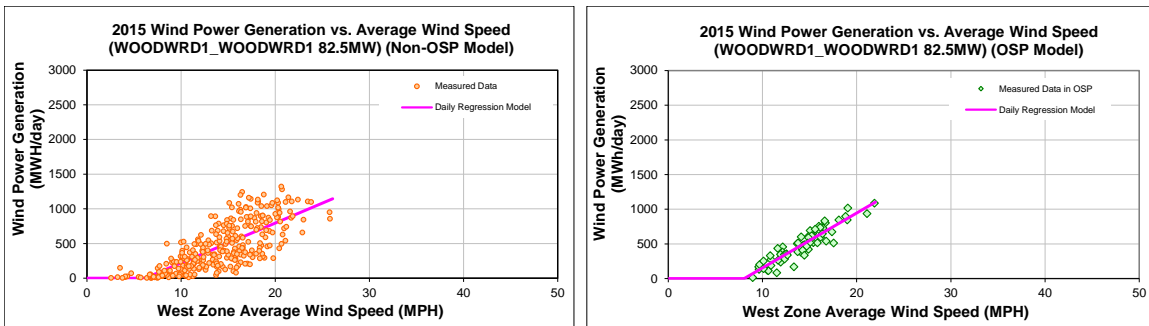


Figure 9-366: WOODWRD1_WOODWRD1 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-351: WOODWRD1_WOODWRD1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-354.9187
Left Slope (MWh/mph-day)	57.5085
RMSE (MWh/day)	228.8438
R2	0.5570
CV-RMSE	49.8%
Daily Maximum (MWh/day)	1980

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-636.5602
Left Slope (MWh/mph-day)	79.0497
RMSE (MWh/day)	94.9730
R2	0.8510
CV-RMSE	19.5%
Daily Maximum (MWh/day)	1980

Table 9-352: WOODWRD1_WOODWRD1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	29	11.75	6,367	9,463	-48.62%	11%	16%
Feb-15	28	13.78	10,459	12,606	-20.53%	19%	23%
Mar-15	31	11.39	7,334	9,607	-31.00%	12%	16%
Apr-15	30	15.35	15,181	15,841	-4.35%	26%	27%
May-15	31	16.18	18,830	17,836	5.28%	31%	29%
Jun-15	30	14.18	20,415	13,811	32.35%	34%	23%
Jul-15	31	15.36	19,842	17,125	13.70%	32%	28%
Aug-15	31	13.34	13,047	12,952	0.73%	21%	21%
Sep-15	30	14.14	14,936	14,377	3.74%	25%	24%
Oct-15	31	13.95	13,525	13,870	-2.55%	22%	23%
Nov-15	30	15.20	15,322	15,870	-3.57%	26%	27%
Dec-15	31	15.34	13,305	16,366	-23.01%	22%	27%
Total	363	14.17	168,564	169,724	-0.69%	23%	24%
Total in OSP (07/15-09/15)	63	14.23	30,750	30,750	0.00%	25%	25%

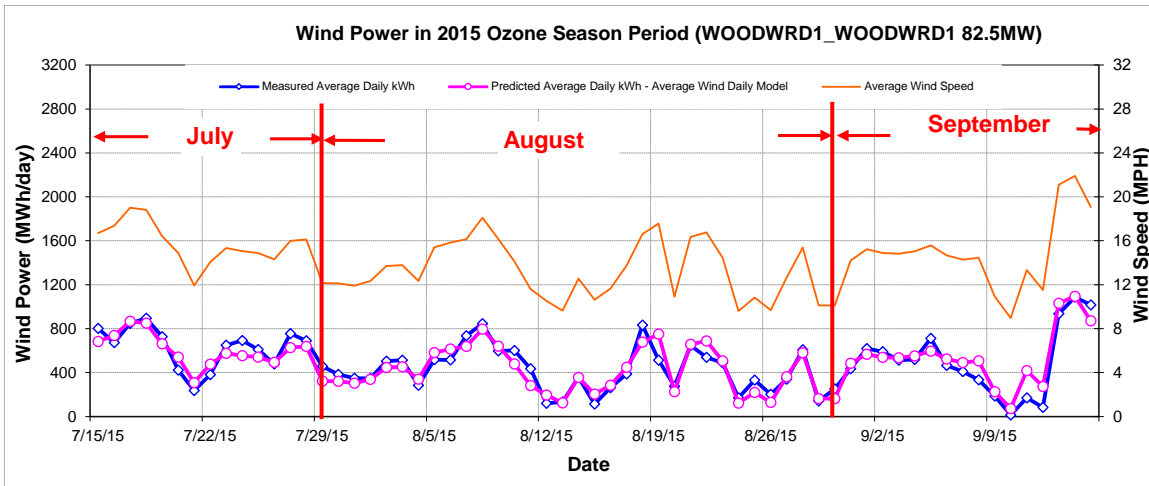


Figure 9-367: WOODWRD1_WOODWRD1 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

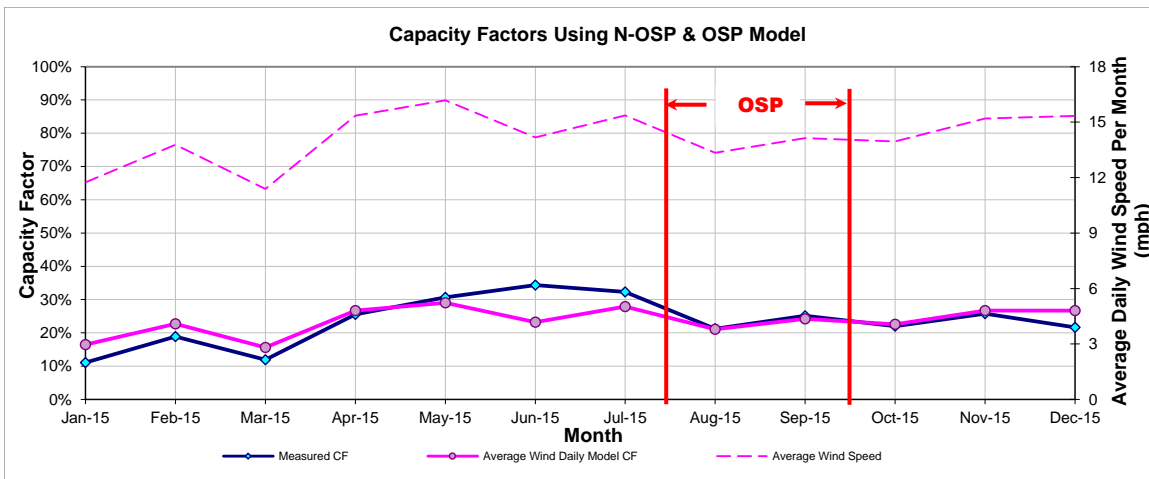


Figure 9-368: WOODWRD1_WOODWRD1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-353: WOODWRD1_WOODWRD1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
95,816	169,492	108	488

9.76.2 Woodward Mountain Ranch (WOODWRD2_WOODWRD2)

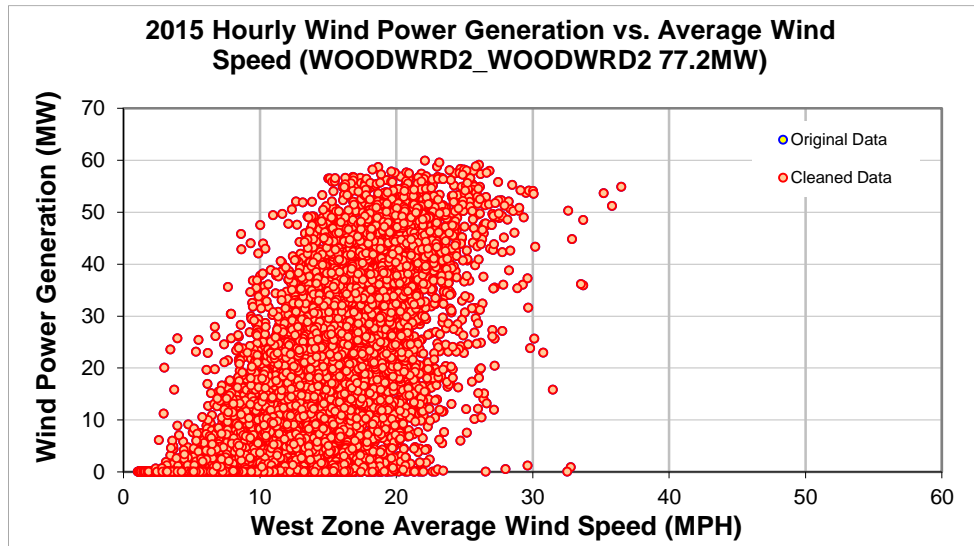


Figure 9-369: WOODWRD2_WOODWRD2 – Hourly Wind Power vs. Average Wind Speed (2015)

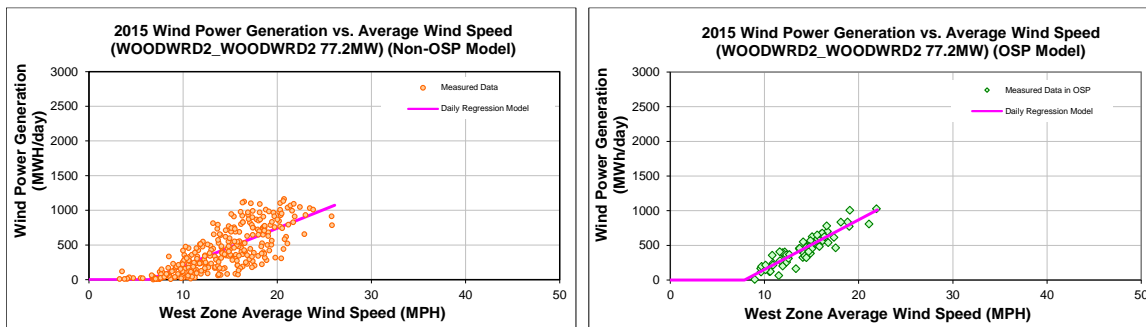


Figure 9-370: WOODWRD2_WOODWRD2 – Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-354: WOODWRD2_WOODWRD2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-347.1243
Left Slope (MWh/mph-day)	54.4584
RMSE (MWh/day)	205.9039
R2	0.5755
CV-RMSE	48.2%
Daily Maximum (MWh/day)	1853

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-564.4652
Left Slope (MWh/mph-day)	71.6059
RMSE (MWh/day)	91.5946
R2	0.8344
CV-RMSE	20.2%
Daily Maximum (MWh/day)	1853

Table 9-355: WOODWRD2_WOODWRD2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	28	11.94	5,561	8,652	-55.60%	11%	17%
Feb-15	27	14.19	9,239	11,651	-26.10%	18%	23%
Mar-15	31	11.39	6,654	8,789	-32.08%	12%	15%
Apr-15	30	15.35	14,278	14,670	-2.74%	26%	26%
May-15	31	16.18	17,398	16,548	4.88%	30%	29%
Jun-15	30	14.18	18,686	12,748	31.78%	34%	23%
Jul-15	31	15.36	17,441	15,878	8.96%	30%	28%
Aug-15	31	13.34	12,504	12,109	3.16%	22%	21%
Sep-15	30	14.14	13,928	13,291	4.58%	25%	24%
Oct-15	31	13.95	12,588	12,792	-1.63%	22%	22%
Nov-15	30	15.20	14,682	14,730	-0.32%	26%	27%
Dec-15	31	15.34	13,062	15,167	-16.11%	23%	26%
Total	361	14.23	156,022	157,024	-0.64%	23%	23%
Total in OSP (07/15-09/15)	63	14.23	28,620	28,620	0.00%	25%	25%

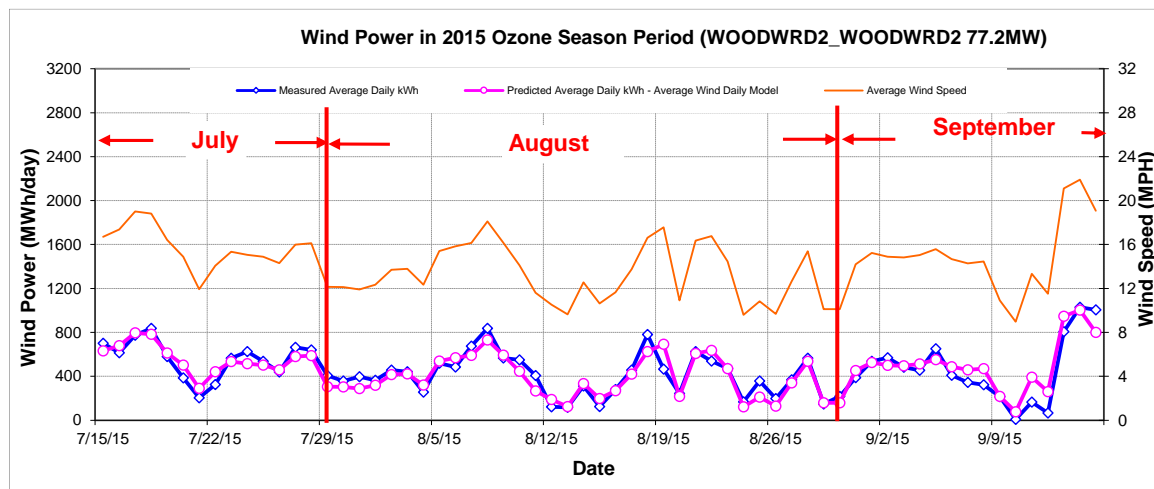


Figure 9-371: WOODWRD2_WOODWRD2 – Predicted Wind Power in OSP Using Average Wind Speed (2015)

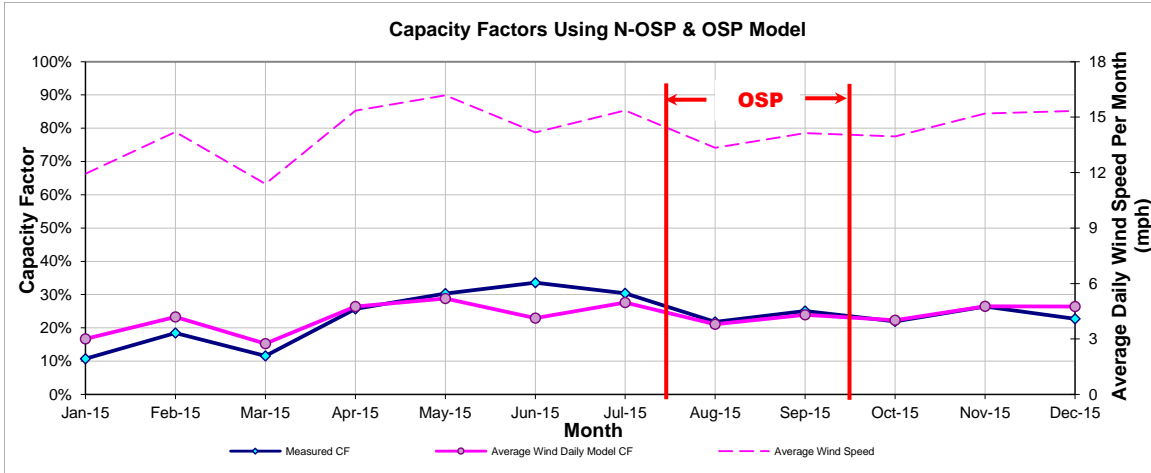


Figure 9-372: WOODWRD2_WOODWRD2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-356: WOODWRD2_WOODWRD2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
87,701	157,751	105	454

9.77 Baffin Wind 1

Table 9-357: Site Information for Baffin Wind 1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BAFFIN_UNIT1	Wind	Sarita	Kenedy	Dec-15	100	Iberdrola Renewables	Penascal Wind Farm 2	Gamesa 2MW G97	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BAFFIN_UNIT1	BAFFIN_UNIT1	100

9.77.1 Baffin Wind 1 – BAFFIN_UNIT1

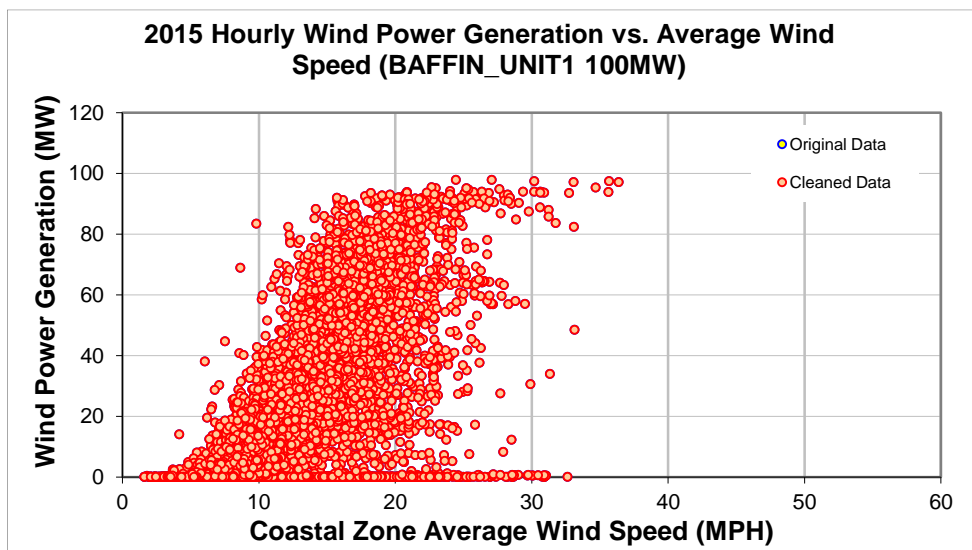


Figure 9-373: BAFFIN_UNIT1- Hourly Wind Power vs. Average Wind Speed (2015)

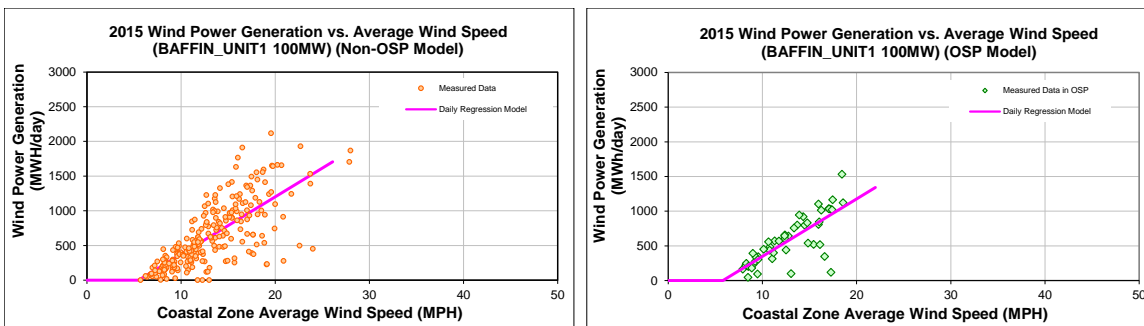


Figure 9-374: BAFFIN_UNIT1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-358: BAFFIN_UNIT1– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-453.6801
Left Slope (MWh/mph-day)	82.7996
RMSE (MWh/day)	304.9213
R2	0.5610
CV-RMSE	48.6%
Daily Maximum (MWh/day)	2400

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-480.3994
Left Slope (MWh/mph-day)	82.8363
RMSE (MWh/day)	217.5653
R2	0.6136
CV-RMSE	37.6%
Daily Maximum (MWh/day)	2400

Table 9-359: BAFFIN_UNIT1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	3	10.33	0	1,205	-60722797.32%	0%	17%
Feb-15	15	13.90	3,331	10,453	-213.82%	9%	29%
Mar-15	31	11.79	10,525	16,192	-53.84%	14%	22%
Apr-15	27	13.50	15,106	17,920	-18.63%	23%	28%
May-15	31	16.69	30,013	28,781	4.11%	40%	39%
Jun-15	26	12.88	15,656	15,932	-1.76%	25%	26%
Jul-15	21	16.58	20,170	19,118	5.21%	40%	38%
Aug-15	31	11.97	17,007	15,834	6.89%	23%	21%
Sep-15	27	10.42	11,722	10,731	8.46%	18%	17%
Oct-15	31	11.17	15,886	14,608	8.05%	21%	20%
Nov-15	30	11.95	22,866	16,070	29.72%	32%	22%
Dec-15	31	13.81	25,936	21,374	17.59%	35%	29%
Total	304	13.01	188,218	188,218	0.00%	26%	26%
Total in OSP (07/15-09/15)	50	12.78	28,931	28,931	0.00%	24%	24%

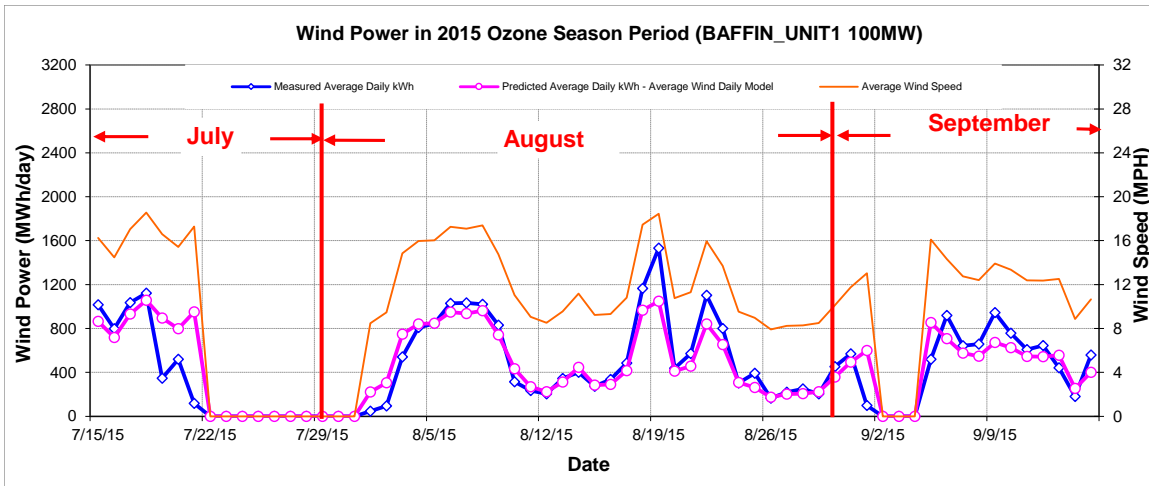


Figure 9-375: BAFFIN_UNIT1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

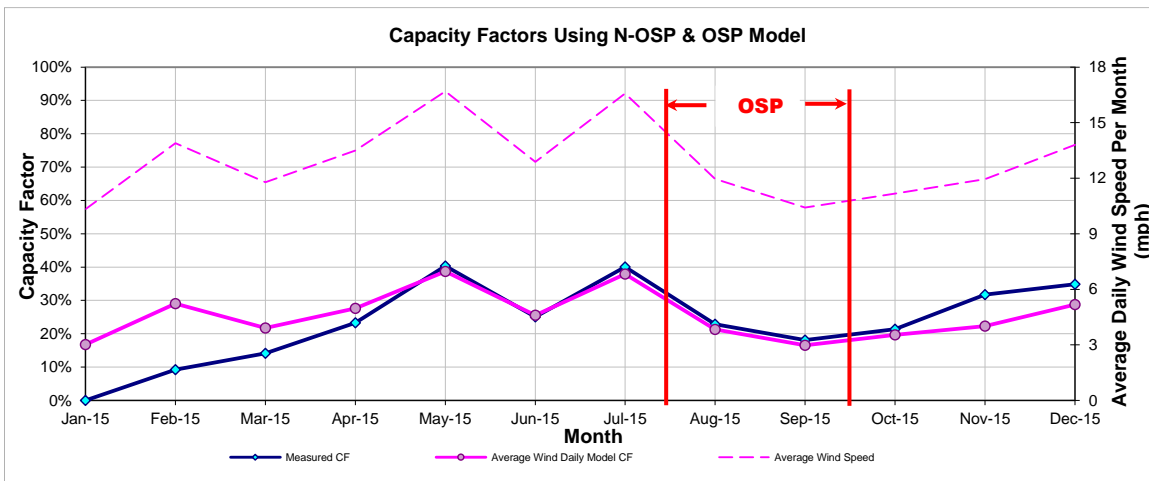


Figure 9-376: BAFFIN_UNIT1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-360: BAFFIN_UNIT1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
177,707	225,986	271	579

9.78 Baffin Wind 2

Table 9-361: Site Information for Baffin Wind 2

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BAFFIN_UNIT2	Wind	Sarita	Kenedy	Dec-15	102	Iberdrola Renewables	Penascal Wind Farm 3	Gamesa 2MW G98	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BAFFIN_UNIT2	BAFFIN_UNIT2	102

9.78.1 Baffin Wind 2 – BAFFIN_UNIT2

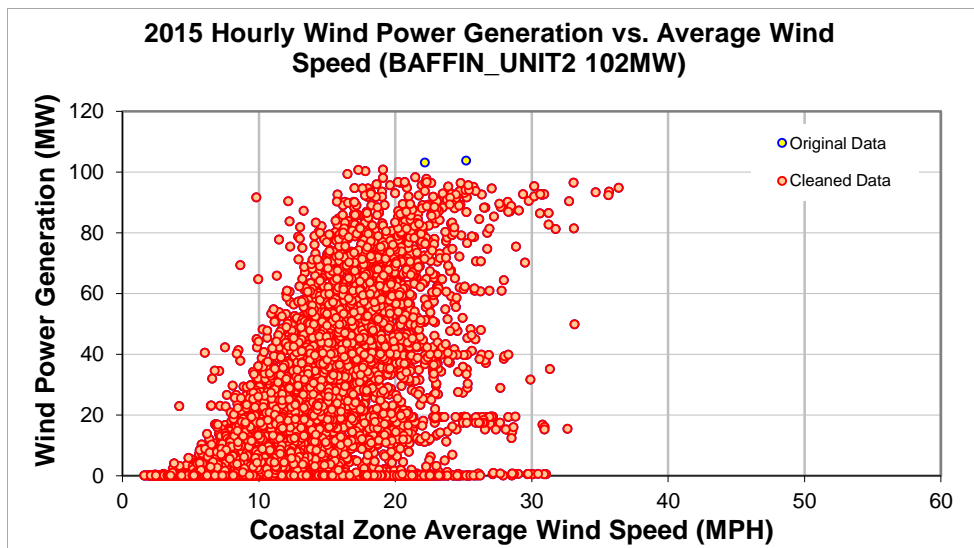


Figure 9-377: BAFFIN_UNIT2- Hourly Wind Power vs. Average Wind Speed (2015)

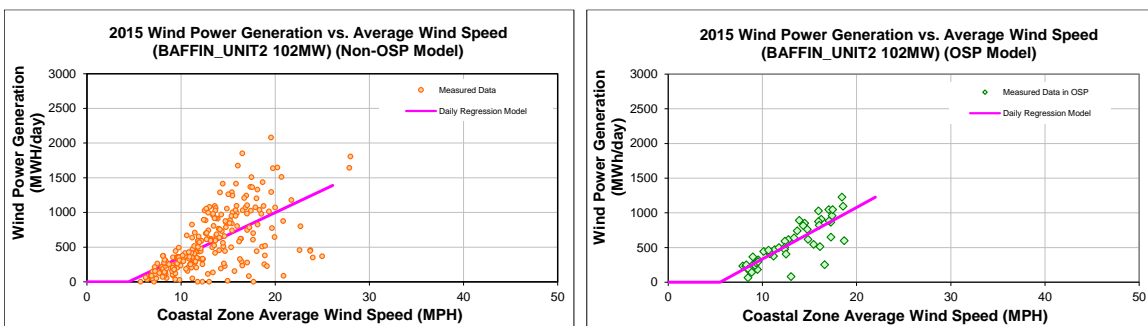


Figure 9-378: BAFFIN_UNIT2 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-362: BAFFIN_UNIT2– Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-283.5618
Left Slope (MWh/mph-day)	64.1029
RMSE (MWh/day)	325.7769
R2	0.4080
CV-RMSE	58.7%
Daily Maximum (MWh/day)	2448

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-409.0113
Left Slope (MWh/mph-day)	74.3719
RMSE (MWh/day)	168.0578
R2	0.6912
CV-RMSE	30.5%
Daily Maximum (MWh/day)	2448

Table 9-363: BAFFIN_UNIT2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone	Average Wind Speed (Coastal) Zone		Average Wind Speed (Coastal) Zone
Jan-15	3	10.33	0	1,136	-57238903.56%	0%	15%
Feb-15	13	13.85	1,611	7,852	-387.41%	5%	25%
Mar-15	31	11.79	8,614	14,633	-69.89%	11%	19%
Apr-15	27	13.50	13,272	15,701	-18.30%	20%	24%
May-15	29	17.21	18,008	23,764	-31.96%	25%	33%
Jun-15	30	12.94	20,220	16,380	18.99%	28%	22%
Jul-15	22	16.68	20,569	17,654	14.17%	38%	33%
Aug-15	31	11.97	15,992	14,908	6.78%	21%	20%
Sep-15	27	10.42	10,480	10,441	0.37%	16%	16%
Oct-15	31	11.17	14,536	13,407	7.77%	19%	18%
Nov-15	30	11.95	21,163	14,471	31.62%	29%	20%
Dec-15	31	13.81	24,528	18,646	23.98%	32%	25%
Total	305	13.05	168,994	168,994	0.00%	23%	23%
Total in OSP (07/15-09/15)	51	12.90	28,071	28,071	0.00%	22%	22%

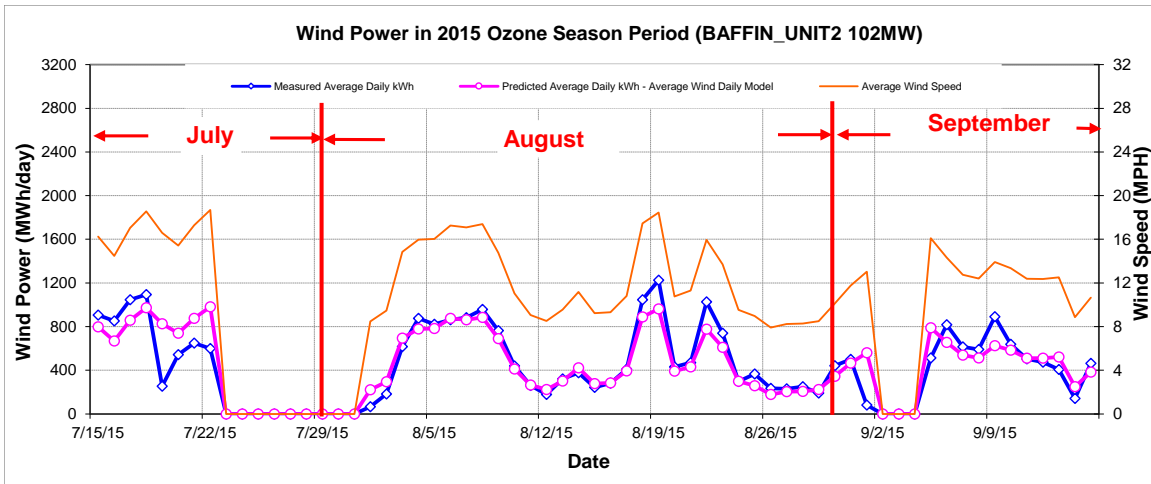


Figure 9-379: BAFFIN_UNIT2 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

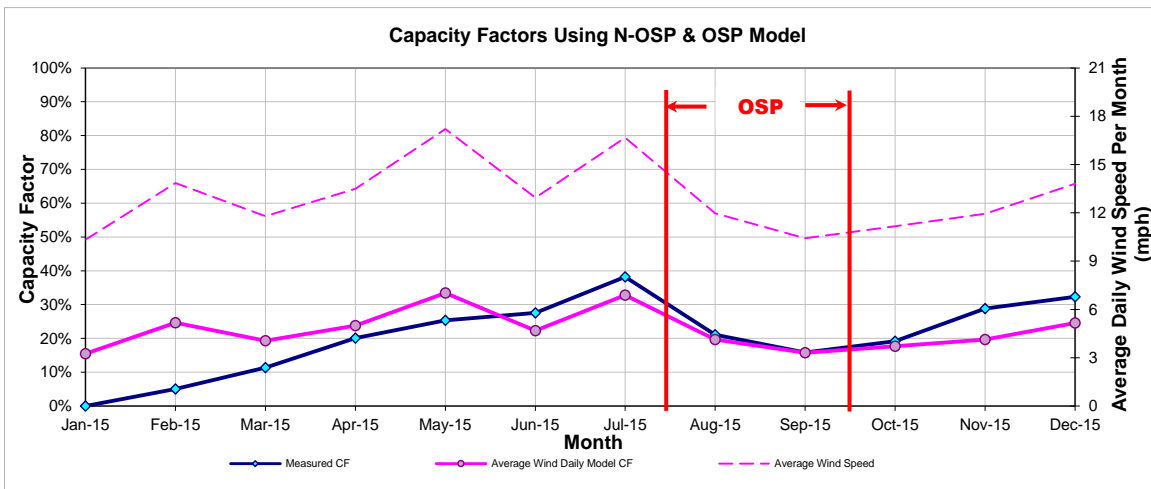


Figure 9-380: BAFFIN_UNIT2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-364: BAFFIN_UNIT2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
160,938	202,238	265	550

9.79 Grandview Wind 1 GV1A

Table 9-365: Site Information for Grandview Wind 1 GV1A

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
GRANDVW1_GV1A	Wind	-	Carson	Dec-14	107.4	EON Climate & Renewables	Grandview Phase 1	GE 1.7-100	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
GRANDVW1_GV1A	GRANDVW1_GV1A	107.4

9.79.1 Grandview Wind 1 GV1A – GRANDVW1_GV1A

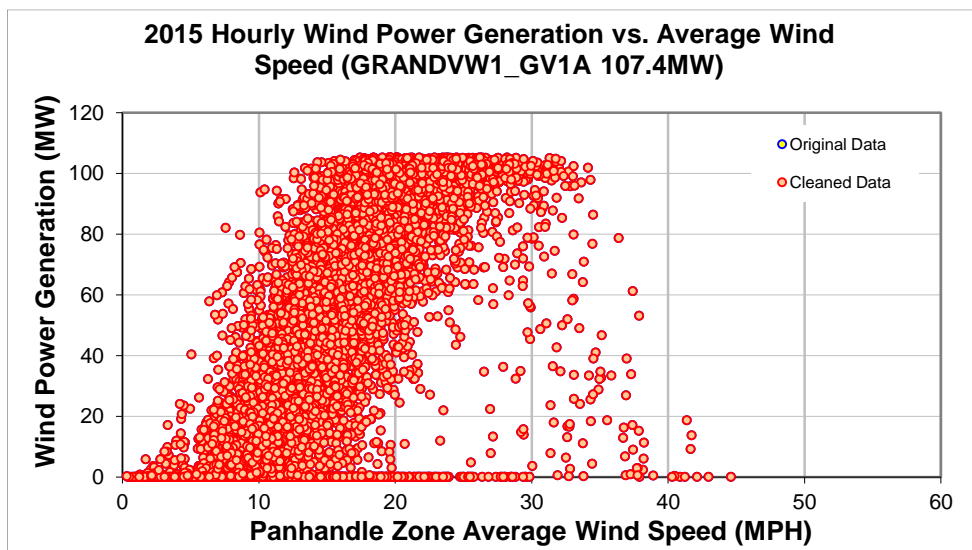


Figure 9-381: GRANDVW1_GV1A - Hourly Wind Power vs. Average Wind Speed (2015)

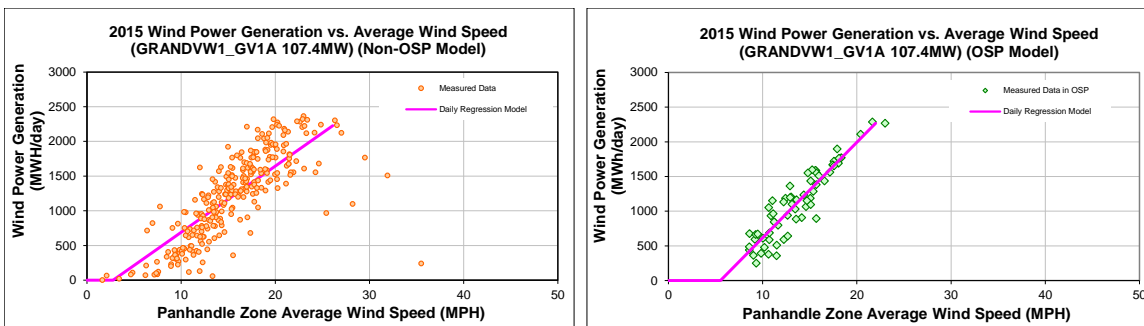


Figure 9-382: GRANDVW1_GV1A - Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-366: GRANDVW1_GV1A – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-264.1136
Left Slope (MWh/mph-day)	95.3798
RMSE (MWh/day)	379.8805
R2	0.6031
CV-RMSE	31.1%
Daily Maximum (MWh/day)	2578

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-757.8823
Left Slope (MWh/mph-day)	137.4778
RMSE (MWh/day)	199.2612
R2	0.8429
CV-RMSE	17.9%
Daily Maximum (MWh/day)	2578

Table 9-367: GRANDVW1_GV1A – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	31	14.65	37,790	35,135	7.02%	47%	44%
Feb-15	28	14.09	34,206	30,245	11.58%	47%	42%
Mar-15	31	14.16	32,180	33,673	-4.64%	40%	42%
Apr-15	30	17.64	43,254	42,562	1.60%	56%	55%
May-15	16	16.84	18,872	21,467	-13.75%	46%	52%
Jun-15	30	15.00	37,260	34,991	6.09%	48%	45%
Jul-15	31	13.57	35,876	33,131	7.65%	45%	41%
Aug-15	31	12.38	30,454	29,252	3.95%	38%	37%
Sep-15	30	15.59	36,050	39,588	-9.81%	47%	51%
Oct-15	31	14.46	33,070	34,563	-4.51%	41%	43%
Nov-15	30	16.98	40,692	40,622	0.17%	53%	53%
Dec-15	31	17.96	40,472	44,367	-9.62%	51%	56%
Total	350	15.21	420,174	419,597	0.14%	47%	47%
Total in OSP (07/15-09/15)	63	13.60	70,008	70,008	0.00%	43%	43%

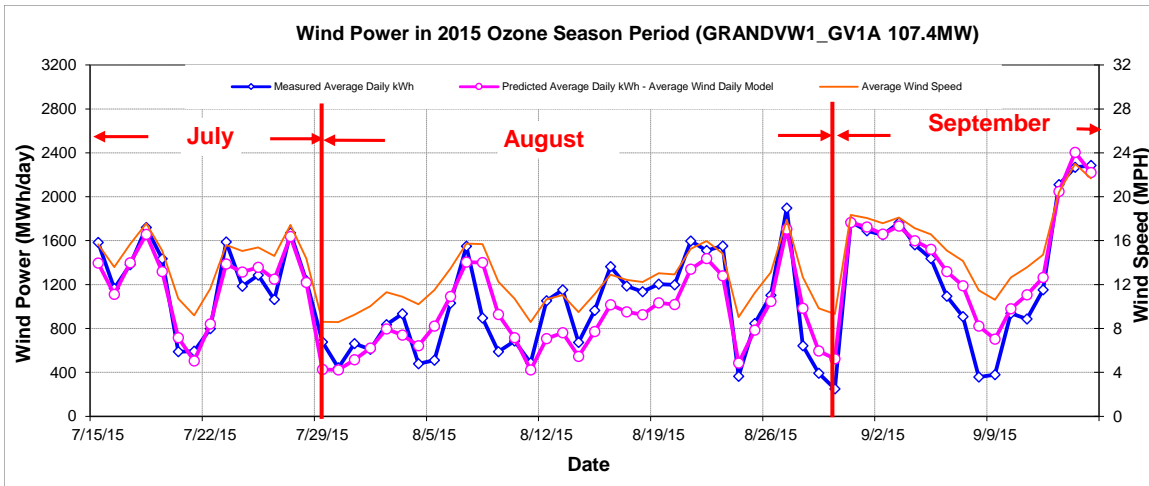


Figure 9-383: GRANDVW1_GV1A - Predicted Wind Power in OSP Using Average Wind Speed (2015)

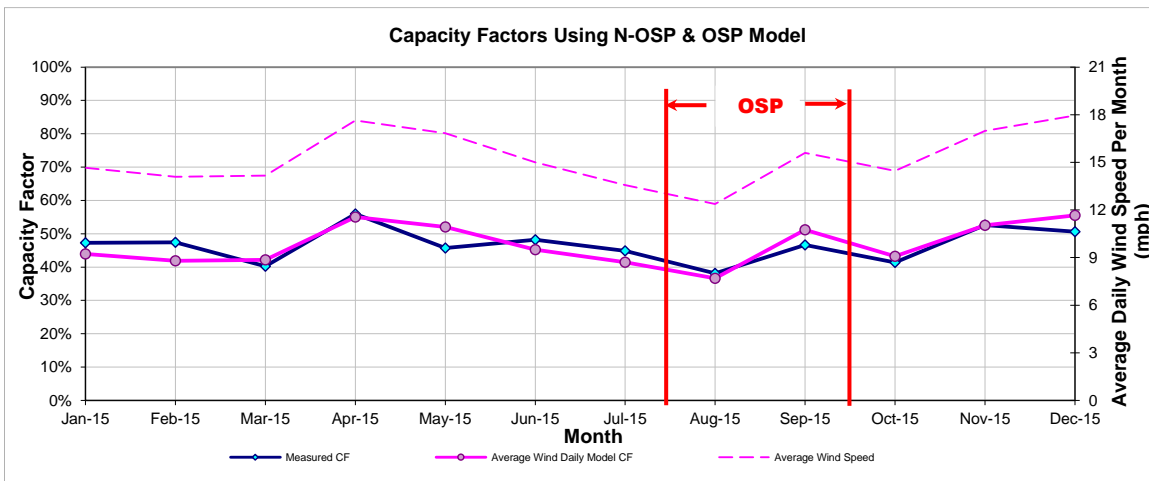


Figure 9-384: GRANDVW1_GV1A – Predicted Capacity Factors Using Daily Models (2015)

Table 9-368: GRANDVW1_GV1A – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
310,987	438,181	489	1,111

9.80 Grandview Wind 1 GV1B

Table 9-369: Site Information for Grandview Wind 1 GV1B

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
GRANDVW1_GV1B	Wind	-	Carson	Dec-14	103.8	EON Climate & Renewables	Grandview Phase 1	GE 1.7-100	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
GRANDVW1_GV1B	GRANDVW1_GV1B	103.8

9.80.1 Grandview Wind 1 GV1B – GRANDVW1_GV1B

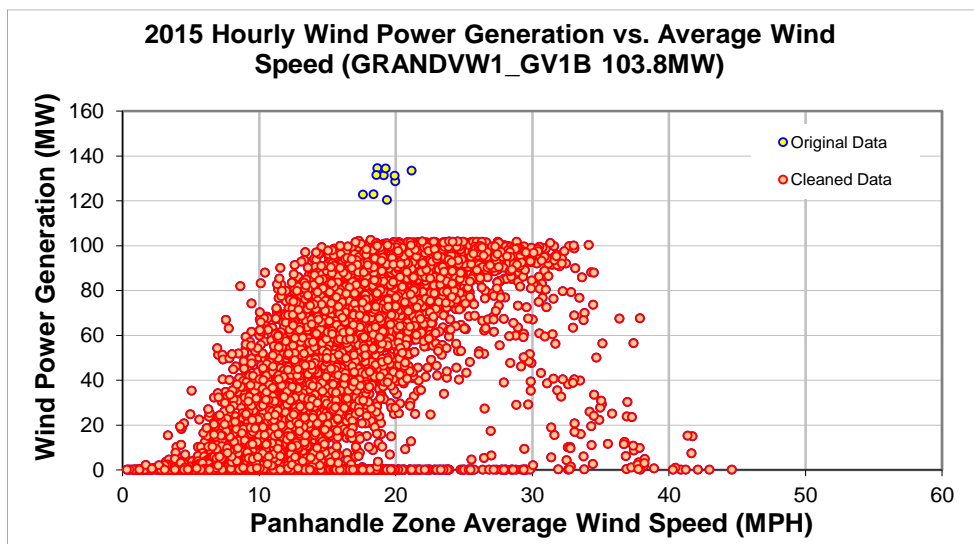


Figure 9-385: GRANDVW1_GV1B - Hourly Wind Power vs. Average Wind Speed (2015)

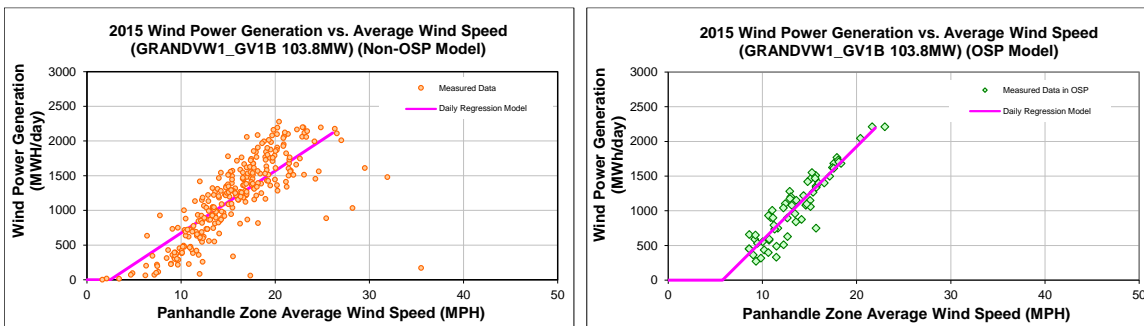


Figure 9-386: GRANDVW1_GV1B - Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-370: GRANDVW1_GV1B – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-221.3355
Left Slope (MWh/mph-day)	89.5633
RMSE (MWh/day)	358.4250
R2	0.6016
CV-RMSE	30.6%
Daily Maximum (MWh/day)	2491

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-776.6637
Left Slope (MWh/mph-day)	135.0144
RMSE (MWh/day)	189.0397
R2	0.8518
CV-RMSE	17.9%
Daily Maximum (MWh/day)	2491

Table 9-371: GRANDVW1_GV1B – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle Zone)	Average Wind Speed (Panhandle Zone)	Average Wind Speed (Panhandle Zone)	Average Wind Speed (Panhandle Zone)		Average Wind Speed (Panhandle Zone)
Jan-15	31	14.65	35,727	33,819	5.34%	46%	44%
Feb-15	28	14.09	33,607	29,148	13.27%	48%	42%
Mar-15	31	14.16	29,593	32,446	-9.64%	38%	42%
Apr-15	30	17.64	41,765	40,767	2.39%	56%	55%
May-15	16	16.84	18,227	20,584	-12.94%	46%	52%
Jun-15	30	15.00	35,412	33,657	4.96%	47%	45%
Jul-15	31	13.57	34,685	31,729	8.52%	45%	41%
Aug-15	31	12.38	28,158	27,725	1.54%	36%	36%
Sep-15	29	15.62	35,406	36,961	-4.39%	49%	51%
Oct-15	31	14.46	31,256	33,282	-6.48%	40%	43%
Nov-15	30	16.98	39,008	38,936	0.19%	52%	52%
Dec-15	31	17.96	39,249	42,533	-8.36%	51%	55%
Total	349	15.21	402,094	401,587	0.13%	46%	46%
Total in OSP (07/15-09/15)	63	13.60	66,715	66,715	0.00%	43%	43%

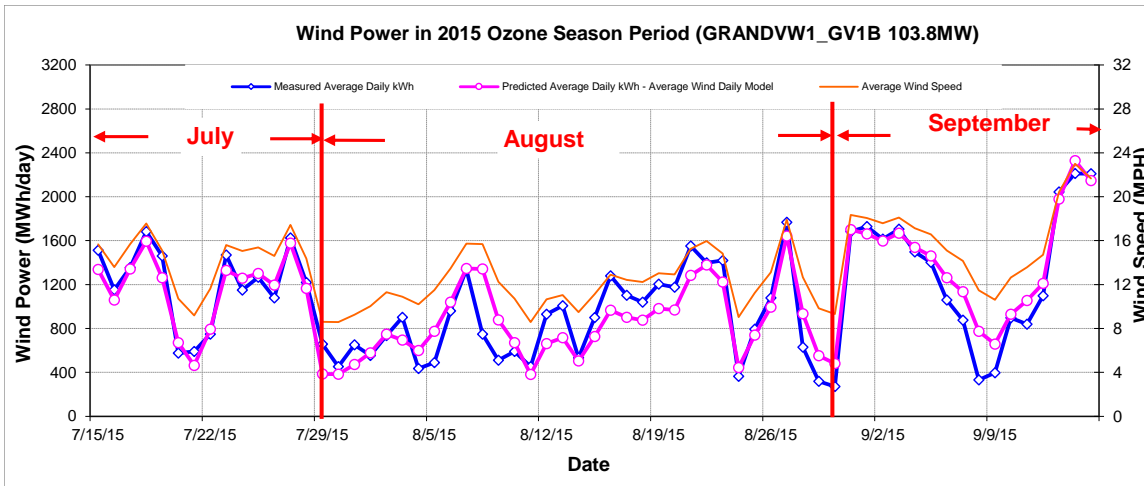


Figure 9-387: GRANDVW1_GV1B - Predicted Wind Power in OSP Using Average Wind Speed (2015)

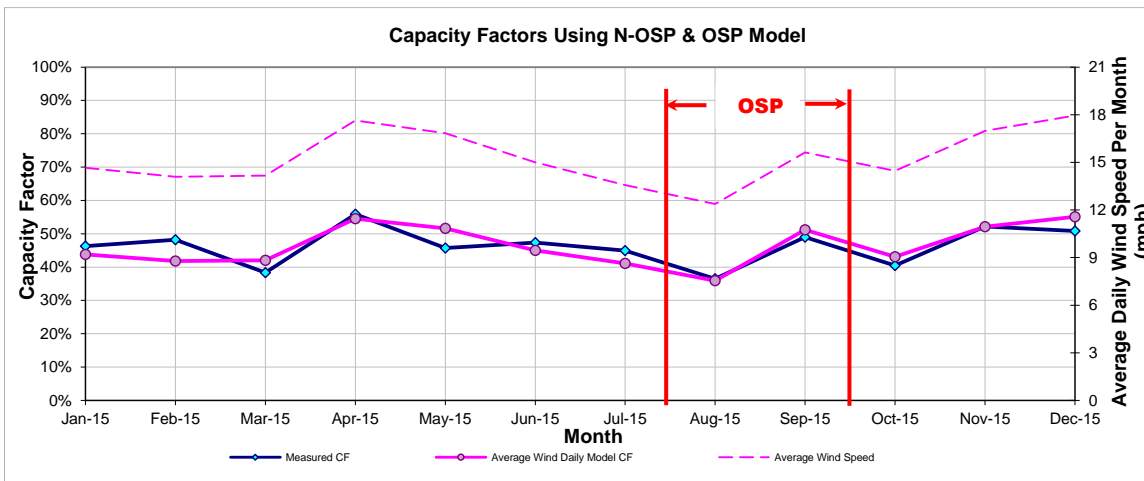


Figure 9-388: GRANDVW1_GV1B – Predicted Capacity Factors Using Daily Models (2015)

Table 9-372: GRANDVW1_GV1B – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
299,515	420,528	449	1,059

9.81 Hereford Wind G

Table 9-373: Site Information for Hereford Wind G

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
HRFDWIND_WIND_G	Wind	Hereford	Deaf Smith	May-15	99.9	EDF Renewable	Hereford Wind Project (Hereford 1)	GE1.85-megawatt	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
HRFDWIND_WIND_G	HRFDWIND_WIND_G	99.9

9.81.1 Hereford Wind G – HRFDWIND_WIND_G

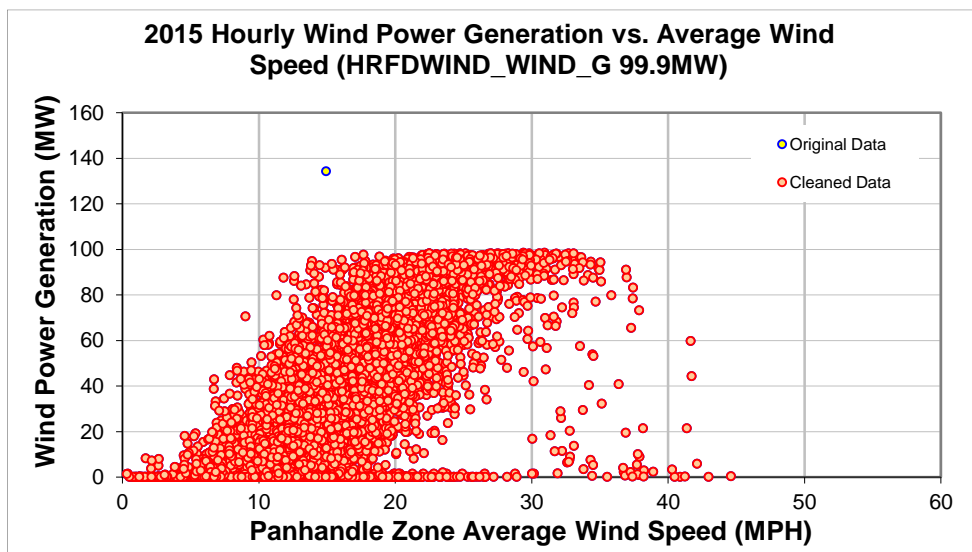


Figure 9-389: HRFDWIND_WIND_G - Hourly Wind Power vs. Average Wind Speed (2015)

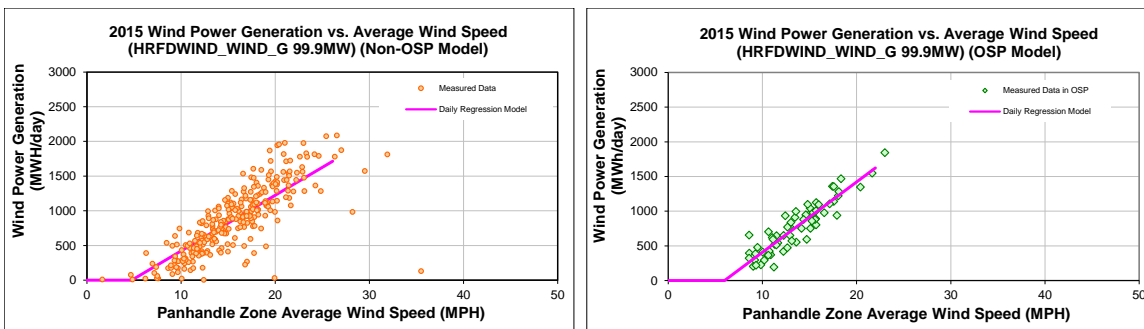


Figure 9-390: HRFDWIND_WIND_G - Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-374: HRFDWIND_WIND_G – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-382.1862
Left Slope (MWh/mph-day)	80.2872
RMSE (MWh/day)	292.1080
R2	0.6285
CV-RMSE	33.2%
Daily Maximum (MWh/day)	2398

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-605.7289
Left Slope (MWh/mph-day)	101.2845
RMSE (MWh/day)	147.9923
R2	0.8407
CV-RMSE	19.2%
Daily Maximum (MWh/day)	2398

Table 9-375: HRFDWIND_WIND_G – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	30	15.03	27,332	24,726	9.53%	38%	34%
Feb-15	24	14.57	20,272	18,895	6.79%	35%	33%
Mar-15	31	14.16	23,382	23,396	-0.06%	31%	31%
Apr-15	30	17.64	31,047	31,031	0.05%	43%	43%
May-15	31	16.47	24,550	29,140	-18.69%	33%	39%
Jun-15	22	14.55	14,855	17,296	-16.43%	28%	33%
Jul-15	31	13.57	24,046	22,906	4.74%	32%	31%
Aug-15	31	12.38	20,672	20,082	2.85%	28%	27%
Sep-15	30	15.59	26,270	27,874	-6.11%	37%	39%
Oct-15	31	14.46	24,545	24,138	1.66%	33%	32%
Nov-15	29	17.49	31,981	29,888	6.54%	46%	43%
Dec-15	30	17.97	31,984	31,747	0.74%	44%	44%
Total	350	15.33	300,934	301,119	-0.06%	36%	36%
Total in OSP (07/15-09/15)	63	13.60	48,593	48,593	0.00%	32%	32%

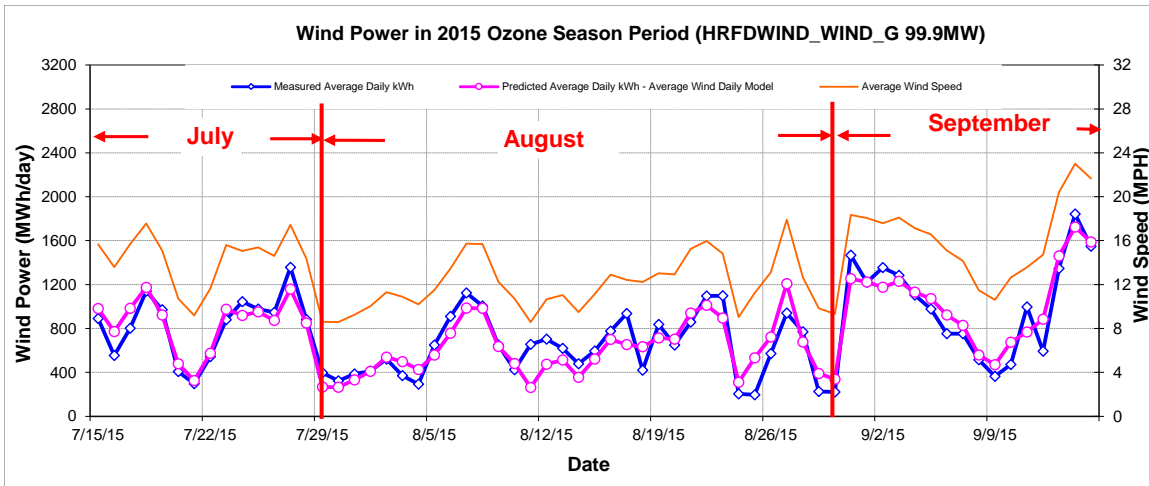


Figure 9-391: HRFDWIND_WIND_G - Predicted Wind Power in OSP Using Average Wind Speed (2015)

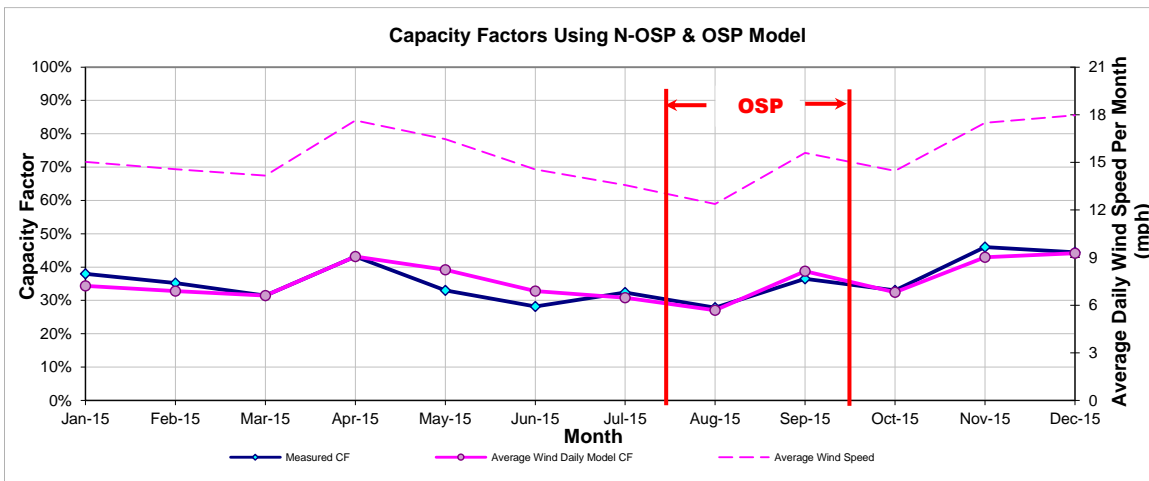


Figure 9-392: HRFDWIND_WIND_G – Predicted Capacity Factors Using Daily Models (2015)

Table 9-376: HRFDWIND_WIND_G – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
207,350	313,831	315	771

9.82 Hereford Wind V

Table 9-377: Site Information for Hereford Wind V

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
HRFDWIND_WIND_V	Wind	Hereford	Deaf Smith	May-15	100	EDF Renewable	Hereford Wind Project (Hereford 1)	Vestas V100 2.0-megawatt	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
HRFDWIND_WIND_V	HRFDWIND_WIND_V	100

9.82.1 Hereford Wind V – HRFDWIND_WIND_V

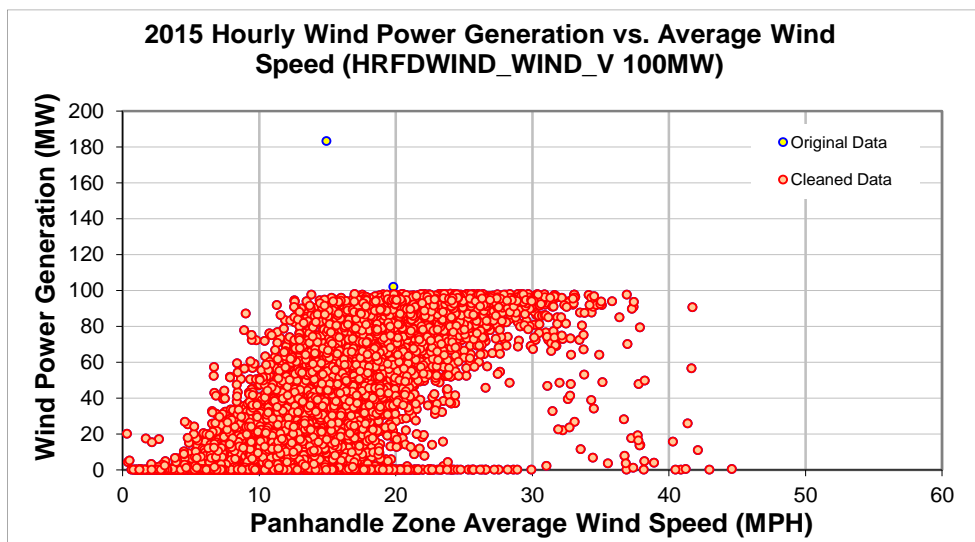


Figure 9-393: HRFDWIND_WIND_V - Hourly Wind Power vs. Average Wind Speed (2015)

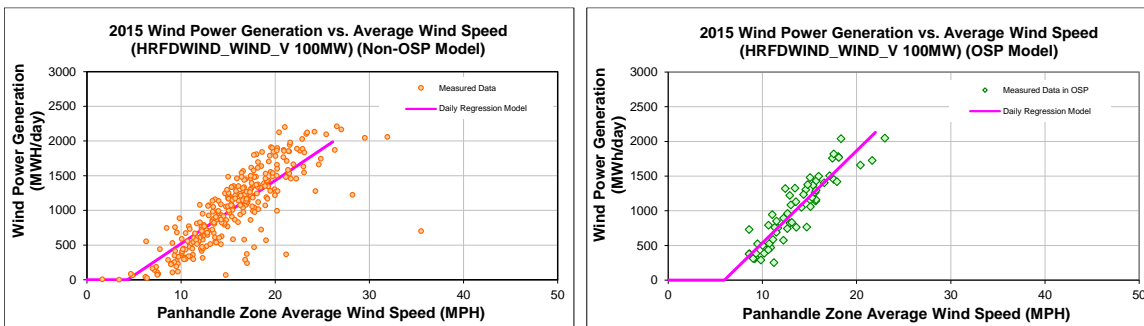


Figure 9-394: HRFDWIND_WIND_V - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-378: HRFDWIND_WIND_V – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-391.6799
Left Slope (MWh/mph-day)	91.1147
RMSE (MWh/day)	303.3879
R2	0.6752
CV-RMSE	29.4%
Daily Maximum (MWh/day)	2400

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-789.9373
Left Slope (MWh/mph-day)	132.7061
RMSE (MWh/day)	197.7501
R2	0.8354
CV-RMSE	19.5%
Daily Maximum (MWh/day)	2400

Table 9-379: HRFDWIND_WIND_V – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	31	14.65	27,920	29,322	-5.02%	38%	39%
Feb-15	28	14.09	25,002	24,990	0.05%	37%	37%
Mar-15	31	14.16	24,033	27,847	-15.87%	32%	37%
Apr-15	30	17.64	37,605	36,478	3.00%	52%	51%
May-15	31	16.47	31,068	34,373	-10.64%	42%	46%
Jun-15	22	14.55	19,178	20,554	-7.17%	36%	39%
Jul-15	31	13.57	31,778	28,891	9.09%	43%	39%
Aug-15	31	12.38	27,596	26,428	4.24%	37%	36%
Sep-15	30	15.59	33,480	35,075	-4.76%	46%	49%
Oct-15	31	14.46	29,988	28,697	4.31%	40%	39%
Nov-15	29	17.49	38,718	34,980	9.65%	56%	50%
Dec-15	30	17.97	38,433	36,927	3.92%	53%	51%
Total	355	15.25	364,799	364,560	0.07%	43%	43%
Total in OSP (07/15-09/15)	63	13.60	63,901	63,901	0.00%	42%	42%

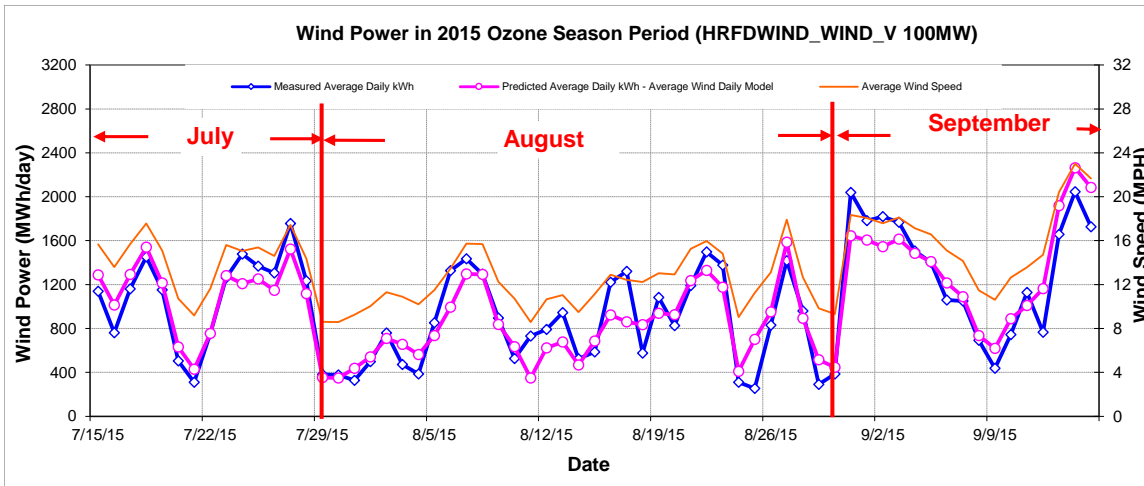


Figure 9-395: HRFDWIND_WIND_V - Predicted Wind Power in OSP Using Average Wind Speed (2015)

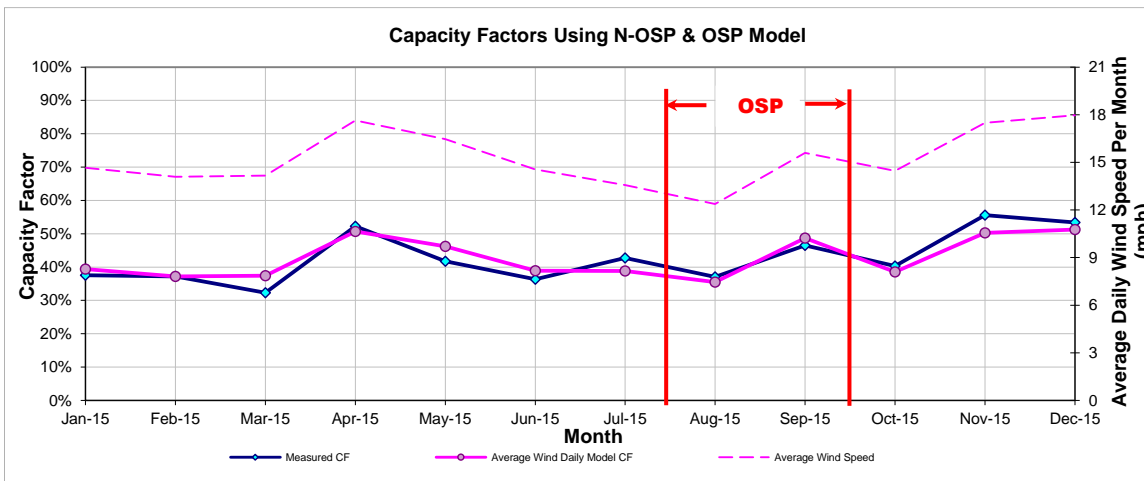


Figure 9-396: HRFDWIND_WIND_V – Predicted Capacity Factors Using Daily Models (2015)

Table 9-380: HRFDWIND_WIND_V – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
251,643	375,075	417	1,014

9.83 Keechi Wind

Table 9-381: Site Information for Keechi Wind

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
BAFFIN_UNIT1	Wind	Sarita	Kenedy	Dec-15	100	Iberdrola Renewables	Penascal Wind Farm 2	Gamesa 2MW G97	ERCOT	South	Coastal Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
BAFFIN_UNIT1	BAFFIN_UNIT1	100

9.83.1 Keechi Wind – KEECHI_U1

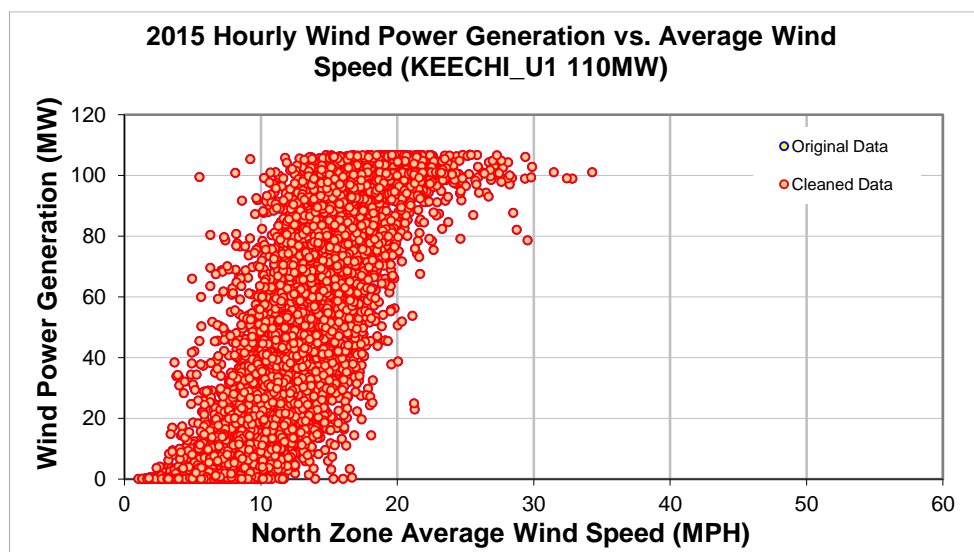


Figure 9-397: KEECHI_U1 - Hourly Wind Power vs. Average Wind Speed (2015)

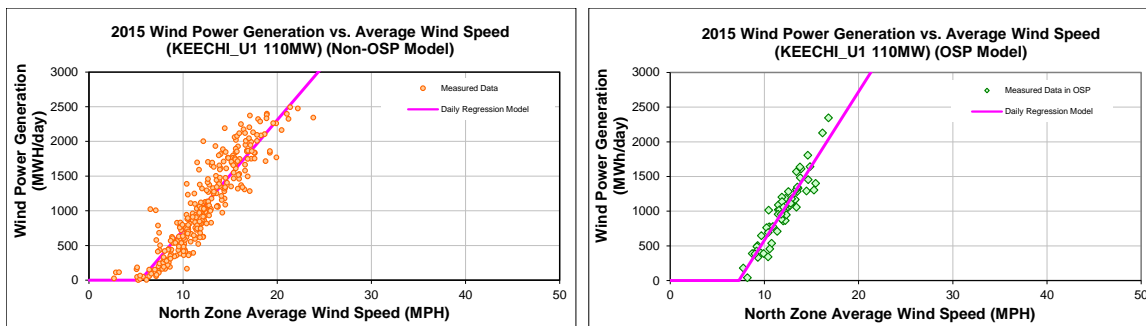


Figure 9-398: KEECHI_U1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-382: KEECHI_U1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-867.8437
Left Slope (MWh/mph-day)	158.8773
RMSE (MWh/day)	260.8905
R2	0.8331
CV-RMSE	23.4%
Daily Maximum (MWh/day)	2640

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1558.5600
Left Slope (MWh/mph-day)	213.9710
RMSE (MWh/day)	163.3702
R2	0.8715
CV-RMSE	16.1%
Daily Maximum (MWh/day)	2640

Table 9-383: KEECHI_U1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone	Average Wind Speed (North) Zone		Average Wind Speed (North) Zone
Jan-15	31	12.58	31,260	35,128	-12.37%	38%	43%
Feb-15	28	12.49	33,407	31,744	4.98%	45%	43%
Mar-15	31	10.61	26,560	26,143	1.57%	32%	32%
Apr-15	30	12.91	37,415	35,513	5.08%	47%	45%
May-15	31	12.07	38,278	32,524	15.03%	47%	40%
Jun-15	30	11.84	29,308	30,417	-3.79%	37%	38%
Jul-15	31	13.82	37,685	41,424	-9.92%	46%	51%
Aug-15	31	11.47	28,634	27,764	3.04%	35%	34%
Sep-15	30	11.64	28,996	29,170	-0.60%	37%	37%
Oct-15	31	12.08	30,463	32,583	-6.96%	37%	40%
Nov-15	30	13.67	40,213	39,155	2.63%	51%	49%
Dec-15	31	13.52	37,624	39,392	-4.70%	46%	48%
Total	365	12.39	399,842	400,955	-0.28%	41%	42%
Total in OSP (07/15-09/15)	63	12.02	63,810	63,810	0.00%	38%	38%

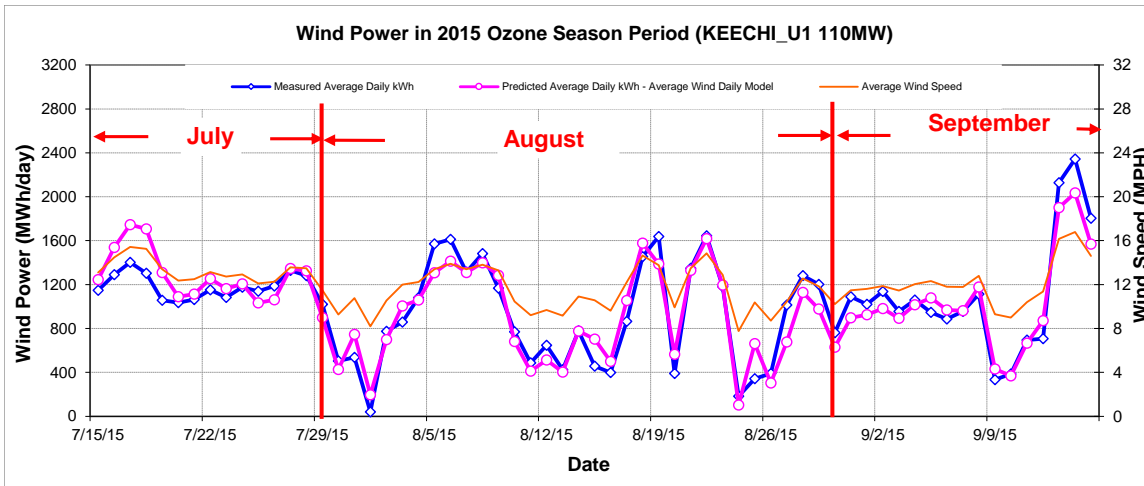


Figure 9-399: KEECHI_U1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

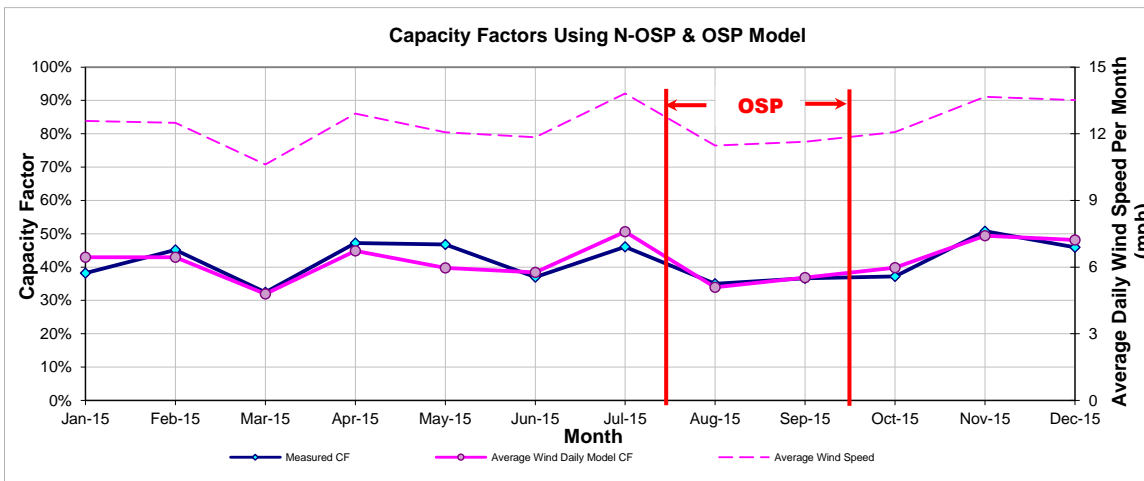


Figure 9-400: KEECHI_U1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-384: KEECHI_U1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
342,038	399,842	416	1,013

9.84 Miami Wind G1

Table 9-385: Site Information for Miami Wind G1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
MIAM1_G1	Wind	-	Gray	Dec-14	144.3	Invenergy	Miami Wind 1 Project	-	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
MIAM1_G1	MIAM1_G1	144.3

9.84.1 Miami Wind G1 – MIAM1_G1

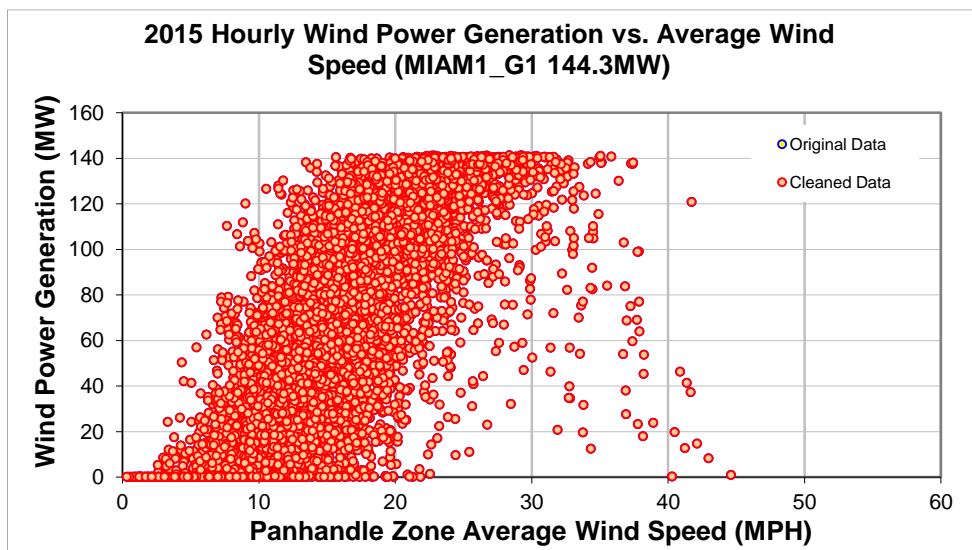


Figure 9-401: MIAM1_G1 - Hourly Wind Power vs. Average Wind Speed (2015)

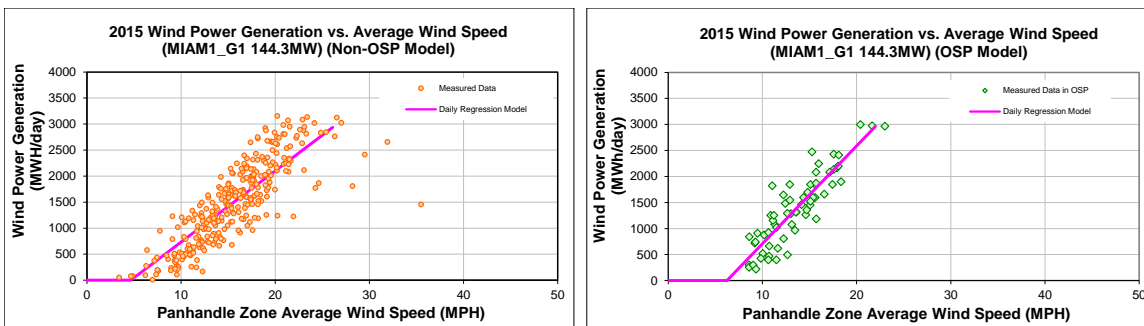


Figure 9-402: MIAM1_G1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-386: MIAM1_G1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-638.9474
Left Slope (MWh/mph-day)	137.0478
RMSE (MWh/day)	437.7024
R2	0.6844
CV-RMSE	29.0%
Daily Maximum (MWh/day)	3463

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1170.7114
Left Slope (MWh/mph-day)	187.7880
RMSE (MWh/day)	324.2996
R2	0.7907
CV-RMSE	23.5%
Daily Maximum (MWh/day)	3463

Table 9-387: MIAM1_G1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	31	14.65	44,605	42,610	4.47%	42%	40%
Feb-15	28	14.09	43,343	36,194	16.50%	45%	37%
Mar-15	31	14.16	36,261	40,341	-11.25%	34%	38%
Apr-15	30	17.64	49,487	53,373	-7.85%	48%	51%
May-15	31	16.47	46,676	50,157	-7.46%	43%	47%
Jun-15	30	15.00	44,011	42,494	3.45%	42%	41%
Jul-15	31	13.57	41,469	40,360	2.67%	39%	38%
Aug-15	31	12.38	37,365	35,757	4.30%	35%	33%
Sep-15	30	15.59	48,698	49,378	-1.40%	47%	48%
Oct-15	31	14.46	39,729	41,619	-4.76%	37%	39%
Nov-15	28	18.06	54,327	51,122	5.90%	56%	53%
Dec-15	31	17.96	54,023	55,726	-3.15%	50%	52%
Total	363	15.32	539,996	539,129	0.16%	43%	43%
Total in OSP (07/15-09/15)	63	13.60	87,092	87,092	0.00%	40%	40%

