

TAMU Project

**Energy Consumption Data Quality Assurance/Quality
Control Assessment Report for the
Month of March 2017**

Prepared for

**Utility & Energy Services
Division of Administration
Texas A&M University**

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Acknowledgements

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Executive Summary

This report analyzes the energy use data collected from 595 meters in 206 buildings and complexes (approximately 20,468,000 GSF) on the campus of Texas A&M University in College Station, Texas. The report consists of five sections: 1) The summary of the monthly energy consumption per meter ID, 2) The quality control and assurance analysis of incorrect or incomplete energy use patterns, 3) Energy consumption time series plots, 4) Energy Balance plots, and 5) Energy Balance plots with filled-in consumption data. Section one contains the summary of monthly energy consumption for each of the TAMU buildings. Section two includes the reviews on each of those building energy use patterns that presented problems in the metered data. Section three and four are a collection of the plots generated for the energy use analysis, as reference to indicate and validate the quality of the metered energy data. The Section five includes the energy balance plots with filled-in energy data.

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I. Summary of Monthly Consumption

Table I-1 March 2017 Monthly Consumption for TAMU Buildings

TAMU#	Building Name	Area (ft ²)	MeterID	Type	Monthly Consumption	Units	Comments
0270	Emerging Technologies Building	305,316	007469	ELE	186,878	kWh	
0270	Emerging Technologies Building	305,316	007470	ELE	46,162	kWh	
0270	Emerging Technologies Building	305,316	007471	CHW	1,460,399	mBtu	
0270	Emerging Technologies Building	305,316	007475	HHW	289,407	mBtu	
0275	Liberal Arts and Arts & Humanities Building	107,500	007715	ELE	53,404	kWh	
0275	Liberal Arts and Arts & Humanities Building	107,500	007716	CHW	354,830	mBtu	
0275	Liberal Arts and Arts & Humanities Building	107,500	007717	HHW	73,740	mBtu	
0290	Wells Residence Hall	67,283	006870	ELE	42,085	kWh	
0290	Wells Residence Hall	67,283	001984	CHW	709,049	mBtu	(2)
0290	Wells Residence Hall	67,283	001988	HHW	471,058	mBtu	(2)
0291	Rudder Residence Hall	67,283	000351	ELE	45,757	kWh	
0291	Rudder Residence Hall	67,283	002132	CHW	763,021	mBtu	(2)
0291	Rudder Residence Hall	67,283	002136	HHW	469,570	mBtu	(2)
0292	Eppright Residence Hall	67,283	000002	ELE	45,405	kWh	
0292	Eppright Residence Hall	67,283	002262	CHW	330,535	mBtu	
0292	Eppright Residence Hall	67,283	002266	HHW	147,853	mBtu	
0293	Appelt Residence Hall	82,767	000003	ELE	55,928	kWh	
0293	Appelt Residence Hall	82,767	002062	CHW	718,680	mBtu	(2)
0293	Appelt Residence Hall	82,767	002066	HHW	332,200	mBtu	(2)
0294	Lechner Residence Hall	59,541	000004	ELE	48,656	kWh	
0294	Lechner Residence Hall	59,541	002285	CHW	641,412	mBtu	
0294	Lechner Residence Hall	59,541	002289	HHW	513,881	mBtu	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006536	ELE	123,189	kWh	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006537	ELE	117,048	kWh	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006534	CHW	788,398	mBtu	
0296-0297	Mitchell Inst. For Fundamental Phys & Astronomy	189,617	006535	HHW	231,161	mBtu	
0353	Bright Aerospace Building	148,837	001569	ELE	170,798	kWh	
0353	Bright Aerospace Building	148,837	002746	CHW	1,109,523	mBtu	(2)
0353	Bright Aerospace Building	148,837	002757	HHW	73,408	mBtu	
0358	Davis Football Player Development Center	20,026	007699	ELE	31,367	kWh	
0358	Davis Football Player Development Center	20,026	007701	CHW	145,424	mBtu	
0358	Davis Football Player Development Center	20,026	007702	HHW	9,670	mBtu	
0361	Bright Football Complex	124,971	008461	ELE	192,681	kWh	
0361	Bright Football Complex	124,971	002547	CHW	827,234	mBtu	
0361	Bright Football Complex	124,971	002551	HHW	158,393	mBtu	
0367	Kyle Field	489,000	000336	ELE	152,882	kWh	
0367	Kyle Field	489,000	008861	ELE	84,341	kWh	
0367	Kyle Field	489,000	008862	ELE	83,334	kWh	*
0367	Kyle Field	489,000	008863	ELE	169,107	kWh	
0367	Kyle Field	489,000	008864	ELE	181,503	kWh	
0367	Kyle Field	489,000	008865	ELE	54,927	kWh	
0367	Kyle Field	489,000	008866	ELE	127,984	kWh	
0367	Kyle Field	489,000	008867	ELE	169,367	kWh	
0367	Kyle Field	489,000	008868	ELE	97,612	kWh	
0367	Kyle Field	489,000	008852	CHW	1,497,859	mBtu	
0367	Kyle Field	489,000	008026	CHW	2,510,046	mBtu	
0367	Kyle Field	489,000	008856	HHW	78,220	mBtu	
0367	Kyle Field	489,000	008027	HHW	1,380,090	mBtu	
0376	Chemistry Building Addition	115,797	006229	ELE	180,257	kWh	
0376	Chemistry Building Addition	115,797	006230	ELE	122,098	kWh	
0376	Chemistry Building Addition	115,797	007115	CHW	1,932,233	mBtu	
0376	Chemistry Building Addition	115,797	007119	HHW	880,684	mBtu	
0383	Koldus Building	110,272	001488	ELE	158,323	kWh	
0383	Koldus Building	110,272	002863	CHW	453,141	mBtu	
0383	Koldus Building	110,272	002874	HHW	176,405	mBtu	#, (1)
0384	Sanders Corps of Cadets Center	19,363	001554	ELE	24,840	kWh	
0384	Sanders Corps of Cadets Center	19,363	002583	CHW	177,819	mBtu	
0384	Sanders Corps of Cadets Center	19,363	002587	HHW	100,688	mBtu	
0325-0385	CE TTI Office & Lab Building	157,844	009122	ELE	164,971	kWh	
0325-0385	CE TTI Office & Lab Building	157,844	009123	CHW	996,101	mBtu	#, (1)
0325-0385	CE TTI Office & Lab Building	157,844	009124	HHW	131,044	mBtu	
0386	Jack E. Brown Chemical Engineering Building	205,000	001428	ELE	144,045	kWh	
0386	Jack E. Brown Chemical Engineering Building	205,000	001429	ELE	350,488	kWh	
0386	Jack E. Brown Chemical Engineering Building	205,000	002250	CHW	2,545,842	mBtu	
0386	Jack E. Brown Chemical Engineering Building	205,000	006871	CHW	108,337	mBtu	
0386	Jack E. Brown Chemical Engineering Building	205,000	002254	HHW	540,013	mBtu	
0387	Richardson Petroleum Engineering Building	113,700	005870	ELE	85,704	kWh	
0387	Richardson Petroleum Engineering Building	113,700	005872	ELE	106,520	kWh	
0387	Richardson Petroleum Engineering Building	113,700	005805	CHW	916,967	mBtu	
0387	Richardson Petroleum Engineering Building	113,700	005809	HHW	244,339	mBtu	
0391-0392	James J. Cain'51 and Mechanical Engineering Office Building	173,481	001573	ELE	214,384	kWh	
0391-0392	James J. Cain'51 and Mechanical Engineering Office Building	173,481	002906	CHW	1,378,200	mBtu	
0391-0392	James J. Cain'51 and Mechanical Engineering Office Building	173,481	002910	HHW	340,894	mBtu	

Table I-1 March 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft ²)	MeterID	Type	Monthly Consumption	Units	Comments
0394	Underwood Residence Hall	81,730	000014	ELE	56,998	kWh	
0394	Underwood Residence Hall	81,730	002117	CHW	406,056	mBtu	(2)
0394	Underwood Residence Hall	81,730	002121	HHW	161,881	mBtu	(2)
0398	Langford Architecture Center Building A	116,619	003806	ELE	110,487	kWh	
0398	Langford Architecture Center Building A	116,619	003951	CHW	662,512	mBtu	(2)
0398	Langford Architecture Center Building A	116,619	003955	HHW	314,845	mBtu	(2)
0400-0402-1405	Spence Hall, Briggs Hall, and Ash II LLC	108,555	009386	ELE	85,077	kWh	
0400	Spence Hall Dorm 1	38,907	009290	ELE	13,474	kWh	
0400	Spence Hall Dorm 1	38,907	009291	ELE	15,305	kWh	
0400-1405	Spence Hall and Ash II LLC	72,038	009292	CHW	396,773	mBtu	
0400-1405	Spence Hall and Ash II LLC	72,038	009296	HHW	137,088	mBtu	
1405	Ash II LLC	33,131	009387	CHW	155,068	mBtu	
1405	Ash II LLC	33,131	009391	HHW	24,859	mBtu	
0402	Briggs Hall Dorm 3	36,517	009322	ELE	15,807	kWh	
0402	Briggs Hall Dorm 3	36,517	009323	ELE	11,272	kWh	
0402	Briggs Hall Dorm 3	36,517	009324	CHW	259,948	mBtu	
0402	Briggs Hall Dorm 3	36,517	009328	HHW	88,594	mBtu	
0401-0403-1404	Kiest Hall, Fountain Hall, and Plank LLC	108,752	009370	ELE	83,583	kWh	
0401	Kiest Hall Dorm 2	38,815	009306	ELE	13,246	kWh	
0401	Kiest Hall Dorm 2	38,815	009307	ELE	13,002	kWh	
0401-1404	Kiest Hall, and Plank LLC	72,052	009308	CHW	511,516	mBtu	
0401-1404	Kiest Hall, and Plank LLC	72,052	009312	HHW	202,703	mBtu	
1404	Plank LLC	33,237	009372	CHW	254,189	mBtu	
1404	Plank LLC	33,237	009376	HHW	73,230	mBtu	
0403	Fountain Hall Dorm 4	36,700	009338	ELE	14,114	kWh	
0403	Fountain Hall Dorm 4	36,700	009339	ELE	11,545	kWh	
0403	Fountain Hall Dorm 4	36,700	009340	CHW	245,997	mBtu	
0403	Fountain Hall Dorm 5	36,700	009344	HHW	89,345	mBtu	
0404-0406-1403	Gainer Hall, Leonard Hall and Ash LLC	90,072	009401	ELE	69,483	kWh	
0406-1403	Leonard Hall - Dorm 7 and Ash LLC	53,508	007982	CHW	361,588	mBtu	
0406-1403	Leonard Hall - Dorm 7 and Ash LLC	53,508	007983	HHW	112,346	mBtu	
0406	Leonard Hall - Dorm 7	36,222	008011	ELE	12,788	kWh	
0406	Leonard Hall - Dorm 7	36,222	008012	ELE	13,573	kWh	
1403	H. Grady Ash, Jr. '58 Leadership Learning Center	17,286	008005	CHW	108,604	mBtu	
1403	H. Grady Ash, Jr. '58 Leadership Learning Center	17,286	008006	HHW	18,420	mBtu	
0404	Gainer Hall Dorm 5	36,564	009354	ELE	12,323	kWh	
0404	Gainer Hall Dorm 5	36,564	009355	ELE	11,365	kWh	
0404	Gainer Hall Dorm 5	36,564	009356	CHW	258,728	mBtu	
0404	Gainer Hall Dorm 5	36,564	009360	HHW	98,829	mBtu	
0405-0407-1402	Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center	91,310	007721	ELE	72,900	kWh	
0407-1402	Harrell Hall - Dorm 8 and Buzbee LLC	54,443	007722	CHW	346,111	mBtu	
0407-1402	Harrell Hall - Dorm 8 and Buzbee LLC	54,443	007723	HHW	86,664	mBtu	
0405	Lacy Hall - Dorm 6	36,867	007922	ELE	26,419	kWh	
0405	Lacy Hall - Dorm 6	36,867	007918	CHW	277,360	mBtu	
0405	Lacy Hall - Dorm 6	36,867	007919	HHW	123,487	mBtu	
0407	Harrell Hall - Dorm 8	36,943	007729	ELE	26,212	kWh	
1402	Buzbee Leadership Learning Center	17,500	007725	CHW	189,586	mBtu	
1402	Buzbee Leadership Learning Center	17,500	007726	HHW	18,112	mBtu	
0412	Moses Residence Hall	40,828	000027	ELE	37,024	kWh	
0412	Moses Residence Hall	40,828	002384	CHW	475,417	mBtu	
0412	Moses Residence Hall	40,828	002395	HHW	227,818	mBtu	
0415	Davis-Gary Residence Hall	40,828	000030	ELE	33,810	kWh	
0415	Davis-Gary Residence Hall	40,828	002532	CHW	382,914	mBtu	
0415	Davis-Gary Residence Hall	40,828	002543	HHW	247,916	mBtu	#, (1)
0419	Leggett Residence Hall	45,134	000031	ELE	17,714	kWh	(2)
0419	Leggett Residence Hall	45,134	002218	CHW	280,108	mBtu	(2)
0419	Leggett Residence Hall	45,134	002222	HHW	125,615	mBtu	(2)
0420	Milner Hall	48,268	009144	ELE	25,612	kWh	
0420	Milner Hall	48,268	009145	CHW	136,777	mBtu	#, (1)
0420	Milner Hall	48,268	009146	HHW	60,856	mBtu	
0422	Walton Residence Hall	51,494	000378	ELE	67,253	kWh	
0422	Walton Residence Hall	51,494	002364	HHW	76,935	mBtu	
0424	Hotard Hall	18,500	000032	ELE	13,151	kWh	
0424	Hotard Hall	18,500	002657	CHW	143,792	mBtu	
0424	Hotard Hall	18,500	002668	HHW	88,109	mBtu	
0425	Henderson Hall	22,185	001553	ELE	14,100	kWh	
0425	Henderson Hall	22,185	002607	CHW	138,346	mBtu	
0425	Henderson Hall	22,185	002611	HHW	71,431	mBtu	
0426-0427-0428	FHK Complex	154,349	000331	ELE	117,346	kWh	
0426-0427-0428	FHK Complex	154,349	002848	CHW	1,065,472	mBtu	
0426-0427-0428	FHK Complex	154,349	002859	HHW	644,380	mBtu	
0430	Schumacher Residence Hall	38,957	000034	ELE	32,961	kWh	
0430	Schumacher Residence Hall	38,957	002015	CHW	278,881	mBtu	
0430	Schumacher Residence Hall	38,957	002030	HHW	134,607	mBtu	

Table I-1 March 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft ²)	MeterID	Type	Monthly Consumption	Units	Comments
0359	Architecture Building B	28,545	005518	ELE	21,688	kWh	
0432	Architecture Building C	73,020	005584	ELE	81,886	kWh	
0359-0432	Architecture Building B&C	101,565	006419	CHW	621,404	mBtu	
0359-0432	Architecture Building B&C	101,565	006423	HHW	282,437	mBtu	
0434	Luedecke Building (Cyclotron)	80,646	005555	ELE	147,732	kWh	*, (2)
0434	Luedecke Building (Cyclotron)	80,646	005558	ELE	1,007,593	kWh	*, (2)
0434	Luedecke Building (Cyclotron)	80,646	006664	CHW	1,683,456	mBtu	*, (2)
0434	Luedecke Building (Cyclotron)	80,646	006668	HHW	154,424	mBtu	*, (2)
0435	Harrington Education Center Office Tower	130,844	001546	ELE	116,202	kWh	
0435	Harrington Education Center Office Tower	130,844	002792	CHW	719,736	mBtu	
0435	Harrington Education Center Office Tower	130,844	002796	HHW	390,559	mBtu	
0436	Reed-McDonald Building	77,435	006868	ELE	86,585	kWh	
0436	Reed-McDonald Building	77,435	002419	CHW	829,146	mBtu	
0436	Reed-McDonald Building	77,435	002423	HHW	352,601	mBtu	
0438	Harrington Education Center Classroom Building	61,860	003630	ELE	37,244	kWh	
0438	Harrington Education Center Classroom Building	61,860	002784	CHW	170,348	mBtu	
0438	Harrington Education Center Classroom Building	61,860	002788	HHW	2,123	mBtu	
0433-0440-0441-0442-0447	Mosher Commons Krueger Dunn Aston	577,584	009099	ELE	365,939	kWh	
0433	Mosher Residence Hall	155,430	009083	ELE	102,029	kWh	(2)
0433	Mosher Residence Hall	155,430	002485	CHW	1,706,794	mBtu	(2)
0433	Mosher Residence Hall	155,430	002489	HHW	729,142	mBtu	(2)
0440-0441	Commons Krueger	196,633	009833	ELE	77,878	kWh	
0440	Commons Hall	84,500	009237	CHW	388,871	mBtu	
0440	Commons Hall	84,500	009238	HHW	194,052	mBtu	
0441	Krueger Residence Hall	112,133	009091	ELE	78,855	kWh	
0441	Krueger Residence Hall	112,133	009828	ELE	27,961	kWh	
0441	Krueger Residence Hall	112,133	002504	CHW	646,865	mBtu	
0441	Krueger Residence Hall	112,133	002500	HHW	353,022	mBtu	
0442	Dunn Residence Hall	112,133	009095	ELE	115,702	kWh	
0442	Dunn Residence Hall	112,133	002519	CHW	775,603	mBtu	
0442	Dunn Residence Hall	112,133	002515	HHW	427,963	mBtu	
0447	Aston Residence Hall	113,388	009087	ELE	69,024	kWh	
0447	Aston Residence Hall	113,388	002474	CHW	1,011,230	mBtu	#, (1)
0447	Aston Residence Hall	113,388	002470	HHW	666,514	mBtu	(2)
0443	Oceanography & Meteorology Building	180,316	005322	ELE	180,569	kWh	
0443	Oceanography & Meteorology Building	180,316	005323	ELE	71,667	kWh	
0443	Oceanography & Meteorology Building	180,316	006388	CHW	889,046	mBtu	#, (1), (2)
0443	Oceanography & Meteorology Building	180,316	006392	HHW	351,442	mBtu	(2)
0444	Peterson Building	84,831	004714	ELE	164,826	kWh	
0444	Peterson Building	84,831	002922	CHW	1,035,959	mBtu	#, (1)
0444	Peterson Building	84,831	006435	HHW	360,068	mBtu	
0445-0517	Teague Research Center and DPC Annex	89,735	003948	ELE	28,658	kWh	
0445-0517	Teague Research Center and DPC Annex	89,735	004719	ELE	56,832	kWh	
0445	Teague Research Center	63,515	006411	CHW	233,853	mBtu	#, (1)
0445	Teague Research Center	63,515	006415	HHW	35,364	mBtu	#, (1)
0517	DPC Annex	26,220	006563	CHW	451,714	mBtu	
0517	DPC Annex	26,220	006567	HHW	214,353	mBtu	(2)
0446	Rudder Theatre Complex	209,293	002977	ELE	103,255	kWh	#, (1)
0446	Rudder Theatre Complex	209,293	002980	ELE	33,121	kWh	#, (1)
0446	Rudder Theatre Complex	209,293	004297	CHW	1,577,456	mBtu	#, (1)
0446	Rudder Theatre Complex	209,293	004309	HHW	1,017,685	mBtu	#, (1)
0446	Rudder Tower	92,947	001550	ELE	27,323	kWh	
0446	Rudder Tower	92,947	001551	ELE	57,833	kWh	*
0446	Rudder Tower	92,947	002455	CHW	512,268	mBtu	*
0446	Rudder Tower	92,947	002459	HHW	168,343	mBtu	
0448	Adams Band Hall	55,248	000978	ELE	62,747	kWh	
0448	Adams Band Hall	55,248	002555	CHW	499,330	mBtu	
0448	Adams Band Hall	55,248	002566	HHW	319,926	mBtu	
0449	Biological Sciences Building - West	96,038	003978	ELE	193,349	kWh	
0449	Biological Sciences Building - West	96,038	003981	CHW	1,084,538	mBtu	
0449	Biological Sciences Building - West	96,038	003985	HHW	344,333	mBtu	
0450	Duncan Dining Hall	128,482	000300	ELE	90,175	kWh	
0450	Duncan Dining Hall	128,482	002998	CHW	468,842	mBtu	
0450	Duncan Dining Hall	128,482	003009	HHW	62,529	mBtu	
0454	MSC (East Main)	392,000	007600	ELE	266,552	kWh	
0454	MSC (West Main)	392,000	007601	ELE	210,370	kWh	
0454	MSC BOR	392,000	008047	ELE	21,871	kWh	
0454	MSC	392,000	007584	CHW	1,942,780	mBtu	
0454	MSC BOR	392,000	004184	CHW	380,670	mBtu	
0454	MSC	392,000	007585	HHW	345,703	mBtu	
0454	MSC BOR	392,000	004196	HHW	274,350	mBtu	

Table I-1 March 2017 Monthly Consumption for TAMU Buildings (Continued)

