

RETROFIT SAVINGS FOR **BRAZOS COUNTY**

PREPARED BY

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ENERGY SYSTEMS LABORATORY

TEXAS A&M UNIVERSITY
COLLEGE STATION, TX

OCTOBER 2001

ACKNOWLEDGEMENT

THIS PROJECT WAS FUNDED BY THE U.S.
DEPARTMENT OF ENERGY THROUGH THE
REBUILD AMERICA PROGRAM

EXECUTIVE SUMMARY

This report presents the energy and dollar savings for the period May 2000 – April 2001 for 10 of the Brazos County facilities that have been retrofitted. The electricity use saved was 555,170 kWh and the demand was 1062 kW, which is equivalent to a \$31,743 dollars savings, \$24,650 from electricity use and \$7,093 from the electric demand (see Table 1). These savings represent a 60.8% of the audit-estimated savings and a 93.7% of the audit-estimated savings if just the positive one were taken in account (see Table 2). The savings have improved somewhat from the previous report that included the billing periods for January to August 1999. The savings for the earlier period were 48.0% of the audit-estimated savings (see Table 3) that means compared with 60.8% for the current period. In general has been an improvement in the energy saving in most of the facilities. The cases where are observed negative savings are the Minimum Security Jail, where is known that the area was increased significantly, the Arena Hall, where the modeling can be normalized due to kind of use of this facility, and the Road and bridges Shop, which looks to be operated more time in this period.

Also herein is included the individual savings report and tables for every one of the facilities of the Brazos County.

Table 1. Summary of Energy Savings of Brazos County in the period of May 2000 through April 2001.

Summary of energy savings from May 2000 to April 2001

Building	Savings		Audit Estimated Savings		Meas/Est (%)	
	Wbele (kWh)	Demand (kW)	Wbele (kWh)	Demand (kW)	Wbele	Demand
Agriculture extention	27,316	15	27,191	102	100.5%	14.3%
Arena Hall	(20,565)	17	21,906	130	(93.9%)	13.4%
Brazos Center	101,247	502	96,551	192	104.9%	261.5%
Brzs. Cnty. Annex	73,291	211	48,346	139	151.6%	151.4%
Brzs. Cnty. Courthouse	350,164	208	265,393	868	131.9%	24.0%
Constable's Office	34,597	91	18,055	74	191.6%	122.9%
Health Department	82,992	155	110,355	533	75.2%	29.2%
Minimum Security Jail	(101,201)	(256)	65,540	139	(154.4%)	(184.0%)
Road & Bridges Shop	(20,334)	33	34,273	127	(59.3%)	25.7%
Tax Office	27,664	85	54,215	216	51.0%	39.5%
Total	555,170	1,062	741,824	2,520	74.8%	42.1%
(Total w/o Negative)	697,269	1,268	620,106	2,124	112.4%	59.7%

Table 2. Summary of Cost Savings of Brazos County in the period of May 2000 through April 2001.

Summary of cost savings from May 2000 to April 2001

Building	Savings [\$]			Audit Estimated Savings [\$]	Meas/Est %
	Wbele	Demand			
Agriculture extention	\$1,379.44	\$107.04	\$1,486.48	\$2,122.85	70.0%
Arena Hall	(\$1,038.53)	\$127.89	(\$910.64)	\$2,058.81	(44.2%)
Brazos Center	\$4,353.61	\$3,188.25	\$7,541.86	\$5,370.89	140.4%
Brazos. Court Annex	\$3,701.18	\$1,549.46	\$5,250.64	\$3,464.59	151.6%
Brazos Court House	\$15,057.04	\$1,321.77	\$16,378.81	\$16,921.79	96.8%
Constable Office	\$1,747.14	\$672.22	\$2,419.36	\$1,458.62	165.9%
Health Department	\$4,191.09	\$1,142.41	\$5,333.51	\$9,488.27	56.2%
Minimum Security Jail	(\$5,110.64)	(\$1,882.77)	(\$6,993.41)	\$4,332.89	(161.4%)
Road & Bridge Shop	(\$1,026.85)	\$239.84	(\$787.01)	\$2,665.71	(29.5%)
Tax Assesor Office	\$1,397.01	\$626.46	\$2,023.47	\$4,325.46	46.8%
Total	\$24,650.49	\$7,092.58	\$31,743.07	\$52,209.88	60.8%
(Total w/o Negative)	\$31,826.52	\$8,607.61	\$40,434.13	\$43,152.47	93.7%

Table 3. Summary of Cost Savings of Brazos County in the period of January through August of 1999.

Summary of savings January - August 99

Month= 8

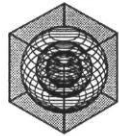
Building	Savings [\$]			Estimated Savings Audit [\$]	Meas/Est %
	Wbele	Demand			
Agriculture extention	\$797.47	\$217.89	\$1,015.36	\$1,415.23	71.7%
Arena Hall	\$753.76	\$16.91	\$770.67	\$1,372.54	56.1%
Brazos Center	\$1,707.75	\$2,254.25	\$3,962.00	\$3,580.60	110.7%
Brzs. Cnty. Annex	\$666.62	\$1,058.40	\$1,725.02	\$2,309.73	74.7%
Brzs. Cnty. Courthouse	\$8,421.37	\$2,577.17	\$10,998.54	\$11,281.20	97.5%
Constable's Office	\$724.22	\$254.27	\$978.49	\$972.41	100.6%
Health Department	\$2,660.98	\$346.61	\$3,007.59	\$6,325.52	47.5%
Minimum Security Jail	(\$5,798.71)	(\$2,036.21)	(\$7,834.92)	\$2,888.59	-271.2%
Road & Bridges Shop	\$327.85	\$354.37	\$682.21	\$1,777.14	38.4%
Tax Office	\$888.87	\$500.44	\$1,389.31	\$2,883.64	48.2%
Total	\$11,150.17	\$5,544.10	\$16,694.27	\$34,806.59	48.0%
(Total w/o Negative)	\$16,948.88	\$7,580.31	\$24,529.19	\$31,917.99	76.9%

TABLE OF CONTENTS

- I. Summary of Savings
- II. Individual Reports
- III. Tables of Savings: of Electricity
- IV. Baseline Modeling: Whole Building Electric Consumption

Summary of Savings

BRAZOS COUNTY



ENERGY SYSTEMS LABORATORY
Texas Engineering Experiment Station
Texas A&M University System

BRAZOS COUNTY

Summary of cost savings from May 2000 to April 2001

Building	Savings [\$]			Audit Estimated Savings [\$]	Meas/Est %
	<i>Wbele</i>	<i>Demand</i>			
Agriculture extention	\$1,379.44	\$107.04	\$1,486.48	\$2,122.85	70.0%
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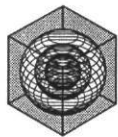
BRAZOS COUNTY

Summary of energy savings from May 2000 to April 2001

Building	Savings		Audit Estimated Savings		Meas/Est (%)	
	Wbele (kWh)	Demand (kW)	Wbele (kWh)	Demand (kW)	Wbele	Demand
Agriculture extention	27,316	15	27,191	102	100.5%	14.3%
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Individual Reports

BRAZOS COUNTY



ENERGY SYSTEMS LABORATORY

Texas Engineering Experiment Station
Texas A&M University System

Agriculture Extension

Brazos County

Site Contact

Mr. Ed Dobbins
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206 North Washington St.
Bryan, TX. 77803
(979) 361-4460

ESL Metering Contact

Dr. Jeff Haberl
053B WERC
Texas A&M University
College Station, TX 77843-3581
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May-00 through Apr-01
Summary of Measured Energy Consumption and Savings

Month	ELECTRICITY				DEMAND				Total	
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$	Savings	Cumulative Savings
May-00	5,735	\$290	2,545	\$129	20	\$147	1	\$9	\$138	\$138
Jun-00	6,337	\$320	2,308	\$117	26	\$191	-5	(\$35)	\$82	\$219
Jul-00	8,102	\$409	2,074	\$105	24	\$176	-2	(\$14)	\$91	\$310
Aug-00	7,752	\$391	2,044	\$103	26	\$191	-3	(\$26)	\$78	\$388
Sep-00	6,897	\$348	2,941	\$149	26	\$191	-3	(\$25)	\$123	\$512
Oct-00	6,597	\$333	1,403	\$71	24	\$176	-3	(\$20)	\$51	\$562
Nov-00	4,564	\$230	2,047	\$103	18	\$132	3	\$24	\$127	\$690
Dec-00	3,889	\$196	2,958	\$149	14	\$103	7	\$53	\$203	\$892
Jan-01	4,903	\$248	3,124	\$158	16	\$118	5	\$39	\$196	\$1,089
Feb-01	4,947	\$250	1,900	\$96	16	\$118	5	\$39	\$135	\$1,223
Mar-01	5,169	\$261	1,678	\$85	16	\$118	5	\$39	\$123	\$1,347
Apr-01	5,262	\$266	2,293	\$116	18	\$132	3	\$24	\$140	\$1,486
TOTAL	70,154	\$3,543	27,316	\$1,379	244	\$1,793	15	\$107	\$1,486	
Audit Estimated Savings				\$1,373				\$750	\$2,123	

Comments:

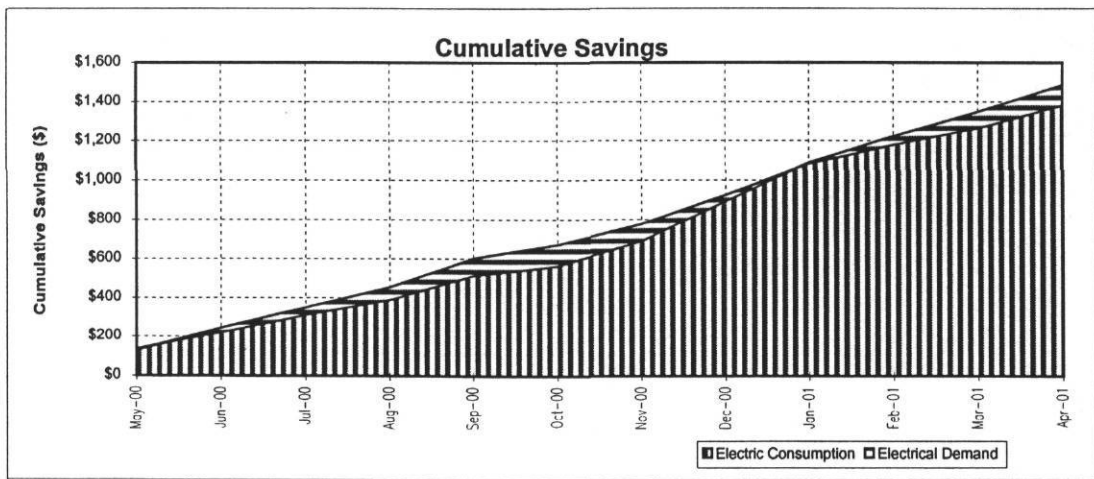
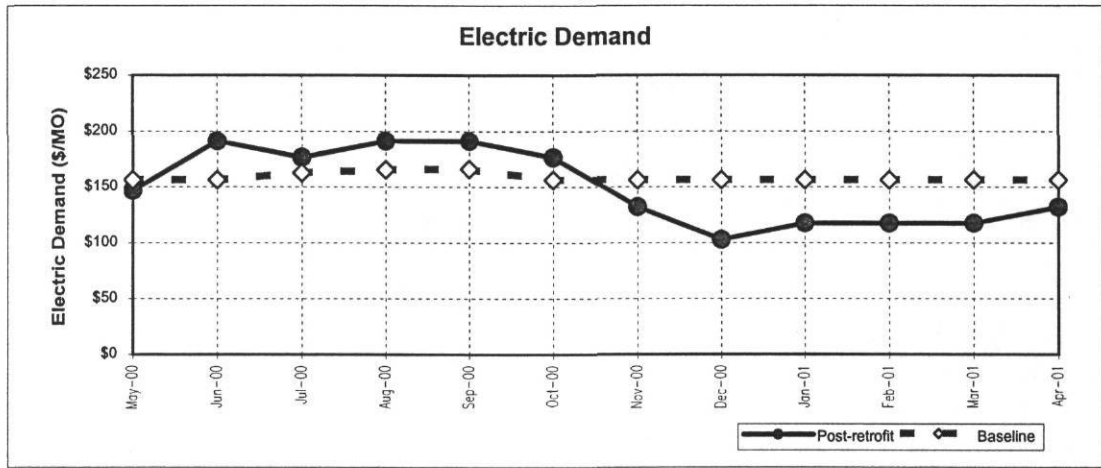
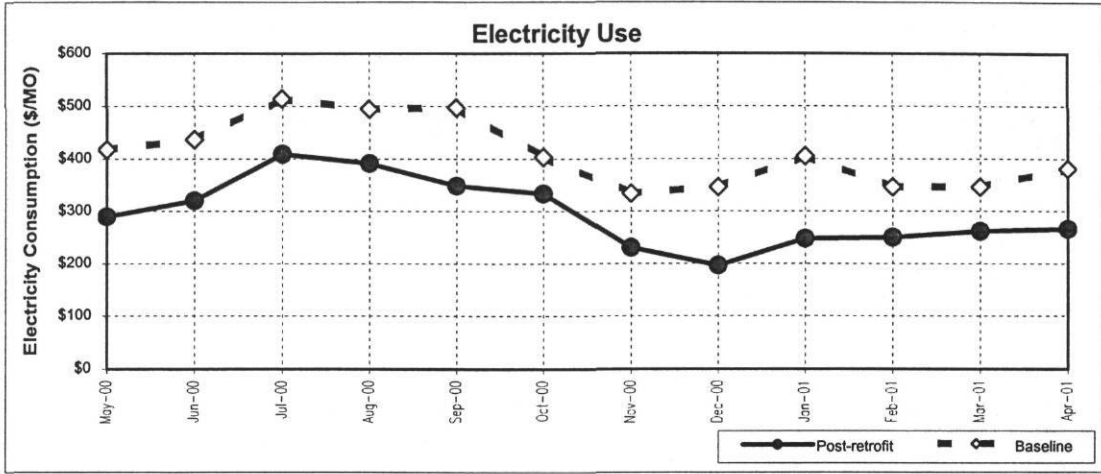
- * Retrofits started in April 98 and were finished in July 98.
- * Unit costs: \$0.0505/kWh and \$7.35/kW
- * Conditioned area 3,500 square feet
- * N.A. means no applicable