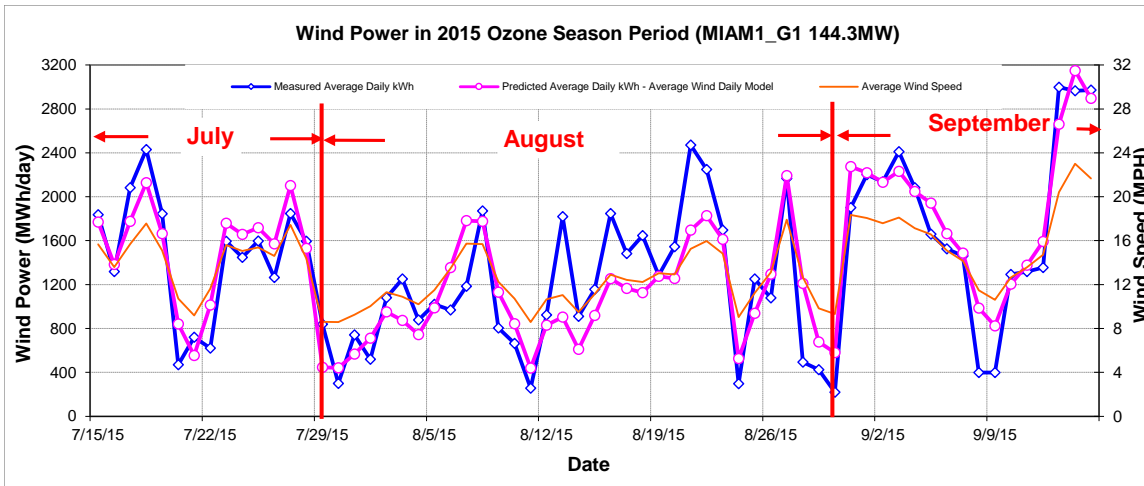


Figure 9-403: MIAM1_G1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

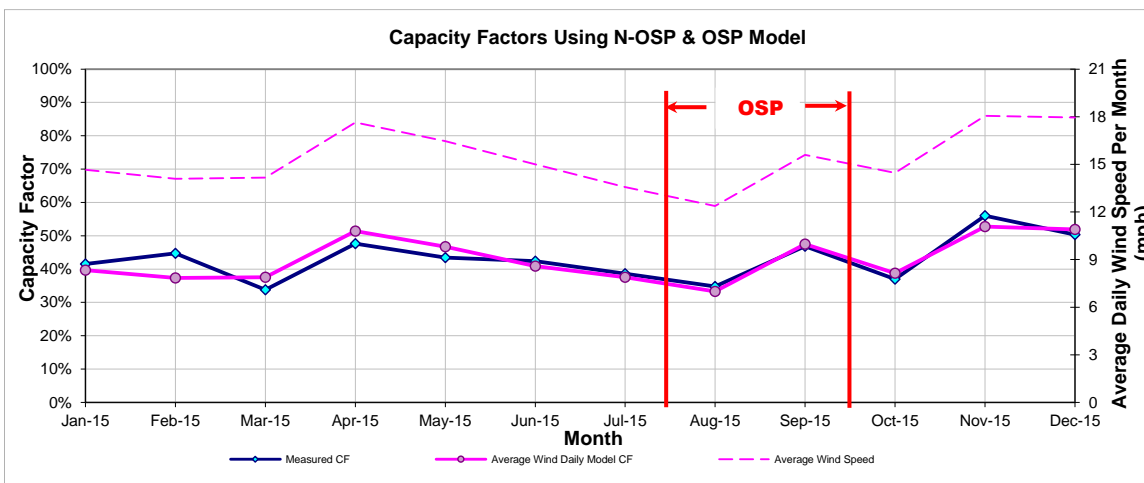


Figure 9-404: MIAM1_G1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-388: MIAM1_G1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
358,219	542,971	542	1,382

9.85 Miami Wind G2

Table 9-389: Site Information for Miami Wind G2

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
MIAM1_G2	Wind	-	Gray	Dec-14	144.3	Invenergy	Miami Wind 1 Project	-	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
MIAM1_G2	MIAM1_G2	144.3

9.85.1 Miami Wind G2 – MIAM1_G2

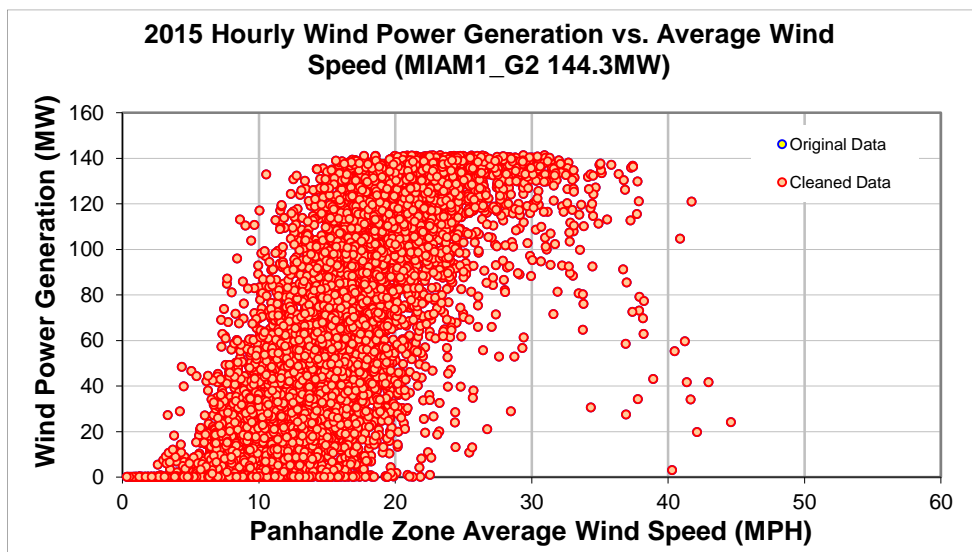


Figure 9-405: MIAM1_G2 - Hourly Wind Power vs. Average Wind Speed (2015)

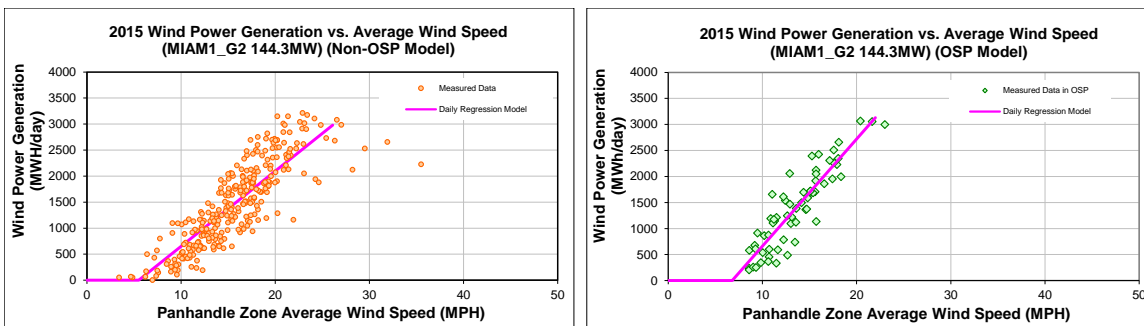


Figure 9-406: MIAM1_G2 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-390: MIAM1_G2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-796.9766
Left Slope (MWh/mph-day)	144.6405
RMSE (MWh/day)	422.6356
R2	0.7215
CV-RMSE	28.7%
Daily Maximum (MWh/day)	3463

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1395.5336
Left Slope (MWh/mph-day)	205.6785
RMSE (MWh/day)	332.2164
R2	0.8120
CV-RMSE	23.7%
Daily Maximum (MWh/day)	3463

Table 9-391: MIAM1_G2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	31	14.65	39,418	41,388	-5.00%	37%	39%
Feb-15	28	14.09	40,038	34,765	13.17%	41%	36%
Mar-15	31	14.16	36,208	38,894	-7.42%	34%	36%
Apr-15	30	17.64	49,458	52,639	-6.43%	48%	51%
May-15	31	16.47	46,067	49,134	-6.66%	43%	46%
Jun-15	30	15.00	44,232	41,169	6.92%	43%	40%
Jul-15	31	13.57	41,822	39,867	4.67%	39%	37%
Aug-15	31	12.38	37,153	35,652	4.04%	35%	33%
Sep-15	30	15.59	50,176	49,708	0.93%	48%	48%
Oct-15	31	14.46	38,771	40,123	-3.49%	36%	37%
Nov-15	28	18.06	53,511	50,452	5.72%	55%	52%
Dec-15	31	17.96	52,603	54,942	-4.45%	49%	51%
Total	363	15.32	529,458	528,733	0.14%	42%	42%
Total in OSP (07/15-09/15)	63	13.60	88,252	88,252	0.00%	40%	40%

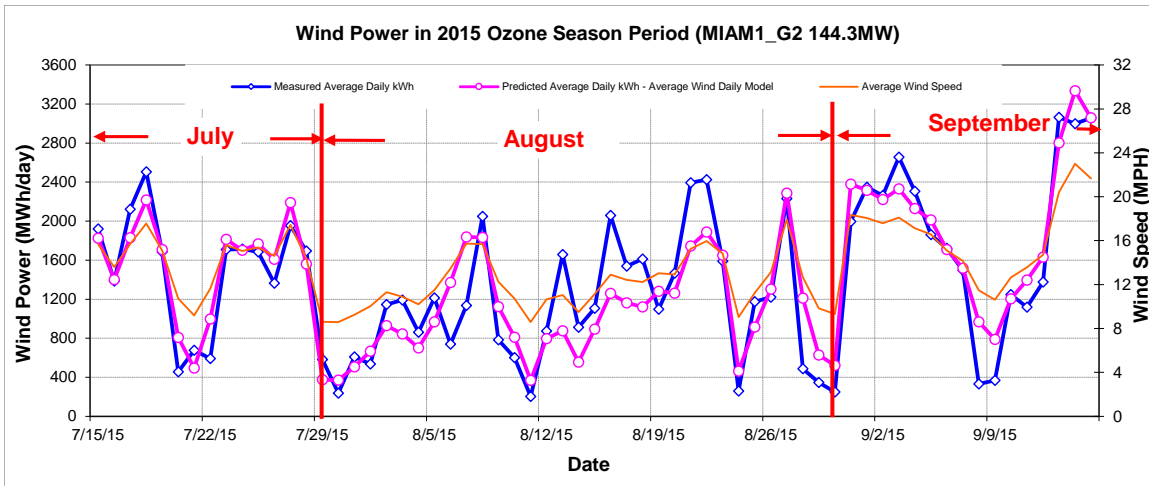


Figure 9-407: MIAM1_G2 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

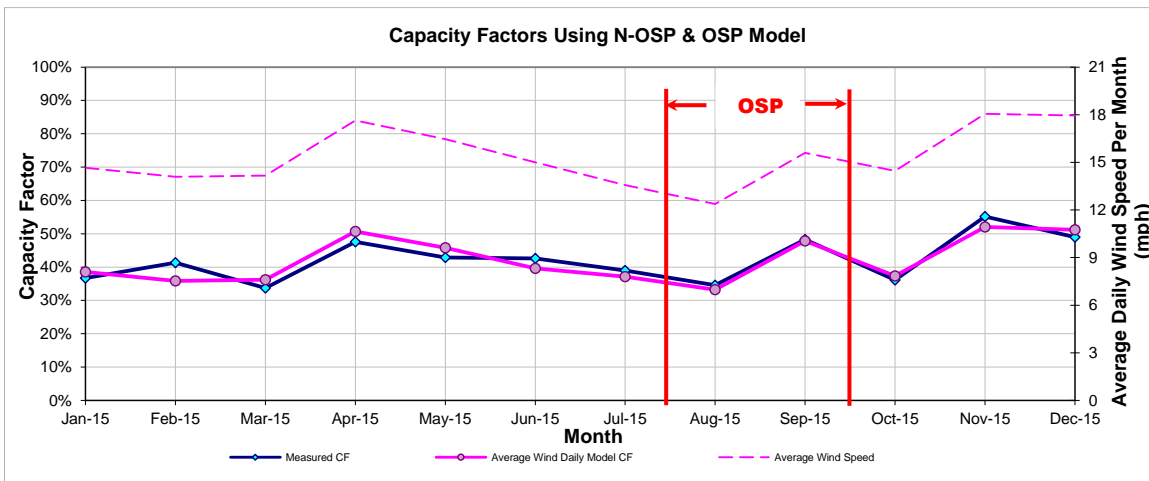


Figure 9-408: MIAM1_G2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-392: MIAM1_G2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
336,959	532,376	503	1,401

9.86 Panhandle Wind 1 U1

Table 9-393: Site Information for Panhandle Wind 1 U1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PH1_UNIT1	Wind	-	Carson	Jul-14	109.2	Pattern Energy	Panhandle Wind 1	GE	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PH1_UNIT1	PH1_UNIT1	109.2

9.86.1 Panhandle Wind 1 U1 – PH1_UNIT1

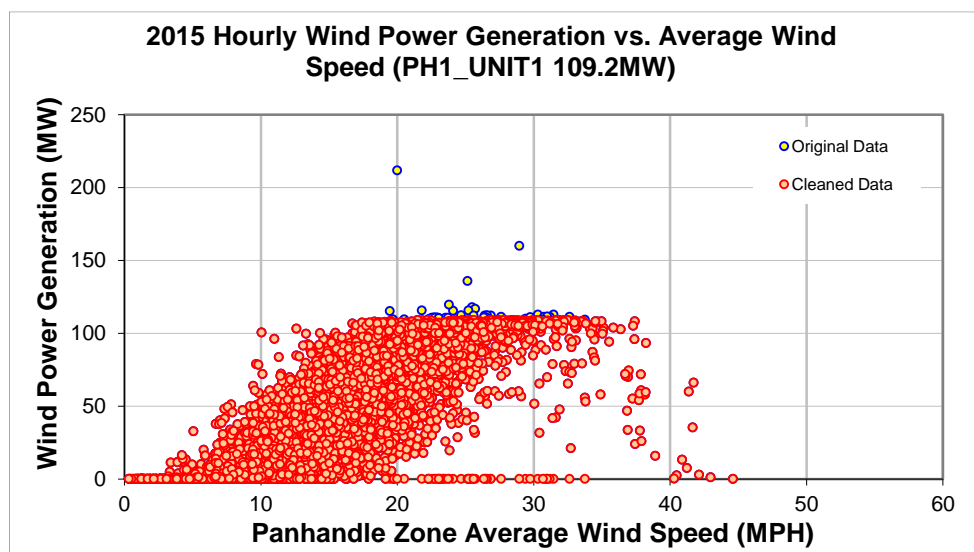


Figure 9-409: PH1_UNIT1 - Hourly Wind Power vs. Average Wind Speed (2015)

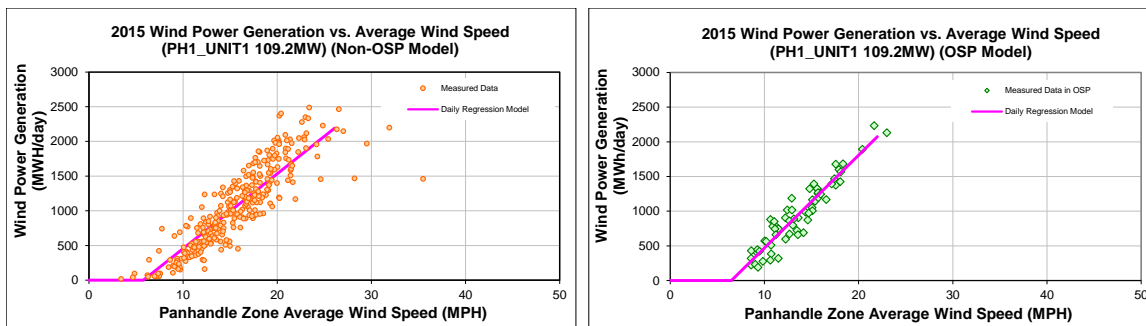


Figure 9-410: PH1_UNIT1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-394: PH1_UNIT1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-622.7675
Left Slope (MWh/mph-day)	107.8111
RMSE (MWh/day)	280.0033
R2	0.7663
CV-RMSE	26.2%
Daily Maximum (MWh/day)	2621

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-868.7953
Left Slope (MWh/mph-day)	133.7069
RMSE (MWh/day)	154.9117
R2	0.8936
CV-RMSE	16.3%
Daily Maximum (MWh/day)	2621

Table 9-395: PH1_UNIT1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	31	14.65	31,482	30,016	4.65%	39%	37%
Feb-15	28	14.09	29,244	25,109	14.14%	40%	34%
Mar-15	31	14.16	26,427	28,129	-6.44%	33%	35%
Apr-15	30	17.64	35,972	38,383	-6.70%	46%	49%
May-15	31	16.47	32,829	35,733	-8.85%	40%	44%
Jun-15	30	15.00	30,872	29,824	3.39%	39%	38%
Jul-15	31	13.57	29,978	27,758	7.41%	37%	34%
Aug-15	31	12.38	25,898	24,367	5.91%	32%	30%
Sep-15	30	15.59	32,500	34,392	-5.82%	41%	44%
Oct-15	31	14.46	27,901	29,016	-4.00%	34%	36%
Nov-15	28	18.06	38,218	36,869	3.53%	52%	50%
Dec-15	31	17.96	38,715	40,130	-3.65%	48%	49%
Total	363	15.32	380,037	379,727	0.08%	40%	40%
Total in OSP (07/15-09/15)	63	13.60	59,790	59,790	0.00%	36%	36%

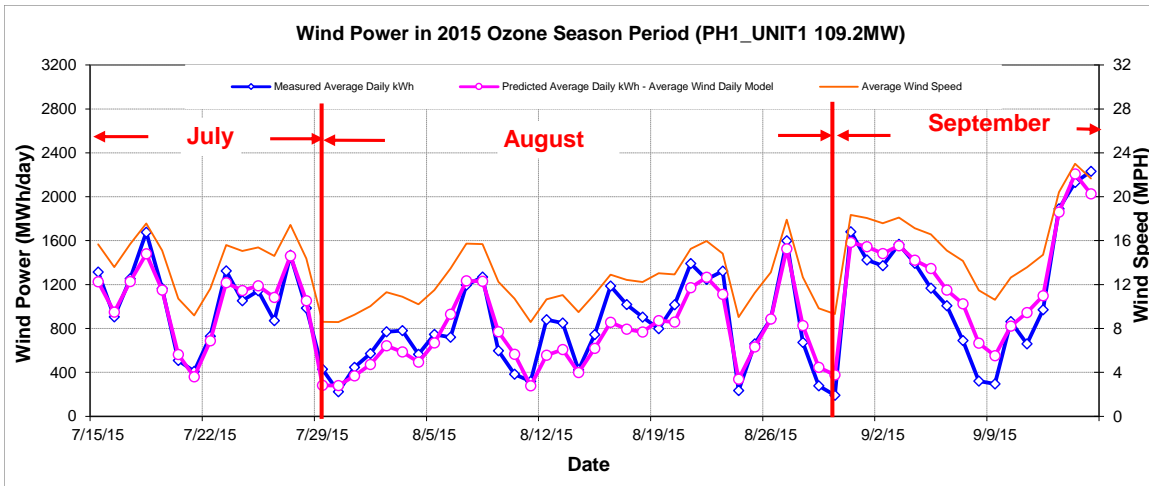


Figure 9-411: PH1_UNIT1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

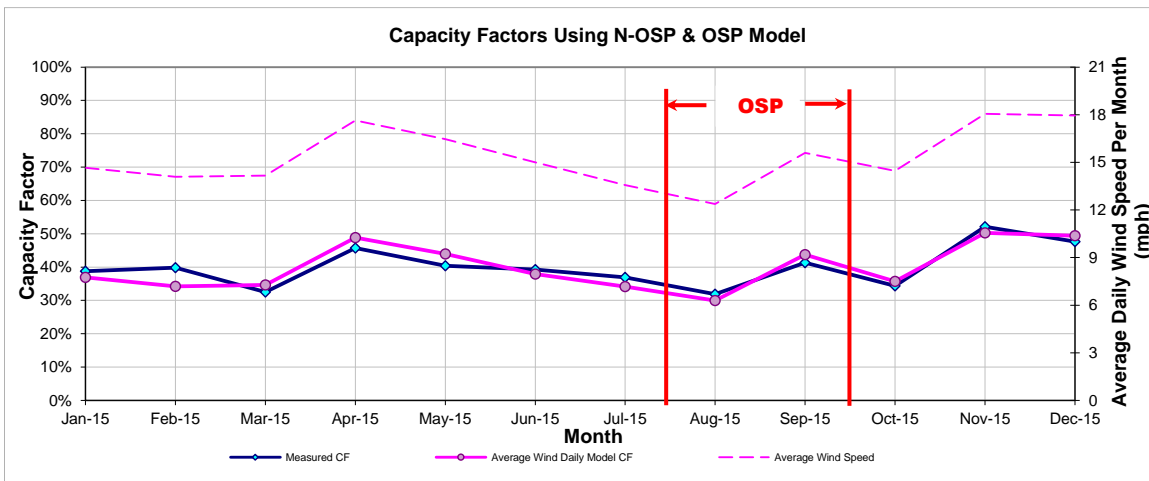


Figure 9-412: PH1_UNIT1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-396: PH1_UNIT1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
241,554	382,131	357	949

9.87 Panhandle Wind 1 U2

Table 9-397: Site Information for Panhandle Wind 1 U2

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PH1_UNIT2	Wind	-	Carson	Jul-14	109.2	Pattern Energy	Panhandle Wind 1	GE	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PH1_UNIT2	PH1_UNIT2	109.2

9.87.1 Panhandle Wind 1 U2 – PH1_UNIT2

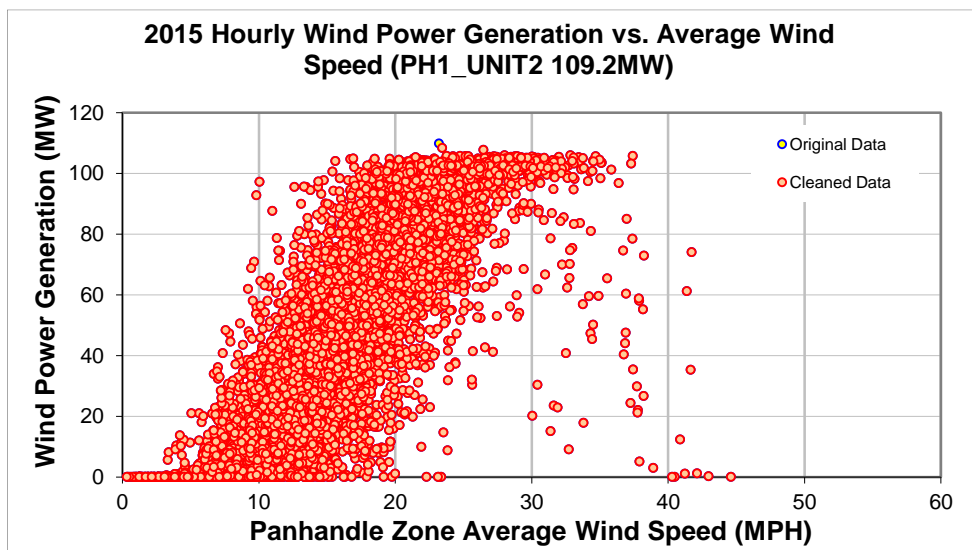


Figure 9-413: PH1_UNIT2 - Hourly Wind Power vs. Average Wind Speed (2015)

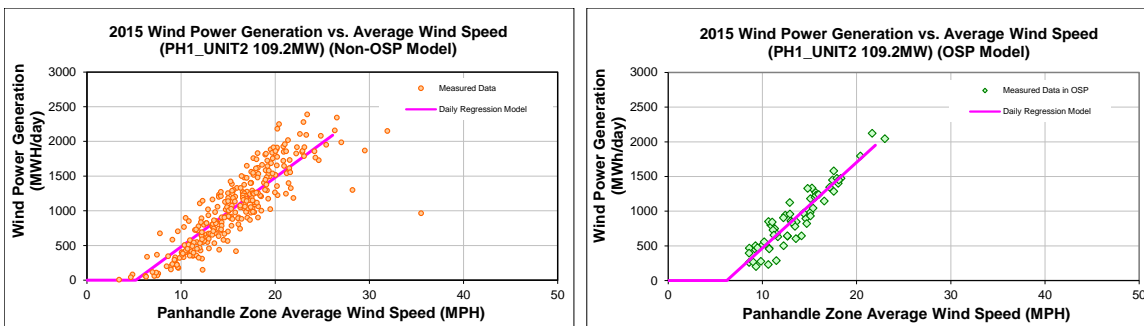


Figure 9-414: PH1_UNIT2 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-398: PH1_UNIT2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-519.1935
Left Slope (MWh/mph-day)	99.9290
RMSE (MWh/day)	269.1146
R2	0.7531
CV-RMSE	25.7%
Daily Maximum (MWh/day)	2621

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-768.1812
Left Slope (MWh/mph-day)	123.6019
RMSE (MWh/day)	157.3769
R2	0.8742
CV-RMSE	17.3%
Daily Maximum (MWh/day)	2621

Table 9-399: PH1_UNIT2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	31	14.65	31,879	29,505	7.45%	39%	36%
Feb-15	28	14.09	29,759	24,898	16.33%	41%	34%
Mar-15	31	14.16	26,295	27,814	-5.78%	32%	34%
Apr-15	30	17.64	35,903	37,318	-3.94%	46%	47%
May-15	31	16.47	32,316	34,920	-8.06%	40%	43%
Jun-15	30	15.00	30,207	29,385	2.72%	38%	37%
Jul-15	31	13.57	28,863	27,096	6.12%	36%	33%
Aug-15	31	12.38	25,317	23,609	6.75%	31%	29%
Sep-15	30	15.59	30,964	33,224	-7.30%	39%	42%
Oct-15	31	14.46	26,924	28,694	-6.58%	33%	35%
Nov-15	28	18.06	36,495	35,933	1.54%	50%	49%
Dec-15	31	17.96	36,798	39,129	-6.34%	45%	48%
Total	363	15.32	371,720	371,526	0.05%	39%	39%
Total in OSP (07/15-09/15)	63	13.60	57,474	57,474	0.00%	35%	35%

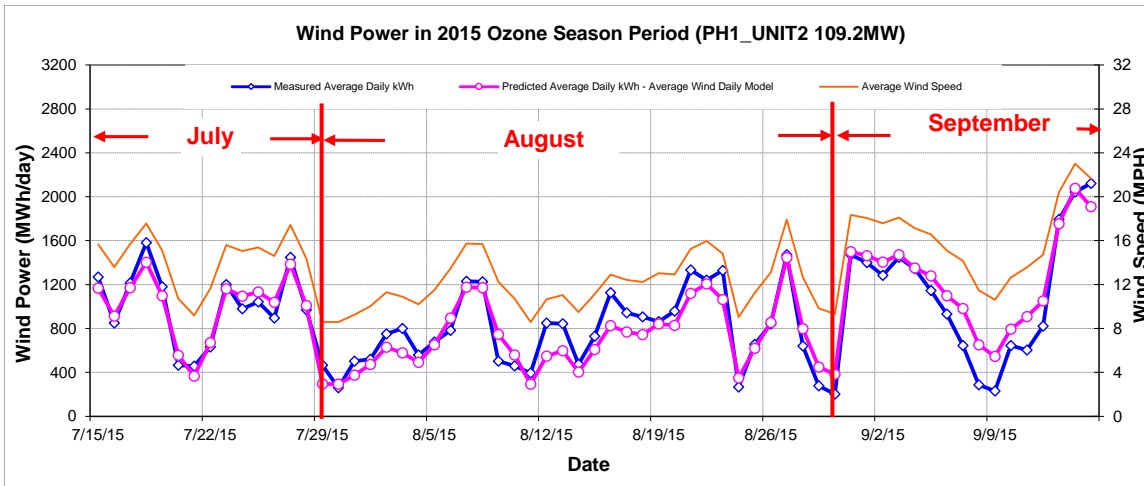


Figure 9-415: PH1_UNIT2 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

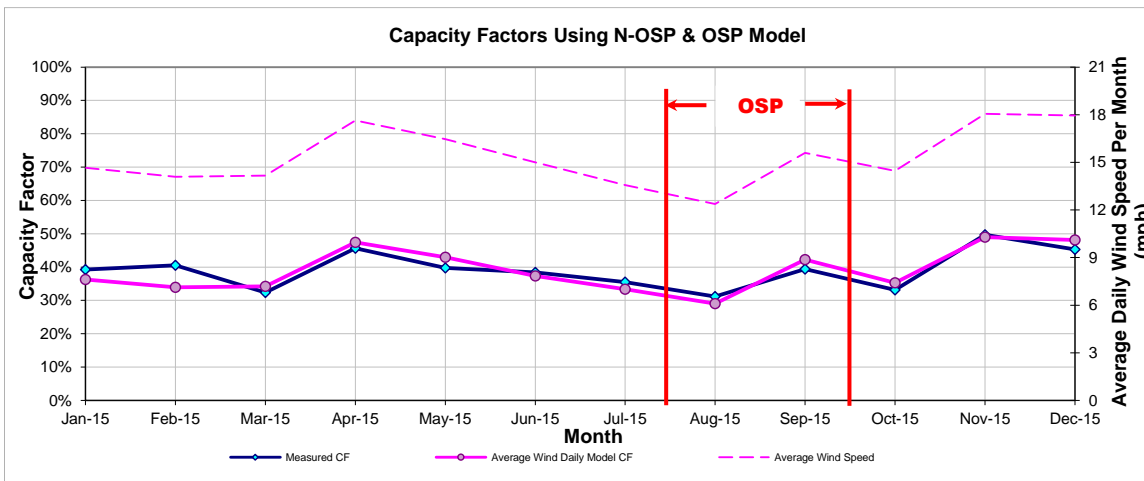


Figure 9-416: PH1_UNIT2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-400: PH1_UNIT2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
242,918	373,768	359	912

9.88 Panhandle Wind 2 U1

Table 9-401: Site Information for Panhandle Wind 2 U1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PH2_UNIT1	Wind	-	Carson	Nov-14	94.2	Pattern Energy	Panhandle Wind 1	Siemens	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PH2_UNIT1	PH2_UNIT1	94.2

9.88.1 Panhandle Wind 2 U1 – PH2_UNIT1

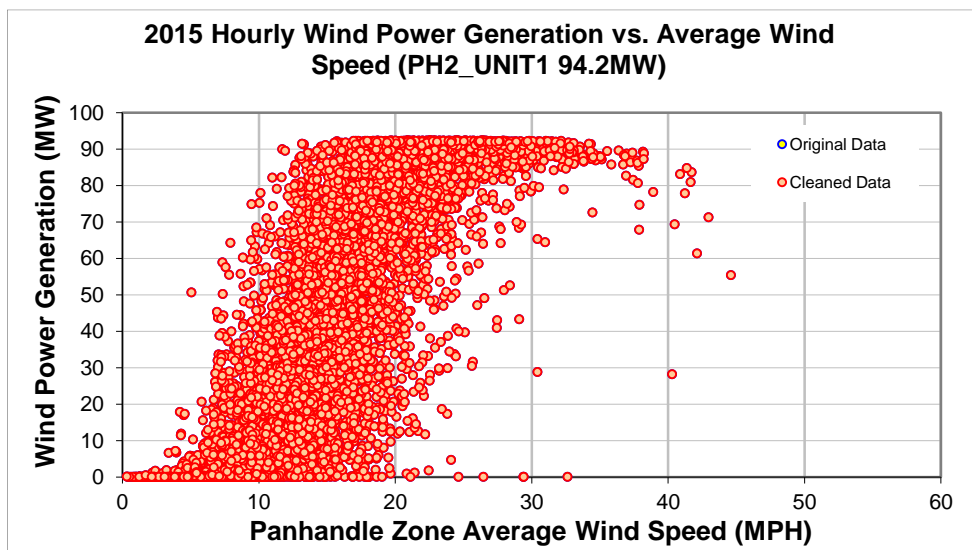


Figure 9-417: PH2_UNIT1 - Hourly Wind Power vs. Average Wind Speed (2015)

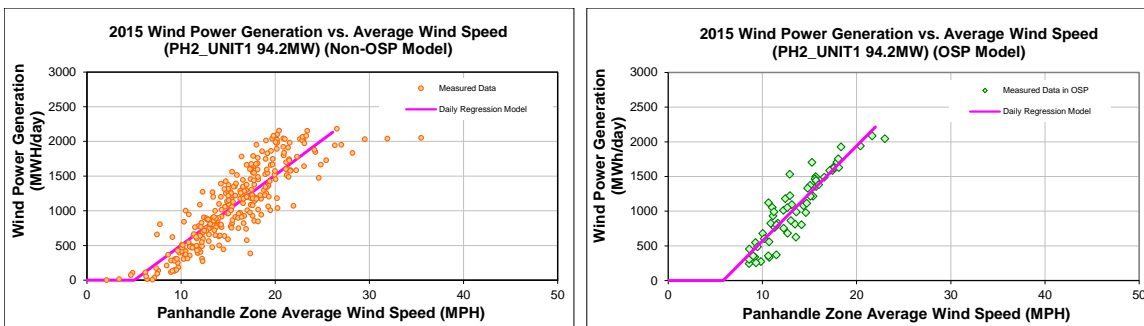


Figure 9-418: PH2_UNIT1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-402: PH2_UNIT1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-509.4864
Left Slope (MWh/mph-day)	101.2125
RMSE (MWh/day)	272.6943
R2	0.7574
CV-RMSE	25.4%
Daily Maximum (MWh/day)	2261

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-800.6771
Left Slope (MWh/mph-day)	137.0206
RMSE (MWh/day)	201.4333
R2	0.8391
CV-RMSE	19.0%
Daily Maximum (MWh/day)	2261

Table 9-403: PH2_UNIT1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	31	14.65	29,804	30,359	-1.86%	43%	43%
Feb-15	28	14.09	27,534	25,677	6.75%	43%	41%
Mar-15	31	14.16	27,621	28,662	-3.77%	39%	41%
Apr-15	30	17.64	36,885	38,070	-3.21%	54%	56%
May-15	31	16.47	33,538	35,876	-6.97%	48%	51%
Jun-15	30	15.00	33,067	30,254	8.51%	49%	45%
Jul-15	31	13.57	32,314	29,987	7.20%	46%	43%
Aug-15	31	12.38	29,870	27,750	7.10%	43%	40%
Sep-15	30	15.59	35,670	36,363	-1.94%	53%	54%
Oct-15	31	14.46	28,900	29,571	-2.32%	41%	42%
Nov-15	29	17.51	37,442	36,443	2.67%	57%	56%
Dec-15	31	17.96	37,174	39,643	-6.64%	53%	57%
Total	364	15.28	389,819	388,654	0.30%	47%	47%
Total in OSP (07/15-09/15)	63	13.60	66,920	66,830	0.14%	47%	47%

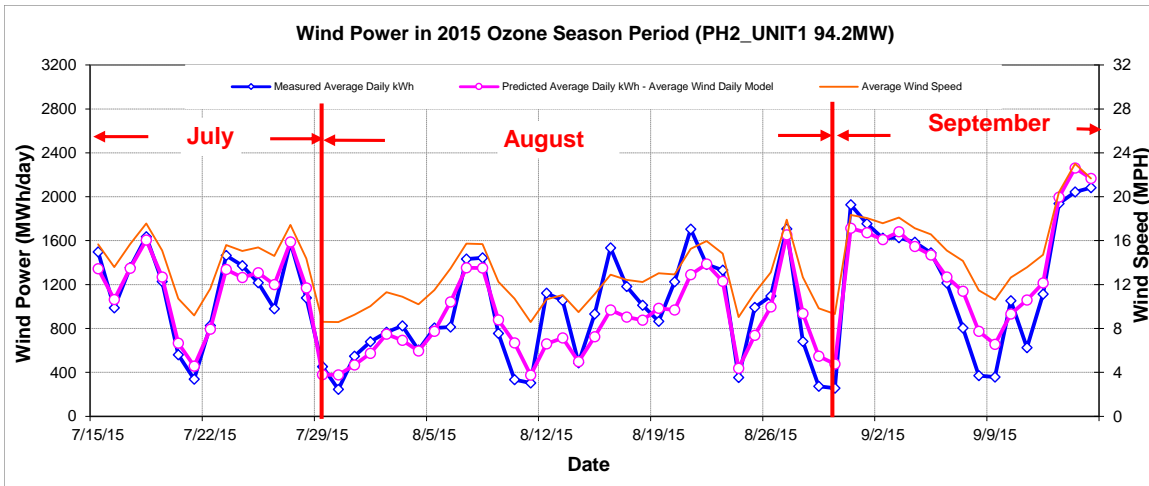


Figure 9-419: PH2_UNIT1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

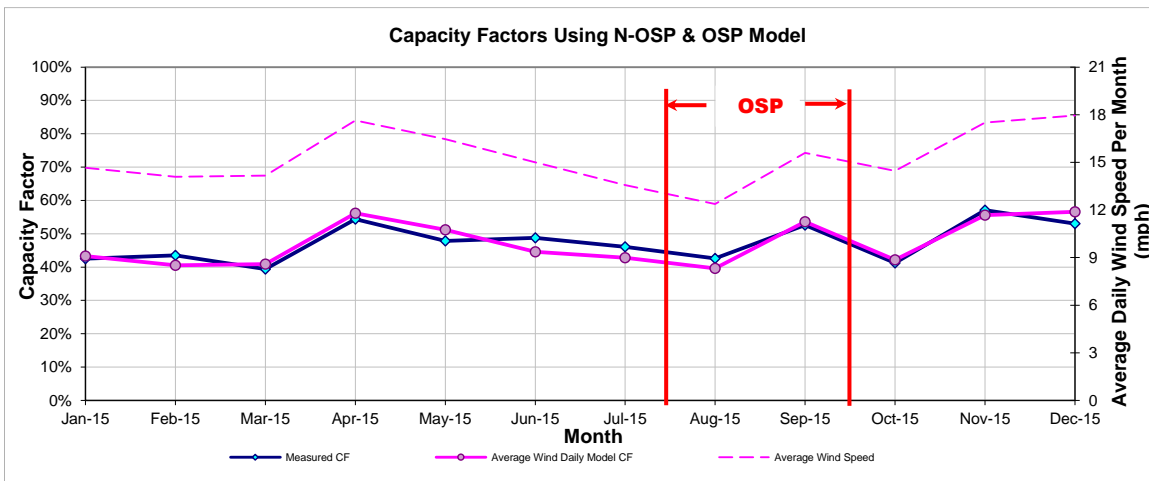


Figure 9-420: PH2_UNIT1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-404: PH2_UNIT1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
255,964	390,890	444	1,062

9.89 Panhandle Wind 2 U2

Table 9-405: Site Information for Panhandle Wind 2 U2

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
PH2_UNIT2	Wind	-	Carson	Nov-14	96.6	Pattern Energy	Panhandle Wind 1	Siemens	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
PH2_UNIT2	PH2_UNIT2	96.6

9.89.1 Panhandle Wind 2 U2 – PH2_UNIT2

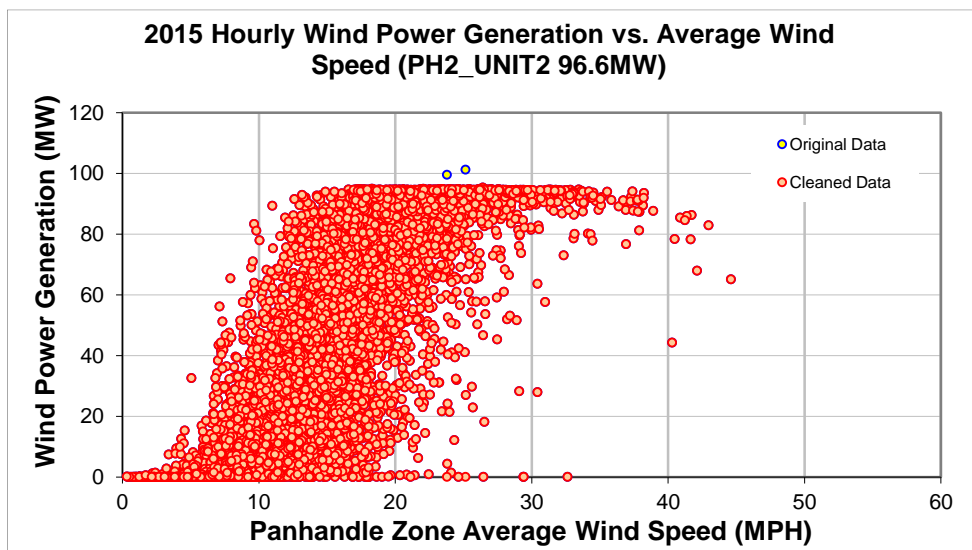


Figure 9-421: PH2_UNIT2 - Hourly Wind Power vs. Average Wind Speed (2015)

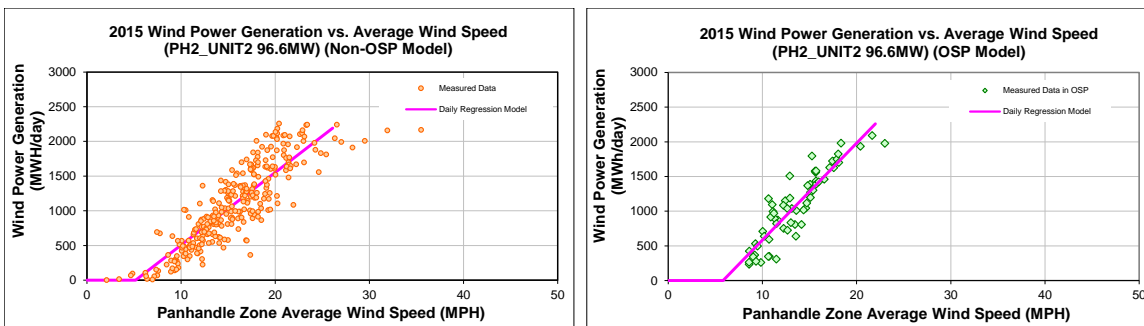


Figure 9-422: PH2_UNIT2 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-406: PH2_UNIT2 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-540.2861
Left Slope (MWh/mph-day)	104.6661
RMSE (MWh/day)	284.1704
R2	0.7545
CV-RMSE	25.9%
Daily Maximum (MWh/day)	2318

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-811.9468
Left Slope (MWh/mph-day)	139.5266
RMSE (MWh/day)	217.8898
R2	0.8221
CV-RMSE	20.1%
Daily Maximum (MWh/day)	2318

Table 9-407: PH2_UNIT2 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	31	14.65	29,934	31,006	-3.58%	42%	43%
Feb-15	28	14.09	27,210	26,177	3.79%	42%	40%
Mar-15	31	14.16	27,890	29,238	-4.83%	39%	41%
Apr-15	30	17.64	38,059	38,960	-2.37%	55%	56%
May-15	31	16.47	34,638	36,684	-5.91%	48%	51%
Jun-15	30	15.00	33,858	30,884	8.78%	49%	44%
Jul-15	31	13.57	32,993	30,601	7.25%	46%	43%
Aug-15	31	12.38	30,583	28,362	7.26%	43%	39%
Sep-15	30	15.59	35,511	37,127	-4.55%	51%	53%
Oct-15	31	14.46	29,735	30,164	-1.44%	41%	42%
Nov-15	29	17.51	39,119	37,304	4.64%	58%	55%
Dec-15	31	17.96	38,706	40,567	-4.81%	54%	56%
Total	364	15.28	398,236	397,074	0.29%	47%	47%
Total in OSP (07/15-09/15)	63	13.60	68,357	68,277	0.12%	47%	47%

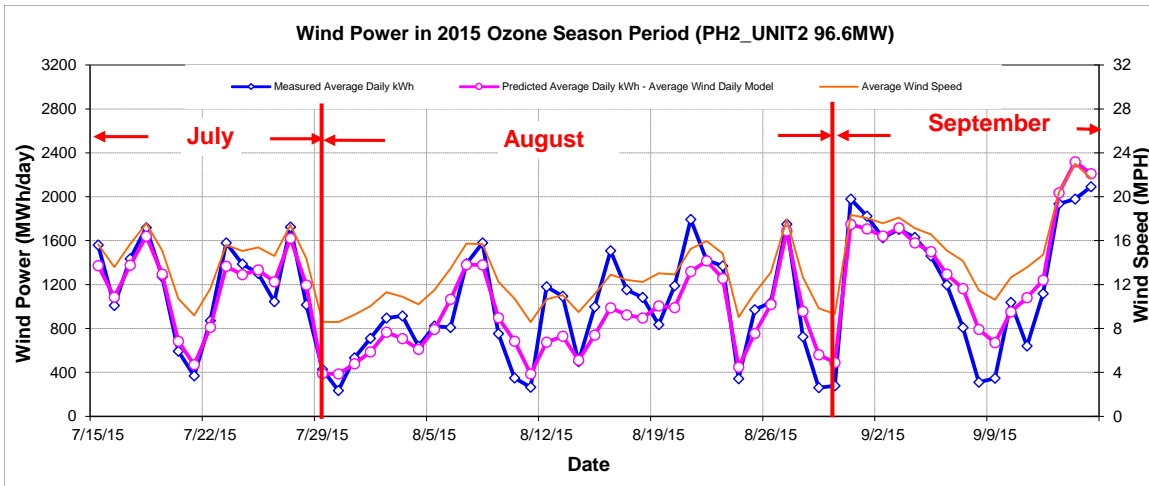


Figure 9-423: PH2_UNIT2 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

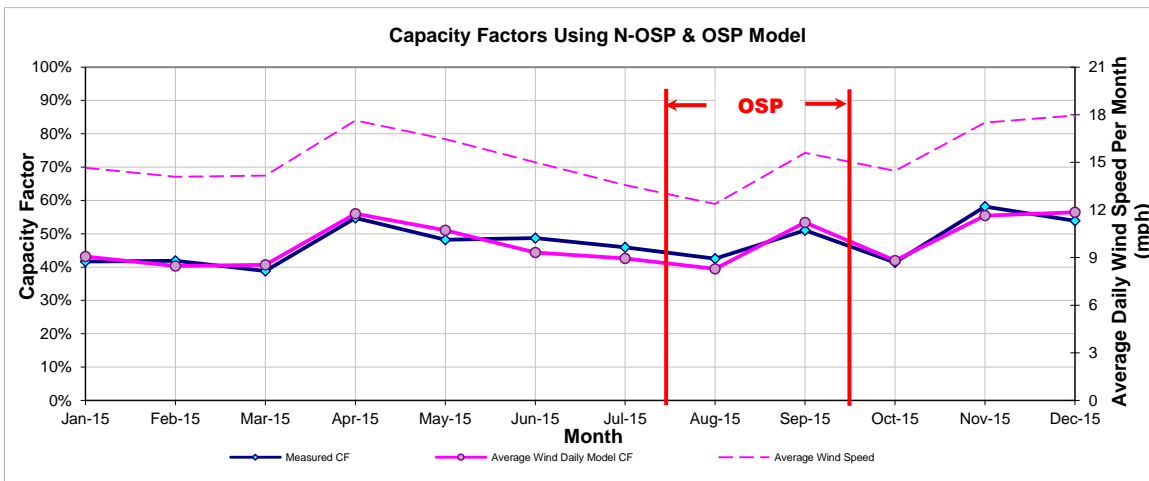


Figure 9-424: PH2_UNIT2 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-408: PH2_UNIT2 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
260,435	399,330	455	1,085

9.90 Stephens Ranch Wind 1

Table 9-409: Site Information for Stephens Ranch Wind 1

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
SRWE1_UNIT1	Wind	-	Borden	Dec-14	211.2	Wind Tex Energy	Stephens Ranch Wind Phase 1	GE 1.79-MW	ERCOT	West	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SRWE1_UNIT1	SRWE1_UNIT1	211.2

9.90.1 Stephens Ranch Wind 1 – SRWE1_UNIT1

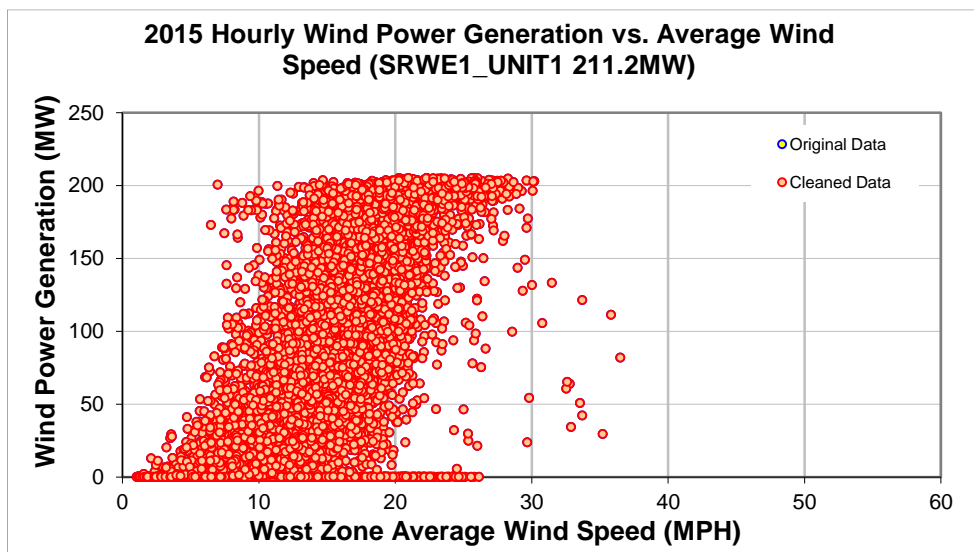


Figure 9-425: SRWE1_UNIT1 - Hourly Wind Power vs. Average Wind Speed (2015)

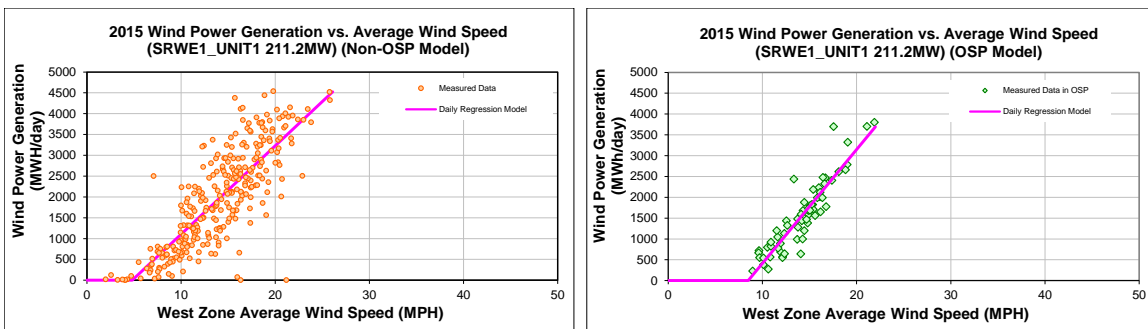


Figure 9-426: SRWE1_UNIT1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-410: SRWE1_UNIT1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1023.1407
Left Slope (MWh/mph-day)	212.5089
RMSE (MWh/day)	689.8198
R2	0.6556
CV-RMSE	35.0%
Daily Maximum (MWh/day)	5069

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-2323.5431
Left Slope (MWh/mph-day)	273.5510
RMSE (MWh/day)	347.1433
R2	0.8366
CV-RMSE	22.1%
Daily Maximum (MWh/day)	5069

Table 9-411: SRWE1_UNIT1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	30	11.42	55,805	43,045	22.87%	37%	28%
Feb-15	27	14.16	60,728	54,081	10.95%	44%	40%
Mar-15	31	11.39	37,551	43,576	-16.05%	24%	28%
Apr-15	24	14.81	47,952	50,982	-6.32%	39%	42%
May-15	31	16.18	75,443	74,848	0.79%	48%	48%
Jun-15	30	14.18	56,872	59,687	-4.95%	37%	39%
Jul-15	31	15.36	53,153	63,035	-18.59%	34%	40%
Aug-15	31	13.34	42,396	41,078	3.11%	27%	26%
Sep-15	30	14.14	49,542	53,695	-8.38%	33%	35%
Oct-15	31	13.95	53,718	60,193	-12.05%	34%	38%
Nov-15	30	15.20	69,851	66,576	4.69%	46%	44%
Dec-15	31	15.34	75,031	69,319	7.61%	48%	44%
Total	357	14.11	678,042	680,115	-0.31%	37%	38%
Total in OSP (07/15-09/15)	63	14.23	98,805	98,805	0.00%	31%	31%

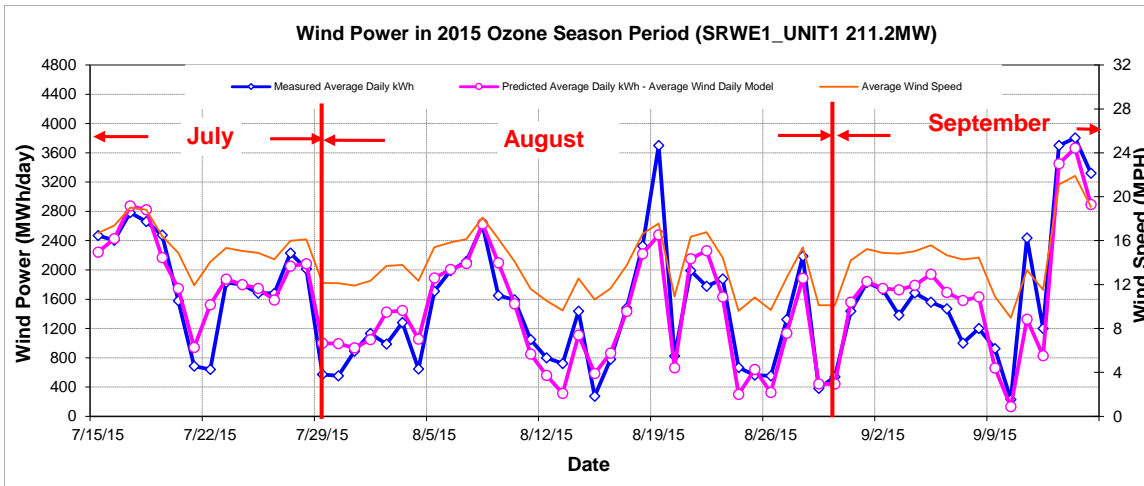


Figure 9-427: SRWE1_UNIT1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

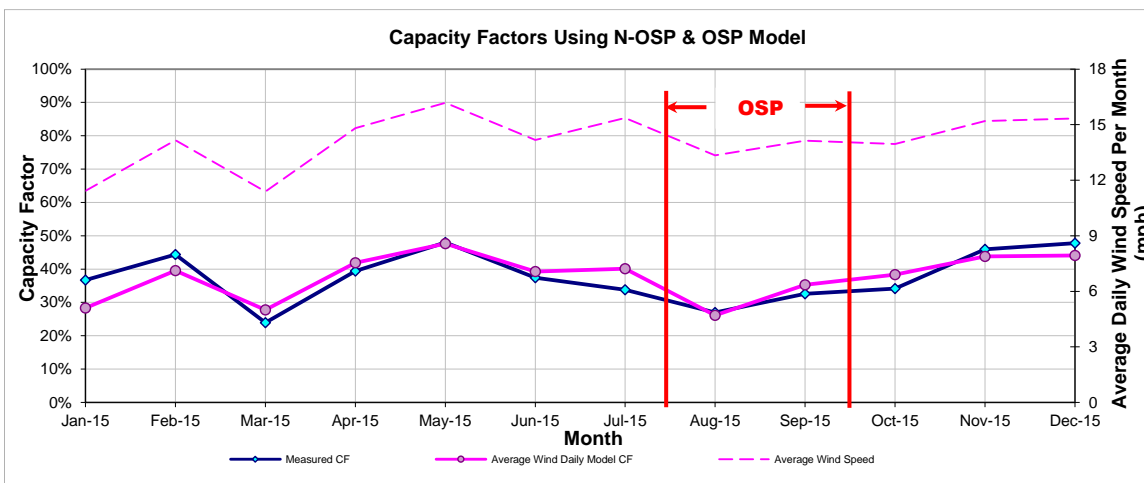


Figure 9-428: SRWE1_UNIT1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-412: SRWE1_UNIT1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
514,807	693,237	343	1,568

9.91 Spinning Spur Wind Two

Table 9-413: Site Information for Spinning Spur Wind Two

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
SSPURTWO_WIND_1	Wind	-	Oldham	Jun-14	161	EDF Renewable	Spinning Spur Wind II	Siemens 2.3 MW	ERCOT	West	Panhandle Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
SSPURTWO_WIND_1	SSPURTWO_WIND_1	161

9.91.1 Spinning Spur Wind Two – SSPURTWO_WIND_1

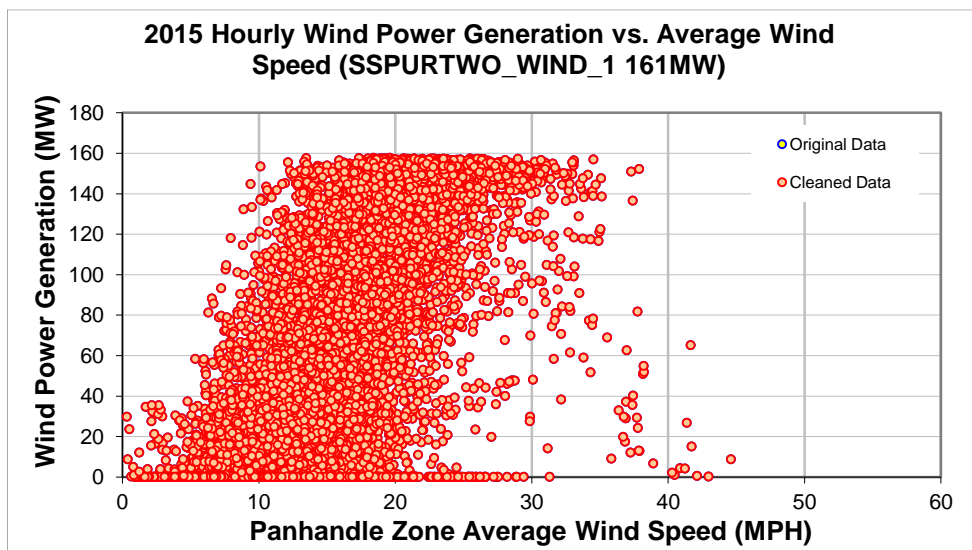


Figure 9-429: SSPURTWO_WIND_1 - Hourly Wind Power vs. Average Wind Speed (2015)

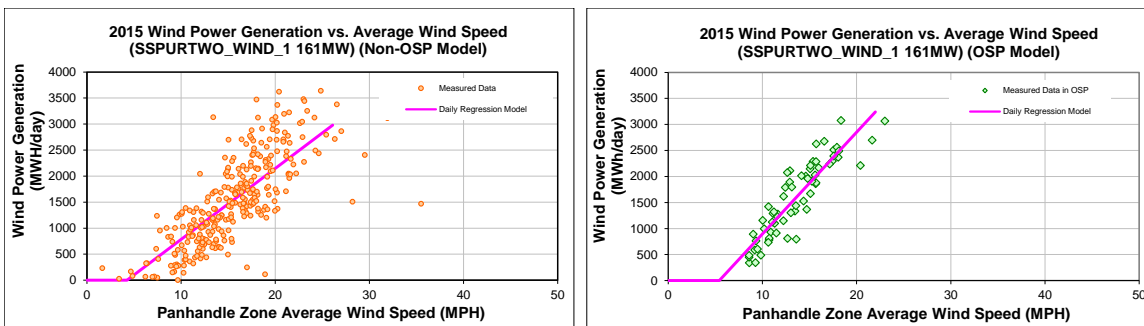


Figure 9-430: SSPURTWO_WIND_1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non OSP Model)

Table 9-414: SSPUR TWO_WIND_1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-582.3108
Left Slope (MWh/mph-day)	136.4297
RMSE (MWh/day)	552.9282
R2	0.5817
CV-RMSE	35.8%
Daily Maximum (MWh/day)	3864

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-1057.4888
Left Slope (MWh/mph-day)	195.3341
RMSE (MWh/day)	323.4518
R2	0.8043
CV-RMSE	20.2%
Daily Maximum (MWh/day)	3864

Table 9-415: SSPUR TWO_WIND_1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone	Average Wind Speed (Panhandle) Zone		Average Wind Speed (Panhandle) Zone
Jan-15	31	14.65	41,366	44,031	-6.44%	35%	37%
Feb-15	28	14.09	39,269	37,535	4.42%	36%	35%
Mar-15	31	14.16	38,228	41,825	-9.41%	32%	35%
Apr-15	30	17.64	52,923	54,745	-3.44%	46%	47%
May-15	31	16.47	49,738	51,597	-3.74%	42%	43%
Jun-15	30	15.00	45,675	43,915	3.85%	39%	38%
Jul-15	31	13.57	48,134	44,680	7.18%	40%	37%
Aug-15	31	12.38	45,011	42,162	6.33%	38%	35%
Sep-15	30	15.59	55,246	53,635	2.92%	48%	46%
Oct-15	31	14.46	42,333	43,098	-1.81%	35%	36%
Nov-15	29	17.49	58,941	52,667	10.64%	53%	47%
Dec-15	24	18.08	37,774	44,822	-18.66%	41%	48%
Total	357	15.23	554,638	554,712	-0.01%	40%	40%
Total in OSP (07/15-09/15)	63	13.60	100,689	100,689	0.00%	41%	41%

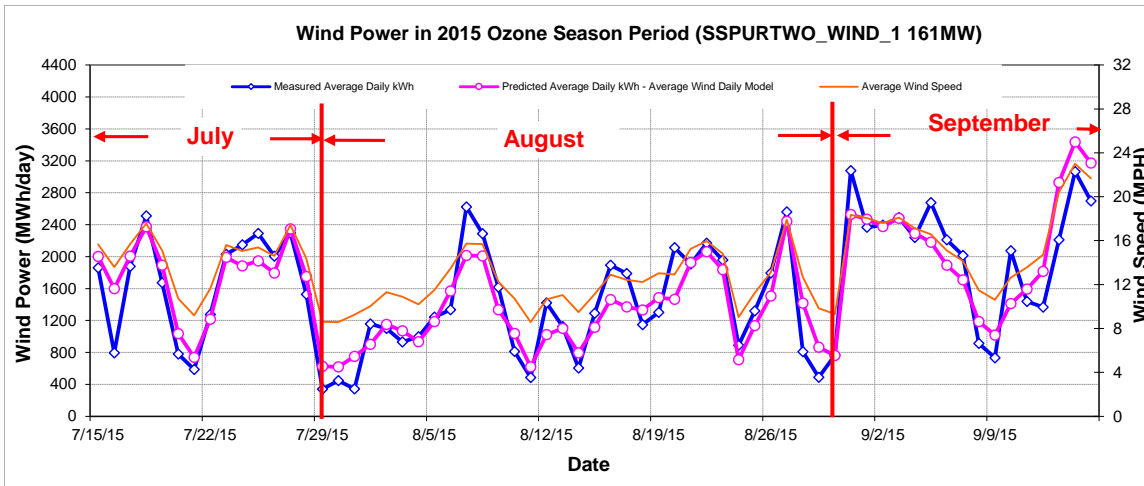


Figure 9-431: SSPUR TWO_WIND_1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

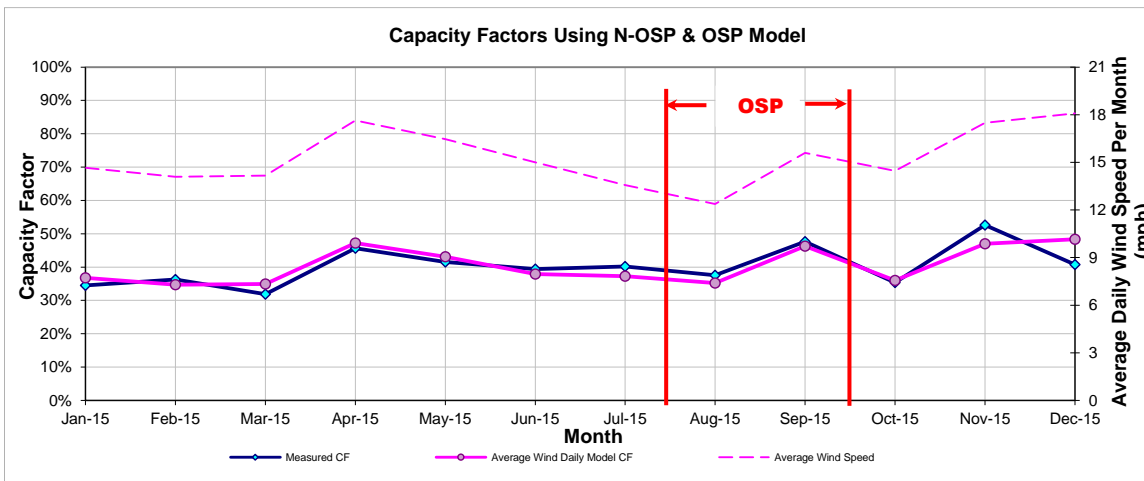


Figure 9-432: SSPUR TWO_WIND_1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-416: SSPUR TWO_WIND_1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
383,608	567,067	713	1,598

9.92 Windthorst 2 Wind

Table 9-417: Site Information for Windthorst 2 Wind

GENSITECODE_ERCOT	Renewable Energy	City	County	Date in Service	Capacity (MW)	Company	Facility	Wind Turbine Information	Region	CM Zones	Wind Speed Information
WNDTHST2_UNIT1	Wind	-	Archer	Dec-14	67.6	OwnEnergy	Windthorst 2	Siemens 2.4 MW	ERCOT	North	West Zone Average Wind Speed

SUBGENCODE_ERCOT	GENSITECODE_ERCOT	Capacity (MW)
WNDTHST2_UNIT1	WNDTHST2_UNIT1	67.6

9.92.1 Windthorst 2 Wind – WNDTHST2_UNIT1

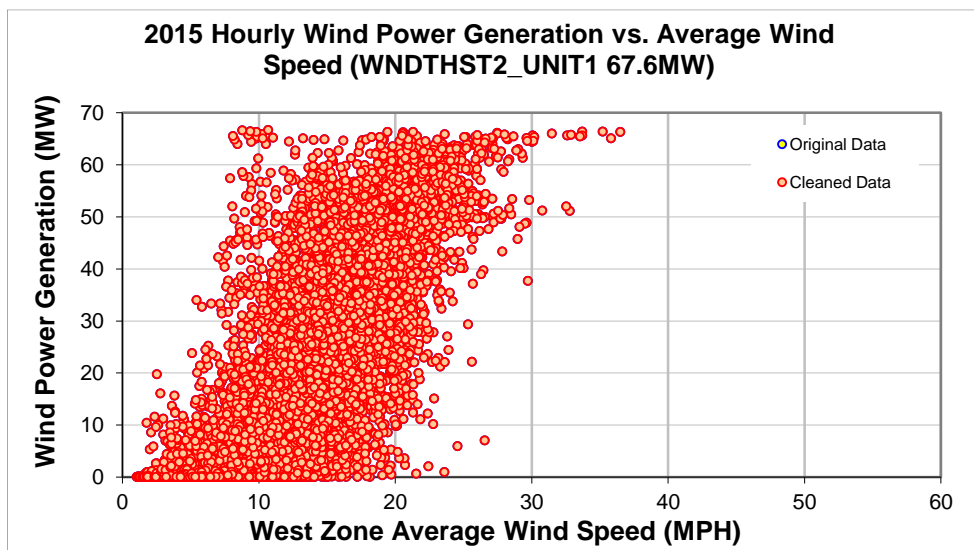


Figure 9-433: WNDTHST2_UNIT1 - Hourly Wind Power vs. Average Wind Speed (2015)

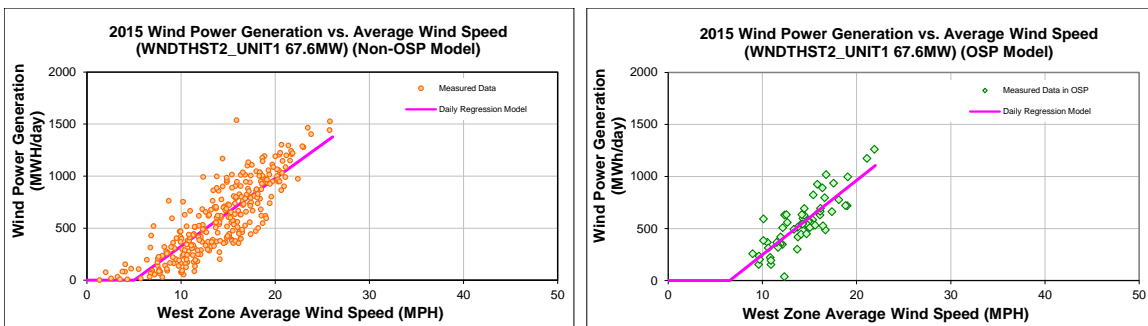


Figure 9-434: WNDTHST2_UNIT1 - Daily Wind Power vs. Average Wind Speed (Using OSP and Non-OSP Model)

Table 9-418: WNDTHST2_UNIT1 – Model Coefficients

Using Non-OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-326.8771
Left Slope (MWh/mph-day)	65.3098
RMSE (MWh/day)	187.9609
R2	0.7153
CV-RMSE	31.7%
Daily Maximum (MWh/day)	1622

Using OSP Model:

IMT Coefficient	Average Wind Daily Model
YCP (MWh/day)	-467.0481
Left Slope (MWh/mph-day)	71.4560
RMSE (MWh/day)	133.8397
R2	0.7014
CV-RMSE	24.4%
Daily Maximum (MWh/day)	1622

Table 9-419: WNDTHST2_UNIT1 – Comparison of Predicted Power vs. Measured Power

Month	No. Of Days	Average Daily Wind Speed (MPH)	Measured Power Generation (MWh)	Predicted Power Generation Using Daily Model (MWh)	Diff.	Measured Capacity Factor	Capacity Factor Using Daily Model
		Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone	Average Wind Speed (West) Zone		Average Wind Speed (West) Zone
Jan-15	31	11.10	16,469	12,880	21.79%	33%	26%
Feb-15	28	13.78	16,302	16,297	0.03%	36%	36%
Mar-15	31	11.39	13,764	13,044	5.23%	27%	26%
Apr-15	30	15.35	21,176	20,275	4.25%	44%	42%
May-15	31	16.18	20,713	22,617	-9.19%	41%	45%
Jun-15	30	14.18	14,805	17,970	-21.38%	30%	37%
Jul-15	31	15.36	14,973	20,155	-34.61%	30%	40%
Aug-15	31	13.34	16,136	15,067	6.63%	32%	30%
Sep-15	30	14.14	16,500	17,173	-4.08%	34%	35%
Oct-15	31	13.95	18,008	18,113	-0.59%	36%	36%
Nov-15	30	15.20	22,553	20,112	10.82%	46%	41%
Dec-15	31	15.34	22,152	20,918	5.57%	44%	42%
Total	365	14.10	213,551	214,624	-0.50%	36%	36%
Total in OSP (07/15-09/15)	63	14.23	34,623	34,623	0.00%	34%	34%

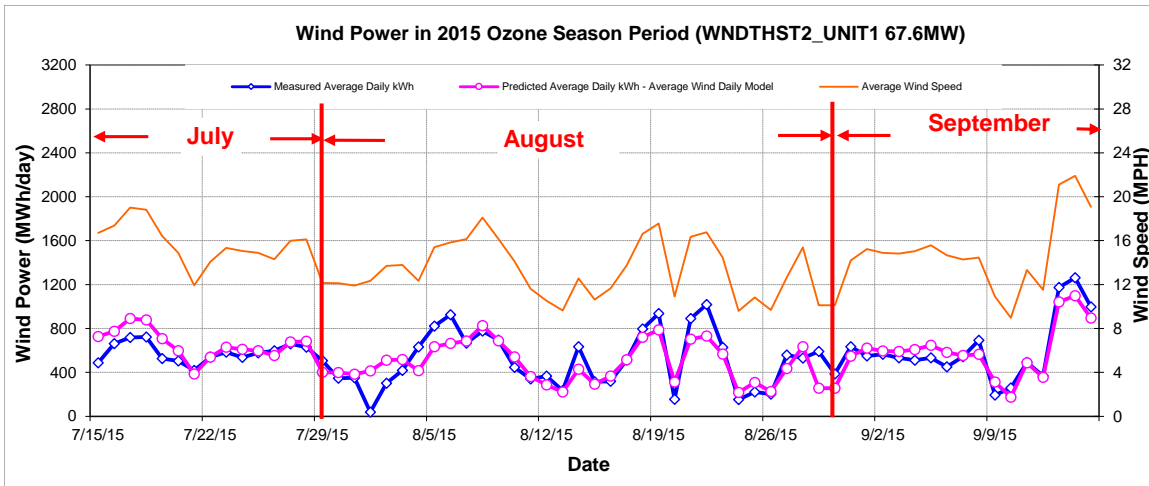


Figure 9-435: WNDTHST2_UNIT1 - Predicted Wind Power in OSP Using Average Wind Speed (2015)

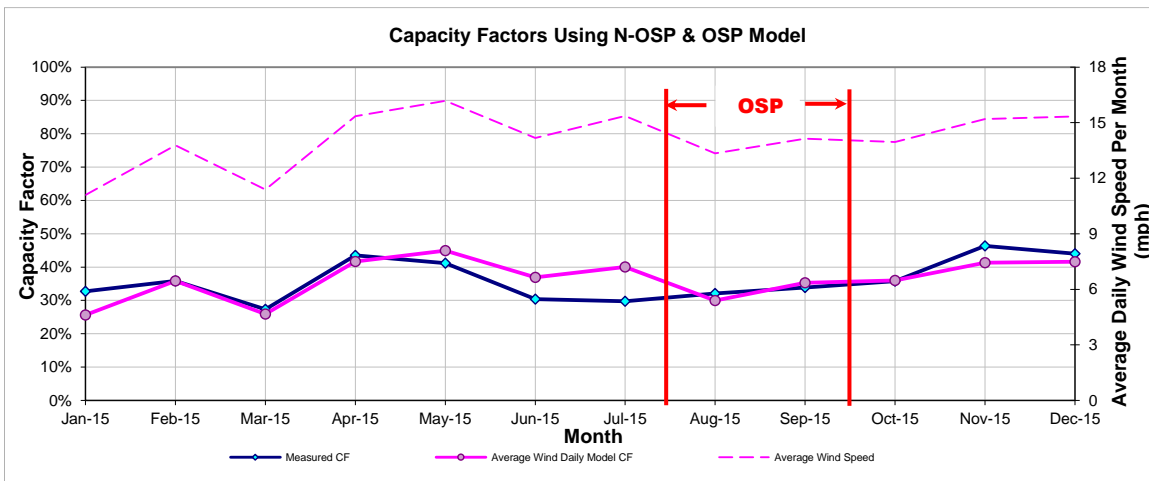


Figure 9-436: WNDTHST2_UNIT1 – Predicted Capacity Factors Using Daily Models (2015)

Table 9-420: WNDTHST2_UNIT1 – Predicted Power Production in 2008

Annual		OSD	
2008 Estimated MWh/yr (2015 Daily Model)	2015 Measured MWh/yr	2008 OSD Estimated MWh/day (2015 Daily Model)	2015 OSD Measured MWh/day
149,654	213,551	178	550

10 APPENDIX C

This appendix includes lists of the identified solar PV projects, solar thermal projects, geothermal projects, and landfill gas-fired projects.

- Solar PV projects: a total of 4,684 solar PV projects were reported in the present report and all of the identified solar PV projects can be found in Table 10-1.
- Solar thermal projects: unfortunately, none of new solar thermal projects was found for the present report. As a result, the present report has the same number of solar thermal projects with the previous report, which was 38 projects. The list of all the projects is shown in Table 10-2.
- Geothermal projects: unfortunately, none of new geothermal projects was found for the present report. As a result, the present report has the same number of geothermal projects with the previous report, which was 286. Table 10-4 shows the list of the geothermal projects
- Landfill gas-fired projects: 36 operational, 46 candidate, 38 potential, 3 construction, 11 shutdown, 3 planned, and 1 other landfill gas-fired projects were identified in the present report. All of the operational, candidate, potential, construction, shutdown, planned, and other projects are listed in Table 10-5 through Table 10-11, respectively.