TAMU#	Building Name	Area (ft ²)	MeterID	Type	Monthly Consumption	Units	Comments
0456	Military Sciences Building	43,808	006939	CHW	435,167	mBtu	*
0456	Military Sciences Building	43,808	006943	HHW	214,384	mBtu	*
0457	TAES Annex Building	16,364	005863	ELE	14,683	kWh	*
0457	TAES Annex Building	16,364	005913	CHW	56,873	mBtu	
0457	TAES Annex Building	16,364	005917	HHW	25,119	mBtu	
0461	Coke Building	24,466	004008	ELE	28,059	kWh	
0461	Coke Building	24,466	005307	CHW	76,899	mBtu	
0461	Coke Building	24,466	004023	HHW	7,684	mBtu	
0462	Academic Building	82,555	005861	ELE	20,212	kWh	
0462	Academic Building	82,555	005903	ELE	35,694	kWh	
0462	Academic Building	82,555	005905	CHW	498,411	mBtu	
0462	Academic Building	82,555	005909	HHW	319,895	mBtu	
0463	Psychology Building	48,215	001575	ELE	40,440	kWh	*(2)
0463	Psychology Building	48,215	002941	CHW	428,836	mBtu	(2)
0463	Psychology Building	48,215	002945	HHW	65,322	mBtu	(2)
0464	State Chemist Building	20,027	005839	ELE	6,323	kWh	
0464	State Chemist Building	20,027	005837	ELE	7,441	mBtu	(1)
0464	State Chemist Building	20,027	005841	HHW	25,176	mBtu	
0465	Butler Hall	29,699	003997	ELE	32,901	kWh	
0465	Butler Hall	29,699	004000	CHW	198,388	mBtu	
0465	Butler Hall	29,699	004004	HHW	95,578	mBtu	
0467	Biological Sciences Building - East	62,273	001543	ELE	177,775	kWh	
0467	Biological Sciences Building - East	62,273	003851	CHW	670,784	mBtu	(1)
0467	Biological Sciences Building - East	62,273	003862	HHW	147,483	mBtu	
0468	Evans Library	712,093	000304	ELE	246,116	kWh	
0468	Evans Library	712,093	000318	ELE	137,465	kWh	
0468	Evans Library	712,093	000319	ELE	92,863	kWh	
0468	Evans Library	712,093	000320	ELE	79,583	kWh	
0468	Evans Library	712,093	006429	ELE	92,766	kWh	
0468	Evans Library	712,093	003701	CHW	991,080	mBtu	
0468	Evans Library	712,093	003895	CHW	1,054,747	mBtu	
0468	Evans Library	712,093	003903	CHW	238,639	mBtu	
0468	Evans Library	712,093	003911	CHW	1,150,499	mBtu	
0468	Evans Library	712,093	003712	HHW	194,298	mBtu	
0468	Evans Library	712,093	003899	HHW	149,013	mBtu	
0468	Evans Library	712,093	003907	HHW	91,613	mBtu	
0468	Evans Library	712,093	003922	HHW	124,975	mBtu	
0468	Evans Library	712,093	005303	HHW	43,781	mBtu	
0469	Central Campus Parking Garage	251,304	000306	ELE	45,876	kWh	*
0469	Central Campus Parking Garage	2,844	003716	CHW	26,006	mBtu	
0469	Central Campus Parking Garage	2,844	003720	HHW	9,666	mBtu	
0470	Glasscock History Bldg	39,887	006407	ELE	19,314	kWh	
0470	Glasscock History Bldg	39,887	006638	CHW	129,052	mBtu	
0470	Glasscock History Bldg	39,887	006642	HHW	34,309	mBtu	
0471	Pavilion	40,062	001455	ELE	36,932	kWh	
0471	Pavilion	40,062	002769	CHW	195,915	mBtu	
0471	Pavilion	40,062	002780	HHW	27,462	mBtu	
0472	Animal Industries	44,856	009042	ELE	53,716	kWh	
0472	Animal Industries	44,856	009109	CHW	320,102	mBtu	
0472	Animal Industries	44,856	009113	HHW	147,879	mBtu	
0473	Williams Administration Building	69,898	007945	ELE	48,084	kWh	
0473	Williams Administration Building	69,898	007946	CHW	296,394	mBtu	
0473	Williams Administration Building	69,898	007947	HHW	114,721	mBtu	
0474	YMCA Building	36,035	007524	ELE	23,528	kWh	
0474	YMCA Building	36,035	007525	CHW	111,787	mBtu	
0474	YMCA Building	36,035	007526	HHW	16,147	mBtu	
0476	Francis Hall	36,850	008015	ELE	32,527	kWh	
0476	Francis Hall	36,850	008033	CHW	226,081	mBtu	
0476	Francis Hall	36,850	008034	HHW	22,602	mBtu	
0477	Anthropology Building	51,592	001558	ELE	33,698	kWh	
0477	Anthropology Building	51,592	003664	CHW	262,222	mBtu	
0477	Anthropology Building	51,592	003668	HHW	82,027	mBtu	
0478	Scoates Hall	62,228	007961	ELE	55,293	kWh	
0478	Scoates Hall	62,228	007968	CHW	288,339	mBtu	
0478	Scoates Hall	62,228	007969	HHW	98,753	mBtu	
0480	Bolton Hall	39,686	006845	ELE	32,544	kWh	
0480	Bolton Hall	39,686	007012	CHW	176,164	mBtu	
0480	Bolton Hall	39,686	007016	HHW	59,166	mBtu	
0481	Heaton Hall	13,640	005712	ELE	NA	kWh	*
0481	Heaton Hall	13,640	007531	CHW	259,769	mBtu	(1)
0481	Heaton Hall	13,640	007535	HHW	208,061	mBtu	(1)
0482	Fermier Hall	19,074	005779	ELE	14,315	kWh	
0482	Fermier Hall	19,074	005878	CHW	78,467	mBtu	(2)
0482	Fermier Hall	19,074	005881	HHW	8,960	mBtu	(2)

Table I-1 March 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft ²)	MeterID	Type	Monthly Consumption	Units	Comments
0483	Thompson Hall	81,404	003688	ELE	72,953	kWh	
0483	Thompson Hall	81,404	003887	CHW	280,584	mBtu	
0483	Thompson Hall	81,404	003891	HHW	28,988	mBtu	
0484	Chemistry Building	205,393	007152	ELE	83,142	kWh	
0484	Chemistry Building	205,393	007556	ELE	11,398	kWh	
0484	Chemistry Building	205,393	007557	ELE	24,779	kWh	(2)
0484	Chemistry Building	205,393	007559	ELE	163,872	kWh	
0484	Chemistry Building	205,393	007223	CHW	2,079,986	mBtu	*
0484	Chemistry Building	205,393	007028	CHW	785,216	mBtu	
0484	Chemistry Building	205,393	007227	HHW	840,082	mBtu	*
0484	Chemistry Building	205,393	007032	HHW	278,686	mBtu	
0490	Halbouty Geosciences Building	120,874	006691	ELE	68,005	kWh	
0490	Halbouty Geosciences Building	120,874	006695	ELE	101,199	kWh	
0490	Halbouty Geosciences Building	120,874	006896	CHW	1,043,463	mBtu	
0490	Halbouty Geosciences Building	120,874	006913	CHW	591,950	mBtu	
0490	Halbouty Geosciences Building	120,874	006900	HHW	394,492	mBtu	(1)
0490	Halbouty Geosciences Building	120,874	006917	HHW	211,670	mBtu	(1)
0492	Civil Engineering Building	56,537	005783	ELE	55,554	kWh	*
0492	Civil Engineering Building	56,537	005950	CHW	241,771	mBtu	(2)
0492	Civil Engineering Building	56,537	005954	HHW	68,982	mBtu	(2)
0495	Sbisa Dining Hall	94,233	000352	ELE	138,820	kWh	
0495	Sbisa Dining Hall	94,233	000353	ELE	118,358	kWh	
0495	Sbisa Dining Hall	94,233	001951	CHW	932,828	mBtu	
0495	Sbisa Dining Hall	94,233	001957	HHW	125,891	mBtu	
0496	Utilities & Energy Services Central Office	46,110	007706	ELE	11,523	kWh	(2)
0496	Utilities & Energy Services Central Office	46,110	006929	CHW	95,389	mBtu	(2)
0496	Utilities & Energy Services Central Office	46,110	006933	HHW	23,400	mBtu	(2)
0499	Engineering Innovation Center	28,339	001561	ELE	22,364	kWh	
0499	Engineering Innovation Center	28,339	002672	CHW	85,156	mBtu	(1) (2)
0499	Engineering Innovation Center	28,339	002683	HHW	46,255	mBtu	(1)
0501	Concrete Materials Laboratory	9,600	005791	ELE	8,317	kWh	
0506	Nagle Hall	32,306	001484	ELE	11,984	kWh	(2)
0506	Nagle Hall	32,306	003619	CHW	250,809	mBtu	(2)
0506	Nagle Hall	32,306	003623	HHW	41,965	mBtu	(2)
0507	Veterinary Medical Science Building	69,367	003013	ELE	77,703	kWh	*
0507	Veterinary Medical Science Building	69,367	003640	CHW	993,284	mBtu	(1)
0507	Veterinary Medical Science Building	69,367	003644	HHW	429,863	mBtu	(1)
0508	Veterinary Teaching Hospital	96,416	003022	ELE	76,067	kWh	
0508-1026	Veterinary Teaching Hospital and Veterinary Medicine Administration	191,096	004166	CHW	1,615,533	mBtu	
0508-1026	Veterinary Teaching Hospital and Veterinary Medicine Administration	191,096	004170	HHW	616,686	mBtu	*
0511	Heep Laboratory Building	40,476	005787	ELE	56,123	kWh	(2)
0511	Heep Laboratory Building	40,476	005821	CHW	446,437	mBtu	
0511	Heep Laboratory Building	40,476	005825	HHW	211,108	mBtu	
0512	All Faiths Chapel	8,999	004340	ELE	7,277	kWh	*
0512	All Faiths Chapel	8,999	004288	CHW	80,383	mBtu	*, (1)
0512	All Faiths Chapel	8,999	004293	HHW	48,086	mBtu	*, (1)
0513	Doherty Building	42,336	000299	ELE	52,070	kWh	
0513	Doherty Building	42,336	002898	CHW	609,119	mBtu	
0513	Doherty Building	42,336	002902	HHW	361,818	mBtu	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007558	ELE	12,496	kWh	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007487	CHW	56,982	mBtu	
0514	Munnerlyn Astronomy & Space Sciences Engineering	22,134	007491	HHW	4,618	mBtu	
0516	Computing Services Center	30,014	005259	ELE	505,569	kWh	
0516	Computing Services Center	30,014	003959	CHW	1,638,085	mBtu	
0516	Computing Services Center	30,014	003963	HHW	1	mBtu	
0520	Beutel Health Center	63,318	003785	ELE	71,596	kWh	
0520	Beutel Health Center	63,318	003933	CHW	442,069	mBtu	
0520	Beutel Health Center	63,318	003944	HHW	143,802	mBtu	(2)
0521	Heldenfels Hall	104,949	001547	ELE	101,141	kWh	
0521	Heldenfels Hall	104,949	002962	CHW	770,175	mBtu	
0521	Heldenfels Hall	104,949	002973	HHW	117,756	mBtu	
0524	Blocker Building	257,953	001545	ELE	195,307	kWh	*
0524	Blocker Building	257,953	002914	CHW	973,301	mBtu	
0524	Blocker Building	257,953	002918	HHW	165,627	mBtu	(2)
0548	Clements Residence Hall	62,156	000048	ELE	37,553	kWh	
0548	Clements Residence Hall	62,156	002729	CHW	738,412	mBtu	
0548	Clements Residence Hall	62,156	002740	HHW	407,909	mBtu	

Table I-1 March 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft ²)	MeterID	Type	Monthly Consumption	Units	Comments
0549	Haas Residence Hall	69,668	001398	ELE	44,780	kWh	
0549	Haas Residence Hall	69,668	002983	CHW	702,314	mBtu	
0549	Haas Residence Hall	69,668	002994	HHW	485,450	mBtu	
0550	McFadden Residence Hall	62,156	000339	ELE	39,861	kWh	*
0550	McFadden Residence Hall	62,156	002188	CHW	732,382	mBtu	
0550	McFadden Residence Hall	62,156	002192	HHW	497,553	mBtu	
0652	Neeley Residence Hall	69,668	000056	ELE	46,572	kWh	
0652	Neeley Residence Hall	69,668	002147	CHW	430,800	mBtu	
0652	Neeley Residence Hall	69,668	002151	HHW	259,875	mBtu	
0653	Hobby Residence Hall	62,156	000057	ELE	54,123	kWh	
0653	Hobby Residence Hall	62,156	002401	CHW	675,339	mBtu	
0653	Hobby Residence Hall	62,156	002405	HHW	379,493	mBtu	
0682	Wisnaker Engineering Research Center	177,704	005246	ELE	221,429	kWh	
0682	Wisnaker Engineering Research Center	177,704	003879	CHW	1,237,954	mBtu	
0682	Wisnaker Engineering Research Center	177,704	003883	HHW	302,578	mBtu	
0740	McNew Laboratory	20,904	005874	ELE	49,600	kWh	(2)
0740	McNew Laboratory	20,904	005974	CHW	432,317	mBtu	(1) (2)
0740	McNew Laboratory	20,904	005968	HHW	38,954	mBtu	(1) (2)
0806	Soil Testing Labs	5,544	006875	ELE	18,901	kWh	
0815	Entomology Research Lab	17,618	005799	ELE	30,763	kWh	(1)
0815	Entomology Research Lab	17,618	006043	CHW	166,495	mBtu	(2)
0880	TVMC-Small Animal Building	3,260	005958	CHW	30,834	mBtu	
0880	TVMC-Small Animal Building	3,260	005962	HHW	1,592	mBtu	(2)
0972	Laboratory Animal Care Building	52,178	007063	ELE	131,279	kWh	
0972	Laboratory Animal Care Building	52,178	007067	ELE	48,986	kWh	
0972	Laboratory Animal Care Building	52,178	007071	CHW	1,746,509	mBtu	
0972	Laboratory Animal Care Building	52,178	006991	HHW	391,001	mBtu	
1020	Vivarium III	12,234	005857	ELE	23,957	kWh	
1020	Vivarium III	12,234	005997	CHW	209,025	mBtu	(1)
1020	Vivarium III	12,234	006001	HHW	94,707	mBtu	(1)
1026	Veterinary Medicine Administration	94,680	006072	ELE	126,784	kWh	
1026	Veterinary Medicine Administration	94,680	006049	CHW	1,015,098	mBtu	
1026	Veterinary Medicine Administration	98,680	006053	HHW	532,071	mBtu	*(2)
1041	Texas Vet Med Diagnostic Lab	55,169	001466	ELE	97,275	kWh	*
1041	Texas Vet Med Diagnostic Lab	55,169	001539	ELE	83,592	kWh	*
1041	Texas Vet Med Diagnostic Lab	55,169	003817	CHW	627,924	mBtu	*
1041	Texas Vet Med Diagnostic Lab	55,169	004137	CHW	930,960	mBtu	*
1041	Texas Vet Med Diagnostic Lab	55,169	003821	HHW	148,132	mBtu	*
1041	Texas Vet Med Diagnostic Lab	55,169	004130	HHW	172,420	mBtu	*
1042	Forest Science Laboratory Building	9,632	006036	ELE	24,482	kWh	
1085	Veterinary Small Animal Hospital	103,440	004136	ELE	234,990	kWh	
1085	Veterinary Small Animal Hospital	103,440	003656	CHW	1,368,944	mBtu	
1085	Veterinary Small Animal Hospital	103,440	003660	HHW	471,031	mBtu	
1089	Utilities Energy Office Annex	2,937	006964	ELE	4,751	kWh	
1146	Biological Control Facility	13,492	005795	ELE	32,713	kWh	
1146	Biological Control Facility	13,492	005887	CHW	140,279	mBtu	(2)
1146	Biological Control Facility	13,492	005891	HHW	56,285	mBtu	
1156	Physical Plant Administration & Shops	101,704	007483	ELE	108,128	kWh	*
1156	Physical Plant Administration & Shops	101,704	007679	CHW	173,418	mBtu	(2)
1156	Physical Plant Administration & Shops	101,704	007683	HHW	108,747	mBtu	
1184	Veterinary Anatomic Pathology	17,223	001445	ELE	50,227	kWh	
1184	Veterinary Anatomic Pathology	17,223	006995	CHW	193,564	mBtu	
1184	Veterinary Anatomic Pathology	17,223	006999	HHW	98,507	mBtu	
1194	Veterinary Large Animal Hospital	140,865	005256	ELE	102,470	kWh	
1194	Veterinary Large Animal Hospital	140,865	003016	ELE	71,834	kWh	
1194	Veterinary Large Animal Hospital	140,865	007455	ELE	44,216	kWh	
1194	Veterinary Large Animal Hospital	140,865	003648	CHW	1,481,854	mBtu	
1194	Veterinary Large Animal Hospital	140,865	007456	CHW	251,509	mBtu	
1194	Veterinary Large Animal Hospital	140,865	003652	HHW	751,878	mBtu	
1194	Veterinary Large Animal Hospital	140,865	007457	HHW	55,518	mBtu	
1197	Veterinary Research Building	114,666	006355	ELE	71,375	kWh	(2)
1197	Veterinary Research Building	114,666	006359	ELE	35,851	kWh	(2)
1197	Veterinary Research Building	114,666	006062	CHW	1,517,894	mBtu	
1197	Veterinary Research Building	114,666	006066	HHW	435,246	mBtu	(1)
1416	Hullabaloo Residence Hall	253,452	007845	ELE	182,407	kWh	
1416	Hullabaloo Residence Hall	253,452	007846	CHW	967,483	mBtu	
1416	Hullabaloo Residence Hall	253,452	007847	HHW	164,290	mBtu	

Table I-1 March 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft ²)	MeterID	Type	Monthly Consumption	Units	Comments
1450	University Apartments - Laundry at the Gardens	1,428	006885	ELE	5,755	kWh	
1451	University Apartments - The Gardens J	33,535	006981	ELE	17,636	kWh	
1452	University Apartments - The Gardens K	33,535	006979	ELE	15,556	kWh	
1453	University Apartments - The Gardens L	33,535	006884	ELE	16,391	kWh	
1454	University Apartments - The Gardens F	33,535	006980	ELE	19,721	kWh	*
1455	University Apartments - The Gardens G	33,535	006882	ELE	17,532	kWh	*
1456	University Apartments - The Gardens H	33,535	007962	ELE	15,523	kWh	
1457	University Apartments - The Gardens M	33,535	007503	ELE	22,590	kWh	
1458	University Apartments - The Gardens N	33,535	007504	ELE	18,824	kWh	
1459	University Apartments - The Gardens P	33,535	007505	ELE	21,992	kWh	
1460	University Apartments - The Gardens Q	33,535	007506	ELE	16,941	kWh	
1497	Utilities & Energy Services Business Office	3,480	007082	ELE	4,458	kWh	*
1497	Utilities & Energy Services Business Office	3,480	006341	CHW	17,443	mBtu	
1497	Utilities & Energy Services Business Office	3,480	006345	HHW	2,260	mBtu	
1501	Kleberg Center	165,031	007449	ELE	267,447	kWh	
1501	Kleberg Center	165,031	002624	CHW	1,136,644	mBtu	
1501	Kleberg Center	165,031	002628	HHW	796,632	mBtu	(1)
1502	Heep Center	158,979	001556	ELE	254,528	kWh	
1502	Heep Center	158,979	002599	CHW	1,314,117	mBtu	
1502	Heep Center	158,979	002603	HHW	292,799	mBtu	(1)
1503	Cater-Mattil Hall	27,958	007977	ELE	88,604	kWh	
1503	Cater-Mattil Hall	27,958	008001	CHW	337,935	mBtu	
1504	Reynolds Medical Sciences Building	169,859	003975	ELE	283,701	kWh	(2)
1504	Reynolds Medical Sciences Building	169,859	003989	CHW	2,060,143	mBtu	(1), (2)
1504	Reynolds Medical Sciences Building	169,859	003993	HHW	772,762	mBtu	(1), (2)
1505	Rosenthal Meat Science & Technology Center	30,889	003627	ELE	135,653	kWh	
1505	Rosenthal Meat Science & Technology Center	30,889	002573	CHW	177,942	mBtu	
1505	Rosenthal Meat Science & Technology Center	30,889	002577	HHW	72,751	mBtu	(1)
1506	Horticulture-Forest Science Building	118,648	001544	ELE	153,320	kWh	
1506	Horticulture-Forest Science Building	118,648	003967	CHW	492,765	mBtu	
1506	Horticulture-Forest Science Building	118,648	003971	HHW	133,329	mBtu	
1507	Biochemistry-Biophysics Building	166,079	001459	ELE	163,658	kWh	
1507	Biochemistry-Biophysics Building	166,079	001460	ELE	166,131	kWh	
1507	Biochemistry-Biophysics Building	166,079	003025	CHW	1,312,286	mBtu	
1507	Biochemistry-Biophysics Building	166,079	003029	HHW	605,114	mBtu	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	005638	ELE	25,113	kWh	*
1508	Price Hobgood Ag. Engineering Research Lab	27,666	006005	CHW	113,911	mBtu	
1508	Price Hobgood Ag. Engineering Research Lab	27,666	006009	HHW	23,419	mBtu	
1509	Medical Sciences Library	84,183	000350	ELE	94,850	kWh	
1509	Medical Sciences Library	84,183	003777	CHW	473,557	mBtu	
1509	Medical Sciences Library	84,183	003781	HHW	121,943	mBtu	#, (1)
1510	Wehner Building	259,681	006849	ELE	205,534	kWh	
1510	Wehner Building	259,681	006685	ELE	248,058	kWh	
1510	Wehner Building	259,681	002687	CHW	1,473,933	mBtu	
1510	Wehner Building	259,681	002691	HHW	265,524	mBtu	
1511	West Campus Library Facility	68,125	004342	ELE	85,580	kWh	
1511	West Campus Library Facility	68,125	004313	CHW	507,774	mBtu	
1511	West Campus Library Facility	68,125	004318	HHW	133,229	mBtu	
1512	Southern Crop Improvement Greenhouse	48,154	005931	ELE	91,334	kWh	#, (1)
1513	Borlaug Center for Southern Crop Improvement	68,739	005802	ELE	297,139	kWh	
1513	Borlaug Center for Southern Crop Improvement	68,739	005936	CHW	864,616	mBtu	
1513	Borlaug Center for southern Crop Improvement	68,739	005895	HHW	198,731	mBtu	
1518	TX School of Rural Public Health A	69,079	005273	ELE	71,852	kWh	
1519	TX School of Rural Public Health B	24,761	005274	ELE	48,988	kWh	#, (1)
1520	TX School of Rural Public Health C	13,264	005275	ELE	106,398	kWh	*, #, (1)
1518-1519-1520	TX School of Rural Public Health A,B,C	107,104	005294	CHW	847,950	mBtu	
1518-1519-1520	TX School of Rural Public Health A,B,C	107,104	005298	HHW	258,290	mBtu	
1525	Nuclear Magnetic Resonance Facility	37,282	006718	ELE	86,758	kWh	
1525	Nuclear Magnetic Resonance Facility	37,282	006715	CHW	771,310	mBtu	
1525	Nuclear Magnetic Resonance Facility	37,282	006716	HHW	498,745	mBtu	(2)
1530	Interdisciplinary Life Sciences Building	218,540	006286	ELE	390,608	kWh	
1530	Interdisciplinary Life Sciences Building	218,540	006288	ELE	217,854	kWh	
1530	Interdisciplinary Life Sciences Building	218,540	006290	CHW	2,899,724	mBtu	
1530	Interdisciplinary Life Sciences Building	218,540	006294	HHW	1,097,906	mBtu	
1535	Agriculture and Life Sciences Building	168,353	007205	ELE	118,800	kWh	
1535	Agriculture and Life Sciences Building	168,353	007206	CHW	496,518	mBtu	
1535	Agriculture and Life Sciences Building	168,353	007207	HHW	38,144	mBtu	
1536	AgriLife Services Building	80,907	007571	ELE	44,523	kWh	
1536	AgriLife Services Building	80,907	007572	CHW	190,177	mBtu	
1536	AgriLife Services Building	80,907	007573	HHW	38,411	mBtu	

Table I-1 March 2017 Monthly Consumption for TAMU Buildings (Continued)