Agriculture Extension

Energy Systems Laboratory
Texas Engineering Experiment Station

Cumulative Energy Consumption Report for Brazos County

Texas A&M University
College Station, TX



Arena Hall Brazos County

Site Contact

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Plant Maintenance Manager
Brazos County
206 North Washington St.
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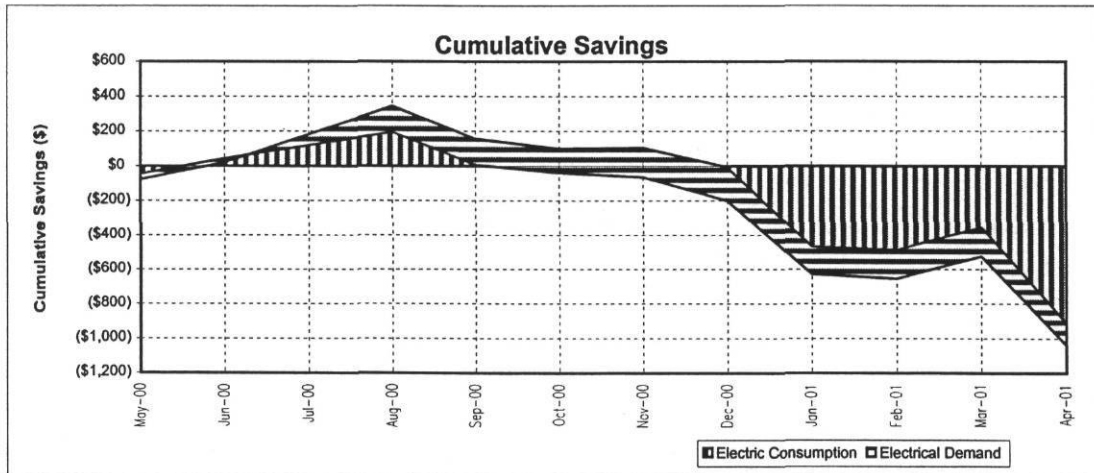
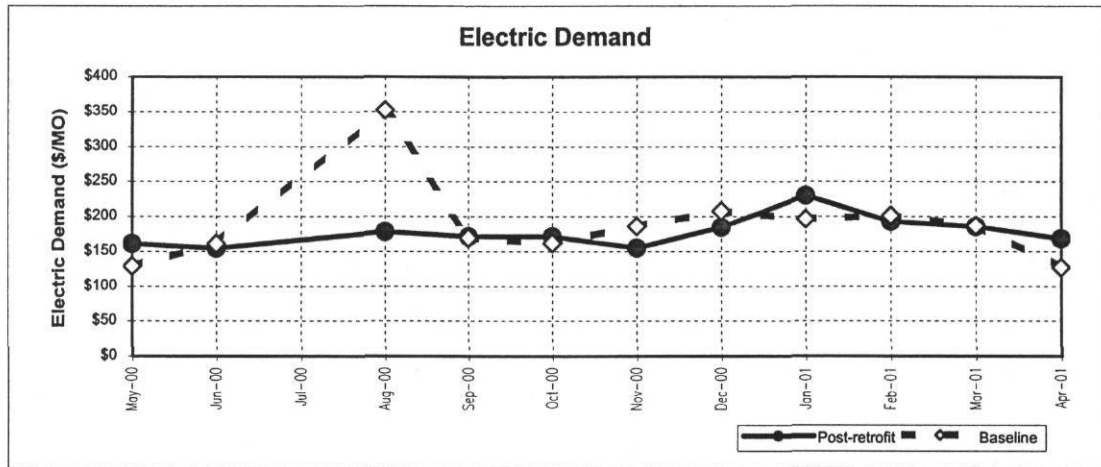
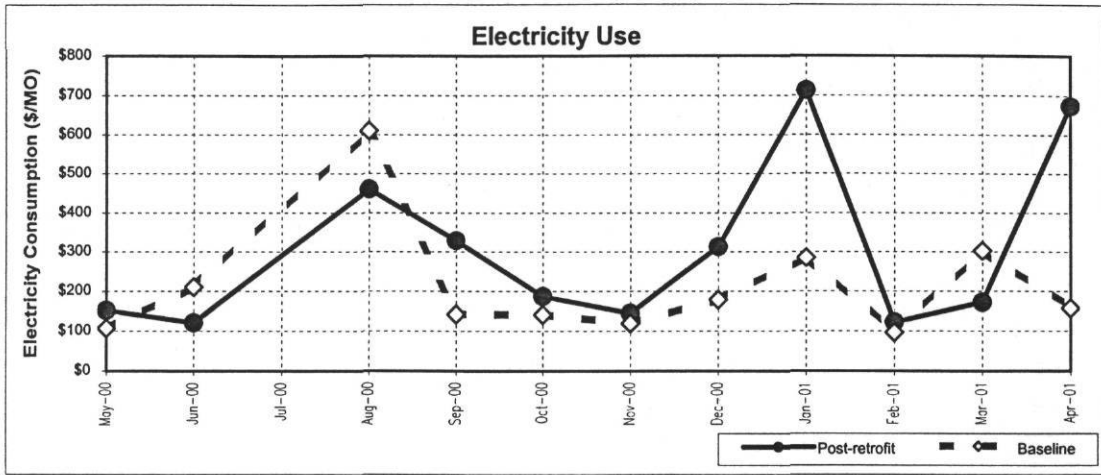
May-00 through Apr-01
Summary of Measured Energy Consumption and Savings

Month	ELECTRICITY				DEMAND				Total	
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$	Savings	Cumulative Savings
May-00	3,017	\$152	-896	(\$45)	22	\$161	-4	(\$32)	(\$77)	(\$77)
Jun-00	2,397	\$121	1,773	\$90	21	\$154	1	\$7	\$96	\$19
Aug-00	9,125	\$461	2,961	\$150	24	\$178	24	\$175	\$324	\$344
Sep-00	6,503	\$328	-3,690	(\$186)	23	\$171	0	(\$2)	(\$189)	\$155
Oct-00	3,714	\$188	-913	(\$46)	23	\$171	-1	(\$10)	(\$56)	\$100
Nov-00	2,871	\$145	-503	(\$25)	21	\$155	4	\$31	\$5	\$105
Dec-00	6,208	\$314	-2,667	(\$135)	25	\$184	3	\$24	(\$111)	(\$6)
Jan-01	14,120	\$713	-8,466	(\$428)	31	\$230	-5	(\$34)	(\$461)	(\$467)
Feb-01	2,441	\$123	-522	(\$26)	26	\$193	1	\$9	(\$18)	(\$485)
Mar-01	3,416	\$173	2,585	\$131	25	\$185	0	\$1	\$132	(\$353)
Apr-01	13,347	\$674	-10,227	(\$516)	23	\$168	-6	(\$41)	(\$558)	(\$911)
TOTAL	67,159	\$3,392	-20,565	(\$1,039)	266	\$1,951	17	\$128	(\$911)	
Audit Estimated Savings				\$1,106				\$953	\$2,059	

Comments:

- * Retrofits started in April 98 and were finished in July 98.
- * Unit costs: \$0.0505/kWh and \$7.35/kW.
- * Conditioned area 4,524 square feet.
- * N.A. means no applicable

Arena Hall



Brazos Center Brazos County

Site Contact

Mr. Ed Dobbins
Plant Maintenance Manager
Brazos County
206 North Washington St.
Bryan, TX. 77803
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ESL Metering Contact

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May-00 through Apr-01 Summary of Measured Energy Consumption and Savings

Month	ELECTRICITY				DEMAND				Total	
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$	Savings	Cumulative Savings
May-00	54,480	\$2,343	16,880	\$726	268	\$1,702	2	\$14	\$740	\$740
Jun-00	68,800	\$2,958	14,040	\$604	275	\$1,748	6	\$35	\$639	\$1,379
Jul-00	86,640	\$3,726	-2,153	(\$93)	275	\$1,748	17	\$108	\$15	\$1,394
Aug-00	74,320	\$3,196	14,175	\$610	252	\$1,600	47	\$297	\$907	\$2,301
Sep-00	84,640	\$3,640	10,474	\$450	249	\$1,580	51	\$325	\$775	\$3,076
Oct-00	59,440	\$2,556	11,053	\$475	222	\$1,407	47	\$300	\$775	\$3,851
Nov-00	59,120	\$2,542	4,913	\$211	187	\$1,189	75	\$473	\$684	\$4,536
Dec-00	41,840	\$1,799	8,183	\$352	150	\$955	69	\$441	\$793	\$5,329
Jan-01	49,840	\$2,143	9,115	\$392	150	\$955	54	\$345	\$737	\$6,066
Feb-01	47,120	\$2,026	6,476	\$278	163	\$1,036	55	\$348	\$626	\$6,692
Mar-01	48,880	\$2,102	6,502	\$280	215	\$1,367	16	\$103	\$383	\$7,075
Apr-01	53,760	\$2,312	1,589	\$68	181	\$1,148	63	\$398	\$467	\$7,542
TOTAL	728,880	\$31,342	101,247	\$4,354	2,588	\$16,434	502	\$3,188	\$7,542	
Audit Estimated Savings				\$4,152				\$1,219	\$5,371	

Comments:

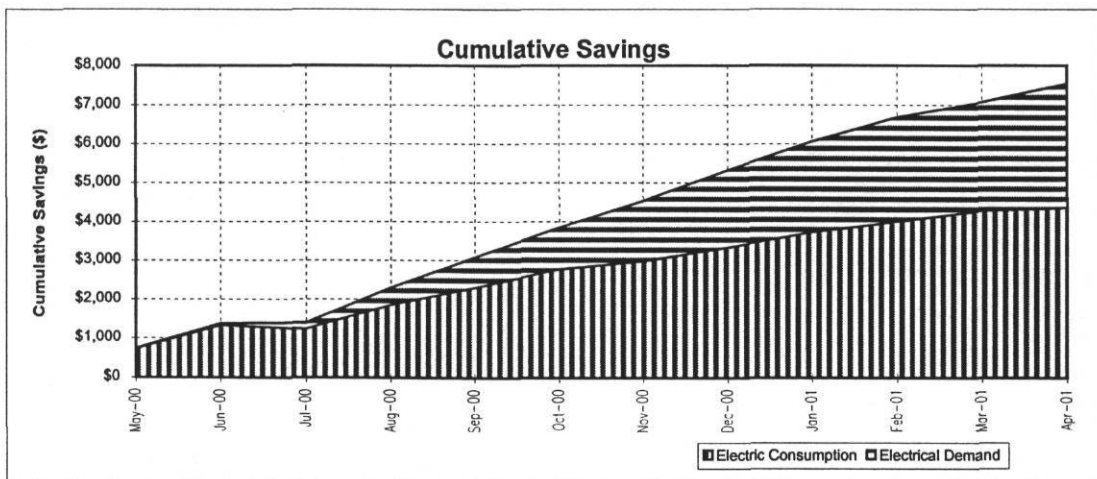
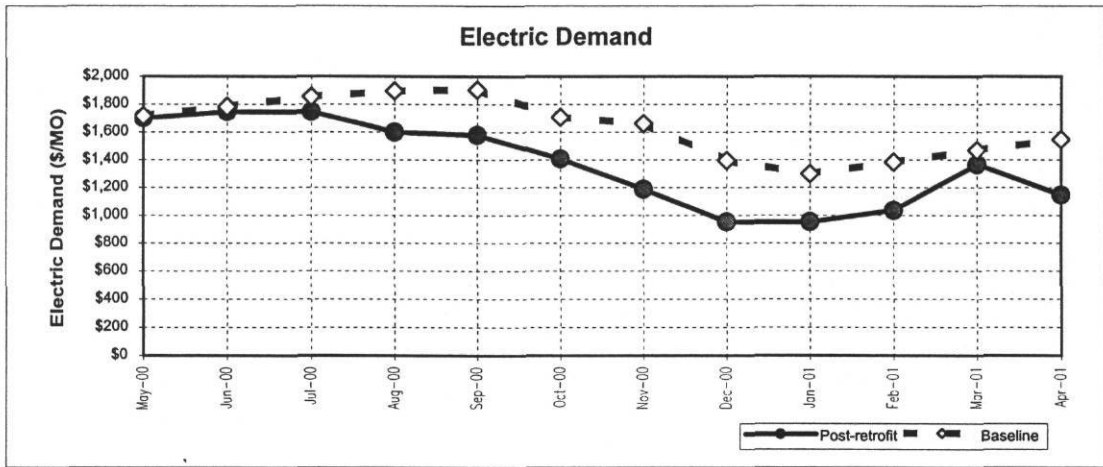
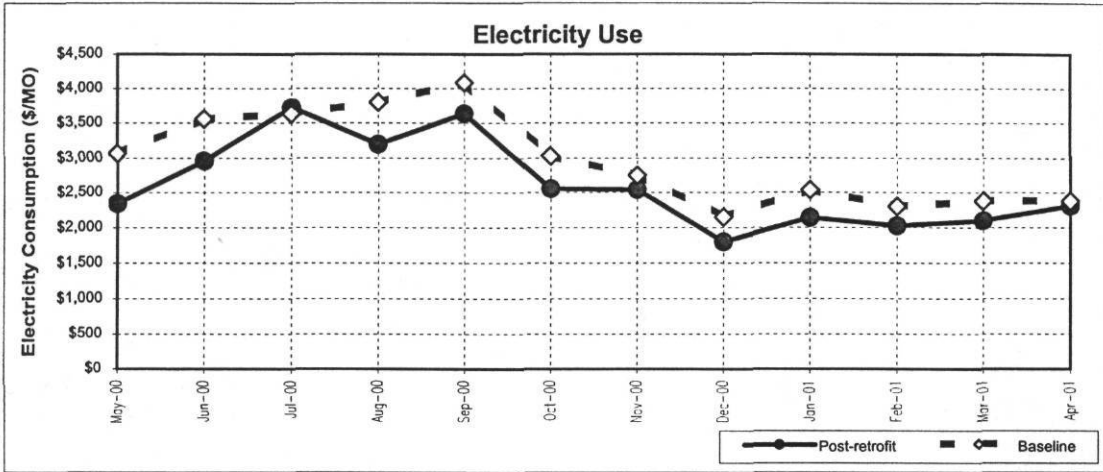
- * Electricity monitoring began September 18, 1997.
- * Retrofits started in April 98 and were finished in July 98.
- * The replacement of the DX units by high efficiency units has not yet been completed as of the date of this report.
A Dx unit was replaced by June 2000.
- * Unit costs: \$0.043/kWh and \$6.35/kW.
- * Conditioned area 45,000 square feet.