Table 10-1: Solar Photovoltaic Projects: Data and Information up to 2015

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1	Travis	Travis	78704	TX	1.26	7611	6/9/2004	30.24	-97.77
2	Travis	Travis	78756	TX	2.51	15667	8/2/2004	30.32	-97.74
3	Travis	Travis	78746	TX	3.01	18456	8/4/2004	30.31	-97.82
4	Travis	Travis	78704	TX	3.36	22173	8/9/2004	30.24	-97.77
5	Travis	Travis	78756	TX	2.67	14348	8/25/2004	30.32	-97.74
6	Travis	Travis	78745	TX	2.97	18930	8/27/2004	30.21	-97.80
7	Travis	Travis	78704	TX	2.88	20252	9/13/2004	30.24	-97.77
8	Travis	Travis	78753	TX	3.00	19800	9/20/2004	30.39	-97.67
9	Travis	Travis	78751	TX	2.97	19528	9/20/2004	30.31	-97.73
10	Travis	Travis	78731	TX	3.00	20458	9/27/2004	30.35	-97.77
11	Travis	Travis	78753	TX	2.97	19315	10/1/2004	30.39	-97.67
12	Travis	Travis	78704	TX	3.15	20350	10/4/2004	30.24	-97.77
13	Travis	Travis	78746	TX	3.34	19825	10/4/2004	30.31	-97.82
14	Travis	Travis	78751	TX	3.00	19200	10/6/2004	30.31	-97.73
15	Travis	Travis	78731	TX	3.01	18973	10/8/2004	30.35	-97.77
16	Travis	Travis	78722	TX	2.88	20794	10/9/2004	30.30	-97.70
17	Travis	Travis	78704	TX	3.00	19800	10/13/2004	30.24	-97.77
18	Travis	Travis	78757	TX	3.30	21455	10/13/2004	30.35	-97.74
19	Travis	Travis	78731	TX	3.34	23704	10/22/2004	30.35	-97.77
20	Travis	Travis	78746	TX	3.01	19323	10/22/2004	30.31	-97.82
21	Travis	Travis	78751	TX	3.00	18253	10/22/2004	30.31	-97.73
22	Travis	Travis	78704	TX	3.00	18283	10/25/2004	30.24	-97.77
23	Travis	Travis	78754	TX	3.20	21000	10/25/2004	30.36	-97.65
24	Travis	Travis	78703	TX	2.88	20497	10/26/2004	30.29	-97.77
25	Travis	Travis	78756	TX	2.97	19875	10/27/2004	30.32	-97.74
26	Travis	Travis	78703	TX	3.01	18973	10/28/2004	30.29	-97.77
27	Travis	Travis	78704	TX	3.24	19800	11/1/2004	30.24	-97.77
28	Travis	Travis	78746	TX	3.00	18981	11/2/2004	30.31	-97.82
29	Travis	Travis	78723	TX	2.97	19529	11/4/2004	30.31	-97.68
30	Travis	Travis	78703	TX	3.01	18253	11/10/2004	30.29	-97.77
31	Travis	Travis	78750	TX	3.01	18973	11/10/2004	30.43	-97.80
32	Travis	Travis	78731	TX	3.00	20164	11/19/2004	30.35	-97.77
33	Travis	Travis	78759	TX	2.97	19490	11/22/2004	30.40	-97.75
34	Travis	Travis	78702	TX	3.30	20923	11/22/2004	30.26	-97.71
35	Travis	Travis	78731	TX	6.32	35531	11/29/2004	30.35	-97.77
36	Travis	Travis	78751	TX	3.01	19000	11/29/2004	30.31	-97.73
37	Travis	Travis	78703	TX	2.55	19578	12/3/2004	30.29	-97.77
38	Travis	Travis	78727	TX	2.97	19578	12/3/2004	30.43	-97.71
39	Travis	Travis	78745	TX	3.01	18973	12/10/2004	30.21	-97.80
40	Travis	Travis	78704	TX	2.04	14300	12/15/2004	30.24	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
41	Travis	Travis	78704	TX	3.00	19000	12/15/2004	30.24	-97.77
42	Travis	Travis	78704	TX	2.97	20600	12/16/2004	30.24	-97.77
43	Travis	Travis	78704	TX	2.97	22780	12/16/2004	30.24	-97.77
44	Travis	Travis	78746	TX	1.36	12447	12/22/2004	30.31	-97.82
45	Travis	Travis	78723	TX	11.52	69684	12/22/2004	30.31	-97.68
46	Travis	Travis	78702	TX	4.80	29008	12/22/2004	30.26	-97.71
47	Travis	Travis	78701	TX	2.97	20405	12/27/2004	30.27	-97.74
48	Travis	Travis	78759	TX	3.36	22530	12/28/2004	30.40	-97.75
49	Travis	Travis	78703	TX	3.00	18470	12/29/2004	30.29	-97.77
50	Travis	Travis	78745	TX	2.97	20001	12/29/2004	30.21	-97.80
51	Travis	Travis	78703	TX	1.26	6962	1/4/2005	30.29	-97.77
52	Travis	Travis	78751	TX	3.01	18973	1/4/2005	30.31	-97.73
53	Travis	Travis	78756	TX	3.00	18981	1/13/2005	30.32	-97.74
54	Travis	Travis	78703	TX	1.98	15000	1/19/2005	30.29	-97.77
55	Travis	Travis	78731	TX	2.04	14300	1/21/2005	30.35	-97.77
56	Travis	Travis	78701	TX	3.01	18253	1/21/2005	30.27	-97.74
57	Travis	Travis	78750	TX	3.00	18981	1/24/2005	30.43	-97.80
58	Travis	Travis	78704	TX	3.00	18973	1/24/2005	30.24	-97.77
59	Travis	Travis	78746	TX	3.01	19583	1/26/2005	30.31	-97.82
60	Travis	Travis	78745	TX	21.12	125022	1/28/2005	30.21	-97.80
61	Travis	Travis	78746	TX	3.01	18973	1/31/2005	30.31	-97.82
62	Travis	Travis	78734	TX	3.15	21000	2/11/2005	30.37	-97.95
63	Travis	Travis	78731	TX	3.01	18253	2/11/2005	30.35	-97.77
64	Travis	Travis	78703	TX	3.01	18253	2/16/2005	30.29	-97.77
65	Travis	Travis	78703	TX	3.00	18253	2/16/2005	30.29	-97.77
66	Travis	Travis	78759	TX	3.00	18600	2/17/2005	30.40	-97.75
67	Travis	Travis	78748	TX	2.99	18492	2/24/2005	30.17	-97.82
68	Travis	Travis	78744	TX	24.00	136162	2/25/2005	30.20	-97.73
69	Travis	Travis	78732	TX	3.01	18253	3/1/2005	30.38	-97.90
70	Travis	Travis	78734	TX	3.15	21323	3/8/2005	30.37	-97.95
71	Travis	Travis	78752	TX	17.28	129612	3/9/2005	30.33	-97.70
72	Travis	Travis	78745	TX	21.12	125022	3/11/2005	30.20	-97.79
73	Travis	Travis	78756	TX	3.00	18973	3/15/2005	30.32	-97.74
74	Travis	Travis	78731	TX	3.15	22190	3/16/2005	30.35	-97.77
75	Travis	Travis	78731	TX	3.15	19000	3/16/2005	30.35	-97.77
76	Travis	Travis	78704	TX	0.70	9989	3/17/2005	30.24	-97.77
77	Travis	Travis	78704	TX	3.15	20528	3/17/2005	30.24	-97.77
78	Travis	Travis	78731	TX	3.00	18253	3/18/2005	30.35	-97.77
79	Travis	Travis	78738	TX	3.06	21668	3/24/2005	30.31	-97.98
80	Travis	Travis	78722	TX	3.34	20964	3/24/2005	30.30	-97.70

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
81	Travis	Travis	78731	TX	2.88	19707	3/24/2005	30.35	-97.77
82	Travis	Travis	78738	TX	3.15	20535	3/24/2005	30.31	-97.98
83	Travis	Travis	78734	TX	3.15	19805	3/30/2005	30.37	-97.95
84	Travis	Travis	78746	TX	2.97	19300	4/4/2005	30.31	-97.82
85	Travis	Travis	78730	TX	2.24	15792	4/4/2005	30.37	-97.84
86	Travis	Travis	78751	TX	3.15	19886	4/18/2005	30.31	-97.73
87	Travis	Travis	78704	TX	3.15	20663	4/21/2005	30.24	-97.77
88	Travis	Travis	78745	TX	3.15	20895	4/22/2005	30.21	-97.80
89	Travis	Travis	78704	TX	3.01	22374	4/22/2005	30.24	-97.77
90	Travis	Travis	78723	TX	3.34	21250	5/3/2005	30.31	-97.68
91	Travis	Travis	78731	TX	3.17	20615	5/6/2005	30.35	-97.77
92	Travis	Travis	78703	TX	3.01	19379	5/6/2005	30.29	-97.77
93	Travis	Travis	78703	TX	2.80	16450	5/11/2005	30.29	-97.77
94	Travis	Travis	78731	TX	3.00	21003	5/13/2005	30.35	-97.77
95	Travis	Travis	78757	TX	3.00	18973	5/31/2005	30.35	-97.74
96	Travis	Travis	78746	TX	3.00	19235	5/31/2005	30.31	-97.82
97	Travis	Travis	78733	TX	3.15	24276	6/1/2005	30.33	-97.87
98	Travis	Travis	78702	TX	2.88	22800	6/10/2005	30.26	-97.71
99	Travis	Travis	78723	TX	3.00	18047	6/15/2005	30.31	-97.68
100	Williamson	Williamson	78729	TX	2.00	14208	6/16/2005	30.45	-97.76
101	Travis	Travis	78704	TX	2.99	21000	6/17/2005	30.24	-97.77
102	Travis	Travis	78738	TX	3.06	19085	6/17/2005	30.31	-97.98
103	Travis	Travis	78756	TX	3.15	21202	6/17/2005	30.32	-97.74
104	Travis	Travis	78653	TX	3.01	18973	6/17/2005	30.34	-97.50
105	Travis	Travis	78703	TX	3.01	18973	6/17/2005	30.29	-97.77
106	Williamson	Williamson	78729	TX	3.40	22899	6/20/2005	30.45	-97.76
107	Travis	Travis	78747	TX	3.34	20969	6/21/2005	30.13	-97.73
108	Travis	Travis	78704	TX	3.34	19508	6/30/2005	30.24	-97.77
109	Travis	Travis	78751	TX	2.17	15175	6/30/2005	30.31	-97.73
110	Travis	Travis	78704	TX	3.06	18500	7/7/2005	30.24	-97.77
111	Travis	Travis	78735	TX	21.00	124600	7/7/2005	30.26	-97.86
112	Williamson	Williamson	78729	TX	3.00	21003	7/8/2005	30.45	-97.76
113	Travis	Travis	78703	TX	3.01	18973	7/8/2005	30.29	-97.77
114	Travis	Travis	78704	TX	1.75	12899	7/15/2005	30.24	-97.77
115	Travis	Travis	78731	TX	2.51	16520	7/26/2005	30.35	-97.77
116	Travis	Travis	78705	TX	2.70	18358	7/27/2005	30.30	-97.74
117	Travis	Travis	78748	TX	2.34	15184	7/27/2005	30.17	-97.82
118	Travis	Travis	78746	TX	20.88	123650	7/28/2005	30.31	-97.82
119	Travis	Travis	78734	TX	3.15	20873	7/29/2005	30.37	-97.95
120	Travis	Travis	78746	TX	3.20	18951	8/3/2005	30.31	-97.82

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
121	Travis	Travis	78744	TX	21.78	144122	8/3/2005	30.20	-97.73
122	Travis	Travis	78746	TX	2.70	18190	8/8/2005	30.31	-97.82
123	Travis	Travis	78703	TX	3.34	21377	8/8/2005	30.29	-97.77
124	Travis	Travis	78758	TX	21.12	123398	8/10/2005	30.39	-97.70
125	Travis	Travis	78704	TX	3.34	18740	8/11/2005	30.24	-97.77
126	Travis	Travis	78705	TX	3.15	19089	8/12/2005	30.30	-97.74
127	Travis	Travis	78731	TX	3.00	18859	8/17/2005	30.35	-97.77
128	Travis	Travis	78735	TX	2.34	15816	8/17/2005	30.26	-97.86
129	Travis	Travis	78748	TX	3.20	18920	8/17/2005	30.17	-97.82
130	Travis	Travis	78745	TX	3.30	18962	8/23/2005	30.21	-97.80
131	Travis	Travis	78735	TX	3.20	19500	8/24/2005	30.26	-97.86
132	Travis	Travis	78752	TX	2.97	18500	8/24/2005	30.33	-97.70
133	Travis	Travis	78751	TX	3.06	20453	8/30/2005	30.31	-97.73
134	Travis	Travis	78703	TX	2.97	18500	8/30/2005	30.29	-97.77
135	Travis	Travis	78744	TX	18.04	127183	8/30/2005	30.20	-97.73
136	Travis	Travis	78660	TX	3.20	19027	8/31/2005	30.46	-97.60
137	Travis	Travis	78727	TX	3.01	18988	8/31/2005	30.43	-97.71
138	Travis	Travis	78734	TX	2.97	18500	8/31/2005	30.37	-97.95
139	Travis	Travis	78758	TX	21.78	130000	8/31/2005	30.39	-97.70
140	Travis	Travis	78759	TX	3.34	19426	9/6/2005	30.40	-97.75
141	Travis	Travis	78746	TX	3.34	21307	9/7/2005	30.31	-97.82
142	Travis	Travis	78723	TX	3.01	18500	9/12/2005	30.31	-97.68
143	Travis	Travis	78733	TX	3.13	19000	9/14/2005	30.33	-97.87
144	Travis	Travis	78745	TX	2.97	18500	9/16/2005	30.21	-97.80
145	Travis	Travis	78703	TX	3.01	19738	9/20/2005	30.29	-97.77
146	Williamson	Williamson	78729	TX	2.72	18022	9/20/2005	30.45	-97.76
147	Travis	Travis	78704	TX	2.88	18540	9/28/2005	30.24	-97.77
148	Travis	Travis	78757	TX	3.00	19098	9/28/2005	30.35	-97.74
149	Travis	Travis	78745	TX	16.70	93521	9/28/2005	30.21	-97.80
150	Travis	Travis	78704	TX	3.30	19771	9/29/2005	30.24	-97.77
151	Travis	Travis	78703	TX	3.34	20011	9/29/2005	30.29	-97.77
152	Travis	Travis	78746	TX	4.01	23900	10/6/2005	30.31	-97.82
153	Travis	Travis	78727	TX	3.40	19894	10/6/2005	30.43	-97.71
154	Travis	Travis	78745	TX	3.15	20870	10/6/2005	30.21	-97.80
155	Travis	Travis	78734	TX	3.34	18620	10/13/2005	30.37	-97.95
156	Travis	Travis	78703	TX	3.01	18540	10/14/2005	30.29	-97.77
157	Travis	Travis	78745	TX	3.01	19379	10/18/2005	30.21	-97.80
158	Travis	Travis	78734	TX	3.15	19885	10/18/2005	30.37	-97.95
159	Travis	Travis	78727	TX	3.20	18500	10/19/2005	30.43	-97.71
160	Travis	Travis	78753	TX	3.15	22385	10/20/2005	30.39	-97.67

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
161	Travis	Travis	78722	TX	3.01	21040	10/25/2005	30.30	-97.70
162	Travis	Travis	78734	TX	3.34	19552	10/28/2005	30.37	-97.95
163	Travis	Travis	78756	TX	0.50	2556	10/31/2005	30.32	-97.74
164	Travis	Travis	78731	TX	3.30	20881	11/3/2005	30.35	-97.77
165	Travis	Travis	78751	TX	3.34	20296	11/3/2005	30.31	-97.73
166	Travis	Travis	78704	TX	3.01	22701	11/3/2005	30.24	-97.77
167	Travis	Travis	78751	TX	3.40	19630	11/3/2005	30.31	-97.73
168	Travis	Travis	78703	TX	2.10	16837	11/5/2005	30.29	-97.77
169	Travis	Travis	78731	TX	3.06	18902	11/7/2005	30.35	-97.77
170	Travis	Travis	78702	TX	2.67	17750	11/8/2005	30.26	-97.71
171	Travis	Travis	78754	TX	3.01	20004	11/9/2005	30.36	-97.65
172	Travis	Travis	78704	TX	2.70	18834	11/11/2005	30.24	-97.77
173	Travis	Travis	78731	TX	3.15	23431	11/15/2005	30.35	-97.77
174	Travis	Travis	78705	TX	2.04	15291	11/17/2005	30.30	-97.74
175	Travis	Travis	78704	TX	3.00	20770	11/17/2005	30.24	-97.77
176	Travis	Travis	78749	TX	3.01	19470	11/23/2005	30.22	-97.86
177	Travis	Travis	78741	TX	3.06	20750	11/28/2005	30.23	-97.71
178	Travis	Travis	78732	TX	3.30	21647	11/30/2005	30.38	-97.90
179	Travis	Travis	78752	TX	3.06	19751	11/30/2005	30.33	-97.70
180	Travis	Travis	78731	TX	3.40	21795	12/2/2005	30.35	-97.77
181	Travis	Travis	78723	TX	2.04	14810	12/6/2005	30.31	-97.68
182	Travis	Travis	78732	TX	3.06	18500	12/6/2005	30.38	-97.90
183	Travis	Travis	78757	TX	2.88	18500	12/6/2005	30.35	-97.74
184	Travis	Travis	78727	TX	3.40	20567	12/9/2005	30.43	-97.71
185	Travis	Travis	78751	TX	3.40	21647	12/13/2005	30.31	-97.73
186	Travis	Travis	78733	TX	3.40	20091	12/13/2005	30.33	-97.87
187	Travis	Travis	78731	TX	3.01	19735	12/14/2005	30.35	-97.77
188	Travis	Travis	78746	TX	3.06	20226	12/14/2005	30.31	-97.82
189	Travis	Travis	78731	TX	4.59	28957	12/14/2005	30.35	-97.77
190	Travis	Travis	78756	TX	3.28	21486	12/14/2005	30.32	-97.74
191	Travis	Travis	78745	TX	3.06	20376	12/20/2005	30.21	-97.80
192	Travis	Travis	78722	TX	3.20	20570	12/21/2005	30.30	-97.70
193	Travis	Travis	78704	TX	1.65	12368	12/22/2005	30.24	-97.77
194	Travis	Travis	78746	TX	3.06	19603	12/22/2005	30.31	-97.82
195	Travis	Travis	78703	TX	3.06	20305	12/22/2005	30.29	-97.77
196	Travis	Travis	78730	TX	3.40	20817	1/4/2006	30.37	-97.84
197	Travis	Travis	78746	TX	3.40	21381	1/10/2006	30.31	-97.82
198	Travis	Travis	78705	TX	21.76	125000	1/10/2006	30.30	-97.74
199	Travis	Travis	78704	TX	3.04	18500	1/17/2006	30.24	-97.77
200	Travis	Travis	78733	TX	3.06	18500	1/17/2006	30.33	-97.87

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
201	Travis	Travis	78733	TX	3.06	19000	1/17/2006	30.33	-97.87
202	Travis	Travis	78757	TX	2.72	17073	1/18/2006	30.35	-97.74
203	Travis	Travis	78738	TX	3.40	21441	1/20/2006	30.31	-97.98
204	Travis	Travis	78750	TX	3.40	21790	1/20/2006	30.43	-97.80
205	Travis	Travis	78704	TX	3.06	20401	1/20/2006	30.24	-97.77
206	Travis	Travis	78733	TX	3.40	21181	1/24/2006	30.33	-97.87
207	Travis	Travis	78749	TX	1.70	13687	1/26/2006	30.22	-97.86
208	Travis	Travis	78723	TX	3.06	19910	1/30/2006	30.31	-97.68
209	Travis	Travis	78704	TX	1.70	14548	1/30/2006	30.24	-97.77
210	Travis	Travis	78758	TX	3.40	20910	1/31/2006	30.39	-97.70
211	Travis	Travis	78752	TX	17.85	109036	2/1/2006	30.33	-97.71
212	Travis	Travis	78728	TX	3.06	19539	2/3/2006	30.46	-97.68
213	Travis	Travis	78731	TX	3.40	24837	2/3/2006	30.35	-97.77
214	Travis	Travis	78756	TX	3.40	20929	2/3/2006	30.32	-97.74
215	Travis	Travis	78752	TX	1.80	12507	2/6/2006	30.33	-97.70
216	Travis	Travis	78734	TX	3.40	22410	2/6/2006	30.37	-97.95
217	Travis	Travis	78733	TX	3.06	18700	2/6/2006	30.33	-97.87
218	Travis	Travis	78746	TX	3.20	18956	2/7/2006	30.31	-97.82
219	Travis	Travis	78722	TX	3.20	21490	2/7/2006	30.30	-97.70
220	Travis	Travis	78705	TX	3.20	22514	2/8/2006	30.30	-97.74
221	Travis	Travis	78752	TX	17.85	109037	2/8/2006	30.33	-97.70
222	Travis	Travis	78723	TX	3.30	24281	2/18/2006	30.31	-97.68
223	Travis	Travis	78704	TX	3.06	20380	2/22/2006	30.24	-97.77
224	Travis	Travis	78746	TX	3.00	18700	2/22/2006	30.31	-97.82
225	Travis	Travis	78731	TX	3.40	20978	2/24/2006	30.35	-97.77
226	Travis	Travis	78733	TX	2.91	19523	2/24/2006	30.33	-97.87
227	Travis	Travis	78730	TX	3.34	20842	2/24/2006	30.37	-97.84
228	Travis	Travis	78705	TX	3.00	20185	2/24/2006	30.30	-97.74
229	Travis	Travis	78731	TX	2.72	19211	3/1/2006	30.35	-97.77
230	Travis	Travis	78759	TX	3.06	21367	3/3/2006	30.40	-97.75
231	Travis	Travis	78731	TX	3.40	22897	3/7/2006	30.35	-97.77
232	Travis	Travis	78746	TX	3.00	20800	3/7/2006	30.31	-97.82
233	Travis	Travis	78759	TX	3.06	18700	3/7/2006	30.40	-97.75
234	Travis	Travis	78758	TX	3.34	20568	3/8/2006	30.39	-97.70
235	Travis	Travis	78735	TX	3.40	21217	3/13/2006	30.26	-97.86
236	Travis	Travis	78704	TX	3.40	20929	3/13/2006	30.24	-97.77
237	Travis	Travis	78704	TX	3.01	19814	3/14/2006	30.24	-97.77
238	Travis	Travis	78746	TX	3.06	22706	3/14/2006	30.31	-97.82
239	Travis	Travis	78746	TX	2.40	19550	3/15/2006	30.31	-97.82
240	Travis	Travis	78702	TX	1.53	12117	3/15/2006	30.26	-97.71

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
241	Travis	Travis	78753	TX	3.06	21752	3/15/2006	30.39	-97.67
242	Travis	Travis	78759	TX	3.06	23329	3/15/2006	30.40	-97.75
243	Travis	Travis	78748	TX	3.06	20965	3/15/2006	30.17	-97.82
244	Travis	Travis	78746	TX	3.15	20998	3/15/2006	30.31	-97.82
245	Travis	Travis	78731	TX	3.06	20191	3/24/2006	30.35	-97.77
246	Travis	Travis	78704	TX	3.20	19495	3/27/2006	30.24	-97.77
247	Travis	Travis	78733	TX	2.04	15102	3/27/2006	30.33	-97.87
248	Travis	Travis	78761	TX	3.40	23390	3/31/2006	30.33	-97.70
249	Travis	Travis	78757	TX	1.70	13347	4/3/2006	30.35	-97.74
250	Travis	Travis	78745	TX	3.06	20150	4/3/2006	30.21	-97.80
251	Travis	Travis	78730	TX	3.40	20729	4/4/2006	30.37	-97.84
252	Travis	Travis	78730	TX	3.08	18700	4/4/2006	30.37	-97.84
253	Travis	Travis	78734	TX	3.60	22296	4/4/2006	30.37	-97.95
254	Travis	Travis	78732	TX	3.12	18500	4/14/2006	30.38	-97.90
255	Travis	Travis	78750	TX	3.12	18700	4/14/2006	30.43	-97.80
256	Travis	Travis	78758	TX	3.12	19800	4/14/2006	30.39	-97.70
257	Travis	Travis	78727	TX	3.20	20486	4/18/2006	30.43	-97.71
258	Travis	Travis	78734	TX	5.18	35406	4/18/2006	30.37	-97.95
259	Travis	Travis	78731	TX	3.00	19847	4/19/2006	30.35	-97.77
260	Travis	Travis	78746	TX	3.12	19800	4/19/2006	30.31	-97.82
261	Travis	Travis	78757	TX	3.12	22281	4/25/2006	30.35	-97.74
262	Travis	Travis	78746	TX	3.06	20192	4/26/2006	30.31	-97.82
263	Travis	Travis	78749	TX	3.06	19830	4/26/2006	30.22	-97.86
264	Travis	Travis	78727	TX	3.15	20931	4/27/2006	30.43	-97.71
265	Travis	Travis	78703	TX	2.04	18066	4/27/2006	30.29	-97.77
266	Williamson	Williamson	78729	TX	2.60	19897	4/27/2006	30.45	-97.76
267	Travis	Travis	78734	TX	3.12	18700	5/1/2006	30.37	-97.95
268	Travis	Travis	78731	TX	3.15	22922	5/3/2006	30.35	-97.77
269	Travis	Travis	78722	TX	2.80	21371	5/4/2006	30.30	-97.70
270	Travis	Travis	78746	TX	3.40	25113	5/9/2006	30.31	-97.82
271	Travis	Travis	78732	TX	3.20	23932	5/9/2006	30.38	-97.90
272	Travis	Travis	78730	TX	5.10	26189	5/9/2006	30.37	-97.84
273	Travis	Travis	78701	TX	4.50	60086	5/10/2006	30.27	-97.74
274	Travis	Travis	78746	TX	3.12	18700	5/12/2006	30.31	-97.82
275	Travis	Travis	78748	TX	3.12	18950	5/12/2006	30.17	-97.82
276	Travis	Travis	78704	TX	3.12	18271	5/12/2006	30.24	-97.77
277	Travis	Travis	78733	TX	3.33	21411	5/18/2006	30.33	-97.87
278	Travis	Travis	78733	TX	2.72	19018	5/18/2006	30.33	-97.87
279	Travis	Travis	78704	TX	3.20	19532	5/19/2006	30.24	-97.77
280	Travis	Travis	78731	TX	3.50	21189	5/19/2006	30.35	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
281	Travis	Travis	78704	TX	3.33	21977	5/25/2006	30.24	-97.77
282	Travis	Travis	78730	TX	3.12	18700	5/30/2006	30.37	-97.84
283	Travis	Travis	78747	TX	3.12	20418	5/30/2006	30.13	-97.73
284	Travis	Travis	78704	TX	3.01	19682	5/31/2006	30.24	-97.77
285	Travis	Travis	78757	TX	3.12	18826	6/1/2006	30.35	-97.74
286	Travis	Travis	78730	TX	3.34	19973	6/2/2006	30.37	-97.84
287	Travis	Travis	78746	TX	3.15	20217	6/16/2006	30.31	-97.82
288	Travis	Travis	78731	TX	3.06	20601	6/16/2006	30.35	-97.77
289	Travis	Travis	78746	TX	1.87	13566	6/20/2006	30.31	-97.82
290	Travis	Travis	78702	TX	3.40	22351	6/22/2006	30.26	-97.71
291	Travis	Travis	78746	TX	3.64	25966	6/22/2006	30.31	-97.82
292	Travis	Travis	78704	TX	2.67	19582	6/22/2006	30.24	-97.77
293	Travis	Travis	78731	TX	3.01	20853	6/22/2006	30.35	-97.77
294	Travis	Travis	78746	TX	2.63	17779	6/29/2006	30.31	-97.82
295	Travis	Travis	78750	TX	3.06	21416	6/29/2006	30.43	-97.80
296	Travis	Travis	78748	TX	3.15	23903	7/20/2006	30.17	-97.82
297	Travis	Travis	78746	TX	12.04	105031	7/21/2006	30.31	-97.82
298	Travis	Travis	78702	TX	3.50	21820	7/25/2006	30.26	-97.71
299	Travis	Travis	78702	TX	3.15	20461	7/25/2006	30.26	-97.71
300	Travis	Travis	78702	TX	3.15	20461	7/25/2006	30.26	-97.71
301	Travis	Travis	78746	TX	3.34	22345	7/26/2006	30.31	-97.82
302	Tarrant	Tarrant	76107	TX	1.80	7417	7/31/2006	32.74	-97.37
303	Travis	Travis	78746	TX	3.15	19142	8/6/2006	30.31	-97.82
304	Travis	Travis	78759	TX	3.40	19283	8/7/2006	30.40	-97.75
305	Travis	Travis	78727	TX	3.38	19283	8/7/2006	30.43	-97.71
306	Travis	Travis	78731	TX	23.30	166023	8/17/2006	30.35	-97.77
307	Travis	Travis	78704	TX	3.15	20016	8/18/2006	30.24	-97.77
308	Travis	Travis	78727	TX	3.12	19586	8/21/2006	30.43	-97.71
309	Travis	Travis	78704	TX	3.12	19500	8/21/2006	30.24	-97.77
310	Travis	Travis	78705	TX	3.00	18541	8/21/2006	30.30	-97.74
311	Travis	Travis	78722	TX	2.50	17124	8/22/2006	30.30	-97.70
312	Travis	Travis	78734	TX	3.15	20000	8/23/2006	30.37	-97.95
313	Travis	Travis	78759	TX	3.15	20367	8/23/2006	30.40	-97.75
314	Travis	Travis	78704	TX	2.04	15316	8/28/2006	30.24	-97.77
315	Travis	Travis	78746	TX	3.06	21557	8/31/2006	30.31	-97.82
316	Travis	Travis	78758	TX	3.15	20467	8/31/2006	30.39	-97.70
317	Travis	Travis	78757	TX	3.12	19280	9/5/2006	30.35	-97.74
318	Travis	Travis	78759	TX	3.12	19500	9/5/2006	30.40	-97.75
319	Travis	Travis	78727	TX	3.50	27852	9/8/2006	30.43	-97.71
320	Travis	Travis	78703	TX	8.40	51051	9/12/2006	30.29	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
321	Travis	Travis	78703	TX	2.91	21378	10/3/2006	30.29	-97.77
322	Travis	Travis	78703	TX	2.91	21378	10/3/2006	30.29	-97.77
323	Travis	Travis	78704	TX	1.04	11115	10/4/2006	30.24	-97.77
324	Travis	Travis	78705	TX	3.74	26002	10/4/2006	30.30	-97.74
325	Travis	Travis	78757	TX	3.15	21104	10/13/2006	30.35	-97.74
326	Travis	Travis	78704	TX	2.91	19855	10/16/2006	30.24	-97.77
327	Travis	Travis	78759	TX	3.33	22471	10/20/2006	30.40	-97.75
328	Travis	Travis	78704	TX	3.06	20948	10/20/2006	30.24	-97.77
329	Williamson	Williamson	78729	TX	3.15	20474	10/23/2006	30.45	-97.76
330	Travis	Travis	78732	TX	3.20	20152	10/24/2006	30.38	-97.90
331	Travis	Travis	78747	TX	3.06	20877	10/30/2006	30.13	-97.73
332	Travis	Travis	78759	TX	3.15	21345	11/1/2006	30.40	-97.75
333	Travis	Travis	78746	TX	3.74	25919	11/8/2006	30.31	-97.82
334	Travis	Travis	78703	TX	3.15	21926	11/13/2006	30.29	-97.77
335	Travis	Travis	78704	TX	3.06	25082	11/14/2006	30.24	-97.77
336	Travis	Travis	78745	TX	3.15	21224	11/20/2006	30.21	-97.80
337	Travis	Travis	78704	TX	3.15	20525	11/20/2006	30.24	-97.77
338	Travis	Travis	78702	TX	3.12	22385	11/21/2006	30.26	-97.71
339	Travis	Travis	78750	TX	3.50	29136	11/21/2006	30.43	-97.80
340	Travis	Travis	78746	TX	3.20	21508	11/28/2006	30.31	-97.82
341	Travis	Travis	78704	TX	3.06	21331	12/4/2006	30.24	-97.77
342	Travis	Travis	78735	TX	3.15	21595	12/11/2006	30.26	-97.86
343	Travis	Travis	78723	TX	2.91	19819	1/12/2007	30.31	-97.68
344	Travis	Travis	78749	TX	2.91	19855	1/12/2007	30.22	-97.86
345	Travis	Travis	78759	TX	3.33	22460	1/12/2007	30.40	-97.75
346	Travis	Travis	78759	TX	2.91	19657	1/12/2007	30.40	-97.75
347	Travis	Travis	78703	TX	3.33	22064	1/23/2007	30.29	-97.77
348	Travis	Travis	78731	TX	3.33	21624	1/25/2007	30.35	-97.77
349	Travis	Travis	78759	TX	3.33	21440	1/25/2007	30.40	-97.75
350	Travis	Travis	78704	TX	3.12	20982	1/29/2007	30.24	-97.77
351	Travis	Travis	78759	TX	3.33	22475	1/31/2007	30.40	-97.75
352	Travis	Travis	78727	TX	3.15	19800	1/31/2007	30.43	-97.71
353	Travis	Travis	78704	TX	3.33	22504	1/31/2007	30.24	-97.77
354	Travis	Travis	78734	TX	3.33	21898	2/1/2007	30.37	-97.95
355	Travis	Travis	78759	TX	3.15	20133	2/2/2007	30.40	-97.75
356	Travis	Travis	78702	TX	3.40	22875	2/5/2007	30.26	-97.71
357	Travis	Travis	78750	TX	3.15	21828	2/8/2007	30.43	-97.80
358	Travis	Travis	78705	TX	9.52	68213	2/9/2007	30.30	-97.74
359	Travis	Travis	78754	TX	16.66	157849	2/9/2007	30.36	-97.65
360	Travis	Travis	78754	TX	3.36		2/9/2007	30.36	-97.65

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
361	Travis	Travis	78704	TX	3.15	20554	2/13/2007	30.24	-97.77
362	Travis	Travis	78748	TX	18.90	115864	2/13/2007	30.17	-97.82
363	Travis	Travis	78704	TX	3.12	22683	2/20/2007	30.24	-97.77
364	Travis	Travis	78704	TX	3.12	22017	2/21/2007	30.24	-97.77
365	Travis	Travis	78731	TX	2.41	19306	2/21/2007	30.35	-97.77
366	Travis	Travis	78751	TX	2.45	13024	2/21/2007	30.31	-97.73
367	Travis	Travis	78703	TX	3.15	21992	2/23/2007	30.29	-97.77
368	Travis	Travis	78746	TX	2.99	21248	2/26/2007	30.31	-97.82
369	Travis	Travis	78746	TX	5.10	57396	2/26/2007	30.31	-97.82
370	Travis	Travis	78746	TX	3.12	20508	3/1/2007	30.31	-97.82
371	Travis	Travis	78746	TX	3.15	21000	3/5/2007	30.31	-97.82
372	Travis	Travis	78746	TX	3.06	24169	3/9/2007	30.31	-97.82
373	Travis	Travis	78735	TX	2.38	17116	3/9/2007	30.26	-97.86
374	Travis	Travis	78754	TX	3.15	21251	3/12/2007	30.36	-97.65
375	Travis	Travis	78701	TX	23.30	166551	3/12/2007	30.27	-97.74
376	Travis	Travis	78703	TX	3.15	21906	3/13/2007	30.29	-97.77
377	Travis	Travis	78702	TX	8.24	66505	3/15/2007	30.26	-97.71
378	Travis	Travis	78746	TX	3.15	20325	3/19/2007	30.31	-97.82
379	Travis	Travis	78746	TX	2.13	17956	3/27/2007	30.31	-97.82
380	Travis	Travis	78703	TX	3.06	21249	3/27/2007	30.29	-97.77
381	Travis	Travis	78758	TX	3.33	22998	3/27/2007	30.39	-97.70
382	Travis	Travis	78724	TX	3.20	19800	3/28/2007	30.29	-97.62
383	Collin	Collin	75173	TX	2.50	23500	3/31/2007	33.05	-96.42
384	Travis	Travis	78756	TX	2.38	17258	4/5/2007	30.32	-97.74
385	Travis	Travis	78704	TX	3.01	24013	4/5/2007	30.24	-97.77
386	Travis	Travis	78732	TX	4.12	42245	4/5/2007	30.38	-97.90
387	Travis	Travis	78735	TX	3.87	27911	4/5/2007	30.26	-97.86
388	Travis	Travis	78704	TX	3.40	23969	4/6/2007	30.24	-97.77
389	Travis	Travis	78746	TX	3.15	19515	4/10/2007	30.31	-97.82
390	Travis	Travis	78749	TX	3.20	20454	4/13/2007	30.22	-97.86
391	Travis	Travis	78722	TX	3.12	23394	4/16/2007	30.30	-97.70
392	Travis	Travis	78704	TX	2.80	17217	4/19/2007	30.24	-97.77
393	Travis	Travis	78741	TX	3.15	19827	4/19/2007	30.23	-97.71
394	Travis	Travis	78704	TX	3.15	20508	4/20/2007	30.24	-97.77
395	Travis	Travis	78759	TX	3.34	22941	4/24/2007	30.40	-97.75
396	Travis	Travis	78734	TX	3.15	20122	4/27/2007	30.37	-97.95
397	Travis	Travis	78731	TX	3.15	21016	4/27/2007	30.35	-97.77
398	Travis	Travis	78731	TX	3.33	24261	5/15/2007	30.35	-97.77
399	Travis	Travis	78746	TX	3.33	21169	5/15/2007	30.31	-97.82
400	Travis	Travis	78724	TX	3.15	20022	5/15/2007	30.29	-97.62

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
401	Travis	Travis	78731	TX	3.06	24020	5/24/2007	30.35	-97.77
402	Travis	Travis	78745	TX	2.98	20534	5/29/2007	30.21	-97.80
403	Travis	Travis	78746	TX	22.44	164315	5/29/2007	30.31	-97.82
404	Harris	Harris	77058	TX	28.00	400000	6/4/2007	29.56	-95.09
405	Travis	Travis	78730	TX	3.06	36450	6/5/2007	30.37	-97.84
406	Travis	Travis	78730	TX	2.55	30458	6/5/2007	30.37	-97.84
407	Travis	Travis	78703	TX	3.15	21741	6/12/2007	30.29	-97.77
408	Travis	Travis	78731	TX	3.50	27243	6/12/2007	30.35	-97.77
409	Travis	Travis	78705	TX	15.75	103357	6/14/2007	30.30	-97.74
410	Travis	Travis	78746	TX	3.01	22698	6/18/2007	30.31	-97.82
411	Travis	Travis	78733	TX	3.12	20761	6/19/2007	30.33	-97.87
412	Travis	Travis	78734	TX	3.15	19078	6/25/2007	30.37	-97.95
413	Travis	Travis	78723	TX	3.15	20583	6/29/2007	30.31	-97.68
414	Travis	Travis	78733	TX	3.15	20832	7/3/2007	30.33	-97.87
415	Travis	Travis	78758	TX	3.24	20179	7/9/2007	30.39	-97.70
416	Travis	Travis	78733	TX	2.50	19551	7/10/2007	30.33	-97.87
417	Travis	Travis	78759	TX	3.15	21172	7/11/2007	30.40	-97.75
418	Travis	Travis	78735	TX	3.33	23433	7/11/2007	30.26	-97.86
419	Williamson	Williamson	78729	TX	2.85	20071	7/12/2007	30.45	-97.76
420	Travis	Travis	78748	TX	5.61	43337	7/17/2007	30.17	-97.82
421	Travis	Travis	78746	TX	3.15	20331	7/18/2007	30.31	-97.82
422	Travis	Travis	78751	TX	3.50	22758	7/24/2007	30.31	-97.73
423	Travis	Travis	78759	TX	3.15	20771	7/24/2007	30.40	-97.75
424	Travis	Travis	78751	TX	3.40	23728	7/24/2007	30.31	-97.73
425	Travis	Travis	78704	TX	1.62	18219	7/31/2007	30.24	-97.77
426	Travis	Travis	78731	TX	1.00	7658	7/31/2007	30.35	-97.77
427	Travis	Travis	78731	TX	3.00	22973	8/1/2007	30.35	-97.77
428	Travis	Travis	78724	TX	11.40	242805	8/1/2007	30.29	-97.62
429	Travis	Travis	78758	TX	3.15	20620	8/6/2007	30.39	-97.70
430	Travis	Travis	78757	TX	3.15	19917	8/7/2007	30.35	-97.74
431	Travis	Travis	78730	TX	3.15	20011	8/7/2007	30.37	-97.84
432	Travis	Travis	78730	TX	2.80	17787	8/7/2007	30.37	-97.84
433	Travis	Travis	78703	TX	3.15	21116	8/7/2007	30.29	-97.77
434	Travis	Travis	78731	TX	3.12	21508	8/13/2007	30.35	-97.77
435	Travis	Travis	78748	TX	3.33	22500	8/13/2007	30.17	-97.82
436	Travis	Travis	78704	TX	3.10	20297	8/14/2007	30.24	-97.77
437	Travis	Travis	78704	TX	3.20	23778	8/14/2007	30.24	-97.77
438	Travis	Travis	78754	TX	3.42	21392	8/15/2007	30.36	-97.65
439	Travis	Travis	78703	TX	3.01	23461	8/21/2007	30.29	-97.77
440	Travis	Travis	78734	TX	3.15	21276	8/22/2007	30.37	-97.95

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
441	Travis	Travis	78746	TX	3.15	21089	8/22/2007	30.31	-97.82
442	Bexar	Bexar	78255	TX	4.55	32999	8/24/2007	29.67	-98.64
443	Travis	Travis	78734	TX	3.24	21961	8/28/2007	30.37	-97.95
444	Travis	Travis	78734	TX	3.15	22407	8/28/2007	30.37	-97.95
445	Travis	Travis	78746	TX	3.15	21430	8/28/2007	30.31	-97.82
446	Travis	Travis	78704	TX	3.50	28200	9/5/2007	30.24	-97.77
447	Travis	Travis	78746	TX	3.24	22061	9/11/2007	30.31	-97.82
448	Travis	Travis	78751	TX	3.15	21934	9/13/2007	30.31	-97.73
449	Travis	Travis	78759	TX	3.15	20937	9/13/2007	30.40	-97.75
450	Travis	Travis	78727	TX	3.15	21600	9/13/2007	30.43	-97.71
451	Bexar	Bexar	78231	TX	2.82		9/14/2007	29.58	-98.56
452	Travis	Travis	78722	TX	3.12	22702	9/18/2007	30.30	-97.70
453	Travis	Travis	78756	TX	3.15	23298	9/18/2007	30.32	-97.74
454	Travis	Travis	78704	TX	13.77	104652	9/18/2007	30.24	-97.77
455	Travis	Travis	78752	TX	3.15	21906	9/21/2007	30.33	-97.70
456	Travis	Travis	78733	TX	3.23	21555	9/25/2007	30.33	-97.87
457	Travis	Travis	78733	TX	3.04	20287	9/25/2007	30.33	-97.87
458	Travis	Travis	78732	TX	3.15	21508	9/25/2007	30.38	-97.90
459	Travis	Travis	78751	TX	3.12	20858	9/26/2007	30.31	-97.73
460	Travis	Travis	78746	TX	3.69	32308	9/27/2007	30.31	-97.82
461	Travis	Travis	78746	TX	3.15	20388	9/27/2007	30.31	-97.82
462	Travis	Travis	78747	TX	2.63	16990	9/27/2007	30.13	-97.73
463	Travis	Travis	78746	TX	3.15	20611	9/28/2007	30.31	-97.82
464	Travis	Travis	78731	TX	3.20	21625	10/1/2007	30.35	-97.77
465	Travis	Travis	78732	TX	3.20	21625	10/1/2007	30.38	-97.90
466	Travis	Travis	78746	TX	3.20	22160	10/1/2007	30.31	-97.82
467	Travis	Travis	78746	TX	3.20	22160	10/1/2007	30.31	-97.82
468	Travis	Travis	78753	TX	0.16	1446	10/2/2007	30.39	-97.67
469	Travis	Travis	78746	TX	3.42	28247	10/2/2007	30.31	-97.82
470	Travis	Travis	78703	TX	3.15	21898	10/2/2007	30.29	-97.77
471	Travis	Travis	78703	TX	2.45	21898	10/2/2007	30.29	-97.77
472	Travis	Travis	78730	TX	3.24	18623	10/2/2007	30.37	-97.84
473	Travis	Travis	78730	TX	3.24	18623	10/2/2007	30.37	-97.84
474	Travis	Travis	78704	TX	3.84	20799	10/2/2007	30.24	-97.77
475	Travis	Travis	78704	TX	0.58	3825	10/2/2007	30.24	-97.77
476	Travis	Travis	78733	TX	3.15	20299	10/9/2007	30.33	-97.87
477	Travis	Travis	78734	TX	2.80	18044	10/9/2007	30.37	-97.95
478	Travis	Travis	78746	TX	3.30	23700	10/9/2007	30.31	-97.82
479	Travis	Travis	78746	TX	3.42	23397	10/9/2007	30.31	-97.82
480	Travis	Travis	78704	TX	3.01	21501	10/9/2007	30.24	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
481	Travis	Travis	78759	TX	2.45	17028	10/10/2007	30.40	-97.75
482	Travis	Travis	78750	TX	3.15	21322	10/10/2007	30.43	-97.80
483	Travis	Travis	78748	TX	3.15	20662	10/16/2007	30.17	-97.82
484	Bexar	Bexar	78231	TX	4.59		10/24/2007	29.59	-98.56
485	Travis	Travis	78756	TX	0.70	4732	10/24/2007	30.32	-97.74
486	Collin	Collin	75173	TX	1.50	18000	10/31/2007	33.06	-96.38
487	Travis	Travis	78758	TX	3.15	20720	11/4/2007	30.39	-97.70
488	Travis	Travis	78738	TX	14.00	94053	11/8/2007	30.31	-97.98
489	Travis	Travis	78703	TX	3.10	20086	11/15/2007	30.29	-97.77
490	Travis	Travis	78731	TX	3.20	23150	11/16/2007	30.35	-97.77
491	Travis	Travis	78727	TX	3.15	21636	11/21/2007	30.43	-97.71
492	Travis	Travis	78759	TX	3.15	22017	11/21/2007	30.40	-97.75
493	Travis	Travis	78746	TX	2.45	15402	11/21/2007	30.31	-97.82
494	Travis	Travis	78703	TX	3.15	22828	11/21/2007	30.29	-97.77
495	Travis	Travis	78734	TX	3.15	22015	11/21/2007	30.37	-97.95
496	Travis	Travis	78704	TX	3.12	22702	11/26/2007	30.24	-97.77
497	Travis	Travis	78739	TX	3.15	20915	11/29/2007	30.19	-97.90
498	Travis	Travis	78704	TX	2.99	21310	12/4/2007	30.24	-97.77
499	Travis	Travis	78704	TX	3.40	22594	12/4/2007	30.24	-97.77
500	Travis	Travis	78702	TX	3.15	22369	12/4/2007	30.26	-97.71
501	Travis	Travis	78732	TX	3.34	23825	12/4/2007	30.38	-97.90
502	Travis	Travis	78723	TX	3.15	23446	12/4/2007	30.31	-97.68
503	Travis	Travis	78735	TX	3.33	28787	12/4/2007	30.26	-97.86
504	Travis	Travis	78704	TX	3.15	21279	12/6/2007	30.24	-97.77
505	Travis	Travis	78731	TX	3.15	20620	12/6/2007	30.35	-97.77
506	Travis	Travis	78751	TX	10.80	70258	12/12/2007	30.31	-97.73
507	Bexar	Bexar	78232	TX	4.01		12/13/2007	29.58	-98.47
508	Travis	Travis	78749	TX	3.20	21850	12/13/2007	30.22	-97.86
509	Travis	Travis	78745	TX	3.46	20050	12/14/2007	30.21	-97.80
510	Travis	Travis	78759	TX	3.15	21014	12/18/2007	30.40	-97.75
511	Travis	Travis	78748	TX	3.15	21013	12/18/2007	30.17	-97.82
512	Travis	Travis	78724	TX	3.15	21833	12/18/2007	30.29	-97.62
513	Bexar	Bexar	78232	TX	4.00		12/19/2007	29.60	-98.49
514	Travis	Travis	78746	TX	3.24	20814	12/19/2007	30.31	-97.82
515	Travis	Travis	78758	TX	3.33	23573	12/20/2007	30.39	-97.70
516	Travis	Travis	78759	TX	3.28	27073	12/20/2007	30.40	-97.75
517	Travis	Travis	78702	TX	3.34	23527	12/20/2007	30.26	-97.71
518	Travis	Travis	78734	TX	3.50	30661	12/26/2007	30.37	-97.95
519	Travis	Travis	78733	TX	3.15	21071	12/27/2007	30.33	-97.87
520	Travis	Travis	78734	TX	3.15	21701	12/28/2007	30.37	-97.95

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
521	Travis	Travis	78735	TX	3.28	27774	1/4/2008	30.26	-97.86
522	Travis	Travis	78703	TX	2.00	18456	1/8/2008	30.29	-97.77
523	Travis	Travis	78746	TX	3.02	22230	1/8/2008	30.31	-97.82
524	Travis	Travis	78746	TX	2.81	22107	1/8/2008	30.31	-97.82
525	Travis	Travis	78757	TX	3.33	150672	1/10/2008	30.35	-97.74
526	Travis	Travis	78759	TX	3.15	20668	1/15/2008	30.40	-97.75
527	Bexar	Bexar	78248	TX	2.15		1/16/2008	29.57	-98.52
528	Travis	Travis	78748	TX	2.91	20595	1/17/2008	30.17	-97.82
529	Travis	Travis	78759	TX	3.34	23771	1/17/2008	30.40	-97.75
530	Travis	Travis	78751	TX	3.28	28091	1/18/2008	30.31	-97.73
531	Travis	Travis	78734	TX	3.33	24808	1/18/2008	30.37	-97.95
532	Travis	Travis	78660	TX	3.02	21188	1/18/2008	30.46	-97.60
533	Travis	Travis	78730	TX	3.02	21141	1/18/2008	30.37	-97.84
534	Travis	Travis	78730	TX	2.81	21042	1/18/2008	30.37	-97.84
535	Travis	Travis	78741	TX	3.15	21169	1/29/2008	30.23	-97.71
536	Travis	Travis	78735	TX	3.15	20662	1/29/2008	30.26	-97.86
537	Travis	Travis	78702	TX	3.37	20361	1/31/2008	30.26	-97.71
538	Travis	Travis	78758	TX	2.56	19815	2/1/2008	30.39	-97.70
539	Travis	Travis	78746	TX	3.50	32834	2/6/2008	30.31	-97.82
540	Travis	Travis	78734	TX	3.15	21287	2/6/2008	30.37	-97.95
541	Travis	Travis	78751	TX	3.12	20966	2/7/2008	30.31	-97.73
542	Travis	Travis	78704	TX	3.13	22872	2/12/2008	30.24	-97.77
543	Travis	Travis	78749	TX	3.15	21192	2/13/2008	30.22	-97.86
544	Travis	Travis	78746	TX	2.45	19383	2/13/2008	30.31	-97.82
545	Travis	Travis	78704	TX	3.15	22076	2/19/2008	30.24	-97.77
546	Travis	Travis	78703	TX	3.34	24847	2/25/2008	30.29	-97.77
547	Travis	Travis	78746	TX	3.15	21396	2/25/2008	30.31	-97.82
548	Travis	Travis	78724	TX	3.20	21246	2/25/2008	30.29	-97.62
549	Travis	Travis	78759	TX	3.15	20995	2/25/2008	30.40	-97.75
550	Travis	Travis	78731	TX	3.15	25210	2/26/2008	30.35	-97.77
551	Travis	Travis	78746	TX	3.15	46392	2/26/2008	30.31	-97.82
552	Travis	Travis	78746	TX	1.89	17397	2/26/2008	30.31	-97.82
553	Travis	Travis	78731	TX	3.28	25892	2/26/2008	30.35	-97.77
554	Travis	Travis	78727	TX	3.20	20875	2/26/2008	30.43	-97.71
555	Travis	Travis	78738	TX	3.15	23977	2/26/2008	30.31	-97.98
556	Travis	Travis	78705	TX	23.10	174726	2/27/2008	30.30	-97.74
557	Travis	Travis	78738	TX	2.25	17127	2/28/2008	30.31	-97.98
558	Travis	Travis	78731	TX	3.12	25274	2/29/2008	30.35	-97.77
559	Travis	Travis	78746	TX	1.58	11549	3/4/2008	30.31	-97.82
560	Tarrant	Tarrant	76107	TX	1.04	7680	3/5/2008	32.74	-97.37

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
561	Travis	Travis	78704	TX	2.94	25514	3/5/2008	30.24	-97.77
562	Travis	Travis	78702	TX	3.02	21603	3/10/2008	30.26	-97.71
563	Travis	Travis	78747	TX	3.15	21216	3/12/2008	30.13	-97.73
564	Travis	Travis	78727	TX	1.58	9421	3/12/2008	30.43	-97.71
565	Travis	Travis	78722	TX	1.71	17656	3/21/2008	30.30	-97.70
566	Travis	Travis	78741	TX	3.15	18316	3/21/2008	30.23	-97.71
567	Travis	Travis	78751	TX	23.10	173532	3/24/2008	30.31	-97.73
568	Travis	Travis	78701	TX	1.23	9180	3/24/2008	30.27	-97.74
569	Travis	Travis	78705	TX	2.80	18621	3/24/2008	30.30	-97.74
570	Travis	Travis	78748	TX	3.15	32794	3/26/2008	30.17	-97.82
571	Travis	Travis	78748	TX	1.05	8199	3/26/2008	30.17	-97.82
572	Travis	Travis	78752	TX	3.20	24073	3/26/2008	30.33	-97.70
573	Travis	Travis	78703	TX	3.20	21520	3/26/2008	30.29	-97.77
574	Travis	Travis	78702	TX	3.20	21443	3/31/2008	30.26	-97.71
575	Travis	Travis	78746	TX	3.15	21000	3/31/2008	30.31	-97.82
576	Travis	Travis	78750	TX	3.15	21234	3/31/2008	30.43	-97.80
577	Travis	Travis	78750	TX	3.15	20905	3/31/2008	30.43	-97.80
578	Travis	Travis	78746	TX	3.69	30164	4/8/2008	30.31	-97.82
579	Travis	Travis	78745	TX	23.10	175341	4/8/2008	30.21	-97.80
580	Travis	Travis	78730	TX	3.15	36176	4/9/2008	30.37	-97.84
581	Travis	Travis	78756	TX	3.33	26408	4/10/2008	30.32	-97.74
582	Travis	Travis	78705	TX	3.15	21249	4/17/2008	30.30	-97.74
583	Travis	Travis	78731	TX	3.13	25366	4/17/2008	30.35	-97.77
584	Travis	Travis	78734	TX	3.06	23164	4/22/2008	30.37	-97.95
585	Travis	Travis	78749	TX	3.20	22741	4/22/2008	30.22	-97.86
586	Travis	Travis	78723	TX	3.20	22275	4/22/2008	30.31	-97.68
587	Travis	Travis	78759	TX	3.04	21984	4/23/2008	30.40	-97.75
588	Travis	Travis	78759	TX	3.15	21127	4/24/2008	30.40	-97.75
589	Travis	Travis	78704	TX	3.15	24326	4/30/2008	30.24	-97.77
590	Travis	Travis	78751	TX	3.50	23422	4/30/2008	30.31	-97.73
591	Travis	Travis	78704	TX	3.33	23400	5/2/2008	30.24	-97.77
592	Travis	Travis	78745	TX	23.63	147099	5/2/2008	30.21	-97.80
593	Travis	Travis	78705	TX	23.10	164150	5/2/2008	30.30	-97.74
594	Travis	Travis	78735	TX	3.40	20650	5/7/2008	30.26	-97.86
595	Travis	Travis	78750	TX	3.15	21176	5/7/2008	30.43	-97.80
596	Travis	Travis	78727	TX	10.50	76495	5/14/2008	30.43	-97.71
597	Travis	Travis	78701	TX	2.80	26667	5/16/2008	30.27	-97.74
598	Kendall	Bexar	78006	TX	3.06		5/20/2008	29.78	-98.73
599	Kendall	Bexar	78006	TX	2.28		5/20/2008	29.69	-98.65
600	Travis	Travis	78747	TX	3.15	20970	5/21/2008	30.13	-97.73

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
601	Travis	Travis	78751	TX	3.15	21360	5/22/2008	30.31	-97.73
602	Travis	Travis	78660	TX	3.24	24226	5/29/2008	30.46	-97.60
603	Travis	Travis	78703	TX	3.00	23759	5/29/2008	30.29	-97.77
604	Travis	Travis	78703	TX	3.15	20700	6/2/2008	30.29	-97.77
605	Travis	Travis	78704	TX	3.15	23340	6/2/2008	30.24	-97.77
606	Travis	Travis	78732	TX	3.00	22889	6/3/2008	30.38	-97.90
607	Travis	Travis	78746	TX	3.50	28096	6/5/2008	30.31	-97.82
608	Travis	Travis	78750	TX	3.24	21803	6/9/2008	30.43	-97.80
609	Bexar	Bexar	78248	TX	4.90	24682	6/9/2008	29.59	-98.52
610	Travis	Travis	78734	TX	3.04	22558	6/10/2008	30.37	-97.95
611	Travis	Travis	78735	TX	3.04	22558	6/10/2008	30.26	-97.86
612	Travis	Travis	78724	TX	3.15	21538	6/10/2008	30.29	-97.62
613	Travis	Travis	78756	TX	3.12	20966	6/16/2008	30.32	-97.74
614	Travis	Travis	78704	TX	3.15	23328	6/16/2008	30.24	-97.77
615	Travis	Travis	78746	TX	23.27	201824	6/16/2008	30.31	-97.82
616	Travis	Travis	78759	TX	3.15	24887	6/17/2008	30.40	-97.75
617	Travis	Travis	78758	TX	23.63	175415	6/17/2008	30.39	-97.70
618	Travis	Travis	78757	TX	8.75	69325	6/18/2008	30.35	-97.74
619	Travis	Travis	78746	TX	3.24	21544	6/19/2008	30.31	-97.82
620	Travis	Travis	78733	TX	3.15	22840	6/19/2008	30.33	-97.87
621	Williamson	Williamson	78729	TX	3.15	20991	6/19/2008	30.45	-97.76
622	Bexar	Bexar	78221	TX	10.50		6/30/2008	29.35	-98.53
623	Bexar	Bexar	78023	TX	3.96		6/30/2008	29.56	-98.71
624	Travis	Travis	78723	TX	3.28	25483	6/30/2008	30.31	-97.68
625	Travis	Travis	78704	TX	7.00	54885	6/30/2008	30.24	-97.77
626	Travis	Travis	78759	TX	3.15	21182	7/1/2008	30.40	-97.75
627	Travis	Travis	78746	TX	3.20	22175	7/1/2008	30.31	-97.82
628	Travis	Travis	78733	TX	3.06	20156	7/3/2008	30.33	-97.87
629	Travis	Travis	78731	TX	3.15	21242	7/8/2008	30.35	-97.77
630	Travis	Travis	78733	TX	3.24	21613	7/8/2008	30.33	-97.87
631	Travis	Travis	78746	TX	3.15	22845	7/8/2008	30.31	-97.82
632	Travis	Travis	78727	TX	17.50	129954	7/18/2008	30.43	-97.71
633	Travis	Travis	78733	TX	3.04	24898	7/21/2008	30.33	-97.87
634	Travis	Travis	78746	TX	3.24	20864	7/21/2008	30.31	-97.82
635	Travis	Travis	78746	TX	3.34	25850	7/22/2008	30.31	-97.82
636	Travis	Travis	78722	TX	1.38	15929	7/22/2008	30.30	-97.70
637	Travis	Travis	78727	TX	0.70	9161	7/23/2008	30.43	-97.71
638	Travis	Travis	78724	TX	3.15	21094	7/28/2008	30.29	-97.62
639	Travis	Travis	78757	TX	3.24	21514	7/28/2008	30.35	-97.74
640	Travis	Travis	78734	TX	3.15	20992	7/28/2008	30.37	-97.95

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
641	Travis	Travis	78724	TX	3.24	21406	7/29/2008	30.29	-97.62
642	Travis	Travis	78705	TX	14.00	106917	7/29/2008	30.30	-97.74
643	Travis	Travis	78746	TX	3.20	24332	8/4/2008	30.31	-97.82
644	Travis	Travis	78746	TX	3.20	21421	8/4/2008	30.31	-97.82
645	Travis	Travis	78746	TX	3.42	29193	8/4/2008	30.31	-97.82
646	Travis	Travis	78746	TX	3.14	23686	8/4/2008	30.31	-97.82
647	Travis	Travis	78745	TX	3.34	25204	8/6/2008	30.21	-97.80
648	Travis	Travis	78759	TX	3.14	23826	8/6/2008	30.40	-97.75
649	Travis	Travis	78741	TX	3.06	24000	8/7/2008	30.23	-97.71
650	Travis	Travis	78731	TX	3.14	24226	8/11/2008	30.35	-97.77
651	Travis	Travis	78746	TX	3.14	20231	8/11/2008	30.31	-97.82
652	Travis	Travis	78746	TX	2.69	20047	8/11/2008	30.31	-97.82
653	Williamson	Williamson	78729	TX	23.68	164142	8/12/2008	30.45	-97.76
654	Travis	Travis	78745	TX	3.20	21380	8/13/2008	30.21	-97.80
655	Travis	Travis	78759	TX	8.75	69325	8/13/2008	30.40	-97.75
656	Travis	Travis	78748	TX	3.15	23782	8/13/2008	30.17	-97.82
657	Travis	Travis	78733	TX	2.24	17366	8/15/2008	30.33	-97.87
658	Travis	Travis	78703	TX	3.24	22567	8/18/2008	30.29	-97.77
659	Travis	Travis	78734	TX	3.14	22455	8/18/2008	30.37	-97.95
660	Travis	Travis	78734	TX	3.14	22455	8/18/2008	30.37	-97.95
661	Travis	Travis	78734	TX	3.17	26935	8/18/2008	30.37	-97.95
662	Travis	Travis	78746	TX	3.15	25565	8/18/2008	30.31	-97.82
663	Travis	Travis	78758	TX	3.15	21033	8/18/2008	30.39	-97.70
664	Travis	Travis	78758	TX	3.15	21033	8/18/2008	30.39	-97.70
665	Travis	Travis	78653	TX	3.15	19053	8/18/2008	30.34	-97.50
666	Travis	Travis	78751	TX	2.56	20323	8/20/2008	30.31	-97.73
667	Travis	Travis	78746	TX	3.42	26847	8/25/2008	30.31	-97.82
668	Travis	Travis	78757	TX	3.15	20869	8/25/2008	30.35	-97.74
669	Travis	Travis	78739	TX	3.15	21601	8/25/2008	30.19	-97.90
670	Travis	Travis	78704	TX	2.10	17385	8/27/2008	30.24	-97.77
671	Bexar	Bexar	78261	TX	4.00		9/5/2008	29.70	-98.44
672	Bexar	Bexar	78232	TX	5.34		9/5/2008	29.58	-98.47
673	Travis	Travis	78757	TX	3.14	24000	9/8/2008	30.35	-97.74
674	Travis	Travis	78704	TX	25.20	169926	9/9/2008	30.24	-97.77
675	Travis	Travis	78749	TX	3.00	21056	9/10/2008	30.22	-97.86
676	Travis	Travis	78749	TX	1.80	21056	9/10/2008	30.22	-97.86
677	Travis	Travis	78723	TX	3.50	23782	9/10/2008	30.31	-97.68
678	Travis	Travis	78734	TX	5.33	40105	9/10/2008	30.37	-97.95
679	Travis	Travis	78749	TX	3.10		9/12/2008	30.23	-97.84
680	Travis	Travis	78733	TX	3.15	21837	9/12/2008	30.33	-97.87

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
681	Travis	Travis	78732	TX	3.00	24851	9/12/2008	30.38	-97.90
682	Travis	Travis	78732	TX	3.00	24851	9/12/2008	30.38	-97.90
683	Travis	Travis	78759	TX	3.04	20994	9/15/2008	30.40	-97.75
684	Travis	Travis	78759	TX	2.72	20420	9/15/2008	30.40	-97.75
685	Travis	Travis	78746	TX	3.15	24306	9/15/2008	30.31	-97.82
686	Bexar	Bexar	78201	TX	4.32		9/18/2008	29.48	-98.55
687	Travis	Travis	78756	TX	2.52	17663	9/22/2008	30.32	-97.74
688	Travis	Travis	78704	TX	3.06	22810	9/22/2008	30.24	-97.77
689	Travis	Travis	78734	TX	3.17	22516	9/22/2008	30.37	-97.95
690	Travis	Travis	78734	TX	3.17	22516	9/22/2008	30.37	-97.95
691	Travis	Travis	78732	TX	3.17	21200	9/22/2008	30.38	-97.90
692	Travis	Travis	78732	TX	3.17	21200	9/22/2008	30.38	-97.90
693	Travis	Travis	78746	TX	3.08	37547	9/23/2008	30.31	-97.82
694	Travis	Travis	78746	TX	1.85	14080	9/23/2008	30.31	-97.82
695	Travis	Travis	78759	TX	2.97	21190	9/23/2008	30.40	-97.75
696	Travis	Travis	78759	TX	0.99	7200	9/23/2008	30.40	-97.75
697	Travis	Travis	78759	TX	3.24	20567	9/24/2008	30.40	-97.75
698	Travis	Travis	78703	TX	3.00	23148	9/24/2008	30.29	-97.77
699	Travis	Travis	78703	TX	3.00	23148	9/24/2008	30.29	-97.77
700	Travis	Travis	78703	TX	10.82	73581	9/25/2008	30.29	-97.77
701	Travis	Travis	78703	TX	15.60	106126	9/25/2008	30.29	-97.77
702	Travis	Travis	78733	TX	3.00	23059	9/25/2008	30.33	-97.87
703	Travis	Travis	78733	TX	3.00	23059	9/25/2008	30.33	-97.87
704	Travis	Travis	78733	TX	6.29	30000	9/25/2008	30.33	-97.87
705	Travis	Travis	78704	TX	3.14	22455	9/29/2008	30.24	-97.77
706	Travis	Travis	78704	TX	3.14	22455	9/29/2008	30.24	-97.77
707	Travis	Travis	78759	TX	3.17	24202	9/29/2008	30.40	-97.75
708	Travis	Travis	78730	TX	3.15	45042	9/29/2008	30.37	-97.84
709	Travis	Travis	78730	TX	3.15	22521	9/29/2008	30.37	-97.84
710	Travis	Travis	78702	TX	1.80	13756	9/29/2008	30.26	-97.71
711	Travis	Travis	78733	TX	4.00	34821	9/29/2008	30.33	-97.87
712	Travis	Travis	78704	TX	3.15	22582	9/30/2008	30.24	-97.77
713	Travis	Travis	78704	TX	3.15	22582	9/30/2008	30.24	-97.77
714	Travis	Travis	78703	TX	2.52	20826	9/30/2008	30.29	-97.77
715	Travis	Travis	78704	TX	3.00	23758	9/30/2008	30.24	-97.77
716	Travis	Travis	78704	TX	3.00	23758	9/30/2008	30.24	-97.77
717	Travis	Travis	78703	TX	3.15	25856	9/30/2008	30.29	-97.77
718	Travis	Travis	78731	TX	2.66	19907	9/30/2008	30.35	-97.77
719	Travis	Travis	78731	TX	2.66	19907	9/30/2008	30.35	-97.77
720	Travis	Travis	78746	TX	2.80	26744	9/30/2008	30.31	-97.82

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
721	Travis	Travis	78746	TX	2.80	22609	9/30/2008	30.31	-97.82
722	Travis	Travis	78746	TX	2.52	18601	9/30/2008	30.31	-97.82
723	Travis	Travis	78746	TX	2.52	18601	9/30/2008	30.31	-97.82
724	Travis	Travis	78732	TX	3.17	23500	10/1/2008	30.38	-97.90
725	Travis	Travis	78732	TX	3.17	20000	10/1/2008	30.38	-97.90
726	Travis	Travis	78724	TX	3.24	20768	10/1/2008	30.29	-97.62
727	Travis	Travis	78724	TX	3.24	20738	10/1/2008	30.29	-97.62
728	Bexar	Bexar	78023	TX	3.71		10/3/2008	29.57	-98.67
729	Bexar	Bexar	78213	TX	3.60		10/6/2008	29.53	-98.51
730	Bexar	Bexar	78258	TX	16.00		10/6/2008	29.61	-98.49
731	Bexar	Bexar	78253	TX	4.81		10/8/2008	29.43	-98.76
732	Travis	Travis	78722	TX	3.50	27334	10/8/2008	30.30	-97.70
733	Travis	Travis	78733	TX	2.34	12883	10/8/2008	30.33	-97.87
734	Travis	Travis	78704	TX	2.28	26504	10/12/2008	30.24	-97.77
735	Travis	Travis	78704	TX	2.10	17786	10/13/2008	30.24	-97.77
736	Travis	Travis	78734	TX	2.67	21803	10/13/2008	30.37	-97.95
737	Travis	Travis	78727	TX	3.42	21426	10/14/2008	30.43	-97.71
738	Travis	Travis	78731	TX	3.42	22233	10/14/2008	30.35	-97.77
739	Travis	Travis	78723	TX	3.42	21196	10/20/2008	30.31	-97.68
740	Travis	Travis	78744	TX	3.20	21538	10/20/2008	30.20	-97.73
741	Travis	Travis	78703	TX	3.15	27312	10/21/2008	30.29	-97.77
742	Travis	Travis	78741	TX	3.15	26376	10/21/2008	30.23	-97.71
743	Bexar	Bexar	78229	TX	3.96		10/22/2008	29.51	-98.56
744	Travis	Travis	78653	TX	3.15	19053	10/22/2008	30.34	-97.50
745	Travis	Travis	78727	TX	10.50	91152	10/24/2008	30.43	-97.71
746	Travis	Travis	78731	TX	2.28	21019	11/3/2008	30.35	-97.77
747	Travis	Travis	78751	TX	3.15	26354	11/3/2008	30.31	-97.73
748	Travis	Travis	78731	TX	3.15	24489	11/3/2008	30.35	-97.77
749	Travis	Travis	78745	TX	7.56	64864	11/3/2008	30.21	-97.80
750	Travis	Travis	78746	TX	3.24	21245	11/4/2008	30.31	-97.82
751	Travis	Travis	78757	TX	3.15	21091	11/4/2008	30.35	-97.74
752	Travis	Travis	78759	TX	3.15	22132	11/4/2008	30.40	-97.75
753	Travis	Travis	78747	TX	3.24	21622	11/4/2008	30.13	-97.73
754	Travis	Travis	78746	TX	3.15	26422	11/5/2008	30.31	-97.82
755	Travis	Travis	78704	TX	3.06	22810	11/5/2008	30.24	-97.77
756	Travis	Travis	78734	TX	3.15	23506	11/5/2008	30.37	-97.95
757	Travis	Travis	78746	TX	3.15	25565	11/10/2008	30.31	-97.82
758	Travis	Travis	78752	TX	3.15	26847	11/17/2008	30.33	-97.70
759	Travis	Travis	78734	TX	3.20	20957	11/17/2008	30.37	-97.95
760	Travis	Travis	78704	TX	3.15	18427	11/17/2008	30.24	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
761	Travis	Travis	78753	TX	3.36	23839	11/17/2008	30.39	-97.67
762	Travis	Travis	78756	TX	3.15	21900	11/17/2008	30.32	-97.74
763	Bexar	Bexar	78249	TX	4.32		11/20/2008	29.58	-98.57
764	Travis	Travis	78746	TX	3.06	21320	11/24/2008	30.31	-97.82
765	Travis	Travis	78746	TX	3.04	24263	11/24/2008	30.31	-97.82
766	Travis	Travis	78751	TX	6.66	48589	11/24/2008	30.31	-97.73
767	Travis	Travis	78746	TX	4.32	24290	11/25/2008	30.31	-97.82
768	Travis	Travis	78746	TX	1.08	5300	11/25/2008	30.31	-97.82
769	Travis	Travis	78750	TX	3.15	20928	11/25/2008	30.43	-97.80
770	Travis	Travis	78750	TX	3.15	20928	11/25/2008	30.43	-97.80
771	Travis	Travis	78722	TX	3.15	21745	11/25/2008	30.30	-97.70
772	Travis	Travis	78727	TX	3.15	21774	11/25/2008	30.43	-97.71
773	Travis	Travis	78745	TX	3.06	19082	11/26/2008	30.21	-97.80
774	Travis	Travis	78746	TX	23.63	149233	11/26/2008	30.31	-97.82
775	Bexar	Bexar	78212	TX	2.78		12/5/2008	29.46	-98.49
776	Travis	Travis	78745	TX	3.17	22700	12/8/2008	30.21	-97.80
777	Travis	Travis	78732	TX	3.17	23500	12/8/2008	30.38	-97.90
778	Travis	Travis	78750	TX	3.15	21295	12/10/2008	30.43	-97.80
779	Travis	Travis	78751	TX	3.36	29769	12/11/2008	30.31	-97.73
780	Travis	Travis	78730	TX	3.01	21637	12/12/2008	30.37	-97.84
781	Travis	Travis	78749	TX	3.24	21898	12/12/2008	30.22	-97.86
782	Travis	Travis	78746	TX	3.15	20901	12/12/2008	30.31	-97.82
783	Hays	Hays	78737	TX	6.00	36000	12/15/2008	30.23	-98.00
784	Travis	Travis	78759	TX	3.17	24380	12/15/2008	30.40	-97.75
785	Travis	Travis	78731	TX	3.17	28093	12/15/2008	30.35	-97.77
786	Travis	Travis	78748	TX	2.85	21412	12/15/2008	30.17	-97.82
787	Travis	Travis	78704	TX	3.15	23834	12/15/2008	30.24	-97.77
788	Travis	Travis	78734	TX	2.63	15850	12/17/2008	30.37	-97.95
789	Travis	Travis	78702	TX	3.74	22471	12/19/2008	30.26	-97.71
790	Travis	Travis	78758	TX	3.24	21961	12/22/2008	30.39	-97.70
791	Travis	Travis	78750	TX	3.15	19995	12/23/2008	30.43	-97.80
792	Travis	Travis	78750	TX	3.15	19245	12/23/2008	30.43	-97.80
793	Travis	Travis	78750	TX	2.88	19378	12/23/2008	30.43	-97.80
794	Travis	Travis	78750	TX	2.88	19378	12/23/2008	30.43	-97.80
795	Travis	Travis	78704	TX	23.63	163060	12/23/2008	30.24	-97.77
796	Bexar	Bexar	78209	TX	1.02		12/30/2008	29.50	-98.46
797	Travis	Travis	78746	TX	3.15	22394	12/31/2008	30.31	-97.82
798	Hays	Hays	78737	TX	6.00	36000	1/1/2009	30.23	-98.00
799	Bexar	Bexar	78148	TX	2.80		1/8/2009	29.57	-98.31
800	Bexar	Bexar	78249	TX	3.99		1/8/2009	29.56	-98.61

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
801	Bexar	Bexar	78249	TX	2.09		1/8/2009	29.56	-98.61
802	Travis	Travis	78746	TX	3.15	22541	1/9/2009	30.31	-97.82
803	Travis	Travis	78746	TX	1.05	7513	1/9/2009	30.31	-97.82
804	Travis	Travis	78731	TX	3.17	23065	1/9/2009	30.35	-97.77
805	Travis	Travis	78732	TX	3.17	23500	1/9/2009	30.38	-97.90
806	Travis	Travis	78746	TX	5.25	34448	1/9/2009	30.31	-97.82
807	Travis	Travis	78703	TX	6.12	41249	1/9/2009	30.29	-97.77
808	Travis	Travis	78733	TX	3.15	23941	1/12/2009	30.33	-97.87
809	Williamson	Williamson	78729	TX	3.15	22189	1/13/2009	30.45	-97.76
810	Travis	Travis	78745	TX	3.15	28708	1/14/2009	30.21	-97.80
811	Travis	Travis	78735	TX	3.28	29803	1/14/2009	30.26	-97.86
812	Travis	Travis	78722	TX	3.15	22332	1/21/2009	30.30	-97.70
813	Travis	Travis	78745	TX	3.15	25949	1/23/2009	30.21	-97.80
814	Bexar	Bexar	78261	TX	3.60		1/30/2009	29.70	-98.42
815	Bexar	Bexar	78212	TX	6.80		1/30/2009	29.47	-98.48
816	Bexar	Bexar	78232	TX	4.86		1/30/2009	29.58	-98.51
817	Travis	Travis	78703	TX	3.15	22782	2/2/2009	30.29	-97.77
818	Travis	Travis	78703	TX	3.15	22782	2/2/2009	30.29	-97.77
819	Travis	Travis	78733	TX	3.24	21488	2/3/2009	30.33	-97.87
820	Travis	Travis	78723	TX	3.15	20710	2/3/2009	30.31	-97.68
821	Travis	Travis	78746	TX	3.15	30914	2/4/2009	30.31	-97.82
822	Travis	Travis	78747	TX	3.02	22271	2/4/2009	30.13	-97.73
823	Travis	Travis	78747	TX	3.02	22271	2/4/2009	30.13	-97.73
824	Travis	Travis	78733	TX	3.15	20412	2/5/2009	30.33	-97.87
825	Travis	Travis	78733	TX	6.09	39610	2/5/2009	30.33	-97.87
826	Travis	Travis	78759	TX	3.15	28354	2/6/2009	30.40	-97.75
827	Travis	Travis	78727	TX	3.15	27000	2/6/2009	30.43	-97.71
828	Travis	Travis	78734	TX	1.84	16084	2/6/2009	30.37	-97.95
829	Travis	Travis	78751	TX	3.15	24162	2/6/2009	30.31	-97.73
830	Travis	Travis	78749	TX	3.15	25050	2/12/2009	30.22	-97.86
831	Travis	Travis	78745	TX	3.14	21775	2/12/2009	30.21	-97.80
832	Travis	Travis	78704	TX	3.15	28568	2/12/2009	30.24	-97.77
833	Travis	Travis	78724	TX	1.58	15023	2/18/2009	30.29	-97.62
834	Travis	Travis	78703	TX	3.15	22376	2/19/2009	30.29	-97.77
835	Travis	Travis	78704	TX	12.18	91282	2/19/2009	30.24	-97.77
836	Bexar	Bexar	78254	TX	4.00		2/20/2009	29.53	-98.66
837	Travis	Travis	78732	TX	3.14	23794	2/23/2009	30.38	-97.90
838	Travis	Travis	78759	TX	3.12	22631	2/23/2009	30.40	-97.75
839	Travis	Travis	78735	TX	3.15	20520	2/24/2009	30.26	-97.86
840	Travis	Travis	78731	TX	3.15	21745	2/24/2009	30.35	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
841	Travis	Travis	78734	TX	3.24	22620	2/24/2009	30.37	-97.95
842	Travis	Travis	78734	TX	3.15	21431	2/24/2009	30.37	-97.95
843	Travis	Travis	78731	TX	3.15	26385	2/25/2009	30.35	-97.77
844	Travis	Travis	78704	TX	3.15	27300	2/25/2009	30.24	-97.77
845	Travis	Travis	78746	TX	22.91	201352	2/25/2009	30.31	-97.82
846	Travis	Travis	78730	TX	3.20	23174	2/27/2009	30.37	-97.84
847	Travis	Travis	78746	TX	3.20	24230	2/27/2009	30.31	-97.82
848	Travis	Travis	78728	TX	3.15	19924	2/27/2009	30.46	-97.68
849	Travis	Travis	78704	TX	3.20	22720	2/27/2009	30.24	-97.77
850	Williamson	Williamson	78729	TX	3.85	35925	2/27/2009	30.45	-97.76
851	Travis	Travis	78756	TX	11.65	87516	3/2/2009	30.32	-97.74
852	Travis	Travis	78727	TX	6.05	53859	3/2/2009	30.43	-97.71
853	Travis	Travis	78702	TX	3.12	20882	3/6/2009	30.26	-97.71
854	Travis	Travis	78732	TX	3.17	23500	3/9/2009	30.38	-97.90
855	Travis	Travis	78746	TX	3.15	22743	3/10/2009	30.31	-97.82
856	Travis	Travis	78703	TX	3.15	21405	3/10/2009	30.29	-97.77
857	Travis	Travis	78734	TX	3.15	29421	3/11/2009	30.37	-97.95
858	Tarrant	Tarrant	76020	TX	2.70	24300	3/11/2009	32.99	-97.55
859	Travis	Travis	78704	TX	23.10	166798	3/16/2009	30.24	-97.77
860	Travis	Travis	78746	TX	3.60	26321	3/17/2009	30.31	-97.82
861	Travis	Travis	78746	TX	3.60	26321	3/17/2009	30.31	-97.82
862	Travis	Travis	78751	TX	3.15	22518	3/17/2009	30.31	-97.73
863	Travis	Travis	78724	TX	3.24	21961	3/17/2009	30.29	-97.62
864	Travis	Travis	78757	TX	6.30	89938	3/24/2009	30.35	-97.74
865	Lamar	Hunt	75421	TX	2.46	19862	3/26/2009	33.65	-95.72
866	Grayson	Collin	75090	TX	4.32	24367	3/27/2009	33.60	-96.56
867	Grayson	Collin	75021	TX	2.10	16792	3/27/2009	33.74	-96.47
868	Harris	Harris	77401	TX	2.87	17238	3/28/2009	29.71	-95.46
869	Harris	Harris	77401	TX	2.87	19871	3/28/2009	29.71	-95.46
870	Travis	Travis	78734	TX	3.15	21810	3/30/2009	30.37	-97.95
871	Travis	Travis	78704	TX	3.15	20749	4/1/2009	30.24	-97.77
872	Travis	Travis	78731	TX	3.15	25987	4/6/2009	30.35	-97.77
873	Travis	Travis	78756	TX	3.85	42462	4/6/2009	30.32	-97.74
874	Travis	Travis	78727	TX	2.80	26708	4/6/2009	30.43	-97.71
875	Travis	Travis	78734	TX	9.45	65887	4/8/2009	30.37	-97.95
876	Travis	Travis	78736	TX	3.15	24845	4/10/2009	30.25	-97.95
877	Travis	Travis	78745	TX	3.15	23121	4/10/2009	30.21	-97.80
878	Travis	Travis	78752	TX	23.40	125124	4/10/2009	30.33	-97.70
879	Travis	Travis	78703	TX	2.04	15711	4/14/2009	30.29	-97.77
880	Dallas	Dallas	75214	TX	3.50	3652	4/15/2009	32.82	-96.74

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
881	Bexar	Bexar	78201	TX	13.37		4/15/2009	29.46	-98.52
882	Travis	Travis	78734	TX	3.17	25673	4/15/2009	30.37	-97.95
883	Grayson	Collin	75090	TX	4.32	34994	4/21/2009	33.60	-96.56
884	Bexar	Bexar	78212	TX	3.68		4/21/2009	29.46	-98.50
885	Grayson	Collin	75020	TX	2.10	16792	4/21/2009	33.78	-96.60
886	Hood	Hood	76035	TX	6.53	48820	4/24/2009	32.55	-97.63
887	Comal	Comal	78163	TX	3.96		4/30/2009	29.77	-98.43
888	Travis	Travis	78759	TX	1.58	11010	4/30/2009	30.40	-97.75
889	Travis	Travis	78741	TX	11.55	71343	4/30/2009	30.23	-97.71
890	Travis	Travis	78703	TX	4.20	34860	4/30/2009	30.29	-97.77
891	Travis	Travis	78701	TX	3.15	20378	5/1/2009	30.27	-97.74
892	Travis	Travis	78746	TX	3.15	21242	5/1/2009	30.31	-97.82
893	Travis	Travis	78731	TX	6.30	39000	5/1/2009	30.35	-97.77
894	Travis	Travis	78733	TX	4.20	27554	5/1/2009	30.33	-97.87
895	Travis	Travis	78749	TX	3.15	22466	5/4/2009	30.22	-97.86
896	Travis	Travis	78723	TX	3.02	23579	5/4/2009	30.31	-97.68
897	Travis	Travis	78756	TX	2.59	21678	5/4/2009	30.32	-97.74
898	Travis	Travis	78704	TX	24.48	198246	5/4/2009	30.24	-97.77
899	Bexar	Bexar	78216	TX	4.40		5/5/2009	29.56	-98.52
900	Travis	Travis	78752	TX	23.40	166495	5/5/2009	30.33	-97.70
901	Smith	Smith	75703	TX	2.31	20790	5/9/2009	32.24	-95.36
902	Bexar	Bexar	78210	TX	1.05		5/11/2009	29.40	-98.47
903	Dallas	Dallas	75214	TX	3.50	26894	5/12/2009	32.82	-96.74
904	Travis	Travis	78750	TX	7.00	43616	5/13/2009	30.43	-97.80
905	Travis	Travis	78741	TX	6.60	37311	5/14/2009	30.23	-97.71
906	Travis	Travis	78750	TX	2.16	21859	5/15/2009	30.43	-97.80
907	Travis	Travis	78727	TX	3.20	24695	5/19/2009	30.43	-97.71
908	Travis	Travis	78701	TX	3.20	24300	5/19/2009	30.27	-97.74
909	Travis	Travis	78731	TX	3.20	23748	5/19/2009	30.35	-97.77
910	Denton	Denton	75007	TX	2.10	18522	5/20/2009	33.01	-96.89
911	Bexar	Bexar	78216	TX	3.20		5/20/2009	29.57	-98.51
912	Smith	Smith	75771	TX	5.00	42500	5/20/2009	32.56	-95.44
913	Smith	Smith	75771	TX	5.38	39600	5/20/2009	32.56	-95.44
914	Travis	Travis	78731	TX	4.20	27519	5/21/2009	30.35	-97.77
915	Travis	Travis	78703	TX	4.38	33313	5/21/2009	30.29	-97.77
916	Travis	Travis	78710	TX	5.25	44738	5/21/2009	30.34	-97.66
917	Travis	Travis	78751	TX	5.78	49629	5/21/2009	30.31	-97.73
918	Smith	Smith	75703	TX	2.00	26460	5/22/2009	32.25	-95.41
919	Travis	Travis	78758	TX	3.15	21477	5/25/2009	30.39	-97.70
920	Travis	Travis	78749	TX	3.78	28049	5/26/2009	30.22	-97.86