TAMU#	Building Name	Area (ft ²)	MeterID	Type	Monthly Consumption	Units	Comments
1537	Agriculture Public Building	78,480	009620	ELE	26,843	kWh	*, (2)
1537	Agriculture Public Building	78,480	009621	ELE	42,027	kWh	*, (2)
1537	Agriculture Public Building	78,480	009622	CHW	212,314	mBtu	*, (2)
1537	Agriculture Public Building	78,480	009623	HHW	73,445	mBtu	*, (2)
1538	Agriculture Program Visitors Center	12,923	007209	ELE	12,861	kWh	
1538	Agriculture Program Visitors Center	12,923	007210	CHW	61,318	mBtu	
1538	Agriculture Program Visitors Center	12,923	007211	HHW	13,624	mBtu	
1540	Physical Education Activity Program Building	116,900	007881	ELE	74,864	kWh	
1540	Physical Education Activity Program Building	116,900	007878	CHW	417,712	mBtu	
1540	Physical Education Activity Program Building	116,900	007879	HHW	145,441	mBtu	
1542	Human Clinical Research Building	22,052	009693	ELE	53,207	kWh	*
1542	Human Clinical Research Building	22,052	009683	CHW	253,691	mBtu	*
1542	Human Clinical Research Building	22,052	009687	HHW	167,209	mBtu	*
1544	Cain Garage	498,425	009613	ELE	40,502	kWh	*
1550	Olsen Field at Bluebell Park	60,537	007560	ELE	130,009	kWh	
1554	Reed Arena	230,000	007582	ELE	142,710	kWh	
1554	Reed Arena	230,000	006243	ELE	717	kWh	*
1554	Reed Arena	230,000	006244	ELE	88,641	kWh	*
1554-1558	Reed Arena and Cox-McFerrin Center	328,185	007576	CHW	1,952,279	mBtu	
1554-1558	Reed Arena and Cox-McFerrin Center	328,185	007578	HHW	840,781	mBtu	
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007581	ELE	67,276	kWh	
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007575	CHW	294,375	mBtu	
1558	Cox-McFerrin Center for Aggie Basketball	98,185	007577	HHW	127,617	mBtu	(2)
1559	West Campus Parking Garage	1,541,457	001453	ELE	157,245	kWh	*
1559	West Campus Parking Garage	13,000	004322	CHW	46,530	mBtu	(1)
1559	West Campus Parking Garage	13,000	004327	HHW	11,795	mBtu	
1560	Student Recreation Center	334,642	000363	ELE	346,857	kWh	
1560	Student Recreation Center	334,642	000366	ELE	375,444	kWh	
1560	Student Recreation Center	334,642	002933	CHW	3,919,354	mBtu	
1560	Student Recreation Center	334,642	002937	HHW	1,705,212	mBtu	
1589-1590	White Creek Apartment 1 and White Creek Apts Activity Center	176,454	009197	ELE	106,720	kWh	
1589-1590	White Creek Apartment 1 and White Creek Apts Activity Center	176,454	009198	CHW	393,027	mBtu	
1589-1590	White Creek Apartment 1 and White Creek Apts Activity Center	176,454	009199	HHW	62,610	mBtu	
1591	White Creek Apartment 2	179,467	008528	ELE	114,064	kWh	
1591	White Creek Apartment 2	179,467	008529	CHW	379,913	mBtu	
1591	White Creek Apartment 2	179,467	008533	HHW	70,458	mBtu	
1592	White Creek Apartment 3	179,467	008538	ELE	108,596	kWh	
1592	White Creek Apartment 3	179,467	008539	CHW	439,076	mBtu	
1592	White Creek Apartment 3	179,467	008543	HHW	62,580	mBtu	
1600	Gilchrist TTI Building	67,143	005286	ELE	50,350	kWh	*
1600	Gilchrist TTI Building	67,143	002649	CHW	254,290	mBtu	
1600	Gilchrist TTI Building	67,143	002653	HHW	68,127	mBtu	
1601	International Ocean Discovery Building	86,576	006351	ELE	114,561	kWh	(2)
1601	International Ocean Discovery Building	86,576	006382	CHW	202,711	mBtu	(2)
1601	International Ocean Discovery Building	86,576	008144	CHW	43,142	mBtu	(2)
1601	International Ocean Discovery Building	86,576	008145	HHW	21,942	mBtu	(1), (2)
1601	International Ocean Discovery Building	86,576	009829	HHW	58,621	mBtu	*, (2)
1604	Offshore Technology Research Center	40,014	006659	ELE	96,373	kWh	
1604	Offshore Technology Research Center	40,014	006660	ELE	0	kWh	(2)
1604	Offshore Technology Research Center	40,014	008142	CHW	478,238	mBtu	(2)
1604	Offshore Technology Research Center	40,014	008143	HHW	212,506	mBtu	(1), (2)
1606	George Bush Presidential Library & Museum	121,678	000244	ELE	106,075	kWh	
1606	George Bush Presidential Library & Museum	121,678	002808	CHW	917,091	mBtu	
1606	George Bush Presidential Library & Museum	121,678	002812	HHW	313,067	mBtu	
1607	Allen Building	133,327	000243	ELE	107,914	kWh	
1607	Allen Building	133,327	002800	CHW	490,336	mBtu	
1607	Allen Building	133,327	002804	HHW	98,747	mBtu	
1608	Annenberg Presidential Conference Center	65,688	000245	ELE	72,648	kWh	
1608	Annenberg Presidential Conference Center	65,688	002761	CHW	583,793	mBtu	
1608	Annenberg Presidential Conference Center	65,688	002765	HHW	285,835	mBtu	
1609	TTI Headquarters	66,707	006495	ELE	49,534	kWh	
1609	TTI Headquarters	66,707	006496	CHW	221,119	mBtu	(2)
1609	TTI Headquarters	66,707	006497	HHW	33,735	mBtu	(2)
1611	Engineering Research Building	68,807	008462	ELE	161,695	kWh	
1611	Engineering Research Building	68,807	008463	CHW	1,194,905	mBtu	
1611	Engineering Research Building	68,807	008467	HHW	492,116	mBtu	
1800	General Services Complex	203,369	005441	ELE	175,827	kWh	
1800	General Services Complex	203,369	005468	CHW	725,060	mBtu	
1800	General Services Complex	203,369	005472	HHW	59,468	mBtu	
1809	New TVMDL	90,000	009652	ELE	NA	kWh	*
1809	New TVMDL	90,000	009653	ELE	NA	mBtu	*
1809	New TVMDL	90,000	009647	CHW	1,828,397	mBtu	

Table I-1 March 2017 Monthly Consumption for TAMU Buildings (*Continued*)

TAMU#	Building Name	Area (ft ²)	MeterID	Type	Monthly Consumption	Units	Comments
1810	Office of the State Chemist Building	31,735	009073	ELE	62,050	kWh	
1810	Office of the State Chemist Building	31,735	005460	CHW	258,806	mBtu	
1810	Office of the State Chemist Building	31,735	005464	HHW	75,822	mBtu	
1811	Vet Med Research Bldg Addition	52,993	006705	ELE	224,748	kWh	
1811	Vet Med Research Bldg Addition	52,993	006706	CHW	870,623	mBtu	
1811	Vet Med Research Bldg Addition	52,993	006707	HHW	417,140	mBtu	
1812	Veterinary Medicine Building 1	138,460	009404	ELE	202,064	kWh	*
1813	Veterinary Medicine Building 2	116,492	009418	ELE	2,697	kWh	*
1814	Veterinary Medicine Building 3	135,470	009405	ELE	274,500	kWh	*
1812-1813-1814	Veterinary Medicine Building 1, 2 and 3	390,422	009676	CHW	2,559,540	mBtu	
1812-1813-1814	Veterinary Medicine Building 1, 2 and 3	390,422	009410	HHW	921,948	mBtu	
1900	Texas Institute for Genomic Medicine	34,120	005548	ELE	81,664	kWh	
1900	Texas Institute for Genomic Medicine	34,120	005545	CHW	822,801	mBtu	
1900	Texas Institute for Genomic Medicine	34,120	005546	HHW	454,226	mBtu	
1904	Texas A&M Institute for Preclinical Studies A	113,559	006364	ELE	228,862	kWh	
1904	Texas A&M Institute for Preclinical Studies A	113,559	006365	CHW	1,648,193	mBtu	
1904	Texas A&M Institute for Preclinical Studies A	113,559	006366	HHW	738,044	mBtu	
1910	National Center for Therapeutics Manufacturing	149,924	007517	ELE	206,651	kWh	
1910	National Center for Therapeutics Manufacturing	149,924	007518	ELE	195,480	kWh	
1910	National Center for Therapeutics Manufacturing	149,924	007519	CHW	3,793,078	mBtu	
1910	National Center for Therapeutics Manufacturing	149,924	007520	HHW	1,587,885	mBtu	(2)
1911	Multi-Species Research Building	21,000	009138	ELE	28,107	kWh	
1911	Multi-Species Research Building	21,000	009129	CHW	318,050	mBtu	
1911	Multi-Species Research Building	21,000	009133	HHW	183,514	mBtu	
10226	NCTM Manufacturing Building	113,397	007648	CHW	3,298,553	mBtu	
10226	NCTM Manufacturing Building	113,397	007649	HHW	1,235,762	mBtu	
10226	NCTM Manufacturing Building	113,397	008133	HHW	179,549	mBtu	

1 mBtu = 1 000 Btu

NA: Not available
 #monthly consumption in due: rounded values
 *: Missing data
 #: Questionable data
 (1): Consumption estimated and documented in the report *Part II - Data Analysis: Energy Use Estimation and Observations Section 2*
 (2): Observation(s) documented in the report *Part II - Data Analysis: Energy Use Estimation and Observations Section 3*
 (3): Missing data or changed consumption levels due to construction

II. Data Analysis: Energy Use Estimation and Observation

CE TTI Office & Lab Building (TAMU Bldg #325-385)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	009123	31	3/1/2017 – 3/31/2017	Model

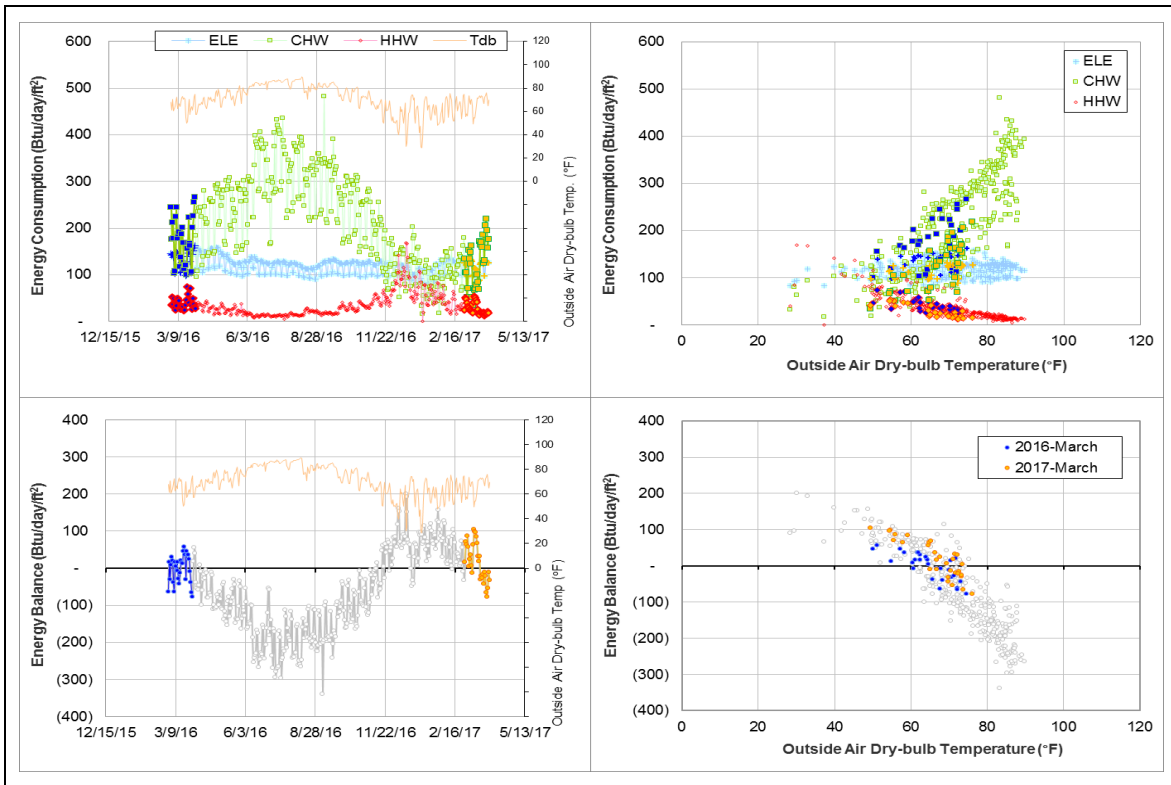
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level is lower than the level during the past year.	1/1/2017 – Ongoing

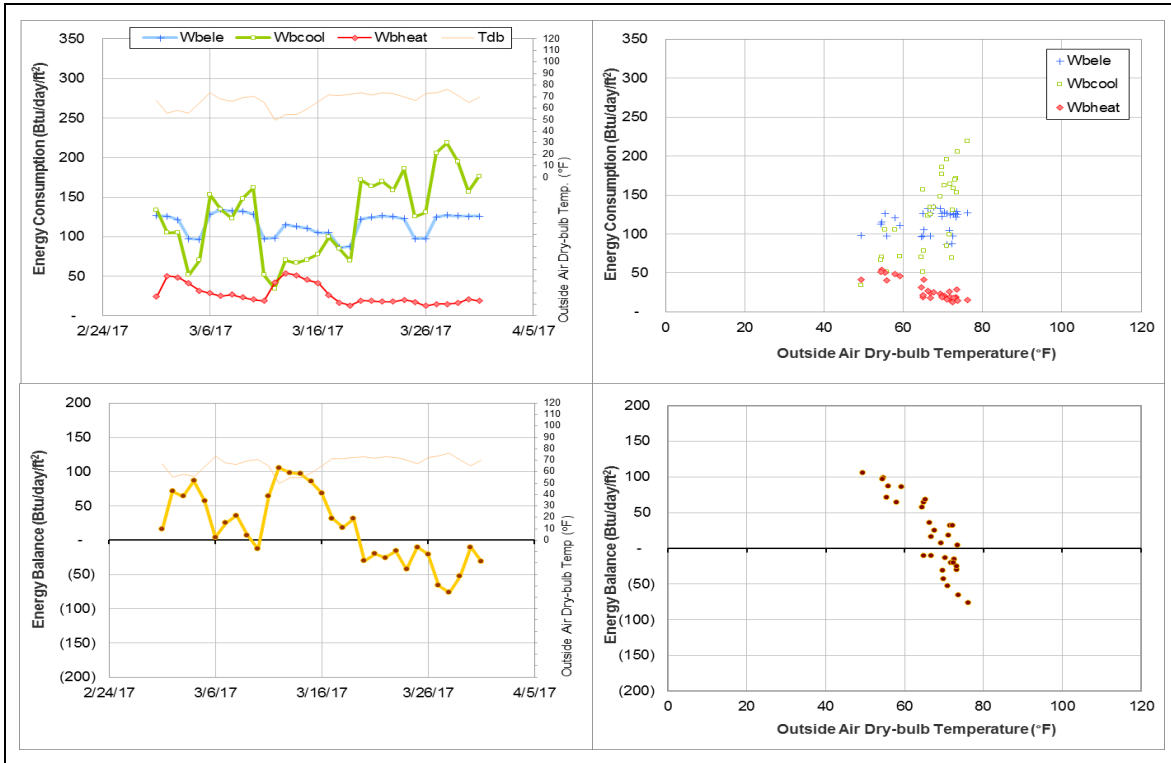
Quantitative descriptions and comments

CHW consumption gradually dropped to a level that is lower than the past year by 50 – 75 Btu/day/ft². No obvious sensor reading behavior anomaly is observed. The whole month is estimated using a model.

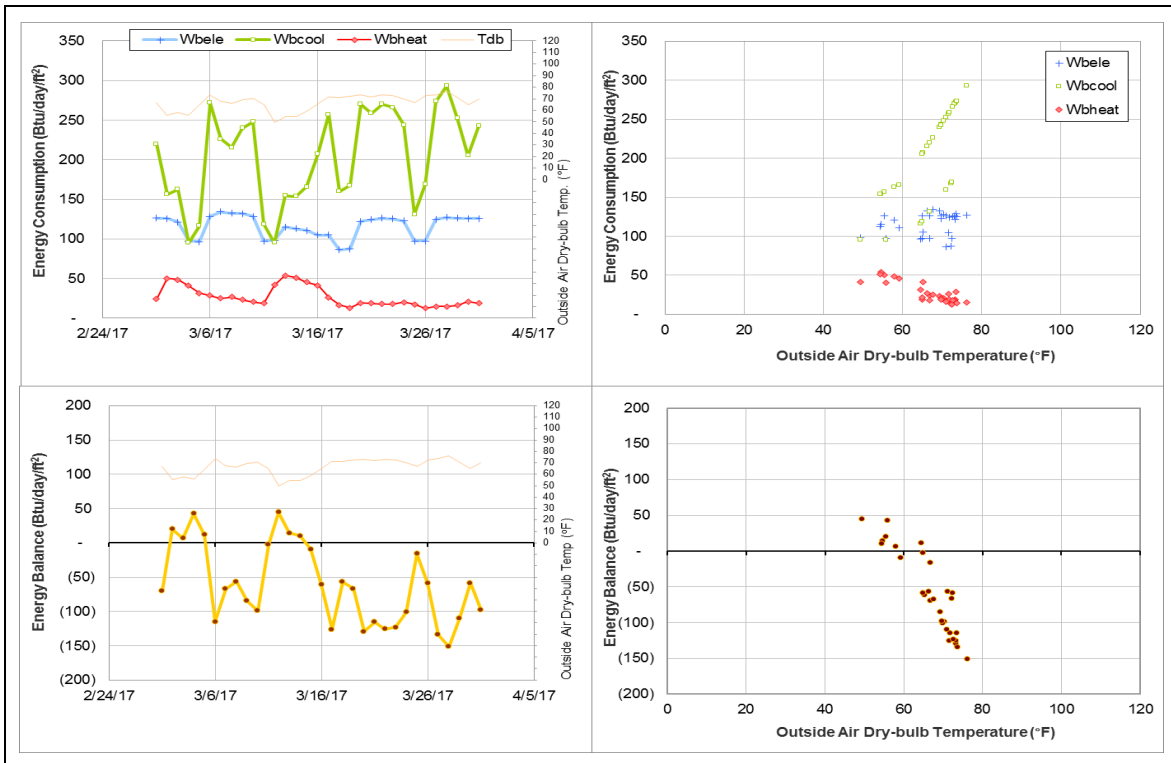
Explanatory Figure: 13 months energy balance plot with original data.



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Koldus Building (TAMU Bldg #383)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002874	21	3/8/2017, 3/12/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The metered value appears to be faulty.	3/8/2017, 3/12/2017 – 3/31/2017

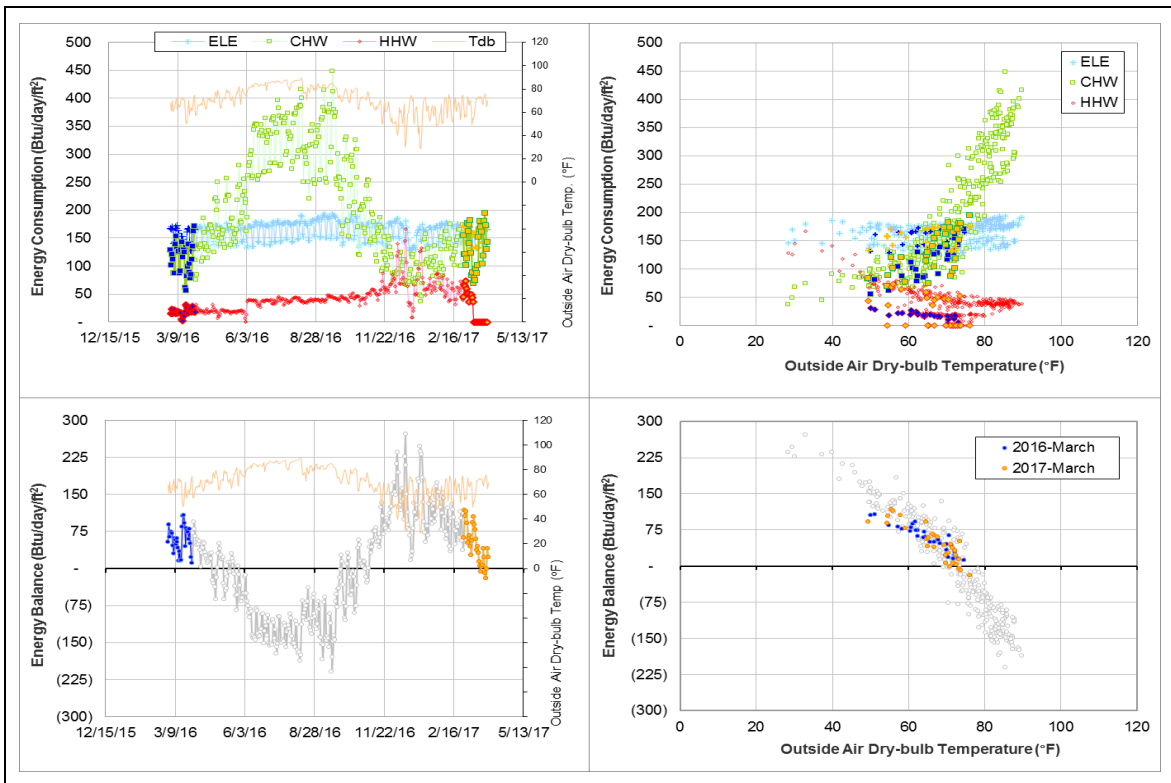
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002874	3/8/2017, 3/12/2017 – 3/31/2017	Flow rate	Near zero
		3/14/2017 – 3/31/2017	Delta-T	Zero

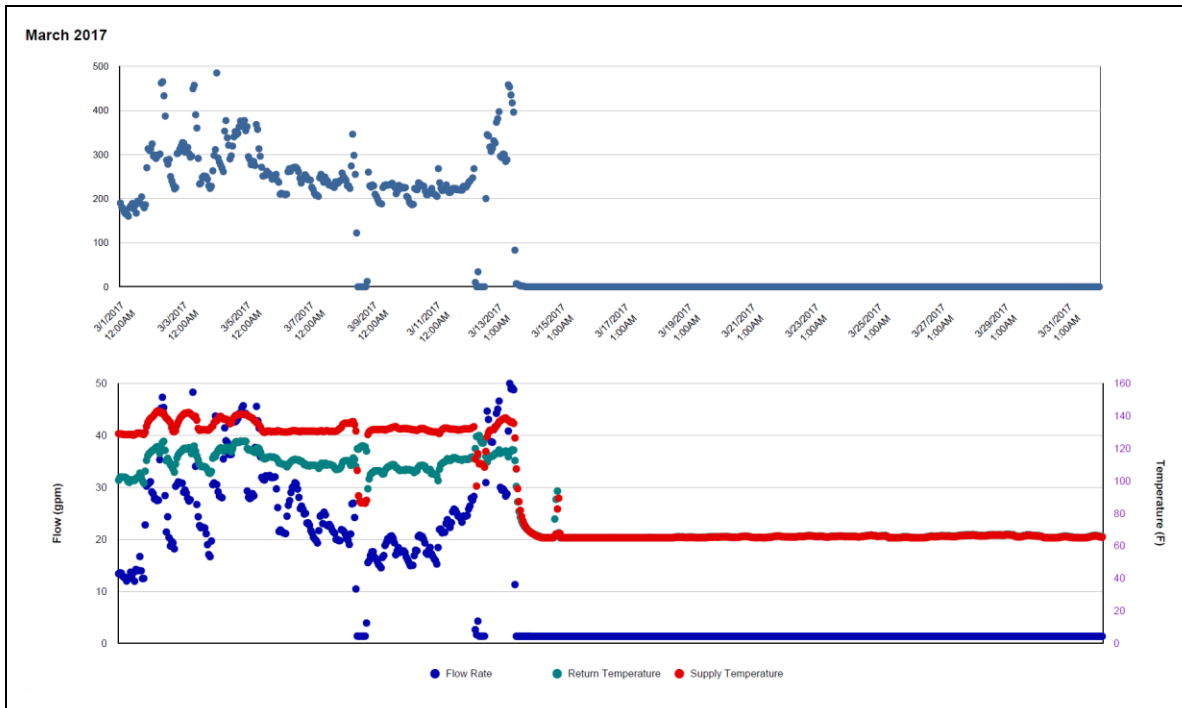
Quantitative descriptions and comments

The HHW consumption dropped to zero on part of 3/8/2017 as well as 3/12/2017 – 3/31/2017 due to a flow rate near zero and a delta-T of zero. The consumption was estimated by model for the specified dates.