Brazos Center

Energy Systems Laboratory
Texas Engineering Experiment Station

Cumulative Energy Consumption Report for Brazos County

Texas A&M University
College Station, TX



Brazos Court Annex

Brazos County

Site Contact

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May-00 through Apr-01
Summary of Measured Energy Consumption and Savings

Month	ELECTRICITY				DEMAND				Total	
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$	Savings	Cumulative Savings
May-00	30,120	\$1,521	7,767	\$392	109	\$803	16	\$118	\$511	\$511
Jun-00	43,440	\$2,194	11,271	\$569	115	\$847	20	\$149	\$718	\$1,229
Jul-00	48,480	\$2,448	5,852	\$296	120	\$882	19	\$137	\$433	\$1,662
Aug-00	40,560	\$2,048	13,949	\$704	118	\$864	28	\$202	\$907	\$2,568
Sep-00	71,640	\$3,618	34,186	\$1,726	130	\$953	13	\$92	\$1,818	\$4,386
Oct-00	14,640	\$739	-6,614	(\$334)	130	\$953	4	\$30	(\$304)	\$4,083
Nov-00	37,920	\$1,915	3,235	\$163	113	\$829	13	\$97	\$260	\$4,343
Dec-00	26,160	\$1,321	2,993	\$151	96	\$706	10	\$70	\$222	\$4,564
Jan-01	26,400	\$1,333	931	\$47	80	\$591	15	\$109	\$156	\$4,721
Feb-01	25,440	\$1,285	3,713	\$187	72	\$529	31	\$229	\$416	\$5,137
Mar-01	26,760	\$1,351	-1,251	(\$63)	86	\$635	23	\$171	\$108	\$5,244
Apr-01	30,360	\$1,533	-2,740	(\$138)	91	\$670	20	\$145	\$6	\$5,251
TOTAL	421,920	\$21,307	73,291	\$3,701	1,260	\$9,261	211	\$1,549	\$5,251	
Audit Estimated Savings				\$2,441				\$1,023	\$3,465	

Comments:

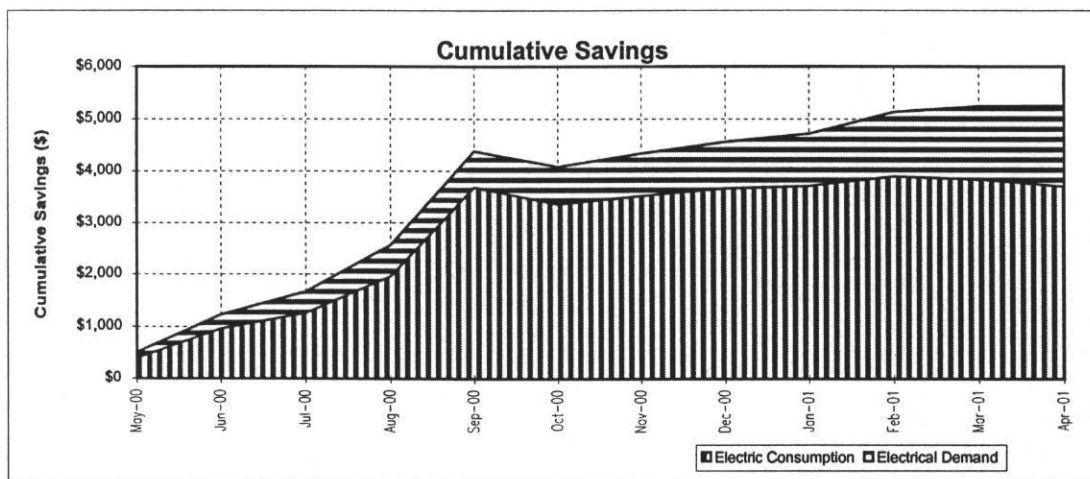
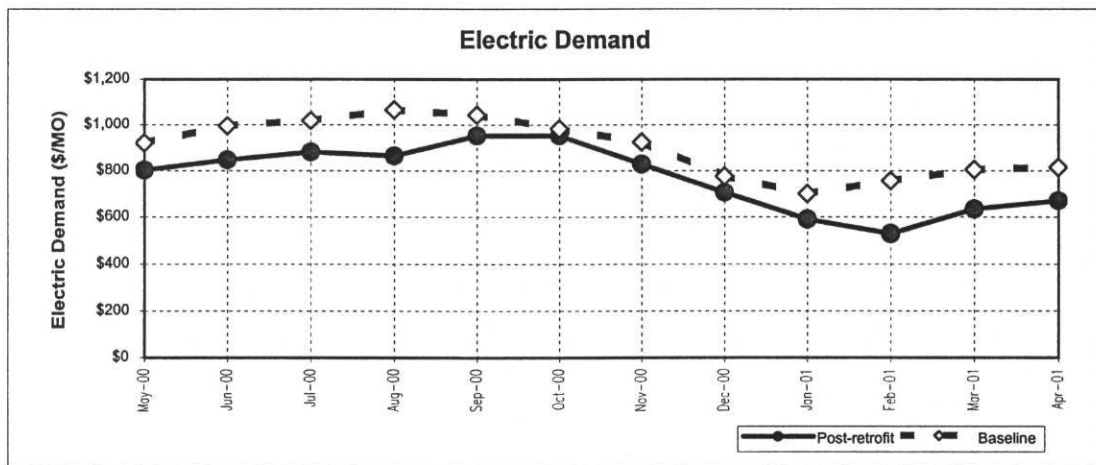
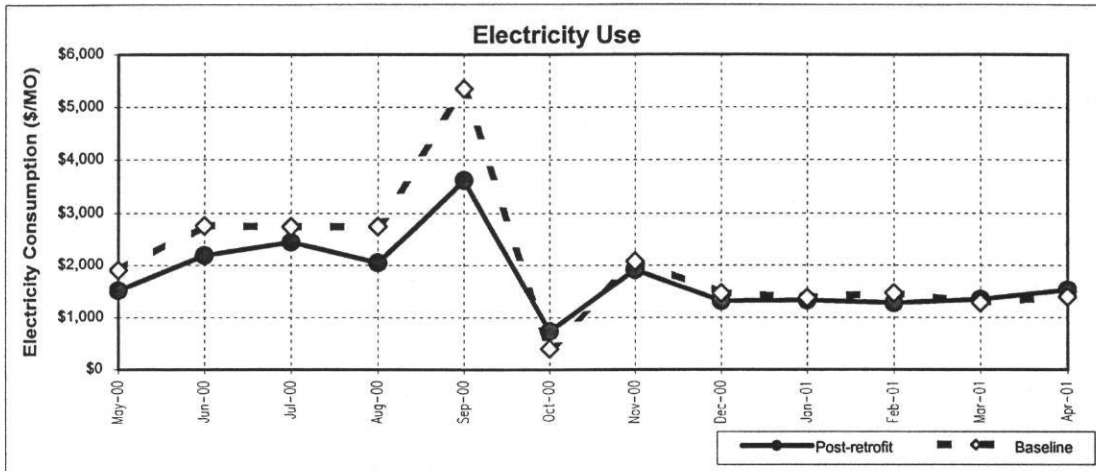
- * Electricity monitoring began September 18, 1997.
- * Retrofits started in April 98 and were finished in July 98.
- * Unit costs: \$0.0505/kWh and \$7.35/kW.
- * Conditioned area 20,288 square feet.
- * The replacement of the DX units by high efficiency units has not yet been completed as of the date of this savings report.
This retrofit was completed in May 2000.
- * N.A. means no applicable

Brazos Court Annex

Energy Systems Laboratory
Texas Engineering Experiment Station

Cumulative Energy Consumption Report for Brazos County

Texas A&M University
College Station, TX



Brazos Court House

Brazos County

Site Contact

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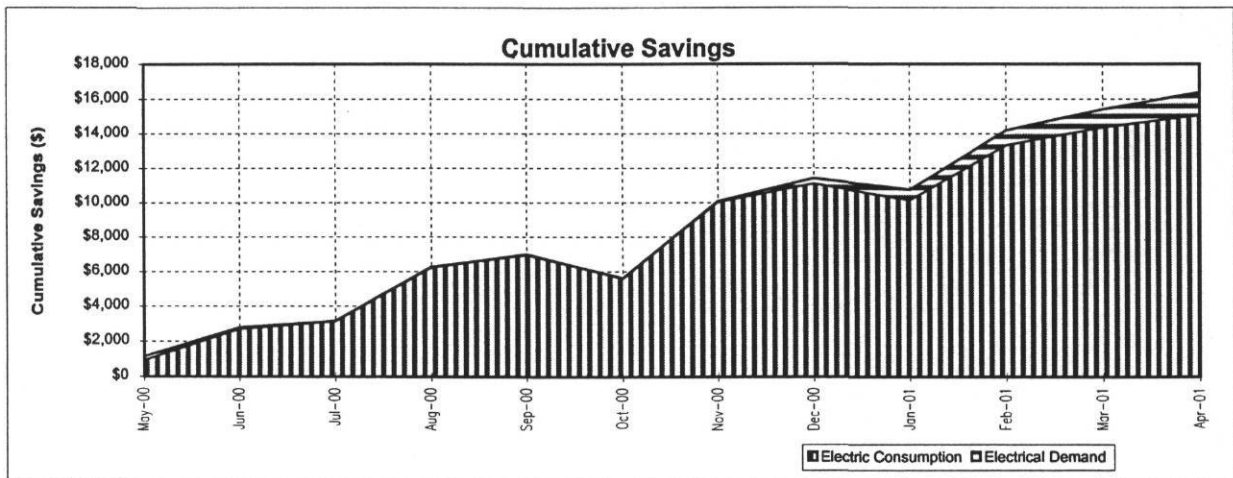
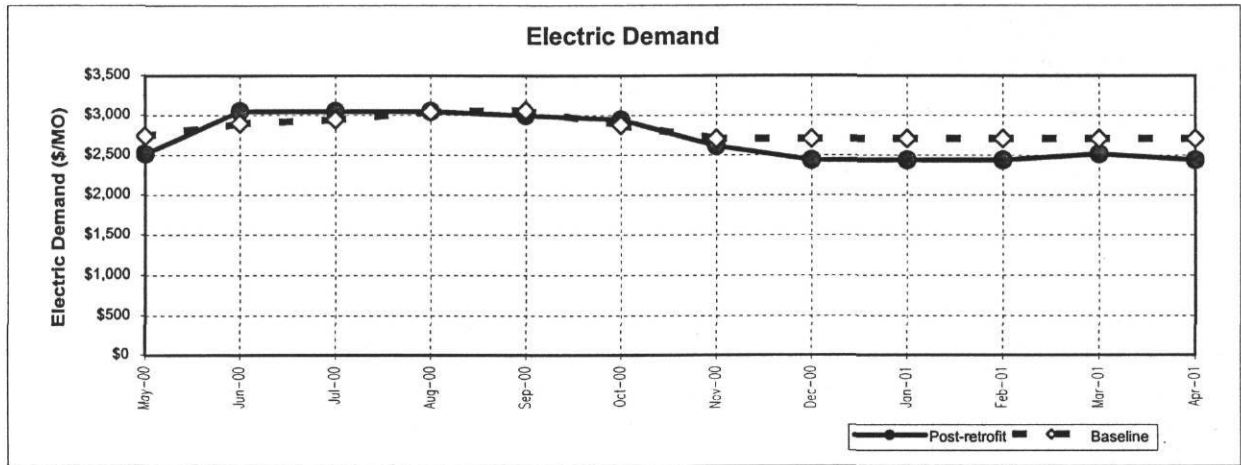
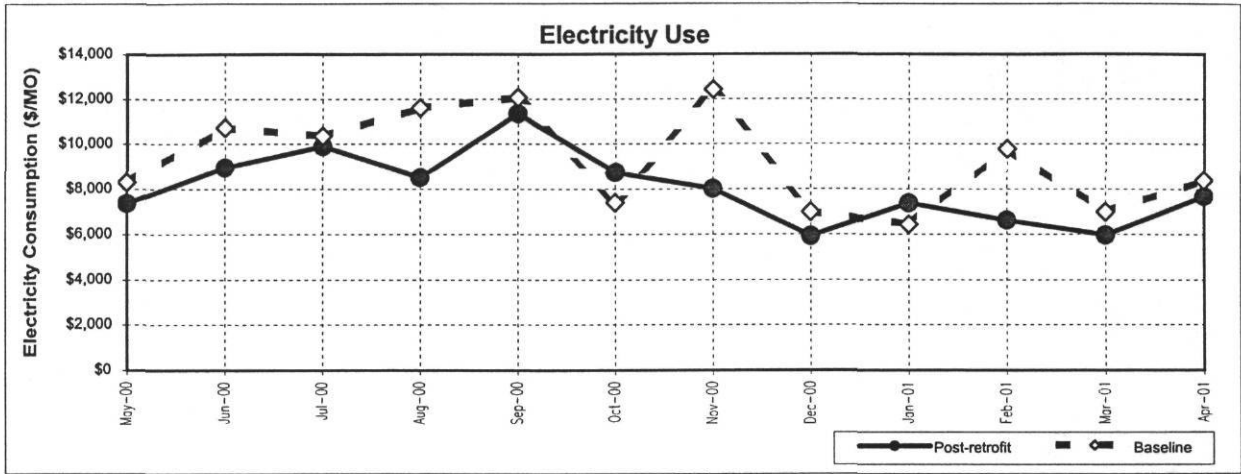
Dr. Jeff Haberl
 053B WERC
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May-00 through April-01
 Summary of Measured Energy Consumption and Savings