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
921	Travis	Travis	78733	TX	5.60	38374	5/26/2009	30.33	-97.87
922	Travis	Travis	78731	TX	6.30	39774	5/26/2009	30.35	-97.77
923	Travis	Travis	78759	TX	3.15	22154	5/26/2009	30.40	-97.75
924	Travis	Travis	78734	TX	3.15	20130	5/26/2009	30.37	-97.95
925	Tarrant	Tarrant	76034	TX	3.02	24849	5/27/2009	32.89	-97.15
926	Travis	Travis	78731	TX	3.15	22660	5/27/2009	30.35	-97.77
927	Bexar	Bexar	78210	TX	2.45		5/28/2009	29.41	-98.45
928	Bexar	Bexar	78209	TX	2.60		5/28/2009	29.48	-98.47
929	Tarrant	Tarrant	76180	TX	5.76	41000	6/1/2009	32.84	-97.23
930	Travis	Travis	78723	TX	3.17	23000	6/1/2009	30.31	-97.68
931	Dallas	Dallas	75063	TX	6.00	45979	6/3/2009	32.91	-96.98
932	Dallas	Dallas	75231	TX	6.27	47922	6/3/2009	32.88	-96.75
933	Collin	Collin	75070	TX	3.50	29094	6/3/2009	33.18	-96.70
934	Travis	Travis	78745	TX	2.38	16656	6/8/2009	30.21	-97.80
935	Travis	Travis	78748	TX	3.24	21534	6/8/2009	30.17	-97.82
936	Bexar	Bexar	78215	TX	200.00	1350000	6/9/2009	29.44	-98.48
937	Hill	Ellis	76645	TX	10.08	71580	6/9/2009	32.02	-97.14
938	Travis	Travis	78704	TX	4.20	26139	6/10/2009	30.24	-97.77
939	Travis	Travis	78751	TX	4.20	26559	6/10/2009	30.31	-97.73
940	Travis	Travis	78723	TX	7.80	51847	6/10/2009	30.31	-97.68
941	Travis	Travis	78746	TX	6.12	45360	6/12/2009	30.31	-97.82
942	Panola	Rusk	75633	TX	32.00	288679	6/15/2009	32.15	-94.27
943	Travis	Travis	78746	TX	3.15	27646	6/16/2009	30.31	-97.82
944	Travis	Travis	78746	TX	4.05	32874	6/16/2009	30.31	-97.82
945	Lamar	Hunt	75421	TX	2.46	19862	6/18/2009	33.64	-95.71
946	Travis	Travis	78701	TX	3.20	24300	6/18/2009	30.27	-97.74
947	Tarrant	Tarrant	76040	TX	3.24	25722	6/19/2009	32.82	-97.10
948	Tarrant	Tarrant	76131	TX	2.87	25311	6/19/2009	32.90	-97.36
949	Travis	Travis	78745	TX	3.15	22945	6/19/2009	30.21	-97.80
950	Travis	Travis	78757	TX	3.15	19308	6/19/2009	30.35	-97.74
951	Grayson	Collin	75092	TX	4.50	35590	6/20/2009	33.68	-96.73
952	Bell	Williamson	76543	TX	3.15	21232	6/23/2009	31.14	-97.67
953	Bell	Williamson	76542	TX	2.10	18810	6/23/2009	31.01	-97.72
954	Bell	Williamson	76542	TX	5.04	32799	6/23/2009	31.01	-97.72
955	Travis	Travis	78754	TX	3.24	21304	6/23/2009	30.36	-97.65
956	Travis	Travis	78751	TX	3.50	23876	6/24/2009	30.31	-97.73
957	Travis	Travis	78723	TX	3.15	22421	6/24/2009	30.31	-97.68
958	Travis	Travis	78735	TX	2.00	15827	6/24/2009	30.26	-97.86
959	Travis	Travis	78757	TX	3.15	22956	6/24/2009	30.35	-97.74
960	Travis	Travis	78704	TX	4.32	26848	6/24/2009	30.24	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
961	Smith	Smith	75703	TX	2.94	26894	6/25/2009	32.27	-95.33
962	Smith	Smith	75703	TX	2.31	20790	6/25/2009	32.27	-95.33
963	Travis	Travis	78733	TX	7.80	56000	6/25/2009	30.33	-97.87
964	Travis	Travis	78749	TX	7.70	53274	6/26/2009	30.22	-97.86
965	Travis	Travis	78750	TX	6.83	44578	6/26/2009	30.43	-97.80
966	Travis	Travis	78703	TX	4.80	39769	6/29/2009	30.29	-97.77
967	Travis	Travis	78730	TX	7.00	44343	6/29/2009	30.37	-97.84
968	Travis	Travis	78746	TX	8.00	57708	6/30/2009	30.31	-97.82
969	Dallas	Dallas	75234	TX	3.10	30934	7/1/2009	32.92	-96.86
970	Rockwall	Rockwall	75087	TX	4.69	26650	7/1/2009	32.95	-96.44
971	Travis	Travis	78746	TX	3.24	33055	7/2/2009	30.31	-97.82
972	Ellis	Ellis	75125	TX	10.08	66800	7/4/2009	32.52	-96.64
973	Tarrant	Tarrant	76179	TX	2.05	12880	7/7/2009	32.92	-97.46
974	Tarrant	Tarrant	76164	TX	236.13	1471931	7/7/2009	32.78	-97.35
975	Nacogdoches	Rusk	75964	TX	10.08	75089	7/7/2009	31.59	-94.77
976	Collin	Collin	75002	TX	4.00	42196	7/8/2009	33.09	-96.61
977	Williamson	Williamson	78665	TX	8.20	52036	7/8/2009	30.35	-98.53
978	Smith	Smith	75771	TX	9.86	78900	7/10/2009	32.56	-95.44
979	Tarrant	Tarrant	76180	TX	5.76	42169	7/10/2009	32.86	-97.21
980	Ellis	Ellis	75125	TX	3.15	22000	7/10/2009	32.52	-96.64
981	Travis	Travis	78749	TX	7.70	54000	7/13/2009	30.21	-97.86
982	Travis	Travis	78727	TX	2.16	14060	7/13/2009	30.43	-97.71
983	Travis	Travis	78703	TX	4.68	31533	7/13/2009	30.29	-97.77
984	Travis	Travis	78751	TX	23.63	179500	7/13/2009	30.31	-97.73
985	Travis	Travis	78751	TX	23.63	177876	7/13/2009	30.31	-97.73
986	Travis	Travis	78745	TX	23.33	206224	7/13/2009	30.21	-97.80
987	Collin	Collin	75098	TX	4.50	31860	7/14/2009	33.02	-96.51
988	Travis	Travis	78759	TX	3.85	23110	7/14/2009	30.40	-97.75
989	Travis	Travis	78746	TX	3.08	22887	7/14/2009	30.31	-97.82
990	Travis	Travis	78746	TX	9.75	60520	7/14/2009	30.31	-97.82
991	Collin	Collin	75093	TX	1.13	8195	7/15/2009	33.04	-96.82
992	Travis	Travis	78702	TX	3.15	22499	7/15/2009	30.26	-97.71
993	Travis	Travis	78725	TX	3.15	22512	7/15/2009	30.23	-97.62
994	Travis	Travis	78727	TX	5.76	37811	7/15/2009	30.43	-97.71
995	Travis	Travis	78750	TX	3.96	25018	7/17/2009	30.43	-97.80
996	Travis	Travis	78749	TX	7.70	54000	7/18/2009	30.18	-97.86
997	Travis	Travis	78723	TX	3.42	21398	7/21/2009	30.31	-97.68
998	Travis	Travis	78704	TX	3.24	20714	7/21/2009	30.24	-97.77
999	Travis	Travis	78728	TX	2.52	17246	7/21/2009	30.46	-97.68
1000	Travis	Travis	78727	TX	3.24	20714	7/21/2009	30.43	-97.71

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1001	Travis	Travis	78732	TX	11.16	74435	7/21/2009	30.38	-97.90
1002	Travis	Travis	78724	TX	3.24	26515	7/22/2009	30.29	-97.62
1003	Travis	Travis	78730	TX	3.24	20714	7/22/2009	30.37	-97.84
1004	Travis	Travis	78749	TX	1.48	19500	7/22/2009	30.22	-97.86
1005	Tarrant	Tarrant	76051	TX	6.00	44000	7/23/2009	32.95	-97.09
1006	Travis	Travis	78746	TX	3.50	30728	7/23/2009	30.31	-97.82
1007	Travis	Travis	78759	TX	3.15	26274	7/23/2009	30.40	-97.75
1008	Travis	Travis	78733	TX	13.65	112773	7/23/2009	30.33	-97.87
1009	Travis	Travis	78704	TX	4.20	30538	7/23/2009	30.24	-97.77
1010	Travis	Travis	78704	TX	5.52	39344	7/23/2009	30.24	-97.77
1011	Bexar	Bexar	78213	TX	1.80	14188	7/23/2009	29.50	-98.52
1012	Collin	Collin	75023	TX	3.00	24933	7/24/2009	33.06	-96.71
1013	Travis	Travis	78747	TX	3.85	22626	7/27/2009	30.13	-97.73
1014	Travis	Travis	78704	TX	6.24	48547	7/27/2009	30.24	-97.77
1015	Travis	Travis	78754	TX	7.70	46435	7/28/2009	30.36	-97.65
1016	Travis	Travis	78730	TX	3.85	26196	7/28/2009	30.37	-97.84
1017	Travis	Travis	78734	TX	3.15	23305	7/29/2009	30.37	-97.95
1018	Williamson	Williamson	78729	TX	4.20	26050	7/29/2009	30.45	-97.76
1019	Travis	Travis	78753	TX	6.15	36002	7/29/2009	30.39	-97.67
1020	Travis	Travis	78728	TX	5.35	33000	7/29/2009	30.46	-97.68
1021	Travis	Travis	78723	TX	19.38	111264	7/29/2009	30.31	-97.68
1022	Travis	Travis	78746	TX	3.15	25565	8/1/2009	30.31	-97.82
1023	Henderson	Henderson	75156	TX	2.80		8/3/2009	32.31	-96.14
1024	Denton	Denton	76249	TX	2.46	19170	8/3/2009	33.29	-97.29
1025	Denton	Denton	76249	TX	2.87	19560	8/3/2009	33.29	-97.29
1026	McLennan	Ellis	76708	TX	47.25	363310	8/3/2009	31.64	-97.21
1027	Tarrant	Tarrant	76116	TX	3.36	25455	8/3/2009	32.71	-97.43
1028	Travis	Travis	78731	TX	3.15	20264	8/4/2009	30.35	-97.77
1029	Travis	Travis	78723	TX	6.30	36361	8/5/2009	30.31	-97.68
1030	Travis	Travis	78746	TX	4.40	31900	8/5/2009	30.31	-97.82
1031	Travis	Travis	78745	TX	11.03	69090	8/6/2009	30.21	-97.80
1032	Travis	Travis	78745	TX	3.15	20000	8/6/2009	30.21	-97.80
1033	Travis	Travis	78746	TX	4.92	28913	8/6/2009	30.31	-97.82
1034	Travis	Travis	78723	TX	15.39	91000	8/6/2009	30.31	-97.68
1035	Anderson	Henderson	75801	TX	10.08	61152	8/7/2009	31.76	-95.54
1036	Bexar	Bexar	78254	TX	8.40	45792	8/7/2009	29.53	-98.78
1037	Jefferson	Jefferson	77706	TX	9.63	80171	8/10/2009	30.10	-94.17
1038	Ellis	Ellis	75125	TX	4.05	27720	8/10/2009	32.52	-96.64
1039	Travis	Travis	78759	TX	7.18	45212	8/10/2009	30.40	-97.75
1040	Travis	Travis	78727	TX	5.40	35985	8/10/2009	30.43	-97.71

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1041	Dallas	Dallas	75247	TX	101.64		8/11/2009	32.82	-96.88
1042	Navarro	Ellis	76681	TX	7.02	59718	8/15/2009	31.91	-96.52
1043	Dallas	Dallas	75006	TX	4.20	33218	8/15/2009	32.97	-96.89
1044	Travis	Travis	78746	TX	9.45	73043	8/18/2009	30.31	-97.82
1045	Travis	Travis	78746	TX	5.60	39209	8/18/2009	30.31	-97.82
1046	Travis	Travis	78731	TX	10.85	70851	8/18/2009	30.35	-97.77
1047	Travis	Travis	78723	TX	23.36	167758	8/18/2009	30.31	-97.68
1048	Hamilton	Hood	76531	TX	9.75	71858	8/19/2009	31.68	-98.18
1049	Tarrant	Tarrant	76051	TX	6.00	44581	8/19/2009	32.95	-97.07
1050	Dallas	Dallas	75228	TX	4.68	46800	8/19/2009	32.83	-96.68
1051	Collin	Collin	75093	TX	8.10	63273	8/19/2009	33.04	-96.80
1052	Tarrant	Tarrant	76107	TX	3.85	33746	8/19/2009	32.74	-97.38
1053	Bell	Williamson	76502	TX	2.71	20987	8/19/2009	31.11	-97.41
1054	Bastrop	Bastrop	78621	TX	2.38	18445	8/19/2009	30.34	-97.37
1055	Navarro	Ellis	76681	TX	7.20	59718	8/19/2009	31.90	-96.43
1056	Dallas	Dallas	75043	TX	4.60	31955	8/19/2009	32.85	-96.59
1057	Tarrant	Tarrant	76179	TX	9.60	67634	8/19/2009	32.92	-97.46
1058	Hopkins	Hunt	75482	TX	2.85	40670	8/19/2009	33.18	-95.60
1059	Bell	Williamson	76579	TX	10.00	51106	8/19/2009	31.18	-97.20
1060	Travis	Travis	78730	TX	3.12	21103	8/19/2009	30.37	-97.84
1061	Travis	Travis	78722	TX	4.29	35435	8/19/2009	30.30	-97.70
1062	Travis	Travis	78746	TX	5.70	35066	8/20/2009	30.31	-97.82
1063	Tarrant	Tarrant	76020	TX	6.30	47725	8/21/2009	32.92	-97.55
1064	Travis	Travis	78727	TX	7.00	40921	8/21/2009	30.43	-97.71
1065	Travis	Travis	78750	TX	4.20	25794	8/21/2009	30.43	-97.80
1066	Travis	Travis	78738	TX	8.75	46619	8/21/2009	30.31	-97.98
1067	Travis	Travis	78721	TX	4.73	26204	8/21/2009	30.27	-97.68
1068	Travis	Travis	78744	TX	3.15	20227	8/21/2009	30.20	-97.73
1069	Travis	Travis	78731	TX	3.15	19794	8/21/2009	30.35	-97.77
1070	Nacogdoches	Rusk	75961	TX	10.80	67188	8/22/2009	31.59	-94.60
1071	Travis	Travis	78733	TX	5.20	30330	8/24/2009	30.33	-97.87
1072	Travis	Travis	78749	TX	2.78	17271	8/24/2009	30.22	-97.86
1073	Travis	Travis	78704	TX	3.33	18714	8/24/2009	30.24	-97.77
1074	Travis	Travis	78758	TX	3.46	22257	8/26/2009	30.39	-97.70
1075	Travis	Travis	78727	TX	3.14	21897	8/31/2009	30.43	-97.71
1076	Travis	Travis	78733	TX	5.78	34307	8/31/2009	30.33	-97.87
1077	Hill	Ellis	76645	TX	10.08	71580	9/1/2009	32.02	-97.14
1078	Denton	Denton	75007	TX	5.85	38420	9/1/2009	33.01	-96.89
1079	Travis	Travis	78745	TX	4.36	31201	9/1/2009	30.21	-97.80
1080	Travis	Travis	78746	TX	4.50	37255	9/1/2009	30.31	-97.82

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1081	Travis	Travis	78745	TX	3.46	27064	9/1/2009	30.21	-97.80
1082	Travis	Travis	78721	TX	2.72	18019	9/1/2009	30.27	-97.68
1083	Travis	Travis	78721	TX	3.15	20231	9/1/2009	30.27	-97.68
1084	Travis	Travis	78721	TX	3.15	20231	9/1/2009	30.27	-97.68
1085	Bell	Williamson	76513	TX	10.00	64825	9/4/2009	31.07	-97.50
1086	Travis	Travis	78723	TX	0.79	6500	9/6/2009	30.31	-97.68
1087	Travis	Travis	78732	TX	3.15	22082	9/8/2009	30.38	-97.90
1088	Bexar	Bexar	78253	TX	7.20	58222	9/8/2009	29.47	-98.81
1089	Travis	Travis	78727	TX	5.76	31735	9/9/2009	30.43	-97.71
1090	Travis	Travis	78733	TX	6.65	39890	9/9/2009	30.33	-97.87
1091	Travis	Travis	78759	TX	6.65	41962	9/9/2009	30.40	-97.75
1092	Travis	Travis	78728	TX	3.15	20732	9/9/2009	30.46	-97.68
1093	Travis	Travis	78749	TX	6.30	37144	9/9/2009	30.22	-97.86
1094	Travis	Travis	78748	TX	7.56	41424	9/9/2009	30.17	-97.82
1095	Travis	Travis	78749	TX	3.15	19644	9/9/2009	30.22	-97.86
1096	Travis	Travis	78702	TX	3.17	22589	9/11/2009	30.26	-97.71
1097	Travis	Travis	78754	TX	5.78	34998	9/11/2009	30.36	-97.65
1098	Travis	Travis	78731	TX	7.00	49877	9/11/2009	30.35	-97.77
1099	Comal	Comal	78132	TX	3.96	30000	9/14/2009	29.74	-98.20
1100	Bell	Williamson	76513	TX	6.11	42212	9/15/2009	31.07	-97.50
1101	Bell	Williamson	76502	TX	10.00	67981	9/15/2009	31.11	-97.41
1102	Collin	Collin	75069	TX	2.10	25631	9/15/2009	33.16	-96.59
1103	Collin	Collin	75013	TX	7.20	59529	9/15/2009	33.11	-96.70
1104	Travis	Travis	78747	TX	23.99	135100	9/15/2009	30.13	-97.73
1105	Travis	Travis	78746	TX	23.63	141845	9/15/2009	30.31	-97.82
1106	Collin	Collin	75098	TX	4.50	31500	9/16/2009	33.02	-96.51
1107	Leon	Montgomery	77865	TX	1.08	10260	9/16/2009	31.22	-96.30
1108	Denton	Denton	75007	TX	5.40	35050	9/16/2009	33.01	-96.89
1109	Travis	Travis	78749	TX	6.34	37760	9/16/2009	30.22	-97.86
1110	Travis	Travis	78746	TX	7.00	39063	9/18/2009	30.31	-97.82
1111	Travis	Travis	78733	TX	10.08	54250	9/18/2009	30.33	-97.87
1112	Travis	Travis	78728	TX	5.95	31803	9/18/2009	30.46	-97.68
1113	Travis	Travis	78705	TX	4.10	22923	9/21/2009	30.30	-97.74
1114	Travis	Travis	78753	TX	10.37	52823	9/21/2009	30.39	-97.67
1115	Travis	Travis	78750	TX	8.19	41658	9/21/2009	30.43	-97.80
1116	Travis	Travis	78749	TX	2.88	21932	9/21/2009	30.22	-97.86
1117	Collin	Collin	75075	TX	2.25	16675	9/23/2009	33.02	-96.74
1118	Travis	Travis	78746	TX	14.00	68567	9/23/2009	30.31	-97.82
1119	Travis	Travis	78759	TX	8.41	45246	9/23/2009	30.40	-97.75
1120	Travis	Travis	78747	TX	3.33	47352	9/23/2009	30.13	-97.73

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1121	Ellis	Ellis	75165	TX	5.25	37500	9/24/2009	32.40	-96.79
1122	Ellis	Ellis	75125	TX	10.08	66800	9/24/2009	32.52	-96.64
1123	Tarrant	Tarrant	76016	TX	7.20	54000	9/24/2009	32.69	-97.18
1124	Parker	Parker	76008	TX	8.19	53889	9/24/2009	32.69	-97.63
1125	Dallas	Dallas	75081	TX	7.84	36924	9/24/2009	32.96	-96.70
1126	Travis	Travis	78730	TX	5.58	48757	9/25/2009	30.37	-97.84
1127	Travis	Travis	78757	TX	7.40	42577	9/25/2009	30.35	-97.74
1128	Travis	Travis	78745	TX	3.33	19157	9/25/2009	30.21	-97.80
1129	Travis	Travis	78704	TX	22.94	137761	9/25/2009	30.24	-97.77
1130	Travis	Travis	78746	TX	7.20	55379	9/28/2009	30.31	-97.82
1131	Cherokee	Smith	75766	TX	4.92	52100	9/29/2009	31.93	-95.35
1132	Collin	Collin	75093	TX	1.13	8195	9/29/2009	33.04	-96.80
1133	Smith	Smith	75762	TX	10.00	74000	9/29/2009	32.21	-95.40
1134	Travis	Travis	78704	TX	5.78	36777	9/29/2009	30.24	-97.77
1135	Travis	Travis	78744	TX	4.20	26212	9/29/2009	30.20	-97.73
1136	Travis	Travis	78732	TX	6.30	34358	10/1/2009	30.38	-97.90
1137	Travis	Travis	78732	TX	6.24	36658	10/1/2009	30.38	-97.90
1138	Travis	Travis	78732	TX	4.20	23009	10/1/2009	30.38	-97.90
1139	Travis	Travis	78730	TX	8.40	47977	10/1/2009	30.37	-97.84
1140	Travis	Travis	78731	TX	3.08	22027	10/2/2009	30.35	-97.77
1141	Travis	Travis	78702	TX	4.56	29278	10/2/2009	30.26	-97.71
1142	Dallas	Dallas	75230	TX	6.44	37640	10/4/2009	32.90	-96.80
1143	Hood	Hood	76035	TX	6.27	45785	10/5/2009	32.57	-97.62
1144	Cameron	Nueces	78523	TX	4.10	23380	10/5/2009	26.00	-97.57
1145	Bexar	Bexar	78253	TX	6.30	36058	10/5/2009	29.47	-98.81
1146	Tarrant	Tarrant	76051	TX	2.70	27701	10/6/2009	32.95	-97.07
1147	Travis	Travis	78746	TX	7.77	48163	10/7/2009	30.31	-97.82
1148	Travis	Travis	78704	TX	13.39	101284	10/7/2009	30.24	-97.77
1149	Anderson	Henderson	75801	TX	10.08	61152	10/9/2009	31.76	-95.54
1150	Denton	Denton	75007	TX	4.20	26480	10/9/2009	33.01	-96.89
1151	Travis	Travis	78759	TX	2.45	14191	10/9/2009	30.40	-97.75
1152	Travis	Travis	78746	TX	3.15	18959	10/9/2009	30.31	-97.82
1153	Bexar	Bexar	78253	TX	3.73	18072	10/9/2009	29.47	-98.81
1154	Smith	Smith	75762	TX	3.15	28350	10/10/2009	32.21	-95.37
1155	Smith	Smith	75703	TX	3.50	24500	10/12/2009	32.27	-95.33
1156	Parker	Parker	76087	TX	2.40	30448	10/12/2009	32.61	-97.83
1157	Travis	Travis	78746	TX	2.73	20789	10/12/2009	30.31	-97.82
1158	Travis	Travis	78727	TX	2.45	12397	10/12/2009	30.43	-97.71
1159	Travis	Travis	78733	TX	12.95	70017	10/12/2009	30.33	-97.87
1160	Travis	Travis	78759	TX	3.15	17482	10/12/2009	30.40	-97.75

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1161	Dallas	Dallas	75229	TX	3.08	19583	10/13/2009	32.90	-96.86
1162	Collin	Collin	75287	TX	1.75	10500	10/13/2009	33.00	-96.84
1163	Williamson	Williamson	78665	TX	2.63	21056	10/13/2009	30.35	-98.53
1164	Travis	Travis	78746	TX	2.45	14940	10/13/2009	30.31	-97.82
1165	Travis	Travis	78702	TX	3.33	18478	10/14/2009	30.26	-97.71
1166	Collin	Collin	75074	TX	10.80		10/15/2009	33.02	-96.67
1167	Williamson	Williamson	78682	TX	100.62	655813	10/15/2009	30.52	-97.67
1168	Travis	Travis	78759	TX	9.00	64027	10/15/2009	30.40	-97.75
1169	Travis	Travis	78731	TX	8.80	50200	10/16/2009	30.35	-97.77
1170	Travis	Travis	78748	TX	3.15	20779	10/19/2009	30.17	-97.82
1171	Travis	Travis	78732	TX	3.15	19486	10/19/2009	30.38	-97.90
1172	Travis	Travis	78734	TX	13.48	72896	10/19/2009	30.37	-97.95
1173	Travis	Travis	78759	TX	7.18	37055	10/19/2009	30.40	-97.75
1174	Travis	Travis	78748	TX	5.25	29690	10/19/2009	30.17	-97.82
1175	Travis	Travis	78730	TX	8.19	54203	10/20/2009	30.37	-97.84
1176	Dallas	Dallas	75234	TX	3.01	20000	10/21/2009	32.92	-96.89
1177	Collin	Collin	75075	TX	2.25	16675	10/22/2009	33.02	-96.74
1178	Ellis	Ellis	75125	TX	4.05	27720	10/22/2009	32.52	-96.64
1179	Nacogdoches	Rusk	75961	TX	10.80	67188	10/22/2009	31.57	-94.54
1180	Travis	Travis	78753	TX	6.05	30059	10/22/2009	30.39	-97.67
1181	Travis	Travis	78704	TX	17.48	130940	10/22/2009	30.24	-97.77
1182	Williamson	Williamson	78729	TX	4.55	30986	10/23/2009	30.45	-97.76
1183	Travis	Travis	78704	TX	4.32	28892	10/27/2009	30.24	-97.77
1184	Tarrant	Tarrant	76020	TX	6.30	45000	10/28/2009	32.96	-97.55
1185	Travis	Travis	78723	TX	7.00	34595	10/28/2009	30.31	-97.68
1186	Travis	Travis	78733	TX	14.00	80740	11/2/2009	30.33	-97.87
1187	Travis	Travis	78750	TX	8.80	44877	11/3/2009	30.43	-97.80
1188	Williamson	Williamson	78729	TX	4.73	27181	11/4/2009	30.45	-97.76
1189	Travis	Travis	78746	TX	7.88	39155	11/5/2009	30.31	-97.82
1190	Travis	Travis	78747	TX	3.68	20599	11/5/2009	30.13	-97.73
1191	Bell	Williamson	76513	TX	3.12	21210	11/6/2009	31.07	-97.50
1192	Dallas	Dallas	75248	TX	3.89	28432	11/6/2009	32.97	-96.78
1193	Bell	Williamson	76571	TX	5.25	31372	11/6/2009	30.93	-97.59
1194	Collin	Collin	75023	TX	3.03	24933	11/6/2009	33.05	-96.70
1195	Travis	Travis	78756	TX	4.50	28125	11/9/2009	30.32	-97.74
1196	Travis	Travis	78731	TX	7.35	36729	11/9/2009	30.35	-97.77
1197	Travis	Travis	78746	TX	23.63	147233	11/9/2009	30.31	-97.82
1198	Travis	Travis	78758	TX	3.78	25621	11/10/2009	30.39	-97.70
1199	Travis	Travis	78746	TX	3.15	21784	11/10/2009	30.31	-97.82
1200	Collin	Collin	75074	TX	10.08	89700	11/11/2009	33.02	-96.67

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1201	Tom Green	Williamson	76935	TX	5.18	29289	11/11/2009	30.99	-100.30
1202	Eastland	Hood	76470	TX	3.15	22780	11/11/2009	32.49	-98.64
1203	Rockwall	Rockwall	75087	TX	7.20	55500	11/11/2009	32.95	-96.44
1204	Johnson	Johnson	76033	TX	3.00	23205	11/11/2009	32.29	-97.50
1205	Bell	Williamson	76513	TX	7.48	51986	11/11/2009	31.07	-97.50
1206	Bell	Williamson	76513	TX	7.59	53130	11/12/2009	31.07	-97.50
1207	Winkler	El Paso	79745	TX	1.12	7339	11/12/2009	31.84	-102.85
1208	Dallas	Dallas	75214	TX	2.16	19262	11/12/2009	32.82	-96.74
1209	Smith	Smith	75706	TX	10.80	54627	11/14/2009	32.41	-95.28
1210	Tarrant	Tarrant	76107	TX	1.10	8320	11/15/2009	32.74	-97.38
1211	Tarrant	Tarrant	76017	TX	2.10	15750	11/15/2009	32.66	-97.15
1212	Tarrant	Tarrant	76108	TX	3.60	31010	11/15/2009	32.79	-97.50
1213	Denton	Denton	76209	TX	3.30	27579	11/15/2009	33.23	-97.11
1214	Ellis	Ellis	75119	TX	6.30	78750	11/15/2009	32.32	-96.62
1215	Somervell	Hood	76043	TX	8.20	97920	11/15/2009	32.19	-97.76
1216	Travis	Travis	78746	TX	6.30	38250	11/16/2009	30.31	-97.82
1217	Bexar	Bexar	78261	TX	20.80	124000	11/16/2009	29.70	-98.41
1218	Collin	Collin	75002	TX	4.40	34776	11/17/2009	33.09	-96.61
1219	Dallas	Dallas	75006	TX	4.20	33218	11/17/2009	32.97	-96.89
1220	Williamson	Williamson	78664	TX	3.76	21244	11/17/2009	30.50	-97.64
1221	Tarrant	Tarrant	76051	TX	5.54	33803	11/17/2009	32.95	-97.07
1222	Dallas	Dallas	75275	TX	15.30		11/18/2009	32.84	-96.78
1223	Travis	Travis	78750	TX	4.62	24486	11/18/2009	30.43	-97.80
1224	Dallas	Dallas	75234	TX	24.30	198502	11/19/2009	32.92	-96.89
1225	Grayson	Collin	75021	TX	2.46	29520	11/19/2009	33.74	-96.47
1226	Dallas	Dallas	75050	TX	7.39	53311	11/19/2009	32.78	-97.02
1227	Dallas	Dallas	75216	TX	4.38	27138	11/20/2009	32.70	-96.80
1228	Tarrant	Tarrant	76020	TX	6.30	47725	11/20/2009	32.96	-97.55
1229	Bell	Williamson	76571	TX	5.25	31197	11/20/2009	30.93	-97.59
1230	McLennan	Ellis	76705	TX	10.00	90000	11/20/2009	31.59	-97.07
1231	Travis	Travis	78759	TX	3.15	18664	11/23/2009	30.40	-97.75
1232	Travis	Travis	78760	TX	0.70	4148	11/23/2009	30.21	-97.73
1233	Travis	Travis	78727	TX	2.16	14507	11/23/2009	30.43	-97.71
1234	Comal	Comal	78132	TX	0.60	3250	11/23/2009	29.74	-98.20
1235	Bexar	Bexar	78251	TX	4.68	27138	11/23/2009	29.47	-98.68
1236	Bexar	Bexar	78209	TX	2.80	24200	11/23/2009	29.49	-98.45
1237	Travis	Travis	78732	TX	9.66	56074	11/24/2009	30.38	-97.90
1238	Smith	Smith	75762	TX	3.15	28350	11/25/2009	32.21	-95.40
1239	Collin	Collin	75023	TX	7.88	45815	11/25/2009	33.06	-96.71
1240	Dallas	Dallas	75220	TX	10.50	68250	11/25/2009	32.86	-96.87

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1241	Collin	Collin	75002	TX	5.40	55532	11/25/2009	33.09	-96.61
1242	Travis	Travis	78723	TX	12.43	56535	11/25/2009	30.31	-97.68
1243	Travis	Travis	78703	TX	3.15	25289	11/25/2009	30.29	-97.77
1244	El Paso	El Paso	79934	TX	2.05	13424	11/28/2009	31.94	-106.45
1245	Travis	Travis	78723	TX	4.73	22825	11/30/2009	30.31	-97.68
1246	Travis	Travis	78738	TX	7.18	38740	11/30/2009	30.31	-97.98
1247	Tarrant	Tarrant	76123	TX	1.62	9720	12/1/2009	32.62	-97.39
1248	Dallas	Dallas	75150	TX	4.32	48000	12/1/2009	32.82	-96.63
1249	Travis	Travis	78759	TX	5.25	27438	12/1/2009	30.40	-97.75
1250	Travis	Travis	78759	TX	5.60	29963	12/1/2009	30.40	-97.75
1251	Somervell	Hood	76043	TX	8.28	54324	12/2/2009	32.16	-97.83
1252	Collin	Collin	75023	TX	3.02	24933	12/2/2009	33.06	-96.71
1253	Travis	Travis	78745	TX	3.33	19409	12/2/2009	30.21	-97.80
1254	Travis	Travis	78734	TX	3.15	16882	12/2/2009	30.37	-97.95
1255	Travis	Travis	78723	TX	5.78	28887	12/3/2009	30.31	-97.68
1256	Denton	Denton	76247	TX	8.28	47840	12/4/2009	33.11	-97.33
1257	Bell	Williamson	76559	TX	4.92	31415	12/4/2009	31.09	-97.62
1258	Travis	Travis	78732	TX	7.14	48025	12/4/2009	30.38	-97.90
1259	Dallas	Dallas	75001	TX	4.20	29947	12/5/2009	32.97	-96.83
1260	Tarrant	Tarrant	76179	TX	8.80	53967	12/7/2009	32.92	-97.46
1261	Galveston	Galveston	77546	TX	3.15	23256	12/7/2009	29.51	-95.20
1262	McLennan	Ellis	76708	TX	5.10	53570	12/7/2009	31.64	-97.21
1263	Bell	Williamson	76543	TX	1.58	8062	12/8/2009	31.14	-97.67
1264	Dallas	Dallas	75248	TX	4.20	31550	12/8/2009	32.97	-96.78
1265	Denton	Denton	75022	TX	5.06	32894	12/8/2009	33.02	-97.13
1266	Dallas	Dallas	75214	TX	2.10	16238	12/8/2009	32.82	-96.74
1267	Travis	Travis	78733	TX	5.00	28400	12/8/2009	30.33	-97.87
1268	Bell	Williamson	76542	TX	2.00	18810	12/9/2009	31.01	-97.72
1269	Travis	Travis	78723	TX	8.75	39248	12/10/2009	30.31	-97.68
1270	Williamson	Williamson	78681	TX	7.00	35151	12/11/2009	30.54	-97.73
1271	Lampasas	Williamson	76539	TX	5.25	26511	12/11/2009	31.04	-97.98
1272	Collin	Collin	75173	TX	8.05	45100	12/11/2009	33.06	-96.38
1273	Ellis	Ellis	75154	TX	10.12	58448	12/11/2009	32.51	-96.77
1274	Liberty	Liberty	77575	TX	10.15	50540	12/11/2009	30.05	-94.75
1275	Dallas	Dallas	75230	TX	3.04	23945	12/11/2009	32.90	-96.80
1276	Travis	Travis	78705	TX	1.58	8155	12/11/2009	30.30	-97.74
1277	Travis	Travis	78721	TX	2.80	18975	12/11/2009	30.27	-97.68
1278	Bexar	Bexar	78230	TX	5.25	32084	12/11/2009	29.54	-98.56
1279	Bexar	Bexar	78254	TX	3.78	21012	12/11/2009	29.53	-98.78
1280	Montgomery	Montgomery	77304	TX	2.80	20728	12/13/2009	30.33	-95.51

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1281	Montgomery	Montgomery	77381	TX	5.00	36136	12/13/2009	30.17	-95.51
1282	Denton	Denton	75067	TX	9.03	38562	12/13/2009	33.01	-97.00
1283	Smith	Smith	75703	TX	5.40	34284	12/13/2009	32.27	-95.33
1284	Montgomery	Montgomery	77357	TX	5.60	34562	12/13/2009	30.18	-95.04
1285	Dallas	Dallas	75116	TX	2.64	14520	12/14/2009	32.66	-96.92
1286	Dallas	Dallas	75205	TX	5.52	31350	12/14/2009	32.83	-96.80
1287	Dallas	Dallas	75204	TX	2.70	17318	12/14/2009	32.80	-96.79
1288	Denton	Denton	76208	TX	10.08	54927	12/15/2009	33.20	-97.06
1289	Dallas	Dallas	75019	TX	2.70	25074	12/15/2009	32.96	-97.00
1290	Angelina	Rusk	75904	TX	5.85	35275	12/15/2009	31.33	-94.83
1291	Dallas	Dallas	75116	TX	1.05	17840	12/15/2009	32.66	-96.92
1292	Tarrant	Tarrant	76107	TX	1.05	17840	12/15/2009	32.74	-97.38
1293	Dallas	Dallas	75048	TX	3.04	29049	12/15/2009	32.96	-96.58
1294	Collin	Collin	75009	TX	1.05	17840	12/15/2009	33.32	-96.77
1295	Somervell	Hood	76043	TX	8.28	54324	12/16/2009	32.19	-97.76
1296	Galveston	Galveston	77546	TX	4.20	26800	12/16/2009	29.51	-95.20
1297	Travis	Travis	78723	TX	8.75	39586	12/16/2009	30.31	-97.68
1298	Travis	Travis	78723	TX	6.91	39313	12/16/2009	30.31	-97.68
1299	McLennan	Ellis	76705	TX	0.37	3000	12/17/2009	31.59	-97.07
1300	Collin	Collin	75074	TX	0.72	5000	12/17/2009	33.02	-96.67
1301	Dallas	Dallas	75217	TX	3.28	54152	12/17/2009	32.71	-96.67
1302	Tarrant	Tarrant	76108	TX	9.80	70153	12/17/2009	32.79	-97.50
1303	Williamson	Williamson	78665	TX	9.45	66506	12/17/2009	30.35	-98.53
1304	Tarrant	Tarrant	76051	TX	10.50	53901	12/17/2009	32.95	-97.07
1305	Tarrant	Tarrant	76022	TX	1.60	13151	12/18/2009	32.83	-97.14
1306	Travis	Travis	78660	TX	6.30	29319	12/18/2009	30.46	-97.60
1307	Ellis	Ellis	75165	TX	4.73	34358	12/18/2009	32.40	-96.79
1308	Ellis	Ellis	75165	TX	5.25	35000	12/18/2009	32.40	-96.79
1309	Smith	Smith	75706	TX	10.80	55000	12/19/2009	32.41	-95.28
1310	Travis	Travis	78750	TX	3.15	16685	12/21/2009	30.43	-97.80
1311	Travis	Travis	78750	TX	10.32	60607	12/21/2009	30.43	-97.80
1312	Travis	Travis	78730	TX	7.36	43736	12/21/2009	30.37	-97.84
1313	Collin	Collin	75023	TX	4.56	34800	12/22/2009	33.06	-96.73
1314	Midland	El Paso	79707	TX	5.46	34500	12/23/2009	32.06	-102.23
1315	Midland	El Paso	79707	TX	5.98	35500	12/23/2009	32.06	-102.23
1316	Travis	Travis	78756	TX	3.85	19212	12/23/2009	30.32	-97.74
1317	Tarrant	Tarrant	76051	TX	2.16	12806	12/28/2009	32.90	-97.12
1318	Smith	Smith	75706	TX	10.80	54627	12/29/2009	32.45	-95.33
1319	Collin	Collin	75074	TX	49.14	276828	12/29/2009	33.02	-96.67
1320	Bell	Williamson	76571	TX	12.25	96032	12/29/2009	30.93	-97.59

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1321	Travis	Travis	78617	TX	8.40	40559	12/29/2009	30.15	-97.59
1322	Travis	Travis	78754	TX	7.70	37780	12/29/2009	30.36	-97.65
1323	Travis	Travis	78759	TX	3.78	17387	12/29/2009	30.40	-97.75
1324	Travis	Travis	78731	TX	6.30	26788	12/29/2009	30.35	-97.77
1325	Travis	Travis	78704	TX	3.15	13965	12/29/2009	30.24	-97.77
1326	Tarrant	Tarrant	76012	TX	5.25	48550	12/30/2009	32.76	-97.14
1327	Tarrant	Tarrant	76117	TX	5.04	34020	12/30/2009	32.81	-97.28
1328	Bell	Williamson	76513	TX	21.60	117825	12/30/2009	31.07	-97.50
1329	Jim Wells	Nueces	78332	TX	5.18	36200	12/30/2009	27.74	-98.09
1330	Travis	Travis	78759	TX	4.62	18235	12/30/2009	30.40	-97.75
1331	Travis	Travis	78732	TX	5.25	22494	12/30/2009	30.38	-97.90
1332	Travis	Travis	78704	TX	10.50	33000	12/30/2009	30.24	-97.77
1333	Travis	Travis	78732	TX	6.30	25843	12/30/2009	30.38	-97.90
1334	Travis	Travis	78704	TX	3.33	21341	12/30/2009	30.24	-97.77
1335	Travis	Travis	78735	TX	2.80	19942	12/30/2009	30.26	-97.86
1336	Travis	Travis	78723	TX	5.00	23196	12/30/2009	30.31	-97.68
1337	Williamson	Williamson	78729	TX	3.85	18674	12/30/2009	30.45	-97.76
1338	Travis	Travis	78723	TX	3.89	17680	12/30/2009	30.31	-97.68
1339	Travis	Travis	78660	TX	14.69	79827	12/30/2009	30.46	-97.60
1340	Travis	Travis	78731	TX	28.00	150289	12/30/2009	30.35	-97.77
1341	Bell	Williamson	76505	TX	5.52	48836	12/31/2009	31.10	-97.34
1342	Gregg	Gregg	75605	TX	5.52	48836	12/31/2009	32.56	-94.71
1343	Harris	Harris	77447	TX	215.60	1300000	12/31/2009	30.02	-95.86
1344	Johnson	Johnson	76033	TX	2.76		1/1/2010	32.29	-97.50
1345	Denton	Denton	75007	TX	0.45	3000	1/1/2010	33.01	-96.89
1346	Travis	Travis	78731	TX	7.00	34361	1/4/2010	30.35	-97.77
1347	Bexar	Bexar	78260	TX	4.20	22649	1/4/2010	29.69	-98.50
1348	Bexar	Bexar	78216	TX	8.75	45523	1/4/2010	29.55	-98.50
1349	Comal	Comal	78266	TX	6.30	41236	1/4/2010	29.63	-98.32
1350	Smith	Smith	75706	TX	10.80	56189	1/6/2010	32.45	-95.33
1351	Travis	Travis	78723	TX	5.00	23196	1/6/2010	30.29	-97.70
1352	Travis	Travis	78704	TX	3.33	18714	1/7/2010	30.24	-97.77
1353	Travis	Travis	78704	TX	3.33	18714	1/7/2010	30.24	-97.77
1354	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1355	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1356	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1357	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1358	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1359	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1360	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1361	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1362	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1363	Travis	Travis	78703	TX	2.96	17120	1/7/2010	30.29	-97.77
1364	Travis	Travis	78703	TX	2.96	17120	1/7/2010	30.29	-97.77
1365	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1366	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1367	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1368	Travis	Travis	78703	TX	2.96	17120	1/7/2010	30.29	-97.77
1369	Travis	Travis	78703	TX	2.96	17120	1/7/2010	30.29	-97.77
1370	Travis	Travis	78703	TX	2.96	17120	1/7/2010	30.29	-97.77
1371	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1372	Travis	Travis	78703	TX	2.22	12840	1/7/2010	30.29	-97.77
1373	Travis	Travis	78703	TX	2.96	17120	1/7/2010	30.29	-97.77
1374	Travis	Travis	78703	TX	7.44	45000	1/7/2010	30.29	-97.77
1375	Travis	Travis	78703	TX	2.22	14000	1/7/2010	30.29	-97.77
1376	Travis	Travis	78703	TX	2.22	14000	1/7/2010	30.29	-97.77
1377	Hunt	Hunt	75428	TX	10.20	100000	1/8/2010	33.28	-95.92
1378	Hunt	Hunt	75422	TX	10.20	100000	1/8/2010	33.14	-95.92
1379	Travis	Travis	78703	TX	14.40	69936	1/8/2010	30.29	-97.77
1380	Travis	Travis	78703	TX	3.81	31494	1/8/2010	30.29	-97.77
1381	Henderson	Henderson	75758	TX	10.80	58808	1/9/2010	32.30	-95.47
1382	Jefferson	Jefferson	77706	TX	10.08	61002	1/10/2010	30.10	-94.17
1383	Dallas	Dallas	75229	TX	2.10	20459	1/10/2010	32.90	-96.86
1384	Dallas	Dallas	75006	TX	1.41	27648	1/10/2010	32.97	-96.89
1385	Johnson	Johnson	76033	TX	5.98	43154	1/11/2010	32.29	-97.50
1386	Dallas	Dallas	75019	TX	2.03	14175	1/11/2010	32.96	-97.00
1387	Tarrant	Tarrant	76182	TX	4.60	36354	1/11/2010	32.73	-97.32
1388	Denton	Denton	76247	TX	8.28	47840	1/11/2010	33.11	-97.33
1389	Collin	Collin	75074	TX	10.08	56980	1/11/2010	33.02	-96.67
1390	Hidalgo	Nueces	78539	TX	37.80	179250	1/12/2010	26.42	-98.18
1391	Hidalgo	Nueces	78539	TX	67.50	300750	1/12/2010	26.42	-98.18
1392	Angelina	Rusk	75904	TX	5.85	35275	1/12/2010	31.33	-94.83
1393	Williamson	Williamson	78665	TX	5.46	26648	1/13/2010	30.35	-98.53
1394	Dallas	Dallas	75248	TX	4.32	33055	1/13/2010	32.97	-96.78
1395	Denton	Denton	76247	TX	3.50	23038	1/13/2010	33.11	-97.33
1396	Hunt	Hunt	75422	TX	9.60	100000	1/13/2010	33.14	-95.92
1397	Williamson	Williamson	76574	TX	7.18	37075	1/13/2010	30.57	-97.37
1398	Williamson	Williamson	78664	TX	102.00	693924	1/13/2010	30.50	-97.64
1399	Travis	Travis	78723	TX	3.50	15540	1/13/2010	30.31	-97.68
1400	Ellis	Ellis	75154	TX	10.12	58177	1/14/2010	32.52	-96.80

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1401	Midland	El Paso	79707	TX	5.46	34800	1/14/2010	32.06	-102.23
1402	Dallas	Dallas	75248	TX	6.15	44900	1/14/2010	32.97	-96.78
1403	Collin	Collin	75173	TX	8.05	45100	1/14/2010	33.06	-96.38
1404	Collin	Collin	75070	TX	4.23	34500	1/14/2010	33.18	-96.70
1405	Rockwall	Rockwall	75087	TX	3.96	32374	1/14/2010	32.95	-96.44
1406	Bexar	Bexar	78230	TX	5.40	23847	1/15/2010	29.57	-98.57
1407	Collin	Collin	75252	TX	7.00	38286	1/15/2010	33.00	-96.80
1408	Denton	Denton	75065	TX	4.60	26169	1/15/2010	33.12	-97.02
1409	Dallas	Dallas	75205	TX	8.40	43113	1/15/2010	32.83	-96.80
1410	Tarrant	Tarrant	76135	TX	7.92	38584	1/15/2010	32.84	-97.47
1411	Comal	Comal	78163	TX	8.40	56445	1/15/2010	29.77	-98.51
1412	Comal	Comal	78132	TX	8.05	42422	1/15/2010	29.74	-98.20
1413	Comal	Comal	78163	TX	10.50	68485	1/15/2010	29.77	-98.51
1414	Tarrant	Tarrant	76116	TX	3.85	25000	1/15/2010	32.73	-97.42
1415	Tarrant	Tarrant	76179	TX	5.95	38664	1/19/2010	32.92	-97.46
1416	Smith	Smith	75709	TX	7.88	52500	1/19/2010	32.32	-95.38
1417	Travis	Travis	78723	TX	3.50	15540	1/19/2010	30.29	-97.70
1418	Denton	Denton	76262	TX	4.00	25639	1/19/2010	33.02	-97.23
1419	Midland	El Paso	79707	TX	5.38	31512	1/20/2010	32.06	-102.23
1420	Dallas	Dallas	75243	TX	3.44	61161	1/20/2010	32.91	-96.74
1421	Dallas	Dallas	75229	TX	5.25	37861	1/20/2010	32.90	-96.86
1422	Travis	Travis	78704	TX	3.33	18714	1/20/2010	30.24	-97.77
1423	Travis	Travis	78702	TX	11.90	65030	1/20/2010	30.26	-97.71
1424	Travis	Travis	78731	TX	5.00	25972	1/20/2010	30.35	-97.77
1425	Williamson	Williamson	76574	TX	4.48	22000	1/21/2010	30.57	-97.37
1426	Tarrant	Tarrant	76116	TX	3.85	25349	1/21/2010	32.71	-97.43
1427	Travis	Travis	78731	TX	3.15	26020	1/21/2010	30.35	-97.77
1428	Travis	Travis	78759	TX	6.30	25853	1/21/2010	30.40	-97.75
1429	Travis	Travis	78734	TX	4.20	22020	1/21/2010	30.37	-97.95
1430	Kendall	Bexar	78015	TX	3.96	32635	1/21/2010	29.75	-98.65
1431	Bexar	Bexar	78253	TX	5.25	17432	1/22/2010	29.47	-98.81
1432	Mclennan	Ellis	76710	TX	3.15	17745	1/25/2010	31.53	-97.20
1433	Tarrant	Tarrant	76051	TX	2.24	13280	1/28/2010	32.95	-97.07
1434	Dallas	Dallas	75048	TX	3.04	29033	1/28/2010	32.96	-96.57
1435	Collin	Collin	75025	TX	1.00	8817	1/28/2010	33.09	-96.76
1436	Tarrant	Tarrant	76021	TX	3.64	21912	1/28/2010	32.85	-97.13
1437	Tarrant	Tarrant	76107	TX	2.16	18450	1/28/2010	32.74	-97.38
1438	Tarrant	Tarrant	76034	TX	11.76	40700	1/28/2010	32.89	-97.15
1439	Dallas	Dallas	75225	TX	2.80	23184	1/29/2010	32.87	-96.79
1440	Tarrant	Tarrant	76132	TX	1.80	14312	1/29/2010	32.66	-97.42

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1441	Tarrant	Tarrant	76036	TX	3.12	12362	1/29/2010	32.58	-97.43
1442	Travis	Travis	78763	TX	25.80	143528	1/29/2010	30.30	-97.77
1443	Bexar	Bexar	78218	TX	25.80	143528	1/29/2010	29.49	-98.39
1444	Bexar	Bexar	78249	TX	5.94	33558	1/29/2010	29.57	-98.61
1445	Webb	Nueces	78043	TX	8.40	42722	1/31/2010	27.51	-99.48
1446	Travis	Travis	78734	TX	3.17	21127	2/1/2010	30.37	-97.95
1447	Tarrant	Tarrant	76131	TX	2.80	23698	2/2/2010	32.90	-97.36
1448	Travis	Travis	78723	TX	6.30	28292	2/2/2010	30.31	-97.68
1449	Denton	Denton	76249	TX	10.50	59531	2/3/2010	33.29	-97.29
1450	Denton	Denton	76249	TX	9.80	54614	2/3/2010	33.29	-97.29
1451	Travis	Travis	78746	TX	3.15	16480	2/3/2010	30.31	-97.82
1452	Travis	Travis	78759	TX	9.80	62611	2/3/2010	30.40	-97.75
1453	Travis	Travis	78704	TX	3.33	17485	2/4/2010	30.24	-97.77
1454	Travis	Travis	78723	TX	3.50	15911	2/4/2010	30.31	-97.68
1455	Travis	Travis	78731	TX	3.33	22024	2/4/2010	30.35	-97.77
1456	Travis	Travis	78705	TX	24.32	175278	2/4/2010	30.30	-97.74
1457	Hill	Ellis	76055	TX	2.45	16400	2/5/2010	32.13	-97.20
1458	Travis	Travis	78734	TX	6.30	34071	2/5/2010	30.37	-97.95
1459	Bexar	Bexar	78233	TX	5.16	26588	2/5/2010	29.56	-98.36
1460	Dallas	Dallas	75275	TX	15.30	86445	2/8/2010	32.78	-96.80
1461	Grayson	Collin	75495	TX	5.28	29400	2/8/2010	33.43	-96.55
1462	Dallas	Dallas	75228	TX	3.60	29520	2/8/2010	32.83	-96.68
1463	Grayson	Collin	75092	TX	3.01	26827	2/8/2010	33.64	-96.73
1464	Tarrant	Tarrant	76051	TX	5.06	23158	2/8/2010	32.95	-97.07
1465	Montgomery	Montgomery	77384	TX	8.46	45595	2/9/2010	30.24	-95.49
1466	Bell	Williamson	76502	TX	4.36	32654	2/9/2010	31.11	-97.41
1467	Bell	Williamson	76502	TX	2.69	19680	2/9/2010	31.11	-97.41
1468	Montgomery	Montgomery	77384	TX	8.46	44087	2/9/2010	30.24	-95.49
1469	Collin	Collin	75074	TX	3.24	24658	2/10/2010	33.02	-96.67
1470	Denton	Denton	75007	TX	1.26	11151	2/12/2010	33.01	-96.89
1471	Dallas	Dallas	75104	TX	5.20	35500	2/12/2010	32.59	-96.99
1472	Collin	Collin	75252	TX	10.20	49939	2/12/2010	33.00	-96.80
1473	Collin	Collin	75074	TX	8.10	48600	2/15/2010	33.04	-96.68
1474	Denton	Denton	76210	TX	95.04	462641	2/16/2010	33.14	-97.08
1475	Collin	Collin	75025	TX	2.80	17717	2/16/2010	33.09	-96.76
1476	Travis	Travis	78746	TX	3.20	22000	2/16/2010	30.31	-97.82
1477	Travis	Travis	78736	TX	6.30	29051	2/16/2010	30.25	-97.95
1478	Ector	El Paso	79762	TX	10.58	82944	2/17/2010	31.91	-102.45
1479	Bexar	Bexar	78209	TX	8.40	48080	2/17/2010	29.49	-98.45
1480	Bexar	Bexar	78023	TX	3.15	18946	2/17/2010	29.62	-98.73

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
1481	Denton	Denton	75022	TX	4.73	28086	2/18/2010	33.02	-97.13
1482	Rockwall	Rockwall	75087	TX	2.30		2/18/2010	32.95	-96.44
1483	Williamson	Williamson	78665	TX	3.85	19308	2/18/2010	30.35	-98.53
1484	Bexar	Bexar	78256	TX	6.00	51850	2/18/2010	29.62	-98.62
1485	Kendall	Bexar	78006	TX	3.15	17042	2/18/2010	29.92	-98.70
1486	Travis	Travis	78721	TX	3.15	20231	2/19/2010	30.27	-97.68
1487	Travis	Travis	78762	TX	2.20	14627	2/19/2010	30.26	-97.72
1488	Travis	Travis	78721	TX	1.58	11731	2/19/2010	30.27	-97.68
1489	Travis	Travis	78721	TX	2.80	18464	2/19/2010	30.27	-97.68
1490	Travis	Travis	78721	TX	2.80	15819	2/19/2010	30.27	-97.68
1491	Travis	Travis	78762	TX	3.15	16962	2/19/2010	30.26	-97.72
1492	Travis	Travis	78762	TX	5.20	27383	2/19/2010	30.26	-97.72
1493	Bexar	Bexar	78230	TX	5.06	23847	2/19/2010	29.54	-98.56
1494	Grayson	Collin	75076	TX	2.00	12567	2/22/2010	33.77	-96.73
1495	Collin	Collin	75098	TX	1.00	34000	2/22/2010	33.02	-96.51
1496	Travis	Travis	78759	TX	5.60	28172	2/22/2010	30.40	-97.75
1497	Travis	Travis	78745	TX	2.99	19435	2/22/2010	30.21	-97.80
1498	Bexar	Bexar	78245	TX	8.40	43453	2/22/2010	29.40	-98.74
1499	Collin	Collin	75002	TX	5.40	31376	2/23/2010	33.09	-96.61
1500	Denton	Denton	75007	TX	3.24	25784	2/23/2010	33.01	-96.89
1501	Collin	Collin	75002	TX	8.40	44533	2/23/2010	33.09	-96.61
1502	Tarrant	Tarrant	76108	TX	5.60	28820	2/23/2010	32.78	-97.55
1503	Tarrant	Tarrant	76034	TX	4.20	32581	2/23/2010	32.89	-97.15
1504	Travis	Travis	78703	TX	13.33	112251	2/23/2010	30.29	-97.77
1505	Cameron	Nueces	78566	TX	10.00	53636	2/24/2010	26.11	-97.42
1506	Taylor	Hood	79605	TX	3.50	23026	2/24/2010	32.44	-99.78
1507	Tarrant	Tarrant	76107	TX	10.20	73244	2/24/2010	32.74	-97.38
1508	Dallas	Dallas	75238	TX	7.00	42559	2/24/2010	32.88	-96.71
1509	Cooke	Denton	76240	TX	21.00	151200	2/25/2010	33.64	-97.14
1510	Cooke	Denton	76240	TX	25.60	134816	2/25/2010	33.64	-97.14
1511	Dallas	Dallas	75248	TX	10.50	58116	2/26/2010	32.97	-96.80
1512	Dallas	Dallas	75214	TX	2.25	22000	2/28/2010	32.82	-96.74
1513	Dallas	Dallas	75214	TX	1.10	8872	2/28/2010	32.82	-96.74
1514	Travis	Travis	78704	TX	9.66	73346	3/1/2010	30.24	-97.77
1515	Travis	Travis	78723	TX	8.75	39248	3/1/2010	30.31	-97.68
1516	Travis	Travis	78746	TX	6.30	26711	3/1/2010	30.31	-97.82
1517	Hardin	Hardin	77659	TX	5.00	30000	3/2/2010	30.15	-94.46
1518	Denton	Denton	75007	TX	7.43	41695	3/2/2010	33.01	-96.89
1519	Midland	El Paso	79707	TX	5.46	38763	3/2/2010	32.06	-102.23
1520	Travis	Travis	78759	TX	6.30	30020	3/2/2010	30.40	-97.75

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1521	Travis	Travis	78704	TX	6.30	32174	3/2/2010	30.24	-97.77
1522	Travis	Travis	78704	TX	3.33	17485	3/3/2010	30.24	-97.77
1523	Dallas	Dallas	75214	TX	2.31	15573	3/3/2010	32.84	-96.75
1524	Smith	Smith	75701	TX	1.05	17640	3/4/2010	32.32	-95.30
1525	Dallas	Dallas	75248	TX	9.45	46022	3/4/2010	32.97	-96.80
1526	Travis	Travis	78746	TX	5.18	29217	3/4/2010	30.31	-97.82
1527	Tarrant	Tarrant	76137	TX	9.98	58669	3/5/2010	32.85	-97.30
1528	Tarrant	Tarrant	76036	TX	3.50	27845	3/5/2010	32.58	-97.43
1529	Dallas	Dallas	75220	TX	4.40	24531	3/5/2010	32.86	-96.87
1530	Denton	Denton	75034	TX	9.72	50438	3/5/2010	33.15	-96.87
1531	Travis	Travis	78660	TX	2.31	14063	3/5/2010	30.46	-97.60
1532	Travis	Travis	78704	TX	3.33	17485	3/5/2010	30.24	-97.77
1533	Travis	Travis	78702	TX	3.50	15110	3/5/2010	30.26	-97.71
1534	Travis	Travis	78754	TX	3.24	16617	3/8/2010	30.36	-97.65
1535	Bexar	Bexar	78213	TX	3.80	20175	3/8/2010	29.50	-98.52
1536	Bexar	Bexar	78259	TX	10.30	57147	3/8/2010	29.62	-98.43
1537	Travis	Travis	78728	TX	11.70	45396	3/9/2010	30.46	-97.68
1538	Williamson	Williamson	78681	TX	6.65	33613	3/9/2010	30.52	-97.71
1539	Montgomery	Montgomery	77301	TX	5.25	31902	3/10/2010	30.31	-95.43
1540	Tarrant	Tarrant	76012	TX	5.25	37318	3/10/2010	32.76	-97.14
1541	Smith	Smith	75703	TX	4.50	27000	3/10/2010	32.27	-95.33
1542	Williamson	Williamson	78626	TX	6.16	27342	3/10/2010	30.70	-97.59
1543	Travis	Travis	78704	TX	5.98	31938	3/10/2010	30.24	-97.77
1544	Travis	Travis	78746	TX	3.17	25744	3/10/2010	30.31	-97.82
1545	Travis	Travis	78723	TX	1.28	11043	3/10/2010	30.31	-97.68
1546	Denton	Denton	75022	TX	10.12	38011	3/11/2010	33.03	-97.10
1547	Dallas	Dallas	75229	TX	42.50	250000	3/11/2010	32.90	-96.86
1548	Denton	Denton	75022	TX	10.12	39960	3/11/2010	33.02	-97.13
1549	Montgomery	Montgomery	77365	TX	1.05	10500	3/12/2010	30.12	-95.29
1550	Montgomery	Montgomery	77365	TX	1.10	10500	3/12/2010	30.12	-95.29
1551	Angelina	Rusk	75901	TX	6.94	34284	3/12/2010	31.29	-94.67
1552	Angelina	Rusk	75904	TX	7.17	34284	3/12/2010	31.33	-94.83
1553	Bexar	Bexar	78258	TX	5.60	37979	3/12/2010	29.65	-98.47
1554	Comal	Comal	78266	TX	3.50	22685	3/12/2010	29.63	-98.32
1555	Bexar	Bexar	78217	TX	14.80	87171	3/13/2010	29.54	-98.42
1556	Collin	Collin	75023	TX	4.56	33850	3/15/2010	33.05	-96.73
1557	Grayson	Collin	75076	TX	10.12	42058	3/16/2010	33.77	-96.73
1558	Travis	Travis	78660	TX	7.20	34046	3/16/2010	30.46	-97.60
1559	Tarrant	Tarrant	76060	TX	8.51	56837	3/16/2010	32.64	-97.22
1560	Travis	Travis	78703	TX	4.46	35079	3/16/2010	30.29	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1561	Bexar	Bexar	78249	TX	10.08	57658	3/16/2010	29.57	-98.61
1562	Bexar	Bexar	78209	TX	3.85	20269	3/16/2010	29.49	-98.45
1563	Denton	Denton	76262	TX	4.20	14700	3/17/2010	33.02	-97.23
1564	Travis	Travis	78732	TX	9.20	45540	3/17/2010	30.38	-97.90
1565	Travis	Travis	78733	TX	6.30	32853	3/17/2010	30.33	-97.87
1566	Travis	Travis	78745	TX	3.68	16573	3/19/2010	30.21	-97.80
1567	Travis	Travis	78759	TX	3.33	17120	3/19/2010	30.40	-97.75
1568	Bexar	Bexar	78250	TX	3.50	16004	3/19/2010	29.50	-98.67
1569	Jim Wells	Nueces	78332	TX	2.59	11895	3/23/2010	27.74	-98.09
1570	Dallas	Dallas	75248	TX	6.93	53708	3/23/2010	32.97	-96.80
1571	Dallas	Dallas	75062	TX	5.52	23263	3/25/2010	32.85	-96.97
1572	Travis	Travis	78759	TX	5.25	29999	3/25/2010	30.40	-97.75
1573	Williamson	Williamson	78664	TX	8.19	49688	3/26/2010	30.50	-97.66
1574	Travis	Travis	78731	TX	6.21	44601	3/26/2010	30.35	-97.77
1575	Dallas	Dallas	75214	TX	3.87	36000	3/28/2010	32.82	-96.74
1576	Cooke	Denton	76252	TX	5.88	30000	3/29/2010	33.69	-97.42
1577	Dallas	Dallas	75205	TX	2.00	19073	3/29/2010	32.83	-96.80
1578	Tarrant	Tarrant	76054	TX	6.67	35910	3/30/2010	32.86	-97.18
1579	Jim Wells	Nueces	78332	TX	2.00	12000	4/1/2010	27.74	-98.09
1580	Travis	Travis	78749	TX	5.64	29789	4/2/2010	30.22	-97.86
1581	Taylor	Hood	79601	TX	10.08		4/5/2010	32.57	-99.68
1582	Bowie	Upshur	75570	TX	10.08	53600	4/5/2010	33.49	-94.44
1583	Dallas	Dallas	75229	TX	5.40	36336	4/5/2010	32.90	-96.86
1584	Travis	Travis	78727	TX	3.15	24901	4/5/2010	30.43	-97.71
1585	Travis	Travis	78738	TX	6.30	29316	4/5/2010	30.31	-97.98
1586	Bexar	Bexar	78261	TX	1.48	22980	4/5/2010	29.70	-98.41
1587	Bexar	Bexar	78212	TX	5.25	21638	4/5/2010	29.46	-98.50
1588	Bexar	Bexar	78245	TX	23.10	111572	4/5/2010	29.40	-98.74
1589	Bexar	Bexar	78259	TX	5.88	33588	4/5/2010	29.62	-98.43
1590	Tarrant	Tarrant	76052	TX	2.16	17152	4/6/2010	32.97	-97.37
1591	Bexar	Bexar	78245	TX	5.40	25774	4/7/2010	29.43	-98.66
1592	Galveston	Galveston	77546	TX	11.20	61985	4/7/2010	29.51	-95.20
1593	Travis	Travis	78753	TX	5.60	25964	4/7/2010	30.39	-97.67
1594	Travis	Travis	78703	TX	5.25	33651	4/7/2010	30.29	-97.77
1595	Travis	Travis	78660	TX	4.73	24035	4/8/2010	30.46	-97.60
1596	Travis	Travis	78660	TX	8.93	40859	4/8/2010	30.46	-97.60
1597	Travis	Travis	78762	TX	1.58	12244	4/8/2010	30.26	-97.72
1598	Travis	Travis	78723	TX	4.73	21169	4/8/2010	30.31	-97.68
1599	Smith	Smith	75704	TX	6.15	26064	4/9/2010	32.40	-95.41
1600	Denton	Denton	76226	TX	5.76	39979	4/9/2010	33.12	-97.16

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1601	Collin	Collin	75002	TX	10.15	51688	4/9/2010	33.09	-96.61
1602	Williamson	Williamson	78665	TX	1.75	10649	4/9/2010	30.55	-97.62
1603	Bexar	Bexar	78260	TX	7.00	60707	4/9/2010	29.69	-98.50
1604	Bexar	Bexar	78213	TX	1.10	5338	4/9/2010	29.50	-98.52
1605	Hidalgo	Nueces	78573	TX	10.75	62359	4/12/2010	26.29	-98.30
1606	Travis	Travis	78753	TX	2.52	11858	4/13/2010	30.39	-97.67
1607	Travis	Travis	78757	TX	5.25	22979	4/13/2010	30.35	-97.74
1608	Taylor	Hood	79601	TX	10.08	68040	4/14/2010	32.55	-99.66
1609	Denton	Denton	75022	TX	10.80	58870	4/14/2010	33.02	-97.13
1610	Travis	Travis	78702	TX	3.15	18792	4/14/2010	30.26	-97.71
1611	Travis	Travis	78735	TX	2.46	16800	4/14/2010	30.26	-97.86
1612	Bexar	Bexar	78258	TX	5.25	29565	4/14/2010	29.65	-98.47
1613	Bexar	Bexar	78254	TX	7.00	39182	4/14/2010	29.53	-98.78
1614	Bexar	Bexar	78248	TX	7.00	34259	4/14/2010	29.59	-98.53
1615	Bexar	Bexar	78232	TX	3.50	23230	4/14/2010	29.59	-98.46
1616	Bexar	Bexar	78255	TX	5.25	25687	4/14/2010	29.66	-98.67
1617	Bexar	Bexar	78212	TX	4.60	26780	4/14/2010	29.46	-98.50
1618	Bexar	Bexar	78249	TX	7.00	37713	4/15/2010	29.57	-98.61
1619	El Paso	El Paso	79934	TX	2.87	15613	4/17/2010	31.94	-106.45
1620	Collin	Collin	75093	TX	12.15		4/19/2010	33.04	-96.82
1621	Travis	Travis	78702	TX	3.15	22089	4/19/2010	30.26	-97.71
1622	Bexar	Bexar	78209	TX	2.40	29194	4/20/2010	29.49	-98.45
1623	Bexar	Bexar	78245	TX	5.40	25774	4/20/2010	29.40	-98.74
1624	Bexar	Bexar	78231	TX	3.85	23062	4/20/2010	29.58	-98.54
1625	Dallas	Dallas	75224	TX	6.90	39775	4/21/2010	32.71	-96.84
1626	Comal	Comal	78266	TX	42.30	423000	4/21/2010	29.63	-98.32
1627	Williamson	Williamson	78626	TX	2.30	11960	4/22/2010	30.70	-97.59
1628	Collin	Collin	75075	TX	5.52	34320	4/23/2010	33.02	-96.74
1629	Archer	Parker	76351	TX	9.50	37193	4/23/2010	33.60	-98.68
1630	Henderson	Henderson	75156	TX	10.12	86020	4/26/2010	32.24	-96.08
1631	Travis	Travis	78762	TX	2.80	15752	4/26/2010	30.26	-97.72
1632	Travis	Travis	78704	TX	4.97	34776	4/26/2010	30.24	-97.77
1633	Travis	Travis	78733	TX	5.64	32994	4/26/2010	30.33	-97.87
1634	Travis	Travis	78704	TX	4.20	22924	4/26/2010	30.24	-97.77
1635	Travis	Travis	78758	TX	1.38	9315	4/26/2010	30.39	-97.70
1636	Travis	Travis	78721	TX	2.52	14793	4/27/2010	30.27	-97.68
1637	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77
1638	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77
1639	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77
1640	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1641	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77
1642	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77
1643	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77
1644	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77
1645	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77
1646	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77
1647	Travis	Travis	78704	TX	3.33	19000	4/28/2010	30.24	-97.77
1648	Travis	Travis	78731	TX	4.44	21712	4/28/2010	30.35	-97.77
1649	Bell	Williamson	76502	TX	2.82	19035	4/30/2010	31.11	-97.41
1650	Tarrant	Tarrant	76051	TX	3.01	29498	4/30/2010	32.95	-97.07
1651	Collin	Collin	75075	TX	5.52	33520	5/3/2010	33.02	-96.74
1652	Smith	Smith	75789	TX	10.00	55995	5/3/2010	32.14	-95.08
1653	Dallas	Dallas	75062	TX	3.40	17170	5/3/2010	32.85	-96.97
1654	Travis	Travis	78745	TX	4.38	21989	5/3/2010	30.21	-97.80
1655	Dallas	Dallas	75224	TX	4.09	46924	5/4/2010	32.71	-96.84
1656	Dallas	Dallas	75050	TX	50.40	272700	5/5/2010	32.76	-96.96
1657	Bexar	Bexar	78253	TX	20.64	157500	5/5/2010	29.49	-98.71
1658	Bexar	Bexar	78259	TX	5.46	27871	5/5/2010	29.63	-98.44
1659	Dallas	Dallas	75051	TX	100.80	511100	5/5/2010	32.74	-97.02
1660	Tarrant	Tarrant	76148	TX	5.10	25755	5/5/2010	32.86	-97.25
1661	Travis	Travis	78749	TX	3.15	25007	5/5/2010	30.22	-97.86
1662	Travis	Travis	78727	TX	4.93	26473	5/5/2010	30.43	-97.71
1663	Bexar	Bexar	78255	TX	4.72	25059	5/5/2010	29.66	-98.67
1664	Bexar	Bexar	78230	TX	5.80	36874	5/5/2010	29.54	-98.56
1665	Webb	Nueces	78043	TX	30.45	146690	5/6/2010	27.58	-99.15
1666	Bell	Williamson	76502	TX	5.98	42813	5/6/2010	31.11	-97.41
1667	Grimes	Montgomery	77868	TX	10.50	77734	5/7/2010	30.34	-96.03
1668	Bexar	Bexar	78247	TX	2.45	13727	5/7/2010	29.59	-98.41
1669	Medina	Bexar	78056	TX	4.20	22337	5/7/2010	29.51	-98.99
1670	Webb	Nueces	78043	TX	30.45	146690	5/9/2010	27.51	-99.48
1671	Kendall	Bexar	78015	TX	10.80	51001	5/10/2010	29.73	-98.63
1672	Tarrant	Tarrant	76021	TX	251.50		5/10/2010	32.85	-97.14
1673	Nueces	Nueces	78373	TX	6.36	32580	5/10/2010	27.67	-97.18
1674	Travis	Travis	78703	TX	3.15	19466	5/10/2010	30.29	-97.77
1675	Travis	Travis	78758	TX	6.30	28791	5/10/2010	30.39	-97.70
1676	Travis	Travis	78703	TX	4.65	43655	5/10/2010	30.29	-97.77
1677	Johnson	Johnson	76028	TX	7.88	42061	5/11/2010	32.53	-97.29
1678	Smith	Smith	75703	TX	8.10	52650	5/11/2010	32.27	-95.33
1679	Dallas	Dallas	75230	TX	5.52	34500	5/12/2010	32.90	-96.80
1680	Collin	Collin	75025	TX	6.97	46351	5/12/2010	33.09	-96.76

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1681	Travis	Travis	78746	TX	5.03	29009	5/12/2010	30.31	-97.82
1682	Travis	Travis	78741	TX	2.80	9592	5/12/2010	30.23	-97.71
1683	Bexar	Bexar	78258	TX	5.25	28000	5/13/2010	29.65	-98.47
1684	Bexar	Bexar	78209	TX	5.25	27792	5/13/2010	29.49	-98.45
1685	Dallas	Dallas	75214	TX	7.36	41584	5/14/2010	32.82	-96.74
1686	McLennan	Ellis	76712	TX	10.12	48447	5/14/2010	31.53	-97.25
1687	Bexar	Bexar	78259	TX	5.46	28871	5/14/2010	29.62	-98.43
1688	Hidalgo	Nueces	78596	TX	5.16	35393	5/17/2010	26.17	-97.98
1689	Travis	Travis	78617	TX	2.80	12291	5/18/2010	30.15	-97.59
1690	Bexar	Bexar	78232	TX	4.86	21892	5/19/2010	29.56	-98.47
1691	Travis	Travis	78735	TX	5.46	26220	5/19/2010	30.26	-97.86
1692	Bell	Williamson	76549	TX	9.60	64345	5/20/2010	31.00	-97.81
1693	Collin	Collin	75035	TX	6.93	52282	5/24/2010	33.15	-96.76
1694	Travis	Travis	78730	TX	5.78	28411	5/24/2010	30.37	-97.84
1695	Travis	Travis	78748	TX	2.52	14282	5/26/2010	30.17	-97.82
1696	Travis	Travis	78732	TX	5.88	27935	5/26/2010	30.38	-97.90
1697	Smith	Smith	75704	TX	6.48	42120	5/27/2010	32.40	-95.41
1698	McLennan	Ellis	76710	TX	2.37	13950	5/28/2010	31.53	-97.20
1699	Williamson	Williamson	78626	TX	7.92	34411	5/28/2010	30.70	-97.59
1700	Travis	Travis	78703	TX	5.07	43217	5/28/2010	30.29	-97.77
1701	Travis	Travis	78746	TX	6.44	43470	5/28/2010	30.31	-97.82
1702	Brewster	El Paso	79830	TX	3.15	20957	6/1/2010	29.93	-103.45
1703	Travis	Travis	78730	TX	5.55	29634	6/1/2010	30.37	-97.84
1704	Tarrant	Tarrant	76010	TX	2.64	17261	6/2/2010	32.73	-97.08
1705	Dallas	Dallas	75214	TX	7.48	41584	6/2/2010	32.82	-96.74
1706	Bexar	Bexar	78253	TX	20.64	157500	6/2/2010	29.47	-98.81
1707	Bexar	Bexar	78148	TX	4.00	26000	6/2/2010	29.55	-98.30
1708	Bexar	Bexar	78217	TX	3.00	20774	6/2/2010	29.54	-98.42
1709	Bexar	Bexar	78233	TX	4.20	21148	6/2/2010	29.56	-98.36
1710	Kendall	Bexar	78015	TX	10.00	27911	6/2/2010	29.75	-98.65
1711	Bexar	Bexar	78232	TX	4.86	22206	6/2/2010	29.59	-98.46
1712	Williamson	Williamson	78665	TX	2.82	19035	6/3/2010	30.55	-97.62
1713	Williamson	Williamson	78665	TX	5.64	38634	6/3/2010	30.55	-97.62
1714	Collin	Collin	75024	TX	9.66	33810	6/4/2010	33.08	-96.81
1715	Johnson	Johnson	76028	TX	9.86	51757	6/4/2010	32.53	-97.29
1716	Travis	Travis	78732	TX	4.62	19964	6/4/2010	30.38	-97.90
1717	Comal	Comal	78266	TX	42.30	423000	6/4/2010	29.63	-98.32
1718	Tarrant	Tarrant	76012	TX	3.52	19585	6/5/2010	32.76	-97.14
1719	Collin	Collin	75024	TX	4.05	37265	6/5/2010	33.08	-96.81
1720	Brewster	El Paso	79830	TX	3.53	19173	6/7/2010	29.93	-103.45

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1721	Dallas	Dallas	75229	TX	6.90	41400	6/7/2010	32.90	-96.86
1722	Travis	Travis	78741	TX	4.90	29890	6/8/2010	30.23	-97.71
1723	Travis	Travis	78748	TX	5.94	54039	6/8/2010	30.17	-97.82
1724	Bell	Williamson	76513	TX	7.92	45540	6/9/2010	31.07	-97.50
1725	Coryell	Williamson	76522	TX	2.80	17095	6/10/2010	31.22	-97.94
1726	Travis	Travis	78723	TX	6.30	28261	6/10/2010	30.31	-97.68
1727	Wichita	Denton	76305	TX	10.08	54985	6/11/2010	34.00	-98.35
1728	El Paso	El Paso	79932	TX	4.84	33611	6/14/2010	31.89	-106.62
1729	Montgomery	Montgomery	77318	TX	3.15	20612	6/14/2010	30.43	-95.54
1730	Wichita	Denton	76305	TX	10.08	52174	6/14/2010	34.00	-98.35
1731	Midland	El Paso	79705	TX	10.12	101120	6/14/2010	32.06	-102.06
1732	Travis	Travis	78721	TX	2.80	14947	6/14/2010	30.27	-97.68
1733	Bexar	Bexar	78209	TX	7.60	64255	6/14/2010	29.49	-98.45
1734	El Paso	El Paso	79912	TX	1.84	12880	6/15/2010	31.86	-106.52
1735	Wichita	Denton	76309	TX	10.00	31573	6/15/2010	33.90	-98.54
1736	Brewster	El Paso	79831	TX	10.56	67785	6/16/2010	30.41	-103.74
1737	Bexar	Bexar	78260	TX	7.90	39022	6/17/2010	29.69	-98.50
1738	Cooke	Denton	76240	TX	19.46	136500	6/18/2010	33.64	-97.14
1739	Bell	Williamson	76542	TX	6.48	29813	6/18/2010	31.01	-97.72
1740	Limestone	Ellis	76642	TX	10.08	34600	6/18/2010	31.53	-96.56
1741	Comal	Comal	78266	TX	6.21	45000	6/21/2010	29.63	-98.32
1742	El Paso	El Paso	79912	TX	4.40	35689	6/21/2010	31.86	-106.52
1743	Collin	Collin	75074	TX	4.32	24389	6/21/2010	33.02	-96.67
1744	Archer	Parker	76366	TX	10.08	52174	6/21/2010	33.71	-98.79
1745	Travis	Travis	78754	TX	24.00	114100	6/21/2010	30.36	-97.65
1746	Bexar	Bexar	78204	TX	4.14	21371	6/21/2010	29.40	-98.50
1747	Bexar	Bexar	78023	TX	11.00	61366	6/21/2010	29.62	-98.73
1748	Bexar	Bexar	78216	TX	5.60	26870	6/21/2010	29.55	-98.50
1749	Travis	Travis	78727	TX	6.30	45413	6/22/2010	30.43	-97.71
1750	Travis	Travis	78723	TX	6.48	27785	6/22/2010	30.31	-97.68
1751	Tarrant	Tarrant	76063	TX	3.12	15565	6/23/2010	32.58	-97.16
1752	Tarrant	Tarrant	76108	TX	6.30	37142	6/28/2010	32.78	-97.55
1753	Orange	Orange	77632	TX	5.04	34550	6/29/2010	30.22	-93.80
1754	Collin	Collin	75093	TX	12.15	64550	6/29/2010	33.04	-96.80
1755	Travis	Travis	78733	TX	5.52	30150	6/29/2010	30.33	-97.87
1756	Bexar	Bexar	78245	TX	1.08	3704	7/1/2010	29.40	-98.74
1757	Bexar	Bexar	78253	TX	5.94	25835	7/1/2010	29.47	-98.81
1758	El Paso	El Paso	79912	TX	3.96	27720	7/1/2010	31.86	-106.52
1759	Kaufman	Kaufman	75114	TX	6.30	37142	7/1/2010	32.61	-96.44
1760	Tarrant	Tarrant	76135	TX	7.00	38438	7/1/2010	32.84	-97.47

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1761	Denton	Denton	75068	TX	6.30	35630	7/7/2010	33.19	-96.95
1762	Bexar	Bexar	78233	TX	2.00	10621	7/8/2010	29.56	-98.36
1763	Bexar	Bexar	78258	TX	8.75	50449	7/8/2010	29.65	-98.47
1764	El Paso	El Paso	79912	TX	4.20	28896	7/8/2010	31.86	-106.52
1765	El Paso	El Paso	79912	TX	3.87	27090	7/8/2010	31.86	-106.52
1766	El Paso	El Paso	79907	TX	5.04	33667	7/8/2010	31.71	-106.33
1767	Orange	Orange	77632	TX	9.80	54566	7/8/2010	30.22	-93.80
1768	Henderson	Henderson	75163	TX	1.14	9000	7/8/2010	32.15	-96.08
1769	Bexar	Bexar	78233	TX	1.10	8244	7/12/2010	29.56	-98.36
1770	El Paso	El Paso	79925	TX	1.76	12320	7/12/2010	31.78	-106.36
1771	El Paso	El Paso	79821	TX	5.98	41664	7/12/2010	31.99	-106.59
1772	Tarrant	Tarrant	76118	TX	10.08	34600	7/12/2010	32.79	-97.17
1773	Travis	Travis	78730	TX	14.00	88130	7/13/2010	30.37	-97.84
1774	Hardin	Hardin	77659	TX	2.52	9938	7/14/2010	30.15	-94.46
1775	El Paso	El Paso	79925	TX	1.80	12000	7/14/2010	31.79	-106.34
1776	Dallas	Dallas	75206	TX	4.59	23180	7/15/2010	32.82	-96.78
1777	Galveston	Galveston	77546	TX	9.90	53000	7/18/2010	29.51	-95.20
1778	Denton	Denton	75010	TX	39.03	304395	7/19/2010	33.03	-96.93
1779	El Paso	El Paso	79912	TX	5.40	25000	7/20/2010	31.86	-106.52
1780	Dallas	Dallas	75060	TX	2.64	13264	7/20/2010	32.80	-96.95
1781	Brewster	El Paso	79830	TX	2.82	11721	7/21/2010	29.93	-103.45
1782	Comal	Comal	78266	TX	42.30	476300	7/22/2010	29.63	-98.32
1783	Bexar	Bexar	78253	TX	11.16	81382	7/22/2010	29.47	-98.81
1784	Tarrant	Tarrant	76179	TX	5.81	48646	7/22/2010	32.92	-97.46
1785	Dallas	Dallas	75228	TX	2.37	19819	7/22/2010	32.83	-96.68
1786	Dallas	Dallas	75248	TX	6.45	54051	7/22/2010	32.97	-96.80
1787	Collin	Collin	75074	TX	9.46	79275	7/22/2010	33.02	-96.67
1788	Ellis	Ellis	76065	TX	5.16	43241	7/22/2010	32.48	-96.96
1789	Tarrant	Tarrant	76063	TX	4.30	36034	7/22/2010	32.58	-97.16
1790	Johnson	Johnson	76028	TX	6.02	50478	7/22/2010	32.53	-97.29
1791	Tarrant	Tarrant	76116	TX	5.16	43241	7/22/2010	32.71	-97.43
1792	Collin	Collin	75025	TX	5.16	43241	7/22/2010	33.09	-96.76
1793	Dallas	Dallas	75229	TX	5.81	48646	7/22/2010	32.90	-96.86
1794	Tarrant	Tarrant	76051	TX	3.44	28827	7/22/2010	32.95	-97.07
1795	Collin	Collin	75002	TX	5.59	46844	7/22/2010	33.09	-96.61
1796	Denton	Denton	75028	TX	6.02	50448	7/22/2010	33.05	-97.06
1797	Dallas	Dallas	75229	TX	2.37	18819	7/22/2010	32.90	-96.86
1798	Tarrant	Tarrant	76001	TX	5.16	43241	7/22/2010	32.63	-97.15
1799	Tarrant	Tarrant	76132	TX	9.89	82878	7/22/2010	32.66	-97.42
1800	Travis	Travis	78731	TX	7.20	45000	7/22/2010	30.35	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1801	Dallas	Dallas	75104	TX	6.56	54973	7/23/2010	32.59	-96.99
1802	Tarrant	Tarrant	76052	TX	8.61	72152	7/23/2010	32.97	-97.37
1803	Collin	Collin	75025	TX	9.89	82878	7/23/2010	33.09	-96.76
1804	Dallas	Dallas	75104	TX	5.81	48646	7/23/2010	32.59	-96.99
1805	Collin	Collin	75071	TX	6.02	50448	7/23/2010	33.24	-96.69
1806	Tarrant	Tarrant	76140	TX	7.74	64861	7/23/2010	32.63	-97.28
1807	Tarrant	Tarrant	76126	TX	3.44	28827	7/23/2010	32.65	-97.50
1808	Ellis	Ellis	75165	TX	6.02	73665	7/24/2010	32.40	-96.79
1809	Gregg	Gregg	75662	TX	11.28	57809	7/26/2010	32.38	-94.87
1810	Smith	Smith	75791	TX	7.20	40268	7/28/2010	32.23	-95.21
1811	Smith	Smith	75791	TX	1.07	6988	7/29/2010	32.23	-95.21
1812	Smith	Smith	75791	TX	3.15	17609	7/29/2010	32.23	-95.21
1813	Franklin	Hunt	75480	TX	4.00	24525	7/30/2010	33.04	-95.21
1814	Hidalgo	Nueces	78504	TX	2.10	10500	7/30/2010	26.39	-98.24
1815	Falls	Williamson	76570	TX	6.30	37142	7/30/2010	31.10	-96.90
1816	Henderson	Henderson	75778	TX	5.85	36134	7/30/2010	32.30	-95.71
1817	Leon	Montgomery	77871	TX	9.66	34031	8/2/2010	31.05	-96.13
1818	Bowie	Upshur	75503	TX	5.90	37626	8/2/2010	33.53	-94.13
1819	Dallas	Dallas	75220	TX	7.20	56592	8/2/2010	32.86	-96.87
1820	Smith	Smith	75703	TX	9.43	48384	8/2/2010	32.27	-95.33
1821	El Paso	El Paso	79915	TX	10.08	69250	8/3/2010	31.74	-106.38
1822	Kaufman	Kaufman	75114	TX	10.12	56257	8/3/2010	32.61	-96.44
1823	Tarrant	Tarrant	76092	TX	7.80	37963	8/3/2010	32.95	-97.15
1824	Tarrant	Tarrant	76140	TX	7.74	46550	8/3/2010	32.63	-97.28
1825	Bexar	Bexar	78229	TX	2.30	14145	8/5/2010	29.51	-98.58
1826	Bexar	Bexar	78222	TX	11.90	85510	8/5/2010	29.37	-98.39
1827	Bexar	Bexar	78260	TX	5.25	27537	8/5/2010	29.69	-98.50
1828	Bexar	Bexar	78240	TX	8.75	21671	8/5/2010	29.53	-98.61
1829	Tarrant	Tarrant	76034	TX	10.08	57977	8/5/2010	32.89	-97.15
1830	Hardin	Hardin	77625	TX	2.52	12000	8/9/2010	30.41	-94.36
1831	Johnson	Johnson	76009	TX	5.04	26121	8/9/2010	32.44	-97.20
1832	Howard	Hood	79720	TX	9.03	39988	8/9/2010	32.24	-101.48
1833	Bell	Williamson	76504	TX	8.97	40309	8/9/2010	31.11	-97.36
1834	Travis	Travis	78759	TX	3.24	15750	8/9/2010	30.40	-97.75
1835	Lamar	Hunt	75460	TX	25.60	127084	8/10/2010	33.60	-95.62
1836	Tarrant	Tarrant	76116	TX	6.38	27332	8/10/2010	32.71	-97.43
1837	Tarrant	Tarrant	76118	TX	10.40	79800	8/11/2010	32.79	-97.17
1838	Navarro	Ellis	75155	TX	5.40	32976	8/11/2010	32.21	-96.47
1839	Dallas	Dallas	75214	TX	2.26	15574	8/11/2010	32.82	-96.74
1840	Tarrant	Tarrant	76118	TX	1.00	82000	8/11/2010	32.79	-97.17