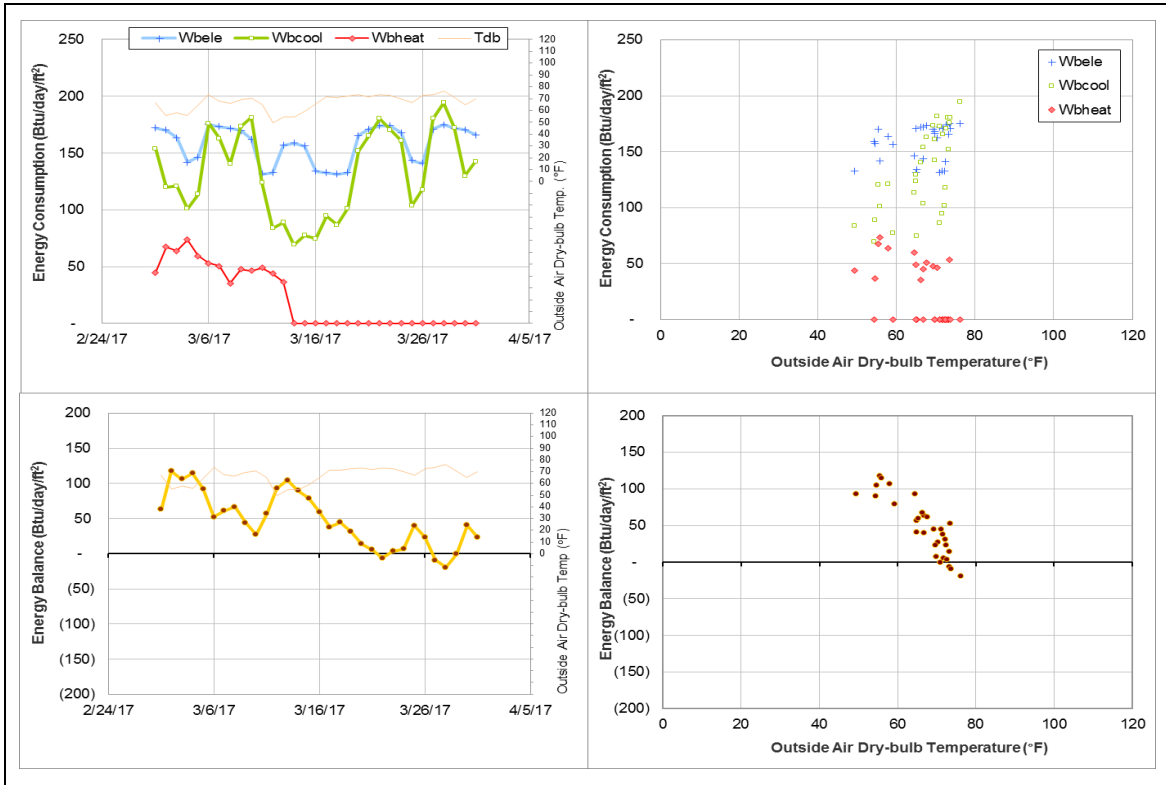
Explanatory Figure: 13 months energy balance plot with original data.



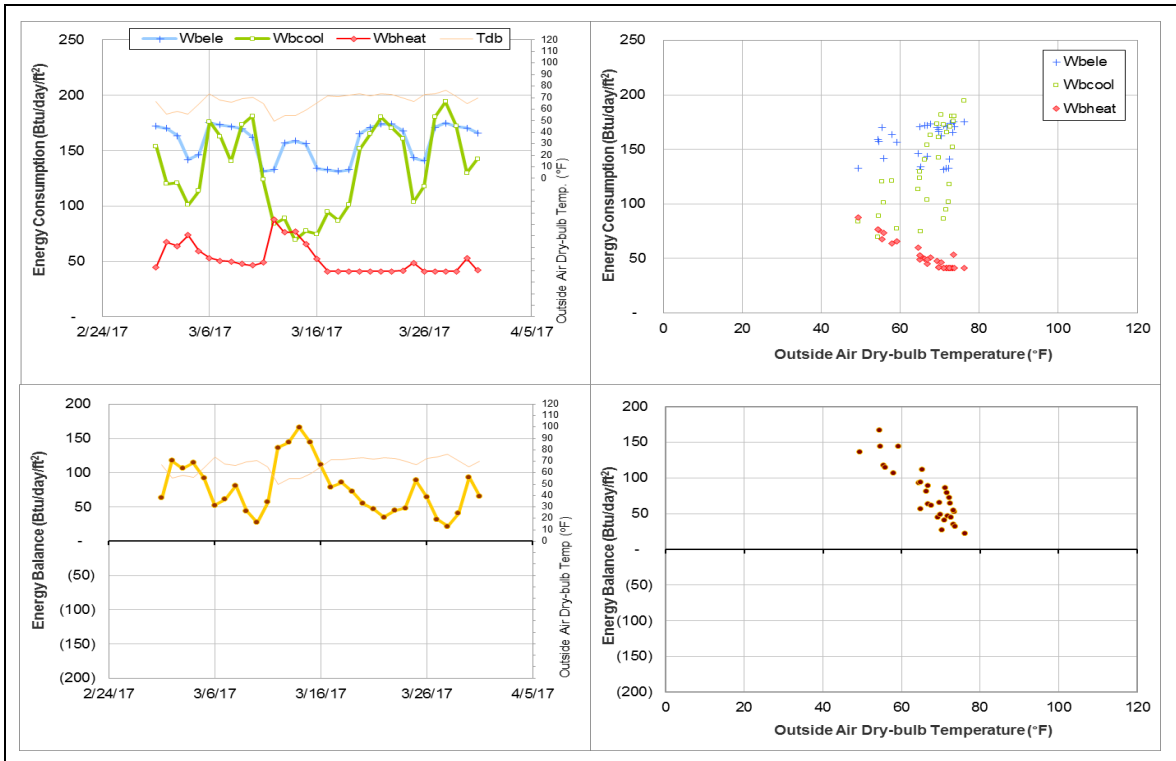
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Davis-Gary Residence Hall (TAMU Bldg #415)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002543	3	3/2/2017 – 3/4/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The metered values appear to be faulty.	3/2/2017 – 3/4/2017

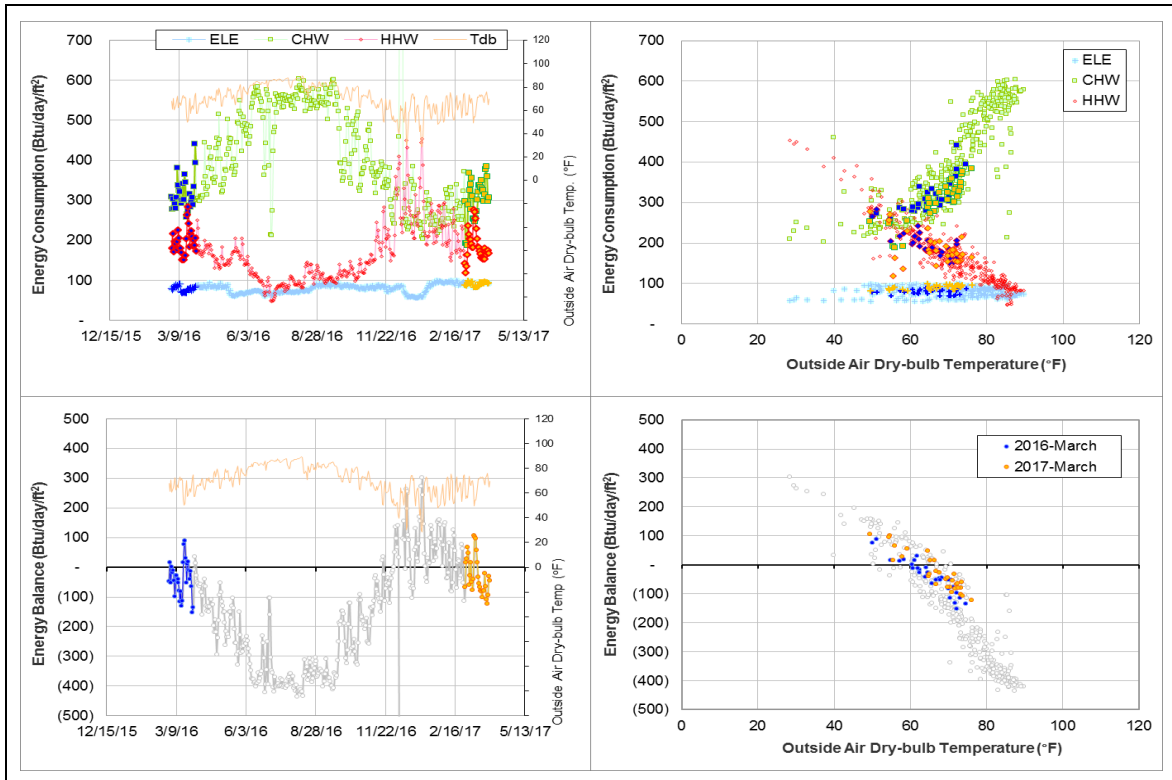
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002543	3/2/2017 – 3/4/2017	Flow rate	Zero at times
		3/2/2017 – 3/3/2017	Delta-T	Negative at times

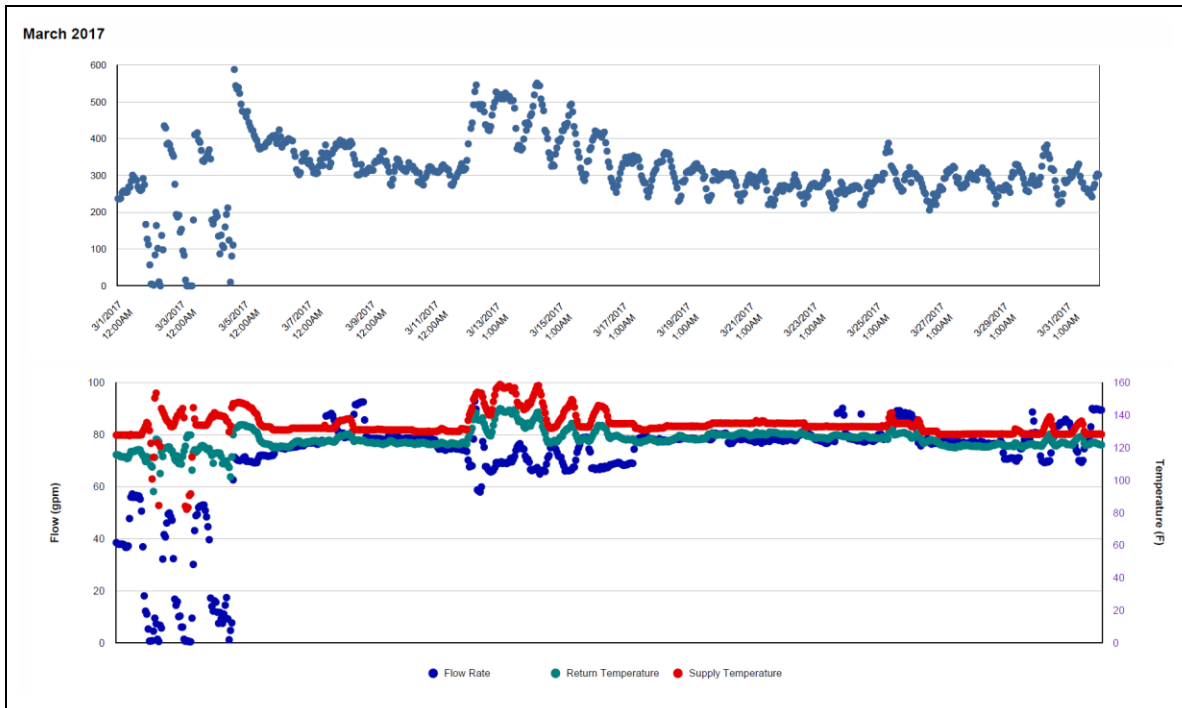
Quantitative descriptions and comments

The HHW consumption dropped to zero on part of 3/2/2017– 3/4/2017 due to a flow rate of zero and a negative delta-T. The consumption was estimated by model for the specified dates.

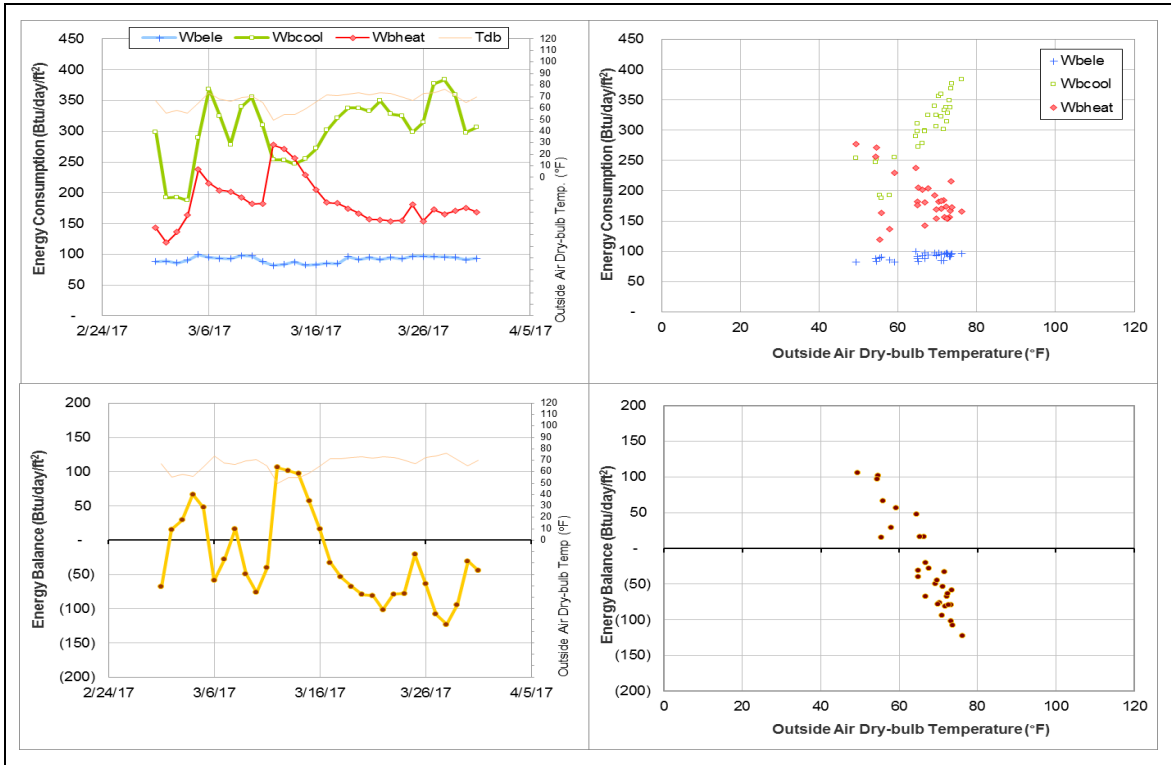
Explanatory Figure: 13 months energy balance plot with original data.



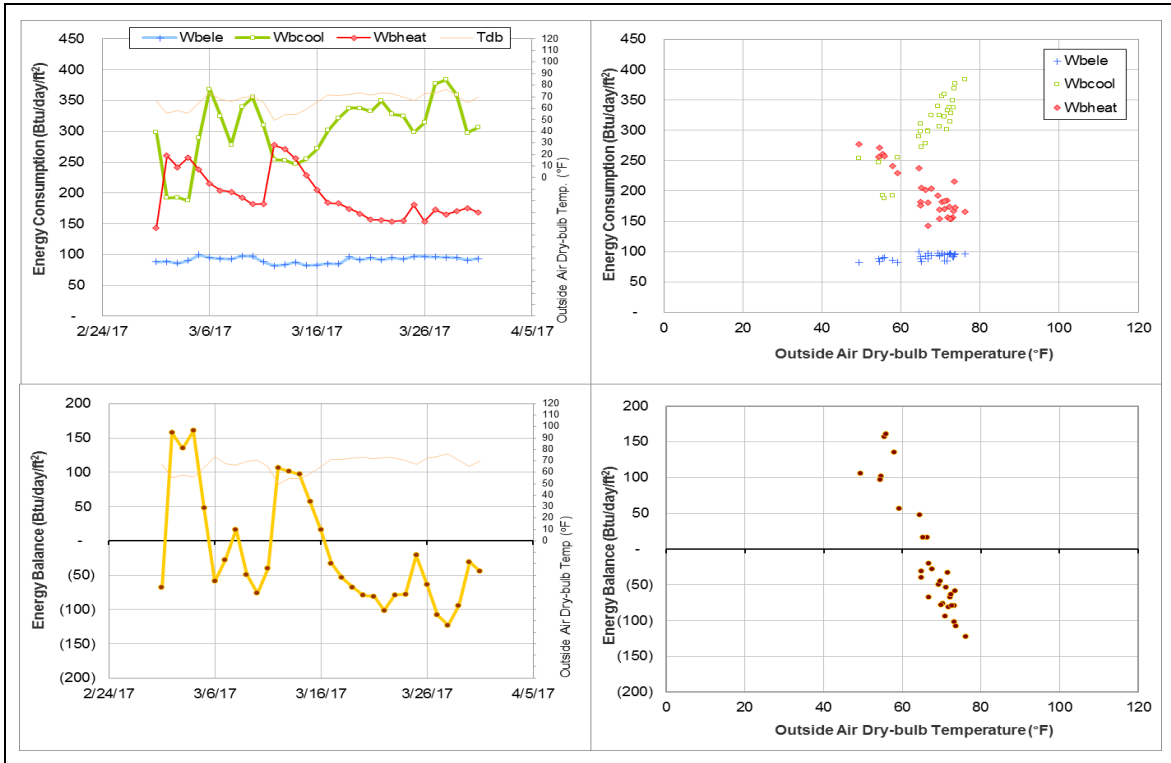
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Milner Hall (TAMU Bldg #420)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	009145	2	3/6/2017, 3/10/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption increased for a short period.	3/6/2017, 3/10/2017

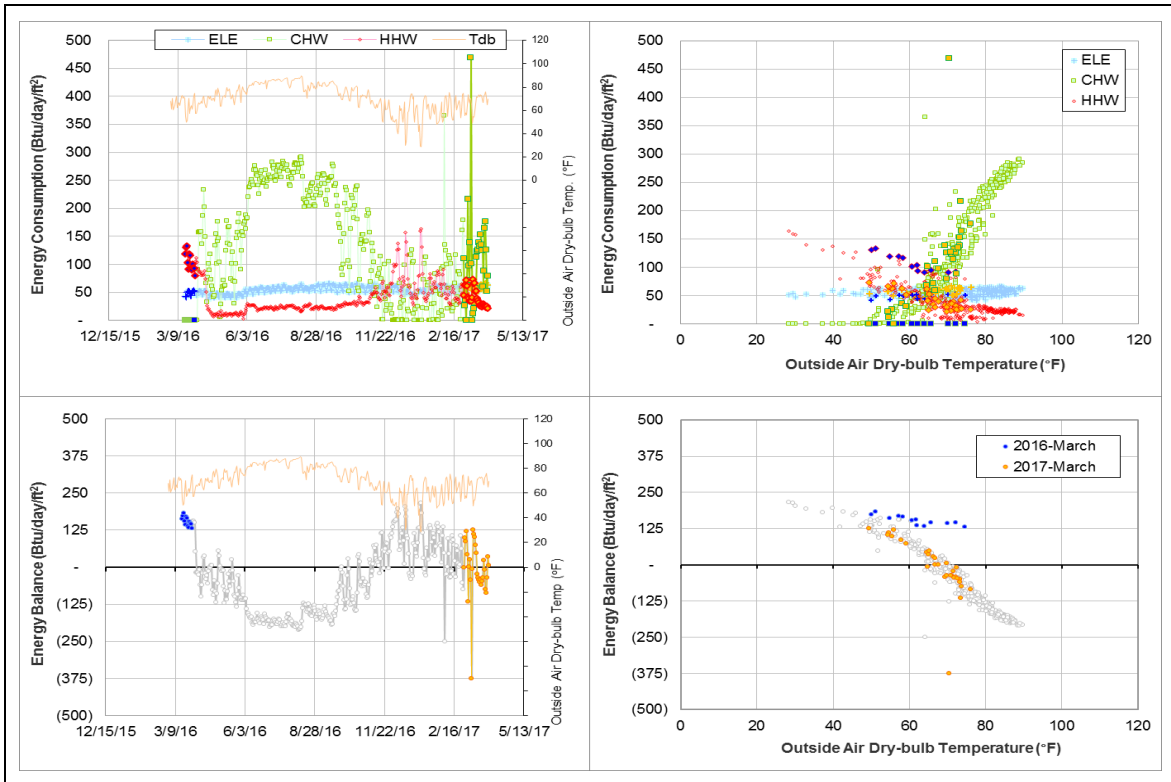
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	009145	3/6/2017, 3/10/2017	Flow rate	Sudden increase

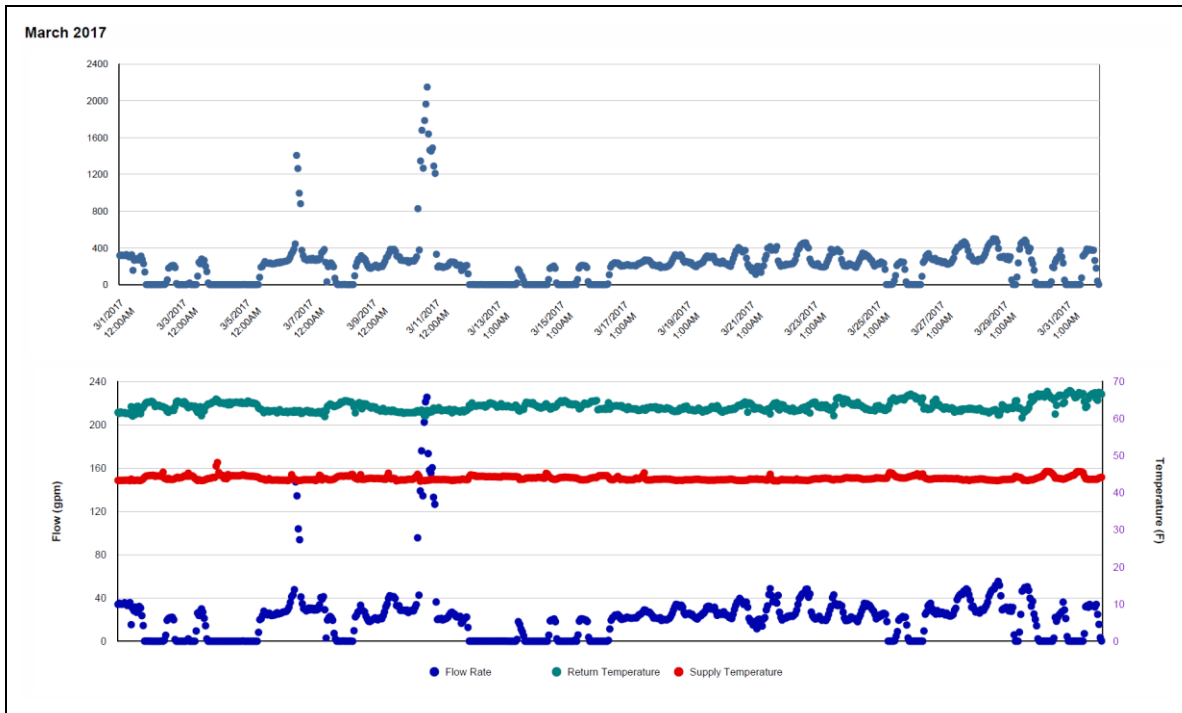
Quantitative descriptions and comments

The CHW consumption spiked on 3/6/2017 and 3/10/2017 due to a sudden increase in the flow rate for several hours on each day. These days are estimated by a model.