Month	ELECTRICITY				DEMAND				Total	
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$	Savings	Cumulative Savings
May-00	171,600	\$7,379	21,744	\$935	396	\$2,515	36	\$226	\$1,161	\$1,161
Jun-00	208,400	\$8,961	41,308	\$1,776	480	\$3,048	-24	(\$150)	\$1,626	\$2,787
Jul-00	230,400	\$9,907	10,552	\$454	480	\$3,048	-16	(\$101)	\$352	\$3,139
Aug-00	198,000	\$8,514	72,058	\$3,098	480	\$3,048	-1	(\$4)	\$3,095	\$6,234
Sep-00	264,000	\$11,352	16,503	\$710	472	\$2,997	10	\$63	\$772	\$7,006
Oct-00	203,200	\$8,738	-31,153	(\$1,340)	464	\$2,946	-11	(\$69)	(\$1,409)	\$5,598
Nov-00	186,400	\$8,015	102,481	\$4,407	412	\$2,616	14	\$91	\$4,497	\$10,095
Dec-00	138,000	\$5,934	24,658	\$1,060	384	\$2,438	42	\$269	\$1,329	\$11,424
Jan-01	171,600	\$7,379	-21,955	(\$944)	384	\$2,438	42	\$269	(\$675)	\$10,749
Feb-01	154,000	\$6,622	73,721	\$3,170	384	\$2,438	42	\$269	\$3,439	\$14,187
Mar-01	138,800	\$5,968	23,858	\$1,026	396	\$2,515	30	\$192	\$1,218	\$15,405
Apr-01	178,800	\$7,688	16,389	\$705	384	\$2,438	42	\$269	\$973	\$16,379
TOTAL	2,243,200	\$96,458	350,164	\$15,057	5,116	\$32,487	208	\$1,322	\$16,379	
Audit Estimated Savings				\$11,412				\$5,510	\$16,922	

Comments:

- * Electricity monitoring began September 18, 1997.
- * Retrofits started in April 98 and were finished in July 98.
- * Unit costs: \$0.043/kWh and \$6.35/kW.
- * Conditioned area 100,000 square feet.
- * The installation of the EMS has not yet been completed as of the date of this savings report.
 This retrofit was started in August 2000 and completed at the end of September 2000.
- * N.A. means no applicable



Constable Office

Brazos County

Site Contact

Mr. Ed Dobbins
 Plant Maintenance Manager
 Brazos County
 206 North Washington St.
 Bryan, TX. 77803
 (979) 361-4460

ESL Metering Contact

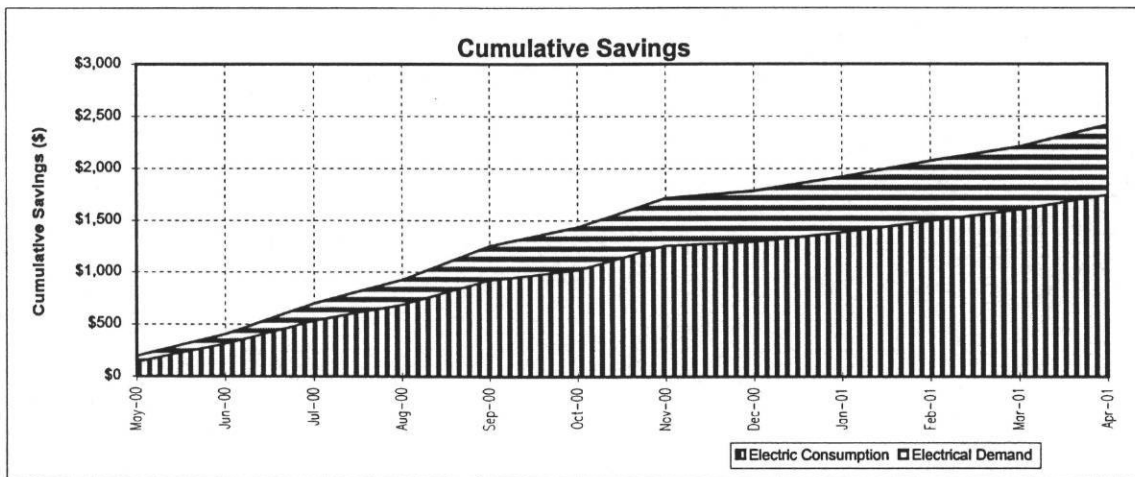
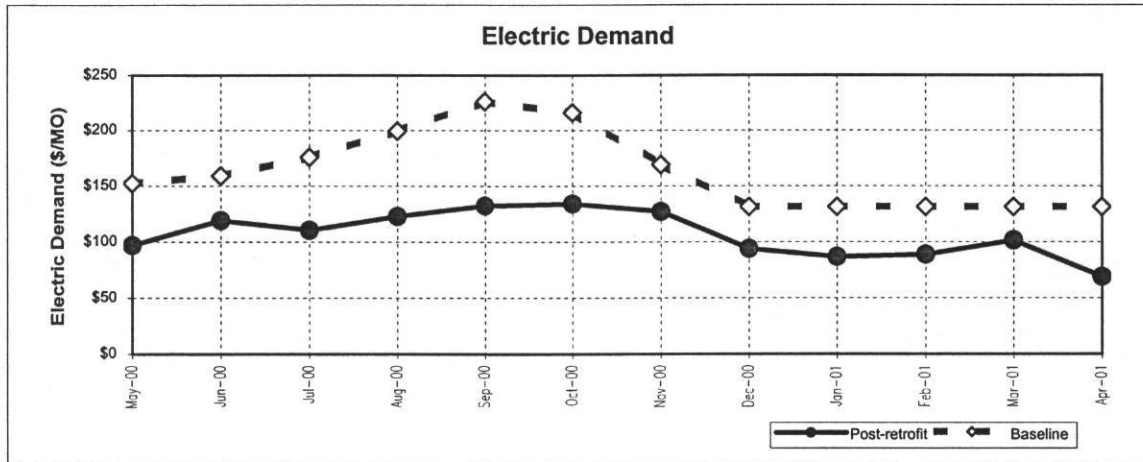
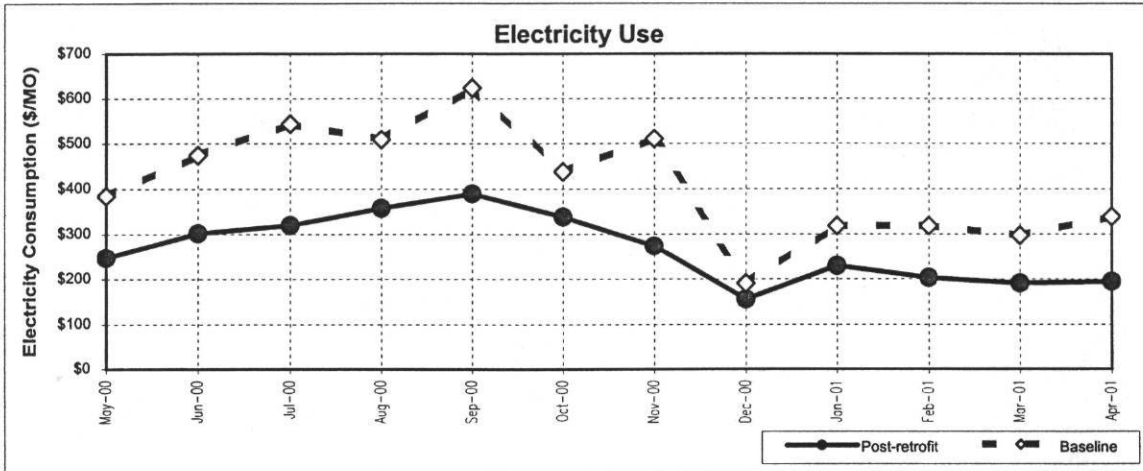
Dr. Jeff Haberl
 053B WERC
 Texas A&M University
 College Station, TX 77843-3581
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May-00 through April-01
 Summary of Measured Energy Consumption and Savings

Month	ELECTRICITY				DEMAND				Total	
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$	Savings	Cumulative Savings
May-00	4,887	\$247	2,722	\$137	13	\$97	8	\$56	\$193	\$193
Jun-00	5,975	\$302	3,411	\$172	16	\$119	5	\$40	\$212	\$405
Jul-00	6,332	\$320	4,448	\$225	15	\$110	9	\$66	\$290	\$696
Aug-00	7,075	\$357	3,003	\$152	17	\$123	10	\$77	\$228	\$924
Sep-00	7,708	\$389	4,651	\$235	18	\$132	13	\$94	\$329	\$1,253
Oct-00	6,698	\$338	1,970	\$99	18	\$134	11	\$82	\$182	\$1,434
Nov-00	5,415	\$273	4,691	\$237	17	\$127	6	\$42	\$279	\$1,713
Dec-00	3,086	\$156	693	\$35	13	\$94	5	\$37	\$72	\$1,785
Jan-01	4,542	\$229	1,756	\$89	12	\$87	6	\$45	\$133	\$1,919
Feb-01	4,018	\$203	2,280	\$115	12	\$89	6	\$42	\$158	\$2,076
Mar-01	3,773	\$191	2,105	\$106	14	\$101	4	\$30	\$136	\$2,212
Apr-01	3,851	\$194	2,867	\$145	9	\$69	8	\$62	\$207	\$2,419
TOTAL	63,360	\$3,200	34,597	\$1,747	175	\$1,283	91	\$672	\$2,419	
Audit Estimated Savings				\$912				\$547	\$1,459	

Comments:

- * Retrofits started in April 98 and were finished in July 98.
- * Unit costs: \$0.0505/kWh and \$7.35/kW.
- * Conditioned area 4,500 square feet.
- * N.A. means no applicable



Health Department

Brazos County

Site Contact

Mr. Ed Dobbins
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ESL Metering Contact

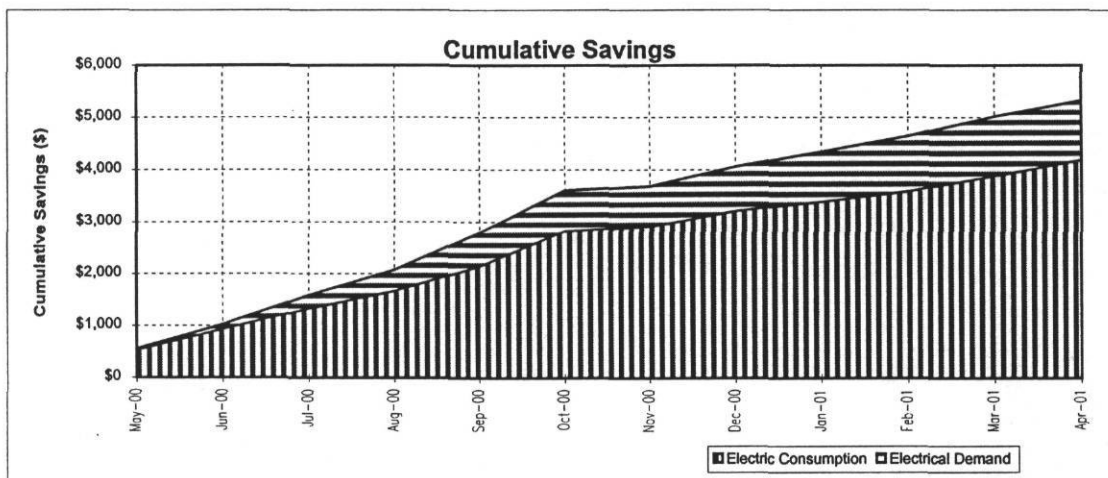
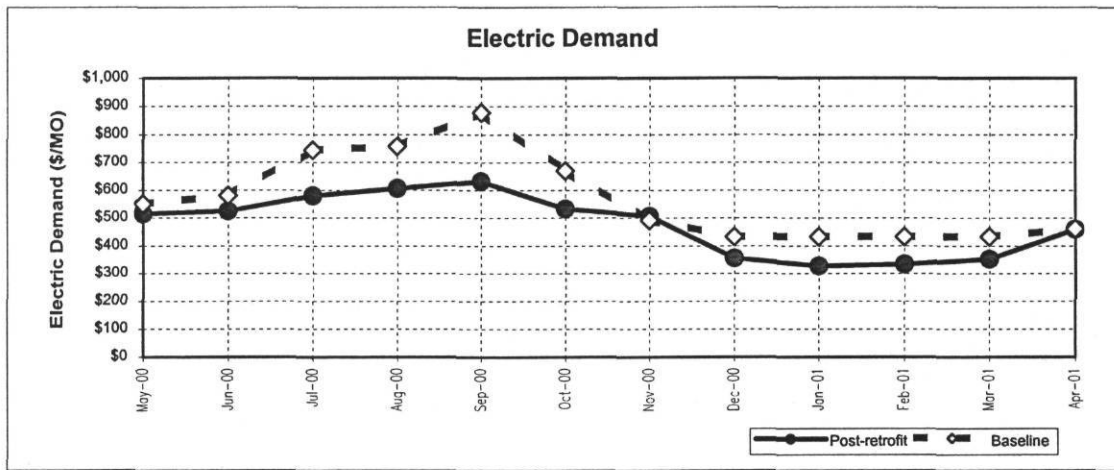
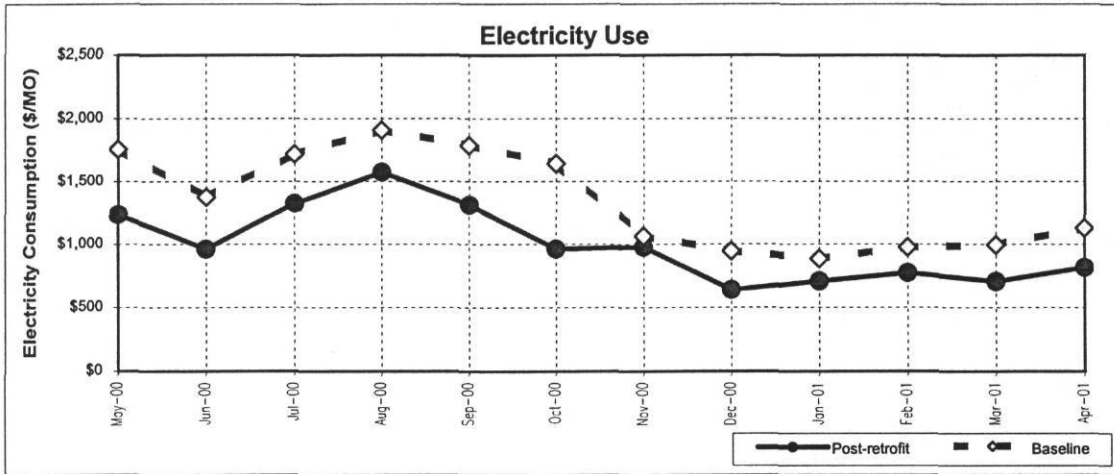
Dr. Jeff Haberl
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 College Station, TX 77843-3581
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May-00 through Apr-01
 Summary of Measured Energy Consumption and Savings