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1841	Mclennan	Ellis	76707	TX	5.04	28979	8/12/2010	31.56	-97.16
1842	Tarrant	Tarrant	76016	TX	3.69	26770	8/12/2010	32.69	-97.18
1843	Travis	Travis	78703	TX	4.44	25663	8/12/2010	30.29	-97.77
1844	Travis	Travis	78703	TX	4.44	25663	8/12/2010	30.29	-97.77
1845	Wichita	Denton	76310	TX	7.74	52646	8/13/2010	33.80	-98.46
1846	Bexar	Bexar	78221	TX	2.10	10386	8/16/2010	29.30	-98.50
1847	Bee	San Patricio	78102	TX	3.22	17574	8/16/2010	28.41	-97.74
1848	Collin	Collin	75093	TX	4.84	15040	8/16/2010	33.04	-96.80
1849	Collin	Collin	75074	TX	4.84	16488	8/16/2010	33.02	-96.67
1850	Van Zandt	Henderson	75790	TX	5.06	26000	8/17/2010	32.52	-95.62
1851	Henderson	Henderson	75148	TX	6.30	37142	8/17/2010	32.10	-96.00
1852	Dallas	Dallas	75247	TX	101.64	576440	8/17/2010	32.82	-96.88
1853	Ellis	Ellis	75152	TX	5.85	36134	8/18/2010	32.44	-96.70
1854	Navarro	Ellis	76641	TX	5.85	36134	8/18/2010	32.02	-96.77
1855	Travis	Travis	78746	TX	5.08	32558	8/18/2010	30.31	-97.82
1856	Dallas	Dallas	75138	TX	44.10		8/20/2010	32.66	-96.90
1857	Dallas	Dallas	75138	TX	88.20		8/20/2010	32.66	-96.90
1858	Dallas	Dallas	75138	TX	53.55		8/20/2010	32.66	-96.90
1859	Collin	Collin	75002	TX	101.66	448955	8/20/2010	33.09	-96.61
1860	Bexar	Bexar	78254	TX	1.75	8048	8/23/2010	29.53	-98.78
1861	Bexar	Bexar	78254	TX	3.00	25050	8/23/2010	29.53	-98.78
1862	Kendall	Bexar	78006	TX	12.76	59943	8/23/2010	29.92	-98.70
1863	Bexar	Bexar	78257	TX	12.10	94919	8/23/2010	29.66	-98.58
1864	Bexar	Bexar	78233	TX	8.36	45851	8/23/2010	29.56	-98.36
1865	Bexar	Bexar	78258	TX	8.40	43951	8/23/2010	29.65	-98.47
1866	Kendall	Bexar	78015	TX	3.15	18558	8/23/2010	29.75	-98.65
1867	El Paso	El Paso	79936	TX	2.20	15898	8/23/2010	31.80	-106.29
1868	Angelina	Rusk	75901	TX	6.90	32706	8/23/2010	31.29	-94.67
1869	Travis	Travis	78745	TX	3.01	24000	8/23/2010	30.21	-97.80
1870	Bexar	Bexar	78023	TX	3.08	17244	8/26/2010	29.62	-98.73
1871	El Paso	El Paso	79912	TX	5.04	34625	8/26/2010	31.86	-106.52
1872	Archer	Parker	76351	TX	30.08	160779	8/30/2010	33.60	-98.68
1873	Montgomery	Montgomery	77382	TX	4.40	21810	8/31/2010	30.20	-95.55
1874	Henderson	Henderson	75156	TX	10.32	61405	8/31/2010	32.24	-96.08
1875	Bell	Williamson	76543	TX	6.88	40244	9/1/2010	31.15	-97.68
1876	Bell	Williamson	76513	TX	5.94	27267	9/1/2010	31.07	-97.50
1877	Mclennan	Ellis	76712	TX	2.24	11850	9/1/2010	31.53	-97.25
1878	Collin	Collin	75002	TX	70.84	408357	9/1/2010	33.09	-96.61
1879	Bexar	Bexar	78211	TX	10.80	51001	9/3/2010	29.35	-98.57
1880	Bexar	Bexar	78254	TX	6.48	28184	9/3/2010	29.53	-98.78

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1881	Bell	Williamson	76513	TX	5.38	33600	9/3/2010	31.07	-97.50
1882	Bell	Williamson	76501	TX	71.52	307382	9/3/2010	31.08	-97.24
1883	Hidalgo	Nueces	78573	TX	10.32	58750	9/6/2010	26.29	-98.30
1884	Bexar	Bexar	78209	TX	4.20	26021	9/7/2010	29.49	-98.45
1885	Bexar	Bexar	78251	TX	3.24	15990	9/7/2010	29.47	-98.68
1886	Bexar	Bexar	78023	TX	11.50	68569	9/7/2010	29.62	-98.73
1887	Parker	Parker	76088	TX	10.08	106103	9/7/2010	32.85	-97.89
1888	Tarrant	Tarrant	76001	TX	4.30	30136	9/8/2010	32.63	-97.15
1889	Ellis	Ellis	75165	TX	10.08	106103	9/8/2010	32.40	-96.79
1890	Dallas	Dallas	75220	TX	30.36	133408	9/9/2010	32.87	-96.89
1891	Montgomery	Montgomery	77385	TX	4.62	18480	9/9/2010	30.20	-95.43
1892	Montgomery	Montgomery	77385	TX	4.20	16800	9/9/2010	30.20	-95.43
1893	Dallas	Dallas	75220	TX	30.36	133408	9/9/2010	32.86	-96.87
1894	Jefferson	Jefferson	77713	TX	6.30	47000	9/9/2010	30.13	-94.21
1895	Collin	Collin	75093	TX	3.68	20200	9/10/2010	33.04	-96.82
1896	Bexar	Bexar	78257	TX	8.28	49408	9/10/2010	29.66	-98.58
1897	Bexar	Bexar	78216	TX	7.92	48439	9/10/2010	29.55	-98.50
1898	Bexar	Bexar	78261	TX	2.03	12000	9/13/2010	29.70	-98.41
1899	Bell	Williamson	76543	TX	10.34	69795	9/13/2010	31.15	-97.68
1900	Tarrant	Tarrant	76116	TX	3.22	18565	9/13/2010	32.71	-97.43
1901	Cameron	Nueces	78575	TX	11.52	55400	9/15/2010	26.02	-97.54
1902	Collin	Collin	75025	TX	4.14	38600	9/16/2010	33.09	-96.76
1903	Denton	Denton	75007	TX	8.40	43595	9/16/2010	33.01	-96.89
1904	Maverick	Bexar	78852	TX	3.60	18114	9/17/2010	28.71	-100.46
1905	Tarrant	Tarrant	76013	TX	9.45	79191	9/17/2010	32.72	-97.15
1906	Denton	Denton	76210	TX	9.66	80951	9/17/2010	33.14	-97.08
1907	Wichita	Denton	76310	TX	5.40	32874	9/17/2010	33.80	-98.46
1908	Ellis	Ellis	75101	TX	6.44	37142	9/17/2010	32.27	-96.69
1909	Dallas	Dallas	75116	TX	53.55	437119	9/17/2010	32.65	-96.91
1910	Dallas	Dallas	75116	TX	44.10	399731	9/17/2010	32.65	-96.91
1911	Dallas	Dallas	75116	TX	88.20	564661	9/17/2010	32.65	-96.91
1912	Dallas	Dallas	75050	TX	10.80		9/20/2010	32.78	-97.02
1913	Dallas	Dallas	75080	TX	4.14	48650	9/20/2010	32.98	-96.74
1914	Collin	Collin	75023	TX	2.25	16830	9/20/2010	33.05	-96.73
1915	Dallas	Dallas	75019	TX	4.14	21907	9/20/2010	32.96	-97.00
1916	Tarrant	Tarrant	76114	TX	5.52	11610	9/21/2010	32.78	-97.40
1917	Tarrant	Tarrant	76126	TX	5.04	24450	9/21/2010	32.65	-97.50
1918	Wichita	Denton	76367	TX	5.40	32136	9/21/2010	33.98	-98.70
1919	Dallas	Dallas	75050	TX	10.37	70000	9/22/2010	32.78	-97.02
1920	Travis	Travis	78722	TX	2.40	17399	9/22/2010	30.30	-97.70

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1921	Collin	Collin	75013	TX	101.66		9/23/2010	33.11	-96.70
1922	El Paso	El Paso	79912	TX	10.12	58092	9/23/2010	31.86	-106.52
1923	Bexar	Bexar	78230	TX	4.90	22915	9/24/2010	29.54	-98.56
1924	Bexar	Bexar	78246	TX	4.72	23108	9/24/2010	29.53	-98.48
1925	Bexar	Bexar	78209	TX	4.20	20364	9/24/2010	29.49	-98.45
1926	Bexar	Bexar	78259	TX	5.60	32560	9/24/2010	29.62	-98.43
1927	Bexar	Bexar	78240	TX	9.45	47420	9/24/2010	29.53	-98.61
1928	Dallas	Dallas	75230	TX	11.25	58335	9/24/2010	32.90	-96.79
1929	Dallas	Dallas	75050	TX	50.40		9/24/2010	32.78	-97.02
1930	El Paso	El Paso	79928	TX	2.20	16230	9/28/2010	31.66	-106.13
1931	Waller	Waller	77445	TX	9.66	43888	9/28/2010	30.09	-96.05
1932	Tarrant	Tarrant	76133	TX	3.08	15900	9/28/2010	32.65	-97.38
1933	Hidalgo	Nueces	78577	TX	5.52	37550	9/29/2010	26.15	-98.19
1934	Bell	Williamson	76502	TX	3.14	20384	9/29/2010	31.11	-97.41
1935	Travis	Travis	78704	TX	3.33	20300	9/29/2010	30.24	-97.77
1936	Travis	Travis	78733	TX	6.35	32137	9/29/2010	30.33	-97.87
1937	Rockwall	Rockwall	75087	TX	3.99	23540	9/30/2010	32.97	-96.46
1938	Dallas	Dallas	75062	TX	103.68	576405	9/30/2010	32.85	-96.97
1939	Denton	Denton	75007	TX	3.96	21306	9/30/2010	33.01	-96.89
1940	Travis	Travis	78745	TX	26.46	109704	10/1/2010	30.21	-97.80
1941	Travis	Travis	78752	TX	10.58	53405	10/1/2010	30.33	-97.70
1942	Travis	Travis	78756	TX	6.30	31665	10/1/2010	30.32	-97.74
1943	Dallas	Dallas	75137	TX	1.29	10000	10/3/2010	32.62	-96.94
1944	Bexar	Bexar	78261	TX	2.03	11539	10/4/2010	29.70	-98.41
1945	Montgomery	Montgomery	77380	TX	6.48	67657	10/5/2010	30.13	-95.47
1946	Hidalgo	Nueces	78596	TX	9.90	61256	10/5/2010	26.17	-97.98
1947	Bowie	Upshur	75503	TX	5.76	16838	10/5/2010	33.53	-94.13
1948	Van Zandt	Henderson	75103	TX	10.14	55666	10/5/2010	32.54	-95.86
1949	Williamson	Williamson	78665	TX	101.64	553661	10/5/2010	30.55	-97.62
1950	Dallas	Dallas	75253	TX	4.14	36800	10/5/2010	32.69	-96.59
1951	Williamson	Williamson	78664	TX	7.92	41958	10/5/2010	30.50	-97.66
1952	Travis	Travis	78759	TX	6.30	33732	10/7/2010	30.40	-97.75
1953	Travis	Travis	78735	TX	6.30	20976	10/7/2010	30.26	-97.86
1954	Travis	Travis	78746	TX	6.30	30694	10/7/2010	30.31	-97.82
1955	Rockwall	Rockwall	75087	TX	4.03	23540	10/8/2010	32.95	-96.44
1956	Collin	Collin	75025	TX	3.22	17458	10/8/2010	33.09	-96.76
1957	Dallas	Dallas	75228	TX	5.60	29748	10/11/2010	32.83	-96.68
1958	Collin	Collin	75098	TX	10.08	106103	10/11/2010	33.02	-96.51
1959	Dallas	Dallas	75248	TX	9.45	53258	10/12/2010	32.97	-96.80
1960	Collin	Collin	75025	TX	1.40	13750	10/13/2010	33.09	-96.76

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
1961	Tarrant	Tarrant	76179	TX	7.74	64861	10/14/2010	32.92	-97.46
1962	Denton	Denton	76210	TX	7.53	63060	10/14/2010	33.14	-97.08
1963	Collin	Collin	75075	TX	8.19	68632	10/14/2010	33.02	-96.74
1964	Collin	Collin	75287	TX	7.10	59456	10/14/2010	33.00	-96.84
1965	Tarrant	Tarrant	76110	TX	5.16	43241	10/14/2010	32.70	-97.34
1966	Dallas	Dallas	75230	TX	7.74	64861	10/14/2010	32.90	-96.80
1967	Tarrant	Tarrant	76040	TX	7.56	63353	10/14/2010	32.82	-97.10
1968	Ellis	Ellis	76065	TX	2.76	13883	10/14/2010	32.48	-96.96
1969	Tarrant	Tarrant	76052	TX	6.44	32200	10/14/2010	32.97	-97.37
1970	Bexar	Bexar	78230	TX	8.10	53800	10/15/2010	29.54	-98.56
1971	Bexar	Bexar	78258	TX	4.20	20178	10/15/2010	29.65	-98.47
1972	Bexar	Bexar	78260	TX	3.24	16910	10/15/2010	29.69	-98.50
1973	Bexar	Bexar	78148	TX	6.30	36000	10/15/2010	29.55	-98.30
1974	Bexar	Bexar	78256	TX	4.91	30871	10/15/2010	29.62	-98.62
1975	Bexar	Bexar	78255	TX	9.80	45088	10/15/2010	29.66	-98.67
1976	Bexar	Bexar	78023	TX	3.96	17902	10/15/2010	29.62	-98.73
1977	Bexar	Bexar	78258	TX	5.25	26881	10/15/2010	29.65	-98.47
1978	Wichita	Denton	76302	TX	49.40	232735	10/18/2010	33.87	-98.49
1979	Dallas	Dallas	75238	TX	8.39	70266	10/18/2010	32.88	-96.71
1980	Tarrant	Tarrant	76018	TX	5.81	48646	10/18/2010	32.67	-97.08
1981	Collin	Collin	75023	TX	4.30	36034	10/18/2010	33.05	-96.73
1982	Ellis	Ellis	75119	TX	7.56	63353	10/18/2010	32.32	-96.62
1983	Williamson	Williamson	78681	TX	5.16	25710	10/18/2010	30.52	-97.71
1984	Denton	Denton	76210	TX	10.08	34600	10/18/2010	33.14	-97.08
1985	Bexar	Bexar	78209	TX	6.65	36552	10/19/2010	29.49	-98.45
1986	Brewster	El Paso	79830	TX	3.68	24840	10/19/2010	29.93	-103.45
1987	Tarrant	Tarrant	76040	TX	6.93	58073	10/19/2010	32.82	-97.10
1988	Bexar	Bexar	78204	TX	2.23	13579	10/20/2010	29.40	-98.50
1989	Knox	Parker	76371	TX	45.83	311397	10/20/2010	33.49	-99.66
1990	Dallas	Dallas	75063	TX	9.40	57960	10/20/2010	32.91	-96.98
1991	Tarrant	Tarrant	76021	TX	251.32	1326849	10/20/2010	32.85	-97.13
1992	Travis	Travis	78750	TX	23.52	134652	10/20/2010	30.43	-97.80
1993	Williamson	Williamson	78664	TX	7.20	41075	10/21/2010	30.50	-97.66
1994	Wichita	Denton	76309	TX	5.60	52980	10/21/2010	33.90	-98.54
1995	Cherokee	Smith	75785	TX	1.54	9500	10/22/2010	31.75	-95.18
1996	Tarrant	Tarrant	76108	TX	5.88	49274	10/22/2010	32.78	-97.55
1997	Dallas	Dallas	75115	TX	66.24	150000	10/22/2010	32.60	-96.86
1998	Collin	Collin	75093	TX	3.68	20200	10/27/2010	33.04	-96.80
1999	Travis	Travis	78731	TX	8.51	43265	10/28/2010	30.35	-97.77
2000	Dallas	Dallas	75050	TX	100.80		10/29/2010	32.78	-97.02

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2001	Tarrant	Tarrant	76109	TX	6.44	39975	11/1/2010	32.70	-97.38
2002	Bexar	Bexar	78240	TX	5.25	28694	11/1/2010	29.53	-98.61
2003	Bexar	Bexar	78251	TX	2.03	11539	11/1/2010	29.47	-98.68
2004	Bexar	Bexar	78236	TX	10.80	48549	11/1/2010	29.39	-98.61
2005	Comal	Comal	78163	TX	9.00	47458	11/1/2010	29.77	-98.51
2006	Gregg	Gregg	75601	TX	76.50	297655	11/1/2010	32.51	-94.72
2007	Travis	Travis	78723	TX	6.11	30542	11/1/2010	30.31	-97.68
2008	Bexar	Bexar	78217	TX	6.20	36907	11/2/2010	29.54	-98.42
2009	Bexar	Bexar	78211	TX	3.44	24403	11/2/2010	29.35	-98.57
2010	Bexar	Bexar	78109	TX	3.04	25600	11/2/2010	29.47	-98.30
2011	Bexar	Bexar	78209	TX	9.45	58150	11/2/2010	29.49	-98.45
2012	Brewster	El Paso	79830	TX	2.35	12820	11/2/2010	29.93	-103.45
2013	Collin	Collin	75002	TX	3.96	21712	11/2/2010	33.09	-96.61
2014	Dallas	Dallas	75230	TX	4.30	36034	11/3/2010	32.90	-96.80
2015	Collin	Collin	75287	TX	6.02	50448	11/3/2010	33.00	-96.84
2016	Denton	Denton	75007	TX	3.36	28157	11/3/2010	33.01	-96.89
2017	Denton	Denton	76262	TX	8.39	70266	11/3/2010	33.02	-97.23
2018	Tarrant	Tarrant	76179	TX	10.08	84471	11/3/2010	32.92	-97.46
2019	Parker	Parker	76008	TX	10.08	90504	11/3/2010	32.69	-97.63
2020	Bexar	Bexar	78223	TX	16000.00		11/4/2010	29.30	-98.41
2021	Tarrant	Tarrant	76054	TX	4.73	39637	11/5/2010	32.86	-97.18
2022	Tarrant	Tarrant	76034	TX	10.08	84470	11/5/2010	32.89	-97.15
2023	Tarrant	Tarrant	76137	TX	7.56	63353	11/5/2010	32.85	-97.30
2024	Dallas	Dallas	75052	TX	10.08	84470	11/5/2010	32.68	-97.03
2025	Tarrant	Tarrant	76123	TX	5.18	43442	11/5/2010	32.62	-97.40
2026	Bexar	Bexar	78209	TX	3.96	22123	11/8/2010	29.49	-98.45
2027	Bexar	Bexar	78255	TX	5.40	27052	11/8/2010	29.66	-98.67
2028	Bexar	Bexar	78223	TX	4.50	21797	11/8/2010	29.30	-98.41
2029	Bexar	Bexar	78261	TX	10.11	44513	11/9/2010	29.70	-98.41
2030	Collin	Collin	75002	TX	6.84	38870	11/9/2010	33.09	-96.61
2031	Collin	Collin	75075	TX	9.89	65039	11/10/2010	33.02	-96.74
2032	Collin	Collin	75075	TX	1.32	9729	11/10/2010	33.02	-96.74
2033	Erath	Hood	76401	TX	10.68	54710	11/11/2010	32.31	-98.27
2034	Dallas	Dallas	75234	TX	9.45	79191	11/11/2010	32.92	-96.89
2035	Tarrant	Tarrant	76054	TX	5.16	43241	11/11/2010	32.86	-97.18
2036	Dallas	Dallas	75081	TX	7.56	63353	11/11/2010	32.96	-96.70
2037	Tarrant	Tarrant	76018	TX	8.60	72068	11/11/2010	32.67	-97.08
2038	Tarrant	Tarrant	76112	TX	10.32	86482	11/11/2010	32.75	-97.21
2039	Dallas	Dallas	75149	TX	3.78	31676	11/11/2010	32.76	-96.59
2040	Dallas	Dallas	75205	TX	6.30	41641	11/11/2010	32.83	-96.80

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2041	El Paso	El Paso	79925	TX	2.20	15400	11/12/2010	31.78	-106.36
2042	Tarrant	Tarrant	76001	TX	9.89	82878	11/12/2010	32.63	-97.15
2043	Collin	Collin	75002	TX	1.05	7751	11/12/2010	33.09	-96.61
2044	Wichita	Denton	76309	TX	7.84	49753	11/15/2010	33.90	-98.54
2045	Bell	Williamson	76513	TX	3.74	29985	11/15/2010	31.07	-97.50
2046	Travis	Travis	78727	TX	4.73	25114	11/16/2010	30.43	-97.71
2047	Comal	Comal	78132	TX	11.04	48342	11/17/2010	29.74	-98.20
2048	Comal	Comal	78266	TX	23.76	209773	11/17/2010	29.63	-98.32
2049	Bexar	Bexar	78258	TX	6.65	36425	11/17/2010	29.65	-98.47
2050	Bowie	Upshur	75501	TX	2.88	16958	11/17/2010	33.39	-94.13
2051	Dallas	Dallas	75051	TX	17.82	89100	11/18/2010	32.73	-96.99
2052	Tarrant	Tarrant	76126	TX	6.09	51034	11/18/2010	32.65	-97.50
2053	Collin	Collin	75023	TX	5.88	49274	11/18/2010	33.05	-96.73
2054	Tarrant	Tarrant	76148	TX	8.40	70392	11/18/2010	32.86	-97.25
2055	Dallas	Dallas	75051	TX	11.88	59400	11/18/2010	32.73	-96.99
2056	Dallas	Dallas	75051	TX	17.82	89100	11/19/2010	32.73	-96.99
2057	Dallas	Dallas	75019	TX	3.96	22596	11/23/2010	32.96	-97.00
2058	Bexar	Bexar	78245	TX	7.82	35593	11/24/2010	29.40	-98.74
2059	Bexar	Bexar	78217	TX	8.40	65594	11/24/2010	29.54	-98.42
2060	Bexar	Bexar	78261	TX	6.03	36000	11/24/2010	29.70	-98.41
2061	Bexar	Bexar	78261	TX	2.03	11539	11/24/2010	29.70	-98.41
2062	Denton	Denton	76210	TX	99.84	459955	11/24/2010	33.14	-97.08
2063	Parker	Parker	76087	TX	6.09	51034	11/29/2010	32.68	-97.81
2064	Presidio	El Paso	79843	TX	5.46	31000	11/30/2010	30.27	-104.47
2065	Nolan	Hood	79556	TX	10.12	53000	11/30/2010	32.42	-100.39
2066	Williamson	Williamson	78729	TX	10.80		11/30/2010	30.45	-97.76
2067	Montgomery	Montgomery	77304	TX	4.20	22590	12/1/2010	30.33	-95.53
2068	Tom Green	Williamson	76934	TX	9.66	38000	12/1/2010	31.61	-100.69
2069	Tom Green	Williamson	76901	TX	9.66	38000	12/1/2010	31.60	-100.57
2070	Travis	Travis	78735	TX	10.50	58681	12/2/2010	30.26	-97.86
2071	Bexar	Bexar	78244	TX	5.25	25183	12/3/2010	29.47	-98.35
2072	Bexar	Bexar	78255	TX	3.53	14801	12/3/2010	29.66	-98.67
2073	Comal	Comal	78266	TX	17.30	88597	12/3/2010	29.63	-98.32
2074	Bexar	Bexar	78244	TX	39.60	239002	12/3/2010	29.47	-98.35
2075	Bexar	Bexar	78216	TX	6.29	31945	12/3/2010	29.55	-98.50
2076	Clay	Parker	76357	TX	2.82	22900	12/3/2010	34.08	-98.20
2077	Hamilton	Hood	76531	TX	2.64	22550	12/4/2010	31.68	-98.18
2078	Bexar	Bexar	78023	TX	11.96	54556	12/6/2010	29.62	-98.73
2079	El Paso	El Paso	79932	TX	5.24	34622	12/6/2010	31.89	-106.62
2080	Tarrant	Tarrant	76021	TX	6.93	58073	12/6/2010	32.85	-97.13

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2081	Travis	Travis	78745	TX	6.29	25573	12/6/2010	30.21	-97.80
2082	Dallas	Dallas	75048	TX	2.03	7955	12/6/2010	32.97	-96.59
2083	Johnson	Johnson	76084	TX	10.13	53303	12/7/2010	32.44	-97.10
2084	Collin	Collin	75023	TX	2.10	11525	12/7/2010	33.05	-96.73
2085	Travis	Travis	78738	TX	6.48	30803	12/8/2010	30.31	-97.98
2086	El Paso	El Paso	79932	TX	10.47	66400	12/8/2010	31.90	-106.64
2087	Tarrant	Tarrant	76248	TX	2.00	13395	12/9/2010	32.93	-97.23
2088	El Paso	El Paso	79912	TX	10.34	60749	12/10/2010	31.86	-106.52
2089	Dallas	Dallas	75019	TX	5.59	46844	12/10/2010	32.96	-97.00
2090	Tarrant	Tarrant	76034	TX	9.46	79275	12/10/2010	32.89	-97.15
2091	Dallas	Dallas	75060	TX	5.46	45755	12/10/2010	32.80	-96.95
2092	Tarrant	Tarrant	76021	TX	5.59	46844	12/10/2010	32.85	-97.13
2093	Bexar	Bexar	78247	TX	4.14	20493	12/13/2010	29.59	-98.41
2094	Bexar	Bexar	78201	TX	6.90	44110	12/13/2010	29.46	-98.52
2095	Bexar	Bexar	78247	TX	53.36	243984	12/17/2010	29.59	-98.41
2096	Travis	Travis	78756	TX	3.04	17300	12/21/2010	30.32	-97.74
2097	Rockwall	Rockwall	75189	TX	2.82	16900	12/22/2010	32.94	-96.30
2098	Parker	Parker	76087	TX	5.22	38200	12/22/2010	32.61	-97.83
2099	Bexar	Bexar	78255	TX	11.28	53917	12/23/2010	29.66	-98.67
2100	Comal	Comal	78163	TX	3.96	22383	12/23/2010	29.77	-98.51
2101	Bexar	Bexar	78259	TX	3.90	16866	12/23/2010	29.62	-98.43
2102	Bexar	Bexar	78232	TX	4.20	26235	12/27/2010	29.59	-98.46
2103	Travis	Travis	78732	TX	6.66	29980	12/27/2010	30.38	-97.90
2104	Bexar	Bexar	78216	TX	7.00	36532	12/28/2010	29.55	-98.50
2105	Titus	Upshur	75455	TX	80.50		12/28/2010	33.15	-94.97
2106	Bexar	Bexar	78212	TX	22.77	124641	12/28/2010	29.46	-98.50
2107	Denton	Denton	75007	TX	1.26	11151	12/28/2010	33.01	-96.89
2108	Orange	Orange	77632	TX	6.00	30000	12/28/2010	30.18	-93.76
2109	Bexar	Bexar	78232	TX	6.30	30355	12/29/2010	29.59	-98.46
2110	Bexar	Bexar	78209	TX	4.90	30147	12/29/2010	29.49	-98.45
2111	Bexar	Bexar	78209	TX	4.86	23204	12/29/2010	29.49	-98.45
2112	Bexar	Bexar	78148	TX	6.00	32704	12/30/2010	29.55	-98.30
2113	Bexar	Bexar	78109	TX	3.29	24500	12/30/2010	29.47	-98.30
2114	Bexar	Bexar	78109	TX	8.64	42149	12/30/2010	29.47	-98.30
2115	Travis	Travis	78736	TX	6.66	26403	1/3/2011	30.25	-97.95
2116	Travis	Travis	78748	TX	3.68	20082	1/4/2011	30.17	-97.82
2117	Brewster	El Paso	79830	TX	50.83	394507	1/7/2011	29.93	-103.45
2118	Brewster	El Paso	79830	TX	10.12	80780	1/7/2011	29.93	-103.45
2119	Travis	Travis	78704	TX	5.98	29003	1/7/2011	30.24	-97.77
2120	Brewster	El Paso	79830	TX	2.82	17500	1/10/2011	29.93	-103.45

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2121	Travis	Travis	78746	TX	2.96	17574	1/10/2011	30.31	-97.82
2122	Travis	Travis	78736	TX	4.86	17038	1/10/2011	30.25	-97.95
2123	Travis	Travis	78723	TX	3.33	15473	1/10/2011	30.31	-97.68
2124	Bexar	Bexar	78238	TX	3.78	21618	1/11/2011	29.47	-98.62
2125	Bexar	Bexar	78238	TX	2.30	19354	1/11/2011	29.47	-98.62
2126	Bexar	Bexar	78251	TX	3.87	19988	1/11/2011	29.47	-98.68
2127	Bexar	Bexar	78148	TX	2.16	11408	1/11/2011	29.55	-98.30
2128	Travis	Travis	78723	TX	6.66	31028	1/11/2011	30.31	-97.68
2129	Bexar	Bexar	78223	TX	9.68	48808	1/13/2011	29.30	-98.41
2130	Bexar	Bexar	78223	TX	3.01	24500	1/13/2011	29.30	-98.41
2131	Bexar	Bexar	78260	TX	5.28	28608	1/13/2011	29.69	-98.50
2132	Orange	Orange	77632	TX	6.00	10000	1/13/2011	30.22	-93.80
2133	Henderson	Henderson	75770	TX	5.64	36050	1/17/2011	32.12	-95.67
2134	Jeff Davis	El Paso	79734	TX	9.90	52470	1/17/2011	30.77	-104.01
2135	Montgomery	Montgomery	77385	TX	4.62	18480	1/18/2011	30.20	-95.43
2136	Travis	Travis	78746	TX	6.11	33341	1/19/2011	30.31	-97.82
2137	Travis	Travis	78758	TX	6.35	32151	1/19/2011	30.39	-97.70
2138	El Paso	El Paso	79912	TX	2.30	13857	1/19/2011	31.86	-106.55
2139	Travis	Travis	78759	TX	6.50	30255	1/20/2011	30.40	-97.75
2140	Dallas	Dallas	75235	TX	75.46	349939	1/20/2011	32.83	-96.85
2141	El Paso	El Paso	79903	TX	2.35	14800	1/23/2011	31.79	-106.44
2142	Travis	Travis	78745	TX	6.44	27131	1/25/2011	30.21	-97.80
2143	Young	Parker	76450	TX	10.08	54339	1/27/2011	33.10	-98.62
2144	Bexar	Bexar	78248	TX	5.06	27577	1/31/2011	29.59	-98.53
2145	Comal	Comal	78132	TX	6.11	32591	1/31/2011	29.74	-98.20
2146	Bexar	Bexar	78217	TX	3.15	19693	1/31/2011	29.54	-98.42
2147	Bexar	Bexar	78233	TX	4.14	23050	1/31/2011	29.56	-98.36
2148	Bexar	Bexar	78242	TX	6.23	33051	1/31/2011	29.35	-98.61
2149	Bexar	Bexar	78230	TX	5.28	24266	1/31/2011	29.54	-98.56
2150	Bexar	Bexar	78023	TX	12.22	67155	1/31/2011	29.62	-98.73
2151	Travis	Travis	78704	TX	4.56	21651	1/31/2011	30.24	-97.77
2152	Travis	Travis	78731	TX	3.19	18726	1/31/2011	30.35	-97.77
2153	El Paso	El Paso	79925	TX	5.28	31627	1/31/2011	31.80	-106.36
2154	Travis	Travis	78746	TX	6.58	39480	2/1/2011	30.31	-97.82
2155	El Paso	El Paso	79915	TX	30.00	180000	2/1/2011	31.74	-106.35
2156	Dallas	Dallas	75063	TX	3.53	15525	2/1/2011	32.91	-96.99
2157	El Paso	El Paso	79912	TX	6.16	42134	2/1/2011	31.86	-106.55
2158	El Paso	El Paso	79930	TX	3.76	19910	2/1/2011	31.81	-106.47
2159	El Paso	El Paso	79912	TX	5.24	36278	2/2/2011	31.86	-106.55
2160	El Paso	El Paso	79904	TX	6.08	42525	2/2/2011	31.87	-106.48

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2161	El Paso	El Paso	79912	TX	8.10	53865	2/2/2011	31.86	-106.55
2162	El Paso	El Paso	79932	TX	5.24	34622	2/2/2011	31.89	-106.62
2163	El Paso	El Paso	79934	TX	3.20	19800	2/2/2011	31.98	-106.42
2164	Collin	Collin	75075	TX	6.00	30300	2/4/2011	33.02	-96.74
2165	El Paso	El Paso	79912	TX	3.52	22719	2/7/2011	31.86	-106.55
2166	Bexar	Bexar	78222	TX	59.28	298178	2/8/2011	29.37	-98.39
2167	Bexar	Bexar	78232	TX	7.00	38465	2/8/2011	29.59	-98.46
2168	Dallas	Dallas	75220	TX	10.00	63555	2/8/2011	32.86	-96.87
2169	Bexar	Bexar	78210	TX	1.80	16193	2/10/2011	29.40	-98.47
2170	Bexar	Bexar	78254	TX	3.78	21168	2/10/2011	29.53	-98.78
2171	Bexar	Bexar	78112	TX	5.52	24485	2/10/2011	29.21	-98.39
2172	Bexar	Bexar	78260	TX	33.60	176098	2/10/2011	29.69	-98.50
2173	Bexar	Bexar	78232	TX	9.25	44700	2/10/2011	29.59	-98.46
2174	Bexar	Bexar	78216	TX	200.00	1586948	2/10/2011	29.55	-98.50
2175	Bexar	Bexar	78231	TX	4.14	34795	2/11/2011	29.58	-98.54
2176	Tarrant	Tarrant	76063	TX	5.94	30600	2/14/2011	32.56	-97.14
2177	Travis	Travis	78741	TX	3.80	19896	2/14/2011	30.23	-97.71
2178	Tarrant	Tarrant	76063	TX	5.94	30600	2/14/2011	32.56	-97.14
2179	Denton	Denton	76205	TX	11.13	31000	2/15/2011	33.20	-97.15
2180	Montgomery	Montgomery	77384	TX	5.04	19966	2/15/2011	30.24	-95.49
2181	El Paso	El Paso	79922	TX	4.40	28627	2/15/2011	31.83	-106.58
2182	Travis	Travis	78730	TX	8.05	39390	2/16/2011	30.37	-97.84
2183	El Paso	El Paso	79912	TX	3.96	25542	2/17/2011	31.86	-106.55
2184	Travis	Travis	78723	TX	2.76	15180	2/18/2011	30.31	-97.68
2185	Van Zandt	Henderson	75103	TX	5.16	31020	2/18/2011	32.54	-95.86
2186	El Paso	El Paso	79902	TX	2.14	15530	2/21/2011	31.79	-106.49
2187	El Paso	El Paso	79902	TX	2.64	17595	2/23/2011	31.79	-106.49
2188	Dallas	Dallas	75223	TX	5.40	27615	2/24/2011	32.79	-96.74
2189	Presidio	El Paso	79845	TX	9.80	63700	2/24/2011	29.92	-104.54
2190	McLennan	Ellis	76707	TX	80.08	332515	2/25/2011	31.56	-97.16
2191	Williamson	Williamson	78664	TX	100.80	485000	2/25/2011	30.50	-97.66
2192	El Paso	El Paso	79924	TX	4.14	21945	2/26/2011	31.90	-106.43
2193	Travis	Travis	78722	TX	200.00		2/28/2011	30.28	-97.72
2194	Dallas	Dallas	75253	TX	10.92	91510	2/28/2011	32.69	-96.59
2195	Cass	Upshur	75563	TX	22.05	85000	2/28/2011	33.02	-94.38
2196	Travis	Travis	78732	TX	6.21	33969	3/1/2011	30.38	-97.89
2197	El Paso	El Paso	79938	TX	5.72	34749	3/1/2011	31.84	-105.92
2198	Bexar	Bexar	78112	TX	7.92	39389	3/2/2011	29.21	-98.39
2199	Travis	Travis	78660	TX	23.04	93390	3/2/2011	30.43	-97.60
2200	Bexar	Bexar	78257	TX	6.90	33189	3/3/2011	29.66	-98.58

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2201	Bexar	Bexar	78251	TX	5.98	29375	3/3/2011	29.47	-98.68
2202	Comal	Comal	78266	TX	8.46	41031	3/3/2011	29.63	-98.32
2203	Bexar	Bexar	78229	TX	5.39	41900	3/3/2011	29.51	-98.58
2204	Bexar	Bexar	78261	TX	11.28	61476	3/3/2011	29.70	-98.41
2205	Bexar	Bexar	78244	TX	2.94	16611	3/3/2011	29.47	-98.35
2206	Travis	Travis	78730	TX	4.56	27808	3/3/2011	30.37	-97.84
2207	Travis	Travis	78704	TX	6.27	27001	3/4/2011	30.25	-97.77
2208	Kendall	Bexar	78006	TX	0.62	2000	3/5/2011	29.84	-98.59
2209	Bexar	Bexar	78244	TX	4.05	27990	3/7/2011	29.47	-98.35
2210	Bexar	Bexar	78217	TX	4.50	22304	3/7/2011	29.54	-98.42
2211	Bexar	Bexar	78202	TX	2.76	15650	3/7/2011	29.43	-98.46
2212	Comal	Comal	78266	TX	7.76	42265	3/7/2011	29.63	-98.32
2213	Bexar	Bexar	78240	TX	4.60	26439	3/7/2011	29.53	-98.61
2214	Bexar	Bexar	78251	TX	3.29	28500	3/7/2011	29.47	-98.68
2215	Bexar	Bexar	78240	TX	9.20	50600	3/7/2011	29.53	-98.61
2216	Bexar	Bexar	78231	TX	2.53	24800	3/7/2011	29.58	-98.54
2217	Bexar	Bexar	78211	TX	4.14	22800	3/7/2011	29.35	-98.57
2218	Bexar	Bexar	78209	TX	7.20	35114	3/8/2011	29.49	-98.45
2219	Cameron	Nueces	78550	TX	72.40		3/10/2011	26.19	-97.70
2220	Travis	Travis	78759	TX	3.33	18072	3/10/2011	30.40	-97.75
2221	El Paso	El Paso	79932	TX	2.25	16928	3/10/2011	31.89	-106.62
2222	Bexar	Bexar	78211	TX	400.00	1615757	3/11/2011	29.35	-98.57
2223	Bexar	Bexar	78148	TX	28.20	134091	3/11/2011	29.55	-98.30
2224	Bexar	Bexar	78232	TX	12.21	58279	3/11/2011	29.59	-98.46
2225	Bexar	Bexar	78249	TX	6.24	32195	3/11/2011	29.57	-98.61
2226	Bexar	Bexar	78148	TX	4.60	21641	3/11/2011	29.55	-98.30
2227	Bexar	Bexar	78248	TX	6.75	29910	3/11/2011	29.59	-98.53
2228	Bexar	Bexar	78232	TX	6.21	38193	3/11/2011	29.59	-98.46
2229	Bexar	Bexar	78023	TX	5.94	32246	3/11/2011	29.62	-98.73
2230	Guadalupe	Guadalupe	78154	TX	21.60	107643	3/11/2011	29.59	-98.28
2231	Bexar	Bexar	78257	TX	8.64	52416	3/11/2011	29.66	-98.58
2232	Bexar	Bexar	78213	TX	6.58	36190	3/11/2011	29.50	-98.52
2233	Bexar	Bexar	78148	TX	6.24	32694	3/11/2011	29.55	-98.30
2234	Travis	Travis	78745	TX	6.48	30096	3/14/2011	30.22	-97.80
2235	El Paso	El Paso	79912	TX	5.28	31930	3/14/2011	31.86	-106.55
2236	Jim Wells	Nueces	78332	TX	10.13	51900	3/15/2011	27.74	-98.09
2237	Grayson	Collin	75021	TX	6.84		3/18/2011	33.74	-96.47
2238	Guadalupe	Guadalupe	78154	TX	74.06		3/21/2011	29.56	-98.27
2239	Denton	Denton	75068	TX	128.80		3/21/2011	33.17	-96.95
2240	Travis	Travis	78735	TX	4.32	20964	3/21/2011	30.26	-97.86

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2241	Montgomery	Montgomery	77384	TX	1.26	4500	3/21/2011	30.24	-95.49
2242	Bexar	Bexar	78251	TX	5.40	28759	3/22/2011	29.47	-98.68
2243	Bexar	Bexar	78217	TX	5.40	29318	3/22/2011	29.54	-98.42
2244	Bexar	Bexar	78260	TX	6.44	27010	3/22/2011	29.69	-98.50
2245	Atascosa	Wilson	78052	TX	9.66	51713	3/22/2011	29.20	-98.77
2246	Bexar	Bexar	78219	TX	16.30	107895	3/22/2011	29.45	-98.39
2247	Bexar	Bexar	78232	TX	33.60	236905	3/22/2011	29.59	-98.46
2248	Bexar	Bexar	78260	TX	11.96	62158	3/22/2011	29.69	-98.50
2249	El Paso	El Paso	79936	TX	6.44	43148	3/22/2011	31.76	-106.29
2250	El Paso	El Paso	79924	TX	4.14	25875	3/22/2011	31.90	-106.43
2251	Travis	Travis	78746	TX	3.50	19250	3/24/2011	30.31	-97.82
2252	Travis	Travis	78731	TX	5.13	27367	3/24/2011	30.35	-97.77
2253	Travis	Travis	78731	TX	5.00	30867	3/24/2011	30.35	-97.77
2254	Hopkins	Hunt	75482	TX	188.50	952739	3/25/2011	33.18	-95.60
2255	Bexar	Bexar	78260	TX	6.44	27010	3/28/2011	29.69	-98.50
2256	Williamson	Williamson	78613	TX	8.33	43548	3/28/2011	30.51	-97.82
2257	El Paso	El Paso	79938	TX	3.24	21000	3/28/2011	31.84	-105.92
2258	Guadalupe	Guadalupe	78154	TX	12.24	96387	3/29/2011	29.59	-98.28
2259	Angelina	Rusk	75901	TX	26.46	134050	3/29/2011	31.34	-94.67
2260	Tarrant	Tarrant	76137	TX	5.46	45755	3/29/2011	32.85	-97.30
2261	Bexar	Bexar	78213	TX	8.10	44500	3/30/2011	29.50	-98.52
2262	Bexar	Bexar	78209	TX	10.50	57712	3/30/2011	29.49	-98.45
2263	Bexar	Bexar	78214	TX	6.44	33810	3/30/2011	29.32	-98.47
2264	Kendall	Bexar	78006	TX	7.20	42469	3/30/2011	29.92	-98.70
2265	Kendall	Bexar	78015	TX	5.20	26884	3/30/2011	29.75	-98.65
2266	Bexar	Bexar	78240	TX	3.08	12147	3/30/2011	29.53	-98.61
2267	Travis	Travis	78744	TX	92.70	516648	3/30/2011	30.20	-97.73
2268	Denton	Denton	76226	TX	6.30	52794	3/30/2011	33.12	-97.16
2269	Dallas	Dallas	75230	TX	7.31	42853	3/30/2011	32.90	-96.79
2270	El Paso	El Paso	79836	TX	5.06	34155	3/30/2011	31.57	-106.19
2271	Bexar	Bexar	78209	TX	4.76	33750	3/31/2011	29.49	-98.45
2272	Bexar	Bexar	78245	TX	3.68	24950	3/31/2011	29.40	-98.74
2273	Atascosa	Wilson	78052	TX	5.40	24590	3/31/2011	29.20	-98.77
2274	Bexar	Bexar	78264	TX	3.60	18832	3/31/2011	29.17	-98.51
2275	Bexar	Bexar	78240	TX	6.24	32195	3/31/2011	29.53	-98.61
2276	Bexar	Bexar	78023	TX	5.24	29960	3/31/2011	29.62	-98.73
2277	Bexar	Bexar	78023	TX	5.22	26960	3/31/2011	29.62	-98.73
2278	Bexar	Bexar	78221	TX	4.32	22034	3/31/2011	29.30	-98.50
2279	Travis	Travis	78741	TX	2.96	12291	3/31/2011	30.23	-97.71
2280	Travis	Travis	78723	TX	3.33		3/31/2011	30.31	-97.68

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2281	Travis	Travis	78746	TX	5.74	52240	3/31/2011	30.31	-97.82
2282	Dallas	Dallas	75041	TX	84.96	893235	3/31/2011	32.88	-96.65
2283	Travis	Travis	78723	TX	6.11	26502	4/1/2011	30.31	-97.68
2284	Dallas	Dallas	75247	TX	10.92	65577	4/1/2011	32.82	-96.88
2285	Hidalgo	Nueces	78596	TX	16.92	111489	4/4/2011	26.17	-97.98
2286	Bexar	Bexar	78249	TX	12.00	69250	4/6/2011	29.57	-98.61
2287	Bexar	Bexar	78209	TX	2.70	15609	4/6/2011	29.49	-98.45
2288	Bexar	Bexar	78251	TX	1.80	11380	4/6/2011	29.47	-98.68
2289	Bexar	Bexar	78242	TX	12.00	70000	4/6/2011	29.35	-98.61
2290	Bexar	Bexar	78209	TX	12.00	70200	4/6/2011	29.49	-98.45
2291	Bexar	Bexar	78254	TX	4.37	24469	4/6/2011	29.53	-98.78
2292	Bexar	Bexar	78240	TX	17.94	99926	4/6/2011	29.53	-98.61
2293	Bexar	Bexar	78216	TX	37.20	193510	4/6/2011	29.55	-98.50
2294	Bexar	Bexar	78209	TX	7.92	44249	4/6/2011	29.49	-98.45
2295	Webb	Nueces	78043	TX	10.12	47554	4/6/2011	27.55	-99.26
2296	El Paso	El Paso	79924	TX	4.52	38289	4/6/2011	31.90	-106.43
2297	El Paso	El Paso	79938	TX	2.07	14302	4/7/2011	31.84	-105.92
2298	El Paso	El Paso	79821	TX	5.32	26600	4/8/2011	31.99	-106.59
2299	Bexar	Bexar	78249	TX	14.58	98422	4/11/2011	29.57	-98.61
2300	Bexar	Bexar	78023	TX	9.45	47264	4/11/2011	29.62	-98.73
2301	El Paso	El Paso	79912	TX	5.06	34206	4/11/2011	31.86	-106.55
2302	Travis	Travis	78721	TX	2.85	14643	4/12/2011	30.27	-97.68
2303	Tarrant	Tarrant	76119	TX	101.66	473401	4/13/2011	32.68	-97.28
2304	Johnson	Johnson	76033	TX	3.68	25576	4/13/2011	32.29	-97.50
2305	Bexar	Bexar	78230	TX	7.38	36075	4/14/2011	29.54	-98.56
2306	Bexar	Bexar	78256	TX	8.28	40312	4/14/2011	29.62	-98.62
2307	Bexar	Bexar	78237	TX	5.40	25900	4/14/2011	29.41	-98.57
2308	Bexar	Bexar	78152	TX	6.90	34500	4/14/2011	29.42	-98.20
2309	Bexar	Bexar	78244	TX	5.76	30017	4/14/2011	29.47	-98.35
2310	Bexar	Bexar	78240	TX	6.12	31500	4/14/2011	29.53	-98.61
2311	Bexar	Bexar	78209	TX	10.80	53500	4/14/2011	29.49	-98.45
2312	Bexar	Bexar	78228	TX	4.60	33900	4/14/2011	29.46	-98.56
2313	Bexar	Bexar	78209	TX	12.42	60858	4/14/2011	29.49	-98.45
2314	Bexar	Bexar	78212	TX	5.50	30751	4/14/2011	29.46	-98.50
2315	Travis	Travis	78704	TX	16.70	71664	4/14/2011	30.25	-97.77
2316	Travis	Travis	78758	TX	1.67		4/14/2011	30.39	-97.70
2317	Travis	Travis	78732	TX	7.77	46233	4/14/2011	30.38	-97.89
2318	Hidalgo	Nueces	78539	TX	8.46	46530	4/14/2011	26.27	-98.19
2319	El Paso	El Paso	79912	TX	3.76	13912	4/15/2011	31.86	-106.55
2320	Bexar	Bexar	78239	TX	2.80	21276	4/18/2011	29.52	-98.36

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2321	Bexar	Bexar	78232	TX	18.60	78559	4/19/2011	29.59	-98.46
2322	Travis	Travis	78733	TX	6.24	30410	4/19/2011	30.33	-97.87
2323	Travis	Travis	78738	TX	6.00	31763	4/19/2011	30.30	-97.97
2324	Bexar	Bexar	78023	TX	8.00	38146	4/20/2011	29.62	-98.73
2325	Bexar	Bexar	78258	TX	5.06	25775	4/20/2011	29.65	-98.47
2326	Bexar	Bexar	78245	TX	7.29	40811	4/20/2011	29.40	-98.74
2327	Bexar	Bexar	78255	TX	11.50	72299	4/20/2011	29.66	-98.67
2328	Bexar	Bexar	78217	TX	5.75	32167	4/20/2011	29.54	-98.42
2329	Montgomery	Montgomery	77365	TX	10.35	43332	4/20/2011	30.12	-95.29
2330	Bexar	Bexar	78263	TX	5.06	23145	4/21/2011	29.36	-98.32
2331	Travis	Travis	78704	TX	6.44	31118	4/21/2011	30.25	-97.77
2332	Travis	Travis	78723	TX	5.55	26365	4/22/2011	30.31	-97.68
2333	Travis	Travis	78723	TX	9.77	36708	4/22/2011	30.31	-97.68
2334	Travis	Travis	78723	TX	3.33	26365	4/22/2011	30.31	-97.68
2335	Comal	Comal	78132	TX	6.18	38405	4/25/2011	29.74	-98.20
2336	Comal	Comal	78163	TX	12.21	60647	4/25/2011	29.77	-98.51
2337	Bexar	Bexar	78258	TX	11.96	67012	4/26/2011	29.65	-98.47
2338	Kendall	Bexar	78015	TX	9.20	47338	4/26/2011	29.75	-98.65
2339	Travis	Travis	78723	TX	6.24	28980	4/26/2011	30.31	-97.68
2340	Bexar	Bexar	78218	TX	39.00	227555	4/27/2011	29.49	-98.39
2341	Travis	Travis	78723	TX	6.11	26365	4/28/2011	30.31	-97.68
2342	Johnson	Johnson	76028	TX	5.46	45755	4/28/2011	32.53	-97.29
2343	Cameron	Nueces	78550	TX	106.08	492492	4/28/2011	26.26	-97.65
2344	Bexar	Bexar	78261	TX	11.96	63110	4/29/2011	29.70	-98.41
2345	Bexar	Bexar	78069	TX	11.04	49901	4/29/2011	29.19	-98.67
2346	Bexar	Bexar	78255	TX	2.20	11485	4/29/2011	29.66	-98.67
2347	Kendall	Bexar	78015	TX	3.52	19139	4/29/2011	29.75	-98.65
2348	Johnson	Johnson	76028	TX	10.08	84470	4/29/2011	32.53	-97.29
2349	Johnson	Johnson	76028	TX	6.93	55301	4/29/2011	32.53	-97.29
2350	Tarrant	Tarrant	76102	TX	9.87		4/30/2011	32.76	-97.32
2351	Travis	Travis	78701	TX	105.28		4/30/2011	30.27	-97.74
2352	Travis	Travis	78701	TX	28.20		4/30/2011	30.27	-97.74
2353	Tarrant	Tarrant	76115	TX	552.72		5/1/2011	32.68	-97.34
2354	Bexar	Bexar	78217	TX	5.04	32500	5/2/2011	29.54	-98.42
2355	Travis	Travis	78745	TX	2.86	27539	5/2/2011	30.22	-97.80
2356	Bexar	Bexar	78261	TX	2.17	11539	5/3/2011	29.70	-98.41
2357	Bexar	Bexar	78209	TX	1.00	9658	5/3/2011	29.49	-98.45
2358	Medina	Bexar	78016	TX	11.20	54870	5/3/2011	29.19	-98.95
2359	Jim Wells	Nueces	78332	TX	10.13	51900	5/4/2011	27.74	-98.09
2360	El Paso	El Paso	79932	TX	5.28	36245	5/4/2011	31.89	-106.62

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2361	Denton	Denton	76247	TX	8.28	46386	5/5/2011	33.11	-97.33
2362	Travis	Travis	78723	TX	4.56	20061	5/6/2011	30.31	-97.68
2363	Bexar	Bexar	78259	TX	4.86	25770	5/10/2011	29.62	-98.43
2364	Travis	Travis	78723	TX	6.11	26365	5/10/2011	30.31	-97.68
2365	Bexar	Bexar	78261	TX	3.68	15293	5/11/2011	29.70	-98.41
2366	Bexar	Bexar	78215	TX	39.00	203955	5/11/2011	29.44	-98.48
2367	Bexar	Bexar	78224	TX	4.60	23816	5/11/2011	29.32	-98.54
2368	Bexar	Bexar	78209	TX	1.00	9658	5/11/2011	29.49	-98.45
2369	Real	Bexar	78873	TX	9.60	33024	5/11/2011	29.85	-99.68
2370	El Paso	El Paso	79912	TX	8.97	57815	5/11/2011	31.86	-106.55
2371	El Paso	El Paso	79915	TX	19.68	112176	5/12/2011	31.74	-106.38
2372	Bexar	Bexar	78254	TX	5.28	27878	5/16/2011	29.53	-98.78
2373	Bexar	Bexar	78211	TX	3.43	25580	5/16/2011	29.35	-98.57
2374	Atascosa	Wilson	78052	TX	2.82	23900	5/16/2011	29.20	-98.77
2375	El Paso	El Paso	79902	TX	6.16	34603	5/16/2011	31.79	-106.49
2376	Bexar	Bexar	78258	TX	6.51	48750	5/17/2011	29.65	-98.47
2377	Orange	Orange	77611	TX	9.66	37258	5/18/2011	30.00	-93.81
2378	Bexar	Bexar	78259	TX	6.44	34112	5/19/2011	29.62	-98.43
2379	Bexar	Bexar	78216	TX	3.29	19700	5/19/2011	29.55	-98.50
2380	Bexar	Bexar	78249	TX	39.60	200000	5/19/2011	29.57	-98.61
2381	Bexar	Bexar	78232	TX	4.95	23601	5/19/2011	29.59	-98.46
2382	Travis	Travis	78744	TX	4.14	22750	5/20/2011	30.20	-97.73
2383	Bexar	Bexar	78247	TX	9.20	48259	5/23/2011	29.59	-98.41
2384	Bexar	Bexar	78152	TX	11.66	52426	5/23/2011	29.42	-98.20
2385	Bexar	Bexar	78210	TX	5.98	30777	5/23/2011	29.40	-98.47
2386	Bexar	Bexar	78247	TX	5.98	32107	5/23/2011	29.59	-98.41
2387	Travis	Travis	78723	TX	4.07		5/23/2011	30.31	-97.68
2388	Travis	Travis	78734	TX	6.36	46229	5/23/2011	30.37	-97.95
2389	Kendall	Bexar	78015	TX	41.20	264000	5/24/2011	29.75	-98.65
2390	Bexar	Bexar	78259	TX	4.60	26172	5/24/2011	29.62	-98.43
2391	Bexar	Bexar	78251	TX	3.15	21748	5/24/2011	29.47	-98.68
2392	Travis	Travis	78746	TX	6.44	28269	5/24/2011	30.31	-97.82
2393	Williamson	Williamson	78717	TX	6.72	31254	5/24/2011	30.49	-97.77
2394	Montague	Denton	76255	TX	3.85	23287	5/24/2011	33.78	-97.74
2395	Collin	Collin	75024	TX	16.20	129600	5/27/2011	33.08	-96.81
2396	El Paso	El Paso	79912	TX	3.29	18924	5/27/2011	31.86	-106.55
2397	Dallas	Dallas	75048	TX	1.18	4604	5/28/2011	32.97	-96.59
2398	Bexar	Bexar	78229	TX	181.30	871507	5/31/2011	29.51	-98.58
2399	Kendall	Bexar	78015	TX	4.60	29154	5/31/2011	29.75	-98.65
2400	Bexar	Bexar	78221	TX	7.20	36381	5/31/2011	29.30	-98.50

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2401	Bexar	Bexar	78253	TX	4.60	27490	5/31/2011	29.47	-98.81
2402	Tarrant	Tarrant	76137	TX	5.06	40379	5/31/2011	32.85	-97.30
2403	Travis	Travis	78758	TX	200.00	1081081	6/2/2011	30.39	-97.72
2404	Travis	Travis	78704	TX	1.92	12028	6/2/2011	30.25	-97.77
2405	Travis	Travis	78745	TX	6.44	33086	6/2/2011	30.22	-97.80
2406	Bexar	Bexar	78232	TX	3.76	26800	6/3/2011	29.59	-98.46
2407	Bexar	Bexar	78245	TX	4.70	32900	6/3/2011	29.40	-98.74
2408	Bexar	Bexar	78239	TX	4.35	26910	6/3/2011	29.52	-98.36
2409	Bexar	Bexar	78259	TX	2.90	13786	6/3/2011	29.62	-98.43
2410	Bexar	Bexar	78240	TX	11.44	104610	6/3/2011	29.53	-98.61
2411	Bexar	Bexar	78216	TX	3.01	22800	6/3/2011	29.55	-98.50
2412	Montgomery	Montgomery	77302	TX	8.28	34162	6/5/2011	30.21	-95.33
2413	Bexar	Bexar	78218	TX	4.70	32900	6/6/2011	29.49	-98.39
2414	Bexar	Bexar	78208	TX	41.40	204102	6/7/2011	29.44	-98.46
2415	Travis	Travis	78745	TX	3.84		6/7/2011	30.22	-97.80
2416	Travis	Travis	78704	TX	7.68	53292	6/7/2011	30.25	-97.77
2417	Travis	Travis	78704	TX	4.08	19509	6/7/2011	30.25	-97.77
2418	Travis	Travis	78704	TX	4.17	19509	6/7/2011	30.25	-97.77
2419	Travis	Travis	78704	TX	4.17	18923	6/7/2011	30.25	-97.77
2420	Travis	Travis	78704	TX	5.04	23328	6/7/2011	30.25	-97.77
2421	Travis	Travis	78704	TX	5.04	23328	6/7/2011	30.25	-97.77
2422	Travis	Travis	78745	TX	7.15	45211	6/7/2011	30.22	-97.80
2423	El Paso	El Paso	79912	TX	16.95	161201	6/7/2011	31.86	-106.55
2424	El Paso	El Paso	79903	TX	9.88	57000	6/7/2011	31.79	-106.44
2425	Tyler	Hardin	77664	TX	10.80	54700	6/9/2011	30.59	-94.36
2426	Bexar	Bexar	78261	TX	6.11	32591	6/10/2011	29.70	-98.41
2427	Bexar	Bexar	78239	TX	6.90	33465	6/10/2011	29.52	-98.36
2428	Bexar	Bexar	78212	TX	2.00	12784	6/13/2011	29.46	-98.50
2429	Bexar	Bexar	78214	TX	5.76	30012	6/13/2011	29.32	-98.47
2430	Bexar	Bexar	78233	TX	3.45	14801	6/13/2011	29.56	-98.36
2431	El Paso	El Paso	79936	TX	2.35	12455	6/13/2011	31.76	-106.29
2432	Travis	Travis	78731	TX	6.66	30077	6/14/2011	30.35	-97.77
2433	Travis	Travis	78746	TX	6.16	37748	6/14/2011	30.31	-97.82
2434	El Paso	El Paso	79936	TX	2.82	16638	6/14/2011	31.76	-106.29
2435	Hidalgo	Nueces	78539	TX	3.06	15510	6/15/2011	26.27	-98.19
2436	Travis	Travis	78750	TX	3.01	20198	6/16/2011	30.43	-97.80
2437	Williamson	Williamson	78664	TX	5.00	19174	6/16/2011	30.50	-97.66
2438	Harrison	Harrison	75672	TX	7.59	36596	6/16/2011	32.42	-94.27
2439	Bexar	Bexar	78213	TX	8.28	42289	6/17/2011	29.50	-98.52
2440	Bexar	Bexar	78240	TX	4.32	33328	6/17/2011	29.53	-98.61

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2441	Travis	Travis	78723	TX	4.80	20363	6/17/2011	30.31	-97.68
2442	Travis	Travis	78723	TX	4.17	16703	6/17/2011	30.31	-97.68
2443	El Paso	El Paso	79912	TX	7.59	53510	6/17/2011	31.86	-106.55
2444	Bexar	Bexar	78259	TX	5.55	28071	6/20/2011	29.62	-98.43
2445	Bexar	Bexar	78259	TX	2.80	27007	6/20/2011	29.62	-98.43
2446	Bexar	Bexar	78240	TX	4.32	33328	6/20/2011	29.53	-98.61
2447	Comal	Comal	78266	TX	2.76	19082	6/20/2011	29.63	-98.32
2448	Bexar	Bexar	78232	TX	4.70	28300	6/21/2011	29.59	-98.46
2449	Bexar	Bexar	78250	TX	4.60	23690	6/21/2011	29.50	-98.67
2450	Bexar	Bexar	78222	TX	5.75	28191	6/22/2011	29.37	-98.39
2451	Travis	Travis	78746	TX	6.66	31970	6/23/2011	30.31	-97.82
2452	Montgomery	Montgomery	77318	TX	10.00	51744	6/23/2011	30.43	-95.54
2453	Travis	Travis	78748	TX	3.53	17123	6/27/2011	30.17	-97.82
2454	Travis	Travis	78723	TX	19.40	205675	6/28/2011	30.31	-97.68
2455	Tarrant	Tarrant	76126	TX	9.72	50890	6/28/2011	32.65	-97.50
2456	Tarrant	Tarrant	76112	TX	5.06	36271	6/29/2011	32.75	-97.21
2457	Tarrant	Tarrant	76135	TX	5.06	38143	6/29/2011	32.84	-97.47
2458	Tarrant	Tarrant	76112	TX	50.83	300428	6/29/2011	32.75	-97.21
2459	Tarrant	Tarrant	76109	TX	50.83	309788	6/29/2011	32.70	-97.38
2460	Tarrant	Tarrant	76133	TX	5.06	35023	6/29/2011	32.65	-97.38
2461	Travis	Travis	78723	TX	5.00	21251	6/30/2011	30.31	-97.68
2462	Travis	Travis	78723	TX	3.33	15071	6/30/2011	30.31	-97.68
2463	Travis	Travis	78749	TX	4.80	20447	6/30/2011	30.22	-97.86
2464	Colorado	Fort Bend	77434	TX	6.44	32099	6/30/2011	29.52	-96.34
2465	Nolan	Hood	79556	TX	19.00		7/1/2011	32.42	-100.39
2466	El Paso	El Paso	79901	TX	20.13	114000	7/1/2011	31.76	-106.49
2467	El Paso	El Paso	79904	TX	20.13	114000	7/1/2011	31.83	-106.43
2468	Bexar	Bexar	78258	TX	6.44	32452	7/5/2011	29.65	-98.47
2469	Bexar	Bexar	78209	TX	5.52	32568	7/5/2011	29.49	-98.45
2470	Bexar	Bexar	78259	TX	4.28	24437	7/5/2011	29.62	-98.43
2471	Travis	Travis	78704	TX	6.37	28553	7/5/2011	30.25	-97.77
2472	Travis	Travis	78723	TX	5.00	20857	7/5/2011	30.31	-97.68
2473	Bexar	Bexar	78230	TX	5.28	31605	7/6/2011	29.54	-98.56
2474	Aransas	San Patricio	78382	TX	4.92	19328	7/6/2011	28.09	-97.07
2475	Travis	Travis	78721	TX	3.92	18311	7/6/2011	30.27	-97.68
2476	Lamar	Hunt	75460	TX	99.82	495685	7/7/2011	33.60	-95.62
2477	Cameron	Nueces	78550	TX	72.38	649904	7/7/2011	26.26	-97.65
2478	Cameron	Nueces	78586	TX	243.46	1826292	7/7/2011	26.10	-97.63
2479	Montgomery	Montgomery	77384	TX	9.66	54438	7/7/2011	30.24	-95.49
2480	El Paso	El Paso	79906	TX	20.13	363190	7/7/2011	31.81	-106.41

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
2481	El Paso	El Paso	79901	TX	20.13	361903	7/7/2011	31.76	-106.48
2482	Travis	Travis	78723	TX	5.92	26983	7/11/2011	30.31	-97.68
2483	Brewster	El Paso	79830	TX	1.84	12880	7/11/2011	29.72	-103.22
2484	Bexar	Bexar	78023	TX	5.17	45000	7/13/2011	29.62	-98.73
2485	Dallas	Dallas	75104	TX	152.80		7/13/2011	32.59	-96.95
2486	El Paso	El Paso	79938	TX	2.35	14805	7/13/2011	31.84	-105.92
2487	Travis	Travis	78723	TX	11.07	48048	7/14/2011	30.31	-97.68
2488	Travis	Travis	78723	TX	3.43	29677	7/14/2011	30.31	-97.68
2489	Travis	Travis	78723	TX	4.44	25373	7/14/2011	30.31	-97.68
2490	Travis	Travis	78723	TX	9.18	29373	7/14/2011	30.31	-97.68
2491	Travis	Travis	78723	TX	1.48		7/14/2011	30.31	-97.68
2492	Travis	Travis	78723	TX	6.37	29228	7/14/2011	30.31	-97.68
2493	Travis	Travis	78723	TX	6.66	29198	7/14/2011	30.31	-97.68
2494	Montgomery	Montgomery	77381	TX	4.14	15110	7/14/2011	30.17	-95.51
2495	Bexar	Bexar	78023	TX	4.70	43113	7/15/2011	29.62	-98.73
2496	Guadalupe	Guadalupe	78154	TX	5.55	29502	7/15/2011	29.59	-98.28
2497	Galveston	Galveston	77546	TX	4.60	18572	7/15/2011	29.54	-95.20
2498	Bexar	Bexar	78233	TX	22.77	107399	7/20/2011	29.56	-98.36
2499	Bexar	Bexar	78250	TX	1.08	4325	7/20/2011	29.50	-98.67
2500	Travis	Travis	78723	TX	6.37	15502	7/21/2011	30.31	-97.68
2501	Travis	Travis	78723	TX	3.19	29342	7/21/2011	30.31	-97.68
2502	Denton	Denton	75056	TX	10.64	69230	7/21/2011	33.08	-96.91
2503	El Paso	El Paso	79902	TX	4.14	28773	7/21/2011	31.79	-106.49
2504	Kendall	Bexar	78015	TX	82.30	575957	7/22/2011	29.75	-98.65
2505	Grayson	Collin	75092	TX	7.36	43245	7/22/2011	33.68	-96.73
2506	Travis	Travis	78741	TX	170.45		7/25/2011	30.23	-97.71
2507	Travis	Travis	78723	TX	9.44	26335	7/26/2011	30.31	-97.68
2508	Travis	Travis	78723	TX	6.37	28430	7/26/2011	30.31	-97.68
2509	Travis	Travis	78723	TX	1.48	22940	7/26/2011	30.31	-97.68
2510	Travis	Travis	78723	TX	6.13	23090	7/26/2011	30.31	-97.68
2511	Travis	Travis	78723	TX	6.11	27500	7/26/2011	30.31	-97.68
2512	Travis	Travis	78721	TX	5.15	23217	7/26/2011	30.27	-97.68
2513	Tarrant	Tarrant	76063	TX	10.29	105000	7/26/2011	32.56	-97.14
2514	Dallas	Dallas	75115	TX	10.29	105000	7/26/2011	32.60	-96.86
2515	Tarrant	Tarrant	76021	TX	10.29	105000	7/27/2011	32.85	-97.13
2516	Travis	Travis	78723	TX	5.76	25375	7/28/2011	30.31	-97.68
2517	Hidalgo	Nueces	78596	TX	9.20	57736	7/28/2011	26.17	-97.98
2518	Tarrant	Tarrant	76102	TX	98.70		7/31/2011	32.76	-97.32
2519	Travis	Travis	78723	TX	5.64	24828	8/2/2011	30.31	-97.68
2520	Travis	Travis	78723	TX	4.66	22397	8/2/2011	30.31	-97.68

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2521	Travis	Travis	78723	TX	5.15	23722	8/2/2011	30.31	-97.68
2522	Bexar	Bexar	78254	TX	3.50	18673	8/3/2011	29.53	-98.78
2523	Bexar	Bexar	78023	TX	6.11	44569	8/3/2011	29.62	-98.73
2524	Bexar	Bexar	78211	TX	2.94	22080	8/3/2011	29.35	-98.57
2525	Travis	Travis	78723	TX	4.17	20024	8/4/2011	30.31	-97.68
2526	Travis	Travis	78723	TX	5.88	26818	8/4/2011	30.31	-97.68
2527	Travis	Travis	78723	TX	6.13	28260	8/4/2011	30.31	-97.68
2528	Travis	Travis	78723	TX	6.37	29031	8/4/2011	30.31	-97.68
2529	Bexar	Bexar	78253	TX	8.40	45540	8/5/2011	29.47	-98.81
2530	Bexar	Bexar	78023	TX	7.20	36000	8/9/2011	29.62	-98.73
2531	Bexar	Bexar	78222	TX	8.28	41262	8/9/2011	29.37	-98.39
2532	Bexar	Bexar	78209	TX	3.29	21097	8/9/2011	29.49	-98.45
2533	Bexar	Bexar	78233	TX	10.81	54567	8/9/2011	29.56	-98.36
2534	Comal	Comal	78266	TX	7.00	57359	8/9/2011	29.63	-98.32
2535	Bexar	Bexar	78255	TX	5.52	25890	8/9/2011	29.66	-98.67
2536	Orange	Orange	77611	TX	3.24	15000	8/9/2011	30.04	-93.81
2537	Travis	Travis	78723	TX	5.92	25373	8/9/2011	30.31	-97.68
2538	Travis	Travis	78723	TX	5.76	26335	8/9/2011	30.31	-97.68
2539	Dallas	Dallas	75180	TX	10.29	105000	8/9/2011	32.72	-96.62
2540	Dallas	Dallas	75230	TX	7.48	41794	8/9/2011	32.90	-96.79
2541	Tarrant	Tarrant	76248	TX	10.12		8/10/2011	32.93	-97.23
2542	Orange	Orange	77611	TX	3.24	11500	8/10/2011	30.00	-93.81
2543	El Paso	El Paso	79927	TX	7.13	45728	8/10/2011	31.64	-106.28
2544	Comal	Comal	78163	TX	5.55	35600	8/11/2011	29.77	-98.51
2545	Travis	Travis	78723	TX	5.13	28810	8/11/2011	30.31	-97.68
2546	Travis	Travis	78738	TX	15.19	73023	8/11/2011	30.30	-97.97
2547	Harris	Harris	77429	TX	1.11		8/15/2011	30.01	-95.67
2548	Dallas	Dallas	75235	TX	299.52	1813647	8/15/2011	32.83	-96.85
2549	Dallas	Dallas	75006	TX	3.60	24734	8/15/2011	32.97	-96.89
2550	Jeff Davis	El Paso	79734	TX	3.68	25760	8/17/2011	30.77	-104.01
2551	Montgomery	Montgomery	77357	TX	29.40	147311	8/17/2011	30.16	-95.20
2552	Montgomery	Montgomery	77301	TX	29.40	142766	8/17/2011	30.31	-95.43
2553	Travis	Travis	78733	TX	4.23	21786	8/18/2011	30.33	-97.87
2554	Tarrant	Tarrant	76051	TX	6.21	60934	8/18/2011	32.95	-97.07
2555	Collin	Collin	75069	TX	52.17		8/19/2011	33.16	-96.59
2556	Travis	Travis	78723	TX	7.11	26265	8/19/2011	30.31	-97.68
2557	Travis	Travis	78723	TX	2.94		8/19/2011	30.31	-97.68
2558	Travis	Travis	78723	TX	3.67	26931	8/19/2011	30.31	-97.68
2559	Travis	Travis	78723	TX	7.34	28810	8/19/2011	30.31	-97.68
2560	Travis	Travis	78723	TX	4.66	18360	8/19/2011	30.31	-97.68

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2561	Travis	Travis	78723	TX	8.33	51143	8/19/2011	30.31	-97.68
2562	Travis	Travis	78723	TX	6.13	28253	8/19/2011	30.31	-97.68
2563	Archer	Parker	76366	TX	10.12	57000	8/19/2011	33.71	-98.79
2564	Archer	Parker	76366	TX	10.12	58000	8/19/2011	33.71	-98.79
2565	Tom Green	Williamson	76904	TX	9.87	40750	8/19/2011	31.26	-100.30
2566	Travis	Travis	78723	TX	5.70	24379	8/22/2011	30.31	-97.68
2567	Travis	Travis	78723	TX	6.27	26853	8/22/2011	30.31	-97.68
2568	Dallas	Dallas	75104	TX	10.29	105000	8/23/2011	32.59	-96.99
2569	Webb	Nueces	78040	TX	35.00	245000	8/23/2011	27.52	-99.51
2570	Orange	Orange	77632	TX	6.58	41515	8/23/2011	30.22	-93.80
2571	Bexar	Bexar	78254	TX	5.52	24918	8/24/2011	29.53	-98.78
2572	Bexar	Bexar	78232	TX	5.52	25658	8/24/2011	29.59	-98.46
2573	Bexar	Bexar	78203	TX	20.60	124005	8/24/2011	29.41	-98.45
2574	Bexar	Bexar	78250	TX	4.10	21114	8/24/2011	29.50	-98.67
2575	Travis	Travis	78723	TX	5.13	27373	8/25/2011	30.31	-97.68
2576	Travis	Travis	78723	TX	6.37	28401	8/25/2011	30.31	-97.68
2577	Travis	Travis	78736	TX	6.21	36215	8/25/2011	30.25	-97.95
2578	Bosque	Hood	76634	TX	8.28	48171	8/25/2011	31.84	-97.55
2579	Grayson	Collin	75491	TX	5.64	33276	8/26/2011	33.48	-96.39
2580	Travis	Travis	78723	TX	5.76	25373	8/26/2011	30.31	-97.68
2581	Travis	Travis	78723	TX	3.19		8/26/2011	30.31	-97.68
2582	Travis	Travis	78723	TX	6.13	25836	8/26/2011	30.31	-97.68
2583	Travis	Travis	78723	TX	8.09	49841	8/26/2011	30.31	-97.68
2584	Travis	Travis	78723	TX	5.15	23578	8/26/2011	30.31	-97.68
2585	Travis	Travis	78723	TX	3.43	26819	8/29/2011	30.31	-97.68
2586	Travis	Travis	78723	TX	9.68	26423	8/29/2011	30.31	-97.68
2587	Travis	Travis	78723	TX	6.25	26062	8/29/2011	30.31	-97.68
2588	Kendall	Bexar	78015	TX	11.04	54600	8/30/2011	29.75	-98.65
2589	Travis	Travis	78723	TX	2.21	26365	8/30/2011	30.31	-97.68
2590	Travis	Travis	78723	TX	10.03	26983	8/30/2011	30.31	-97.68
2591	Travis	Travis	78723	TX	3.43	12693	8/30/2011	30.31	-97.68
2592	Travis	Travis	78723	TX	6.13	28428	8/30/2011	30.31	-97.68
2593	Travis	Travis	78723	TX	4.66	21127	8/30/2011	30.31	-97.68
2594	Travis	Travis	78723	TX	5.88	26637	8/30/2011	30.31	-97.68
2595	El Paso	El Paso	79927	TX	6.44	41860	8/30/2011	31.64	-106.28
2596	Bexar	Bexar	78235	TX	10.10	48939	8/31/2011	29.35	-98.44
2597	Bexar	Bexar	78251	TX	5.28	31680	8/31/2011	29.47	-98.68
2598	Bexar	Bexar	78255	TX	4.44	27436	8/31/2011	29.66	-98.67
2599	Bexar	Bexar	78258	TX	6.21	34340	8/31/2011	29.65	-98.47
2600	Travis	Travis	78723	TX	2.75	17253	8/31/2011	30.31	-97.68

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2601	Tarrant	Tarrant	76016	TX	10.29	105000	8/31/2011	32.69	-97.18
2602	Travis	Travis	78746	TX	5.92	25572	9/1/2011	30.31	-97.82
2603	Travis	Travis	78756	TX	3.42	16539	9/1/2011	30.32	-97.74
2604	Bosque	Hood	76665	TX	9.00	51761	9/1/2011	31.92	-97.72
2605	Collin	Collin	75069	TX	52.17	386704	9/1/2011	33.17	-96.64
2606	Travis	Travis	78746	TX	3.70	17222	9/2/2011	30.31	-97.82
2607	Travis	Travis	78746	TX	4.90	26278	9/2/2011	30.31	-97.82
2608	Galveston	Galveston	77573	TX	7.82	46836	9/7/2011	29.49	-95.09
2609	Travis	Travis	78723	TX	5.25	21980	9/8/2011	30.31	-97.68
2610	Travis	Travis	78723	TX	1.50		9/8/2011	30.31	-97.68
2611	Travis	Travis	78723	TX	6.34	22330	9/8/2011	30.31	-97.68
2612	Travis	Travis	78734	TX	8.35	55245	9/8/2011	30.37	-97.95
2613	Travis	Travis	78723	TX	5.55	23310	9/8/2011	30.31	-97.68
2614	El Paso	El Paso	79930	TX	4.14	28773	9/8/2011	31.81	-106.47
2615	El Paso	El Paso	79912	TX	2.53	18950	9/8/2011	31.86	-106.55
2616	El Paso	El Paso	79912	TX	6.21	44091	9/8/2011	31.86	-106.55
2617	Bexar	Bexar	78023	TX	2.93	12595	9/9/2011	29.62	-98.73
2618	Bexar	Bexar	78023	TX	10.21	58670	9/9/2011	29.62	-98.73
2619	Bexar	Bexar	78230	TX	9.43	52144	9/9/2011	29.54	-98.56
2620	Bexar	Bexar	78258	TX	12.00	68484	9/9/2011	29.65	-98.47
2621	Bexar	Bexar	78023	TX	9.72	46371	9/9/2011	29.62	-98.73
2622	Bexar	Bexar	78260	TX	5.95	30885	9/9/2011	29.69	-98.50
2623	Travis	Travis	78723	TX	2.25		9/9/2011	30.31	-97.68
2624	Travis	Travis	78722	TX	4.47	24108	9/9/2011	30.29	-97.71
2625	Travis	Travis	78723	TX	7.50	26499	9/9/2011	30.31	-97.68
2626	Travis	Travis	78723	TX	5.25	26771	9/9/2011	30.31	-97.68
2627	Travis	Travis	78747	TX	10.24	57513	9/9/2011	30.13	-97.73
2628	Travis	Travis	78723	TX	5.75	24337	9/10/2011	30.31	-97.68
2629	Travis	Travis	78723	TX	6.50	26830	9/10/2011	30.31	-97.68
2630	Travis	Travis	78723	TX	6.00	25232	9/10/2011	30.31	-97.68
2631	Travis	Travis	78723	TX	8.25	43973	9/10/2011	30.31	-97.68
2632	Travis	Travis	78723	TX	2.25		9/10/2011	30.31	-97.68
2633	Travis	Travis	78723	TX	9.50	40194	9/10/2011	30.31	-97.68
2634	Travis	Travis	78723	TX	3.92	29036	9/10/2011	30.31	-97.68
2635	Travis	Travis	78723	TX	2.45		9/10/2011	30.31	-97.68
2636	Travis	Travis	78723	TX	6.25	25925	9/10/2011	30.31	-97.68
2637	Travis	Travis	78723	TX	5.64	25775	9/10/2011	30.31	-97.68
2638	Travis	Travis	78723	TX	5.64	25671	9/10/2011	30.31	-97.68
2639	Orange	Orange	77632	TX	6.56		9/11/2011	30.19	-93.81
2640	Travis	Travis	78732	TX	6.37	35614	9/11/2011	30.38	-97.89