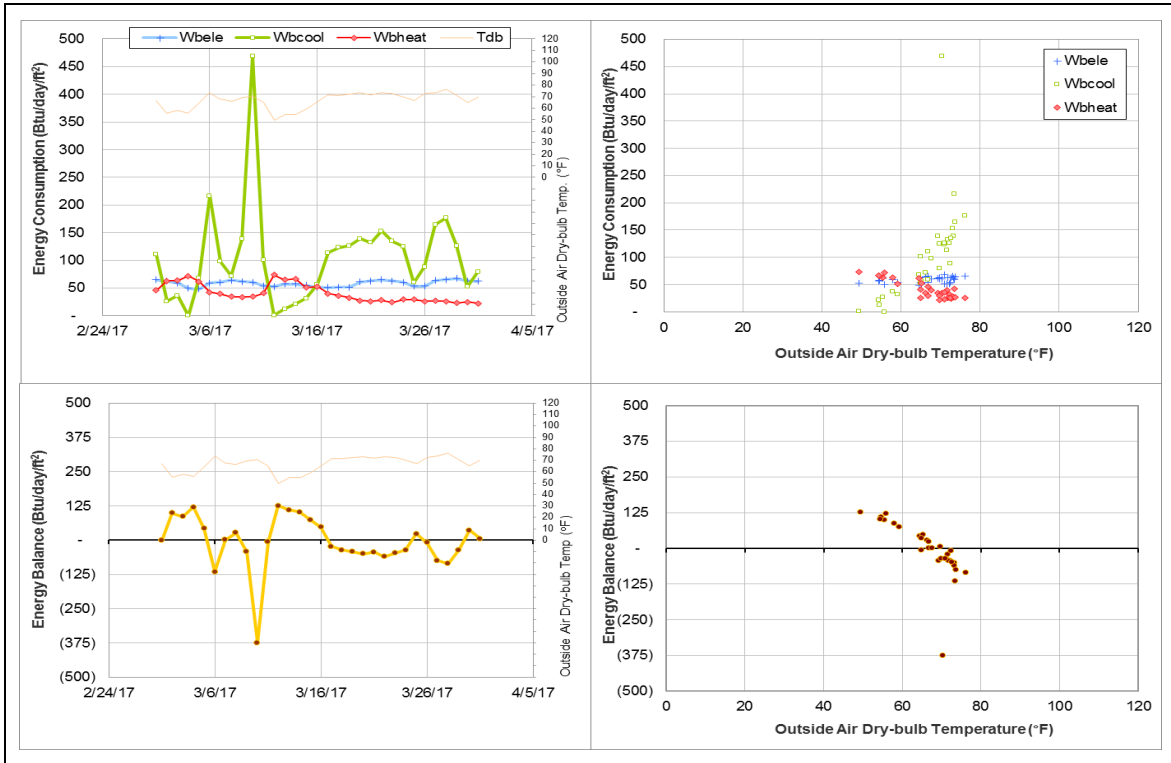
Explanatory Figure: 13 months energy balance plot with original data.



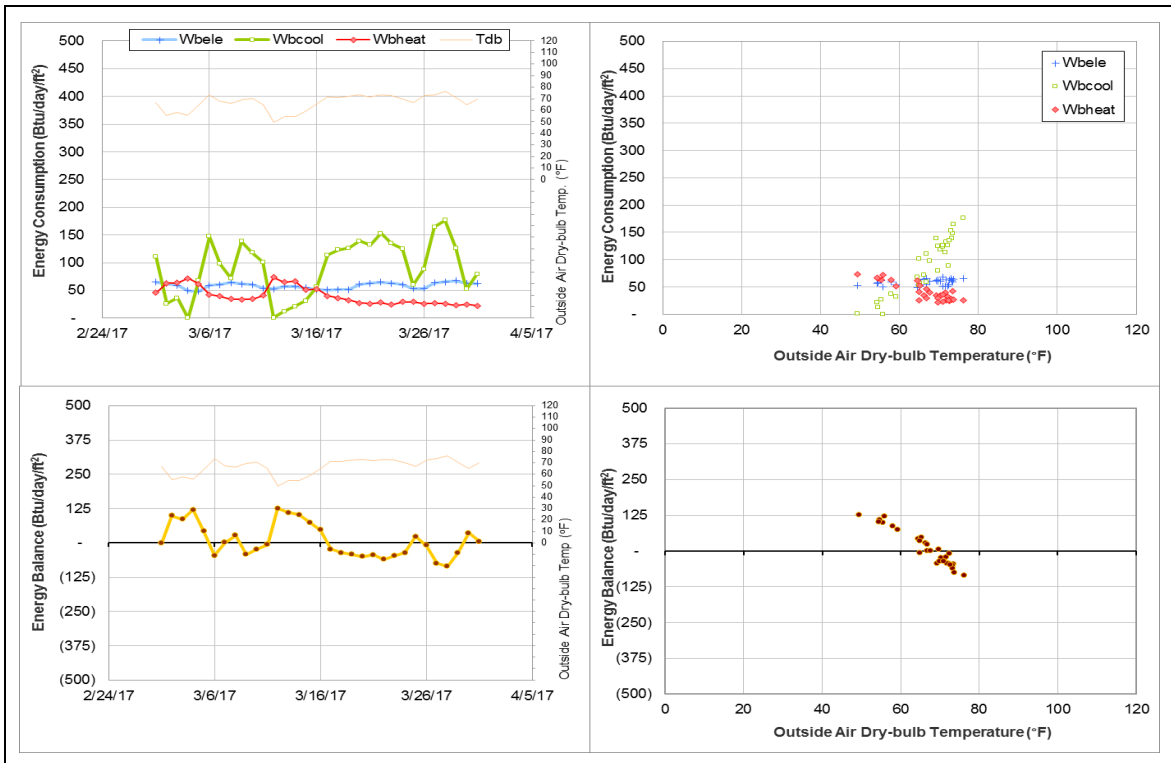
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Aston Residence Hall (TAMU Bldg #447)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002474	31	3/1/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The metered values appear to be faulty.	11/18/2016 – 1/31/2017
	The consumption is higher than that of last year.	2/1/2017 – Ongoing

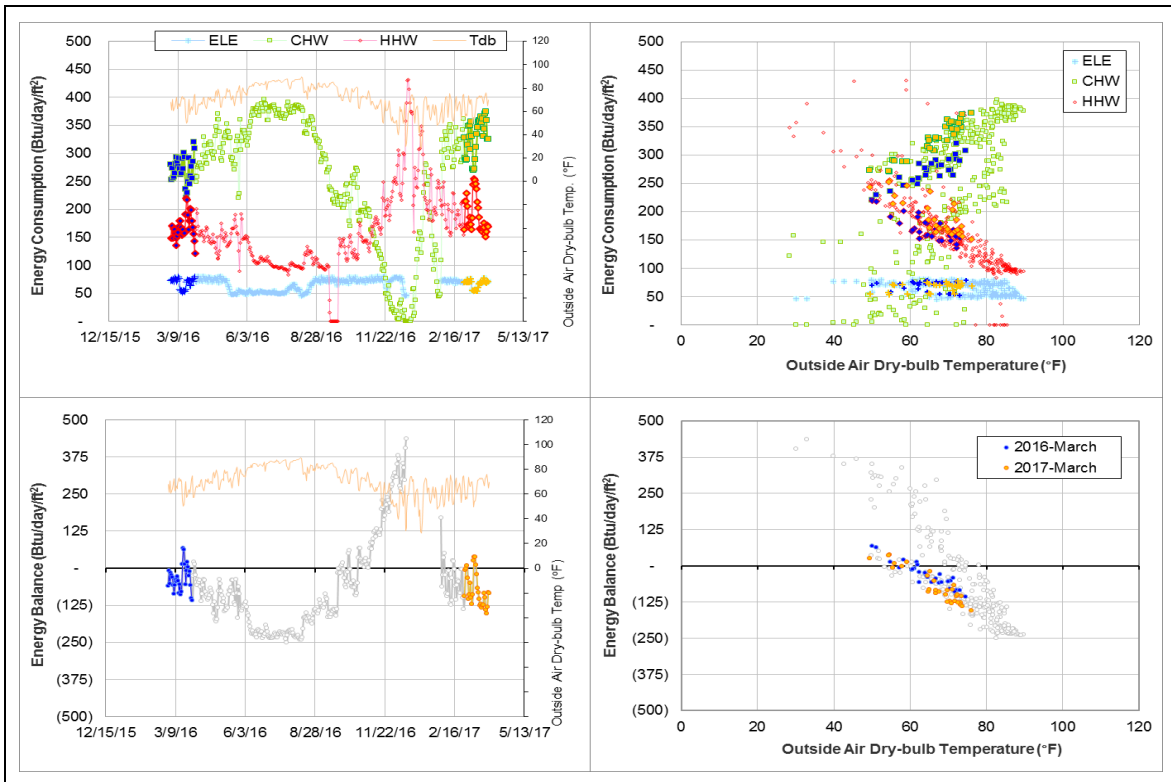
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	002474	11/18/2016 – 1/31/2017	Delta-T	Low and occasionally negative
		2/1/2017 – Ongoing	Delta-T	High

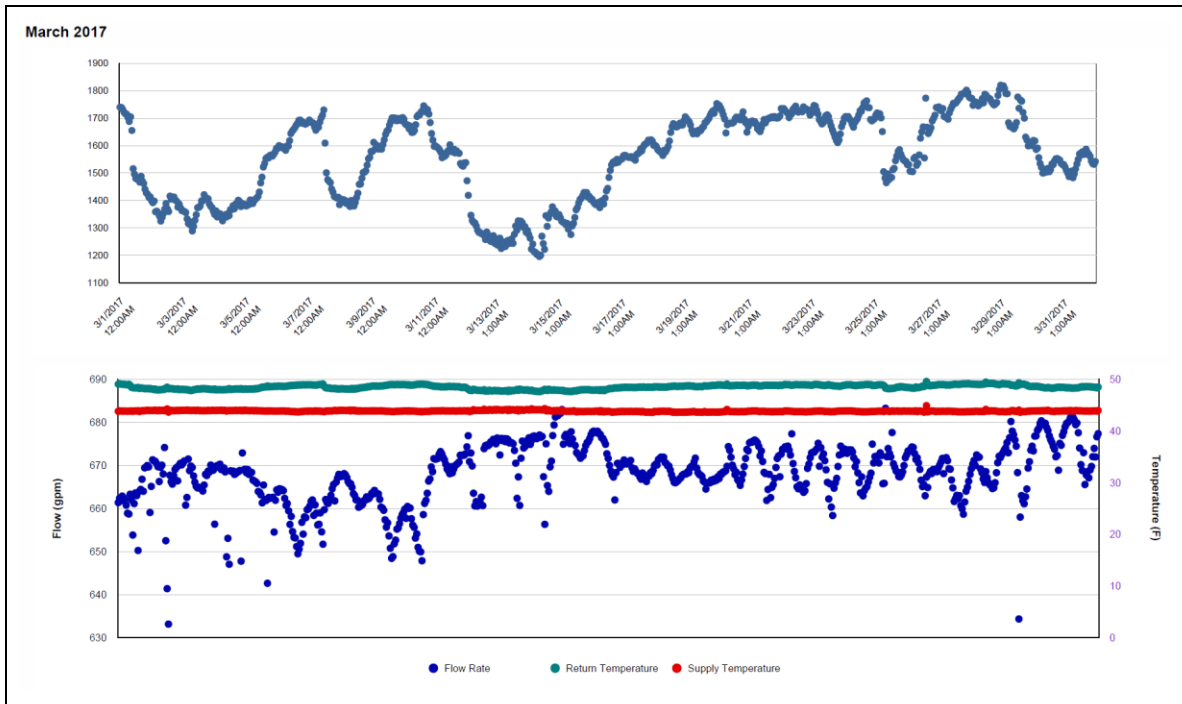
Quantitative descriptions and comments

Delta-T of CHW decreased significantly and consumption dropped to a very low level since 11/18/2016, and negative values of Delta-T appeared occasionally. Delta-T significantly increased on 1/31/2017 and the consumption went higher than the previous years. The readings may still be faulty but higher than normal instead of being negative. The whole month is estimated by a model using the period from 2/15/2016 – 8/31/2016 as a baseline since it is the most recent period with a reasonable energy balance.

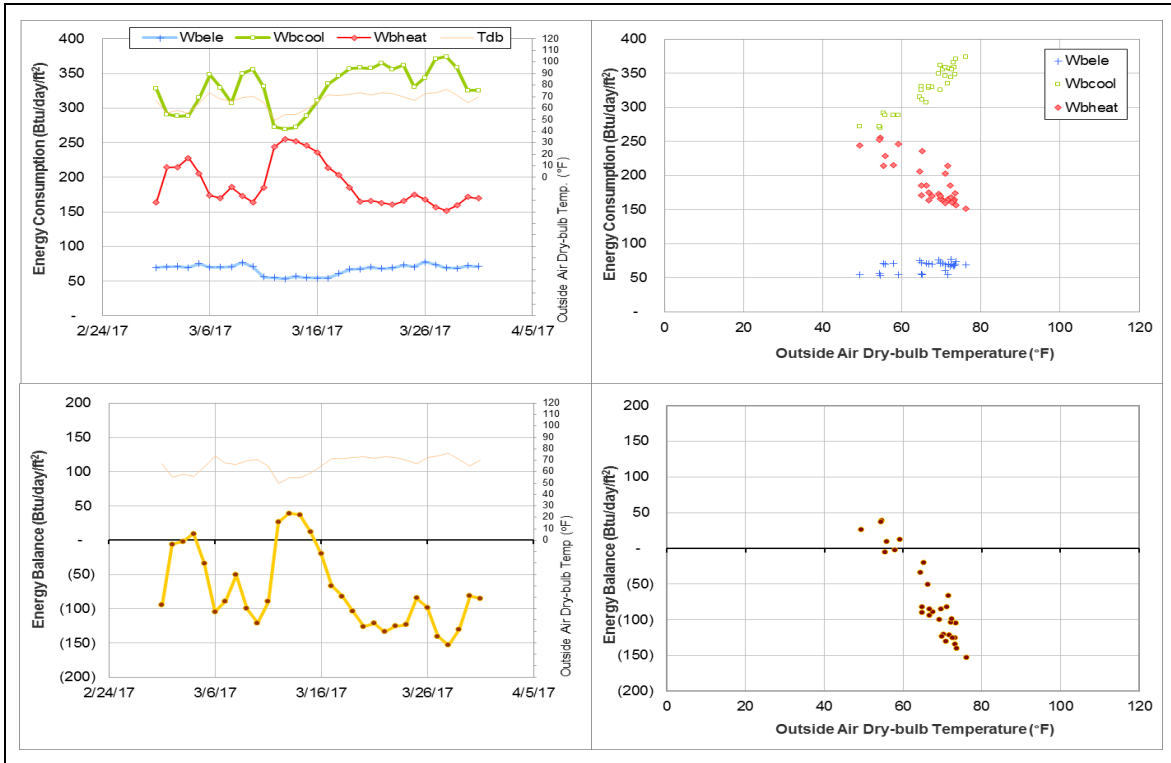
Explanatory Figure: 13 months energy balance plot with original data.



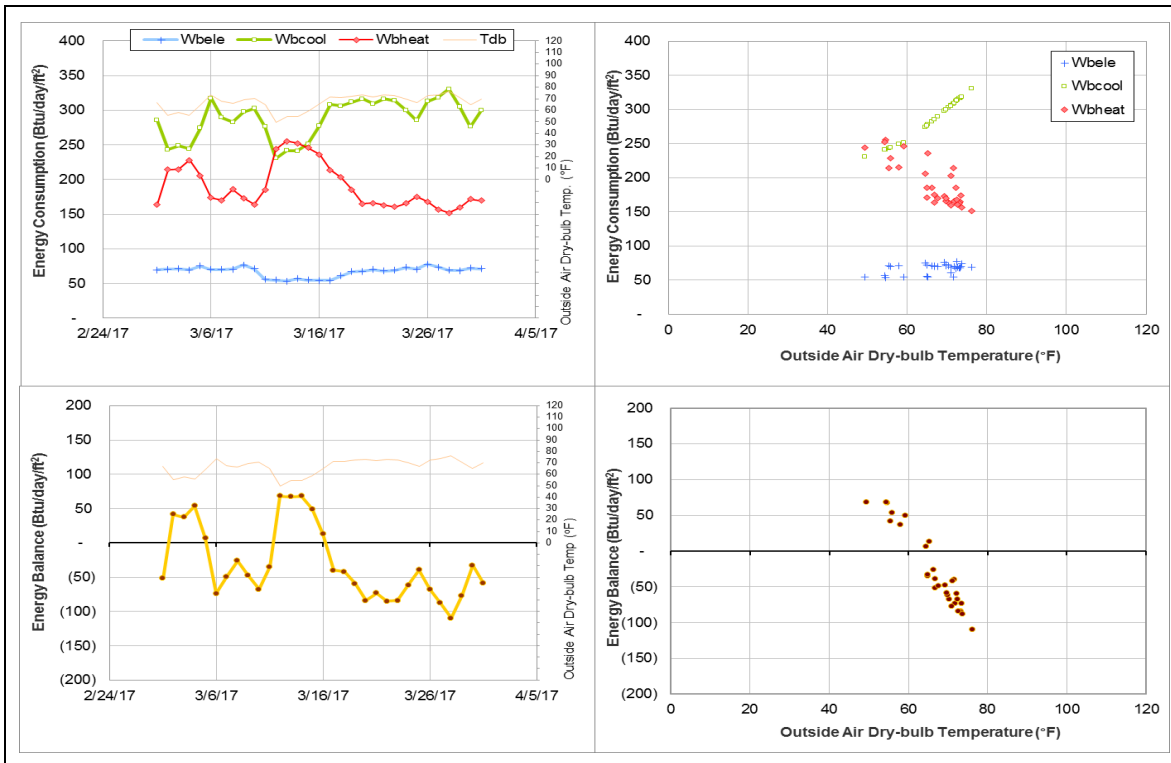
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Oceanography & Meteorology Building (TAMU Bldg #443)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	006388	31	3/1/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The metered values appear to be faulty.	10/21/2016 – 10/25/2016 11/5/2016 – 11/22/2016
	The consumption level is higher than the level during the past year.	11/23/2016 – Ongoing

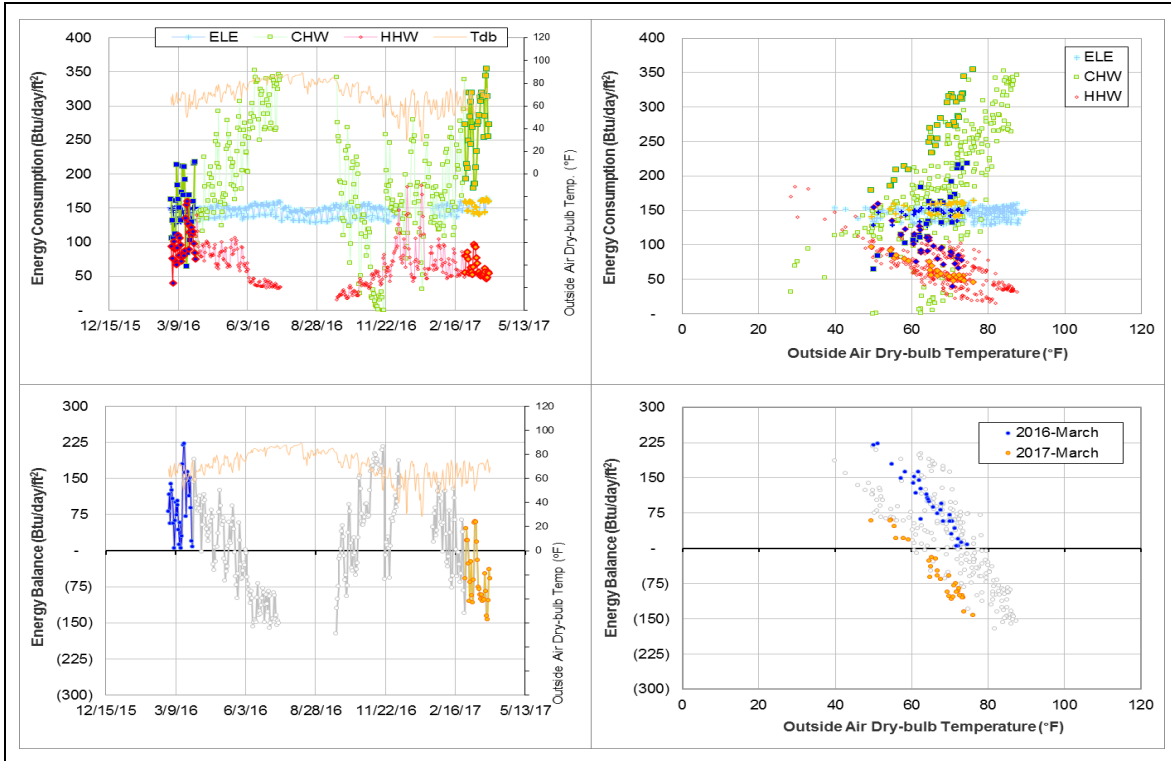
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	006388	10/21/2016 – 10/25/2016	Delta-T	Contains negative
		11/5/2016 – 11/22/2016		
		11/23/2016 – Ongoing	Delta-T	High

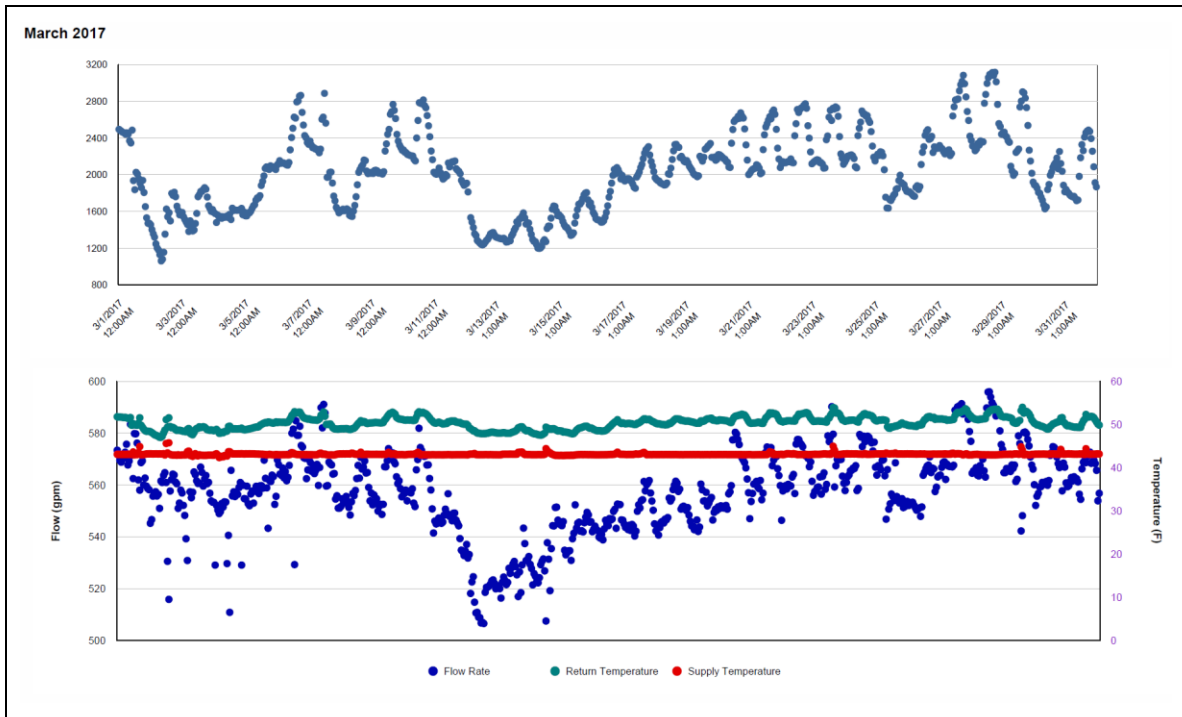
Quantitative descriptions and comments

There are negative CHW Delta-T values during 10/21/2016 – 10/25/2016 and 11/5/2016 – 11/22/2016. Starting 11/22/2016, Delta-T became positive but the consumption and energy balance are still off-pattern, and the consumption is appreciably higher than the past 5 years. The cross-point of EB has changed from 75°F to 62°F because of this increase. The whole month is estimated by a model. See also section II-3.