Month	ELECTRICITY				DEMAND				Total	
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$	Savings	Cumulative Savings
May-00	24,500	\$1,237	10,292	\$520	70	\$515	5	\$37	\$557	\$557
Jun-00	19,050	\$962	8,191	\$414	72	\$526	8	\$56	\$469	\$1,026
Jul-00	26,250	\$1,326	7,787	\$393	79	\$581	22	\$164	\$557	\$1,583
Aug-00	31,150	\$1,573	6,649	\$336	83	\$606	21	\$153	\$489	\$2,072
Sep-00	26,000	\$1,313	9,390	\$474	86	\$632	33	\$246	\$720	\$2,792
Oct-00	19,050	\$962	13,458	\$680	73	\$533	19	\$137	\$817	\$3,609
Nov-00	19,350	\$977	1,729	\$87	69	\$507	-2	(\$15)	\$72	\$3,681
Dec-00	12,650	\$639	6,074	\$307	49	\$356	10	\$77	\$383	\$4,064
Jan-01	14,000	\$707	3,516	\$178	45	\$327	14	\$106	\$284	\$4,348
Feb-01	15,350	\$775	3,978	\$201	46	\$334	13	\$99	\$300	\$4,648
Mar-01	13,950	\$704	5,741	\$290	48	\$353	11	\$80	\$370	\$5,018
Apr-01	16,200	\$818	6,185	\$312	63	\$459	0	\$3	\$316	\$5,334
TOTAL	237,500	\$11,994	82,992	\$4,191	780	\$5,729	155	\$1,142	\$5,334	
Audit Estimated Savings				\$5,573				\$3,916	\$9,489	

Comments:

- * Retrofits started in April 98 and were finished in July 98.
- * Unit costs: \$0.0505/kWh and \$7.35/kW.
- * Conditioned area 20,000 square feet.
- * N.A. means no applicable



Minimum Security Jail

Brazos County

Site Contact

Mr. Ed Dobbins
 Plant Maintenance Manager
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 Bryan, TX. 77803
 (979) 361-4460

ESL Metering Contact

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May-00 through Apr-01
 Summary of Measured Energy Consumption and Savings

Month	ELECTRICITY				DEMAND				Total	
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$	Savings	Cumulative Savings
May-00	88,896	\$4,489	10,037	\$507	221	\$1,623	-21	(\$157)	\$350	\$350
Jun-00	114,048	\$5,759	-10,732	(\$542)	232	\$1,708	-20	(\$144)	(\$686)	(\$337)
Jul-00	116,544	\$5,885	-12,957	(\$654)	236	\$1,736	-10	(\$76)	(\$730)	(\$1,067)
Aug-00	110,016	\$5,556	33,813	\$1,708	227	\$1,665	6	\$41	\$1,749	\$682
Sep-00	114,816	\$5,798	-62,372	(\$3,150)	242	\$1,778	-7	(\$48)	(\$3,198)	(\$2,516)
Oct-00	104,448	\$5,275	24,840	\$1,254	252	\$1,849	-49	(\$358)	\$896	(\$1,620)
Nov-00	134,208	\$6,778	-25,804	(\$1,303)	198	\$1,455	-26	(\$192)	(\$1,495)	(\$3,114)
Dec-00	50,880	\$2,569	-12,955	(\$654)	200	\$1,468	-28	(\$204)	(\$858)	(\$3,973)
Jan-01	83,520	\$4,218	-2,930	(\$148)	213	\$1,566	-41	(\$303)	(\$451)	(\$4,424)
Feb-01	91,968	\$4,644	-13,749	(\$694)	192	\$1,411	-20	(\$148)	(\$842)	(\$5,266)
Mar-01	88,128	\$4,450	-28,871	(\$1,458)	202	\$1,482	-30	(\$218)	(\$1,676)	(\$6,942)
Apr-01	83,712	\$4,227	479	\$24	184	\$1,355	-10	(\$75)	(\$51)	(\$6,993)
TOTAL	1,181,184	\$59,650	-101,201	(\$5,111)	2,598	\$19,095	-256	(\$1,883)	(\$6,993)	
Audit Estimated Savings				\$3,310				\$1,023	\$4,333	

Comments:

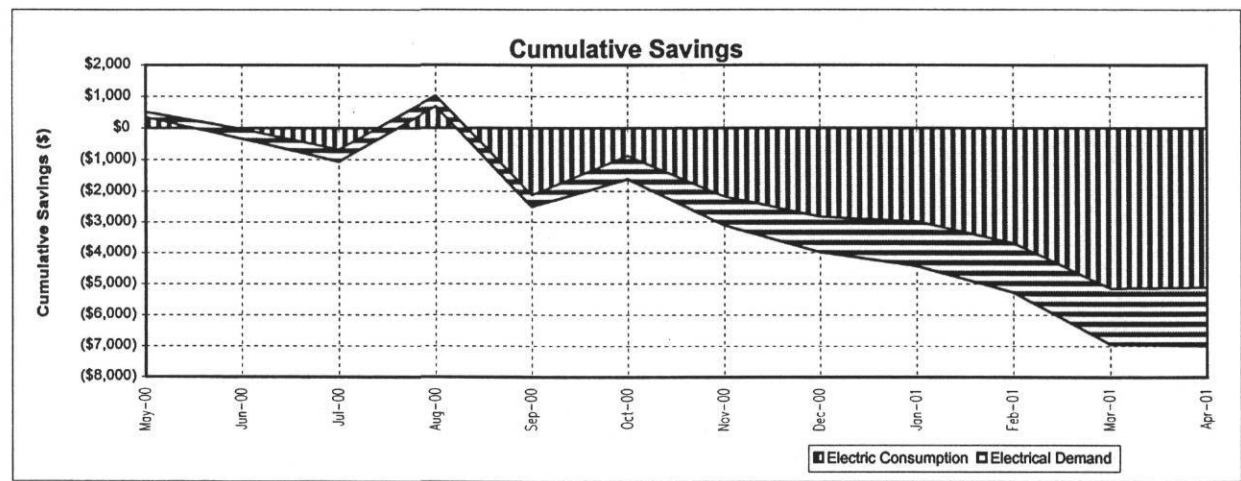
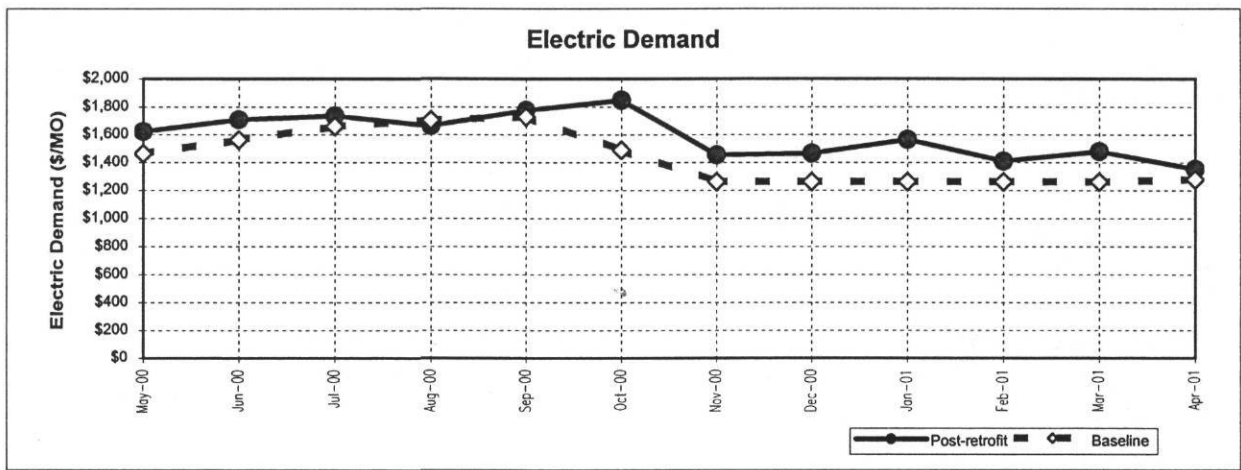
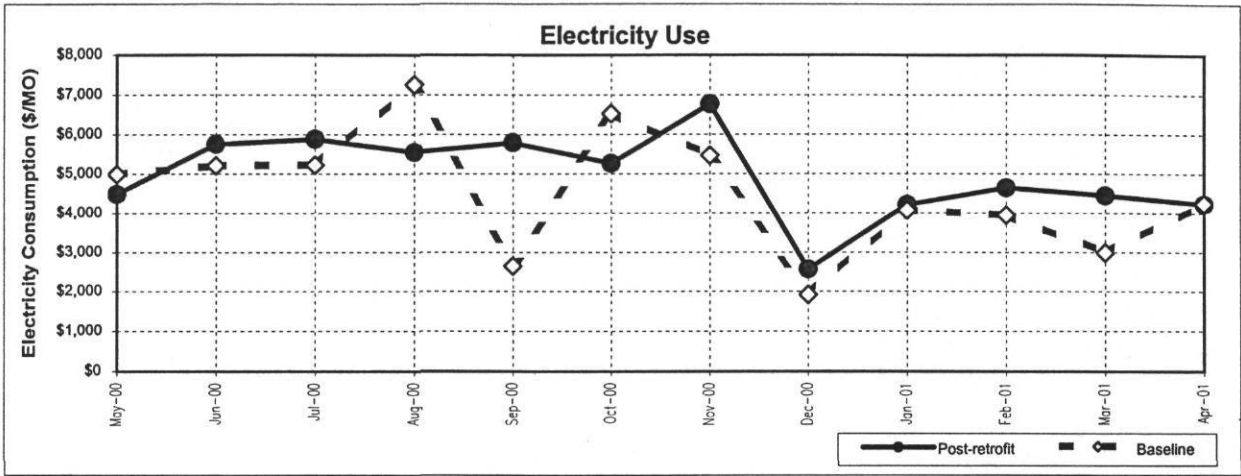
- * Retrofits started in April 98 and were finished in July 98.
- * Unit costs: \$0.0505/kWh and \$7.35/kW.
- * Conditioned area 40,000 square feet.
- * The jail had undergone a large construction project to double its size. The project started in the winter of 1999 and was completed in August 2000. Both electricity use and demand have increase significantly during the construction
- * N.A. means no applicable

Minimum Security Jail

Energy Systems Laboratory
 Texas Engineering Experiment Station

Cumulative Energy Consumption Report for Brazos County

Texas A&M University
 College Station, TX



Road & Bridge shop

Brazos County

Site Contact

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ESL Metering Contact

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May-00 through Apr-01
 Summary of Measured Energy Consumption and Savings

Month	ELECTRICITY				DEMAND				Total	
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$	Savings	Cumulative Savings
May-00	12,840	\$648	-652	(\$33)	36	\$265	5	\$36	\$3	\$3
Jun-00	13,000	\$657	906	\$46	36	\$265	7	\$51	\$97	\$100
Jul-00	16,880	\$852	-860	(\$43)	36	\$265	9	\$67	\$24	\$124
Aug-00	14,360	\$725	3,910	\$197	40	\$294	6	\$46	\$244	\$367
Sep-00	15,360	\$776	1,731	\$87	36	\$265	10	\$75	\$163	\$530
Oct-00	13,000	\$657	-1,091	(\$55)	32	\$235	8	\$60	\$5	\$535
Nov-00	12,960	\$654	-3,737	(\$189)	32	\$235	6	\$46	(\$142)	\$393
Dec-00	12,840	\$648	-3,287	(\$166)	36	\$265	-1	(\$6)	(\$172)	\$221
Jan-01	15,800	\$798	-5,589	(\$282)	44	\$323	-9	(\$65)	(\$347)	(\$126)
Feb-01	15,200	\$768	-4,659	(\$235)	40	\$294	-5	(\$35)	(\$271)	(\$396)
Mar-01	12,360	\$624	-2,807	(\$142)	36	\$265	-1	(\$6)	(\$148)	(\$544)
Apr-01	14,080	\$711	-4,198	(\$212)	40	\$294	-4	(\$31)	(\$243)	(\$787)
TOTAL	168,680	\$8,518	-20,334	(\$1,027)	444	\$3,263	33	\$240	(\$787)	
Audit Estimated Savings				\$1,731				\$935	\$2,666	

Comments:

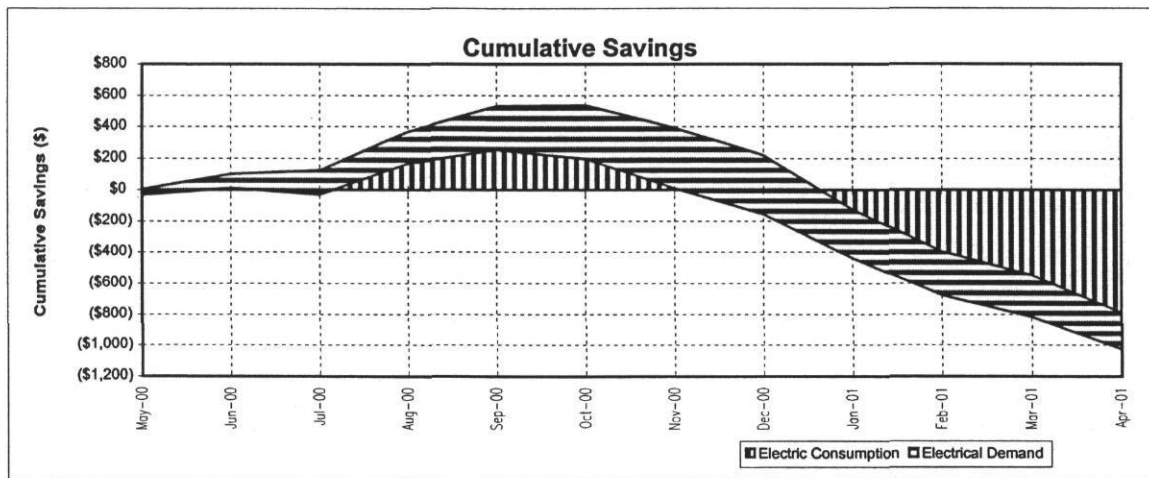
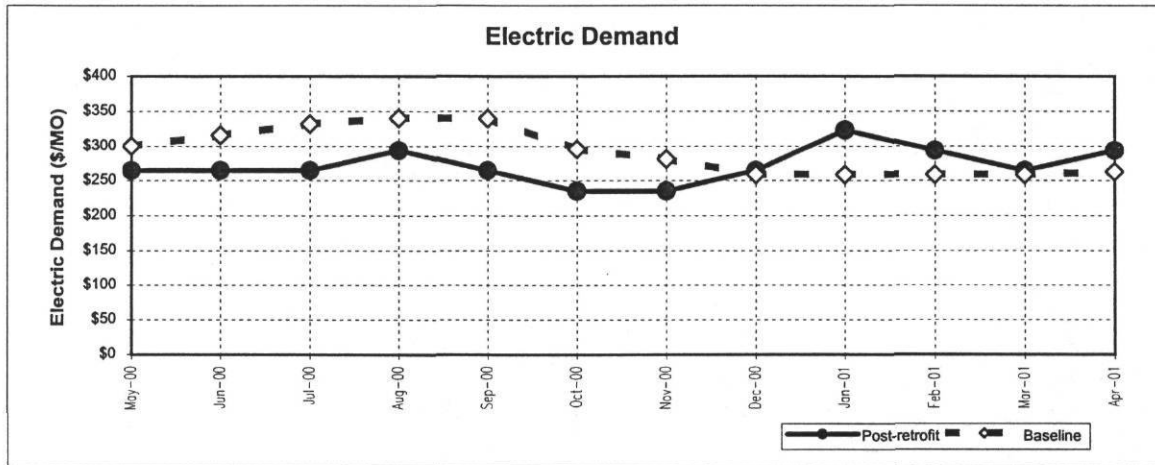
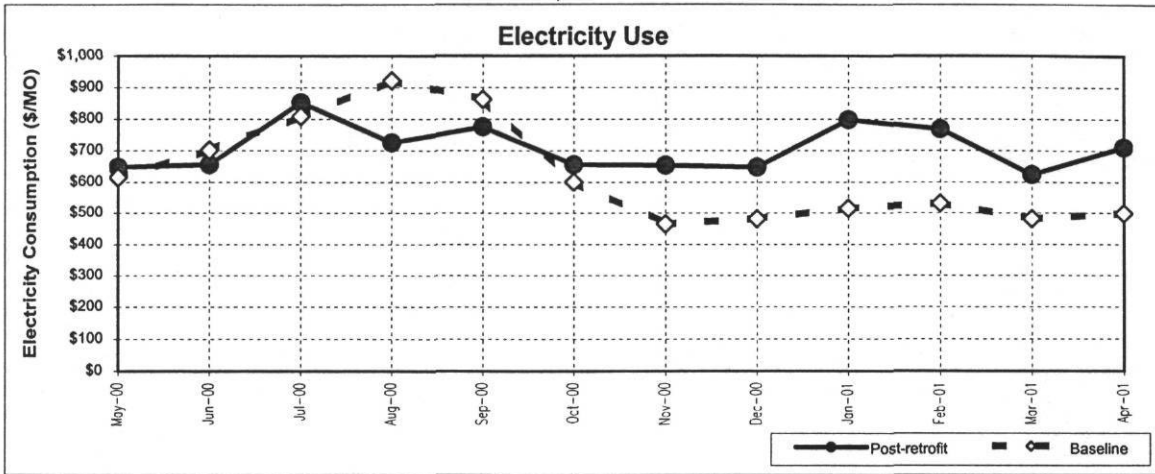
- * Retrofits started in April 98 and were finished in July 98.
- * Unit costs: \$0.0505/kWh and \$7.35/kW.
- * Conditioned area 28,265 square feet.
- * N.A. means no applicable

Road & Bridge shop

Energy Systems Laboratory
 Texas Engineering Experiment Station

Cumulative Energy Consumption Report for Brazos County

Texas A&M University
 College Station, TX



Tax Assesor Office

Brazos County

Site Contact

Mr. Ed Dobbins
 Plant Maintenance Manager
 Brazos County
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ESL Metering Contact

Dr. Jeff Haberl
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 Texas A&M University
 College Station, TX 77843-3581
 (979) 845-6065

May-00 through Apr-01
 Summary of Measured Energy Consumption and Savings

Month	ELECTRICITY				DEMAND				Total		
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$	Savings	Cumulative Savings	
May-00	10,360	\$523	2,906	\$147	35	\$259	15	\$111	\$257	\$257	
Jun-00	10,880	\$549	5,658	\$286	40	\$294	12	\$85	\$371	\$628	
Jul-00	17,920	\$905	1,205	\$61	42	\$312	10	\$75	\$136	\$764	
Aug-00	14,400	\$727	3,621	\$183	45	\$332	9	\$64	\$247	\$1,011	
Sep-00	14,520	\$733	7,595	\$384	47	\$344	7	\$54	\$437	\$1,448	
Oct-00	13,200	\$667	2,104	\$106	49	\$362	3	\$19	\$126	\$1,574	
Nov-00	11,160	\$564	2,827	\$143	45	\$329	5	\$37	\$179	\$1,753	
Dec-00	10,000	\$505	1,264	\$64	40	\$297	5	\$34	\$98	\$1,851	
Jan-01	12,120	\$612	-1,219	(\$62)	40	\$294	4	\$31	(\$30)	\$1,821	
Feb-01	9,960	\$503	941	\$48	40	\$294	4	\$31	\$79	\$1,900	
Mar-01	10,240	\$517	-66	(\$3)	40	\$294	6	\$43	\$40	\$1,940	
Apr-01	10,800	\$545	827	\$42	40	\$294	6	\$42	\$83	\$2,023	
TOTAL	145,560	\$7,351	27,664	\$1,397	504	\$3,704	85	\$626	\$2,023		
Audit Estimated Savings				\$2,738					\$1,588	\$4,325	

Comments:

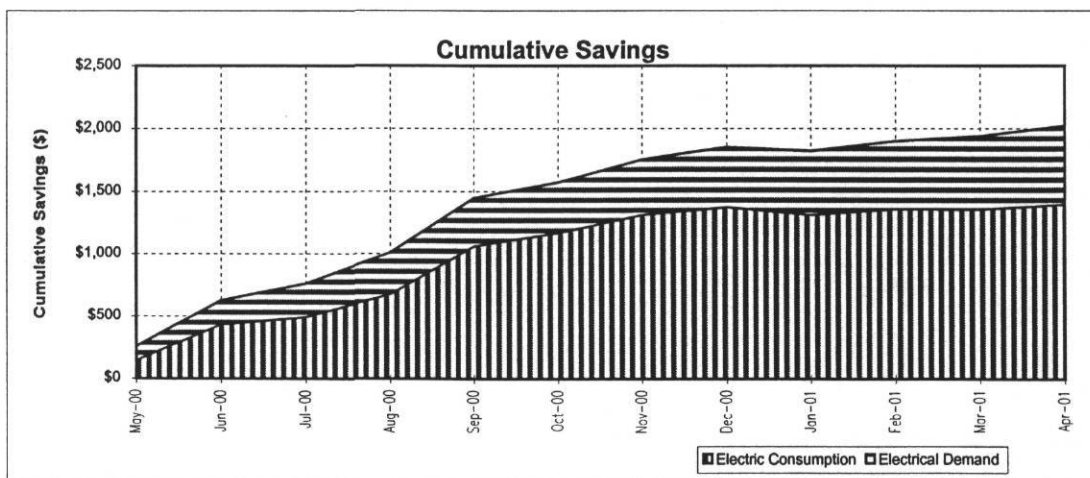
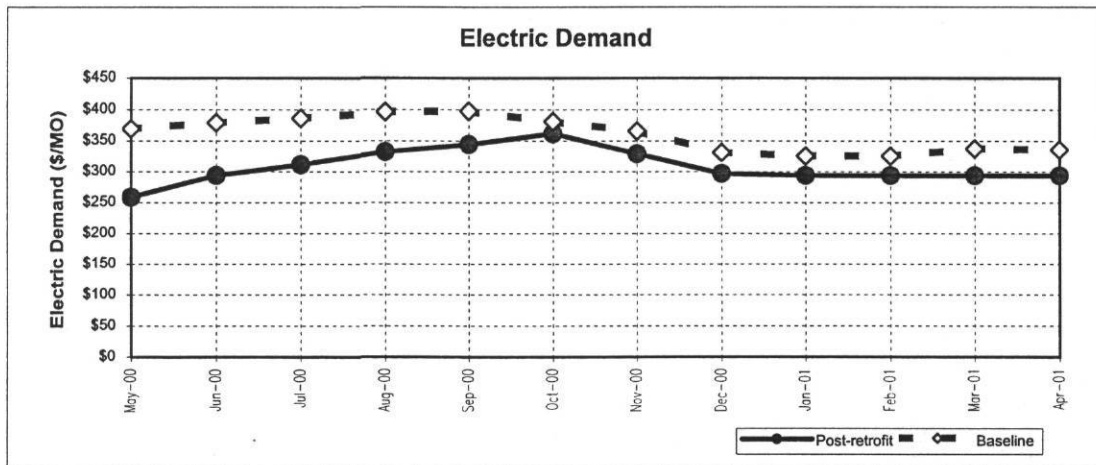
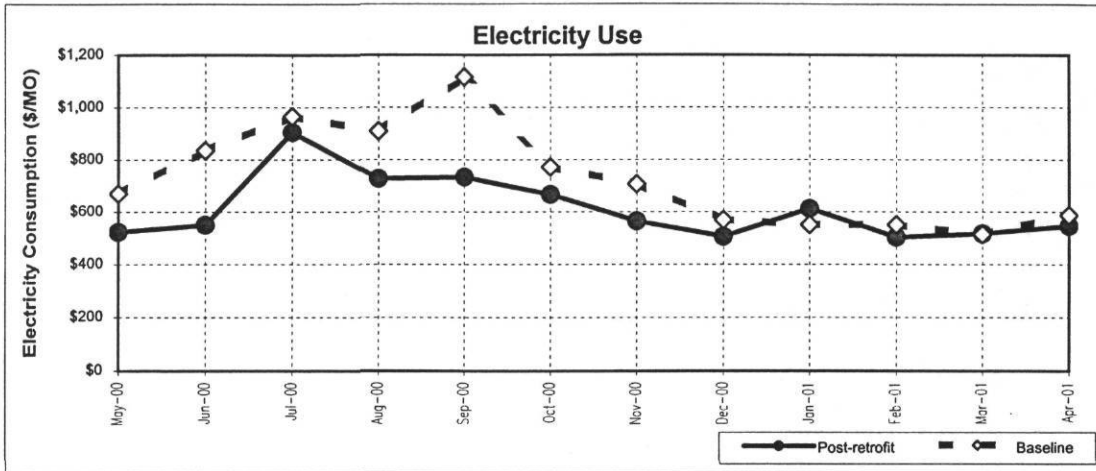
- * Retrofits started in April 98 and were finished in July 98.
- * Unit costs: \$0.0505/kWh and \$7.35/kW
- * Conditioned area 11,000 square feet
- * N.A. means no applicable

Tax Assesor Office

Energy Systems Laboratory
 Texas Engineering Experiment Station

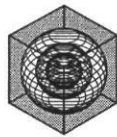
Cumulative Energy Consumption Report for Brazos County

Texas A&M University
 College Station, TX



Saving Tables

Electricity
BRAZOS COUNTY



ENERGY SYSTEMS LABORATORY

Texas Engineering Experiment Station
Texas A&M University System

Agriculture Extension

Period: 07/96 - 06/97		ELECTRICITY	
Ycp=	236.1007	CV-RMSE=	5.6%
LS=	0.0000	R ² =	0.88
RS=	5.6020		
Xcp=	69.2400		

Agriculture Extension

Month No.	Day	Year	Days/Mo	Temp (°F)	Measured	Predicted	Savings	\$/kWh	
					Total Cons kWh	Total Cons kWh	kWh	%	USD
5	16	2000	32	73.3	5,735	8,280	2,545	30.74	128.52
6	15	2000	30	78.5	6,337	8,645	2,308	26.70	116.56
7	17	2000	32	83.9	8,102	10,176	2,074	20.38	104.75
8	16	2000	30	85.4	7,752	9,796	2,044	20.87	103.22
9	15	2000	30	85.6	6,897	9,838	2,941	29.90	148.54
10	17	2000	32	71.7	6,597	8,000	1,403	17.53	70.84
11	14	2000	28	66.4	4,564	6,611	2,047	30.96	103.36
12	13	2000	29	50.6	3,889	6,847	2,958	43.20	149.37
1	16	2001	34	43.8	4,903	8,027	3,124	38.92	157.78
2	14	2001	29	50.8	4,947	6,847	1,900	27.75	95.95
3	15	2001	29	57.5	5,169	6,847	1,678	24.51	84.73
4	16	2001	32	63.2	5,262	7,555	2,293	30.35	115.81
					70,154	97,470	27,316	28.02	1,379.44

Agriculture Extension

Period: 07/96 - 06/97		DEMAND	
Ycp=	21.2592	CV-RMSE=	8.3%
LS=	0.0000	R ² =	0.56
RS=	0.2558		
Xcp=	80.4600		

Agriculture Extension

Month No.	Day	Year	Days/Mo	Tdbmax (°F)	Measured	Predicted	Savings	\$ /kW	
					Demand kW	Demand kW	kW	%	USD
5	16	2000	32	73.3	20	21	1	5.92	9.26
6	15	2000	30	78.5	26	21	-5	-22.30	-34.84
7	17	2000	32	83.9	24	22	-2	-8.45	-13.75
8	16	2000	30	85.4	26	23	-3	-15.46	-25.59
9	15	2000	30	85.6	26	23	-3	-15.13	-25.11
10	17	2000	32	71.7	24	21	-3	-12.89	-20.14
11	14	2000	28	66.4	18	21	3	15.33	23.96
12	13	2000	29	50.6	14	21	7	34.15	53.36
1	16	2001	34	43.8	16	21	5	24.74	38.66
2	14	2001	29	50.8	16	21	5	24.74	38.66
3	15	2001	29	57.5	16	21	5	24.74	38.66
4	16	2001	32	63.17	18	21	3	15.33	23.96
					244	259	15	5.63	107.04