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2641	Travis	Travis	78723	TX	4.00	16720	9/11/2011	30.31	-97.68
2642	Travis	Travis	78723	TX	6.00	24832	9/11/2011	30.31	-97.68
2643	Bexar	Bexar	78254	TX	7.59	39876	9/12/2011	29.53	-98.78
2644	Travis	Travis	78738	TX	6.35	40791	9/13/2011	30.30	-97.97
2645	Travis	Travis	78746	TX	6.50	31503	9/13/2011	30.31	-97.82
2646	Bell	Williamson	76559	TX	3.68	21070	9/13/2011	31.08	-97.62
2647	Bexar	Bexar	78260	TX	5.52	26658	9/14/2011	29.69	-98.50
2648	Comal	Comal	78266	TX	1.60	17120	9/14/2011	29.63	-98.32
2649	Bexar	Bexar	78261	TX	5.98	30885	9/14/2011	29.70	-98.41
2650	Bexar	Bexar	78261	TX	5.98	34385	9/14/2011	29.70	-98.41
2651	Comal	Comal	78163	TX	6.10	31467	9/14/2011	29.77	-98.51
2652	Bexar	Bexar	78257	TX	38.64	238308	9/14/2011	29.66	-98.58
2653	Bexar	Bexar	78247	TX	26.91	154936	9/14/2011	29.59	-98.41
2654	Travis	Travis	78727	TX	4.60	20326	9/16/2011	30.43	-97.71
2655	Travis	Travis	78744	TX	9.58	45000	9/16/2011	30.20	-97.73
2656	Travis	Travis	78745	TX	6.35	29405	9/16/2011	30.22	-97.80
2657	Travis	Travis	78727	TX	6.35	26974	9/16/2011	30.43	-97.71
2658	Travis	Travis	78750	TX	6.11	27787	9/16/2011	30.43	-97.80
2659	Travis	Travis	78757	TX	6.21	23142	9/16/2011	30.35	-97.74
2660	Travis	Travis	78660	TX	3.36		9/16/2011	30.43	-97.60
2661	Travis	Travis	78746	TX	5.76	29610	9/16/2011	30.31	-97.82
2662	Travis	Travis	78660	TX	3.12	31232	9/16/2011	30.43	-97.60
2663	Travis	Travis	78723	TX	2.22	11654	9/17/2011	30.31	-97.68
2664	Travis	Travis	78723	TX	5.50	23900	9/17/2011	30.31	-97.68
2665	Travis	Travis	78723	TX	5.50	23510	9/17/2011	30.31	-97.68
2666	Travis	Travis	78723	TX	6.25	26412	9/17/2011	30.31	-97.68
2667	Travis	Travis	78723	TX	5.00	20767	9/17/2011	30.31	-97.68
2668	Travis	Travis	78723	TX	6.25	26416	9/17/2011	30.31	-97.68
2669	Travis	Travis	78723	TX	3.75		9/18/2011	30.31	-97.68
2670	Travis	Travis	78723	TX	4.50	21680	9/18/2011	30.31	-97.68
2671	Travis	Travis	78723	TX	2.25		9/18/2011	30.31	-97.68
2672	Travis	Travis	78723	TX	9.38	51905	9/18/2011	30.31	-97.68
2673	Travis	Travis	78723	TX	3.00		9/18/2011	30.31	-97.68
2674	Travis	Travis	78723	TX	8.00	47655	9/18/2011	30.31	-97.68
2675	Travis	Travis	78723	TX	4.00	26738	9/18/2011	30.31	-97.68
2676	Travis	Travis	78723	TX	7.75	18920	9/18/2011	30.31	-97.68
2677	Travis	Travis	78723	TX	8.15	51960	9/18/2011	30.31	-97.68
2678	Montgomery	Montgomery	77384	TX	6.21	25200	9/18/2011	30.24	-95.49
2679	Bexar	Bexar	78255	TX	4.70	24166	9/19/2011	29.66	-98.67
2680	Travis	Travis	78748	TX	5.06	24128	9/19/2011	30.17	-97.82

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2681	Travis	Travis	78723	TX	6.25	26417	9/19/2011	30.31	-97.68
2682	Travis	Travis	78723	TX	5.75	26674	9/19/2011	30.31	-97.68
2683	Travis	Travis	78723	TX	2.25		9/19/2011	30.31	-97.68
2684	Travis	Travis	78723	TX	7.50	26580	9/19/2011	30.31	-97.68
2685	Travis	Travis	78751	TX	8.37	57084	9/19/2011	30.31	-97.73
2686	Travis	Travis	78723	TX	4.00		9/19/2011	30.31	-97.68
2687	Travis	Travis	78723	TX	8.50	52581	9/19/2011	30.31	-97.68
2688	Travis	Travis	78723	TX	4.41	20455	9/19/2011	30.31	-97.68
2689	Dallas	Dallas	75115	TX	5.04	24200	9/19/2011	32.60	-96.86
2690	Tyler	Hardin	77664	TX	5.64	39870	9/19/2011	30.59	-94.36
2691	Bexar	Bexar	78255	TX	3.50	18637	9/20/2011	29.66	-98.67
2692	Bexar	Bexar	78209	TX	3.29	20400	9/20/2011	29.49	-98.45
2693	Travis	Travis	78723	TX	4.07	16804	9/20/2011	30.31	-97.68
2694	Travis	Travis	78723	TX	3.33	14983	9/20/2011	30.31	-97.68
2695	Travis	Travis	78723	TX	6.16	26906	9/20/2011	30.31	-97.68
2696	Travis	Travis	78723	TX	7.40	45507	9/20/2011	30.31	-97.68
2697	Travis	Travis	78723	TX	3.99	26537	9/20/2011	30.31	-97.68
2698	Travis	Travis	78723	TX	1.48		9/20/2011	30.31	-97.68
2699	Travis	Travis	78723	TX	7.59	25373	9/20/2011	30.31	-97.68
2700	Travis	Travis	78723	TX	5.92	29506	9/20/2011	30.31	-97.68
2701	Travis	Travis	78723	TX	4.44	25373	9/20/2011	30.31	-97.68
2702	Travis	Travis	78723	TX	3.33	28292	9/20/2011	30.31	-97.68
2703	Travis	Travis	78723	TX	9.25	24450	9/20/2011	30.31	-97.68
2704	Travis	Travis	78723	TX	1.67	21646	9/20/2011	30.31	-97.68
2705	Travis	Travis	78723	TX	3.89	17474	9/20/2011	30.31	-97.68
2706	Travis	Travis	78723	TX	3.68	16198	9/20/2011	30.31	-97.68
2707	Grayson	Collin	75491	TX	5.64	33276	9/20/2011	33.48	-96.39
2708	El Paso	El Paso	79936	TX	25.38	108856	9/21/2011	31.76	-106.29
2709	Travis	Travis	78705	TX	5.06	24794	9/22/2011	30.30	-97.74
2710	Travis	Travis	78704	TX	2.50	12725	9/22/2011	30.25	-97.77
2711	Travis	Travis	78728	TX	4.80	23000	9/22/2011	30.46	-97.68
2712	Travis	Travis	78759	TX	5.29	24840	9/22/2011	30.40	-97.75
2713	Travis	Travis	78704	TX	2.82	13873	9/22/2011	30.25	-97.77
2714	Travis	Travis	78704	TX	5.25	27600	9/22/2011	30.25	-97.77
2715	Travis	Travis	78703	TX	3.64	21793	9/22/2011	30.29	-97.77
2716	Travis	Travis	78759	TX	9.10	42417	9/22/2011	30.40	-97.75
2717	Travis	Travis	78733	TX	6.48	30451	9/22/2011	30.33	-97.87
2718	Travis	Travis	78735	TX	6.11	35000	9/22/2011	30.26	-97.86
2719	Travis	Travis	78746	TX	3.44		9/23/2011	30.31	-97.82
2720	Travis	Travis	78723	TX	4.50	32820	9/23/2011	30.31	-97.68

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2721	Travis	Travis	78723	TX	2.82	22583	9/23/2011	30.31	-97.68
2722	Travis	Travis	78723	TX	3.29		9/23/2011	30.31	-97.68
2723	Travis	Travis	78723	TX	5.98	25866	9/23/2011	30.31	-97.68
2724	Travis	Travis	78723	TX	6.24	28205	9/23/2011	30.31	-97.68
2725	Travis	Travis	78731	TX	12.65	55091	9/23/2011	30.35	-97.77
2726	Travis	Travis	78735	TX	9.17	49248	9/23/2011	30.26	-97.86
2727	Travis	Travis	78723	TX	6.85	19321	9/24/2011	30.31	-97.68
2728	Travis	Travis	78723	TX	2.00	18342	9/24/2011	30.31	-97.68
2729	Travis	Travis	78723	TX	2.25		9/24/2011	30.31	-97.68
2730	Travis	Travis	78723	TX	7.25	26380	9/24/2011	30.31	-97.68
2731	Travis	Travis	78723	TX	6.88	17143	9/24/2011	30.31	-97.68
2732	Travis	Travis	78723	TX	7.25	45232	9/24/2011	30.31	-97.68
2733	Travis	Travis	78723	TX	3.24	28787	9/24/2011	30.31	-97.68
2734	Travis	Travis	78723	TX	5.25	22332	9/25/2011	30.31	-97.68
2735	Travis	Travis	78723	TX	3.25		9/25/2011	30.31	-97.68
2736	Travis	Travis	78723	TX	6.25	26243	9/25/2011	30.31	-97.68
2737	Travis	Travis	78723	TX	2.50	21853	9/25/2011	30.31	-97.68
2738	Travis	Travis	78723	TX	4.95	20539	9/25/2011	30.31	-97.68
2739	Travis	Travis	78723	TX	7.75	46844	9/25/2011	30.31	-97.68
2740	Travis	Travis	78723	TX	2.50		9/25/2011	30.31	-97.68
2741	Travis	Travis	78723	TX	6.25	26492	9/25/2011	30.31	-97.68
2742	Travis	Travis	78723	TX	8.95	26159	9/25/2011	30.31	-97.68
2743	Travis	Travis	78723	TX	3.50	20804	9/25/2011	30.31	-97.68
2744	Travis	Travis	78723	TX	8.00	44055	9/25/2011	30.31	-97.68
2745	Travis	Travis	78723	TX	3.71	15879	9/25/2011	30.31	-97.68
2746	Travis	Travis	78723	TX	6.25	26763	9/25/2011	30.31	-97.68
2747	Travis	Travis	78723	TX	6.37	29045	9/25/2011	30.31	-97.68
2748	Travis	Travis	78752	TX	5.52	21482	9/26/2011	30.33	-97.71
2749	Travis	Travis	78734	TX	6.90	41193	9/26/2011	30.37	-97.95
2750	Travis	Travis	78745	TX	4.07	19324	9/26/2011	30.22	-97.80
2751	Travis	Travis	78749	TX	4.07	19392	9/26/2011	30.22	-97.86
2752	Travis	Travis	78704	TX	5.55	25351	9/26/2011	30.25	-97.77
2753	Travis	Travis	78747	TX	5.00	23485	9/26/2011	30.13	-97.73
2754	Travis	Travis	78731	TX	6.11	28504	9/26/2011	30.35	-97.77
2755	Travis	Travis	78759	TX	2.99	14044	9/26/2011	30.40	-97.75
2756	Travis	Travis	78744	TX	3.70	17278	9/26/2011	30.20	-97.73
2757	Travis	Travis	78732	TX	3.70	17363	9/26/2011	30.38	-97.89
2758	Travis	Travis	78731	TX	5.40	24850	9/26/2011	30.35	-97.77
2759	Wichita	Denton	76310	TX	9.80	54984	9/26/2011	33.79	-98.51
2760	Dallas	Dallas	75006	TX	3.22	44046	9/26/2011	32.97	-96.89

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2761	Bexar	Bexar	78222	TX	5.52	25751	9/27/2011	29.37	-98.39
2762	Bexar	Bexar	78247	TX	6.11	32685	9/27/2011	29.59	-98.41
2763	Bexar	Bexar	78247	TX	8.14	42260	9/27/2011	29.59	-98.41
2764	Bexar	Bexar	78254	TX	1.05	5339	9/27/2011	29.53	-98.78
2765	Bexar	Bexar	78216	TX	5.64	26525	9/27/2011	29.55	-98.50
2766	Wise	Denton	76426	TX	170.02		9/27/2011	33.17	-97.85
2767	Travis	Travis	78704	TX	4.50	19220	9/27/2011	30.25	-97.77
2768	Travis	Travis	78723	TX	2.50	20155	9/27/2011	30.31	-97.68
2769	Travis	Travis	78723	TX	2.25		9/27/2011	30.31	-97.68
2770	Travis	Travis	78746	TX	8.50	51959	9/27/2011	30.31	-97.82
2771	Travis	Travis	78705	TX	1.75		9/27/2011	30.30	-97.74
2772	Travis	Travis	78723	TX	6.25	19282	9/27/2011	30.31	-97.68
2773	Travis	Travis	78746	TX	11.02	57085	9/27/2011	30.31	-97.82
2774	Travis	Travis	78702	TX	4.00	18346	9/27/2011	30.26	-97.71
2775	Travis	Travis	78753	TX	6.13	27584	9/27/2011	30.39	-97.67
2776	Travis	Travis	78703	TX	6.50	27742	9/27/2011	30.29	-97.77
2777	Travis	Travis	78723	TX	4.50	22601	9/27/2011	30.31	-97.68
2778	Grimes	Montgomery	77868	TX	3.76	17715	9/27/2011	30.34	-96.03
2779	El Paso	El Paso	79912	TX	9.89	67147	9/27/2011	31.86	-106.55
2780	Bexar	Bexar	78217	TX	4.23	25104	9/28/2011	29.54	-98.42
2781	Bexar	Bexar	78227	TX	4.14	20493	9/28/2011	29.41	-98.63
2782	Travis	Travis	78703	TX	4.14	23183	9/28/2011	30.29	-97.77
2783	Travis	Travis	78756	TX	1.38		9/28/2011	30.32	-97.74
2784	Travis	Travis	78704	TX	2.76	12420	9/28/2011	30.25	-97.77
2785	Travis	Travis	78756	TX	3.68	21252	9/28/2011	30.32	-97.74
2786	Travis	Travis	78703	TX	10.73	44405	9/28/2011	30.29	-97.77
2787	Travis	Travis	78746	TX	6.30	38208	9/28/2011	30.31	-97.82
2788	Dallas	Dallas	75150	TX	10.29	105000	9/28/2011	32.82	-96.63
2789	Tyler	Hardin	77664	TX	5.64		9/29/2011	30.59	-94.36
2790	Travis	Travis	78749	TX	1.41		9/29/2011	30.22	-97.86
2791	Travis	Travis	78736	TX	2.53	11511	9/29/2011	30.25	-97.95
2792	Travis	Travis	78749	TX	4.60	28166	9/29/2011	30.22	-97.86
2793	Travis	Travis	78749	TX	4.23	30674	9/29/2011	30.22	-97.86
2794	Travis	Travis	78749	TX	5.77	18113	9/29/2011	30.22	-97.86
2795	Travis	Travis	78749	TX	1.84		9/29/2011	30.22	-97.86
2796	Travis	Travis	78759	TX	11.47	53451	9/29/2011	30.40	-97.75
2797	Travis	Travis	78734	TX	6.96	45267	9/29/2011	30.37	-97.95
2798	Travis	Travis	78747	TX	6.12	29986	9/29/2011	30.13	-97.73
2799	Travis	Travis	78746	TX	6.11	29954	9/29/2011	30.31	-97.82
2800	Travis	Travis	78749	TX	1.67		9/29/2011	30.22	-97.86

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2801	Travis	Travis	78660	TX	6.21	37123	9/29/2011	30.43	-97.60
2802	Travis	Travis	78752	TX	4.70	22810	9/29/2011	30.33	-97.71
2803	Travis	Travis	78757	TX	6.44	29243	9/29/2011	30.35	-97.74
2804	Bexar	Bexar	78249	TX	36.00		9/30/2011	29.57	-98.61
2805	Travis	Travis	78735	TX	3.76	22903	9/30/2011	30.26	-97.86
2806	Travis	Travis	78723	TX	3.96	17700	9/30/2011	30.31	-97.68
2807	Travis	Travis	78723	TX	1.08		9/30/2011	30.31	-97.68
2808	Travis	Travis	78723	TX	2.94		9/30/2011	30.31	-97.68
2809	Travis	Travis	78723	TX	6.21	26082	9/30/2011	30.31	-97.68
2810	Travis	Travis	78722	TX	9.81	34444	9/30/2011	30.29	-97.71
2811	Travis	Travis	78723	TX	1.62		9/30/2011	30.31	-97.68
2812	Travis	Travis	78723	TX	5.92	27461	9/30/2011	30.31	-97.68
2813	Travis	Travis	78723	TX	7.31	25658	9/30/2011	30.31	-97.68
2814	Travis	Travis	78756	TX	6.48	50097	9/30/2011	30.32	-97.74
2815	Travis	Travis	78723	TX	7.07	44463	9/30/2011	30.31	-97.68
2816	Travis	Travis	78723	TX	3.53	26944	9/30/2011	30.31	-97.68
2817	Travis	Travis	78723	TX	7.37	25118	9/30/2011	30.31	-97.68
2818	Travis	Travis	78722	TX	1.85	25385	9/30/2011	30.29	-97.71
2819	Travis	Travis	78723	TX	5.92	26064	9/30/2011	30.31	-97.68
2820	Travis	Travis	78723	TX	3.33	14666	9/30/2011	30.31	-97.68
2821	Travis	Travis	78723	TX	1.67	18190	9/30/2011	30.31	-97.68
2822	Travis	Travis	78723	TX	7.45	22058	9/30/2011	30.31	-97.68
2823	Travis	Travis	78723	TX	3.70	16291	9/30/2011	30.31	-97.68
2824	Travis	Travis	78759	TX	0.94		9/30/2011	30.40	-97.75
2825	Travis	Travis	78723	TX	6.11	25393	9/30/2011	30.31	-97.68
2826	Travis	Travis	78723	TX	6.62	28800	9/30/2011	30.31	-97.68
2827	Travis	Travis	78759	TX	4.23	28331	9/30/2011	30.40	-97.75
2828	Travis	Travis	78757	TX	6.35	30997	9/30/2011	30.35	-97.74
2829	Travis	Travis	78723	TX	6.35	25791	9/30/2011	30.31	-97.68
2830	Travis	Travis	78723	TX	14.75	66300	9/30/2011	30.31	-97.68
2831	Travis	Travis	78723	TX	6.37	26501	9/30/2011	30.31	-97.68
2832	Travis	Travis	78734	TX	8.14	22169	9/30/2011	30.37	-97.95
2833	Travis	Travis	78723	TX	5.55	24434	9/30/2011	30.31	-97.68
2834	Travis	Travis	78704	TX	1.60	8651	10/1/2011	30.25	-97.77
2835	Dallas	Dallas	75082	TX	5.85	40536	10/3/2011	33.00	-96.66
2836	Ellis	Ellis	75154	TX	10.29	105000	10/3/2011	32.51	-96.77
2837	Cherokee	Smith	75766	TX	10.25	56900	10/3/2011	31.93	-95.27
2838	Denton	Denton	75022	TX	10.12	28000	10/4/2011	33.03	-97.10
2839	Denton	Denton	75022	TX	10.12	35857	10/4/2011	33.02	-97.13
2840	Brewster	El Paso	79830	TX	4.90	29280	10/5/2011	29.72	-103.22

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2841	Dallas	Dallas	75082	TX	4.83	25000	10/6/2011	33.00	-96.66
2842	Denton	Denton	76226	TX	1.26	8262	10/6/2011	33.12	-97.16
2843	Orange	Orange	77632	TX	5.40	26550	10/6/2011	30.22	-93.80
2844	Dallas	Dallas	75211	TX	3.53	19388	10/7/2011	32.74	-96.89
2845	Travis	Travis	78757	TX	6.44	33000	10/8/2011	30.35	-97.74
2846	Medina	Bexar	78059	TX	8.50	42300	10/10/2011	29.18	-98.85
2847	Walker	Montgomery	77320	TX	23.00	79524	10/10/2011	30.82	-95.52
2848	Clay	Parker	76365	TX	10.34	52925	10/11/2011	33.79	-98.22
2849	Travis	Travis	78746	TX	7.76	35002	10/11/2011	30.31	-97.82
2850	Travis	Travis	78723	TX	3.91		10/11/2011	30.31	-97.68
2851	Travis	Travis	78723	TX	8.28	54498	10/11/2011	30.31	-97.68
2852	Travis	Travis	78731	TX	5.76	34527	10/11/2011	30.35	-97.77
2853	Dallas	Dallas	75211	TX	5.16	41177	10/11/2011	32.74	-96.89
2854	Gregg	Gregg	75662	TX	11.12	59089	10/12/2011	32.38	-94.87
2855	Travis	Travis	78723	TX	3.33	14668	10/12/2011	30.31	-97.68
2856	Wichita	Denton	76310	TX	32.40	312775	10/12/2011	33.79	-98.51
2857	Travis	Travis	78746	TX	6.13	25042	10/13/2011	30.31	-97.82
2858	Montgomery	Montgomery	77306	TX	4.60	17560	10/13/2011	30.27	-95.32
2859	Montgomery	Montgomery	77306	TX	5.98	36840	10/13/2011	30.27	-95.32
2860	Bexar	Bexar	78258	TX	8.28	41234	10/14/2011	29.65	-98.47
2861	Bexar	Bexar	78260	TX	1.00	9180	10/14/2011	29.69	-98.50
2862	Dallas	Dallas	75088	TX	20.58	215250	10/14/2011	32.90	-96.55
2863	Comal	Comal	78266	TX	6.66	33896	10/17/2011	29.63	-98.32
2864	Bexar	Bexar	78230	TX	36.00	237787	10/17/2011	29.54	-98.56
2865	Bexar	Bexar	78259	TX	10.58	46890	10/17/2011	29.62	-98.43
2866	Dallas	Dallas	75052	TX	10.29	105000	10/17/2011	32.68	-97.03
2867	Dallas	Dallas	75052	TX	10.29	105000	10/17/2011	32.68	-97.03
2868	Van Zandt	Henderson	75790	TX	6.48	35400	10/17/2011	32.51	-95.64
2869	Comal	Comal	78266	TX	28.80	144000	10/18/2011	29.63	-98.32
2870	Bexar	Bexar	78258	TX	6.58	39480	10/18/2011	29.65	-98.47
2871	Dallas	Dallas	75052	TX	10.29	105000	10/18/2011	32.68	-97.03
2872	Dallas	Dallas	75052	TX	10.29	105000	10/18/2011	32.68	-97.03
2873	Dallas	Dallas	75019	TX	4.07	22156	10/18/2011	32.96	-97.00
2874	Harris	Harris	77055	TX	5.00	7500	10/19/2011	29.79	-95.49
2875	El Paso	El Paso	79902	TX	10.34	53251	10/20/2011	31.79	-106.49
2876	Collin	Collin	75013	TX	4.08	21431	10/21/2011	33.11	-96.70
2877	Travis	Travis	78733	TX	4.14	21126	10/21/2011	30.33	-97.87
2878	Travis	Travis	78723	TX	6.66	29500	10/21/2011	30.31	-97.68
2879	Parker	Parker	76087	TX	2.50	13800	10/21/2011	32.61	-97.83
2880	Travis	Travis	78660	TX	7.77	33455	10/21/2011	30.43	-97.60

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2881	El Paso	El Paso	79938	TX	4.60	32430	10/21/2011	31.84	-105.92
2882	Morris	Upshur	75571	TX	5.40	23500	10/23/2011	33.19	-94.75
2883	Dallas	Dallas	75051	TX	10.29	105000	10/24/2011	32.73	-96.99
2884	Dallas	Dallas	75051	TX	10.29	105000	10/24/2011	32.73	-96.99
2885	Jeff Davis	El Paso	79734	TX	2.69	20591	10/24/2011	30.77	-104.01
2886	Bexar	Bexar	78247	TX	5.98	35745	10/25/2011	29.59	-98.41
2887	Bexar	Bexar	78254	TX	18.48	101455	10/25/2011	29.53	-98.78
2888	Bexar	Bexar	78249	TX	36.00	237787	10/25/2011	29.57	-98.61
2889	Archer	Parker	76366	TX	10.80	104258	10/25/2011	33.71	-98.79
2890	Dallas	Dallas	75082	TX	5.85	40536	10/25/2011	33.00	-96.66
2891	Dallas	Dallas	75052	TX	73.92		10/26/2011	32.68	-97.03
2892	Dallas	Dallas	75243	TX	5.17		10/26/2011	32.91	-96.74
2893	Travis	Travis	78732	TX	6.44	30500	10/26/2011	30.38	-97.89
2894	Dallas	Dallas	75019	TX	2.40	8589	10/26/2011	32.96	-97.00
2895	Dallas	Dallas	75048	TX	5.52	24190	10/27/2011	32.96	-96.57
2896	Brown	Hood	76890	TX	5.22	28665	10/27/2011	31.71	-98.77
2897	Collin	Collin	75002	TX	5.28	27675	10/28/2011	33.10	-96.64
2898	Dallas	Dallas	75230	TX	2.99	44935	10/28/2011	32.90	-96.79
2899	El Paso	El Paso	79901	TX	10.80	140000	10/28/2011	31.76	-106.48
2900	El Paso	El Paso	79925	TX	3.76	18919	10/30/2011	31.80	-106.36
2901	Travis	Travis	78747	TX	3.52	21242	10/31/2011	30.13	-97.73
2902	Travis	Travis	78747	TX	3.50	21301	10/31/2011	30.13	-97.73
2903	Travis	Travis	78747	TX	3.50	20790	10/31/2011	30.13	-97.73
2904	Travis	Travis	78744	TX	3.50	20790	10/31/2011	30.20	-97.73
2905	Travis	Travis	78744	TX	3.52	21049	10/31/2011	30.20	-97.73
2906	Travis	Travis	78744	TX	3.52	21301	10/31/2011	30.20	-97.73
2907	Travis	Travis	78744	TX	3.50	21301	10/31/2011	30.20	-97.73
2908	Travis	Travis	78617	TX	3.50	20790	10/31/2011	30.15	-97.59
2909	Travis	Travis	78617	TX	3.52	21301	10/31/2011	30.15	-97.59
2910	Cherokee	Smith	75766	TX	20.50	77800	10/31/2011	31.93	-95.27
2911	Travis	Travis	78722	TX	7.59	50913	11/1/2011	30.29	-97.71
2912	Travis	Travis	78723	TX	3.68		11/1/2011	30.31	-97.68
2913	Travis	Travis	78723	TX	6.29	28680	11/1/2011	30.31	-97.68
2914	Dallas	Dallas	75082	TX	5.25	41895	11/1/2011	33.00	-96.66
2915	Tarrant	Tarrant	76018	TX	4.70	37506	11/1/2011	32.67	-97.08
2916	Rusk	Rusk	75654	TX	2.67	24241	11/1/2011	32.12	-94.94
2917	El Paso	El Paso	79912	TX	8.46	41454	11/1/2011	31.86	-106.55
2918	Clay	Parker	76365	TX	10.34	52925	11/2/2011	33.79	-98.22
2919	Denton	Denton	75056	TX	5.52	31063	11/3/2011	33.08	-96.91
2920	Bexar	Bexar	78230	TX	9.20	52440	11/4/2011	29.54	-98.56

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2921	Bexar	Bexar	78209	TX	5.98	35804	11/4/2011	29.49	-98.45
2922	Bexar	Bexar	78222	TX	43.68	219710	11/4/2011	29.37	-98.39
2923	Bexar	Bexar	78209	TX	5.17	26392	11/4/2011	29.49	-98.45
2924	Bexar	Bexar	78209	TX	8.97	48199	11/4/2011	29.49	-98.45
2925	Bexar	Bexar	78209	TX	4.90	25119	11/4/2011	29.49	-98.45
2926	Bexar	Bexar	78244	TX	8.28	37708	11/4/2011	29.47	-98.35
2927	Collin	Collin	75002	TX	5.28	27675	11/4/2011	33.10	-96.64
2928	Bexar	Bexar	78227	TX	81.54	298205	11/7/2011	29.41	-98.63
2929	Bexar	Bexar	78251	TX	6.00	29048	11/7/2011	29.47	-98.68
2930	Kendall	Bexar	78015	TX	7.48	35515	11/7/2011	29.75	-98.65
2931	Bexar	Bexar	78253	TX	4.32	24480	11/7/2011	29.47	-98.81
2932	Bexar	Bexar	78264	TX	31.68	139350	11/7/2011	29.17	-98.51
2933	Bexar	Bexar	78249	TX	10.50	46850	11/7/2011	29.57	-98.61
2934	Travis	Travis	78756	TX	19.60		11/7/2011	30.32	-97.74
2935	Dallas	Dallas	75229	TX	3.29	18095	11/8/2011	32.90	-96.87
2936	Tarrant	Tarrant	76063	TX	41.16	432180	11/8/2011	32.56	-97.14
2937	Dallas	Dallas	75229	TX	3.29	18095	11/8/2011	32.90	-96.87
2938	Dallas	Dallas	75234	TX	5.52	31063	11/8/2011	32.92	-96.87
2939	Denton	Denton	75007	TX	2.53	13770	11/9/2011	33.01	-96.89
2940	Collin	Collin	75023	TX	10.29	105000	11/9/2011	33.06	-96.73
2941	Dallas	Dallas	75236	TX	3.91	23640	11/10/2011	32.69	-96.94
2942	Tarrant	Tarrant	76133	TX	5.29	31740	11/11/2011	32.65	-97.38
2943	Montgomery	Montgomery	77378	TX	5.40	30001	11/11/2011	30.49	-95.33
2944	Tarrant	Tarrant	76133	TX	2.30	13800	11/14/2011	32.65	-97.38
2945	Montgomery	Montgomery	77382	TX	5.17	17381	11/14/2011	30.20	-95.55
2946	Bexar	Bexar	78260	TX	5.98	18884	11/15/2011	29.69	-98.50
2947	Kendall	Bexar	78006	TX	5.98	18884	11/15/2011	29.92	-98.70
2948	Bexar	Bexar	78263	TX	8.46	29837	11/15/2011	29.36	-98.32
2949	Dallas	Dallas	75211	TX	3.76	19388	11/15/2011	32.74	-96.89
2950	Denton	Denton	75007	TX	2.53	12770	11/15/2011	33.01	-96.89
2951	El Paso	El Paso	79936	TX	6.21	41545	11/15/2011	31.76	-106.29
2952	Bexar	Bexar	78233	TX	5.98	25385	11/16/2011	29.56	-98.36
2953	Brown	Hood	76801	TX	27.73	199656	11/16/2011	31.81	-99.06
2954	El Paso	El Paso	79936	TX	1.41	7755	11/16/2011	31.76	-106.29
2955	Taylor	Hood	79602	TX	10.12		11/18/2011	32.32	-99.66
2956	Travis	Travis	78746	TX	5.61	26026	11/18/2011	30.31	-97.82
2957	Dallas	Dallas	75244	TX	6.90	40482	11/18/2011	32.93	-96.84
2958	Leon	Montgomery	75846	TX	10.12	43790	11/18/2011	31.32	-96.17
2959	Travis	Travis	78703	TX	150.00		11/20/2011	30.31	-97.77
2960	Panola	Rusk	75633	TX	21.60	111521	11/20/2011	32.15	-94.27

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
2961	Tarrant	Tarrant	76051	TX	5.81	46324	11/21/2011	32.95	-97.07
2962	Collin	Collin	75093	TX	6.45	51471	11/21/2011	33.04	-96.82
2963	Ellis	Ellis	75154	TX	9.03	72059	11/21/2011	32.51	-96.77
2964	Montgomery	Montgomery	77385	TX	4.08	27200	11/21/2011	30.20	-95.43
2965	Coryell	Williamson	76538	TX	6.90	44331	11/21/2011	31.63	-97.89
2966	Dallas	Dallas	75214	TX	7.20	37675	11/22/2011	32.82	-96.74
2967	Dallas	Dallas	75243	TX	5.17	34845	11/22/2011	32.91	-96.74
2968	Navarro	Ellis	75155	TX	7.36	42574	11/22/2011	32.21	-96.47
2969	Robertson	Williamson	76629	TX	4.86	14489	11/22/2011	31.16	-96.69
2970	El Paso	El Paso	79912	TX	7.99	33718	11/22/2011	31.86	-106.55
2971	El Paso	El Paso	79924	TX	5.40	34560	11/22/2011	31.90	-106.43
2972	Collin	Collin	75013	TX	4.08	21431	11/23/2011	33.11	-96.70
2973	El Paso	El Paso	79901	TX	26.91	135313	11/23/2011	31.76	-106.48
2974	El Paso	El Paso	79901	TX	9.88	54125	11/23/2011	31.76	-106.48
2975	Bexar	Bexar	78232	TX	33.60		11/27/2011	29.59	-98.46
2976	Bexar	Bexar	78244	TX	6.11	33094	11/28/2011	29.47	-98.35
2977	Dallas	Dallas	75218	TX	4.80	31950	11/28/2011	32.84	-96.70
2978	Smith	Smith	75771	TX	10.12	59634	11/28/2011	32.53	-95.41
2979	El Paso	El Paso	79922	TX	9.75	53743	11/28/2011	31.83	-106.58
2980	El Paso	El Paso	79928	TX	3.68	23920	11/28/2011	31.66	-106.13
2981	Bexar	Bexar	78239	TX	6.66	29357	11/29/2011	29.52	-98.36
2982	Smith	Smith	75703	TX	14.85	76726	11/29/2011	32.26	-95.32
2983	Cherokee	Smith	75766	TX	6.35	37100	11/29/2011	31.93	-95.27
2984	El Paso	El Paso	79912	TX	6.58	32242	11/29/2011	31.86	-106.55
2985	El Paso	El Paso	79902	TX	7.05	3660	11/29/2011	31.79	-106.49
2986	El Paso	El Paso	79936	TX	5.17	32500	11/29/2011	31.76	-106.29
2987	El Paso	El Paso	79936	TX	3.96	10600	11/29/2011	31.76	-106.29
2988	El Paso	El Paso	79936	TX	1.88	15040	11/29/2011	31.76	-106.29
2989	El Paso	El Paso	79912	TX	0.94	4888	11/29/2011	31.86	-106.55
2990	Comal	Comal	78163	TX	2.64	13945	11/30/2011	29.77	-98.51
2991	Bexar	Bexar	78209	TX	12.00	46802	11/30/2011	29.49	-98.45
2992	Gregg	Gregg	75603	TX	16.80	76300	11/30/2011	32.38	-94.71
2993	El Paso	El Paso	79922	TX	9.66	60625	11/30/2011	31.83	-106.58
2994	El Paso	El Paso	79932	TX	10.06	57683	11/30/2011	31.89	-106.62
2995	El Paso	El Paso	79925	TX	1.08	7895	11/30/2011	31.80	-106.36
2996	El Paso	El Paso	79936	TX	2.99	17818	11/30/2011	31.76	-106.29
2997	El Paso	El Paso	79925	TX	7.20	45360	11/30/2011	31.80	-106.36
2998	El Paso	El Paso	79902	TX	9.89	53864	11/30/2011	31.79	-106.49
2999	El Paso	El Paso	79932	TX	5.06	30049	11/30/2011	31.89	-106.62
3000	El Paso	El Paso	79912	TX	4.94	28898	11/30/2011	31.86	-106.55

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3001	El Paso	El Paso	79912	TX	9.40	64017	11/30/2011	31.86	-106.55
3002	El Paso	El Paso	79912	TX	10.24	64500	11/30/2011	31.86	-106.55
3003	El Paso	El Paso	79932	TX	6.58	42770	11/30/2011	31.89	-106.62
3004	El Paso	El Paso	79912	TX	2.76	16747	11/30/2011	31.86	-106.55
3005	El Paso	El Paso	79912	TX	3.91	23560	11/30/2011	31.86	-106.55
3006	El Paso	El Paso	79911	TX	2.82	16615	11/30/2011	31.89	-106.54
3007	El Paso	El Paso	79821	TX	6.60	36300	11/30/2011	31.99	-106.59
3008	El Paso	El Paso	79932	TX	5.06	30461	11/30/2011	31.89	-106.62
3009	El Paso	El Paso	79912	TX	10.24	64500	11/30/2011	31.86	-106.55
3010	El Paso	El Paso	79932	TX	6.58	61060	11/30/2011	31.89	-106.62
3011	Travis	Travis	78705	TX	13.20	70825	12/1/2011	30.30	-97.74
3012	Travis	Travis	78759	TX	21.10	106623	12/1/2011	30.40	-97.75
3013	Travis	Travis	78744	TX	20.20	160512	12/1/2011	30.20	-97.73
3014	Ellis	Ellis	75165	TX	10.08	153770	12/1/2011	32.38	-96.77
3015	Ellis	Ellis	75154	TX	10.29	102900	12/1/2011	32.51	-96.77
3016	Ellis	Ellis	76065	TX	10.29	102900	12/1/2011	32.48	-96.96
3017	Tarrant	Tarrant	76054	TX	9.99	32054	12/1/2011	32.86	-97.18
3018	Dallas	Dallas	75235	TX	31.40		12/2/2011	32.83	-96.85
3019	Ellis	Ellis	76065	TX	9.03	72059	12/2/2011	32.48	-96.96
3020	Tarrant	Tarrant	76107	TX	2.58	20588	12/2/2011	32.74	-97.38
3021	Tarrant	Tarrant	76040	TX	9.89	78922	12/2/2011	32.82	-97.10
3022	Ellis	Ellis	76065	TX	10.08	102900	12/2/2011	32.48	-96.96
3023	Ellis	Ellis	75154	TX	10.29	102900	12/2/2011	32.51	-96.77
3024	Ellis	Ellis	75154	TX	10.29	102900	12/2/2011	32.51	-96.77
3025	Dallas	Dallas	75089	TX	5.15	51450	12/2/2011	32.94	-96.55
3026	McLennan	Ellis	76708	TX	5.28	39000	12/4/2011	31.62	-97.21
3027	Tarrant	Tarrant	76179	TX	10.08	100800	12/4/2011	32.92	-97.46
3028	Dallas	Dallas	75043	TX	10.29	102900	12/4/2011	32.85	-96.59
3029	Tarrant	Tarrant	76034	TX	9.66	46592	12/4/2011	32.89	-97.15
3030	Bexar	Bexar	78253	TX	4.60	26220	12/5/2011	29.47	-98.81
3031	Travis	Travis	78758	TX	3.29	17668	12/5/2011	30.39	-97.70
3032	Travis	Travis	78736	TX	2.16	8180	12/5/2011	30.25	-97.95
3033	Travis	Travis	78758	TX	3.29	17668	12/5/2011	30.39	-97.70
3034	Dallas	Dallas	75006	TX	11.04	72034	12/5/2011	32.97	-96.89
3035	Tarrant	Tarrant	76182	TX	9.17	73137	12/5/2011	32.88	-97.21
3036	Tarrant	Tarrant	76012	TX	6.02	48040	12/5/2011	32.76	-97.14
3037	Dallas	Dallas	75238	TX	4.31	34354	12/5/2011	32.88	-96.71
3038	Orange	Orange	77611	TX	17.28	57769	12/5/2011	30.00	-93.81
3039	El Paso	El Paso	79936	TX	5.06	12650	12/5/2011	31.76	-106.29
3040	Bexar	Bexar	78216	TX	23.20	204876	12/6/2011	29.55	-98.50

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3041	Travis	Travis	78732	TX	2.31	7757	12/6/2011	30.38	-97.89
3042	Travis	Travis	78745	TX	6.11	28996	12/6/2011	30.22	-97.80
3043	Travis	Travis	78723	TX	6.44	26315	12/6/2011	30.31	-97.68
3044	Dallas	Dallas	75062	TX	101.64	483437	12/6/2011	32.84	-96.98
3045	Tarrant	Tarrant	76052	TX	3.52	21565	12/6/2011	32.98	-97.38
3046	Tarrant	Tarrant	76036	TX	3.52	21565	12/6/2011	32.57	-97.42
3047	Ellis	Ellis	75165	TX	9.03	72059	12/6/2011	32.38	-96.77
3048	Tarrant	Tarrant	76148	TX	5.16	41177	12/6/2011	32.86	-97.25
3049	Denton	Denton	75007	TX	3.45	34500	12/6/2011	33.01	-96.89
3050	Williamson	Williamson	78674	TX	4.68	16280	12/6/2011	30.67	-97.59
3051	Dallas	Dallas	75214	TX	7.20	37675	12/6/2011	32.82	-96.74
3052	Dallas	Dallas	75220	TX	15.84	31600	12/7/2011	32.87	-96.89
3053	Dallas	Dallas	75220	TX	15.84	6000	12/7/2011	32.86	-96.87
3054	Tarrant	Tarrant	76053	TX	4.73	37745	12/7/2011	32.82	-97.19
3055	Collin	Collin	75287	TX	2.59	20628	12/7/2011	33.00	-96.84
3056	Bell	Williamson	76513	TX	10.80	64891	12/7/2011	31.07	-97.50
3057	Smith	Smith	75701	TX	19.44	83000	12/7/2011	32.32	-95.30
3058	Smith	Smith	75703	TX	7.92	33500	12/7/2011	32.26	-95.32
3059	Dallas	Dallas	75089	TX	10.29	102900	12/7/2011	32.94	-96.55
3060	Dallas	Dallas	75217	TX	10.29	102900	12/7/2011	32.71	-96.67
3061	Rockwall	Rockwall	75032	TX	11.28	48000	12/7/2011	32.86	-96.42
3062	Dallas	Dallas	75248	TX	11.00	44447	12/7/2011	32.97	-96.78
3063	Dallas	Dallas	75230	TX	5.76	48300	12/7/2011	32.90	-96.79
3064	Ellis	Ellis	76065	TX	12.22	41900	12/7/2011	32.48	-96.96
3065	Lamar	Hunt	75473	TX	9.89	52624	12/7/2011	33.82	-95.49
3066	Gregg	Gregg	75604	TX	9.60	49000	12/7/2011	32.50	-94.80
3067	Red River	Upshur	75554	TX	4.10	28175	12/7/2011	33.55	-94.79
3068	Bowie	Upshur	75501	TX	4.10	28175	12/7/2011	33.39	-94.13
3069	Bowie	Upshur	75503	TX	4.10	28175	12/7/2011	33.53	-94.13
3070	El Paso	El Paso	79922	TX	3.22	8850	12/7/2011	31.83	-106.58
3071	Travis	Travis	78746	TX	4.70	20235	12/8/2011	30.31	-97.82
3072	Tarrant	Tarrant	76054	TX	6.02	48040	12/8/2011	32.86	-97.18
3073	Williamson	Williamson	78681	TX	7.92	35640	12/8/2011	30.52	-97.71
3074	Tarrant	Tarrant	76108	TX	8.97	35505	12/8/2011	32.77	-97.51
3075	Bell	Williamson	76548	TX	7.32	30171	12/8/2011	31.07	-97.67
3076	El Paso	El Paso	79912	TX	2.40	5950	12/9/2011	31.86	-106.55
3077	El Paso	El Paso	79936	TX	30.36	192032	12/11/2011	31.76	-106.29
3078	Bexar	Bexar	78258	TX	6.11	31221	12/12/2011	29.65	-98.47
3079	Bexar	Bexar	78233	TX	1.00	6198	12/12/2011	29.56	-98.36
3080	Travis	Travis	78747	TX	6.30	25784	12/12/2011	30.13	-97.73

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
3081	Bexar	Bexar	78260	TX	4.62	20800	12/14/2011	29.69	-98.50
3082	Bexar	Bexar	78232	TX	5.98	27508	12/14/2011	29.59	-98.46
3083	Bexar	Bexar	78255	TX	4.50	25560	12/14/2011	29.66	-98.67
3084	Matagorda	Brazoria	77404	TX	26.52		12/14/2011	28.96	-95.97
3085	Tarrant	Tarrant	76244	TX	4.16	21840	12/14/2011	32.95	-97.28
3086	Travis	Travis	78703	TX	2.88	11553	12/15/2011	30.29	-97.77
3087	Comal	Comal	78163	TX	4.00	21057	12/16/2011	29.77	-98.51
3088	Bexar	Bexar	78213	TX	5.94	28684	12/16/2011	29.50	-98.52
3089	Bexar	Bexar	78216	TX	8.46	39547	12/16/2011	29.55	-98.50
3090	Bexar	Bexar	78260	TX	9.20	51060	12/16/2011	29.69	-98.50
3091	Bexar	Bexar	78249	TX	5.76	30240	12/16/2011	29.57	-98.61
3092	Bexar	Bexar	78255	TX	5.06	27336	12/16/2011	29.66	-98.67
3093	Grayson	Collin	75491	TX	3.84	26110	12/16/2011	33.48	-96.39
3094	Parker	Parker	76087	TX	2.76	15800	12/16/2011	32.61	-97.83
3095	El Paso	El Paso	79912	TX	2.40	9341	12/17/2011	31.84	-106.53
3096	Bexar	Bexar	78023	TX	4.17	21000	12/19/2011	29.62	-98.73
3097	Bexar	Bexar	78240	TX	7.20	34861	12/19/2011	29.53	-98.61
3098	Bexar	Bexar	78023	TX	5.52	24597	12/19/2011	29.62	-98.73
3099	Dallas	Dallas	75081	TX	22.75		12/19/2011	32.96	-96.70
3100	Orange	Orange	77662	TX	7.10		12/19/2011	30.17	-94.01
3101	Travis	Travis	78731	TX	6.35	28369	12/19/2011	30.35	-97.77
3102	Williamson	Williamson	78681	TX	3.53	23400	12/19/2011	30.52	-97.71
3103	Travis	Travis	78653	TX	34000.00	120000000	12/20/2011	30.33	-97.55
3104	Bexar	Bexar	78250	TX	6.48	30772	12/21/2011	29.50	-98.67
3105	Callahan	Hood	79510	TX	10.80	79715	12/21/2011	32.22	-99.50
3106	Jefferson	Jefferson	77705	TX	8.46	61160	12/21/2011	29.96	-94.11
3107	Orange	Orange	77662	TX	7.05	34650	12/21/2011	30.17	-94.01
3108	Bexar	Bexar	78225	TX	18.00	85052	12/22/2011	29.39	-98.53
3109	El Paso	El Paso	79902	TX	76.38	422400	12/22/2011	31.78	-106.51
3110	El Paso	El Paso	79902	TX	108.42	557600	12/22/2011	31.78	-106.51
3111	Travis	Travis	78705	TX	8.00	26036	12/22/2011	30.30	-97.74
3112	Gregg	Gregg	75601	TX	14.40	65000	12/26/2011	32.51	-94.72
3113	Travis	Travis	78746	TX	6.11	24931	12/27/2011	30.31	-97.82
3114	Travis	Travis	78723	TX	2.04	8178	12/27/2011	30.31	-97.68
3115	El Paso	El Paso	79901	TX	36.96	241000	12/28/2011	31.76	-106.49
3116	Bell	Williamson	76513	TX	9.68	38695	12/28/2011	31.07	-97.50
3117	Jefferson	Jefferson	77710	TX	8.46		12/29/2011	30.05	-94.08
3118	Travis	Travis	78753	TX	6.24	21900	12/29/2011	30.39	-97.67
3119	Travis	Travis	78744	TX	1.48		12/29/2011	30.20	-97.73
3120	Travis	Travis	78744	TX	5.44	43878	12/29/2011	30.20	-97.73

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3121	Travis	Travis	78727	TX	4.32		12/29/2011	30.43	-97.71
3122	Travis	Travis	78723	TX	5.28	33742	12/29/2011	30.31	-97.68
3123	Travis	Travis	78747	TX	3.52	21242	12/29/2011	30.13	-97.73
3124	Wilbarger	Parker	76384	TX	10.80	104258	12/29/2011	34.20	-99.32
3125	Bexar	Bexar	78249	TX	33.10	157096	12/30/2011	29.57	-98.61
3126	Bexar	Bexar	78249	TX	139.70	616935	12/30/2011	29.57	-98.61
3127	Bexar	Bexar	78259	TX	3.60	18417	12/30/2011	29.62	-98.43
3128	Bexar	Bexar	78258	TX	5.52	30250	12/30/2011	29.65	-98.47
3129	Bexar	Bexar	78264	TX	12.42	49680	12/30/2011	29.17	-98.51
3130	Bexar	Bexar	78264	TX	6.11	20385	12/30/2011	29.17	-98.51
3131	Bexar	Bexar	78233	TX	4.86	19391	12/30/2011	29.56	-98.36
3132	Schleicher	Bexar	76936	TX	9.75	158115	12/31/2011	30.91	-100.71
3133	Schleicher	Bexar	76936	TX	9.75	158115	12/31/2011	30.91	-100.71
3134	Montgomery	Montgomery	77302	TX	10.12	58685	12/31/2011	30.21	-95.33
3135	Galveston	Galveston	77546	TX	10.12	52389	12/31/2011	29.54	-95.20
3136	Comal	Comal	78266	TX	15.66	53009	1/3/2012	29.63	-98.32
3137	Bexar	Bexar	78254	TX	4.05	18225	1/3/2012	29.53	-98.78
3138	Kendall	Bexar	78015	TX	5.76	31680	1/3/2012	29.75	-98.65
3139	Travis	Travis	78759	TX	6.08	25260	1/3/2012	30.40	-97.75
3140	Travis	Travis	78730	TX	6.09	29503	1/3/2012	30.37	-97.84
3141	Travis	Travis	78704	TX	6.08	23263	1/3/2012	30.25	-97.77
3142	Travis	Travis	78746	TX	5.16	21549	1/3/2012	30.31	-97.82
3143	Bexar	Bexar	78247	TX	4.14	15682	1/4/2012	29.59	-98.41
3144	Bexar	Bexar	78254	TX	3.50	18673	1/5/2012	29.53	-98.78
3145	Travis	Travis	78749	TX	5.96	24991	1/5/2012	30.22	-97.86
3146	Travis	Travis	78745	TX	3.09	12250	1/5/2012	30.22	-97.80
3147	Bexar	Bexar	78209	TX	26.88	124561	1/6/2012	29.49	-98.45
3148	Travis	Travis	78732	TX	6.19	24677	1/6/2012	30.38	-97.89
3149	Travis	Travis	78732	TX	2.78		1/6/2012	30.38	-97.89
3150	Travis	Travis	78732	TX	2.78	21296	1/6/2012	30.38	-97.89
3151	Travis	Travis	78731	TX	9.28	42016	1/6/2012	30.35	-97.77
3152	Travis	Travis	78723	TX	5.67	20783	1/6/2012	30.31	-97.68
3153	Bexar	Bexar	78023	TX	13.44	73920	1/9/2012	29.62	-98.73
3154	Travis	Travis	78703	TX	2.95		1/9/2012	30.29	-97.77
3155	Travis	Travis	78734	TX	6.19	25912	1/9/2012	30.37	-97.95
3156	Travis	Travis	78749	TX	7.27	50365	1/9/2012	30.22	-97.86
3157	Bexar	Bexar	78253	TX	4.60	27129	1/10/2012	29.47	-98.81
3158	Travis	Travis	78733	TX	10.30	63677	1/17/2012	30.33	-97.87
3159	Travis	Travis	78733	TX	5.33	19872	1/18/2012	30.33	-97.87
3160	Travis	Travis	78733	TX	5.20		1/18/2012	30.33	-97.87

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3161	Travis	Travis	78733	TX	11.32	27386	1/18/2012	30.33	-97.87
3162	Travis	Travis	78733	TX	5.92	67652	1/18/2012	30.33	-97.87
3163	Travis	Travis	78746	TX	5.76	32062	1/18/2012	30.31	-97.82
3164	Travis	Travis	78759	TX	5.34	25908	1/19/2012	30.40	-97.75
3165	Travis	Travis	78753	TX	6.24	21900	1/19/2012	30.39	-97.67
3166	Travis	Travis	78703	TX	6.12	29100	1/19/2012	30.29	-97.77
3167	Travis	Travis	78727	TX	6.24	23088	1/19/2012	30.43	-97.71
3168	Travis	Travis	78704	TX	6.37	23263	1/19/2012	30.25	-97.77
3169	Travis	Travis	78723	TX	2.04	8178	1/19/2012	30.31	-97.68
3170	Travis	Travis	78731	TX	6.35	28369	1/19/2012	30.35	-97.77
3171	Travis	Travis	78746	TX	5.40	21549	1/19/2012	30.31	-97.82
3172	Travis	Travis	78732	TX	2.31	7757	1/19/2012	30.38	-97.89
3173	Travis	Travis	78723	TX	3.24	12952	1/19/2012	30.31	-97.68
3174	Travis	Travis	78723	TX	6.27	26983	1/19/2012	30.31	-97.68
3175	Bexar	Bexar	78233	TX	8.64	28952	1/20/2012	29.56	-98.36
3176	Bexar	Bexar	78233	TX	5.17	21456	1/20/2012	29.56	-98.36
3177	Comal	Comal	78070	TX	13.16	67493	1/20/2012	29.87	-98.42
3178	Bexar	Bexar	78259	TX	7.36	37801	1/20/2012	29.62	-98.43
3179	Bexar	Bexar	78023	TX	4.60	20240	1/20/2012	29.62	-98.73
3180	Travis	Travis	78731	TX	5.20	20495	1/20/2012	30.35	-97.77
3181	Bexar	Bexar	78258	TX	10.80	58895	1/24/2012	29.65	-98.47
3182	Bexar	Bexar	78213	TX	6.60	29700	1/24/2012	29.50	-98.52
3183	Bexar	Bexar	78112	TX	10.58	58394	1/24/2012	29.21	-98.39
3184	Bexar	Bexar	78112	TX	9.17	43804	1/24/2012	29.21	-98.39
3185	Travis	Travis	78702	TX	15.20	68394	1/24/2012	30.26	-97.71
3186	Travis	Travis	78702	TX	4.90	22063	1/24/2012	30.26	-97.71
3187	Montgomery	Montgomery	77382	TX	4.14	17497	1/24/2012	30.20	-95.55
3188	Montgomery	Montgomery	77382	TX	4.14	17497	1/24/2012	30.20	-95.55
3189	Bexar	Bexar	78260	TX	7.52	30005	1/27/2012	29.69	-98.50
3190	Bexar	Bexar	78212	TX	6.21	33388	1/27/2012	29.46	-98.50
3191	Bexar	Bexar	78247	TX	5.98	18885	1/27/2012	29.59	-98.41
3192	Bexar	Bexar	78260	TX	7.36	28460	1/27/2012	29.69	-98.50
3193	Travis	Travis	78733	TX	10.32	63677	1/27/2012	30.33	-97.87
3194	Bexar	Bexar	78256	TX	6.90	56140	1/30/2012	29.62	-98.62
3195	Bexar	Bexar	78263	TX	11.10	44841	1/30/2012	29.36	-98.32
3196	Bexar	Bexar	78212	TX	12.65	60793	1/30/2012	29.46	-98.50
3197	Bexar	Bexar	78209	TX	5.88	26891	1/30/2012	29.49	-98.45
3198	Bexar	Bexar	78261	TX	4.86	15917	2/2/2012	29.70	-98.41
3199	Bexar	Bexar	78230	TX	10.18	41981	2/2/2012	29.54	-98.56
3200	Bexar	Bexar	78244	TX	1.02	3464	2/2/2012	29.47	-98.35

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3201	Bexar	Bexar	78256	TX	15.84	66186	2/2/2012	29.62	-98.62
3202	Bexar	Bexar	78256	TX	7.02	33134	2/2/2012	29.62	-98.62
3203	Travis	Travis	78763	TX	13.44	35702	2/2/2012	30.30	-97.77
3204	Travis	Travis	78763	TX	6.91		2/2/2012	30.30	-97.77
3205	Travis	Travis	78763	TX	5.50	98000	2/2/2012	30.30	-97.77
3206	Travis	Travis	78736	TX	6.37	27386	2/2/2012	30.25	-97.95
3207	Travis	Travis	78746	TX	6.11	24931	2/2/2012	30.31	-97.82
3208	Travis	Travis	78759	TX	6.30	25260	2/2/2012	30.40	-97.75
3209	Travis	Travis	78731	TX	5.39	20495	2/2/2012	30.35	-97.77
3210	Travis	Travis	78730	TX	6.34	29503	2/2/2012	30.37	-97.84
3211	Travis	Travis	78734	TX	6.48	25912	2/2/2012	30.37	-97.95
3212	Travis	Travis	78759	TX	5.50	25908	2/2/2012	30.40	-97.75
3213	Johnson	Johnson	76084	TX	5.88	30400	2/3/2012	32.44	-97.10
3214	Travis	Travis	78735	TX	6.02	23400	2/3/2012	30.26	-97.86
3215	Travis	Travis	78756	TX	5.99	26651	2/3/2012	30.32	-97.74
3216	Travis	Travis	78704	TX	2.43	10368	2/3/2012	30.25	-97.77
3217	Travis	Travis	78702	TX	4.90	22063	2/3/2012	30.26	-97.71
3218	Travis	Travis	78702	TX	15.19	68394	2/3/2012	30.26	-97.71
3219	El Paso	El Paso	79836	TX	2.46	16880	2/6/2012	31.57	-106.19
3220	Travis	Travis	78723	TX	6.27	24275	2/7/2012	30.31	-97.68
3221	Bexar	Bexar	78261	TX	7.52	43144	2/9/2012	29.70	-98.41
3222	Bexar	Bexar	78251	TX	5.28	23232	2/9/2012	29.47	-98.68
3223	Bexar	Bexar	78209	TX	6.58	30268	2/10/2012	29.49	-98.45
3224	Bexar	Bexar	78260	TX	6.90	35438	2/10/2012	29.69	-98.50
3225	Bexar	Bexar	78245	TX	4.32	15970	2/10/2012	29.40	-98.74
3226	Bexar	Bexar	78240	TX	28.75	128920	2/10/2012	29.53	-98.61
3227	Bexar	Bexar	78023	TX	6.00	30000	2/10/2012	29.62	-98.73
3228	Bexar	Bexar	78233	TX	6.60	31136	2/10/2012	29.56	-98.36
3229	Travis	Travis	78746	TX	7.63	20196	2/10/2012	30.31	-97.82
3230	Travis	Travis	78746	TX	4.00	27075	2/10/2012	30.31	-97.82
3231	Travis	Travis	78757	TX	6.08	26186	2/13/2012	30.35	-97.74
3232	Collin	Collin	75070	TX	6.11		2/13/2012	33.18	-96.70
3233	Comal	Comal	78163	TX	7.76	37224	2/14/2012	29.77	-98.51
3234	Bexar	Bexar	78239	TX	5.85	21324	2/14/2012	29.52	-98.36
3235	Bexar	Bexar	78239	TX	6.37	23846	2/14/2012	29.52	-98.36
3236	Bexar	Bexar	78261	TX	12.22	62322	2/14/2012	29.70	-98.41
3237	Bexar	Bexar	78233	TX	10.00	37021	2/14/2012	29.56	-98.36
3238	Bexar	Bexar	78247	TX	13.50	49046	2/14/2012	29.59	-98.41
3239	Bexar	Bexar	78215	TX	16.92	83754	2/14/2012	29.44	-98.48
3240	Bexar	Bexar	78215	TX	16.92	83754	2/14/2012	29.44	-98.48

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3241	Bexar	Bexar	78215	TX	17.62	87243	2/14/2012	29.44	-98.48
3242	Bexar	Bexar	78215	TX	17.62	87243	2/14/2012	29.44	-98.48
3243	Bexar	Bexar	78213	TX	5.28	25236	2/15/2012	29.50	-98.52
3244	Bexar	Bexar	78232	TX	8.10	48619	2/15/2012	29.59	-98.46
3245	Travis	Travis	78724	TX	5.61	20196	2/15/2012	30.29	-97.62
3246	Travis	Travis	78757	TX	6.30	26186	2/15/2012	30.35	-97.74
3247	Travis	Travis	78735	TX	6.24	23400	2/15/2012	30.26	-97.86
3248	Travis	Travis	78733	TX	2.16	11385	2/15/2012	30.33	-97.87
3249	Travis	Travis	78745	TX	3.22	12250	2/15/2012	30.22	-97.80
3250	Travis	Travis	78749	TX	4.50	21265	2/15/2012	30.22	-97.86
3251	Travis	Travis	78733	TX	5.52	19872	2/15/2012	30.33	-97.87
3252	Travis	Travis	78751	TX	6.12	24317	2/15/2012	30.31	-97.73
3253	Travis	Travis	78749	TX	6.21	24991	2/15/2012	30.22	-97.86
3254	Travis	Travis	78733	TX	14.46	56872	2/15/2012	30.33	-97.87
3255	Travis	Travis	78733	TX	2.45	10780	2/15/2012	30.33	-97.87
3256	Travis	Travis	78756	TX	6.24	26651	2/15/2012	30.32	-97.74
3257	Travis	Travis	78732	TX	6.48	23974	2/15/2012	30.38	-97.89
3258	Travis	Travis	78705	TX	8.00	26036	2/15/2012	30.30	-97.74
3259	Travis	Travis	78704	TX	2.53	10368	2/15/2012	30.25	-97.77
3260	Bexar	Bexar	78257	TX	2.76	16293	2/16/2012	29.66	-98.58
3261	Bexar	Bexar	78069	TX	9.60	41000	2/16/2012	29.19	-98.67
3262	Bexar	Bexar	78233	TX	2.76	11084	2/16/2012	29.56	-98.36
3263	Bexar	Bexar	78259	TX	6.24	26520	2/16/2012	29.62	-98.43
3264	Bexar	Bexar	78209	TX	3.29	18260	2/16/2012	29.49	-98.45
3265	Bexar	Bexar	78209	TX	5.98	26570	2/16/2012	29.49	-98.45
3266	Bexar	Bexar	78225	TX	33.80	143143	2/16/2012	29.39	-98.53
3267	Bexar	Bexar	78209	TX	5.06	20746	2/16/2012	29.49	-98.45
3268	Kendall	Bexar	78015	TX	6.44	24445	2/16/2012	29.75	-98.65
3269	Travis	Travis	78731	TX	1.27		2/16/2012	30.35	-97.77
3270	Travis	Travis	78745	TX	6.19	27332	2/16/2012	30.22	-97.80
3271	Travis	Travis	78745	TX	7.25	43530	2/16/2012	30.22	-97.80
3272	Bexar	Bexar	78217	TX	5.30	24288	2/17/2012	29.54	-98.42
3273	Bexar	Bexar	78209	TX	9.66	34182	2/17/2012	29.49	-98.45
3274	Galveston	Galveston	77546	TX	10.12	52389	2/20/2012	29.54	-95.20
3275	Travis	Travis	78734	TX	3.18	15558	2/21/2012	30.37	-97.95
3276	Travis	Travis	78734	TX	3.18	17661	2/21/2012	30.37	-97.95
3277	Travis	Travis	78749	TX	2.44	11146	2/21/2012	30.22	-97.86
3278	Travis	Travis	78754	TX	5.79	19500	2/22/2012	30.36	-97.65
3279	Travis	Travis	78724	TX	9.73	40560	2/22/2012	30.29	-97.62
3280	Travis	Travis	78728	TX	2.32		2/22/2012	30.46	-97.68

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3281	Travis	Travis	78757	TX	5.52	23073	2/23/2012	30.35	-97.74
3282	Travis	Travis	78728	TX	6.24	20280	2/23/2012	30.46	-97.68
3283	Travis	Travis	78724	TX	6.24	20280	2/23/2012	30.29	-97.62
3284	Travis	Travis	78745	TX	6.35	27332	2/23/2012	30.22	-97.80
3285	Travis	Travis	78734	TX	3.33	15558	2/23/2012	30.37	-97.95
3286	Travis	Travis	78745	TX	2.58	15490	2/23/2012	30.22	-97.80
3287	Travis	Travis	78734	TX	3.33	17661	2/23/2012	30.37	-97.95
3288	Travis	Travis	78731	TX	6.24	28040	2/23/2012	30.35	-97.77
3289	Travis	Travis	78746	TX	6.44	27075	2/23/2012	30.31	-97.82
3290	Travis	Travis	78746	TX	6.00	32062	2/23/2012	30.31	-97.82
3291	Travis	Travis	78731	TX	3.22	18041	2/23/2012	30.35	-97.77
3292	Travis	Travis	78733	TX	6.19	23974	2/24/2012	30.33	-97.87
3293	Bexar	Bexar	78216	TX	7.77	38694	2/27/2012	29.55	-98.50
3294	Bexar	Bexar	78255	TX	5.80	20880	2/27/2012	29.66	-98.67
3295	Travis	Travis	78732	TX	5.04	19435	2/27/2012	30.38	-97.89
3296	Travis	Travis	78745	TX	4.65	20600	2/27/2012	30.22	-97.80
3297	Travis	Travis	78745	TX	3.08	17757	2/27/2012	30.22	-97.80
3298	Bexar	Bexar	78254	TX	4.60	17127	2/28/2012	29.53	-98.78
3299	Montgomery	Montgomery	77302	TX	10.12	46267	2/29/2012	30.21	-95.33
3300	Dallas	Dallas	75006	TX	30.55		3/1/2012	32.97	-96.89
3301	Dallas	Dallas	75006	TX	30.55		3/1/2012	32.97	-96.89
3302	Travis	Travis	78727	TX	9.92	21874	3/1/2012	30.43	-97.71
3303	Travis	Travis	78727	TX	1.76	24640	3/1/2012	30.43	-97.71
3304	Travis	Travis	78754	TX	6.00	19500	3/1/2012	30.36	-97.65
3305	Travis	Travis	78757	TX	5.72	23073	3/1/2012	30.35	-97.74
3306	Travis	Travis	78732	TX	6.48	24677	3/1/2012	30.38	-97.89
3307	Travis	Travis	78732	TX	5.76	21296	3/1/2012	30.38	-97.89
3308	Travis	Travis	78749	TX	2.58	11146	3/1/2012	30.22	-97.86
3309	Travis	Travis	78733	TX	6.48	23974	3/1/2012	30.33	-97.87
3310	Bexar	Bexar	78261	TX	4.55	27941	3/2/2012	29.70	-98.41
3311	Bexar	Bexar	78260	TX	6.44	24276	3/2/2012	29.69	-98.50
3312	Tarrant	Tarrant	76248	TX	8.97		3/2/2012	32.93	-97.23
3313	Bexar	Bexar	78023	TX	9.87	37013	3/2/2012	29.62	-98.73
3314	Bexar	Bexar	78258	TX	5.64	22530	3/2/2012	29.65	-98.47
3315	Bexar	Bexar	78073	TX	5.52	24326	3/2/2012	29.24	-98.63
3316	Travis	Travis	78751	TX	5.79	20595	3/2/2012	30.31	-97.73
3317	Bexar	Bexar	78209	TX	7.29	32846	3/5/2012	29.49	-98.45
3318	Travis	Travis	78744	TX	5.67	22109	3/5/2012	30.20	-97.73
3319	Hidalgo	Nueces	78539	TX	3.06	14357	3/5/2012	26.27	-98.19
3320	El Paso	El Paso	79836	TX	217.10		3/5/2012	31.58	-106.23

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3321	Bexar	Bexar	78207	TX	26.88	122991	3/6/2012	29.42	-98.52
3322	Travis	Travis	78744	TX	5.56	18720	3/6/2012	30.20	-97.73
3323	Travis	Travis	78732	TX	7.48	27606	3/7/2012	30.38	-97.89
3324	Travis	Travis	78732	TX	1.68	16420	3/7/2012	30.38	-97.89
3325	Hidalgo	Nueces	78572	TX	11.28	51400	3/7/2012	26.20	-98.37
3326	Travis	Travis	78751	TX	6.00	20595	3/7/2012	30.31	-97.73
3327	Travis	Travis	78727	TX	6.30	24640	3/7/2012	30.43	-97.71
3328	Travis	Travis	78744	TX	5.88	22109	3/7/2012	30.20	-97.73
3329	Travis	Travis	78763	TX	18.72	98000	3/7/2012	30.30	-97.77
3330	Travis	Travis	78759	TX	5.78	23345	3/8/2012	30.40	-97.75
3331	Travis	Travis	78724	TX	4.63	15600	3/8/2012	30.29	-97.62
3332	Travis	Travis	78704	TX	5.00	27485	3/8/2012	30.25	-97.77
3333	Maverick	Bexar	78852	TX	6.48	31035	3/8/2012	28.80	-100.22
3334	Travis	Travis	78704	TX	2.55	11850	3/9/2012	30.25	-97.77
3335	Travis	Travis	78704	TX	3.69	16388	3/9/2012	30.25	-97.77
3336	Denton	Denton	76207	TX	5.64		3/12/2012	33.22	-97.19
3337	Bexar	Bexar	78253	TX	5.20	24856	3/14/2012	29.47	-98.81
3338	Bexar	Bexar	78233	TX	7.20	34560	3/14/2012	29.56	-98.36
3339	Bexar	Bexar	78239	TX	5.76	21072	3/14/2012	29.52	-98.36
3340	Bexar	Bexar	78232	TX	5.17	28435	3/14/2012	29.59	-98.46
3341	Bexar	Bexar	78230	TX	10.00	48377	3/14/2012	29.54	-98.56
3342	Bexar	Bexar	78249	TX	6.11	31000	3/14/2012	29.57	-98.61
3343	Bexar	Bexar	78230	TX	6.70	34608	3/14/2012	29.54	-98.56
3344	Bexar	Bexar	78261	TX	5.64	30722	3/14/2012	29.70	-98.41
3345	Bexar	Bexar	78255	TX	3.89	41623	3/15/2012	29.66	-98.67
3346	Bexar	Bexar	78245	TX	7.20	32838	3/15/2012	29.40	-98.74
3347	Travis	Travis	78744	TX	5.76	18720	3/15/2012	30.20	-97.73
3348	Travis	Travis	78732	TX	5.28	19435	3/15/2012	30.38	-97.89
3349	Travis	Travis	78732	TX	3.48	16420	3/15/2012	30.38	-97.89
3350	Travis	Travis	78732	TX	6.11	27606	3/15/2012	30.38	-97.89
3351	Travis	Travis	78745	TX	4.84	20600	3/15/2012	30.22	-97.80
3352	Travis	Travis	78703	TX	5.76	21874	3/15/2012	30.29	-97.77
3353	Bexar	Bexar	78223	TX	2.99	13103	3/20/2012	29.30	-98.41
3354	Bexar	Bexar	78207	TX	48.00	391634	3/22/2012	29.42	-98.52
3355	Bexar	Bexar	78229	TX	132.60	798617	3/22/2012	29.51	-98.58
3356	Bexar	Bexar	78207	TX	141.68	761459	3/22/2012	29.42	-98.52
3357	Bexar	Bexar	78263	TX	5.28	18976	3/22/2012	29.36	-98.32
3358	Travis	Travis	78724	TX	4.80	15600	3/22/2012	30.29	-97.62
3359	Travis	Travis	78704	TX	2.66	11850	3/22/2012	30.25	-97.77
3360	Bell	Williamson	76544	TX	684.00	3000000	3/27/2012	31.12	-97.79

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3361	Bexar	Bexar	78209	TX	5.00	21697	3/27/2012	29.49	-98.45
3362	Bexar	Bexar	78217	TX	6.38	24244	3/27/2012	29.54	-98.42
3363	Bexar	Bexar	78255	TX	4.32	24955	3/27/2012	29.66	-98.67
3364	Bexar	Bexar	78209	TX	4.70	26085	3/27/2012	29.49	-98.45
3365	El Paso	El Paso	79934	TX	10.24	62190	3/27/2012	31.98	-106.42
3366	Travis	Travis	78758	TX	6.00	19500	3/29/2012	30.39	-97.70
3367	Travis	Travis	78735	TX	5.25	20338	3/29/2012	30.26	-97.86
3368	Travis	Travis	78733	TX	6.48	24975	3/29/2012	30.33	-97.87
3369	Travis	Travis	78735	TX	6.24	23088	3/29/2012	30.26	-97.86
3370	Travis	Travis	78735	TX	6.25	20313	3/29/2012	30.26	-97.86
3371	Travis	Travis	78723	TX	4.07	12243	3/29/2012	30.31	-97.68
3372	Travis	Travis	78730	TX	6.24	22919	3/29/2012	30.37	-97.84
3373	Travis	Travis	78731	TX	6.30	21389	3/29/2012	30.35	-97.77
3374	Travis	Travis	78704	TX	3.80	17222	3/29/2012	30.25	-97.77
3375	Travis	Travis	78746	TX	1.52	5746	3/29/2012	30.31	-97.82
3376	Travis	Travis	78727	TX	6.76	24637	3/29/2012	30.43	-97.71
3377	Travis	Travis	78704	TX	3.42	14826	3/29/2012	30.25	-97.77
3378	Travis	Travis	78704	TX	4.56	19492	3/29/2012	30.25	-97.77
3379	Travis	Travis	78704	TX	2.66	11850	3/29/2012	30.25	-97.77
3380	Travis	Travis	78704	TX	4.18	17868	3/29/2012	30.25	-97.77
3381	Travis	Travis	78704	TX	4.18	17929	3/29/2012	30.25	-97.77
3382	Travis	Travis	78704	TX	2.66	11850	3/29/2012	30.25	-97.77
3383	Travis	Travis	78704	TX	4.56	20855	3/29/2012	30.25	-97.77
3384	Travis	Travis	78704	TX	2.66	11850	3/29/2012	30.25	-97.77
3385	Travis	Travis	78750	TX	5.94	21705	3/29/2012	30.43	-97.80
3386	Bexar	Bexar	78258	TX	24.03	79299	3/30/2012	29.65	-98.47
3387	Bexar	Bexar	78210	TX	25.76	99102	4/2/2012	29.40	-98.47
3388	Bexar	Bexar	78229	TX	9.12	44561	4/2/2012	29.51	-98.58
3389	Bexar	Bexar	78261	TX	3.48	15777	4/4/2012	29.70	-98.41
3390	Bexar	Bexar	78261	TX	6.67	25346	4/4/2012	29.70	-98.41
3391	Bexar	Bexar	78256	TX	5.00	22529	4/4/2012	29.62	-98.62
3392	Bexar	Bexar	78230	TX	3.50	15342	4/4/2012	29.54	-98.56
3393	Bexar	Bexar	78237	TX	3.50	15490	4/4/2012	29.41	-98.57
3394	Bexar	Bexar	78251	TX	3.05	12335	4/4/2012	29.47	-98.68
3395	Bexar	Bexar	78260	TX	6.11	31161	4/4/2012	29.69	-98.50
3396	Bexar	Bexar	78232	TX	4.81	19096	4/4/2012	29.59	-98.46
3397	Bexar	Bexar	78261	TX	4.35	19140	4/4/2012	29.70	-98.41
3398	Bexar	Bexar	78250	TX	5.80	26726	4/4/2012	29.50	-98.67
3399	Dallas	Dallas	75006	TX	3.15	20530	4/4/2012	32.97	-96.89
3400	El Paso	El Paso	79934	TX	4.31	26622	4/4/2012	31.98	-106.42

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3401	El Paso	El Paso	79912	TX	10.34	42394	4/5/2012	31.86	-106.55
3402	Travis	Travis	78736	TX	6.00	19500	4/5/2012	30.25	-97.95
3403	Travis	Travis	78732	TX	5.40	21120	4/5/2012	30.38	-97.89
3404	Travis	Travis	78732	TX	6.58	29434	4/5/2012	30.38	-97.89
3405	Travis	Travis	78704	TX	4.56	19492	4/5/2012	30.25	-97.77
3406	Travis	Travis	78731	TX	4.86	18977	4/5/2012	30.35	-97.77
3407	Bexar	Bexar	78258	TX	6.48	23198	4/6/2012	29.65	-98.47
3408	Bexar	Bexar	78213	TX	6.11	24588	4/9/2012	29.50	-98.52
3409	Bexar	Bexar	78261	TX	24.96	129792	4/9/2012	29.70	-98.41
3410	Collin	Collin	75070	TX	5.51	32333	4/10/2012	33.18	-96.70
3411	Dallas	Dallas	75211	TX	1.65	9050	4/11/2012	32.74	-96.89
3412	Comal	Comal	78266	TX	18.10	87103	4/11/2012	29.63	-98.32
3413	Comal	Comal	78266	TX	28.91	135350	4/11/2012	29.63	-98.32
3414	Bexar	Bexar	78209	TX	4.60	18501	4/12/2012	29.49	-98.45
3415	Bexar	Bexar	78233	TX	5.52	22818	4/12/2012	29.56	-98.36
3416	Bexar	Bexar	78240	TX	5.00	24600	4/13/2012	29.53	-98.61
3417	Gregg	Gregg	75605	TX	10.00	37000	4/13/2012	32.56	-94.71
3418	Travis	Travis	78748	TX	6.00	23880	4/13/2012	30.17	-97.82
3419	Travis	Travis	78746	TX	6.25	22500	4/13/2012	30.31	-97.82
3420	Travis	Travis	78748	TX	5.40	21086	4/13/2012	30.17	-97.82
3421	Travis	Travis	78759	TX	6.12	23345	4/13/2012	30.40	-97.75
3422	El Paso	El Paso	79904	TX	10.24	62190	4/17/2012	31.87	-106.48
3423	Dallas	Dallas	75082	TX	2.40	10700	4/18/2012	33.00	-96.66
3424	Travis	Travis	78753	TX	5.50	20625	4/19/2012	30.39	-97.67
3425	Travis	Travis	78753	TX	6.00	20600	4/19/2012	30.39	-97.67
3426	Jim Wells	Nueces	78332	TX	2.35	10700	4/19/2012	27.74	-98.09
3427	Dallas	Dallas	75211	TX	1.65	9050	4/19/2012	32.74	-96.89
3428	Travis	Travis	78747	TX	6.50	24500	4/19/2012	30.13	-97.73
3429	Travis	Travis	78744	TX	6.25	23438	4/19/2012	30.20	-97.73
3430	Travis	Travis	78735	TX	6.00	23225	4/19/2012	30.26	-97.86
3431	Travis	Travis	78744	TX	5.50	20750	4/19/2012	30.20	-97.73
3432	Travis	Travis	78732	TX	6.11	25482	4/19/2012	30.38	-97.89
3433	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3434	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3435	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3436	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3437	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3438	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3439	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3440	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3441	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3442	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3443	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3444	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3445	Dallas	Dallas	75212	TX	0.92	7820	4/20/2012	32.78	-96.88
3446	Bexar	Bexar	78210	TX	5.94	22269	4/23/2012	29.40	-98.47
3447	Bexar	Bexar	78253	TX	10.32	39883	4/24/2012	29.47	-98.81
3448	Bexar	Bexar	78148	TX	35.72	190950	4/24/2012	29.55	-98.30
3449	Bexar	Bexar	78207	TX	6.58	36900	4/24/2012	29.42	-98.52
3450	Bexar	Bexar	78148	TX	6.58	35400	4/24/2012	29.55	-98.30
3451	Bexar	Bexar	78109	TX	6.58	33900	4/24/2012	29.47	-98.30
3452	Cameron	Nueces	78550	TX	5.64	25700	4/24/2012	26.26	-97.65
3453	Hidalgo	Nueces	78501	TX	11.28	51400	4/24/2012	26.22	-98.23
3454	Cameron	Nueces	78550	TX	5.64	25700	4/24/2012	26.26	-97.65
3455	Guadalupe	Guadalupe	78154	TX	46.08		4/25/2012	29.59	-98.28
3456	Travis	Travis	78747	TX	6.13	23275	4/25/2012	30.13	-97.73
3457	Travis	Travis	78745	TX	3.19	12103	4/25/2012	30.22	-97.80
3458	Travis	Travis	78727	TX	9.24	29990	4/25/2012	30.43	-97.71
3459	Travis	Travis	78723	TX	5.76	19095	4/25/2012	30.31	-97.68
3460	Hood	Hood	76049	TX	2.85	18269	4/30/2012	32.46	-97.72
3461	Bexar	Bexar	78258	TX	6.09	27405	5/2/2012	29.65	-98.47
3462	Bexar	Bexar	78249	TX	4.35	15008	5/2/2012	29.57	-98.61
3463	El Paso	El Paso	79907	TX	167.55	1080000	5/2/2012	31.71	-106.33
3464	Travis	Travis	78744	TX	6.00	22500	5/3/2012	30.20	-97.73
3465	Travis	Travis	78748	TX	6.00	23880	5/3/2012	30.17	-97.82
3466	Travis	Travis	78724	TX	3.50	12600	5/3/2012	30.29	-97.62
3467	Travis	Travis	78759	TX	5.94	22775	5/3/2012	30.40	-97.75
3468	Travis	Travis	78746	TX	3.75	14800	5/3/2012	30.31	-97.82
3469	Travis	Travis	78731	TX	5.64	21413	5/3/2012	30.35	-97.77
3470	Travis	Travis	78734	TX	6.00	22500	5/3/2012	30.37	-97.95
3471	Travis	Travis	78759	TX	2.75	9900	5/3/2012	30.40	-97.75
3472	Travis	Travis	78759	TX	5.76	23952	5/3/2012	30.40	-97.75
3473	Travis	Travis	78732	TX	6.38	27112	5/3/2012	30.38	-97.89
3474	Travis	Travis	78731	TX	5.00	21737	5/3/2012	30.35	-97.77
3475	Travis	Travis	78723	TX	6.50	24275	5/3/2012	30.31	-97.68
3476	Travis	Travis	78704	TX	3.80	16388	5/3/2012	30.25	-97.77
3477	Travis	Travis	78735	TX	6.48	22709	5/3/2012	30.26	-97.86
3478	Bexar	Bexar	78260	TX	7.59	28089	5/4/2012	29.69	-98.50
3479	Bexar	Bexar	78232	TX	9.87	39993	5/4/2012	29.59	-98.46
3480	Bexar	Bexar	78023	TX	4.35	21228	5/4/2012	29.62	-98.73