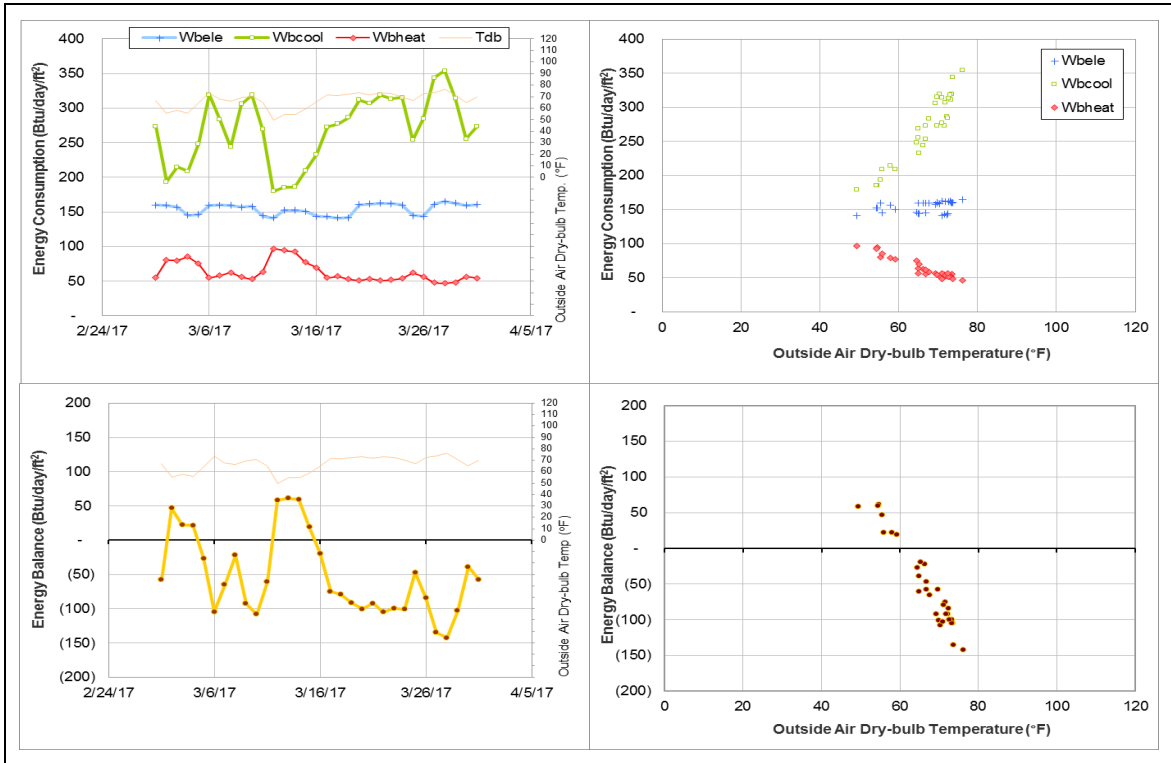
Explanatory Figure: 13 months energy balance plot with original data.



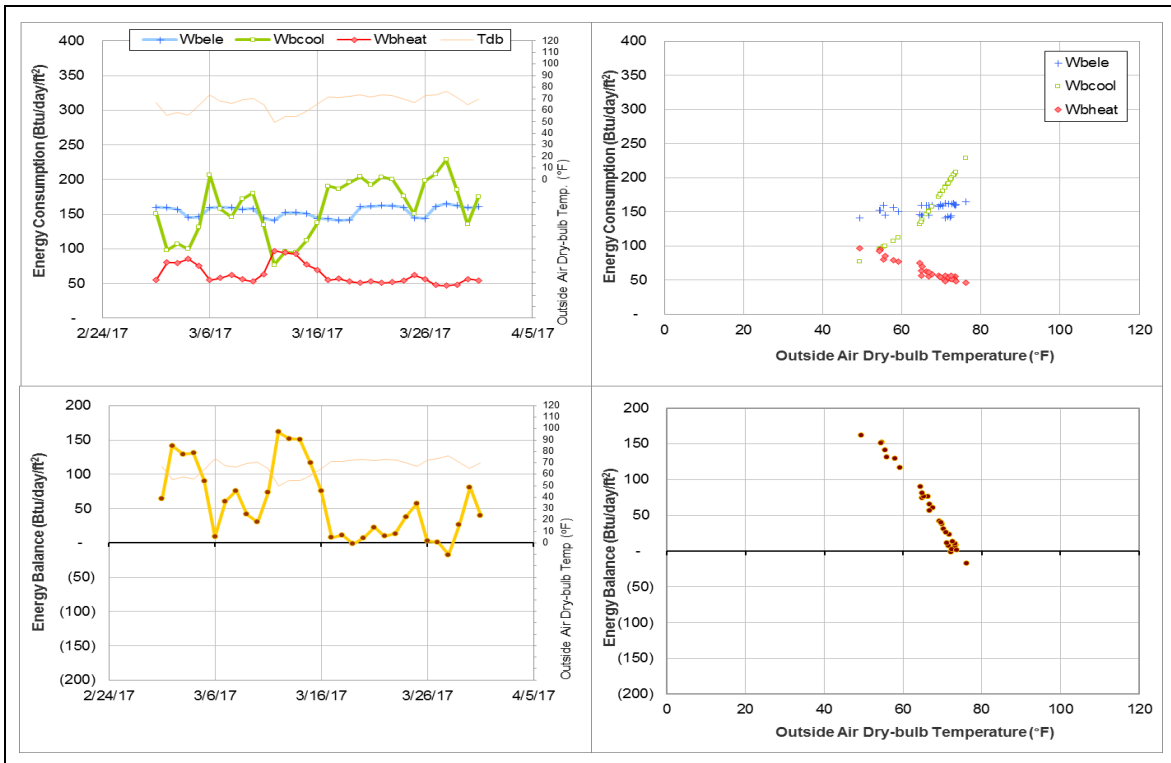
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Peterson Building (TAMU Bldg #444)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002922	11	3/11/2017 – 3/21/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The metered values appear to be faulty.	3/11/2017 – 3/21/2017

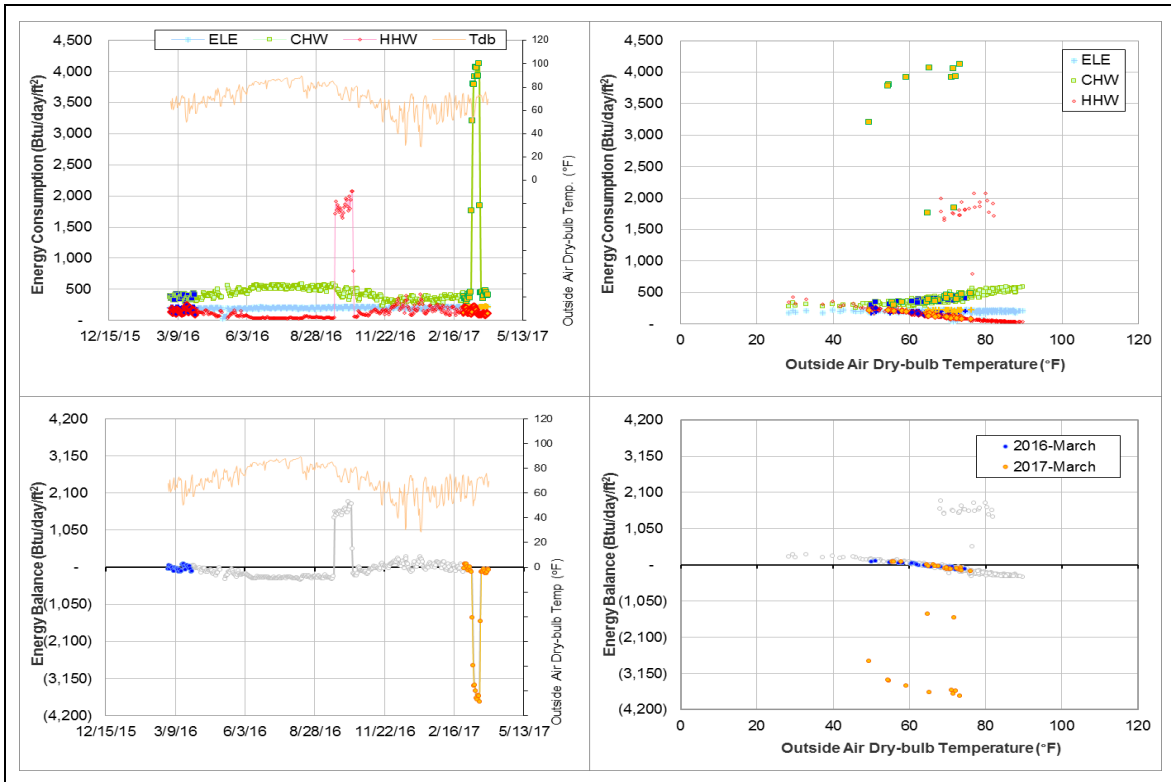
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	002922	3/11/2017 – 3/21/2017	Supply Temp	Faulty, Near zero

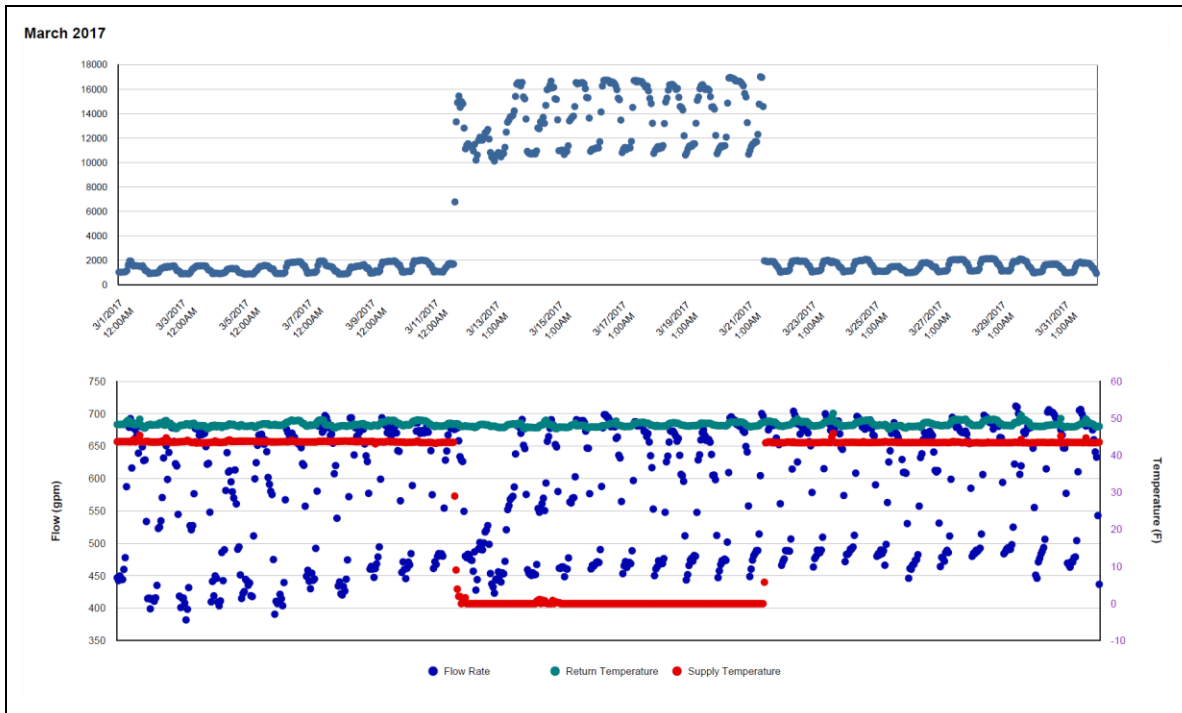
Quantitative descriptions and comments

The CHW consumption was abnormally high from 3/11/2017 to 3/21/2017 due to erroneous supply temperature values near zero. These days are estimated by a model.

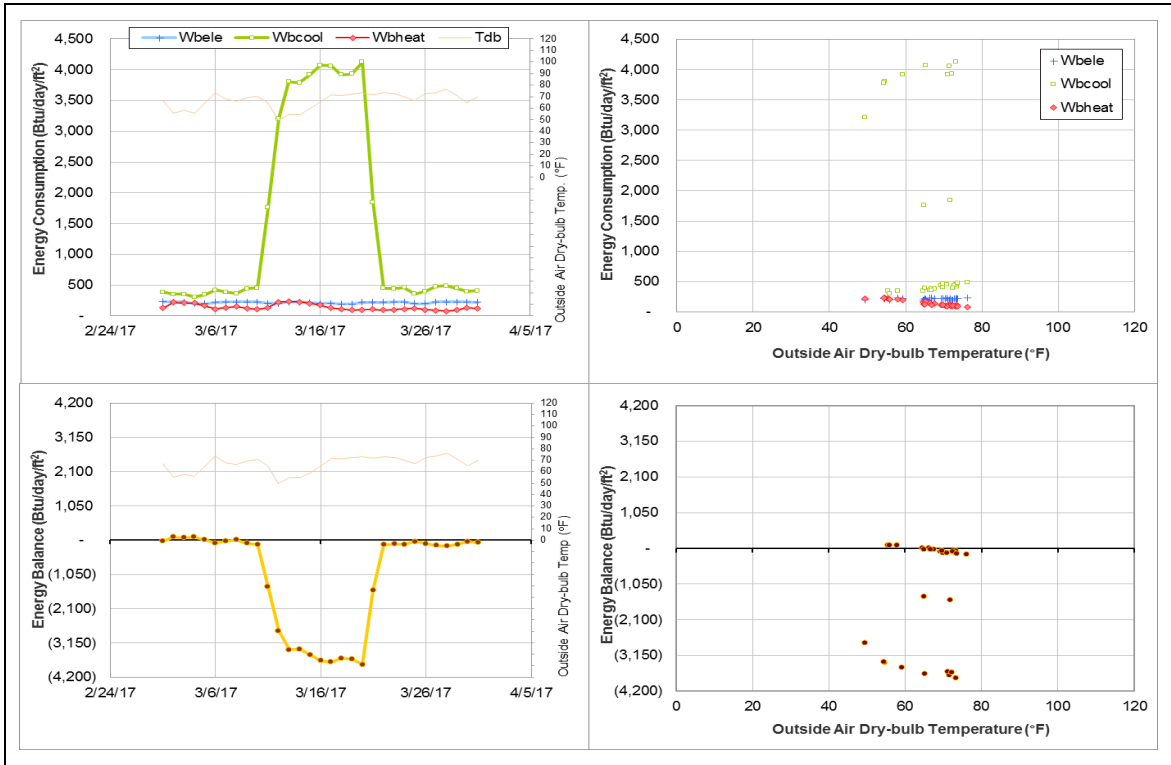
Explanatory Figure: 13 months energy balance plot with original data.



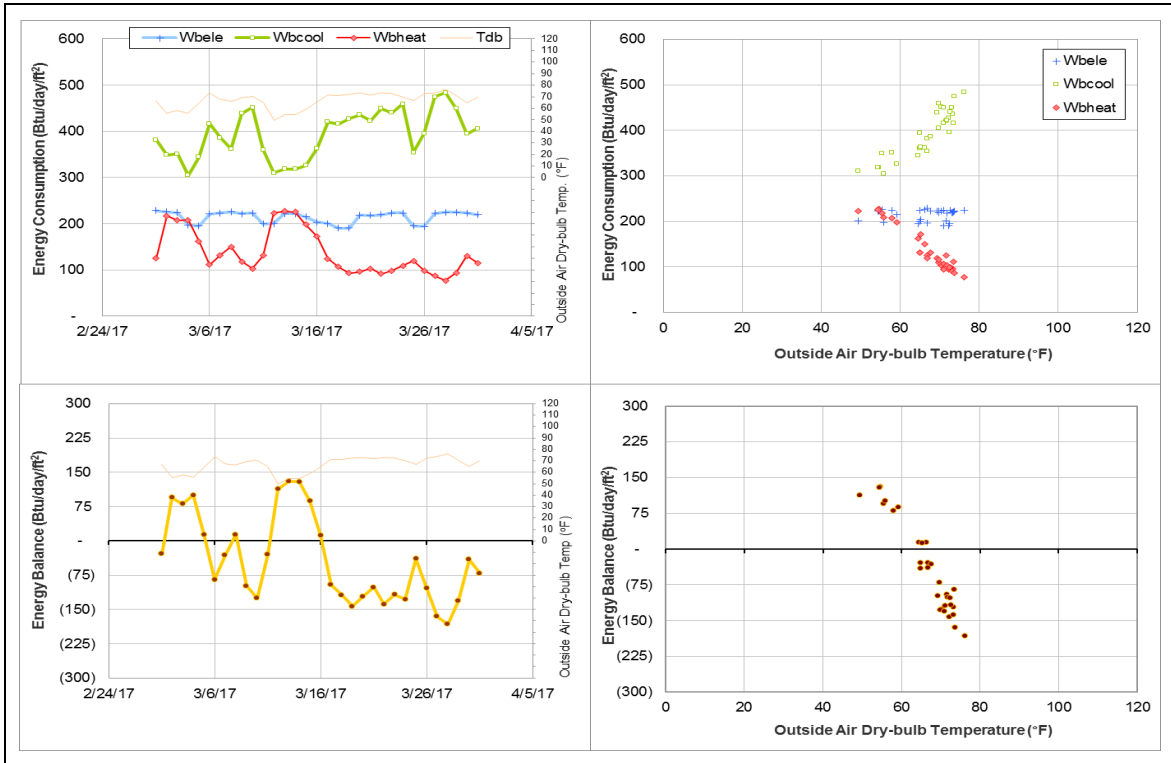
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Teague Research Center (TAMU Bldg #445)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	006411	31	3/1/2017 – 3/31/2017	Model
HHW	006415	31	3/1/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level is higher than the level during the past year.	12/21/2016 – Ongoing
HHW	The consumption level is higher than the level during the past year. The consumption level has increased suddenly.	12/8/2016 – Ongoing

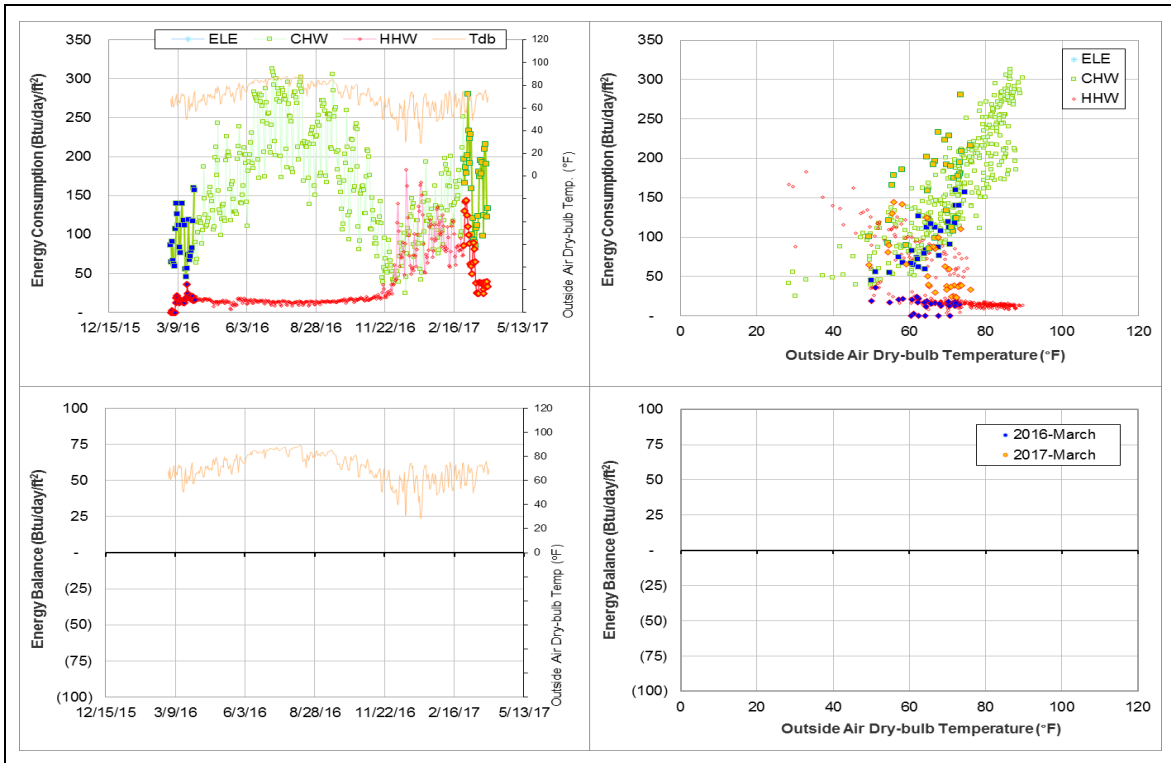
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	006411	12/21/2016 – 2/28/2017	Delta-T and Flow Rate	High
		3/16/2017 – 3/31/2017		
		3/1/2017 – 3/15/2017	Delta-T	Decreased significantly
			Flow Rate	Increased significantly
HHW	006415	12/8/2016 – 3/15/2017	Delta-T	High
		12/8/2016 – Ongoing	Flow Rate	High