Arena Hall

Period:		ELECTRICITY	
Ycp=	0.0000	CV-RMSE=	0.0%
LS=	0.0000	R ² =	0
RS=	0.0000		
Xcp=	0.0000		

Arena Hall

Month No.	Day	Year	Days/Mo	Temp (°F)	Measured	Predicted	Savings	\$/kWh	
					Total Cons kWh	Total Cons kWh	kWh	%	USD
5	23	2000	35		3,017	2,121	-896	-42	-45.25
6	19	2000	27		2,397	4,170	1,773	43	89.54
8	11	2000	53		9,125	12,086	2,961	24	149.53
9	19	2000	39		6,503	2,813	-3,690	-131	-186.35
10	19	2000	30		3,714	2,801	-913	-33	-46.11
11	16	2000	28		2,871	2,368	-503	-21	-25.40
12	15	2000	29		6,208	3,541	-2,667	-75	-134.68
1	18	2001	34		14,120	5,654	-8,466	-150	-427.53
2	16	2001	29		2,441	1,919	-522	-27	-26.36
3	19	2001	31		3,416	6,001	2,585	43	130.54
4	20	2001	32		13,347	3,120	-10,227	-328	-516.46
					67,159	46,594	-20,565	-44.14	-1,038.53

Arena Hall

Period:		DEMAND	
Ycp=	0.0000	CV-RMSE=	0.0%
LS=	0.0000	R ² =	0
RS=	0.0000		
Xcp=	0.0000		

Arena Hall

					Measured	Predicted	Savings	\$ /kW	
					Demand	Demand		%	USD
Month No.	Day	Year	Days/Mo	Tdb (°F)	kW	kW	kW		
5	23	2000	35		22	18	-4	-24.43	-31.61
6	19	2000	27		21	22	1	4.11	6.61
8	11	2000	53		24	48	24	49.58	174.93
9	19	2000	39		23	23	0	-1.30	-2.21
10	19	2000	30		23	22	-1	-5.91	-9.56
11	16	2000	28		21	25	4	16.60	30.87
12	15	2000	29		25	28	3	11.31	23.52
1	18	2001	34		31	27	-5	-17.23	-33.81
2	16	2001	29		26	27	1	4.38	8.82
3	19	2001	31		25	25	0	0.79	1.47
4	20	2001	32		23	17	-6	-32.37	-41.16
					266	283	17	6.15	127.89

Brazos Center

Period: 02/97 - 01/98		ELECTRICITY	
Ycp=	1786.5193	CV-RMSE=	0.113
LS=	0.0000	R ² =	0.76
RS=	45.1985		
Xcp=	60.0122		

Brazos Center

Month No.	Day	Year	Days/Mo	Tdb (°F)	Measured	Predicted	Savings	%	\$/kWh
					Total Cons kWh	Total Cons kWh	kWh		\$0.0430 USD
5	11	2000	30	73.11	54,480	71,360	16,880	23.65	725.82
6	12	2000	32	77.76	68,800	82,840	14,040	16.95	603.73
7	12	2000	30	82.79	86,640	84,487	-2,153	-2.55	-92.59
8	11	2000	30	85.75	74,320	88,495	14,175	16.02	609.52
9	12	2000	32	86.25	84,640	95,114	10,474	11.01	450.40
10	12	2000	30	72.47	59,440	70,493	11,053	15.68	475.28
11	10	2000	29	69.34	59,120	64,033	4,913	7.67	211.27
12	8	2000	28	50.84	41,840	50,023	8,183	16.36	351.85
1	10	2001	33	44.14	49,840	58,955	9,115	15.46	391.95
2	9	2001	30	50.00	47,120	53,596	6,476	12.08	278.45
3	12	2001	31	55.98	48,880	55,382	6,502	11.74	279.59
4	11	2001	30	61.31	53,760	55,349	1,589	2.87	68.33
					728,880	830,127	101,247	12.20	4,353.61

Brazos Center

Period: 01/94 - 01/98		DEMAND	
Ycp=	104.8774	CV-RMSE=	9.3%
LS=	0.0000	R ² =	0.57
RS=	2.2619		
Xcp=	0.0000		

Brazos Center

Month No.	Day	Year	Days/Mo	Tdb (°F)	Measured	Predicted	Savings	%	\$ /kW
					Demand kW	Demand kW	kW		\$6.35 USD
5	11	2000	30	73.11	268	270	2	0.83	14.30
6	12	2000	32	77.76	275.2	281	6	1.98	35.34
7	12	2000	30	82.79	275.2	292	17	5.80	107.63
8	11	2000	30	85.75	252	299	47	15.67	297.40
9	12	2000	32	86.25	248.8	300	51	17.06	324.87
10	12	2000	30	72.47	221.6	269	47	17.56	299.76
11	10	2000	29	69.34	187.2	262	75	28.47	473.16
12	8	2000	28	50.84	150.4	220	69	31.60	441.18
1	10	2001	33	44.14	150.4	205	54	26.53	344.94
2	9	2001	30	50.00	163.2	218	55	25.13	347.76
3	12	2001	31	55.98	215.2	231	16	7.04	103.48
4	11	2001	30	61.31	180.8	244	63	25.76	398.43
					2,588	3,090	502	16.25	3,188.25

Brazos Court Annex

Period: 02/97 - 01/98		ELECTRICITY	
Ycp=	911.0238	CV-RMSE=	11.7%
LS=	0.0000	R ² =	0.88
RS=	37.9248		
Xcp=	58.2612		

Brazos Court Annex

Month No.	Day	Year	Days/Mo	Temp (°F)	Measured	Predicted	Savings	%	\$/kWh
					Total Cons kWh	Total Cons kWh	kWh		\$0.0505
5	3	2000	28	69.9	30,120	37,887	7,767	20.50	392.22
6	5	2000	33	78.0	43,440	54,711	11,271	20.60	569.17
7	6	2000	31	80.5	48,480	54,332	5,852	10.77	295.55
8	3	2000	28	85.6	40,560	54,509	13,949	25.59	704.41
9	29	2000	57	83.2	71,640	105,826	34,186	32.30	1,726.37
10	4	2000	5	76.6	14,640	8,026	-6,614	-82.40	-333.98
11	3	2000	30	70.4	37,920	41,155	3,235	7.86	163.39
12	5	2000	32	54.3	26,160	29,153	2,993	10.27	151.13
1	4	2001	30	46.1	26,400	27,331	931	3.41	47.00
2	5	2001	32	52.3	25,440	29,153	3,713	12.74	187.49
3	5	2001	28	57.5	26,760	25,509	-1,251	-4.91	-63.19
4	4	2001	30	58.5	30,360	27,620	-2,740	-9.92	-138.39
					421,920	495,211	73,291	14.80	3,701.18

Brazos Court Annex

Period: 02/97 - 01/98		DEMAND	
Ycp=	36.8941	CV-RMSE=	6.2%
LS=	1.2647	R ² =	0.85
RS=	1.2647		
Xcp=	0.0000		

Brazos Court Annex

Month No.	Day	Year	Days/Mo	Tdb (°F)	Measured	Predicted	Savings	%	\$ /kW
					Demand kW	Demand kW	kW		USD
5	3	2000	28	69.9	109	125	16	12.86	118.48
6	5	2000	33	78.0	115	135	20	14.97	149.08
7	6	2000	31	80.5	120	139	19	13.45	137.03
8	3	2000	28	85.6	118	145	28	18.96	202.24
9	29	2000	57	83.2	130	142	13	8.80	91.94
10	4	2000	5	76.6	130	134	4	3.09	30.35
11	3	2000	30	70.4	113	126	13	10.44	96.61
12	5	2000	32	54.3	96	106	10	9.07	70.37
1	4	2001	30	46.1	80	95	15	15.59	109.18
2	5	2001	32	52.3	72	103	31	30.16	228.53
3	5	2001	28	57.5	86	110	23	21.20	170.86
4	4	2001	30	58.5	91	111	20	17.76	144.78
					1,260	1,471	211	14.33	1,549.46

Brazos Couthouse

Period: 01/94 - 01/98		ELECTRICITY	
Ycp=	6506.3042	CV-RMSE=	6.2%
LS=	0.0000	R ² =	0.69
RS=	82.3388		
Xcp=	65.0738		

Brazos Couthouse

Month No.	Day	Year	Days/Mo	Temp (°F)	Measured	Predicted	Savings	%	\$/kWh
					Total Cons kWh	Total Cons kWh	kWh		\$0.0430
5	3	2000	28	69.9	171,600	193,344	21,744	11.25	935.01
6	5	2000	33	78.0	208,400	249,708	41,308	16.54	1,776.24
7	6	2000	31	80.5	230,400	240,952	10,552	4.38	453.74
8	8	2000	33	85.4	198,000	270,058	72,058	26.68	3,098.50
9	11	2000	34	86.3	264,000	280,503	16,503	5.88	709.64
10	4	2000	23	76.9	203,200	172,047	-31,153	-18.11	-1,339.56
11	17	2000	44	65.8	186,400	288,881	102,481	35.48	4,406.67
12	12	2000	25	53.4	138,000	162,658	24,658	15.16	1,060.28
1	4	2001	23	43.7	171,600	149,645	-21,955	-14.67	-944.07
2	8	2001	35	53.1	154,000	227,721	73,721	32.37	3,169.99
3	5	2001	25	57.2	138,800	162,658	23,858	14.67	1,025.88
4	4	2001	30	58.5	178,800	195,189	16,389	8.40	704.73
					2,243,200	2,593,364	350,164	13.50	15,057.04

Brazos Couthouse

Period: 01/94 - 01/98		DEMAND	
Ycp=	426.3030	CV-RMSE=	3.6%
LS=	0.0000	R ² =	0.64
RS=	3.0798		
Xcp=	68.2035		

Brazos Couthouse

Month No.	Day	Year	Days/Mo	Tdb (°F)	Measured	Predicted	Savings	%	\$ /kW
					Demand kW	Demand kW	kW		USD
5	3	2000	28	69.9	396	432	36	8.24	225.95
6	5	2000	33	78.0	480	456	-24	-5.19	-150.27
7	6	2000	31	80.5	480	464	-16	-3.44	-101.41
8	8	2000	33	85.4	480	479	-1	-0.12	-3.80
9	11	2000	34	86.3	472	482	10	2.05	62.79
10	4	2000	23	76.9	464	453	-11	-2.41	-69.24
11	17	2000	44	65.8	412	426	14	3.36	90.82
12	12	2000	25	53.4	384	426	42	9.92	268.62
1	4	2001	23	43.7	384	426	42	9.92	268.62
2	8	2001	35	53.1	384	426	42	9.92	268.62
3	5	2001	25	57.2	396	426	30	7.11	192.42
4	4	2001	30	58.5	384	426	42	9.92	268.62
					5,116	5,324	208	3.91	1,321.77

Constable Office

Period: 04/97 - 03/98		ELECTRICITY	
Ycp=	209.9380	CV-RMSE=	5.5%
LS=	0.0000	R ² =	0.95
RS=	6.5963		
Xcp=	62.9200		

Constable Office

					Measured	Predicted	Savings	\$/kWh	
					Total Cons	Total Cons	kWh	%	USD
Month No.	Day	Year	Days/Mo	Temp (°F)	kWh	kWh	kWh		
5	2	2000	28	72.3	4,887	7,609	2,722	35.78	137.48
6	2	2000	31	77.0	5,975	9,386	3,411	36.34	172.23
7	5	2000	33	80.6	6,332	10,780	4,448	41.26	224.63
8	2	2000	28	85.7	7,075	10,078	3,003	29.80	151.67
9	5	2000	34	86.2	7,708	12,359	4,651	37.63	234.85
10	3	2000	28	78.0	6,698	8,668	1,970	22.73	99.47
11	16	2000	44	65.9	5,415	10,106	4,691	46.42	236.88
12	4	2000	18	52.0	3,086	3,779	693	18.34	34.99
1	3	2001	30	43.9	4,542	6,298	1,756	27.88	88.69
2	2	2001	30	48.0	4,018	6,298	2,280	36.20	115.15
3	2	2001	28	56.5	3,773	5,878	2,105	35.81	106.32
4	3	2001	32	55.6	3,851	6,718	2,867	42.68	144.78
					63,360	97,957	34,597	35.32	1,747.14

Constable Office

Period: 04/97 - 03/98		DEMAND	
Ycp=	17.8627	CV-RMSE=	6.4%
LS=	0.0000	R ² =	0.84
RS=	0.4546		
Xcp=	83.6400		

Constable Office

					Measured	Predicted	Savings	\$ /kW	
					Demand	Demand		%	USD
Month No.	Day	Year	Days/Mo	Tdbmax (°F)	kW	kW	kW		
5	2	2000	28	90.0	13	21	8	36.40	55.52
6	2	2000	31	92.0	16	22	5	25.22	40.15
7	5	2000	33	97.0	15	24	9	37.33	65.68
8	2	2000	28	104.0	17	27	10	38.42	76.57
9	5	2000	34	112.0	18	31	13	41.47	93.75
10	3	2000	28	109.0	18	29	11	38.08	82.26
11	16	2000	44	95.0	17	23	6	24.87	42.09
12	4	2000	18	76.0	13	18	5	28.34	37.21
1	3	2001	30	73.0	12	18	6	33.94	44.56
2	2	2001	30	74.0	12	18	6	32.26	42.36
3	2	2001	28	78.0	14	18	4	22.74	29.86
4	3	2001	32	79.0	9	18	8	47.38	62.20
					175	266	91	34.39	672.22

Health Department

Period: 04/97 - 03/98		ELECTRICITY	
Ycp=	604.0131	CV-RMSE=	7.4%
LS=	0.0000	R ² =	0.93
RS=	17.9245		
Xcp=	53.6400		