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
3481	Duval	Nueces	78341	TX	6.84	38451	5/4/2012	27.62	-98.53
3482	Bexar	Bexar	78231	TX	12.65	59016	5/7/2012	29.58	-98.54
3483	Williamson	Williamson	78665	TX	8.50	32000	5/7/2012	30.55	-97.62
3484	El Paso	El Paso	79925	TX	3.53	17520	5/7/2012	31.80	-106.36
3485	El Paso	El Paso	79922	TX	7.05	19470	5/7/2012	31.83	-106.58
3486	El Paso	El Paso	79925	TX	20.68	84788	5/7/2012	31.80	-106.36
3487	Tarrant	Tarrant	76133	TX	2.76	16560	5/9/2012	32.65	-97.38
3488	Travis	Travis	78733	TX	6.24	25200	5/9/2012	30.33	-97.87
3489	Travis	Travis	78744	TX	3.52	20790	5/9/2012	30.20	-97.73
3490	Travis	Travis	78744	TX	3.52	20790	5/9/2012	30.20	-97.73
3491	Travis	Travis	78617	TX	3.52	21301	5/9/2012	30.15	-97.59
3492	Travis	Travis	78617	TX	3.50	20790	5/9/2012	30.15	-97.59
3493	Travis	Travis	78744	TX	3.52	21301	5/9/2012	30.20	-97.73
3494	Travis	Travis	78744	TX	3.50	20790	5/9/2012	30.20	-97.73
3495	Travis	Travis	78744	TX	3.52	21049	5/9/2012	30.20	-97.73
3496	Travis	Travis	78747	TX	3.50	20790	5/9/2012	30.13	-97.73
3497	Travis	Travis	78747	TX	3.52	21242	5/9/2012	30.13	-97.73
3498	Travis	Travis	78747	TX	3.52	21242	5/9/2012	30.13	-97.73
3499	Bexar	Bexar	78245	TX	5.28	27427	5/10/2012	29.40	-98.74
3500	Bexar	Bexar	78207	TX	5.06	20493	5/10/2012	29.42	-98.52
3501	Guadalupe	Guadalupe	78154	TX	16.30	84069	5/11/2012	29.59	-98.28
3502	Bexar	Bexar	78259	TX	25.92	57008	5/11/2012	29.62	-98.43
3503	El Paso	El Paso	79934	TX	5.64	21432	5/13/2012	31.98	-106.42
3504	Callahan	Hood	79510	TX	10.80	75600	5/16/2012	32.22	-99.50
3505	Callahan	Hood	79510	TX	10.80	75600	5/16/2012	32.22	-99.50
3506	Bexar	Bexar	78256	TX	23.35	157222	5/17/2012	29.62	-98.62
3507	Bexar	Bexar	78257	TX	6.53	29588	5/17/2012	29.66	-98.58
3508	Bexar	Bexar	78258	TX	4.35	20010	5/17/2012	29.65	-98.47
3509	Bexar	Bexar	78209	TX	6.67	26846	5/17/2012	29.49	-98.45
3510	Bexar	Bexar	78249	TX	4.35	15008	5/17/2012	29.57	-98.61
3511	Bexar	Bexar	78254	TX	4.60	19043	5/17/2012	29.53	-98.78
3512	Travis	Travis	78754	TX	6.25	23437	5/17/2012	30.36	-97.65
3513	Travis	Travis	78723	TX	6.00	22625	5/17/2012	30.31	-97.68
3514	Travis	Travis	78748	TX	4.66	18527	5/17/2012	30.17	-97.82
3515	Travis	Travis	78745	TX	3.19	12103	5/17/2012	30.22	-97.80
3516	Travis	Travis	78748	TX	4.66	18527	5/17/2012	30.17	-97.82
3517	Travis	Travis	78745	TX	3.00	11400	5/17/2012	30.22	-97.80
3518	Travis	Travis	78748	TX	5.39	20482	5/17/2012	30.17	-97.82
3519	Travis	Travis	78724	TX	6.25	22500	5/17/2012	30.29	-97.62
3520	Travis	Travis	78745	TX	5.04	21462	5/17/2012	30.22	-97.80

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3521	Travis	Travis	78753	TX	3.06	14300	5/17/2012	30.39	-97.67
3522	Travis	Travis	78750	TX	6.58	26517	5/17/2012	30.43	-97.80
3523	Travis	Travis	78704	TX	4.37	19591	5/17/2012	30.25	-97.77
3524	Travis	Travis	78744	TX	3.52	21301	5/17/2012	30.20	-97.73
3525	Travis	Travis	78747	TX	3.52	21301	5/17/2012	30.13	-97.73
3526	Collin	Collin	75023	TX	2.55	15096	5/18/2012	33.06	-96.73
3527	El Paso	El Paso	79936	TX	15.84	75695	5/18/2012	31.76	-106.29
3528	Bell	Williamson	76549	TX	9.00	33750	5/22/2012	31.00	-97.81
3529	Bowie	Upshur	75501	TX	4.60	18000	5/23/2012	33.39	-94.13
3530	Taylor	Hood	79562	TX	10.80	75600	5/24/2012	32.25	-99.89
3531	Webb	Nueces	78045	TX	1.74	7000	5/24/2012	27.82	-99.68
3532	Travis	Travis	78748	TX	4.34	16110	5/24/2012	30.17	-97.82
3533	Travis	Travis	78732	TX	8.36	26794	5/24/2012	30.38	-97.89
3534	Travis	Travis	78732	TX	3.63	14467	5/24/2012	30.38	-97.89
3535	Travis	Travis	78753	TX	6.63	25352	5/24/2012	30.39	-97.67
3536	Travis	Travis	78749	TX	14.88	44760	5/27/2012	30.22	-97.86
3537	Cherokee	Smith	75766	TX	10.37	48000	5/28/2012	31.93	-95.27
3538	Bexar	Bexar	78261	TX	5.22	23686	5/29/2012	29.70	-98.41
3539	Bexar	Bexar	78217	TX	6.11	30352	5/29/2012	29.54	-98.42
3540	Bexar	Bexar	78247	TX	5.06	19270	5/29/2012	29.59	-98.41
3541	Bexar	Bexar	78255	TX	6.00	27681	5/29/2012	29.66	-98.67
3542	Williamson	Williamson	78665	TX	6.25	23438	5/29/2012	30.55	-97.62
3543	Ellis	Ellis	75154	TX	1.11	5915	5/29/2012	32.51	-96.77
3544	Nueces	Nueces	78412	TX	9.00	45214	5/29/2012	27.70	-97.35
3545	Bexar	Bexar	78023	TX	5.04	22447	5/30/2012	29.62	-98.73
3546	Tarrant	Tarrant	76002	TX	7.76	27500	5/30/2012	32.63	-97.09
3547	Collin	Collin	75023	TX	4.60	16560	5/30/2012	33.06	-96.73
3548	Travis	Travis	78748	TX	6.13	24378	5/30/2012	30.17	-97.82
3549	Bexar	Bexar	78247	TX	3.42	15390	6/1/2012	29.59	-98.41
3550	El Paso	El Paso	79935	TX	7.85	45102	6/1/2012	31.76	-106.33
3551	El Paso	El Paso	79912	TX	7.68	46830	6/1/2012	31.86	-106.55
3552	Bexar	Bexar	78255	TX	11.70	51716	6/4/2012	29.66	-98.67
3553	Comal	Comal	78266	TX	7.98	33256	6/4/2012	29.63	-98.32
3554	Bexar	Bexar	78261	TX	9.60	52800	6/4/2012	29.70	-98.41
3555	Dallas	Dallas	75243	TX	8.46		6/4/2012	32.91	-96.74
3556	El Paso	El Paso	79928	TX	9.24	55440	6/4/2012	31.66	-106.13
3557	Hidalgo	Nueces	78537	TX	11.28	49400	6/4/2012	26.16	-98.06
3558	El Paso	El Paso	79927	TX	6.11	18330	6/5/2012	31.64	-106.28
3559	Bexar	Bexar	78255	TX	4.35	20010	6/6/2012	29.66	-98.67
3560	Bexar	Bexar	78255	TX	6.67	32651	6/6/2012	29.66	-98.67

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
3561	Bexar	Bexar	78258	TX	4.35	20010	6/6/2012	29.65	-98.47
3562	Bexar	Bexar	78258	TX	8.33	35122	6/6/2012	29.65	-98.47
3563	Bexar	Bexar	78152	TX	20.70	77550	6/6/2012	29.42	-98.20
3564	Bexar	Bexar	78023	TX	8.60	43027	6/6/2012	29.62	-98.73
3565	Bexar	Bexar	78249	TX	28.91	124900	6/6/2012	29.57	-98.61
3566	Bexar	Bexar	78254	TX	28.91	124900	6/6/2012	29.53	-98.78
3567	Comal	Comal	78266	TX	8.99	30926	6/6/2012	29.63	-98.32
3568	Bexar	Bexar	78251	TX	7.79	32622	6/7/2012	29.47	-98.68
3569	Travis	Travis	78735	TX	6.25	23438	6/7/2012	30.26	-97.86
3570	Johnson	Johnson	76031	TX	8.97	29566	6/7/2012	32.35	-97.33
3571	Dallas	Dallas	75244	TX	11.28	50760	6/7/2012	32.93	-96.84
3572	Dallas	Dallas	75244	TX	7.05	31725	6/7/2012	32.93	-96.84
3573	Dallas	Dallas	75244	TX	10.34	46530	6/7/2012	32.93	-96.84
3574	Dallas	Dallas	75244	TX	6.11	27495	6/7/2012	32.93	-96.84
3575	Dallas	Dallas	75244	TX	25.38	114210	6/7/2012	32.93	-96.84
3576	Dallas	Dallas	75244	TX	18.33	82485	6/7/2012	32.93	-96.84
3577	Dallas	Dallas	75244	TX	9.17	41243	6/7/2012	32.93	-96.84
3578	Dallas	Dallas	75244	TX	9.17	41243	6/7/2012	32.93	-96.84
3579	Travis	Travis	78744	TX	6.00	20625	6/7/2012	30.20	-97.73
3580	Travis	Travis	78759	TX	6.25	23563	6/7/2012	30.40	-97.75
3581	Travis	Travis	78748	TX	6.37	24525	6/7/2012	30.17	-97.82
3582	Travis	Travis	78735	TX	6.25	23563	6/7/2012	30.26	-97.86
3583	Travis	Travis	78732	TX	6.00	23334	6/7/2012	30.38	-97.89
3584	Travis	Travis	78735	TX	5.75	21688	6/7/2012	30.26	-97.86
3585	Travis	Travis	78732	TX	5.08	19437	6/7/2012	30.38	-97.89
3586	Travis	Travis	78703	TX	3.60	13847	6/7/2012	30.29	-97.77
3587	Travis	Travis	78759	TX	4.00	12400	6/7/2012	30.40	-97.75
3588	Travis	Travis	78701	TX	1.71	7487	6/7/2012	30.27	-97.74
3589	Travis	Travis	78701	TX	1.71	7487	6/7/2012	30.27	-97.74
3590	Travis	Travis	78701	TX	1.71	7487	6/7/2012	30.27	-97.74
3591	Travis	Travis	78701	TX	1.71	7487	6/7/2012	30.27	-97.74
3592	Dallas	Dallas	75229	TX	6.48	23680	6/8/2012	32.90	-96.87
3593	Dallas	Dallas	75052	TX	3.24	12540	6/8/2012	32.68	-97.03
3594	Dallas	Dallas	75089	TX	8.70	33189	6/8/2012	32.94	-96.55
3595	Bexar	Bexar	78261	TX	5.00	15335	6/11/2012	29.70	-98.41
3596	Bexar	Bexar	78261	TX	5.40	21576	6/11/2012	29.70	-98.41
3597	Bexar	Bexar	78239	TX	5.60	23124	6/11/2012	29.52	-98.36
3598	Bexar	Bexar	78216	TX	28.91	124900	6/11/2012	29.55	-98.50
3599	Bexar	Bexar	78216	TX	28.91	124900	6/11/2012	29.55	-98.50
3600	Bexar	Bexar	78251	TX	28.91	124900	6/11/2012	29.47	-98.68

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3601	Bexar	Bexar	78251	TX	28.91	124900	6/11/2012	29.47	-98.68
3602	Denton	Denton	75056	TX	10.80	37177	6/11/2012	33.08	-96.91
3603	Dallas	Dallas	75006	TX	1.84	11791	6/11/2012	32.97	-96.89
3604	Wichita	Denton	76367	TX	4.86	46916	6/12/2012	33.95	-98.73
3605	El Paso	El Paso	79936	TX	2.01	6225	6/12/2012	31.76	-106.29
3606	Bosque	Hood	76665	TX	1.44		6/13/2012	31.92	-97.72
3607	Dallas	Dallas	75218	TX	4.80	16000	6/13/2012	32.84	-96.70
3608	Palo Pinto	Parker	76067	TX	5.40	18900	6/13/2012	32.77	-98.18
3609	Aransas	San Patricio	78382	TX	3.76	22781	6/15/2012	28.09	-97.07
3610	Dallas	Dallas	75150	TX	4.13	33000	6/16/2012	32.82	-96.63
3611	Travis	Travis	78732	TX	8.40	36795	6/17/2012	30.38	-97.89
3612	Bexar	Bexar	78221	TX	23132.00	88733345	6/18/2012	29.30	-98.50
3613	El Paso	El Paso	79836	TX	10.56	47973	6/18/2012	31.57	-106.19
3614	Brazoria	Brazoria	77515	TX	7.11	15425	6/19/2012	29.17	-95.44
3615	Tarrant	Tarrant	76137	TX	5.50	16398	6/19/2012	32.85	-97.30
3616	Archer	Parker	76366	TX	10.80	104258	6/19/2012	33.71	-98.79
3617	Travis	Travis	78739	TX	7.00	23438	6/20/2012	30.19	-97.90
3618	Dallas	Dallas	75230	TX	9.90	66040	6/20/2012	32.90	-96.79
3619	Travis	Travis	78723	TX	6.25	23563	6/20/2012	30.31	-97.68
3620	Travis	Travis	78734	TX	6.25	23438	6/20/2012	30.37	-97.95
3621	Travis	Travis	78732	TX	6.00	23335	6/20/2012	30.38	-97.89
3622	Travis	Travis	78732	TX	9.25	20313	6/20/2012	30.38	-97.89
3623	Travis	Travis	78734	TX	6.25	23437	6/20/2012	30.37	-97.95
3624	Travis	Travis	78732	TX	4.50	17100	6/20/2012	30.38	-97.89
3625	Travis	Travis	78730	TX	6.24	26880	6/20/2012	30.37	-97.84
3626	Travis	Travis	78732	TX	6.00	23334	6/20/2012	30.38	-97.89
3627	Travis	Travis	78732	TX	4.35	16651	6/20/2012	30.38	-97.89
3628	Travis	Travis	78732	TX	5.80	23147	6/20/2012	30.38	-97.89
3629	Travis	Travis	78732	TX	4.64	18518	6/20/2012	30.38	-97.89
3630	Travis	Travis	78731	TX	6.25	26460	6/20/2012	30.35	-97.77
3631	Travis	Travis	78732	TX	9.50	39615	6/20/2012	30.38	-97.89
3632	Travis	Travis	78702	TX	1.71	7199	6/20/2012	30.26	-97.71
3633	Travis	Travis	78734	TX	4.56	18240	6/20/2012	30.37	-97.95
3634	Travis	Travis	78748	TX	6.30	25200	6/20/2012	30.17	-97.82
3635	Tarrant	Tarrant	76103	TX	4.14	26303	6/21/2012	32.75	-97.26
3636	Hunt	Hunt	75401	TX	6.44	25938	6/22/2012	33.17	-96.17
3637	Bexar	Bexar	78260	TX	6.11	24725	6/25/2012	29.69	-98.50
3638	Bexar	Bexar	78258	TX	6.96	24247	6/25/2012	29.65	-98.47
3639	Bexar	Bexar	78251	TX	5.40	19973	6/25/2012	29.47	-98.68
3640	Tarrant	Tarrant	76148	TX	8.46	30636	6/25/2012	32.86	-97.25

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
3641	Mclennan	Ellis	76712	TX	100.80	500000	6/25/2012	31.53	-97.29
3642	Dallas	Dallas	75218	TX	8.28	43198	6/26/2012	32.84	-96.70
3643	Bexar	Bexar	78207	TX	27.26	108495	6/27/2012	29.42	-98.52
3644	Bexar	Bexar	78023	TX	7.92	39525	6/27/2012	29.62	-98.73
3645	Bexar	Bexar	78249	TX	9.86	46072	6/27/2012	29.57	-98.61
3646	Nueces	Nueces	78412	TX	9.00	38264	6/27/2012	27.70	-97.35
3647	Bexar	Bexar	78254	TX	10.32	39800	6/28/2012	29.53	-98.78
3648	Ellis	Ellis	75119	TX	11.28	50552	6/28/2012	32.32	-96.62
3649	Brown	Hood	76801	TX	1.32	6270	6/29/2012	31.81	-99.06
3650	Brown	Hood	76801	TX	9.69	59280	6/29/2012	31.81	-99.06
3651	Taylor	Hood	79562	TX	9.72	46456	6/29/2012	32.25	-99.89
3652	Cameron	Nueces	78550	TX	5.64	25700	7/2/2012	26.26	-97.65
3653	Kendall	Bexar	78015	TX	14.25	54538	7/3/2012	29.75	-98.65
3654	Bexar	Bexar	78253	TX	8.70	36105	7/3/2012	29.47	-98.81
3655	Bexar	Bexar	78253	TX	5.76	21600	7/3/2012	29.47	-98.81
3656	Bexar	Bexar	78209	TX	10.80	59885	7/3/2012	29.49	-98.45
3657	Bexar	Bexar	78260	TX	3.19	8944	7/5/2012	29.69	-98.50
3658	Bexar	Bexar	78023	TX	4.80	28800	7/5/2012	29.62	-98.73
3659	Nueces	Nueces	78418	TX	4.50	22414	7/5/2012	27.62	-97.29
3660	Bexar	Bexar	78148	TX	7.99	28914	7/5/2012	29.55	-98.30
3661	Travis	Travis	78733	TX	5.88	21600	7/5/2012	30.33	-97.87
3662	Travis	Travis	78747	TX	6.00	22500	7/5/2012	30.13	-97.73
3663	Travis	Travis	78724	TX	6.00	22500	7/5/2012	30.29	-97.62
3664	Travis	Travis	78758	TX	5.50	20750	7/5/2012	30.39	-97.70
3665	Travis	Travis	78732	TX	6.00	24300	7/5/2012	30.38	-97.89
3666	Travis	Travis	78753	TX	4.00	15000	7/5/2012	30.39	-97.67
3667	Travis	Travis	78727	TX	6.25	23438	7/5/2012	30.43	-97.71
3668	Travis	Travis	78738	TX	6.72	29232	7/5/2012	30.30	-97.97
3669	Travis	Travis	78745	TX	3.00	11400	7/5/2012	30.22	-97.80
3670	Travis	Travis	78747	TX	6.24	25800	7/5/2012	30.13	-97.73
3671	Travis	Travis	78753	TX	5.87	22119	7/5/2012	30.39	-97.67
3672	Travis	Travis	78724	TX	5.25	19688	7/5/2012	30.29	-97.62
3673	Travis	Travis	78732	TX	5.50	21390	7/5/2012	30.38	-97.89
3674	Travis	Travis	78748	TX	7.92	26534	7/5/2012	30.17	-97.82
3675	Travis	Travis	78732	TX	6.25	24923	7/5/2012	30.38	-97.89
3676	Travis	Travis	78732	TX	6.25	24168	7/5/2012	30.38	-97.89
3677	Travis	Travis	78746	TX	6.25	23750	7/5/2012	30.31	-97.82
3678	Bexar	Bexar	78217	TX	3.84	19200	7/5/2012	29.54	-98.42
3679	Bexar	Bexar	78261	TX	4.50	20858	7/5/2012	29.70	-98.41
3680	Bexar	Bexar	78258	TX	5.22	23686	7/5/2012	29.65	-98.47

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3681	Rockwall	Rockwall	75032	TX	10.12	42435	7/6/2012	32.86	-96.42
3682	Dallas	Dallas	75063	TX	5.52	23246	7/6/2012	32.91	-96.99
3683	Cherokee	Smith	75766	TX	9.63	42950	7/7/2012	31.93	-95.27
3684	Harris	Harris	77024	TX	813.00		7/9/2012	29.78	-95.47
3685	Williamson	Williamson	78634	TX	9.00	34900	7/9/2012	30.56	-97.55
3686	Dallas	Dallas	75080	TX	9.36		7/10/2012	32.95	-96.73
3687	Parker	Parker	76008	TX	6.44	24828	7/10/2012	32.69	-97.63
3688	Tarrant	Tarrant	76132	TX	10.56		7/11/2012	32.66	-97.42
3689	Williamson	Williamson	78665	TX	6.25	22118	7/11/2012	30.55	-97.62
3690	Mclennan	Ellis	76712	TX	9.75	30930	7/12/2012	31.53	-97.29
3691	Bell	Williamson	76542	TX	9.24	32192	7/12/2012	31.01	-97.72
3692	Travis	Travis	78617	TX	6.63	24850	7/12/2012	30.15	-97.59
3693	Travis	Travis	78732	TX	6.00	24300	7/12/2012	30.38	-97.89
3694	Travis	Travis	78732	TX	4.35	17360	7/12/2012	30.38	-97.89
3695	Travis	Travis	78748	TX	5.15	16721	7/12/2012	30.17	-97.82
3696	Travis	Travis	78732	TX	6.00	23147	7/12/2012	30.38	-97.89
3697	Travis	Travis	78738	TX	6.25	25279	7/12/2012	30.30	-97.97
3698	Travis	Travis	78730	TX	6.24	23000	7/12/2012	30.37	-97.84
3699	Travis	Travis	78745	TX	6.24	25081	7/12/2012	30.22	-97.80
3700	Travis	Travis	78732	TX	5.22	23335	7/12/2012	30.38	-97.89
3701	Travis	Travis	78727	TX	6.00	22500	7/12/2012	30.43	-97.71
3702	Travis	Travis	78732	TX	6.25	24307	7/12/2012	30.38	-97.89
3703	Travis	Travis	78732	TX	5.75	23147	7/12/2012	30.38	-97.89
3704	Travis	Travis	78731	TX	8.75	28875	7/12/2012	30.35	-97.77
3705	Travis	Travis	78745	TX	6.24	23914	7/12/2012	30.22	-97.80
3706	Travis	Travis	78723	TX	5.70	21456	7/12/2012	30.31	-97.68
3707	Travis	Travis	78723	TX	6.90	24730	7/12/2012	30.31	-97.68
3708	Travis	Travis	78731	TX	6.25	29372	7/12/2012	30.35	-97.77
3709	Guadalupe	Guadalupe	78154	TX	28.91	124900	7/13/2012	29.59	-98.28
3710	Tarrant	Tarrant	76126	TX	11.28	47199	7/13/2012	32.65	-97.50
3711	Bexar	Bexar	78232	TX	28.91	124900	7/13/2012	29.59	-98.46
3712	Tarrant	Tarrant	76016	TX	5.06	18216	7/15/2012	32.69	-97.18
3713	Dallas	Dallas	75233	TX	5.06	20791	7/16/2012	32.70	-96.87
3714	Mclennan	Ellis	76708	TX	9.00	48500	7/16/2012	31.62	-97.21
3715	El Paso	El Paso	79922	TX	3.84	14976	7/16/2012	31.83	-106.58
3716	Wichita	Denton	76310	TX	11.88	95040	7/16/2012	33.79	-98.51
3717	Bexar	Bexar	78228	TX	5.20	23524	7/17/2012	29.46	-98.56
3718	Bexar	Bexar	78207	TX	49.92	254713	7/17/2012	29.42	-98.52
3719	Williamson	Williamson	76530	TX	8.88	30271	7/17/2012	30.71	-97.42
3720	Bexar	Bexar	78259	TX	1.40	22896	7/17/2012	29.62	-98.43

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3721	Bexar	Bexar	78230	TX	7.99	39601	7/17/2012	29.54	-98.56
3722	Bexar	Bexar	78261	TX	20.88	81432	7/17/2012	29.70	-98.41
3723	Bexar	Bexar	78258	TX	7.83	31535	7/17/2012	29.65	-98.47
3724	Bexar	Bexar	78240	TX	25.00	98850	7/17/2012	29.53	-98.61
3725	Bexar	Bexar	78259	TX	6.48	20252	7/17/2012	29.62	-98.43
3726	Bexar	Bexar	78257	TX	4.10	20692	7/17/2012	29.66	-98.58
3727	Bexar	Bexar	78263	TX	8.10	26723	7/17/2012	29.36	-98.32
3728	Bexar	Bexar	78259	TX	5.22	23686	7/17/2012	29.62	-98.43
3729	Bexar	Bexar	78023	TX	3.06	14353	7/18/2012	29.62	-98.73
3730	Bexar	Bexar	78258	TX	8.16	32503	7/18/2012	29.65	-98.47
3731	Dallas	Dallas	75236	TX	6.00		7/18/2012	32.69	-96.94
3732	Bexar	Bexar	78216	TX	4.99	32922	7/18/2012	29.55	-98.50
3733	El Paso	El Paso	79902	TX	9.60	57390	7/18/2012	31.79	-106.49
3734	Bexar	Bexar	78230	TX	11.75	45825	7/18/2012	29.54	-98.56
3735	Tarrant	Tarrant	76120	TX	51.94	233708	7/19/2012	32.77	-97.18
3736	Dallas	Dallas	75061	TX	14.57	65565	7/19/2012	32.82	-96.96
3737	Travis	Travis	78745	TX	6.63	23250	7/19/2012	30.22	-97.80
3738	Travis	Travis	78734	TX	6.25	23563	7/19/2012	30.37	-97.95
3739	Travis	Travis	78732	TX	6.00	24300	7/19/2012	30.38	-97.89
3740	Travis	Travis	78732	TX	5.00	20000	7/19/2012	30.38	-97.89
3741	Travis	Travis	78732	TX	6.00	23147	7/19/2012	30.38	-97.89
3742	Travis	Travis	78732	TX	5.80	23147	7/19/2012	30.38	-97.89
3743	Travis	Travis	78723	TX	6.24	25045	7/19/2012	30.31	-97.68
3744	Travis	Travis	78732	TX	6.25	22500	7/19/2012	30.38	-97.89
3745	Travis	Travis	78732	TX	6.00	21000	7/19/2012	30.38	-97.89
3746	Travis	Travis	78732	TX	6.25	22500	7/19/2012	30.38	-97.89
3747	Travis	Travis	78732	TX	4.75	17548	7/19/2012	30.38	-97.89
3748	Travis	Travis	78746	TX	6.24	29238	7/19/2012	30.31	-97.82
3749	Travis	Travis	78749	TX	4.95	31165	7/19/2012	30.22	-97.86
3750	Travis	Travis	78750	TX	6.24	29427	7/19/2012	30.43	-97.80
3751	Travis	Travis	78732	TX	6.24	24572	7/19/2012	30.38	-97.89
3752	Tarrant	Tarrant	76120	TX	24.44	109980	7/23/2012	32.77	-97.18
3753	Collin	Collin	75407	TX	3.68	19362	7/23/2012	33.16	-96.47
3754	Bosque	Hood	76689	TX	8.10	18351	7/23/2012	31.66	-97.55
3755	Tarrant	Tarrant	76132	TX	10.56	52536	7/23/2012	32.66	-97.42
3756	Dallas	Dallas	75052	TX	5.52	21341	7/23/2012	32.68	-97.03
3757	Denton	Denton	76210	TX	3.06	12500	7/23/2012	33.14	-97.08
3758	Tarrant	Tarrant	76120	TX	56.64	254858	7/23/2012	32.77	-97.18
3759	Tarrant	Tarrant	76120	TX	7.05	31725	7/23/2012	32.77	-97.18
3760	Tarrant	Tarrant	76120	TX	22.56	101520	7/23/2012	32.77	-97.18

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3761	Tarrant	Tarrant	76120	TX	11.28	50760	7/23/2012	32.77	-97.18
3762	Tarrant	Tarrant	76120	TX	6.11	27495	7/23/2012	32.77	-97.18
3763	Bexar	Bexar	78260	TX	10.15	43645	7/24/2012	29.69	-98.50
3764	Bexar	Bexar	78247	TX	4.64	23200	7/24/2012	29.59	-98.41
3765	Bexar	Bexar	78240	TX	6.50	31320	7/24/2012	29.53	-98.61
3766	Galveston	Galveston	77573	TX	5.39	13951	7/24/2012	29.49	-95.09
3767	Dallas	Dallas	75229	TX	2.41	29176	7/24/2012	32.90	-96.87
3768	Bexar	Bexar	78261	TX	3.48	16312	7/24/2012	29.70	-98.41
3769	Bexar	Bexar	78261	TX	5.22	23686	7/24/2012	29.70	-98.41
3770	Bexar	Bexar	78259	TX	3.30	11715	7/24/2012	29.62	-98.43
3771	Bexar	Bexar	78258	TX	5.06	20691	7/24/2012	29.65	-98.47
3772	Bexar	Bexar	78254	TX	5.00	23037	7/24/2012	29.53	-98.78
3773	Collin	Collin	75024	TX	5.15	36315	7/25/2012	33.08	-96.81
3774	Bexar	Bexar	78230	TX	4.23	24323	7/25/2012	29.54	-98.56
3775	El Paso	El Paso	79912	TX	3.36	23365	7/25/2012	31.86	-106.55
3776	Mclennan	Ellis	76705	TX	2.25	13500	7/25/2012	31.59	-97.07
3777	Dallas	Dallas	75219	TX	21.39	96233	7/25/2012	32.81	-96.81
3778	Dallas	Dallas	75219	TX	52.88	237938	7/25/2012	32.81	-96.81
3779	Bexar	Bexar	78205	TX	47.80	248102	7/25/2012	29.42	-98.49
3780	Bexar	Bexar	78258	TX	5.22	29841	7/25/2012	29.65	-98.47
3781	Bexar	Bexar	78260	TX	5.17	26109	7/25/2012	29.69	-98.50
3782	Bexar	Bexar	78221	TX	4.00	17920	7/25/2012	29.30	-98.50
3783	Bexar	Bexar	78112	TX	3.96	13583	7/25/2012	29.21	-98.39
3784	Bexar	Bexar	78228	TX	4.86	19996	7/25/2012	29.46	-98.56
3785	Bexar	Bexar	78228	TX	9.99	34166	7/25/2012	29.46	-98.56
3786	Bexar	Bexar	78231	TX	5.17	27574	7/25/2012	29.58	-98.54
3787	Bexar	Bexar	78263	TX	15.93	57672	7/25/2012	29.36	-98.32
3788	Bexar	Bexar	78258	TX	14.56	63821	7/25/2012	29.65	-98.47
3789	Bexar	Bexar	78261	TX	6.11	30389	7/25/2012	29.70	-98.41
3790	Dallas	Dallas	75061	TX	61.10	274950	7/26/2012	32.82	-96.96
3791	Gregg	Gregg	75601	TX	10.12	29000	7/26/2012	32.51	-94.72
3792	Wilbarger	Parker	76384	TX	10.80	104258	7/26/2012	34.20	-99.32
3793	Travis	Travis	78732	TX	5.00	18225	7/26/2012	30.38	-97.89
3794	Travis	Travis	78735	TX	5.39	20372	7/26/2012	30.26	-97.86
3795	Travis	Travis	78757	TX	6.25	23750	7/26/2012	30.35	-97.74
3796	Travis	Travis	78738	TX	5.80	23147	7/26/2012	30.30	-97.97
3797	Travis	Travis	78733	TX	9.60	35077	7/26/2012	30.33	-97.87
3798	Travis	Travis	78733	TX	7.26	26382	7/26/2012	30.33	-97.87
3799	Travis	Travis	78748	TX	6.00	27000	7/26/2012	30.17	-97.82
3800	Travis	Travis	78738	TX	11.00	39462	7/26/2012	30.30	-97.97

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
3801	Travis	Travis	78747	TX	4.00	16200	7/26/2012	30.13	-97.73
3802	Travis	Travis	78734	TX	3.87	12852	7/26/2012	30.37	-97.95
3803	Travis	Travis	78704	TX	5.24	27485	7/26/2012	30.25	-97.77
3804	Travis	Travis	78734	TX	3.68	14707	7/26/2012	30.37	-97.95
3805	Bexar	Bexar	78023	TX	5.40	21066	7/26/2012	29.62	-98.73
3806	Rockwall	Rockwall	75032	TX	10.12	43421	7/27/2012	32.86	-96.42
3807	Travis	Travis	78660	TX	2.76	15012	7/27/2012	30.43	-97.60
3808	Webb	Nueces	78043	TX	8.05	36500	7/27/2012	27.55	-99.26
3809	El Paso	El Paso	79912	TX	1.00	3000	7/27/2012	31.86	-106.55
3810	Denton	Denton	75065	TX	9.36	42214	7/30/2012	33.12	-97.02
3811	Nueces	Nueces	78414	TX	10.00	66845	7/30/2012	27.65	-97.36
3812	Tarrant	Tarrant	76034	TX	8.28	32854	7/30/2012	32.89	-97.15
3813	Williamson	Williamson	78626	TX	7.50	31957	7/30/2012	30.65	-97.63
3814	Smith	Smith	75771	TX	7.56	28000	7/30/2012	32.53	-95.41
3815	Dallas	Dallas	75243	TX	3.68	15047	7/30/2012	32.91	-96.74
3816	Angelina	Rusk	75904	TX	8.28	34272	7/30/2012	31.33	-94.83
3817	Gregg	Gregg	75605	TX	11.04	40627	7/30/2012	32.56	-94.71
3818	Hopkins	Hunt	75482	TX	87.78	343266	7/30/2012	33.18	-95.60
3819	Galveston	Galveston	77546	TX	7.92	40062	7/30/2012	29.54	-95.20
3820	Dallas	Dallas	75052	TX	7.82	36676	7/31/2012	32.68	-97.03
3821	Tarrant	Tarrant	76011	TX	1.92	9344	7/31/2012	32.75	-97.09
3822	Dallas	Dallas	75244	TX	8.28	36375	7/31/2012	32.93	-96.84
3823	Collin	Collin	75074	TX	5.06	21751	7/31/2012	33.02	-96.67
3824	Williamson	Williamson	78665	TX	10.00	38850	7/31/2012	30.55	-97.62
3825	Dallas	Dallas	75051	TX	4.70	17090	7/31/2012	32.73	-96.99
3826	Tarrant	Tarrant	76179	TX	10.00	44300	7/31/2012	32.92	-97.46
3827	Dallas	Dallas	75054	TX	3.40	13600	8/1/2012	32.59	-97.06
3828	Denton	Denton	75022	TX	11.04	17500	8/1/2012	33.03	-97.10
3829	Collin	Collin	75070	TX	8.50	36264	8/1/2012	33.18	-96.70
3830	Tarrant	Tarrant	76103	TX	4.14	16560	8/1/2012	32.75	-97.26
3831	Tarrant	Tarrant	76016	TX	5.52	21726	8/1/2012	32.69	-97.18
3832	Dallas	Dallas	75209	TX	9.89	39560	8/1/2012	32.85	-96.82
3833	Denton	Denton	75034	TX	912.00		8/2/2012	33.10	-96.82
3834	Williamson	Williamson	76574	TX	10.00	38500	8/2/2012	30.57	-97.37
3835	El Paso	El Paso	79930	TX	2.82	14587	8/2/2012	31.81	-106.47
3836	Travis	Travis	78741	TX	5.25	19938	8/2/2012	30.23	-97.71
3837	Travis	Travis	78733	TX	5.39	18326	8/2/2012	30.33	-97.87
3838	Travis	Travis	78617	TX	5.25	19813	8/2/2012	30.15	-97.59
3839	Travis	Travis	78759	TX	4.25	16188	8/2/2012	30.40	-97.75
3840	Travis	Travis	78750	TX	5.64	21413	8/2/2012	30.43	-97.80

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3841	Travis	Travis	78732	TX	6.38	24621	8/2/2012	30.38	-97.89
3842	Travis	Travis	78735	TX	14.75	65732	8/2/2012	30.26	-97.86
3843	Travis	Travis	78704	TX	2.93	20260	8/2/2012	30.25	-97.77
3844	Travis	Travis	78746	TX	6.12	27114	8/2/2012	30.31	-97.82
3845	Travis	Travis	78745	TX	3.24	17757	8/2/2012	30.22	-97.80
3846	Travis	Travis	78730	TX	6.11	28130	8/2/2012	30.37	-97.84
3847	Travis	Travis	78702	TX	3.06	15275	8/2/2012	30.26	-97.71
3848	Kendall	Bexar	78006	TX	10.00	40845	8/6/2012	29.92	-98.70
3849	Bexar	Bexar	78251	TX	4.17	22981	8/6/2012	29.47	-98.68
3850	Bell	Williamson	76549	TX	9.50	35850	8/6/2012	31.00	-97.81
3851	El Paso	El Paso	79936	TX	10.05	41000	8/6/2012	31.76	-106.29
3852	Bexar	Bexar	78209	TX	6.58	29610	8/6/2012	29.49	-98.45
3853	Bexar	Bexar	78209	TX	8.60	42595	8/6/2012	29.49	-98.45
3854	Bexar	Bexar	78251	TX	5.30	25397	8/6/2012	29.47	-98.68
3855	Bexar	Bexar	78255	TX	9.89	37608	8/6/2012	29.66	-98.67
3856	Bexar	Bexar	78209	TX	7.05	27743	8/6/2012	29.49	-98.45
3857	Bexar	Bexar	78231	TX	14.04	50039	8/6/2012	29.58	-98.54
3858	Bexar	Bexar	78247	TX	2.12	3670	8/6/2012	29.59	-98.41
3859	Bexar	Bexar	78218	TX	5.92	20898	8/6/2012	29.49	-98.39
3860	Bexar	Bexar	78002	TX	13.16	55290	8/6/2012	29.29	-98.73
3861	El Paso	El Paso	79932	TX	9.87	46733	8/8/2012	31.89	-106.62
3862	Travis	Travis	78704	TX	8.82	29850	8/9/2012	30.25	-97.77
3863	Travis	Travis	78754	TX	6.25	23350	8/9/2012	30.36	-97.65
3864	Travis	Travis	78732	TX	5.04	20254	8/9/2012	30.38	-97.89
3865	Travis	Travis	78738	TX	6.00	24300	8/9/2012	30.30	-97.97
3866	Travis	Travis	78738	TX	6.00	23335	8/9/2012	30.30	-97.97
3867	Travis	Travis	78723	TX	5.94	20783	8/9/2012	30.31	-97.68
3868	Travis	Travis	78732	TX	6.00	23147	8/9/2012	30.38	-97.89
3869	Bexar	Bexar	78069	TX	10000.00		8/13/2012	29.19	-98.67
3870	Bexar	Bexar	78069	TX	12322.00	47266655	8/13/2012	29.22	-98.67
3871	Anderson	Henderson	75763	TX	9.66	40480	8/13/2012	32.03	-95.54
3872	Ellis	Ellis	75154	TX	10.56		8/14/2012	32.51	-96.77
3873	Cherokee	Smith	75766	TX	2.96	13350	8/14/2012	31.93	-95.27
3874	Midland	El Paso	79705	TX	1.96	9448	8/14/2012	32.07	-102.09
3875	Ellis	Ellis	75119	TX	7.92	36613	8/14/2012	32.32	-96.62
3876	Dallas	Dallas	75006	TX	10.00	45500	8/16/2012	32.97	-96.89
3877	Travis	Travis	78703	TX	7.50	28125	8/16/2012	30.29	-97.77
3878	Travis	Travis	78744	TX	5.00	18875	8/16/2012	30.20	-97.73
3879	Travis	Travis	78747	TX	6.25	23438	8/16/2012	30.13	-97.73
3880	Travis	Travis	78727	TX	5.50	21075	8/16/2012	30.43	-97.71

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3881	Travis	Travis	78759	TX	6.00	23470	8/16/2012	30.40	-97.75
3882	Travis	Travis	78759	TX	6.25	24513	8/16/2012	30.40	-97.75
3883	Travis	Travis	78738	TX	6.00	24300	8/16/2012	30.30	-97.97
3884	Travis	Travis	78734	TX	6.00	22900	8/16/2012	30.37	-97.95
3885	Travis	Travis	78747	TX	6.25	23438	8/16/2012	30.13	-97.73
3886	Travis	Travis	78732	TX	6.00	23100	8/16/2012	30.38	-97.89
3887	Travis	Travis	78733	TX	6.25	20313	8/16/2012	30.33	-97.87
3888	Travis	Travis	78750	TX	6.00	23300	8/16/2012	30.43	-97.80
3889	Travis	Travis	78748	TX	6.25	25318	8/16/2012	30.17	-97.82
3890	Travis	Travis	78750	TX	6.50	22150	8/16/2012	30.43	-97.80
3891	Travis	Travis	78727	TX	8.36	31058	8/16/2012	30.43	-97.71
3892	Travis	Travis	78738	TX	6.00	24300	8/16/2012	30.30	-97.97
3893	Travis	Travis	78744	TX	6.25	23563	8/16/2012	30.20	-97.73
3894	Travis	Travis	78727	TX	6.25	21875	8/16/2012	30.43	-97.71
3895	Travis	Travis	78749	TX	6.08	24000	8/16/2012	30.22	-97.86
3896	Travis	Travis	78733	TX	5.50	22275	8/16/2012	30.33	-97.87
3897	Travis	Travis	78753	TX	4.00	16623	8/16/2012	30.39	-97.67
3898	Travis	Travis	78747	TX	6.16	35780	8/16/2012	30.13	-97.73
3899	Travis	Travis	78703	TX	3.50	15732	8/16/2012	30.29	-97.77
3900	Travis	Travis	78704	TX	4.50	22729	8/16/2012	30.25	-97.77
3901	Travis	Travis	78703	TX	3.60	16178	8/16/2012	30.29	-97.77
3902	Travis	Travis	78703	TX	3.60	16178	8/16/2012	30.29	-97.77
3903	Travis	Travis	78703	TX	4.68	20849	8/16/2012	30.29	-97.77
3904	Tarrant	Tarrant	76116	TX	10.56		8/18/2012	32.72	-97.44
3905	Smith	Smith	75707	TX	10.34	36900	8/19/2012	32.32	-95.16
3906	El Paso	El Paso	79912	TX	3.60	21836	8/19/2012	31.86	-106.55
3907	Bexar	Bexar	78230	TX	20.01	92038	8/20/2012	29.54	-98.56
3908	Bexar	Bexar	78259	TX	6.96	29841	8/20/2012	29.62	-98.43
3909	Bexar	Bexar	78244	TX	3.12	13127	8/20/2012	29.47	-98.35
3910	Bexar	Bexar	78259	TX	5.52	28410	8/20/2012	29.62	-98.43
3911	Tarrant	Tarrant	76133	TX	4.56		8/20/2012	32.65	-97.38
3912	Bexar	Bexar	78223	TX	5.06	20575	8/20/2012	29.30	-98.41
3913	Bexar	Bexar	78259	TX	6.66	17851	8/20/2012	29.62	-98.43
3914	Bexar	Bexar	78258	TX	5.22	23686	8/20/2012	29.65	-98.47
3915	Bexar	Bexar	78261	TX	6.48	25221	8/20/2012	29.70	-98.41
3916	Bexar	Bexar	78265	TX	16.50	64321	8/20/2012	29.54	-98.42
3917	Ellis	Ellis	75165	TX	5.76	28800	8/20/2012	32.38	-96.77
3918	El Paso	El Paso	79928	TX	2.59	10469	8/20/2012	31.66	-106.13
3919	Comal	Comal	78132	TX	6.58	31829	8/20/2012	29.74	-98.20
3920	Bexar	Bexar	78251	TX	1.08	5087	8/20/2012	29.47	-98.68

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3921	Comal	Comal	78163	TX	5.88	22101	8/20/2012	29.77	-98.51
3922	Bexar	Bexar	78230	TX	7.20	32400	8/20/2012	29.54	-98.56
3923	Bexar	Bexar	78250	TX	1.08	5131	8/20/2012	29.50	-98.67
3924	Tarrant	Tarrant	76135	TX	8.80		8/21/2012	32.84	-97.47
3925	Dallas	Dallas	75248	TX	9.90		8/21/2012	32.97	-96.78
3926	Harris	Harris	77507	TX	53.46		8/21/2012	29.63	-95.09
3927	Denton	Denton	75068	TX	10.64	28526	8/21/2012	33.17	-96.95
3928	Bexar	Bexar	78240	TX	2.21	20409	8/21/2012	29.53	-98.61
3929	Dallas	Dallas	75182	TX	9.18	38000	8/21/2012	32.81	-96.55
3930	Galveston	Galveston	77573	TX	11.76	53767	8/21/2012	29.49	-95.09
3931	Tarrant	Tarrant	76016	TX	5.50	28823	8/22/2012	32.69	-97.18
3932	El Paso	El Paso	79911	TX	5.28	22992	8/22/2012	31.89	-106.54
3933	El Paso	El Paso	79912	TX	4.32	22826	8/22/2012	31.86	-106.55
3934	El Paso	El Paso	79911	TX	1.92	10560	8/22/2012	31.89	-106.54
3935	El Paso	El Paso	79912	TX	1.92	10560	8/22/2012	31.86	-106.55
3936	El Paso	El Paso	79938	TX	1.92	10560	8/22/2012	31.84	-105.92
3937	El Paso	El Paso	79938	TX	3.36	17472	8/22/2012	31.84	-105.92
3938	El Paso	El Paso	79938	TX	3.36	17472	8/22/2012	31.84	-105.92
3939	El Paso	El Paso	79912	TX	4.32	22826	8/22/2012	31.86	-106.55
3940	Travis	Travis	78746	TX	4.00	14400	8/23/2012	30.31	-97.82
3941	El Paso	El Paso	79924	TX	5.50	19142	8/23/2012	31.90	-106.43
3942	El Paso	El Paso	79912	TX	6.25	26500	8/23/2012	31.86	-106.55
3943	El Paso	El Paso	79901	TX	5.28	21330	8/23/2012	31.76	-106.48
3944	El Paso	El Paso	79938	TX	3.36	17472	8/23/2012	31.84	-105.92
3945	El Paso	El Paso	79912	TX	1.92	10560	8/23/2012	31.86	-106.55
3946	El Paso	El Paso	79934	TX	1.92	10560	8/23/2012	31.98	-106.42
3947	Jim Wells	Nueces	78332	TX	11.04	46950	8/23/2012	27.74	-98.09
3948	Travis	Travis	78748	TX	8.00	23400	8/23/2012	30.17	-97.82
3949	Travis	Travis	78748	TX	6.50	24375	8/23/2012	30.17	-97.82
3950	Travis	Travis	78732	TX	7.00	26548	8/23/2012	30.38	-97.89
3951	Travis	Travis	78735	TX	6.30	22994	8/23/2012	30.26	-97.86
3952	Travis	Travis	78652	TX	7.50	28250	8/23/2012	30.14	-97.88
3953	Travis	Travis	78748	TX	7.75	28481	8/23/2012	30.17	-97.82
3954	Travis	Travis	78732	TX	6.00	24905	8/23/2012	30.38	-97.89
3955	Travis	Travis	78746	TX	6.25	33723	8/23/2012	30.31	-97.82
3956	Travis	Travis	78757	TX	5.28	25000	8/23/2012	30.35	-97.74
3957	Travis	Travis	78758	TX	6.00	24305	8/23/2012	30.39	-97.70
3958	Travis	Travis	78733	TX	4.41	14994	8/23/2012	30.33	-97.87
3959	Travis	Travis	78738	TX	5.50	22275	8/23/2012	30.30	-97.97
3960	Travis	Travis	78732	TX	5.80	23727	8/23/2012	30.38	-97.89

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
3961	Travis	Travis	78750	TX	6.25	27121	8/23/2012	30.43	-97.80
3962	Travis	Travis	78732	TX	6.00	24300	8/23/2012	30.38	-97.89
3963	Travis	Travis	78731	TX	2.10	8732	8/23/2012	30.35	-97.77
3964	Travis	Travis	78730	TX	5.15	29988	8/23/2012	30.37	-97.84
3965	Travis	Travis	78759	TX	6.25	18810	8/23/2012	30.40	-97.75
3966	Travis	Travis	78727	TX	4.75	18063	8/23/2012	30.43	-97.71
3967	Travis	Travis	78731	TX	4.50	16200	8/23/2012	30.35	-97.77
3968	Travis	Travis	78617	TX	6.00	24300	8/23/2012	30.15	-97.59
3969	Travis	Travis	78745	TX	5.50	19250	8/23/2012	30.22	-97.80
3970	Travis	Travis	78745	TX	4.75	16625	8/23/2012	30.22	-97.80
3971	Travis	Travis	78735	TX	5.76	20870	8/23/2012	30.26	-97.86
3972	Travis	Travis	78749	TX	6.24	25552	8/23/2012	30.22	-97.86
3973	Travis	Travis	78732	TX	7.04	25510	8/23/2012	30.38	-97.89
3974	Travis	Travis	78704	TX	10.00	39796	8/23/2012	30.25	-97.77
3975	Travis	Travis	78703	TX	2.88	13284	8/23/2012	30.29	-97.77
3976	Travis	Travis	78703	TX	4.32	19329	8/23/2012	30.29	-97.77
3977	Tarrant	Tarrant	76148	TX	6.72		8/24/2012	32.86	-97.25
3978	Archer	Parker	76366	TX	10.80	104258	8/25/2012	33.71	-98.79
3979	Williamson	Williamson	78613	TX	7.99	28038	8/27/2012	30.51	-97.82
3980	Bexar	Bexar	78213	TX	5.63	24483	8/27/2012	29.50	-98.52
3981	Tarrant	Tarrant	76039	TX	8.80		8/27/2012	32.87	-97.08
3982	Tarrant	Tarrant	76116	TX	10.56	52536	8/27/2012	32.72	-97.44
3983	Bexar	Bexar	78216	TX	25.30	113214	8/27/2012	29.55	-98.50
3984	Ellis	Ellis	75154	TX	10.56	52536	8/27/2012	32.51	-96.77
3985	Dallas	Dallas	75211	TX	5.72	28457	8/27/2012	32.74	-96.89
3986	Bell	Williamson	76542	TX	4.50	16875	8/27/2012	31.01	-97.72
3987	Bexar	Bexar	78220	TX	8.28	18230	8/28/2012	29.41	-98.39
3988	Tarrant	Tarrant	76039	TX	8.80	43780	8/28/2012	32.87	-97.08
3989	Dallas	Dallas	75062	TX	6.24	31044	8/28/2012	32.84	-96.98
3990	Tarrant	Tarrant	76135	TX	8.80	43780	8/28/2012	32.84	-97.47
3991	Dallas	Dallas	75248	TX	9.90	49253	8/29/2012	32.97	-96.78
3992	Tarrant	Tarrant	76133	TX	4.56	22686	8/29/2012	32.65	-97.38
3993	Dallas	Dallas	75211	TX	5.72		8/30/2012	32.74	-96.89
3994	Travis	Travis	78746	TX	5.50	20625	8/30/2012	30.31	-97.82
3995	Travis	Travis	78732	TX	4.35	17360	8/30/2012	30.38	-97.89
3996	Travis	Travis	78727	TX	6.37	21875	8/30/2012	30.43	-97.71
3997	Travis	Travis	78746	TX	6.00	28212	8/30/2012	30.31	-97.82
3998	Travis	Travis	78759	TX	6.27	23965	8/30/2012	30.40	-97.75
3999	Travis	Travis	78733	TX	6.00	23142	8/30/2012	30.33	-97.87
4000	Travis	Travis	78703	TX	3.36	14326	8/30/2012	30.29	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4001	Travis	Travis	78703	TX	5.76	25380	8/30/2012	30.29	-97.77
4002	Travis	Travis	78735	TX	6.24	24860	8/30/2012	30.26	-97.86
4003	Travis	Travis	78703	TX	3.60	13631	8/30/2012	30.29	-97.77
4004	Cameron	Nueces	78575	TX	3.36	15000	8/31/2012	26.04	-97.56
4005	Brown	Hood	76802	TX	3.22	14490	9/3/2012	31.71	-98.91
4006	Dallas	Dallas	75062	TX	6.24		9/4/2012	32.84	-96.98
4007	El Paso	El Paso	79936	TX	4.32	10800	9/4/2012	31.76	-106.29
4008	El Paso	El Paso	79936	TX	5.04	21168	9/4/2012	31.76	-106.29
4009	Grayson	Collin	75020	TX	49.55	173460	9/4/2012	33.78	-96.60
4010	El Paso	El Paso	79934	TX	1.92	10560	9/4/2012	31.98	-106.42
4011	El Paso	El Paso	79912	TX	1.92	10560	9/5/2012	31.86	-106.55
4012	El Paso	El Paso	79911	TX	1.92	10560	9/5/2012	31.89	-106.54
4013	El Paso	El Paso	79911	TX	1.92	10560	9/5/2012	31.89	-106.54
4014	El Paso	El Paso	79911	TX	1.92	10560	9/5/2012	31.89	-106.54
4015	Bexar	Bexar	78261	TX	4.35	20010	9/6/2012	29.70	-98.41
4016	Travis	Travis	78735	TX	7.50	28250	9/6/2012	30.26	-97.86
4017	Travis	Travis	78732	TX	6.00	23147	9/6/2012	30.38	-97.89
4018	Travis	Travis	78732	TX	6.00	24300	9/6/2012	30.38	-97.89
4019	Travis	Travis	78723	TX	1.00	3150	9/6/2012	30.31	-97.68
4020	Travis	Travis	78704	TX	5.75	19350	9/6/2012	30.25	-97.77
4021	Travis	Travis	78731	TX	5.50	18315	9/6/2012	30.35	-97.77
4022	Travis	Travis	78732	TX	5.40	22459	9/6/2012	30.38	-97.89
4023	Travis	Travis	78735	TX	6.24	18750	9/6/2012	30.26	-97.86
4024	Travis	Travis	78733	TX	6.37	20313	9/6/2012	30.33	-97.87
4025	Travis	Travis	78733	TX	5.76	24300	9/6/2012	30.33	-97.87
4026	Travis	Travis	78732	TX	6.00	23335	9/6/2012	30.38	-97.89
4027	Bexar	Bexar	78223	TX	2.90	12495	9/7/2012	29.30	-98.41
4028	Tarrant	Tarrant	76052	TX	5.52		9/10/2012	32.98	-97.38
4029	Tarrant	Tarrant	76012	TX	6.24		9/10/2012	32.76	-97.14
4030	Cherokee	Smith	75766	TX	1.44	9800	9/10/2012	31.93	-95.27
4031	Bexar	Bexar	78261	TX	10.26	38860	9/11/2012	29.70	-98.41
4032	Tarrant	Tarrant	76012	TX	6.24	31044	9/11/2012	32.76	-97.14
4033	Bexar	Bexar	78109	TX	4.35	17661	9/11/2012	29.47	-98.30
4034	Denton	Denton	75007	TX	10.14	50447	9/11/2012	33.01	-96.89
4035	Tarrant	Tarrant	76052	TX	5.52	27462	9/11/2012	32.98	-97.38
4036	Rockwall	Rockwall	75032	TX	10.20	26278	9/11/2012	32.86	-96.42
4037	Dallas	Dallas	75172	TX	9.20	27606	9/11/2012	32.60	-96.68
4038	Bexar	Bexar	78231	TX	7.35	33075	9/12/2012	29.58	-98.54
4039	Tarrant	Tarrant	76148	TX	6.72	33432	9/12/2012	32.86	-97.25
4040	Collin	Collin	75093	TX	6.76	26364	9/12/2012	33.04	-96.82

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4041	El Paso	El Paso	79936	TX	5.28	20064	9/12/2012	31.76	-106.29
4042	Dallas	Dallas	75244	TX	5.10	16720	9/12/2012	32.93	-96.84
4043	Travis	Travis	78732	TX	7.50	28750	9/13/2012	30.38	-97.89
4044	Travis	Travis	78748	TX	6.25	23563	9/13/2012	30.17	-97.82
4045	Travis	Travis	78727	TX	5.00	18750	9/13/2012	30.43	-97.71
4046	Travis	Travis	78753	TX	5.50	21650	9/13/2012	30.39	-97.67
4047	Williamson	Williamson	78729	TX	2.25	18750	9/13/2012	30.46	-97.75
4048	Travis	Travis	78732	TX	3.29	18671	9/13/2012	30.38	-97.89
4049	Travis	Travis	78758	TX	4.50	18750	9/13/2012	30.39	-97.70
4050	Travis	Travis	78732	TX	6.00	24300	9/13/2012	30.38	-97.89
4051	Travis	Travis	78733	TX	6.25	20313	9/13/2012	30.33	-97.87
4052	Travis	Travis	78744	TX	6.25	21875	9/13/2012	30.20	-97.73
4053	Travis	Travis	78745	TX	6.37	20833	9/13/2012	30.22	-97.80
4054	Travis	Travis	78733	TX	6.25	20313	9/13/2012	30.33	-97.87
4055	Travis	Travis	78732	TX	6.00	24300	9/13/2012	30.38	-97.89
4056	Travis	Travis	78746	TX	6.59	29813	9/13/2012	30.31	-97.82
4057	Travis	Travis	78733	TX	4.50	17360	9/13/2012	30.33	-97.87
4058	Travis	Travis	78703	TX	3.96	16095	9/13/2012	30.29	-97.77
4059	Travis	Travis	78703	TX	4.32	19492	9/13/2012	30.29	-97.77
4060	Travis	Travis	78746	TX	6.11	30616	9/13/2012	30.31	-97.82
4061	Travis	Travis	78746	TX	6.11	32416	9/13/2012	30.31	-97.82
4062	Dallas	Dallas	75209	TX	4.48	15500	9/14/2012	32.85	-96.82
4063	Dallas	Dallas	75205	TX	5.76	25056	9/14/2012	32.83	-96.80
4064	Collin	Collin	75075	TX	7.00	22544	9/14/2012	33.02	-96.74
4065	Collin	Collin	75093	TX	6.72	33432	9/14/2012	33.04	-96.82
4066	Wichita	Denton	76309	TX	10.80	92027	9/17/2012	33.90	-98.54
4067	Bexar	Bexar	78259	TX	6.21	24522	9/19/2012	29.62	-98.43
4068	Bexar	Bexar	78229	TX	50.40	274000	9/19/2012	29.51	-98.58
4069	Bexar	Bexar	78230	TX	5.17	25075	9/19/2012	29.54	-98.56
4070	Travis	Travis	78732	TX	7.50	26375	9/20/2012	30.38	-97.89
4071	Travis	Travis	78732	TX	7.50	29500	9/20/2012	30.38	-97.89
4072	Travis	Travis	78723	TX	4.50	17200	9/20/2012	30.31	-97.68
4073	Travis	Travis	78732	TX	7.50	29125	9/20/2012	30.38	-97.89
4074	Travis	Travis	78758	TX	3.42	14752	9/20/2012	30.39	-97.70
4075	Travis	Travis	78733	TX	6.00	24300	9/20/2012	30.33	-97.87
4076	Travis	Travis	78723	TX	5.25	20768	9/20/2012	30.31	-97.68
4077	Travis	Travis	78735	TX	6.00	24305	9/20/2012	30.26	-97.86
4078	Travis	Travis	78727	TX	6.25	21875	9/20/2012	30.43	-97.71
4079	Travis	Travis	78733	TX	4.75	17908	9/20/2012	30.33	-97.87
4080	Travis	Travis	78732	TX	5.50	22275	9/20/2012	30.38	-97.89

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4081	Travis	Travis	78735	TX	6.25	25313	9/20/2012	30.26	-97.86
4082	Travis	Travis	78738	TX	6.00	24300	9/20/2012	30.30	-97.97
4083	Travis	Travis	78732	TX	12.00	24300	9/20/2012	30.38	-97.89
4084	Travis	Travis	78735	TX	6.00	24300	9/20/2012	30.26	-97.86
4085	Travis	Travis	78735	TX	6.00	24300	9/20/2012	30.26	-97.86
4086	Hunt	Hunt	75458	TX	1.96	10362	9/24/2012	33.22	-96.29
4087	Bexar	Bexar	78224	TX	28.80	107633	9/25/2012	29.32	-98.54
4088	Tarrant	Tarrant	76108	TX	47.04		9/25/2012	32.77	-97.51
4089	Travis	Travis	78724	TX	8.46	41487	9/25/2012	30.29	-97.62
4090	El Paso	El Paso	79925	TX	3.84	14592	9/27/2012	31.80	-106.36
4091	Travis	Travis	78738	TX	7.75	27748	9/27/2012	30.30	-97.97
4092	Travis	Travis	78723	TX	6.24	18831	9/27/2012	30.31	-97.68
4093	Travis	Travis	78732	TX	6.25	21152	9/27/2012	30.38	-97.89
4094	Travis	Travis	78736	TX	6.00	24905	9/27/2012	30.25	-97.95
4095	Travis	Travis	78738	TX	6.25	21875	9/27/2012	30.30	-97.97
4096	Travis	Travis	78732	TX	6.24	24305	9/27/2012	30.38	-97.89
4097	Travis	Travis	78733	TX	6.00	24600	9/27/2012	30.33	-97.87
4098	Travis	Travis	78703	TX	3.52	16985	9/27/2012	30.29	-97.77
4099	Bexar	Bexar	78249	TX	5.17	15769	9/28/2012	29.57	-98.61
4100	Bexar	Bexar	78249	TX	4.50	16200	9/28/2012	29.57	-98.61
4101	Bexar	Bexar	78213	TX	8.10	27054	9/28/2012	29.50	-98.52
4102	Bexar	Bexar	78255	TX	5.92	20824	9/28/2012	29.66	-98.67
4103	Atascosa	Wilson	78052	TX	6.72	24301	9/28/2012	29.20	-98.77
4104	Bexar	Bexar	78073	TX	6.38	20608	9/28/2012	29.24	-98.63
4105	Bexar	Bexar	78251	TX	5.76	22447	9/28/2012	29.47	-98.68
4106	Bexar	Bexar	78210	TX	4.70	23480	9/28/2012	29.40	-98.47
4107	Bexar	Bexar	78222	TX	4.60	18225	10/1/2012	29.37	-98.39
4108	Bexar	Bexar	78023	TX	5.52	17090	10/2/2012	29.62	-98.73
4109	Comal	Comal	78266	TX	7.50	28500	10/2/2012	29.63	-98.32
4110	Bexar	Bexar	78255	TX	6.53	24260	10/2/2012	29.66	-98.67
4111	Bexar	Bexar	78232	TX	2.16	10185	10/2/2012	29.59	-98.46
4112	Bexar	Bexar	78258	TX	5.92	28577	10/2/2012	29.65	-98.47
4113	Bexar	Bexar	78253	TX	6.72	22982	10/2/2012	29.47	-98.81
4114	Bexar	Bexar	78258	TX	6.38	18885	10/2/2012	29.65	-98.47
4115	Bexar	Bexar	78251	TX	5.06	20161	10/3/2012	29.47	-98.68
4116	Bexar	Bexar	78245	TX	7.56	40787	10/3/2012	29.40	-98.74
4117	Bexar	Bexar	78258	TX	9.62	37442	10/3/2012	29.65	-98.47
4118	Bexar	Bexar	78217	TX	28.44	112311	10/3/2012	29.54	-98.42
4119	El Paso	El Paso	79932	TX	1.05	7720	10/3/2012	31.89	-106.62
4120	Bexar	Bexar	78249	TX	7.05	34085	10/4/2012	29.57	-98.61

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4121	Travis	Travis	78738	TX	5.00	32452	10/4/2012	30.30	-97.97
4122	Hamilton	Hood	76436	TX	9.90	34551	10/5/2012	31.89	-98.20
4123	Tarrant	Tarrant	76179	TX	10.29	37330	10/6/2012	32.92	-97.46
4124	Collin	Collin	75002	TX	5.88	19295	10/8/2012	33.10	-96.64
4125	Tarrant	Tarrant	76051	TX	5.88	21780	10/8/2012	32.95	-97.07
4126	Dallas	Dallas	75082	TX	6.37	26590	10/8/2012	33.00	-96.66
4127	Johnson	Johnson	76028	TX	6.44	23040	10/8/2012	32.53	-97.29
4128	Comal	Comal	78163	TX	15.00	74500	10/8/2012	29.77	-98.51
4129	Bexar	Bexar	78023	TX	24.50	128650	10/8/2012	29.62	-98.73
4130	Comal	Comal	78163	TX	15.00	78445	10/8/2012	29.77	-98.51
4131	Comal	Comal	78163	TX	24.50	128650	10/8/2012	29.77	-98.51
4132	Denton	Denton	75007	TX	10.14		10/9/2012	33.01	-96.89
4133	Tarrant	Tarrant	76052	TX	7.20		10/9/2012	32.98	-97.38
4134	El Paso	El Paso	79936	TX	4.94	28441	10/9/2012	31.76	-106.29
4135	Bexar	Bexar	78023	TX	2.50	10000	10/10/2012	29.62	-98.73
4136	Bexar	Bexar	78260	TX	7.85	36718	10/10/2012	29.69	-98.50
4137	Bexar	Bexar	78201	TX	2.90	14429	10/10/2012	29.46	-98.52
4138	Travis	Travis	78704	TX	7.92	56575	10/10/2012	30.25	-97.77
4139	Travis	Travis	78723	TX	5.00	17325	10/10/2012	30.31	-97.68
4140	Travis	Travis	78702	TX	7.50	28125	10/10/2012	30.26	-97.71
4141	Travis	Travis	78732	TX	12.00	49211	10/10/2012	30.38	-97.89
4142	Travis	Travis	78703	TX	7.68	26000	10/10/2012	30.29	-97.77
4143	Travis	Travis	78732	TX	6.25	20938	10/10/2012	30.38	-97.89
4144	Travis	Travis	78744	TX	5.39	20213	10/10/2012	30.20	-97.73
4145	Travis	Travis	78723	TX	6.13	22642	10/10/2012	30.31	-97.68
4146	Travis	Travis	78744	TX	3.60	12820	10/10/2012	30.20	-97.73
4147	Travis	Travis	78734	TX	6.24	40000	10/10/2012	30.37	-97.95
4148	Travis	Travis	78746	TX	6.25	23750	10/10/2012	30.31	-97.82
4149	Travis	Travis	78744	TX	7.35	29315	10/10/2012	30.20	-97.73
4150	Travis	Travis	78750	TX	3.06	15966	10/10/2012	30.43	-97.80
4151	Travis	Travis	78746	TX	5.00	16600	10/10/2012	30.31	-97.82
4152	Travis	Travis	78733	TX	6.25	20313	10/10/2012	30.33	-97.87
4153	Travis	Travis	78703	TX	2.64	9880	10/10/2012	30.29	-97.77
4154	Travis	Travis	78703	TX	1.44	5616	10/10/2012	30.29	-97.77
4155	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4156	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4157	Travis	Travis	78703	TX	2.88	11232	10/10/2012	30.29	-97.77
4158	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4159	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4160	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4161	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4162	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4163	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4164	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4165	Travis	Travis	78703	TX	2.88	11232	10/10/2012	30.29	-97.77
4166	Travis	Travis	78703	TX	1.44	5616	10/10/2012	30.29	-97.77
4167	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4168	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4169	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4170	Travis	Travis	78703	TX	2.88	11232	10/10/2012	30.29	-97.77
4171	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4172	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4173	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4174	Travis	Travis	78703	TX	1.44	5616	10/10/2012	30.29	-97.77
4175	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4176	Travis	Travis	78703	TX	2.88	11232	10/10/2012	30.29	-97.77
4177	Travis	Travis	78703	TX	1.44	5616	10/10/2012	30.29	-97.77
4178	Travis	Travis	78703	TX	2.16	8424	10/10/2012	30.29	-97.77
4179	Travis	Travis	78745	TX	6.24	32430	10/10/2012	30.22	-97.80
4180	Bexar	Bexar	78073	TX	5.80	26171	10/10/2012	29.24	-98.63
4181	Bexar	Bexar	78229	TX	8.60	36720	10/10/2012	29.51	-98.58
4182	Bexar	Bexar	78250	TX	5.30	25080	10/10/2012	29.50	-98.67
4183	Bexar	Bexar	78073	TX	13.40	54626	10/12/2012	29.24	-98.63
4184	Cameron	Nueces	78559	TX	576.73	NA	10/15/2012	26.12	-97.52
4185	Bexar	Bexar	78240	TX	2.21	14250	10/16/2012	29.53	-98.61
4186	Bexar	Bexar	78240	TX	2.21	14250	10/16/2012	29.53	-98.61
4187	Bexar	Bexar	78023	TX	6.12	25492	10/16/2012	29.62	-98.73
4188	Bexar	Bexar	78247	TX	3.68	24645	10/16/2012	29.59	-98.41
4189	Bexar	Bexar	78240	TX	2.21	14250	10/16/2012	29.53	-98.61
4190	Bexar	Bexar	78240	TX	2.21	14250	10/16/2012	29.53	-98.61
4191	Bexar	Bexar	78109	TX	5.40	17010	10/16/2012	29.47	-98.30
4192	Bexar	Bexar	78240	TX	2.21	14250	10/16/2012	29.53	-98.61
4193	Bexar	Bexar	78216	TX	4.68	19582	10/16/2012	29.55	-98.50
4194	Nueces	Nueces	78401	TX	1500.00	NA	10/16/2012	27.80	-97.39
4195	Travis	Travis	78741	TX	7.50	23900	10/17/2012	30.23	-97.71
4196	Travis	Travis	78723	TX	10.97	38577	10/17/2012	30.31	-97.68
4197	Travis	Travis	78702	TX	5.00	19250	10/17/2012	30.26	-97.71
4198	Travis	Travis	78749	TX	3.36	11770	10/17/2012	30.22	-97.86
4199	Travis	Travis	78734	TX	8.40	24480	10/17/2012	30.37	-97.95
4200	Travis	Travis	78749	TX	5.04	16452	10/17/2012	30.22	-97.86

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4201	Travis	Travis	78724	TX	3.00	24000	10/17/2012	30.29	-97.62
4202	Travis	Travis	78734	TX	7.99	30000	10/17/2012	30.37	-97.95
4203	Travis	Travis	78734	TX	6.25	21875	10/17/2012	30.37	-97.95
4204	Travis	Travis	78746	TX	6.25	24420	10/17/2012	30.31	-97.82
4205	Travis	Travis	78738	TX	5.50	20626	10/17/2012	30.30	-97.97
4206	Travis	Travis	78732	TX	4.75	18525	10/17/2012	30.38	-97.89
4207	Travis	Travis	78756	TX	6.54	29538	10/17/2012	30.32	-97.74
4208	Travis	Travis	78746	TX	4.08	16882	10/17/2012	30.31	-97.82
4209	Travis	Travis	78732	TX	6.24	27249	10/17/2012	30.38	-97.89
4210	Travis	Travis	73301	TX	4.50	NA	10/17/2012	30.31	-97.68
4211	Bexar	Bexar	78239	TX	12.42	60854	10/18/2012	29.52	-98.36
4212	Bexar	Bexar	78258	TX	9.60	39820	10/18/2012	29.65	-98.47
4213	Bexar	Bexar	78209	TX	3.29	18874	10/18/2012	29.49	-98.45
4214	Bexar	Bexar	78209	TX	7.85	36154	10/18/2012	29.49	-98.45
4215	Bexar	Bexar	78260	TX	3.20	22500	10/18/2012	29.69	-98.50
4216	Bexar	Bexar	78209	TX	11.47	56228	10/18/2012	29.49	-98.45
4217	Travis	Travis	73301	TX	3.00	NA	10/18/2012	30.31	-97.68
4218	Bexar	Bexar	78255	TX	7.52	29279	10/19/2012	29.66	-98.67
4219	Bexar	Bexar	78260	TX	8.64	38900	10/19/2012	29.69	-98.50
4220	Bexar	Bexar	78205	TX	10.00	40392	10/19/2012	29.42	-98.49
4221	Collin	Collin	75407	TX	5.88	25500	10/19/2012	33.16	-96.47
4222	Travis	Travis	78745	TX	4.00	12125	10/19/2012	30.22	-97.80
4223	Travis	Travis	78735	TX	5.00	15268	10/19/2012	30.26	-97.86
4224	Travis	Travis	78734	TX	7.50	26400	10/19/2012	30.37	-97.95
4225	Travis	Travis	78747	TX	7.50	28125	10/19/2012	30.13	-97.73
4226	Travis	Travis	78738	TX	7.25	24892	10/19/2012	30.30	-97.97
4227	Travis	Travis	78733	TX	6.25	30277	10/19/2012	30.33	-97.87
4228	Travis	Travis	78749	TX	6.63	20885	10/19/2012	30.22	-97.86
4229	Travis	Travis	78727	TX	5.00	20000	10/19/2012	30.43	-97.71
4230	Travis	Travis	78733	TX	6.24	22340	10/19/2012	30.33	-97.87
4231	Travis	Travis	78735	TX	6.44	26929	10/19/2012	30.26	-97.86
4232	Travis	Travis	78704	TX	8.82	37882	10/19/2012	30.25	-97.77
4233	Travis	Travis	78735	TX	5.25	22138	10/19/2012	30.26	-97.86
4234	Travis	Travis	78738	TX	6.00	22897	10/19/2012	30.30	-97.97
4235	Travis	Travis	78745	TX	5.75	23363	10/19/2012	30.22	-97.80
4236	Travis	Travis	78722	TX	4.50	17875	10/19/2012	30.29	-97.71
4237	Travis	Travis	78749	TX	5.04	18256	10/19/2012	30.22	-97.86
4238	Travis	Travis	73301	TX	6.00	NA	10/19/2012	30.31	-97.68
4239	Travis	Travis	73301	TX	6.20	NA	10/20/2012	30.31	-97.68
4240	Travis	Travis	73301	TX	5.28	NA	10/21/2012	30.31	-97.68

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4241	Travis	Travis	73301	TX	6.48	NA	10/21/2012	30.31	-97.68
4242	Collin	Collin	75025	TX	4.90	19400	10/22/2012	33.09	-96.76
4243	Bexar	Bexar	78201	TX	20	NA	10/22/2012	29.60	-98.49
4244	Winkler	El Paso	79745	TX	1.23	4617	10/23/2012	31.75	-102.85
4245	Bexar	Bexar	78201	TX	10.32	NA	10/23/2012	29.60	-98.49
4246	Bexar	Bexar	78238	TX	5.88	22791	10/24/2012	29.47	-98.62
4247	Bexar	Bexar	78260	TX	5.89	27870	10/24/2012	29.69	-98.50
4248	Guadalupe	Guadalupe	78154	TX	6.96	24290	10/24/2012	29.59	-98.28
4249	Galveston	Galveston	77539	TX	8.51	32000	10/24/2012	29.45	-95.03
4250	El Paso	El Paso	79928	TX	6.72	15440	10/24/2012	31.66	-106.13
4251	El Paso	El Paso	79928	TX	4.80	29550	10/24/2012	31.66	-106.13
4252	Bexar	Bexar	78250	TX	4.23	18240	10/24/2012	29.50	-98.67
4253	Bexar	Bexar	78201	TX	7.5	NA	10/24/2012	29.60	-98.49
4254	Travis	Travis	78748	TX	4.50	14175	10/25/2012	30.17	-97.82
4255	Travis	Travis	78746	TX	8.25	30113	10/25/2012	30.31	-97.82
4256	Travis	Travis	78732	TX	7.00	25200	10/25/2012	30.38	-97.89
4257	Travis	Travis	78746	TX	7.92	34074	10/25/2012	30.31	-97.82
4258	Travis	Travis	78758	TX	4.75	18875	10/25/2012	30.39	-97.70
4259	Travis	Travis	78733	TX	7.00	26200	10/25/2012	30.33	-97.87
4260	Travis	Travis	78753	TX	3.00	11250	10/25/2012	30.39	-97.67
4261	Travis	Travis	78733	TX	4.41	15015	10/25/2012	30.33	-97.87
4262	Travis	Travis	78736	TX	6.00	24905	10/25/2012	30.25	-97.95
4263	Travis	Travis	78733	TX	6.25	20313	10/25/2012	30.33	-97.87
4264	Travis	Travis	78730	TX	7.50	20396	10/25/2012	30.37	-97.84
4265	Travis	Travis	78733	TX	7.84	27400	10/25/2012	30.33	-97.87
4266	Travis	Travis	78746	TX	2.63	34800	10/25/2012	30.31	-97.82
4267	Bexar	Bexar	78201	TX	3.66	NA	10/25/2012	29.60	-98.49
4268	Kendall	Bexar	78006	TX	10.12	42754	10/26/2012	29.92	-98.70
4269	Collin	Collin	75013	TX	5.88	21750	10/26/2012	33.11	-96.70
4270	El Paso	El Paso	79905	TX	1.92	12462	10/26/2012	31.77	-106.42
4271	Bexar	Bexar	78219	TX	22.50	89550	10/26/2012	29.45	-98.39
4272	El Paso	El Paso	79904	TX	2.40	10392	10/29/2012	31.87	-106.48
4273	Dallas	Dallas	75220	TX	5.88	23250	10/30/2012	32.86	-96.87
4274	Dallas	Dallas	75104	TX	7.35	27750	10/30/2012	32.59	-96.99
4275	Kaufman	Kaufman	75142	TX	5.88	23200	10/30/2012	32.59	-96.26
4276	Collin	Collin	75023	TX	5.88	24200	10/30/2012	33.06	-96.73
4277	Dallas	Dallas	75063	TX	8.33	35700	10/30/2012	32.91	-96.99
4278	Tarrant	Tarrant	76001	TX	4.66	20102	10/30/2012	32.63	-97.15
4279	El Paso	El Paso	79911	TX	1.92	10560	10/30/2012	31.89	-106.54
4280	El Paso	El Paso	79911	TX	1.92	10560	10/30/2012	31.89	-106.54

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4281	El Paso	El Paso	79911	TX	1.92	10560	10/30/2012	31.89	-106.54
4282	Bexar	Bexar	78204	TX	50.00	189924	10/30/2012	29.40	-98.50
4283	Nueces	Nueces	78414	TX	5.50	29036	10/31/2012	27.65	-97.36
4284	Bexar	Bexar	78232	TX	12.47	44608	11/1/2012	29.59	-98.46
4285	Bexar	Bexar	78261	TX	5.64	30338	11/1/2012	29.70	-98.41
4286	Dallas	Dallas	75202	TX	42.84		11/1/2012	32.78	-96.80
4287	El Paso	El Paso	79912	TX	4.08	20808	11/1/2012	31.86	-106.55
4288	Gregg	Gregg	75601	TX	2.99	13200	11/1/2012	32.51	-94.72
4289	Travis	Travis	78738	TX	5.00	16000	11/1/2012	30.30	-97.97
4290	Travis	Travis	78750	TX	5.25	18675	11/1/2012	30.43	-97.80
4291	Travis	Travis	78735	TX	5.00	18700	11/1/2012	30.26	-97.86
4292	Travis	Travis	78731	TX	6.12	19500	11/1/2012	30.35	-97.77
4293	Travis	Travis	78732	TX	5.94	24705	11/1/2012	30.38	-97.89
4294	Travis	Travis	78745	TX	7.65	29209	11/1/2012	30.22	-97.80
4295	Travis	Travis	78748	TX	5.00	22625	11/1/2012	30.17	-97.82
4296	Travis	Travis	78746	TX	6.25	23455	11/1/2012	30.31	-97.82
4297	Bexar	Bexar	78230	TX	36.00		11/3/2012	29.54	-98.56
4298	Bexar	Bexar	78240	TX	5.75	25617	11/5/2012	29.53	-98.61
4299	Bexar	Bexar	78232	TX	4.86	20655	11/5/2012	29.59	-98.46
4300	Bexar	Bexar	78261	TX	8.41	20744	11/5/2012	29.70	-98.41
4301	El Paso	El Paso	79938	TX	1.92	10560	11/5/2012	31.84	-105.92
4302	El Paso	El Paso	79911	TX	1.92	10560	11/5/2012	31.89	-106.54
4303	Bexar	Bexar	78232	TX	5.20	44648	11/5/2012	29.59	-98.46
4304	Bexar	Bexar	78232	TX	2.82	15694	11/6/2012	29.59	-98.46
4305	El Paso	El Paso	79911	TX	1.92	10560	11/6/2012	31.89	-106.54
4306	El Paso	El Paso	79911	TX	1.92	10560	11/6/2012	31.89	-106.54
4307	El Paso	El Paso	79938	TX	1.92	10560	11/6/2012	31.84	-105.92
4308	Bexar	Bexar	78230	TX	4.70	24675	11/8/2012	29.54	-98.56
4309	Bexar	Bexar	78218	TX	4.14	12050	11/8/2012	29.49	-98.39
4310	Comal	Comal	78266	TX	7.92	32087	11/8/2012	29.63	-98.32
4311	Bexar	Bexar	78023	TX	6.44	28010	11/8/2012	29.62	-98.73
4312	Travis	Travis	78732	TX	4.00	12525	11/8/2012	30.38	-97.89
4313	Travis	Travis	78733	TX	7.50	28125	11/8/2012	30.33	-97.87
4314	Travis	Travis	78734	TX	6.50	19595	11/8/2012	30.37	-97.95
4315	Travis	Travis	78732	TX	6.00	22647	11/8/2012	30.38	-97.89
4316	Travis	Travis	78749	TX	7.00	23800	11/8/2012	30.22	-97.86
4317	Travis	Travis	78727	TX	5.64	18246	11/8/2012	30.43	-97.71
4318	Travis	Travis	78748	TX	5.15	16721	11/8/2012	30.17	-97.82
4319	Travis	Travis	78738	TX	6.38	20604	11/8/2012	30.30	-97.97
4320	Travis	Travis	78759	TX	7.50	25500	11/8/2012	30.40	-97.75