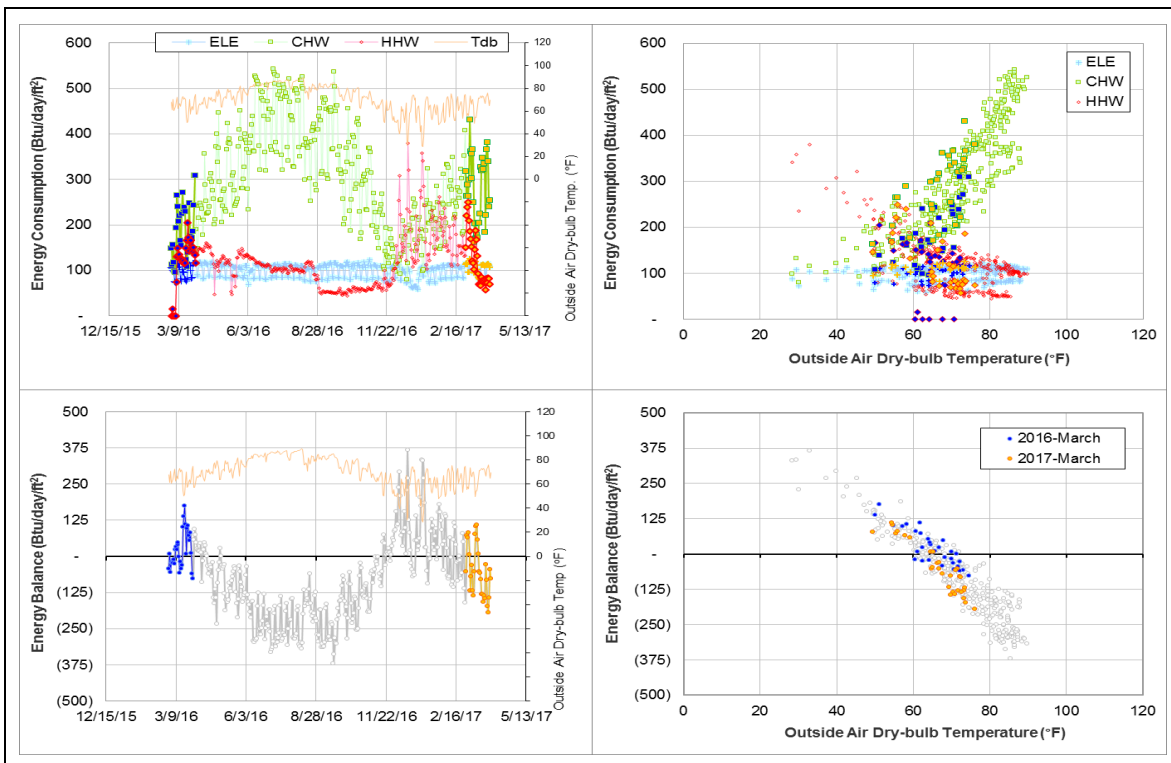
Quantitative descriptions and comments

CHW had an increase in flow rate from around 15 gpm to 80 gpm level in the end of December 2016. An increase of Delta-T followed on 1/4/2017 and pulled CHW consumption up gradually to a level higher than the previous year. From 3/1/2017 to 3/15/2017 the Delta-T decreased significantly and the flow rate increased significantly. HHW had an increase in both flow rate (from 15 gpm to 30 gpm in December 2016) and Delta-T causing an increase of consumption and brought scatter to the data. This month the flow rate increased again to ~48 gpm then decreased gradually back to 15 gpm. The whole month is estimated by a model.

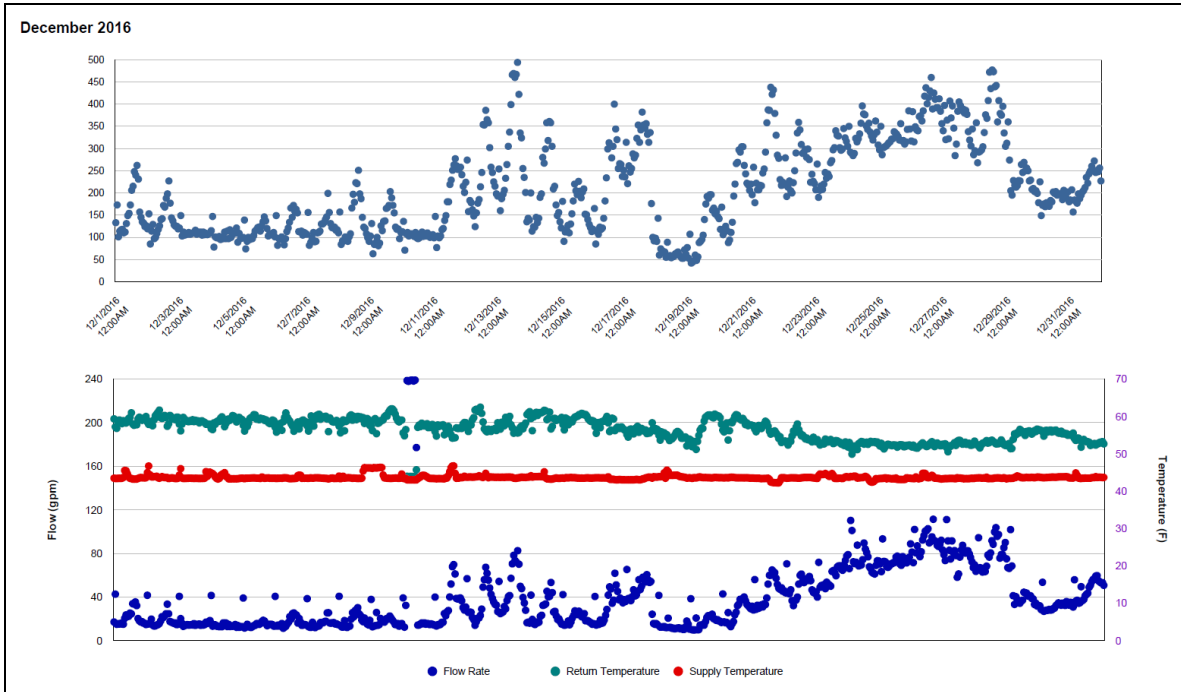
Explanatory Figure: 13 months energy balance plot with original data for #445 only



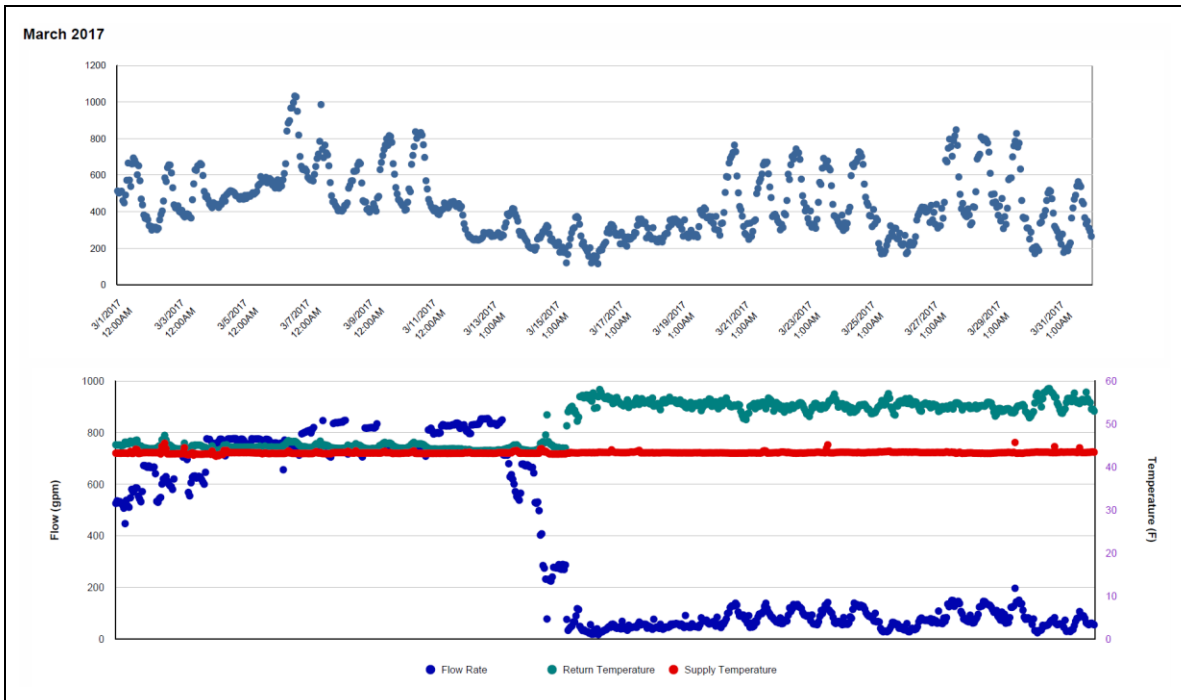
Explanatory Figure: 13 months energy balance plot with original data for total of #445 and #517



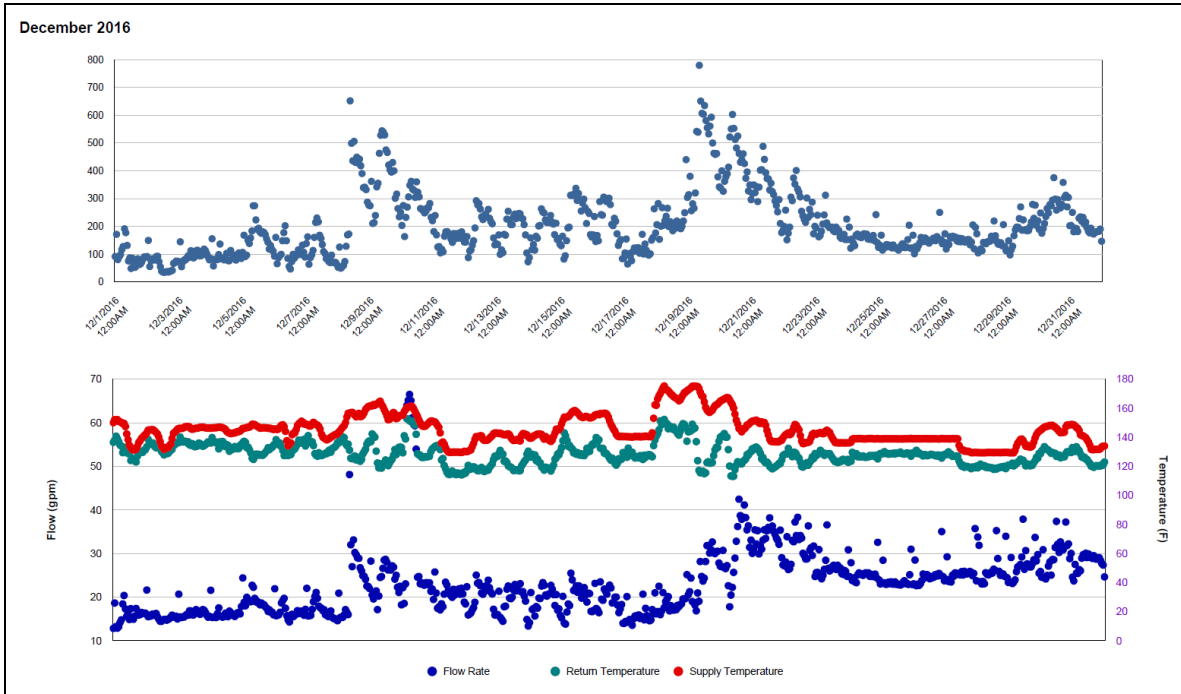
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during December 2016)



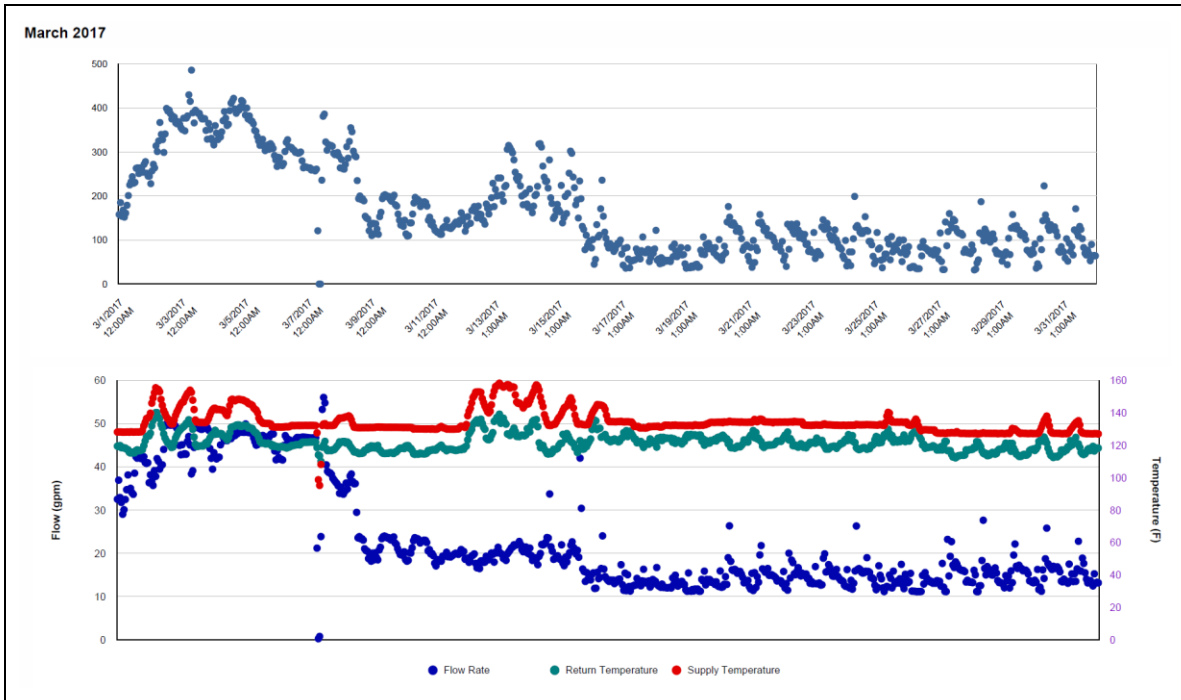
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during March 2017)



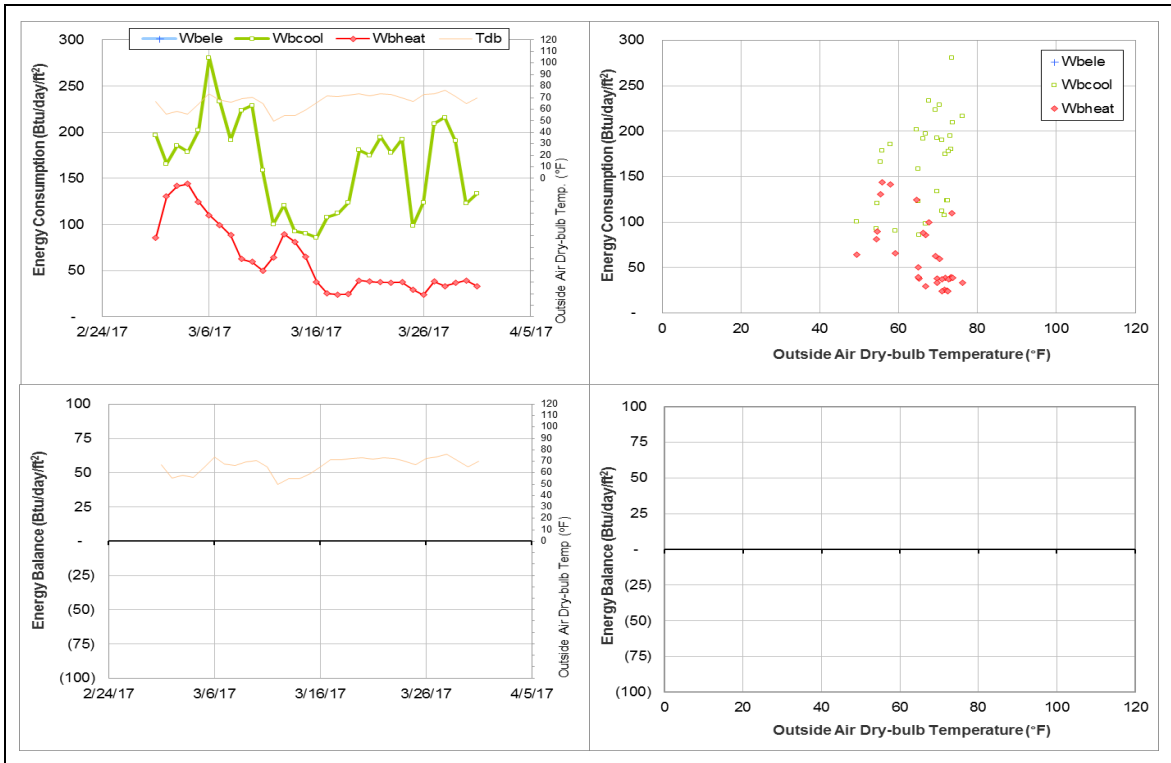
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during December 2016)



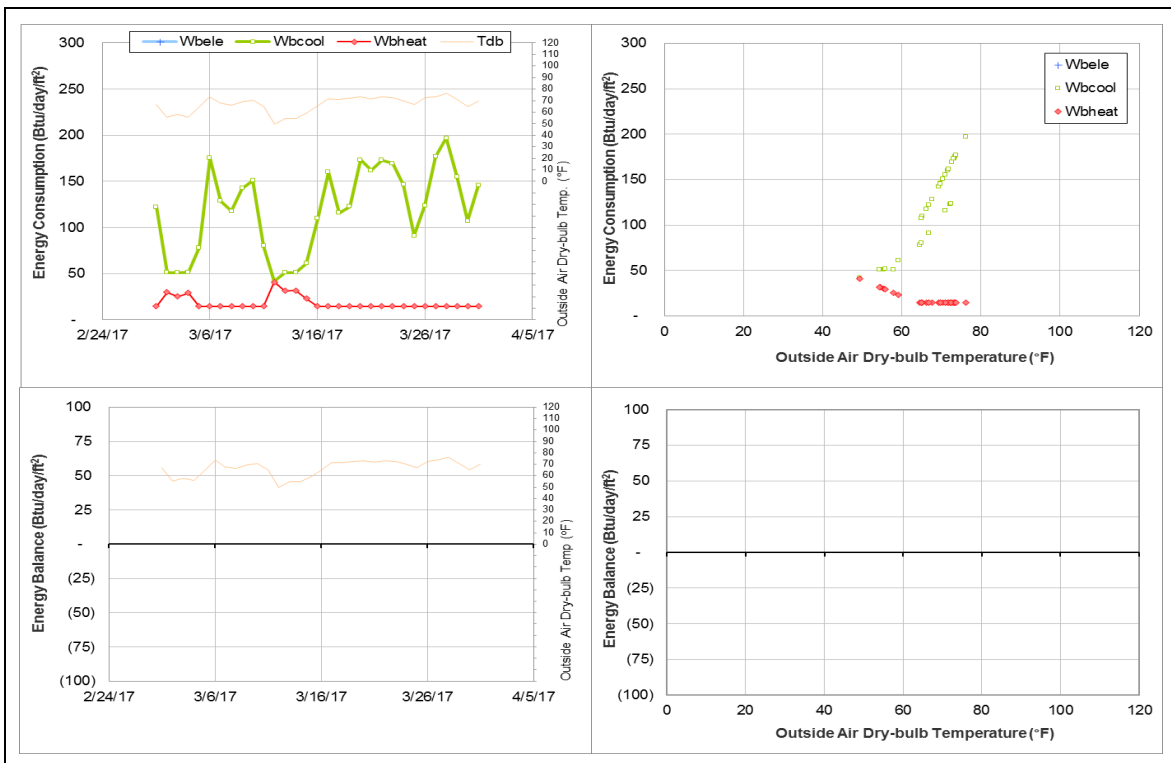
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



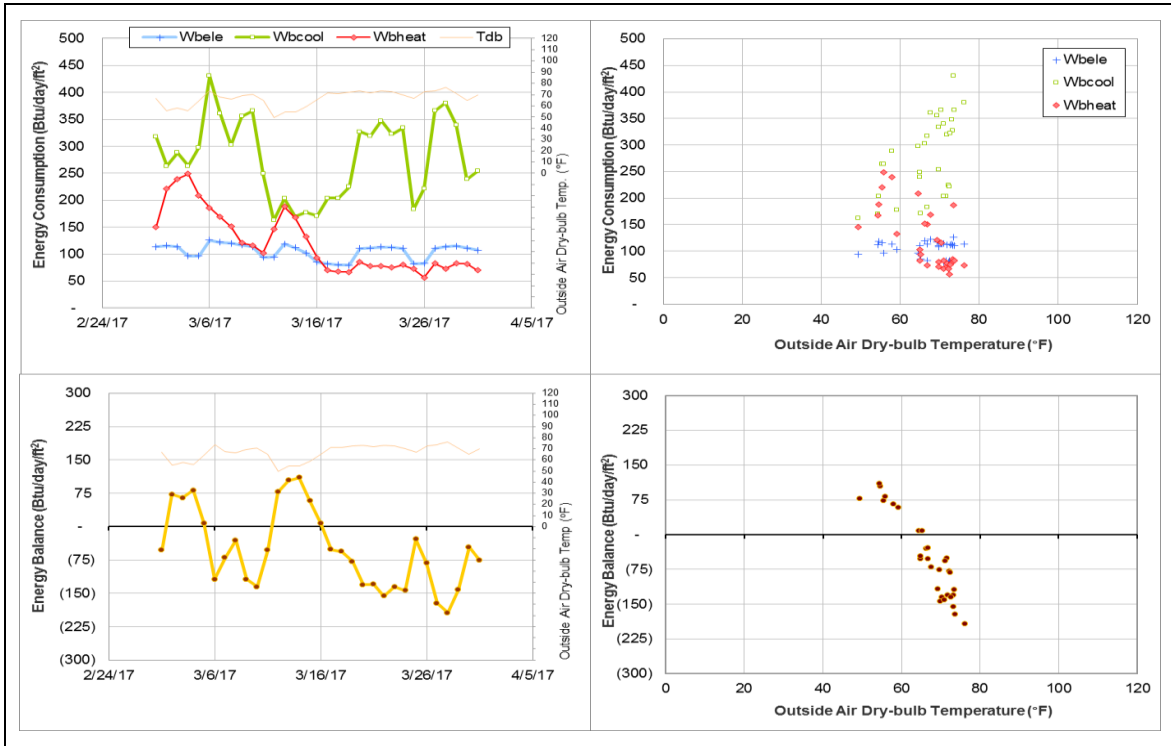
Energy balance plot using the original data for the month of analysis for #445 only