Health Department

Month No.	Day	Year	Days/Mo	Temp (°F)	Measured	Predicted	Savings	\$/kWh	
					Total Cons kWh	Total Cons kWh	kWh	%	USD
5	19	2000	36	73.9	24,500	34,792	10,292	29.58	519.73
6	14	2000	26	78.4	19,050	27,241	8,191	30.07	413.64
7	14	2000	30	83.2	26,250	34,037	7,787	22.88	393.24
8	15	2000	32	85.8	31,150	37,799	6,649	17.59	335.80
9	14	2000	30	85.8	26,000	35,390	9,390	26.53	474.19
10	19	2000	35	71.8	19,050	32,508	13,458	41.40	679.62
11	13	2000	25	67.0	19,350	21,079	1,729	8.20	87.34
12	14	2000	31	50.0	12,650	18,724	6,074	32.44	306.76
1	12	2001	29	43.3	14,000	17,516	3,516	20.07	177.58
2	13	2001	32	50.1	15,350	19,328	3,978	20.58	200.91
3	14	2001	29	57.8	13,950	19,691	5,741	29.16	289.94
4	13	2001	30	61.6	16,200	22,385	6,185	27.63	312.36
					237,500	320,492	82,992	25.90	4,191.09

Health Department

Period: 04/97 - 03/98		DEMAND	
Ycp=	58.9340	CV-RMSE=	10.4%
LS=	0.0000	R ² =	0.79
RS=	2.0181		
Xcp=	82.0200		

Health Department

					Measured	Predicted	Savings	\$ /kW	
					Demand	Demand	kW	%	USD
Month No.	Day	Year	Days/Mo	Tdbmax (°F)	kW	kW	kW		
5	19	2000	36	90.0	70	75	5	6.71	37.03
6	14	2000	26	92.0	72	79	8	9.58	55.67
7	14	2000	30	103.0	79	101	22	21.99	163.71
8	15	2000	32	104.0	83	103	21	20.13	152.82
9	14	2000	30	112.0	86	119	33	28.00	245.76
10	19	2000	35	98.0	73	91	19	20.49	137.32
11	13	2000	25	86.0	69	67	-2	-3.04	-14.95
12	14	2000	31	76.0	49	59	10	17.70	76.69
1	12	2001	29	72.0	45	59	14	24.49	106.09
2	13	2001	32	75.0	46	59	13	22.79	98.74
3	14	2001	29	79.0	48	59	11	18.55	80.36
4	13	2001	30	84.0	63	63	0	0.68	3.16
					780	935	155	16.62	1,142.41

Minimum Security Jail

Period: 04/97 - 03/98		ELECTRICITY	
Ycp=	2370.2863	CV-RMSE=	5.5%
LS=	0.0000	R ² =	0.92
RS=	47.9226		
Xcp=	58.2600		

Minimum Security Jail

Month No.	Day	Year	Days/Mo	Temp (°F)	Measured	Predicted	Savings	\$/kWh	
					Total Cons kWh	Total Cons kWh	kWh	%	USD
5	15	2000	32	73.3	88,896	98,933	10,037	10.15	506.86
6	15	2000	31	78.3	114,048	103,316	-10,732	-10.39	-541.96
7	14	2000	29	83.3	116,544	103,587	-12,957	-12.51	-654.31
8	22	2000	39	85.8	110,016	143,829	33,813	23.51	1,707.55
9	5	2000	14	87.0	114,816	52,444	-62,372	-118.93	-3,149.80
10	16	2000	41	74.6	104,448	129,288	24,840	19.21	1,254.41
11	28	2000	43	61.4	134,208	108,404	-25,804	-23.80	-1,303.08
12	14	2000	16	49.8	50,880	37,925	-12,955	-34.16	-654.25
1	17	2001	34	44.1	83,520	80,590	-2,930	-3.64	-147.98
2	19	2001	33	51.6	91,968	78,219	-13,749	-17.58	-694.30
3	16	2001	25	58.0	88,128	59,257	-28,871	-48.72	-1,457.98
4	17	2001	32	63.7	83,712	84,191	479	0.57	24.20
					1,181,184	1,079,983	-101,201	-9.37	-5,110.64

Minimum Security Jail

Period: 04/97 - 03/98		DEMAND	
Ycp=	171.8921	CV-RMSE=	5.4%
LS=	0.0000	R ² =	0.85
RS=	2.6366		
Xcp=	62.8800		

Minimum Security Jail

					Measured	Predicted	Savings	\$ /kW	
					Demand	Demand		%	USD
Month No.	Day	Year	Days/Mo	Tdb (°F)	kW	kW	kW		
5	15	2000	32	73.3	221	199	-21	-10.73	-157.30
6	15	2000	31	78.3	232	213	-20	-9.24	-144.46
7	14	2000	29	83.3	236	226	-10	-4.58	-75.96
8	22	2000	39	85.8	227	232	6	2.43	41.49
9	5	2000	14	87.0	242	235	-7	-2.77	-47.93
10	16	2000	41	74.6	252	203	-49	-24.03	-358.13
11	28	2000	43	61.4	198	172	-26	-15.17	-191.60
12	14	2000	16	49.8	200	172	-28	-16.17	-204.24
1	17	2001	34	44.1	213	172	-41	-23.98	-303.03
2	19	2001	33	51.6	192	172	-20	-11.70	-147.79
3	16	2001	25	58.0	202	172	-30	-17.28	-218.35
4	17	2001	32	63.7	184	174	-10	-5.90	-75.46
					2,598	2,342	-256	-10.94	-1,882.77

Road & Bridges shop

Period: 04/97 - 03/98		ELECTRICITY	
Ycp=	329.3995	CV-RMSE=	4.1%
LS=	0.0000	R ² =	0.97
RS=	14.1894		
Xcp=	68.8200		

Road & Bridges shop

					Measured	Predicted	Savings	\$/kWh	
					Total Cons	Total Cons	kWh	%	USD
Month No.	Day	Year	Days/Mo	Temp (°F)	kWh	kWh	kWh		\$0.0505
5	15	2000	31	73.3	12,840	12,188	-652	-5.35	-32.95
6	14	2000	30	78.3	13,000	13,906	906	6.51	45.74
7	14	2000	30	83.2	16,880	16,020	-860	-5.37	-43.43
8	15	2000	32	85.8	14,360	18,270	3,910	21.40	197.46
9	14	2000	30	85.8	15,360	17,091	1,731	10.13	87.42
10	16	2000	32	71.8	13,000	11,909	-1,091	-9.16	-55.08
11	13	2000	28	67.4	12,960	9,223	-3,737	-40.52	-188.71
12	12	2000	29	51.0	12,840	9,553	-3,287	-34.41	-166.01
1	12	2001	31	42.7	15,800	10,211	-5,589	-54.73	-282.23
2	13	2001	32	50.1	15,200	10,541	-4,659	-44.20	-235.29
3	14	2001	29	57.8	12,360	9,553	-2,807	-29.39	-141.77
4	13	2001	30	61.6	14,080	9,882	-4,198	-42.48	-212.00
					168,680	148,346	-20,334	-13.71	-1,026.85

Road & Bridges shop

Period: 04/97 - 03/98		DEMAND	
Ycp=	35.2083	CV-RMSE=	9.0%
LS=	0.0000	R ² =	0.62
RS=	0.4320		
Xcp=	60.2400		

Road & Bridges shop

					Measured	Predicted	Savings	\$ /kW	
					Demand	Demand		%	USD
Month No.	Day	Year	Days/Mo	Tdb (°F)	kW	kW	kW		
5	15	2000	31	73.3	36	41	5	11.89	35.69
6	14	2000	30	78.3	36	43	7	16.28	51.44
7	14	2000	30	83.2	36	45	9	20.26	67.21
8	15	2000	32	85.8	40	46	6	13.55	46.08
9	14	2000	30	85.8	36	46	10	22.13	75.20
10	16	2000	32	71.8	32	40	8	20.43	60.39
11	13	2000	28	67.4	32	38	6	16.45	46.31
12	12	2000	29	51.0	36	35	-1	-2.25	-5.82
1	12	2001	31	42.7	44	35	-9	-24.97	-64.62
2	13	2001	32	50.1	40	35	-5	-13.61	-35.22
3	14	2001	29	57.8	36	35	-1	-2.25	-5.82
4	13	2001	30	61.6	40	36	-4	-11.78	-30.99
					444	477	33	6.85	239.84

Tax Office

Period: 04/97 - 03/98		ELECTRICITY	
Ycp=	363.3584	CV-RMSE=	5.1%
LS=	0.0000	R ² =	0.96
RS=	12.7038		
Xcp=	63.6000		

Tax Office

Month No.	Day	Year	Days/Mo	Temp (°F)	Measured	Predicted	Savings	\$/kWh	
					Total Cons kWh	Total Cons kWh	kWh	%	USD
5	2	2000	28	72.3	10,360	13,266	2,906	21.91	146.75
6	2	2000	31	77.0	10,880	16,538	5,658	34.21	285.73
7	5	2000	33	80.6	17,920	19,125	1,205	6.30	60.84
8	2	2000	28	85.7	14,400	18,021	3,621	20.09	182.87
9	5	2000	34	86.2	14,520	22,115	7,595	34.34	383.54
10	3	2000	28	78.0	13,200	15,304	2,104	13.75	106.28
11	3	2000	31	70.5	11,160	13,987	2,827	20.21	142.76
12	4	2000	31	53.4	10,000	11,264	1,264	11.22	63.84
1	3	2001	30	43.9	12,120	10,901	-1,219	-11.18	-61.57
2	2	2001	30	48.0	9,960	10,901	941	8.63	47.51
3	2	2001	28	56.5	10,240	10,174	-66	-0.65	-3.33
4	3	2001	32	55.6	10,800	11,627	827	7.12	41.79
					145,560	173,224	27,664	15.97	1,397.01

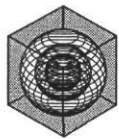
Tax Office

Period: 04/97 - 03/98		DEMAND	
Ycp=	44.2702	CV-RMSE=	3.9%
LS=	0.0000	R ² =	0.78
RS=	0.2761		
Xcp=	50.5800		

Tax Office

Month No.	Day	Year	Days/Mo	Tdb (°F)	Measured	Predicted	Savings	\$ /kW	
					Demand kW	Demand kW	kW	%	USD
5	2	2000	28	72.3	35.2	50	15	29.97	110.73
6	2	2000	31	77.0	40.0	52	12	22.42	84.98
7	5	2000	33	80.6	42.4	53	10	19.34	74.70
8	2	2000	28	85.7	45.2	54	9	16.23	64.36
9	5	2000	34	86.2	46.8	54	7	13.50	53.69
10	3	2000	28	78.0	49.2	52	3	5.11	19.46
11	3	2000	31	70.5	44.8	50	5	9.99	36.56
12	4	2000	31	53.4	40.4	45	5	10.33	34.21
1	3	2001	30	43.9	40.0	44	4	9.65	31.39
2	2	2001	30	48.0	40.0	44	4	9.65	31.39
3	2	2001	28	56.5	40.0	46	6	12.85	43.36
4	3	2001	32	55.6	40.0	46	6	12.41	41.65
					504	589	85	14.47	626.46

Baseline Modeling
Whole Building Electric Consumption
BRAZOS COUNTY



ENERGY SYSTEMS LABORATORY
Texas Engineering Experiment Station
Texas A&M University System

Summary of the electricity use and demand final modeling for Brazos County

Building	Type	Model	Ycp	LS	RS	Xcp	R ²	CV-RMSE	Variable	Comment
<i>Agriculture Extension</i>	Wbele	3P-CP	236.1007	0.0000	5.6020	69.24	0.88	5.6%	Tdb [°F]	07/96 - 06/97
	Demand	3P-CP	21.2592	0.0000	0.2588	80.46	0.56	8.3%	Tdb_Max	07/96 - 06/97
<i>Brazos Couthouse</i>	Wbele	3P-CP	6506.3041	0.0000	82.3388	65.07	0.69	6.2%	Tdb [°F]	01/94 - 01/98
	Demand	3P-CP	426.3030	0.0000	3.0798	68.20	0.64	3.6%	Tdb [°F]	01/94 - 01/98
<i>Brazos Center</i>	Wbele	3P-CP	1786.5193	0.0000	45.1985	60.01	0.76	11.3%	Tdb [°F]	02/97 - 01/98
	Demand	3P-CP	104.8774	0.0000	2.2619	0.00	0.57	9.3%	Tdb [°F]	01/94 - 01/98
<i>Arena Hall</i>	Wbele							Modeling was not possible.		
	Demand							Modeling was not possible.		
<i>Constable Office</i>	Wbele	3P-CP	209.9380	0.0000	6.5963	62.92	0.95	5.5%	Tdb [°F]	04/97-03/98
	Demand	3P-CP	17.8627	0.0000	0.4546	83.64	0.84	6.4%	Tdb_Max	04/97-03/98
<i>Health Department</i>	Wbele	3P-CP	604.0131	0.0000	17.9245	53.64	0.93	7.4%	Tdb [°F]	04/97-03/98
	Demand	3P-CP	58.9340	0.0000	2.0181	82.02	0.79	10.4%	Tdb_Max	04/97-03/98
<i>Minimun Securly Jail</i>	Wbele	3P-CP	2370.2863	0.0000	47.9226	58.26	0.92	5.5%	Tdb [°F]	04/97-03/98
	Demand	3P-CP	171.8921	0.0000	2.6366	62.88	0.85	5.4%	Tdb [°F]	04/97-03/98
<i>Road&Bridges shop</i>	Wbele	3P-CP	329.3995	0.0000	14.1894	68.82	0.97	4.1%	Tdb [°F]	04/97-03/98
	Demand	3P-CP	35.2083	0.0000	0.4320	60.24	0.62	9.0%	Tdb [°F]	04/97-03/98
<i>Brazos Court Annex</i>	Wbele	3P-CP	911.0238	0.0000	37.9248	58.26	0.88	11.7%	Tdb [°F]	02/97-01/98
	Demand	3P-CP	36.8941	1.2647	1.2647	0.00	0.85	6.2%	Tdb [°F]	02/97-01/98
<i>Tax Office</i>	Wbele	3P-CP	363.3584	0.0000	12.7038	63.60	0.96	5.1%	Tdb [°F]	04/97-03/98
	Demand	3P-CP	44.2702	0.0000	0.2761	50.58	0.78	3.9%	Tdb [°F]	04/97-03/98