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4321	Travis	Travis	78727	TX	5.64	18246	11/8/2012	30.43	-97.71
4322	Travis	Travis	78735	TX	5.10	17950	11/8/2012	30.26	-97.86
4323	Travis	Travis	78759	TX	5.23	26042	11/8/2012	30.40	-97.75
4324	Travis	Travis	78757	TX	6.25	20440	11/8/2012	30.35	-97.74
4325	Travis	Travis	78730	TX	6.00	23350	11/8/2012	30.37	-97.84
4326	Travis	Travis	78746	TX	6.12	24603	11/8/2012	30.31	-97.82
4327	Travis	Travis	78731	TX	6.24	27309	11/8/2012	30.35	-97.77
4328	Bexar	Bexar	78253	TX	4.32	14708	11/8/2012	29.47	-98.81
4329	Medina	Bexar	78059	TX	8.50	33671	11/8/2012	29.18	-98.85
4330	Bexar	Bexar	78213	TX	6.48	38423	11/8/2012	29.50	-98.52
4331	El Paso	El Paso	79928	TX	10.56	33933	11/9/2012	31.66	-106.13
4332	El Paso	El Paso	79927	TX	7.20	24360	11/11/2012	31.64	-106.28
4333	El Paso	El Paso	79938	TX	6.72	23520	11/12/2012	31.84	-105.92
4334	El Paso	El Paso	79936	TX	24.00	81374	11/12/2012	31.76	-106.29
4335	Bexar	Bexar	78213	TX	5.94	19127	11/12/2012	29.50	-98.52
4336	El Paso	El Paso	79927	TX	3.84	12338	11/13/2012	31.64	-106.28
4337	El Paso	El Paso	79934	TX	11.77	65596	11/13/2012	31.98	-106.42
4338	El Paso	El Paso	79938	TX	1.92	10560	11/13/2012	31.84	-105.92
4339	El Paso	El Paso	79938	TX	1.92	10560	11/13/2012	31.84	-105.92
4340	El Paso	El Paso	79905	TX	106.56	604800	11/13/2012	31.77	-106.42
4341	Medina	Bexar	78059	TX	10.12	47276	11/14/2012	29.18	-98.85
4342	El Paso	El Paso	79934	TX	1.23	7463	11/14/2012	31.98	-106.42
4343	El Paso	El Paso	79911	TX	8.16	28973	11/14/2012	31.89	-106.54
4344	El Paso	El Paso	79924	TX	2.75	11655	11/14/2012	31.90	-106.43
4345	El Paso	El Paso	79907	TX	7.05	27476	11/14/2012	31.71	-106.33
4346	El Paso	El Paso	79904	TX	14.88	56008	11/14/2012	31.87	-106.48
4347	Bexar	Bexar	78204	TX	21.00	76000	11/14/2012	29.40	-98.50
4348	El Paso	El Paso	79936	TX	7.20	24951	11/15/2012	31.76	-106.29
4349	El Paso	El Paso	79932	TX	6.87	29452	11/15/2012	31.89	-106.62
4350	El Paso	El Paso	79932	TX	10.26	43429	11/15/2012	31.89	-106.62
4351	El Paso	El Paso	79934	TX	5.00	18481	11/15/2012	31.98	-106.42
4352	El Paso	El Paso	79905	TX	4.32	23760	11/15/2012	31.77	-106.42
4353	El Paso	El Paso	79905	TX	48.06	229450	11/15/2012	31.77	-106.42
4354	El Paso	El Paso	79905	TX	33.60	151200	11/15/2012	31.77	-106.42
4355	Travis	Travis	78732	TX	7.00	25386	11/15/2012	30.38	-97.89
4356	Williamson	Williamson	78729	TX	6.58	23300	11/15/2012	30.46	-97.75
4357	Travis	Travis	78759	TX	6.00	21288	11/15/2012	30.40	-97.75
4358	Travis	Travis	78746	TX	7.50	27390	11/15/2012	30.31	-97.82
4359	Travis	Travis	78704	TX	7.91	27152	11/15/2012	30.25	-97.77
4360	Travis	Travis	78746	TX	15.81	53597	11/15/2012	30.31	-97.82

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4361	Travis	Travis	78749	TX	5.50	19250	11/15/2012	30.22	-97.86
4362	Williamson	Williamson	78729	TX	5.00	18050	11/20/2012	30.46	-97.75
4363	Travis	Travis	78748	TX	5.00	15000	11/20/2012	30.17	-97.82
4364	Travis	Travis	78748	TX	7.50	22125	11/20/2012	30.17	-97.82
4365	Travis	Travis	78756	TX	6.75	25938	11/20/2012	30.32	-97.74
4366	Travis	Travis	78741	TX	3.50	10920	11/20/2012	30.23	-97.71
4367	Travis	Travis	78759	TX	7.50	18725	11/20/2012	30.40	-97.75
4368	Travis	Travis	78733	TX	7.00	22750	11/20/2012	30.33	-97.87
4369	Travis	Travis	78731	TX	6.50	22100	11/20/2012	30.35	-97.77
4370	Travis	Travis	78759	TX	7.50	28375	11/20/2012	30.40	-97.75
4371	Travis	Travis	78746	TX	7.50	29150	11/20/2012	30.31	-97.82
4372	Travis	Travis	78748	TX	5.00	16250	11/20/2012	30.17	-97.82
4373	Travis	Travis	78738	TX	8.25	34330	11/20/2012	30.30	-97.97
4374	Travis	Travis	78733	TX	6.37	30776	11/20/2012	30.33	-97.87
4375	Travis	Travis	78748	TX	5.28	16632	11/20/2012	30.17	-97.82
4376	Travis	Travis	78735	TX	2.94	11465	11/20/2012	30.26	-97.86
4377	Travis	Travis	78727	TX	3.60	11897	11/20/2012	30.43	-97.71
4378	Collin	Collin	75093	TX	6.00		11/27/2012	33.04	-96.82
4379	Val Verde	Bexar	78840	TX	5.52	20900	11/27/2012	29.67	-100.85
4380	Mclennan	Ellis	76691	TX	2.40	6000	11/28/2012	31.78	-97.10
4381	Mclennan	Ellis	76691	TX	2.40	6000	11/28/2012	31.78	-97.10
4382	Rusk	Rusk	75652	TX	11.86	56000	11/28/2012	32.22	-94.77
4383	Cameron	Nueces	78559	TX	15.68	58500	11/28/2012	26.15	-97.82
4384	Bexar	Bexar	78232	TX	28.91	119955	11/28/2012	29.59	-98.46
4385	Bexar	Bexar	78216	TX	28.91	119955	11/28/2012	29.55	-98.50
4386	Guadalupe	Guadalupe	78154	TX	28.91	119955	11/28/2012	29.59	-98.28
4387	Bexar	Bexar	78251	TX	28.91	119955	11/28/2012	29.47	-98.68
4388	Webb	Nueces	78045	TX	4.60	19500	11/28/2012	27.82	-99.68
4389	Cameron	Nueces	78559	TX	10.78	58500	11/28/2012	26.15	-97.82
4390	Cameron	Nueces	78559	TX	11.76	58500	11/28/2012	26.15	-97.82
4391	Cameron	Nueces	78559	TX	11.76	58500	11/28/2012	26.15	-97.82
4392	Travis	Travis	78749	TX	6.35	22100	11/28/2012	30.22	-97.86
4393	Travis	Travis	78759	TX	4.50	13950	11/28/2012	30.40	-97.75
4394	Travis	Travis	78732	TX	2.70	6734	11/28/2012	30.38	-97.89
4395	Travis	Travis	78731	TX	7.80	26993	11/28/2012	30.35	-97.77
4396	Travis	Travis	78732	TX	5.39	17063	11/28/2012	30.38	-97.89
4397	Travis	Travis	78759	TX	5.00	31000	11/28/2012	30.40	-97.75
4398	Travis	Travis	78745	TX	6.00	36000	11/28/2012	30.22	-97.80
4399	Travis	Travis	78749	TX	5.00	31000	11/28/2012	30.22	-97.86
4400	Travis	Travis	78732	TX	5.56	26735	11/28/2012	30.38	-97.89

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4401	Bexar	Bexar	78253	TX	9.36	42140	11/28/2012	29.47	-98.81
4402	Bexar	Bexar	78251	TX	28.91	119955	11/29/2012	29.47	-98.68
4403	Gregg	Gregg	75662	TX	9.80	30600	11/29/2012	32.38	-94.87
4404	Travis	Travis	78721	TX	6.00	19074	11/29/2012	30.27	-97.68
4405	Travis	Travis	78749	TX	5.00	18165	11/29/2012	30.22	-97.86
4406	Travis	Travis	78738	TX	6.72	21968	11/29/2012	30.30	-97.97
4407	Travis	Travis	78746	TX	7.80	24149	11/29/2012	30.31	-97.82
4408	Travis	Travis	78723	TX	6.11	21166	11/29/2012	30.31	-97.68
4409	Travis	Travis	78727	TX	4.56	14330	11/29/2012	30.43	-97.71
4410	Travis	Travis	78759	TX	6.30	22898	11/29/2012	30.40	-97.75
4411	Travis	Travis	78732	TX	6.24	23086	11/29/2012	30.38	-97.89
4412	Travis	Travis	78759	TX	2.00	5000	11/29/2012	30.40	-97.75
4413	Travis	Travis	78735	TX	6.37	20296	11/29/2012	30.26	-97.86
4414	Travis	Travis	78735	TX	4.80	17262	11/29/2012	30.26	-97.86
4415	Harrison	Harrison	75672	TX	7.99	39500	11/30/2012	32.42	-94.27
4416	Hidalgo	Nueces	78516	TX	12.74	53244	12/3/2012	26.12	-98.11
4417	Bexar	Bexar	78219	TX	61.60	199058	12/4/2012	29.45	-98.39
4418	Bexar	Bexar	78260	TX	12.76	44996	12/4/2012	29.69	-98.50
4419	Bexar	Bexar	78219	TX	67.60	219218	12/4/2012	29.45	-98.39
4420	Bexar	Bexar	78219	TX	113.96	347344	12/4/2012	29.45	-98.39
4421	Taylor	Hood	79601	TX	11.76		12/6/2012	32.57	-99.68
4422	Comal	Comal	78163	TX	5.17	25075	12/7/2012	29.77	-98.51
4423	Kendall	Bexar	78006	TX	7.52	35794	12/7/2012	29.92	-98.70
4424	Collin	Collin	75069	TX	3.33	8844	12/7/2012	33.14	-96.62
4425	Comal	Comal	78132	TX	5.15	21040	12/7/2012	29.74	-98.20
4426	Travis	Travis	78732	TX	2.90	7839	12/7/2012	30.38	-97.89
4427	Travis	Travis	78736	TX	4.90	18015	12/7/2012	30.25	-97.95
4428	Travis	Travis	78617	TX	5.00	29975	12/7/2012	30.15	-97.59
4429	Travis	Travis	78702	TX	3.36	12398	12/7/2012	30.26	-97.71
4430	Travis	Travis	78735	TX	5.25	29988	12/7/2012	30.26	-97.86
4431	Travis	Travis	78744	TX	4.16	13000	12/7/2012	30.20	-97.73
4432	Travis	Travis	78748	TX	5.00	15950	12/7/2012	30.17	-97.82
4433	Travis	Travis	78748	TX	7.28	22750	12/7/2012	30.17	-97.82
4434	Travis	Travis	78733	TX	7.50	27317	12/7/2012	30.33	-97.87
4435	Travis	Travis	78748	TX	8.00	29929	12/7/2012	30.17	-97.82
4436	Travis	Travis	78733	TX	6.63	21170	12/7/2012	30.33	-97.87
4437	Travis	Travis	78734	TX	5.36	19898	12/7/2012	30.37	-97.95
4438	Travis	Travis	78730	TX	7.91	27900	12/7/2012	30.37	-97.84
4439	Travis	Travis	78738	TX	4.59	17918	12/7/2012	30.30	-97.97
4440	Bexar	Bexar	78240	TX	5.50	21186	12/10/2012	29.53	-98.61

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4441	El Paso	El Paso	79905	TX	20.28	210000	12/11/2012	31.77	-106.42
4442	Comal	Comal	78266	TX	8.50	25415	12/12/2012	29.63	-98.32
4443	Bexar	Bexar	78209	TX	6.24	23666	12/12/2012	29.49	-98.45
4444	Bexar	Bexar	78254	TX	6.67	21451	12/12/2012	29.53	-98.78
4445	Bexar	Bexar	78212	TX	4.08	16336	12/12/2012	29.46	-98.50
4446	Travis	Travis	78732	TX	5.75	18151	12/13/2012	30.38	-97.89
4447	Travis	Travis	78735	TX	2.50	10463	12/13/2012	30.26	-97.86
4448	Travis	Travis	78759	TX	6.50	23871	12/13/2012	30.40	-97.75
4449	Travis	Travis	78746	TX	4.68	14265	12/13/2012	30.31	-97.82
4450	Travis	Travis	78745	TX	4.00	15600	12/13/2012	30.22	-97.80
4451	Travis	Travis	78759	TX	7.50	33369	12/13/2012	30.40	-97.75
4452	Travis	Travis	78653	TX	7.50	24000	12/13/2012	30.33	-97.55
4453	Travis	Travis	78738	TX	7.85	37032	12/13/2012	30.30	-97.97
4454	Travis	Travis	78733	TX	10.29	39068	12/13/2012	30.33	-97.87
4455	Travis	Travis	78738	TX	7.60	24225	12/13/2012	30.30	-97.97
4456	Travis	Travis	78738	TX	7.60	24684	12/13/2012	30.30	-97.97
4457	Travis	Travis	78732	TX	5.75	18688	12/13/2012	30.38	-97.89
4458	Travis	Travis	78746	TX	5.88	23284	12/13/2012	30.31	-97.82
4459	Travis	Travis	78746	TX	6.24	28608	12/13/2012	30.31	-97.82
4460	Bexar	Bexar	78233	TX	13.92	37000	12/17/2012	29.56	-98.36
4461	Polk	Hardin	75939	TX	3.50	15822	12/17/2012	31.02	-94.85
4462	Bexar	Bexar	78254	TX	28.91	119955	12/17/2012	29.53	-98.78
4463	Bexar	Bexar	78258	TX	13.05	38498	12/17/2012	29.65	-98.47
4464	Bexar	Bexar	78212	TX	35.64	153196	12/17/2012	29.46	-98.50
4465	Bexar	Bexar	78231	TX	6.12	23228	12/17/2012	29.58	-98.54
4466	Bexar	Bexar	78258	TX	13.92	41064	12/17/2012	29.65	-98.47
4467	Bexar	Bexar	78258	TX	20.88	61596	12/17/2012	29.65	-98.47
4468	Bexar	Bexar	78251	TX	28.91	119955	12/17/2012	29.47	-98.68
4469	Travis	Travis	78735	TX	5.72	18218	12/21/2012	30.26	-97.86
4470	Travis	Travis	78702	TX	15.18	45905	12/21/2012	30.26	-97.71
4471	Travis	Travis	78748	TX	6.86	24468	12/21/2012	30.17	-97.82
4472	Travis	Travis	78757	TX	3.75	16366	12/21/2012	30.35	-97.74
4473	Travis	Travis	78745	TX	6.50	21074	12/21/2012	30.22	-97.80
4474	Travis	Travis	78733	TX	6.00	24300	12/21/2012	30.33	-97.87
4475	Travis	Travis	78746	TX	5.28	16368	12/21/2012	30.31	-97.82
4476	Travis	Travis	78735	TX	4.35	17360	12/21/2012	30.26	-97.86
4477	Travis	Travis	78735	TX	5.28	16368	12/21/2012	30.26	-97.86
4478	Bexar	Bexar	78258	TX	5.80	22040	12/21/2012	29.65	-98.47
4479	Bexar	Bexar	78260	TX	7.52	36472	12/26/2012	29.69	-98.50
4480	Bexar	Bexar	78223	TX	1.92	8688	12/26/2012	29.30	-98.41

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4481	Bexar	Bexar	78258	TX	7.50	35227	12/26/2012	29.65	-98.47
4482	Bexar	Bexar	78260	TX	7.14	28560	12/26/2012	29.69	-98.50
4483	Bexar	Bexar	78244	TX	1.48	6669	12/26/2012	29.47	-98.35
4484	Bexar	Bexar	78258	TX	7.75	36720	12/26/2012	29.65	-98.47
4485	Travis	Travis	78735	TX	6.00	20625	12/27/2012	30.26	-97.86
4486	Travis	Travis	78735	TX	7.50	27360	12/27/2012	30.26	-97.86
4487	Travis	Travis	78747	TX	7.50	27160	12/27/2012	30.13	-97.73
4488	Travis	Travis	78752	TX	5.28	18112	12/27/2012	30.33	-97.71
4489	Travis	Travis	78731	TX	6.00	24300	12/27/2012	30.35	-97.77
4490	Bexar	Bexar	78259	TX	13.20	37286	12/28/2012	29.62	-98.43
4491	Bexar	Bexar	78259	TX	9.43	56052	12/28/2012	29.62	-98.43
4492	Bexar	Bexar	78261	TX	1.44	10500	12/28/2012	29.70	-98.41
4493	Bexar	Bexar	78259	TX	1.44	10500	12/28/2012	29.62	-98.43
4494	Bexar	Bexar	78254	TX	8.16	27657	12/28/2012	29.53	-98.78
4495	Bexar	Bexar	78254	TX	6.96	23316	12/28/2012	29.53	-98.78
4496	Bexar	Bexar	78261	TX	1.44	10500	12/28/2012	29.70	-98.41
4497	Bexar	Bexar	78251	TX	7.28	25929	12/28/2012	29.47	-98.68
4498	Tarrant	Tarrant	76244	TX	5.00	18745	2/1/2013	31.02	-94.85
4499	Travis	Travis	78745	TX	8.00	25500	2/5/2013	30.23	-97.81
4500	Tarrant	Tarrant	76244	TX	5.00	18211	2/19/2013	31.02	-94.85
4501	Dallas	Dallas	75228	TX	8.25	29987	2/27/2013	32.87	-96.70
4502	Dallas	Dallas	75053	TX	5.50	22605	2/28/2013	33.04	-96.83
4503	Bell	Williamson	76543	TX	4.50	18621	3/8/2013	31.02	-94.85
4504	Bexar	Bexar	78205	TX	60.00	NA	4/1/2013	29.42	-98.49
4505	Dallas	Dallas	75254	TX	9.75	29250	4/4/2013	32.87	-96.70
4506	Rockwall	Rockwall	75087	TX	3.00	14336	5/3/2013	33.04	-96.83
4507	Collin	Collin	75074	TX	8.00		5/3/2013	33.02	-96.67
4508	Bexar	Bexar	78258	TX	4.16	16557	5/8/2013	29.63	-98.51
4509	Dallas	Dallas	75048	TX	7.50	26635	5/9/2013	33.04	-96.83
4510	Hunt	Hunt	75135	TX	9.75	36664	5/9/2013	33.06	-96.38
4511	Tarrant	Tarrant	76051	TX	8.25	27663	5/13/2013	32.95	-97.08
4512	Collin	Collin	75023	TX	4.50	18660	5/14/2013	33.06	-96.73
4513	Dallas	Dallas	75209	TX	11.76		5/24/2013	32.85	-96.82
4514	Dallas	Dallas	75006	TX	16.17		6/14/2013	32.97	-96.89
4515	Dallas	Dallas	75048	TX	5.10	19355	6/26/2013	33.04	-96.83
4516	Travis	Travis	78704	TX	202.00	NA	6/26/2013	30.24	-97.77
4517	Travis	Travis	78745	TX	52.00	NA	7/5/2013	30.21	-97.80
4518	Dallas	Dallas	75062	TX	14.00		8/5/2013	32.84	-96.98
4519	Dallas	Dallas	75080	TX	226.92		8/6/2013	32.95	-96.73
4520	Collin	Collin	75075	TX	3.75	17181	8/13/2013	33.02	-96.74

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4521	Kaufman	Kaufman	75126	TX	5.23	25575	8/27/2013	33.06	-96.38
4522	Dallas	Dallas	75041	TX	3.12		8/28/2013	32.88	-96.65
4523	Bexar	Bexar	78259	TX	5.40	18900	9/2/2013	29.61	-98.44
4524	Ellis	Ellis	75125	TX	9.80	35809	9/6/2013	33.06	-96.38
4525	Travis	Travis	78723	TX	169.00	NA	9/11/2013	30.30	-97.69
4526	Dallas	Dallas	75050	TX	14.00		9/23/2013	32.78	-97.02
4527	Collin	Collin	75093	TX	1.50		10/31/2013	33.04	-96.82
4528	Tarrant	Tarrant	76051	TX	275.52		11/6/2013	32.95	-97.07
4529	Collin	Collin	75025	TX	440.16		11/6/2013	33.09	-96.76
4530	Dallas	Dallas	75234	TX	258.72		11/6/2013	32.92	-96.87
4531	Dallas	Dallas	75082	TX	264.11		11/12/2013	33.00	-96.66
4532	El Paso	El Paso	79916	TX	8.64		11/15/2013	31.82	-106.41
4533	Dallas	Dallas	75235	TX	5.00		11/15/2013	32.83	-96.85
4534	Bexar	Bexar	78221	TX	41000.00		12/18/2013	29.30	-98.50
4535	Collin	Collin	75025	TX	3.00	9526	1/6/2014	33.09	-96.76
4536	Collin	Collin	75025	TX	9.00	27959	1/6/2014	33.09	-96.76
4537	Dallas	Dallas	75214	TX	5.83	17845	1/8/2014	32.82	-96.74
4538	Collin	Collin	75024	TX	5.00	15876	1/13/2014	33.08	-96.81
4539	Collin	Collin	75025	TX	7.50	23814	1/13/2014	33.09	-96.76
4540	Loving	El Paso	79754	TX	119.00		1/15/2014	31.82	-103.66
4541	Loving	El Paso	79754	TX	59.50		1/15/2014	31.82	-103.66
4542	Bexar	Bexar	78231	TX	23.04		1/15/2014	29.58	-98.54
4543	Collin	Collin	75023	TX	7.00	21746	1/20/2014	33.06	-96.73
4544	Collin	Collin	75023	TX	5.50	17464	1/20/2014	33.06	-96.73
4545	Denton	Denton	75034	TX	7.00	23000	1/20/2014	33.14	-96.86
4546	Collin	Collin	75075	TX	5.00	15533	1/27/2014	33.02	-96.74
4547	Collin	Collin	75075	TX	4.00	12426	1/27/2014	33.02	-96.74
4548	Dallas	Dallas	75230	TX	7.25	26566	1/27/2014	32.87	-96.70
4549	Collin	Collin	75035	TX	5.00	18975	2/3/2014	33.15	-96.76
4550	Collin	Collin	75023	TX	4.75	13918	2/3/2014	33.06	-96.73
4551	Collin	Collin	75023	TX	4.50	13980	2/3/2014	33.06	-96.73
4552	Collin	Collin	75075	TX	8.75	27183	2/10/2014	33.02	-96.74
4553	Collin	Collin	75075	TX	4.50	14288	2/10/2014	33.02	-96.74
4554	Harris	Harris	77032	TX	81.86		2/15/2014	29.97	-95.32
4555	Collin	Collin	75074	TX	6.00	18640	2/17/2014	33.02	-96.67
4556	Collin	Collin	75074	TX	8.00	24853	2/17/2014	33.02	-96.67
4557	Collin	Collin	75075	TX	4.00	12426	2/24/2014	33.02	-96.74
4558	Collin	Collin	75075	TX	2.50	7767	2/24/2014	33.02	-96.74
4559	Collin	Collin	75093	TX	3.25	10096	2/24/2014	33.04	-96.82
4560	Collin	Collin	75093	TX	5.50	17464	3/3/2014	33.04	-96.82

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4561	Collin	Collin	75093	TX	4.50	14288	3/3/2014	33.04	-96.82
4562	Collin	Collin	75075	TX	2.50	7767	3/3/2014	33.02	-96.74
4563	Collin	Collin	75074	TX	5.50	20983	3/10/2014	33.02	-96.67
4564	Collin	Collin	75074	TX	10.00	34226	3/10/2014	33.02	-96.67
4565	Bexar	Bexar	78109	TX	4400.00		3/12/2014	29.47	-98.33
4566	Dallas	Dallas	75209	TX	10.00	23505	3/20/2014	32.85	-96.82
4567	Dallas	Dallas	75229	TX	5.40	15555	3/21/2014	32.90	-96.87
4568	Collin	Collin	75078	TX	10.00	34986	3/24/2014	33.24	-96.80
4569	Ellis	Ellis	75154	TX	2.00	7350	4/3/2014	32.51	-96.77
4570	Collin	Collin	75024	TX	5.60	16648	4/10/2014	33.08	-96.81
4571	Kaufman	Kaufman	75126	TX	8.80	26290	6/17/2014	32.75	-96.40
4572	Collin	Collin	75075	TX	6.88	16104	7/2/2014	33.02	-96.74
4573	Collin	Collin	75075	TX	5.40	12500	7/3/2014	33.02	-96.74
4574	Dallas	Dallas	75040	TX	0.25		7/9/2014	32.94	-96.63
4575	Dallas	Dallas	75040	TX	0.25		7/9/2014	32.94	-96.63
4576	Dallas	Dallas	75040	TX	9.50		7/9/2014	32.94	-96.63
4577	Dallas	Dallas	75040	TX	0.25		7/9/2014	32.94	-96.63
4578	Dallas	Dallas	75040	TX	1.00		7/9/2014	32.94	-96.63
4579	Dallas	Dallas	75040	TX	1.00		7/9/2014	32.94	-96.63
4580	Dallas	Dallas	75040	TX	0.50		7/9/2014	32.94	-96.63
4581	Dallas	Dallas	75040	TX	1.00		7/9/2014	32.94	-96.63
4582	Dallas	Dallas	75041	TX	0.25		7/9/2014	32.88	-96.65
4583	Dallas	Dallas	75041	TX	0.50		7/9/2014	32.88	-96.65
4584	Dallas	Dallas	75041	TX	0.25		7/9/2014	32.88	-96.65
4585	Dallas	Dallas	75040	TX	4.00		7/9/2014	32.94	-96.63
4586	Dallas	Dallas	75040	TX	0.25		7/9/2014	32.94	-96.63
4587	Dallas	Dallas	75043	TX	0.25		7/9/2014	32.85	-96.59
4588	Dallas	Dallas	75043	TX	0.25		7/9/2014	32.85	-96.59
4589	Dallas	Dallas	75043	TX	7.59		7/9/2014	32.85	-96.59
4590	Dallas	Dallas	75042	TX	0.50		7/9/2014	32.92	-96.68
4591	Dallas	Dallas	75042	TX	0.25		7/9/2014	32.92	-96.68
4592	Dallas	Dallas	75043	TX	7.50		7/9/2014	32.85	-96.59
4593	Dallas	Dallas	75043	TX	1.00		7/9/2014	32.85	-96.59
4594	Dallas	Dallas	75043	TX	1.00		7/9/2014	32.85	-96.59
4595	Dallas	Dallas	75043	TX	1.00		7/9/2014	32.85	-96.59
4596	Dallas	Dallas	75043	TX	4.20		7/9/2014	32.85	-96.59
4597	Dallas	Dallas	75044	TX	0.25		7/9/2014	32.96	-96.67
4598	Collin	Collin	75075	TX	8.00	15400	7/11/2014	33.02	-96.74
4599	Collin	Collin	75025	TX	4.00	7840	7/14/2014	33.09	-96.76
4600	Collin	Collin	75023	TX	5.50	12443	7/18/2014	33.06	-96.73

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kWDC)	Cost	Date Installed	Latitude	Longitude
4601	Collin	Collin	75093	TX	4.32	9492	7/21/2014	33.04	-96.82
4602	Collin	Collin	75093	TX	6.05	13695	7/25/2014	33.04	-96.82
4603	Collin	Collin	75013	TX	338.92		7/25/2014	33.11	-96.70
4604	Dallas	Dallas	75244	TX	9.72	19631	7/28/2014	32.93	-96.84
4605	Collin	Collin	75093	TX	4.40	9252	8/5/2014	33.04	-96.82
4606	Collin	Collin	75093	TX	4.05	9072	8/8/2014	33.04	-96.82
4607	Collin	Collin	75025	TX	6.88	15132	8/11/2014	33.09	-96.76
4608	Collin	Collin	75023	TX	3.30	7633	8/11/2014	33.06	-96.73
4609	Dallas	Dallas	75019	TX	358.39		8/13/2014	32.96	-97.00
4610	Dallas	Dallas	75225	TX	20.00		8/15/2014	32.87	-96.79
4611	Collin	Collin	75025	TX	4.13	8800	8/21/2014	33.09	-96.76
4612	Collin	Collin	75075	TX	6.05	12463	8/25/2014	33.02	-96.74
4613	Travis	Travis	78748	TX	3.50	14400	8/26/2014	30.16	-97.81
4614	Collin	Collin	75023	TX	5.50	12705	8/27/2014	33.06	-96.73
4615	Collin	Collin	75025	TX	7.70	33384	9/3/2014	33.09	-96.76
4616	Pecos	El Paso	79735	TX	18000.00		9/4/2014	30.89	-102.88
4617	Collin	Collin	75093	TX	7.02	18613	9/11/2014	33.04	-96.82
4618	Collin	Collin	75024	TX	5.00	10626	9/16/2014	33.08	-96.81
4619	Collin	Collin	75023	TX	6.00	12100	9/19/2014	33.06	-96.73
4620	Tarrant	Tarrant	76180	TX	6.75	15535	9/22/2014	32.84	-97.23
4621	Dallas	Dallas	75141	TX	1379.21	3000000	10/1/2014	32.66	-96.71
4622	Dallas	Dallas	75182	TX	5.50	11742	10/7/2014	32.81	-96.55
4623	Collin	Collin	75074	TX	4.25	7565	10/10/2014	33.02	-96.67
4624	Collin	Collin	75023	TX	3.85	8605	10/13/2014	33.06	-96.73
4625	Collin	Collin	75409	TX	5.23	11704	10/17/2014	33.33	-96.51
4626	Collin	Collin	75093	TX	3.85	8889	10/20/2014	33.04	-96.82
4627	Collin	Collin	75074	TX	4.40	9306	10/21/2014	33.02	-96.67
4628	Tarrant	Tarrant	76002	TX	4.50	13752	10/27/2014	32.63	-97.09
4629	Collin	Collin	75023	TX	2.00	9552	10/29/2014	33.06	-96.73
4630	Tarrant	Tarrant	76118	TX	21.00	48600	10/29/2014	32.79	-97.17

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
4631	Collin	Collin	75075	TX	4.08	12000	10/30/2014	33.0208716	-96.7386946
4632	Collin	Collin	75075	TX	5.5	11798	10/31/2014	33.0208716	-96.7386946
4633	Collin	Collin	75093	TX	50.5		11/11/2014	33.0386278	-96.8243812
4634	Denton	Denton	75067	TX	10.5		12/1/2014	33.0067086	-96.9960925
4635	Lamar	Hunt	75462	TX	10	33740	12/9/2014	33.5395863	-95.5197394
4636	Dallas	Dallas	75146	TX	112.25		12/10/2014	32.5704036	-96.7601057
4637	Tarrant	Tarrant	76092	TX	487.56		12/17/2014	32.9533477	-97.1467072
4638	Grayson	Collin	75076	TX	5	12950	12/18/2014	33.7695151	-96.7279918
4639	Dallas	Dallas	75134	TX	665.23	NA	n.d./2014	32.637987	-96.798794
4640	Travis	Travis	78701	TX	149.76	NA	n.d./2014	30.268314	-97.7393
4641	Travis	Travis	78701	TX	33.66	NA	n.d./2014	30.268755	-97.748403
4642	Williamson	Williamson	78717	TX	258.3	NA	n.d./2014	30.482825	-97.775906
4643	Travis	Travis	78723	TX	74.15	NA	n.d./2014	30.323691	-97.672634
4644	Travis	Travis	78739	TX	8.85	NA	n.d./2014	30.185384	-97.873197
4645	Travis	Travis	78753	TX	260	NA	n.d./2014	30.339355	-97.693957
4646	Travis	Travis	78754	TX	227	NA	n.d./2014	30.331224	-97.669033
4647	Travis	Travis	78757	TX	260	NA	n.d./2014	30.354044	-97.731415
4648	Hill	#N/A	76692	TX	8.28	39628	1/7/2015		
4649	Collin	Collin	75023	TX	4.5	9310	1/14/2015		
4650	Harris	Harris	77034	TX	5.25		1/20/2015		
4651	Dallas	Dallas	75048	TX	10	24900	2/4/2015		
4652	Dallas	Dallas	75248	TX	9.9	25245	2/10/2015		
4653	Dallas	Dallas	75146	TX	677		2/13/2015		
4654	Tarrant	Tarrant	76108	TX	11.2	23759	3/26/2015		
4655	Collin	Collin	75070	TX	7	19903	3/31/2015		
4656	Collin	Collin	75023	TX	7	12970	4/3/2015		
4657	Ellis	Ellis	76065	TX	7	17220	5/21/2015		
4658	Dallas	Dallas	75209	TX	6.16	12781	5/28/2015		
4659	Denton	Denton	76227	TX	2661.1		6/5/2015		
4660	Dallas	Dallas	75243	TX	6	18199	6/10/2015		

Table 10-1: Solar Photovoltaic Projects: Data and Information (cont.)

Project No.	County in Texas	County for ECALC	Zipcode	State	Size (kW DC)	Cost	Date Installed	Latitude	Longitude
4661	Collin	Collin	75025	TX	8.75	17223	6/12/2015		
4662	Tarrant	Tarrant	76102	TX	136		6/17/2015		
4663	Collin	Collin	75070	TX	10	26360	6/19/2015		
4664	Harris	Harris	77030	TX	85.32		6/26/2015		
4665	Dallas	Dallas	75225	TX	6.325	9919	7/2/2015		
4666	Dallas	Dallas	75243	TX	8.96	19367	7/10/2015		
4667	Denton	Denton	75022	TX	9.52	19368	7/11/2015		
4668	Dallas	Dallas	75243	TX	8.96	27668	7/13/2015		
4669	Hill	#N/A	76692	TX	8.28	43727	7/20/2015		
4670	Harris	Harris	77433	TX	10		7/31/2015		
4671	Travis	Travis	78660	TX	8.68	34470	8/14/2015		
4672	Collin	Collin	75002	TX	11.76	40760	8/21/2015		
4673	Hill	#N/A	76692	TX	3.45	15649	9/15/2015		
4674	Nolan	Nolan	79556	TX	25.2		9/16/2015		
4675	Dallas	Dallas	75243	TX	8.4	20850	9/17/2015		
4676	Rockwall	Rockwall	75189	TX	9.455	32090	9/21/2015		
4677	Rockwall	Rockwall	75189	TX	9.455	32086	9/28/2015		
4678	Tarrant	Tarrant	76134	TX	100		10/1/2015		
4679	Ellis	Ellis	76065	TX	883.5		10/12/2015		
4680	Rockwall	Rockwall	75087	TX	10.2	23856	10/21/2015		
4681	Collin	Collin	75013	TX	9.8	32500	11/23/2015		
4682	Denton	Denton	76203	TX	21	66570	12/4/2015		
4683	Dallas	Dallas	75209	TX	12.6	45990	12/18/2015		
4684	Denton	Denton	75077	TX	7.42	25161	12/22/2015		

Table 10-2: Solar Thermal Projects up to 2015

Project No	City	County	County for eCalc	Project Purpose	Model	Collector Area (sqft)	Number of collectors	Total Area (sqft)	Slope (degree)	Azimuth (i.e. South=0, West (-) and East (+))	Fluid
1	Austin	Travis	Travis	Domestic Hot Water (DHW)	N/A	N/A	2	N/A	N/A	0	Antifreeze
2	Austin	Travis	Travis	Domestic Hot Water (DHW)	SS HX Drainback	26.25	3	78.75	20	0	Water
3	Round Rock	Williamson	Williamson	Domestic Hot Water (DHW)	SS HX Drainback	26.25	2	52.5	20	-90	Water
4	Dripping Springs	Hays	Hays	Domestic Hot Water (DHW)	SS HX Drainback	26.25	2	52.5	20	20	Water
5	San Antonio	Bexar	Bexar	Domestic Hot Water (DHW)	SS HX Drainback	26.25	2	52.5	20	0	Water
6	San Antonio	Bexar	Bexar	Pool Heating System	FS collector	32	8	256	20	-45	Water
7	N/A	N/A	N/A	Domestic Hot Water (DHW)	SS HX Drainback	26.25	3	78.75	20	-45	Water
8	N/A	N/A	N/A	Domestic Hot Water (DHW)	SS HX Drainback	26.25	2	52.5	20	-45	Water
9	Midland	Midland	El paso	Pool Heating System-city of midland aquatic center	HC 50 collectors-make:APS	50	256	12800	N/A	N/A	Water
10	Lubbock	Lubbock	Parker	Pool Heating System-Lubbock TX State School	HC 50 collectors-make:APS	50	36	1800	N/A	N/A	Water
11	Corpus Christi	Nueces	Nueces	Pool Heating System-Corpus Christi TX State School	HC 50 collectors-make:APS	50	36	1800	N/A	N/A	Water
12	Richmond	Fort Bend	Fort Bend	Pool Heating System-Richmond TX State School	HC 50 collectors-make:APS	50	36	1800	N/A	N/A	Water
13	Elpaso	El paso	El paso	Pool Heating System-University of Elpaso recreation facility	HC 50 collectors-make:APS	50	120	6000	N/A	N/A	Water
14	Elpaso	El paso	El paso	Pool Heating System-University of Elpaso recreation facility	HC 50 collectors-make:APS	50	128	6400	N/A	N/A	Water
15	edinburg	Hidalgo	Nueces	Pool heating system for Gym spa	make : APS	N/A	34	600+	N/A	N/A	Water
16	pearland	Brazoria	Brazoria	Pool heating system-residential	make : APS	N/A	7	N/A	N/A	N/A	Water
17	cleveland	Liberty	Liberty	Domestic Hot Water (DHW)	make : APS	N/A	N/A	N/A	N/A	N/A	Water
18	Austin	Travis	Travis	Pool heating system at the Jester Club	make: FAFCO	N/A	N/A	N/A	N/A	N/A	Water
19	Austin	Travis	Travis	pool heating at Quenciera@Barton Creek	make: FAFCO	N/A	N/A	N/A	N/A	N/A	Water
20	Laredo	Webb	Nueces	Pool heating at Tjerina Ranch	make: FAFCO	N/A	N/A	N/A	N/A	N/A	Water
21	San Antonio	Bexar	Bexar	DHW system-Apartment high rise-The army resident community	30 tube Apricus collectors	25.8	180	4644	N/A	N/A	Water
22	San Antonio	Bexar	Bexar	DHW system-Assisted Living Facility-The army resident community	30 tube Apricus collectors	25.8	5	129	N/A	N/A	Water
23	Victoria	Victoria	Victoria	Domestic Hot Water (DHW)	30 tube Apricus collectors	25.8	2	51.6	N/A	N/A	Water
24	Kingsville	Kleberg	Nueces	DHW system-Texas A&M Kingsville residence hall	Evacuated tube collectors	N/A	66	N/A	N/A	N/A	Water
25	Austin	Travis	Travis	DHW system-University of Texas	Evacuated tube collectors	N/A	185	N/A	N/A	N/A	Water
26	San Antonio	Bexar	Bexar	DHW system-Army Residence Community High-Rise Apartment Building	Evacuated tube collectors	N/A	176	N/A	N/A	N/A	Water
27	San Antonio	Bexar	Bexar	DHW system-Bexar County Adult Detention Center Annex	Evacuated tube collectors	N/A	216	N/A	N/A	N/A	Water
28	San Antonio	Bexar	Bexar	DHW system-Bexar County Jail Annex	AP-30 solar collectors	N/A	220	N/A	N/A	N/A	Water
29	San Antonio	Bexar	Bexar	Domestic Hot Water (DHW)-resident project by Brooks energy & sustainability lab	N/A	N/A	N/A	N/A	N/A	N/A	Water
30	San Antonio	Bexar	Bexar	Domestic Hot Water (DHW) at city public service-northside	N/A	N/A	N/A	5000	N/A	N/A	Water
31	San Antonio	Bexar	Bexar	Domestic Hot Water (DHW)-Bexar County Adult Jail Annex	N/A	N/A	N/A	N/A	N/A	N/A	Water
32	San Antonio	Bexar	Bexar	Domestic Hot Water (DHW)	Progressive Tube Technology	N/A	N/A	N/A	N/A	N/A	Water
33	San Antonio	Bexar	Bexar	Historic Gardens phase II project by SADA	N/A	N/A	N/A	N/A	N/A	N/A	Water
34	San Antonio	Bexar	Bexar	Domestic Hot Water (DHW)-Fort sam Houston, public hot water supply	RMT modules	N/A	29	1377.95	N/A	N/A	Water
35	San Antonio	Bexar	Bexar	Domestic Hot Water (DHW)-Imagine homes	N/A	N/A	N/A	54	N/A	N/A	Water
36	San Antonio	Bexar	Bexar	Domestic Hot Water (DHW)Veterans Administration Hospitals	EC-40-1.5	N/A	320	N/A	N/A	N/A	Water
37	Killeen	Bell	Williamson	DHW system-Ft. Hood Army Base	TitanPowerPlus SU2 series	N/A	93	N/A	N/A	N/A	Water
38	San Angelo	Travis	Travis	17th Security Forces Squadron (SFS) roof at Goodfellow Air Force Base outside of San Angelo, Texas.	N/A	N/A	2	N/A	N/A	0	Antifreeze

Table 10-3: Solar Thermal Special Project

Special Case	
Location	Fort Sam Houston, San Antonio TX
Date	3-Jun
Collector	Roof Mounted Parabolic Trough
Number of collectors	129
Total Aperture area (sqft)	4515
Maximum operation temperature (°F)	400
Annual Energy Consumption (KWh/yr)	270583
Annual Energy Consumption OSD (KWh/yr) (KWh/yr)	741.3

Table 10-4: Geothermal Heat Pump Energy Projects up to 2015

Project No	Project	County	Implementation Date	Capacity (ton)	Area (sqft)
1	Birdville High School Campus	Denton	2001	N/A	N/A
2	Texas Motor Speedway	Denton	1998	N/A	N/A
3	George W. Bush's ranch	McLennan	2001	14	N/A
4	Esperanza del Sol, Dallas (Hope of the Sun)	Dallas	1994	18	15,276
5	Hillside Oaks, East Dallas	Dallas	1997	366	276,120
6	Pease Elementary School, Austin	Travis	1994	90	39,162
7	Brooke Elementary School	Travis	1993	150	51,605
8	Govalle Elementary School	Travis	1994	230	89,319
9	Bailey Middle School, Austin	Travis	1992	512	200,000
10	Home in Iowa Park	Wichita	1997	1	1,668
11	The Home of the Future	Dallas	1997	13	4,573
12	Birdville Athletic Complex / Stadium	Tarrant	post 1992	N/A	60,000
13	Frisco ISD Administration Building and Network Operations Center	Collin	post 1992	N/A	20,000+
14	Aubrey Athletic Complex / Stadium	Denton	post 2002	64	25,807
15	Lake Dallas Athletic Complex / Stadium	Denton	post 2001	63	43,500
16	Wakeland High School	Collin	post 1992	1,010	335,932
17	Lovejoy High School	Collin	post 2004	793	216,290
18	Grand Prairie High Ninth Grade Center	Dallas	post 2000	598	150,000+
19	South Grand Prairie High Ninth Grade Center	Dallas	post 2001	atleast 133	100,000+
20	Renovations to HVAC System at South Grand Prairie High School	Dallas	post 2001	69	12,500
21	Renovations to HVAC System at South Grand Prairie High School	Dallas	post 2002	64	49,000
22	David Daniels Elementary	Dallas	post 1992	N/A	70,000+
23	Edelweiss Daniels Elementary	Dallas	post 2000	305	72,872
24	Crockett Elementary	Dallas	post 2000	305	72,872
25	Kirby Elementary	Dallas	post 2000	305	72,872
26	Renovations to HVAC System at Lee Middle School	Dallas	post 1992	214	136,600 +
27	Rebuild of Lee Middle School (Fire Damage)	Dallas	post 2000	64	2,800
28	Renovations/Additions to Adams Middle School	Dallas	post 1992	N/A	N/A
29	Renovations/Additions to North Oaks Middle School	Tarrant	post 1992	N/A	71,000+
30	Renovations/Additions to North Richland Middle School	Tarrant	post 1992	273	80,000+

Table 10-4: Geothermal Heat Pump Energy Projects up to 2015 (cont.)

Project No	Project	County	Implementation Date	Capacity (ton)	Area (sqft)
31	Watauga Middle School	Tarrant	post 2000	N/A	80,000+
32	HVAC Renovation for Watauga Middle School	Tarrant	post 1992	23	1987 added
33	Renovations to HVAC System at Eisenhower Elementary	Dallas	post 1992	N/A	N/A
34	Renovations/Additions to Rayburn Elementary	Dallas	post 1992	N/A	38,000+
35	Renovations/Additions to Watauga Elementary School	Tarrant	post 1992	N/A	56,000+
36	Renovations/Additions to Smithfield Elementary School	Tarrant	post 1992	N/A	56,000+
37	Renovations to David E. Smith Elementary School	Tarrant	2003	30	45,000+
38	Renovations/Additions to Green Valley Elementary School	Tarrant	post 2000	8	50,000+
39	Renovations/Additions to Richland Elementary School	Tarrant	post 1992	221	38,000+
40	Renovations/Additions to Birdville Elementary School	Tarrant	post 1992	N/A	32,000+
41	Renovations/Additions to Grace Hardeman Elementary	Tarrant	post 2000	12	N/A
42	W.A. Porter Elementary School	Tarrant	post 2000	N/A	48,000+
43	Renovations/Additions to W.A. Porter Elementary School	Tarrant	post 2000	12	1963 added
44	Haltom Middle School	Tarrant	post 1992	N/A	109,000
45	HVAC Renovation for Haltom Middle School	Tarrant	post 2000	22	6730 added
46	HVAC Renovation for Richland Middle School	Tarrant	post 1992	N/A	91,000
47	HVAC Renovation for North Oaks Middle School	Tarrant	post 1992	N/A	70,000
48	HVAC Renovation for North Richland Middle School	Tarrant	post 1992	N/A	75,000
49	Holiday Heights Elementary	Tarrant	post 2000	N/A	40,000
50	HVAC Renovation for Holiday Heights Elementary	Tarrant	post 2000	12	2923 added
51	HVAC Renovation for Watauga Elementary	Tarrant	post 1992	N/A	40,000
52	HVAC Renovation for David E. Smith Elementary	Tarrant	post 1992	N/A	35,000
53	HVAC Renovation for West Birdville Elementary	Tarrant	post 1992	N/A	42,000
54	HVAC Renovation for Glenview Elementary	Tarrant	post 1992	N/A	40,000
55	HVAC Renovation for South Birdville Elementary	Tarrant	post 1992	149	38,000
56	HVAC Renovation for WT Francisco Elementary	Tarrant	post 2000	26	31,000
57	HVAC Renovation for Foster Village Elementary	Tarrant	post 2000	12	66,000
58	Snow Heights Elementary	Tarrant	post 2000	124	33,000
59	Renovations/Additions to Snow Heights Elementary School	Tarrant	post 2000	8	1963 added
60	HVAC Renovation for OH Stowe Elementary	Tarrant	post 1992	N/A	40,000

Table 10-4: Geothermal Heat Pump Energy Projects up to 2015 (cont.)

Project No	Project	County	Implementation Date	Capacity (ton)	Area (sqft)
61	Jackson Middle School	Dallas	post 2000	365	100,000+
62	Renovations to HVAC System at Jackson Middle School	Dallas	post 2000	N/A	N/A
63	Renovations/Additions to Richland Elementary School	Tarrant	post 1992	N/A	38,000+
64	Renovations/Additions to Birdville Elementary School	Tarrant	post 1992	N/A	32,000+
65	HVAC Renovation for Rayburn Elementary School	Dallas	post 1992	N/A	N/A
66	HVAC Renovation for North Oaks Middle School	Tarrant	post 1992	204	70,000
67	HVAC Renovation for Watuaga Elementary	Tarrant	post 2000	26	40,000
68	Anchor Church	Tarrant	post 1992	N/A	40,000+
69	Little Elm Elementary	Denton	post 2001	218	70,000+
70	Griffen Parc Middle School	Collin	2004	383	151,566
71	Riddle Elementary	Collin	2003	238	70,000+
72	Boals Elementary	Collin	2003	238	74,300
73	Lake Dallas Middle School	Denton	post 2003	538	250,000+
74	North Elementary	Tarrant	post 1992	N/A	110,000+
75	Isbell Elementary	Collin	2004	279	75,904
76	Bledsoe Elementary	Collin	2005	279	75,904
77	Roach Middle School	Collin	post 1992	N/A	120,000+
78	Fowler Middle School	Collin	2006	488	138,651
79	North Star Elementary	Tarrant	post 1992	N/A	70,000+
80	Hometown Elementary School	Tarrant	post 1992	N/A	70,000+
81	Liberty High School	Collin	2007	1,051	306,179
82	Ashley Elementary	Collin	2005	279	75,325
83	Ogle Elementary	Collin	2006	279	75,904
84	Sem Elementary	Collin	post 1992	N/A	70,000+
85	Corbell Elementary	Collin	2005	279	76,814
86	Taylor Elementary	Collin	post 1992	N/A	70,000+
87	Middle School #5	Tarrant	post 1992	N/A	1,40,000+
88	Intermediate School #5	Tarrant	post 1992	N/A	1,20,000+
89	Liberty Elementary	Tarrant	post 1992	N/A	70,000+
90	Stafford Middle School	Collin	2008	509	142,108

Table 10-4: Geothermal Heat Pump Energy Projects up to 2015 (cont.)

Project No	Project	County	Implementation Date	Capacity (ton)	Area (sqft)
91	Scoggins Middle School	Collin	2008	512	124,108
92	Elementary #10	Tarrant	post 1992	N/A	70,000+
93	Elementary #11	Tarrant	post 1992	N/A	70,000+
94	Elementary #12	Tarrant	post 1992	N/A	70,000+
95	Elementary #13	Tarrant	post 1992	N/A	70,000+
96	Middle School #4	Tarrant	2006	624	151,417
97	Robertson Elementary	Collin	2007	291	75,902
98	Mooneyham Elementary	Collin	2007	291	75,902
99	Carrol Elementary	Collin	2007	292	75,902
100	Brookstone Elementary	Collin	2008	292	75,902
101	Tadlock Elementary	Collin	2008	307	77,184
102	Aubrey Intermediate/Middle School	Denton	post 2004	210	80,000+
103	Florence Hill Elementary	Dallas	post 2003	160	70,000+
104	Garner Elementary	Dallas	post 2004	160	70,000+
105	Bowie Elementary	Dallas	post 2004	44	25,000+
106	High School #5	Collin	post 1992	N/A	300,000+
107	High School #6	Collin	post 1992	N/A	300,000+
108	Memorial Stadium Field House	Collin	2004	27	10,000+
109	Rogers Elementary	Collin	post 2006	221	63,000+
110	Camp Wisdom Elementary	Dallas	post 1992	N/A	70,000+
111	Additions to Anderson Elementary	Collin	2003	30	9,000+
112	Additions to Borchardt Elementary	Collin	post 1992	N/A	9,000+
113	Bright Elementary	Collin	2004	30	9,000+
114	Additions to Christi Elementary	Collin	2004	30	9,000+
115	Additions to Curtsinger Elementary	Collin	post 1992	N/A	9,000+
116	Additions to Fisher Elementary	Collin	2003	30	9,000+
117	Additions to Shawnee Trail Elementary	Collin	post 1992	N/A	9000 +
118	CATE Center (Career and Technology)	Collin	2008	402	100, 000+
119	CTE at Centennial High School (Career and Technology)	Collin	2007	16	9000+
120	Staley Middle School Field House	Collin	2004	12	6000+

Table 10-4: Geothermal Heat Pump Energy Projects up to 2015 (cont.)

Project No	Project	County	Implementation Date	Capacity (ton)	Area (sqft)
121	West Transportation Facility	Collin	2008	80	26,148
122	McKinney Lofts	Dallas	N/A	N/A	N/A
123	Havana Club Apartments	Bexar	N/A	N/A	N/A
124	Hogg Palace Lofts	Harris	N/A	N/A	N/A
125	South Main Baptist Church	Harris	N/A	N/A	N/A
126	The Tower	Tarrant	N/A	N/A	N/A
127	Edgemere	Dallas	N/A	N/A	N/A
128	Radisson Carlson Park	Bexar	N/A	N/A	N/A
129	Biggs Field Project	El Paso	N/A	N/A	N/A
130	Denison Housing Authority	Grayson	N/A	N/A	N/A
131	Fort Sam Houston Barracks	Bexar	N/A	N/A	N/A
132	Fort Sam Houston Building 905/906	Bexar	N/A	N/A	N/A
133	Fort Walters	Palo pinto	N/A	N/A	N/A
134	Drury Inn & Suites	Bexar	N/A	N/A	N/A
135	Lexington Hotel Suites	Tarrant	N/A	N/A	N/A
136	Arnold Middle School	Dallas	N/A	N/A	N/A
137	Shaner Hotel	Bexar	N/A	N/A	N/A
138	Holiday Inn Northwest	Bexar	N/A	N/A	N/A
139	2ND Home Suites	Dallas	N/A	N/A	N/A
140	Homewood Suites	Bexar	N/A	N/A	N/A
141	Air Dynamics	Dallas	N/A	N/A	N/A
142	Radiatas	Webb	N/A	N/A	N/A
143	Hensley Field Operations Center	Dallas	N/A	N/A	N/A
144	Southwest Plaza Base Bldg	Dallas	N/A	N/A	N/A
145	Air Performance	Dallas	N/A	N/A	N/A
146	Meadwest VA Co.	Harris	N/A	N/A	N/A
147	Gap #1550 Mockingbird Station	Dallas	N/A	N/A	N/A
148	Kirby Building	Dallas	N/A	N/A	N/A
149	USSA Towers	Bexar	N/A	N/A	N/A
150	Trinity Towers	Nueces	N/A	N/A	N/A

Table 10-4: Geothermal Heat Pump Energy Projects up to 2015 (cont.)

Project No	Project	County	Implementation Date	Capacity (ton)	Area (sqft)
151	Sonny Bryans BBQ	Dallas	N/A	N/A	N/A
152	L'Etoile Restaurant	Bexar	N/A	N/A	N/A
153	Sweeny Ind.Sch. Dist.Warehouse	Brazoria	N/A	N/A	N/A
154	Freylands Elementary	Chambers	N/A	N/A	N/A
155	Mustang Mech. Montwood High	El Paso	N/A	N/A	N/A
156	Boerne Elementary School	Kendall	N/A	N/A	N/A
157	City View Schools	Wichita	N/A	N/A	N/A
158	Montwood High School Addition	El Paso	N/A	N/A	N/A
159	Montwood High School Auditorium	El Paso	N/A	N/A	N/A
160	The Island on Lake Travis	Travis	N/A	N/A	N/A
161	Allen Campus	Brazos	N/A	N/A	N/A
162	Judson Lofts	Bexar	N/A	N/A	N/A
163	pink elementary school	Collin	2005	286	75,904
164	Griffin middle school	Collin	2002	N/A	N/A
165	Joslin Elementary	Travis	1991	N/A	N/A
166	Brent wood Elementary	Travis	1991	N/A	N/A
167	Walnut Creek Elementary	Travis	1991	N/A	N/A
168	Sims Elementary	Travis	1991	N/A	N/A
169	F R Rice Elementary	Travis	1991	N/A	N/A
170	T A Brown Elementary	Travis	1991	N/A	N/A
171	Canyon Ridge Middle School	Williamson	2004	N/A	N/A
172	Vista Ridge High School	Williamson	2004	N/A	N/A
173	Pleasant Hill Elementary	Williamson	2005	N/A	N/A
174	Good Night Middle school	Hays	1985	N/A	N/A
175	Santa Teresa Elementary	Hays	N/A	125	N/A
176	Santa Teresa Middle School	Hays	N/A	200	N/A
177	Esconreras primary kindergarten	Hays	N/A	105	N/A
178	Mullendore Elementary	Tarrant	post 1995	N/A	N/A
179	O.H. Stowe Elementary	Tarrant	post 1995	N/A	N/A
180	Austin Elementary School GPISD	Dallas	post 2000	91	atleast 21,100

Table 10-4: Geothermal Heat Pump Energy Projects up to 2015 (cont.)

Project No	Project	County	Implementation Date	Capacity (ton)	Area (sqft)
181	Fannin Elementary School GPISD	Dallas	2004	221	N/A
182	Peaster Elementary	Parker	post 1995	N/A	N/A
183	Frisco Elementary School #15	Collin	post 1995	N/A	N/A
184	Lone Star Elementary - Frisco ISD	Collin	post 1995	N/A	N/A
185	Woodland Springs Elementary - Keller ISD	Tarrant	post 1995	N/A	N/A
186	Bette Perot Elementary - Keller ISD	Tarrant	post 1995	N/A	N/A
187	Granbury Middle School East Site	Hood	post 1995	N/A	N/A
188	Frisco Elementary #18 - Shaddock	Collin	post 2007	N/A	N/A
189	Shiver Road Elementary #18 Keller ISD	Tarrant	post 2007	N/A	N/A
190	Woodland Springs Elementary #17 Keller ISD	Tarrant	post 2007	N/A	N/A
191	McDonwell Elementary (Keller ISD)	Tarrant	post 2007	N/A	N/A
192	Keller Intermediate School #5 Keller ISD	Tarrant	post 2007	N/A	N/A
193	Shady Shores Elementary	Denton	post 2007	393	75,904
194	Alta Vista Middle School #5 Keller ISD	Tarrant	post 2007	N/A	N/A
195	Brewer High School (White Settlement ISD)	Tarrant	post 2007	N/A	N/A
196	Leaky High school	Gillespie	N/A	120	N/A
197	Canutillo High School	El Paso	N/A	1,200	N/A
198	Lubbock Christian University	Lubbock	N/A	N/A	N/A
199	Rice University	Harris	N/A	N/A	N/A
200	brown building lofts	Travis	N/A	N/A	N/A
201	Wheeler county Court House	Wheeler	N/A	N/A	N/A
202	Ballinger housing authority	Runnels	N/A	N/A	N/A
203	Project under category miscellaneous cited by FHP manufacturing	Travis	N/A	N/A	N/A
204	Foreman independent school district	Bowie	N/A	N/A	N/A
205	Timber Creek High School #4	Tarrant	post '2008	117	361,141
206	Ed Wilkie Middle School #5: Geothermal Design Services	Travis	post '2008	643	N/A
207	William & Abbie Allen Elementary School	Collin	post '2008	339	83,960
208	Career & Technology Education Center	N/A	post '2008	799	247,880
209	Early Childhood School	Collin	post '2008	385	54,861
210	Burleson Elementary School #11	N/A	post '2008	284	N/A

Table 10-4: Geothermal Heat Pump Energy Projects up to 2015 (cont.)

Project No	Project	County	Implementation Date	Capacity (ton)	Area (sqft)
211	Killeen Police Headquarters: Geothermal Design	Bell	post '2008	208	88,663
212	Burleson High School #2	Tarrant	post '2008	2,126	490,447
213	Secondary Instructional Facility	Travis	post '2008	745	184,824
214	Lamar & Norma Hunt Middle School #10	Collin	post '2008	512	147,096
215	Elizabeth Cash Maus Middle School #11	Collin	post '2008	512	147,096
216	Robert Cobb Middle School #12	Collin	post '2008	512	147,096
217	D'Guiseppe (Gerald Sonntag) Elementary School: 2003 New ES	Collin	post '2008	310	77,184
218	Aubrey High School	Denton	post '2008	225	N/A
219	DFW Airport: EAD Annex	Travis	post 2009	18	N/A
220	2009 Capital Improvements @ Various Campuses	Travis	post 2009	148	N/A
221	Pre-Kindergarten School	Denton	post 2009	164	60,391
222	George & Debra Purefoy Elementary School #30	N/A	post 2009	304	N/A
223	Elementary School #14: Geothermal Design Services	N/A	post 2009	Y	N/A
224	Patricia Dean Boswell McCall Elementary School	Parker	2007	367	89,642
225	Aubrey Intermediate: Add/Reno	Denton	2007	234	69,519
226	Sam Carter Service Center	Collin	2007	116	49,377
227	Dr. Monaco Elementary School	Denton	2007	263	74,544
228	Caprock Elementary School #20	Tarrant	2007	304	92,768
229	Trinity Springs Middle School: Add.	Tarrant	2007	121	36,136
230	Milam Elementary School: 2007 Bond HVAC Replacement	Dallas	2008	131	N/A
231	Truman Middle School: HVAC Retrofit Phase 2	Dallas	under progress	146	N/A
232	Alta Vista Elementary School	Tarrant	under progress	573	N/A
233	Sandshell Elementary School #21	Travis	under progress	278	N/A
234	Corinth Primary	Denton	under progress	238	N/A
235	All Saints Episcopal School	Travis	under progress	337	N/A
236	Alliance for Children	Travis	under progress	33	N/A
237	Faithbridge Presbyterian Church	Collin	under progress	165	N/A
238	Heritage High School	Collin	2007	1,042	325,693
239	Cotulla High School	La Salle	N/A	N/A	N/A
240	Marlin Hospital	Falls	N/A	N/A	N/A

Table 10-4: Geothermal Heat Pump Energy Projects up to 2015 (cont.)

Project No	Project	County	Implementation Date	Capacity (ton)	Area (sqft)
241	Stacy Park Pool	Travis	N/A	N/A	N/A
242	1505, elm street	Dallas	N/A	N/A	N/A
243	Covington high school	Hill	N/A	N/A	N/A
244	Residential project by energyhomes.org	N/A	N/A	50	N/A
245	Residential project by reported Trane	Coryell	N/A	4	N/A
246	Golden Sands disaster recovery dome, Texas	Travis	N/A	N/A	N/A
247	Liberty county co production	Liberty	N/A	N/A	N/A
248	Department of defense-Fort Bliss project	El Paso	N/A	N/A	N/A
249	Department of defense-Fort Bliss project (Family housing)	El Paso	N/A	N/A	N/A
250	Department of defense-Fort Hood project (Family housing)	Bell	N/A	N/A	N/A
251	Department of defense-Fort Hood project (Administrative)	Bell	N/A	N/A	40,782
252	Department of defense-Dyes AFB project	Taylor	N/A	N/A	N/A
253	Rice University	Harris	2008	N/A	1,400
254	Trail Driver	Hays	N/A	N/A	N/A
255	Seregetti International Office Bldg.	Harris	N/A	18	10,000
256	Lone Star Calibration Lab	Harris	N/A	5	1,200
257	McDonalds Restaurant	Montgomery	N/A	30	2,000
258	Asia House	Harris	N/A	200	30,000
259	Rosewood Funeral Home	Harris	N/A	50	5,000
260	Leakey ISD	Real	N/A	120	45,000
261	Canutillo HS	El Paso	N/A	1,200	465,000
262	El Paso Chamb of Commerce	El Paso	N/A	100	30,000
263	South Houston Police	Harris	N/A	60	15,000
264	Conroe Medical Office Building	Montgomery	N/A	40	5,000
265	Kingwood Village Estates	Harris	N/A	150	60,000
266	Laughlin AFB	Val Verde	N/A	150	45,000
267	Texas Gov Mansion	Travis	N/A	40	12,000
268	Lubbock Christian University	Lubbock	N/A	800	350,000
269	Early Childhood Development	El Paso	N/A	100	45,000
270	Harlandale ISD	Bexar	N/A	80	25,000

Table 10-4: Geothermal Heat Pump Energy Projects up to 2015 (cont.)

Project No	Project	County	Implementation Date	Capacity (ton)	Area (sqft)
271	Shargri La Botanical Gardens	Orange	N/A	50	25,000
272	Galveston Coast Guard Station	Galveston	N/A	100	30,000
273	Billy Dade MS	Dallas	N/A	500	190,000
274	South Houston Police Station, South Houston, TX	Harris	NA	NA	NA
275	Texas Governor's Mansion in Austin	Travis	NA	NA	NA
276	Austin ISD -several schools, Austin, TX	Travis	NA	NA	NA
277	Goliad Co. Coproduction	Goliad	NA	NA	NA
278	William Beaumont New Hospital, Ft. Bliss, El Paso, TX	El Paso	NA	NA	NA
279	Finnell residence	Travis	NA	NA	NA
280	Bryan Army Reserve Center	Brazos	NA	90	49,144
281	National K Works	Harris	NA	200	60,000
282	Menil Museum Bookstore & Cafe	Harris	NA	70	10,000
283	Texas Automotive Muscle Museum	Waller	NA	70	22,000
284	Monarch School	Harris	NA	3	1,500
285	Metro National Tech Center	Harris	NA	30	10,000
286	Blue Bonnett Elec Coop Display Home	Washington	NA	3	1,200

Table 10-5: Landfill Gas-Fired Power Plants up to 2015: Operational

Project No	Landfill Name	City	County	Waste In Place (tons)	Landfill Owner Organization	Project Status	Project Start Date	MW Capacity	LFG Flow to Project (mmSCFD)
1	Arlington LF	Eules	Tarrant	13,981,144	City of Arlington, TX	Operational	4/1/2003	5.0	2.90
2	Atascocita RDF	Humble	Harris	9,628,700	Waste Management, Inc.	Operational	6/1/2003	8.5	
3	Atascocita RDF	Humble	Harris	9,628,700	Waste Management, Inc.	Operational	1/1/2004	1.7	
4	Austin Community RDF	Austin	Travis	13,228,353	Waste Management, Inc.	Operational	9/1/2007	6.4	3.17
5	Baytown Landfill	Baytown	Chambers	6,290,000	Waste Management, Inc.	Operational	1/24/2003	3.9	1.73
6	Blue Bonnet LF	Houston	Harris	2,526,000	Waste Management, Inc.	Operational	3/1/2003	1.9	0.93
7	Blue Ridge LF	Fresno	Fort Bend	4,113,900	Republic Services, Inc.	Operational	12/1/2009		4.32
8	Camelot Landfill	Lewisville	Denton	7,458,794	City of Farmers Branch, TX	Operational	2/1/2011	3.2	
9	City of Conroe LF	Conroe	Montgomery	3,146,000	City of Conroe	Operational	3/1/2003	2.9	
10	City of Denton Landfill	Denton	Denton	4,900,000	City of Denton, TX	Operational	12/17/2008	1.6	0.65
11	City of Victoria Landfill	Bloomington	Victoria	2,556,000	City of Victoria, TX	Operational	3/27/2014		1.58
12	Coastal Plains RDF	Santa Fe	Galveston	11,738,042	Waste Management, Inc.	Operational	1/10/2003	6.7	
13	Covel Gardens RDF	San Antonio	Bexar	12,007,000	Waste Management, Inc.	Operational	12/20/2005	9.6	
14	DFW Recycling & Disposal Facility	Lewisville	Denton	20,817,174	Waste Management, Inc.	Operational	1/1/1988	3.2	
15	DFW Recycling & Disposal Facility	Lewisville	Denton	20,817,174	Waste Management, Inc.	Operational	7/1/2009	6.4	
16	Fort Bend Regional Landfill	Needville	Fort Bend	7,000,000	WCA Waste Corporation	Operational	6/2/2013		2.45
17	Fort Worth Regional LF	Haltom City	Tarrant		Republic Services, Inc.	Operational	12/27/2006	1.6	0.72
18	Greenwood Farms Landfill	Tyler	Smith	5,500,000	City of Tyler, TX	Operational	4/22/2009		2.30
19	IESI Turkey Creek Landfill	Alvarado	Johnson	11,022,493	Progressive Waste Solutions Ltd.	Operational	9/30/2012		1.87
20	McCarty Road LF	Houston	Harris	28,918,718	Republic Services, Inc.	Operational	3/1/1986		9.70
21	McCarty Road LF	Houston	Harris	28,918,718	Republic Services, Inc.	Operational	1/1/2005		5.30
22	McCarty Road LF	Houston	Harris	28,918,718	Republic Services, Inc.	Operational	5/22/2009		6.48
23	McCommas Bluff Landfill	Dallas	Dallas	40,000,000	City of Dallas, TX	Operational	1/1/2008		7.00
24	McCommas Bluff Landfill	Dallas	Dallas	40,000,000	City of Dallas, TX	Operational	1/1/2012		3.00
25	McCommas Bluff Landfill	Dallas	Dallas	40,000,000	City of Dallas, TX	Operational	1/1/2014		2.50
26	McKinney Landfill	McKinney	Collin	3,957,000	North Texas Municipal Water District	Operational	5/27/2011	3.2	
27	Mesquite Creek LF	New Braunfels	Comal	3,817,620	Waste Management, Inc.	Operational	12/31/2010	3.1	
28	Nelson Gardens LF	San Antonio	Bexar	11,800,000	City of San Antonio, TX	Operational	4/1/2014	4.2	
29	Security Recycling and Disposal LF	Cleveland	Montgomery	4,014,800	Waste Management, Inc.	Operational	5/1/2003	5.0	
30	Skyline LF	Ferris	Ellis	8,191,000	Waste Management, Inc.	Operational	6/13/2007	6.4	3.40
31	Sunset Farms Landfill	Austin	Travis	9,600,000	Republic Services, Inc.	Operational	12/1/1996	3.0	2.09
32	Tessman Road Landfill	San Antonio	Bexar	11,300,000	Republic Services, Inc.	Operational	10/10/2002	5.4	2.90
33	Tessman Road Landfill	San Antonio	Bexar	11,300,000	Republic Services, Inc.	Operational	5/1/2003	2.7	1.45
34	Tessman Road Landfill	San Antonio	Bexar	11,300,000	Republic Services, Inc.	Operational	3/1/2015	1.3	
35	Trinity Oaks Landfill	Dallas	Dallas	6,838,600	Republic Services, Inc.	Operational	2/24/2009	3.2	
36	Westside RDF	Aledo	Tarrant	9,955,600	Waste Management, Inc.	Operational	3/15/2010	4.8	

Table 10-6: Landfill Gas-Fired Power Plants up to 2015: Candidate

Project No	Landfill Name	City	County	Waste In Place (tons)	Year Landfill Opened	Landfill Closure Year	Landfill Owner Organization	Project Status	MW Capacity
1	121 Regional Disposal Facility	Melissa	Collin		2004	2065	North Texas Municipal Water District	Candidate	
2	Abilene Regional Landfill	Abilene	Jones	7,921,300	1982	2157	Ray Knowles	Candidate	
3	Angelina County Waste Management Center	Lufkin	Angelina		1992	2031	Angelina County, TX	Candidate	
4	Brownsville Municipal Landfill	Brownsville	Cameron		1979	2050	City of Brownsville, TX	Candidate	
5	CM Hinton Regional Landfill	Rowlett	Dallas	3,483,475	2002	2053	City of Garland, TX	Candidate	
6	Caliche Canyon LF	Lubbock	Lubbock	2,177,800	1970	2018	City of Lubbock, TX	Candidate	
7	Castle Drive Landfill	Garland	Dallas	5,508,137	1978	2003	City of Garland, TX	Candidate	
8	Cefe Valenzuela Landfill	Robstown	Nueces	2,270,000	2007	2095	City of Corpus Christi, TX	Candidate	
9	Charter Waste Landfill	Odessa	Ector	1,300,000	1992	2074	Republic Services, Inc.	Candidate	
10	City of Amarillo Landfill	Amarillo	Potter	7,031,400	1975	2060	City of Amarillo, TX	Candidate	
11	City of Beaumont LF	Beaumont	Jefferson	3,711,975	1982	2050	City of Beaumont, TX	Candidate	
12	City of Corsicana LF	Corsicana	Navarro	788,100	1976	2110	City of Corsicana, TX	Candidate	
13	City of Fort Worth Southeast Landfill	Forest Hill	Tarrant	5,299,400	1969	2043	City of Fort Worth, TX	Candidate	
14	City of Midland MSW Landfill	Midland	Midland	3,053,200	1985	2069	City of Midland, TX	Candidate	
15	City of Nacogdoches Landfill	Nacogdoches	Nacogdoches	1,296,200	1976	2035	City of Nacogdoches	Candidate	
16	City of Pampa LF	Pampa	Gray	1,176,200	1940	2082	City of Pampa, TX	Candidate	
17	City of Perryton Landfill	Perryton	Ochiltree	1,631,100	1979		City of Perryton, TX	Candidate	
18	City of Port Arthur Landfill	Beaumont	Jefferson	1,802,100	1974	2050	City of Port Arthur, TX	Candidate	
19	City of Sweetwater LF	Sweetwater	Nolan	1,283,800	1976	2040	City of Sweetwater, TX	Candidate	
20	City of Wichita Falls LF	Wichita Falls	Wichita	4,073,200	1981	2353	City of Wichita Falls, TX	Candidate	
21	Colorado City Landfill	Colorado City	Mitchell	1,545,200	1975	2020	City of Colorado City, TX	Candidate	
22	CSC Disposal and Landfill	Waxahachie	Ellis	4,254,250	1980	2300	Republic Services, Inc.	Candidate	
23	Fort Hood Landfill	Killeen	Coryell	2,240,000			US Army Fort Hood	Candidate	
24	Galveston County LF	Alta Loma	Galveston	7,822,500	1973	2021	Republic Services, Inc.	Candidate	
25	Golden Triangle Landfill	Beaumont	Jefferson	2,310,400	1993	2053	Republic Services, Inc.	Candidate	3.2
26	Hillside Landfill	Sherman	Grayson	4,273,776	1965	2105	Waste Management, Inc.	Candidate	
27	IESI Buffalo Creek Landfill	Iowa Park	Wichita		1983	2114	Progressive Waste Solutions Ltd.	Candidate	
28	IESI East Texas Regional Landfill	Henderson	Rusk		1979	2068	Progressive Waste Solutions Ltd.	Candidate	
29	IESI Weatherford Landfill	Weatherford	Parker	1,079,000	1977	2022	Progressive Waste Solutions Ltd.	Candidate	
30	J.C. Elliott LF	Corpus Christi	Nueces	9,930,000	1972	2007	City of Corpus Christi, TX	Candidate	

Table 10-6: Landfill Gas-Fired Power Plants up to 2015 : Candidate (cont.)

Project No	Landfill Name	City	County	Waste In Place (tons)	Year Landfill Opened	Landfill Closure Year	Landfill Owner Organization	Project Status	MW Capacity
31	Lacy Lakeview RDF	Waco	McLennan	1,306,200	1983	2022	Waste Management, Inc.	Candidate	
32	Maxwell Creek LF	Sachse	Collin	4,502,694	1982	2005	North Texas Municipal Water District	Candidate	
33	Mill Creek LF	Fort Worth	Tarrant	4,815,500	1973	2001	Republic Services, Inc.	Candidate	
34	New Boston Landfill	New Boston	Bowie		1968	2020	Waste Management, Inc.	Candidate	
35	Pine Hill LF	Kilgore	Gregg	12,141,700	1980	2102	Four-S Oil Company	Candidate	
36	Polk County Landfill	Livingston	Polk	1,332,000	1981	2065	Polk County, TX	Candidate	
37	Rio Grande Valley	Donna	Hidalgo		1994	2013	Republic Services, Inc.	Candidate	
38	Rock Prairie Road Landfill	College Station	Brazos	4,391,600	1982	2011	Brazos Valley SWMA	Candidate	
39	Royal Oaks Landfill	Jacksonville	Cherokee	1,044,200	1984	2039	City of Jacksonville, TX	Candidate	
40	San Angelo Landfill	San Angelo	Tom Green	790,000	1970	2033	City of San Angelo, TX	Candidate	
41	Southwest Landfill	Canyon	Randall	3,393,200	1985	2025	Republic Services, Inc.	Candidate	
42	Temple Recycling & Disposal Facility	Temple	Bell	3,600,000	1979	2036	City of Temple	Candidate	
43	Texas Disposal Systems LF	Creedmoor	Travis	4,408,900	1991	2046	Texas Disposal Systems	Candidate	
44	West Texas Region Disposal Facility	Abernathy	Lubbock		1999	2111	City of Lubbock, TX	Candidate	
45	Whispering Pines LF	Houston	Harris	6,405,000	1978	2029	Republic Services, Inc.	Candidate	2.6
46	Williamson County LF	Hutto	Williamson	2,134,700	1985	2093	Waste Management, Inc.	Candidate	

Table 10-7: Landfill Gas-Fired Power Plants up to 2015: Potential

Project No	Landfill Name	City	County	Waste In Place (tons)	Year Landfill Opened	Landfill Closure Year	Landfill Owner Organization	Project Status
1	Altair Disposal Services LLC	Altair	Colorado	8,581,378	1973	2025	Clean Harbors	Potential
2	Bell County/Sparks LF	Holland	Bell	343,200	1994	2001	Bell County	Potential
3	Bell Processing Inc. LF	Wichita Falls	Wichita		1990	2001	Bell Processing Inc	Potential
4	Belfort Boulevard Landfill	Houston	Harris	9,731,720	1954	1970	City of Houston, TX	Potential
5	Best Pak Disposal Inc. LF	Pattison	Waller			2001	Waste Management, Inc.	Potential
6	BFI LF	Abilene	Taylor	745,888	1993	1997	Pine Street Salvage Company	Potential
7	C&T Regional Landfill	Linn	Hidalgo	3,844,000	1976	2003	Republic Services, Inc.	Potential
8	City of Brownwood Landfill	Brownwood	Brown	1,300,100	1983	2040	City of Brownwood, TX	Potential
9	City of Cleburne Landfill	Cleburne	Johnson	1,583,200	1976			Potential
10	City of Irving Landfill	Irving	Dallas	2,063,900	1982	2077	City of Irving, TX	Potential
11	City of Kingsville Landfill	Kingsville	Kleberg	583,309	1977	2067	City of Kingsville, TX	Potential
12	City of Luling Landfill	Luling	Caldwell		1965	1993		Potential
13	City of Nederland Landfill	Nederland	Jefferson			1990	Mid County Municipal League, TX	Potential
14	City of Richardson LF	Richardson	Collin	825,218	1975	1990	City of Richardson, TX	Potential
15	Eastside Landfill	Fort Worth	Tarrant		1970	1993	Waste Management, Inc.	Potential
16	ECD Landfill	Ennis	Ellis		1988	2174	Republic Services, Inc.	Potential
17	El Campo Landfill	El Campo	Wharton		1985	1994		Potential
18	El Centro Landfill	Robstown	Nueces		2000	2077	Republic Services, Inc.	Potential
19	Ellis County LF	Palmer	Ellis	892,320	1994		Waste Management, Inc.	Potential
20	Fort Bliss Municipal Solid Waste Landfill	El Paso	El Paso	205,818	1974	2013	United States Army	Potential
21	Hallettsville Landfill	Hallettsville	Lavaca		1928	1992	City of Hallettsville, TX	Potential
22	Hazelwood Enterprises, Inc. LF	Baytown					Landfill Owner of Hazelwood Enterprises, Inc. LF	Potential
23	Hutchins Landfill	Hutchins	Dallas	1,000,000	1978	1992	Republic Services, Inc.	Potential
24	Itasca Landfill	Itasca	Hill		1977	2055	Republic Services, Inc.	Potential
25	Kerrville Landfill	Kerrville	Kerr	722,608	1984	2040	City of Kerrville, TX	Potential
26	Laidlaw/Wilmer LF	Wilmer	Dallas	686,400	1992	2001	Landfill Owner of Laidlaw/Wilmer LF	Potential
27	Lewisville Landfill	Lewisville	Denton		1986	2003	Republic Services, Inc.	Potential
28	Maloy Landfill	Campbell	Hunt	610,000	1979	2043	Republic Services, Inc.	Potential
29	McCombs LF	El Paso	El Paso	2,083,806	1977	2047	City of El Paso, TX	Potential
30	Mexia Landfill	Mexia	Limestone		1983	2147	Republic Services, Inc.	Potential

Table 10-7: Landfill Gas-Fired Power Plants up to 2015: Potential (cont.)

Project No	Landfill Name	City	County	Waste In Place (tons)	Year Landfill Opened	Landfill Closure Year	Landfill Owner Organization	Project Status
31	Newton County Landfill	Buna	Newton		1998	2157	Waste Management, Inc.	Potential
32	North County C&D Landfill	Dickinson	Galveston				Republic Services, Inc.	Potential
33	Orange County LF	Orange	Orange	1,517,000	1975	1993	Orange County, TX	Potential
34	Paris Landfill	Powderly	Lamar		1982	2162	Waste Management, Inc.	Potential
35	Pecan Prairie Landfill	Celeste	Hunt	1,479,900	1985	1998	Waste Management, Inc.	Potential
36	Pleasant Oaks Landfill	Mount Pleasant	Titus		1960	2211	City of Mount Pleasant	Potential
37	Sinton Landfill	Sinton	San Patricio		1972	2002	Republic Services, Inc.	Potential
38	Tricil Environmental Response/Altair SLF	Altair	Colorado	1,980,400	1976	2002	Safety Clean	Potential

Table 10-8: Landfill Gas-Fired Power Plants up to 2015: Construction

Project No	Landfill Name	City	County	Waste In Place (tons)	Year Landfill Opened	Landfill Closure Year	Landfill Owner Organization	Project Status	Project Start Date	MW Capacity
1	City of Edinburg Landfill	Edinburg	Hidalgo	3,900,000	1977	2040	City of Edinburg, TX	Construction	12/31/2016	
2	City of Grand Prairie LF	Grand Prairie	Dallas	2,835,800	1978	2047	City of Grand Prairie, TX	Construction	12/31/2015	
3	Seabreeze Environmental Landfill	Angleton	Brazoria	6,279,700	1974	2043	Waste Connections Inc. - Central Region	Construction	12/31/2016	

Table 10-9: Landfill Gas-Fired Power Plants up to 2015: Shutdown

Project No	Landfill Name	City	County	Waste In Place (tons)	Landfill Owner Organization	Project Status	Project Start Date	Project Shutdown Date	MW Capacity	LFG Flow to Project (mmSCFD)
1	Austin Community RDF	Austin	Travis	13,228,353	Waste Management, Inc.	Shutdown	1/1/1998	1/1/2000		
2	Blue Ridge LF	Fresno	Fort Bend	4,113,900	Republic Services, Inc.	Shutdown	12/1/2009	12/31/2010	1.6	0.648
3	Castle Drive Landfill	Garland	Dallas	5,508,137	City of Garland, TX	Shutdown	5/1/2000	12/31/2004		1.1
4	City of Brownwood Landfill	Brownwood	Brown	1,300,100	City of Brownwood, TX	Shutdown	1/1/1998	12/31/2007		0.4
5	City of Denton Landfill	Denton	Denton	4,900,000	City of Denton, TX	Shutdown	2/1/2005	4/1/2008		0.432
6	City of Waco LF	Woodway	McLennan	6,088,917	City of Waco, TX	Shutdown	3/1/2004	3/1/2007	1.5	1.5
7	City of Waco LF	Woodway	McLennan	6,088,917	City of Waco, TX	Shutdown	2/28/2008	2/24/2013		1.5
8	FM 812 Landfill	Austin	Travis	4,858,500	City of Austin, TX	Shutdown	2/1/2004	12/31/2006	0.2	
9	Fort Bend County Landfill	Rosenberg	Fort Bend	2,649,100	Fort Bend County, TX	Shutdown	1/1/2000	1/1/2011		1
10	McCommas Bluff Landfill	Dallas	Dallas	40,000,000	City of Dallas, TX	Shutdown	1/1/2000	12/31/2006		5.45
11	McCommas Bluff Landfill	Dallas	Dallas	40,000,000	City of Dallas, TX	Shutdown	1/1/2007	12/31/2007		2.8

Table 10-10: Landfill Gas-Fired Power Plants up to 2015: Planned

Project No	Landfill Name	City	County	Waste In Place (tons)	Year Landfill Opened	Landfill Closure Year	Landfill Owner Organization	Project Status	Project Start Date	MW Capacity
1	City of Denton Landfill	Denton	Denton	4,900,000	1984	2065	City of Denton, TX	Planned	1/1/2017	1.6
2	City of Laredo LF	Laredo	Webb	3,180,000	1986	2022	City of Laredo, TX	Planned	12/31/2016	
3	Clint Landfill	El Paso	El Paso	6,800,000	1983	2035	City of El Paso, TX	Planned	1/1/2016	1

Table 10-11: Landfill Gas-Fired Power Plants up to 2015: Other

Project No	Landfill Name	City	County	Waste In Place (tons)	Year Landfill Opened	Landfill Closure Year	Landfill Owner Organization	Project Status	Project Start Date	MW Capacity
1	Quail Canyon	Lubbock	Lubbock	200,200	1977	1993	Republic Services, Inc.	Other		