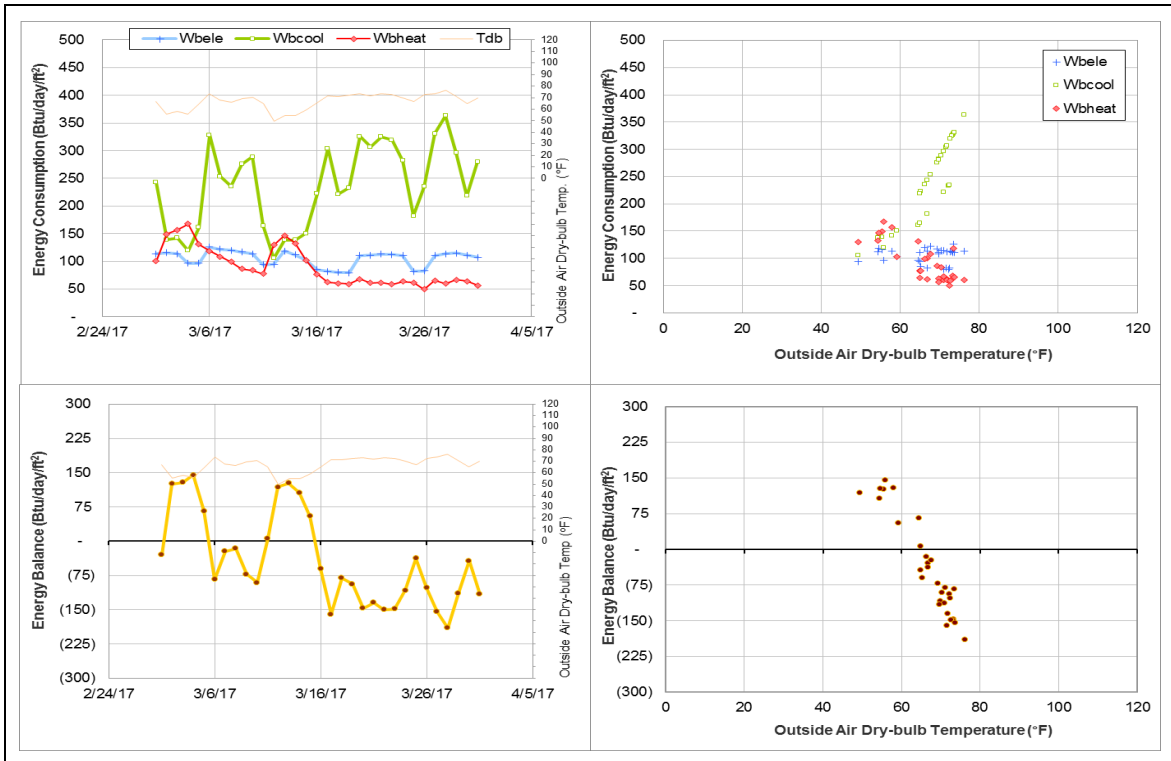
Energy balance plot using the estimated data for the month of analysis for #445 only



Energy balance plot using the original data for the month of analysis for total of #445 and #517



Energy balance plot using the estimated data for the month of analysis for total of #445 and #517



Rudder Theatre Complex (TAMU Bldg #446)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	002977	31	3/1/2017 – 3/31/2017	Model
ELE	002980	31	3/1/2017 – 3/31/2017	Model
CHW	004297	31	3/1/2017 – 3/31/2017	Model
HHW	004309	31	3/1/2017 – 3/31/2017	Model

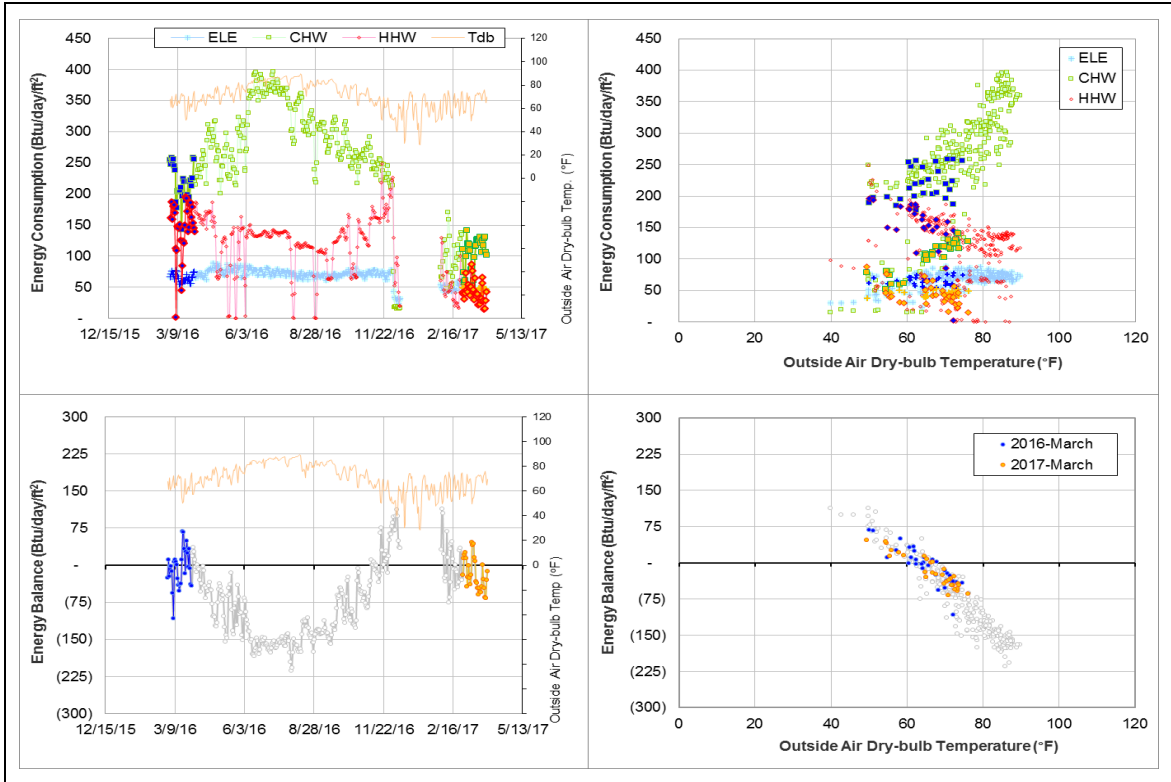
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE (002977)	The consumption level is lower than the level during the past year.	2/1/2017 – Ongoing
ELE (002980)	The consumption level is lower than the level during the past year.	2/1/2017 – Ongoing
CHW	The consumption level is lower than the level during the past year.	2/1/2017 – Ongoing
HHW	The consumption level is lower than the level during the past year.	2/1/2017 – Ongoing

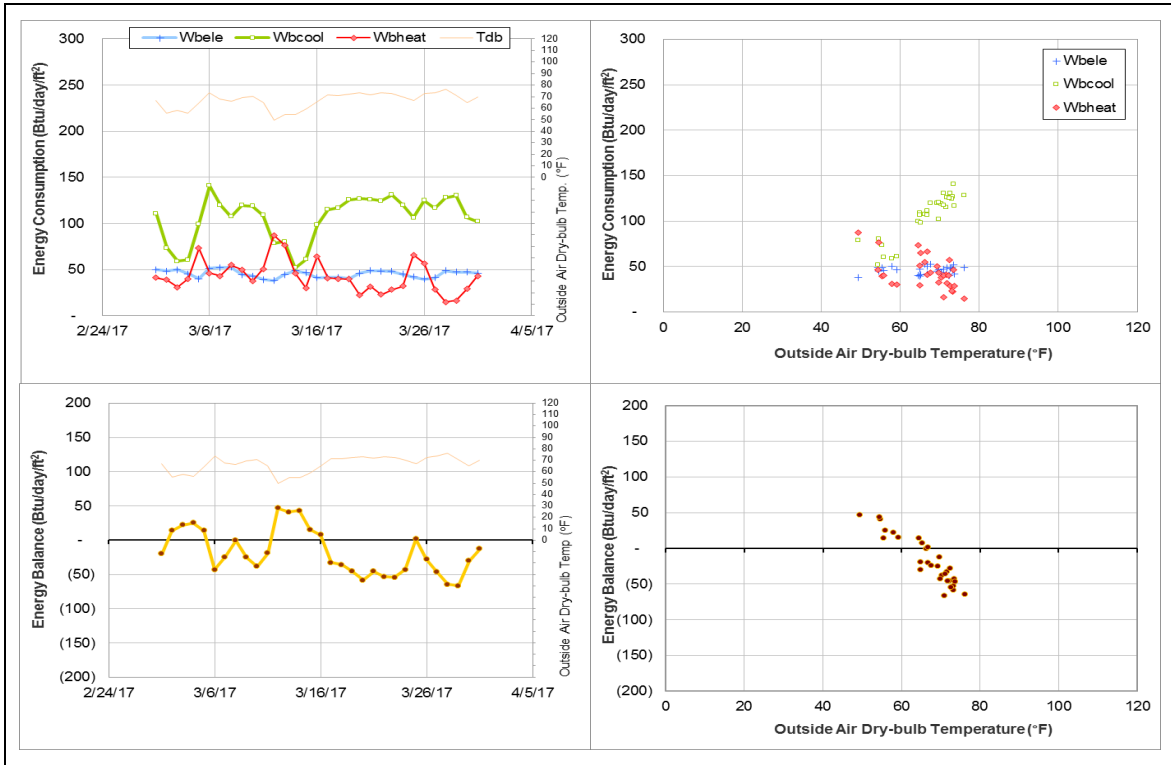
Quantitative descriptions and comments

ELE, CHW, and HHW consumption dropped during the winter break of last year. The similar phenomena occurred in the winter break in 2015. This is not suspected to be a meter malfunction. Data from last year suggest that the consumption went back to the normal level near Monday 1/25/2016. Data of the current year have not yet recovered to the normal level at the end of March. EB of this building does not show separate patterns of these two levels. The whole month is estimated using a model.

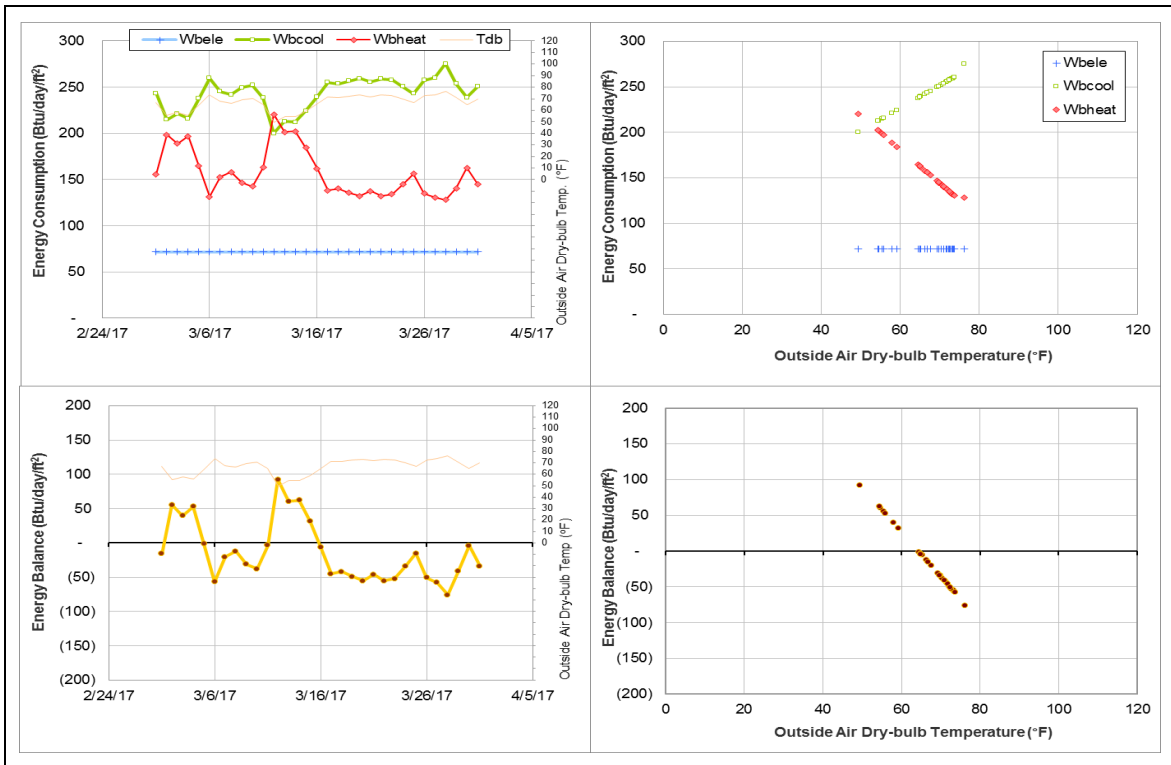
Explanatory Figure: 13 months energy balance plot with original data.



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



State Chemist Building (TAMU Bldg #464)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005837	31	3/1/2017 – 3/31/2017	Model

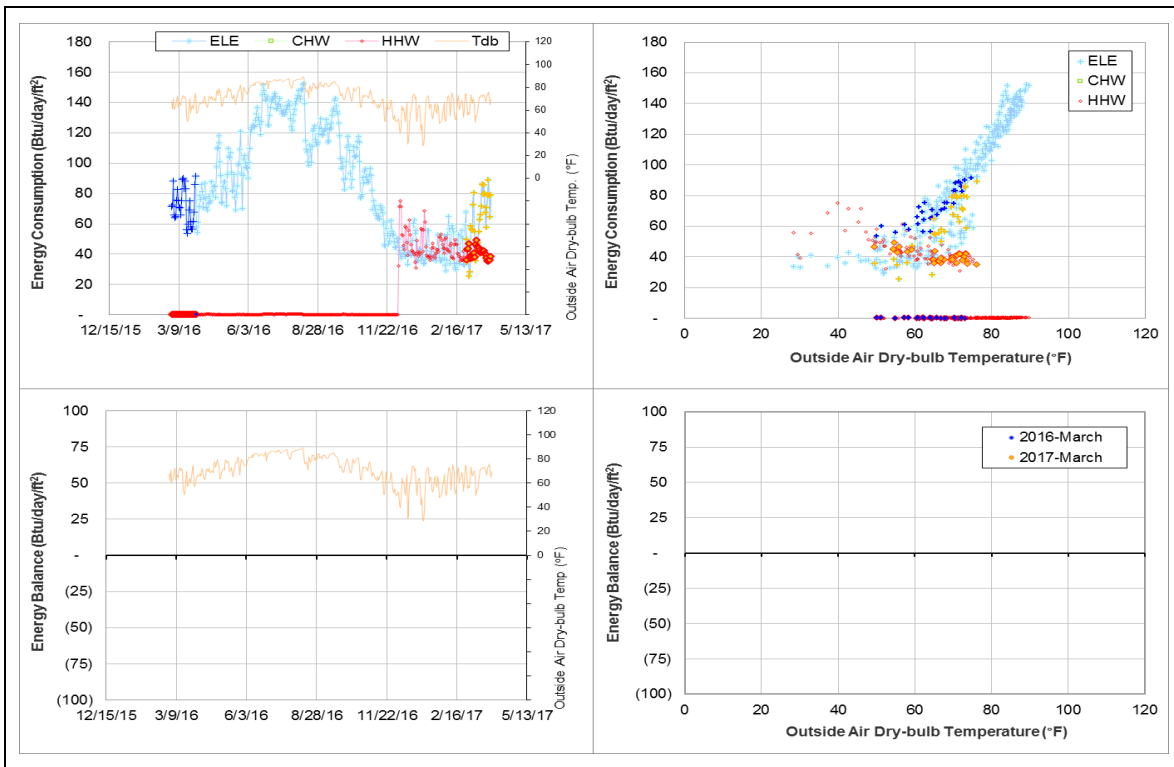
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption level is lower than the level during the past year.	11/20/2016 – Ongoing

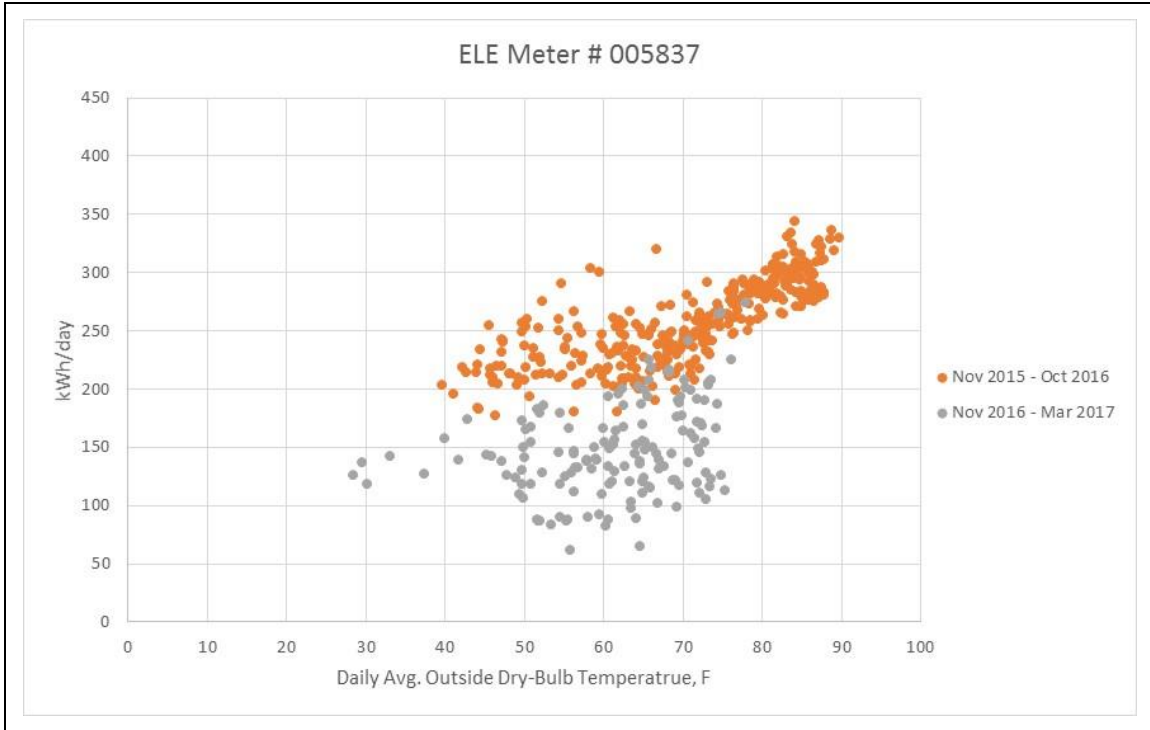
Quantitative descriptions and comments

There are two ELE meters (#005827 and #005839) for this building. Starting in November 2016, one of them (#005837) level has decreased and the data appears scattered. Compared to March 2016, the average daily kWh for March 2017 has decreased by ~80 kWh. Explanatory figures showing the change before and after November 2016 are provided below. The month of March was estimated by model.

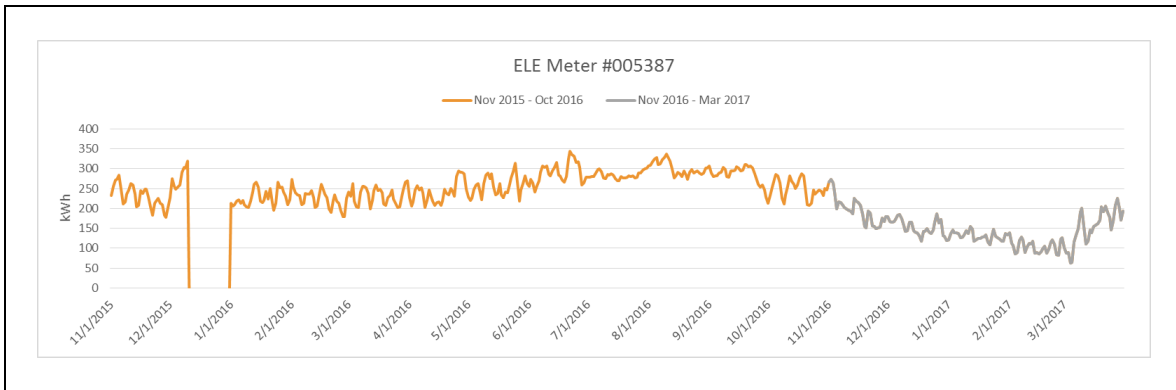
Explanatory Figure: 13 months energy balance plot with original data.



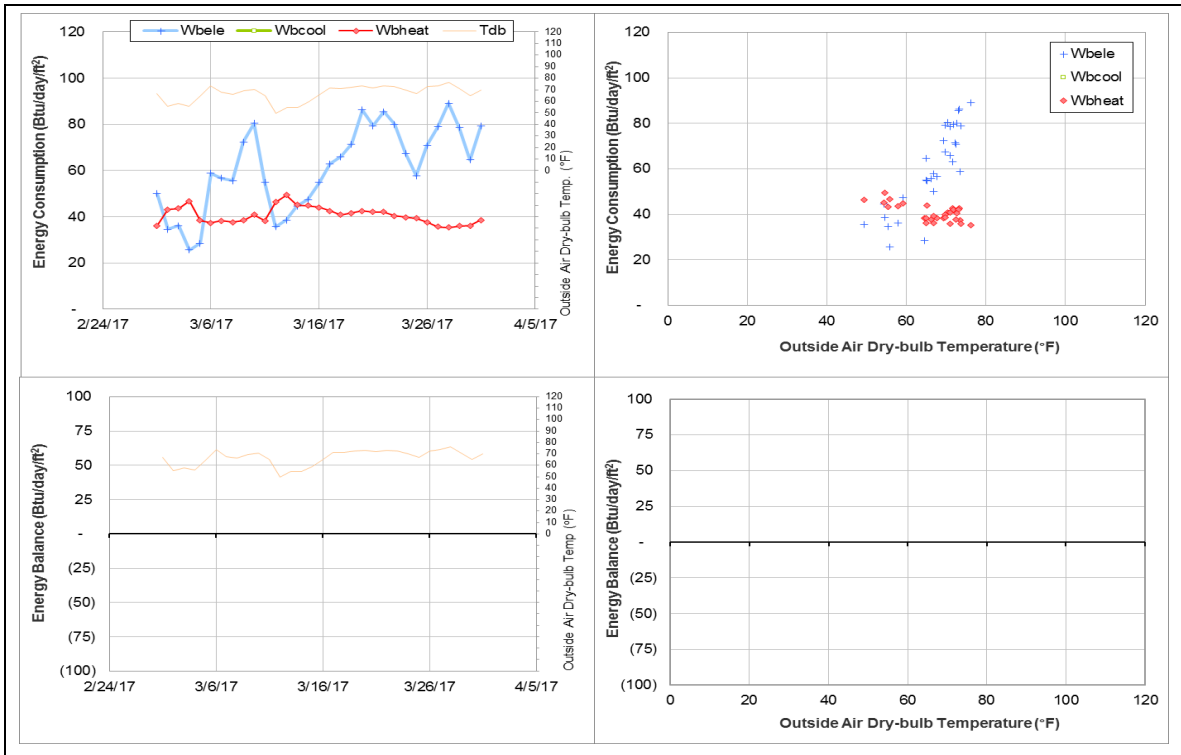
Explanatory Figure: Scatter plot of daily ELE energy consumption for meter #005837 versus outside dry-bulb temperature. The series in grey represents the recent data from Nov 2016 through Mar 2017.



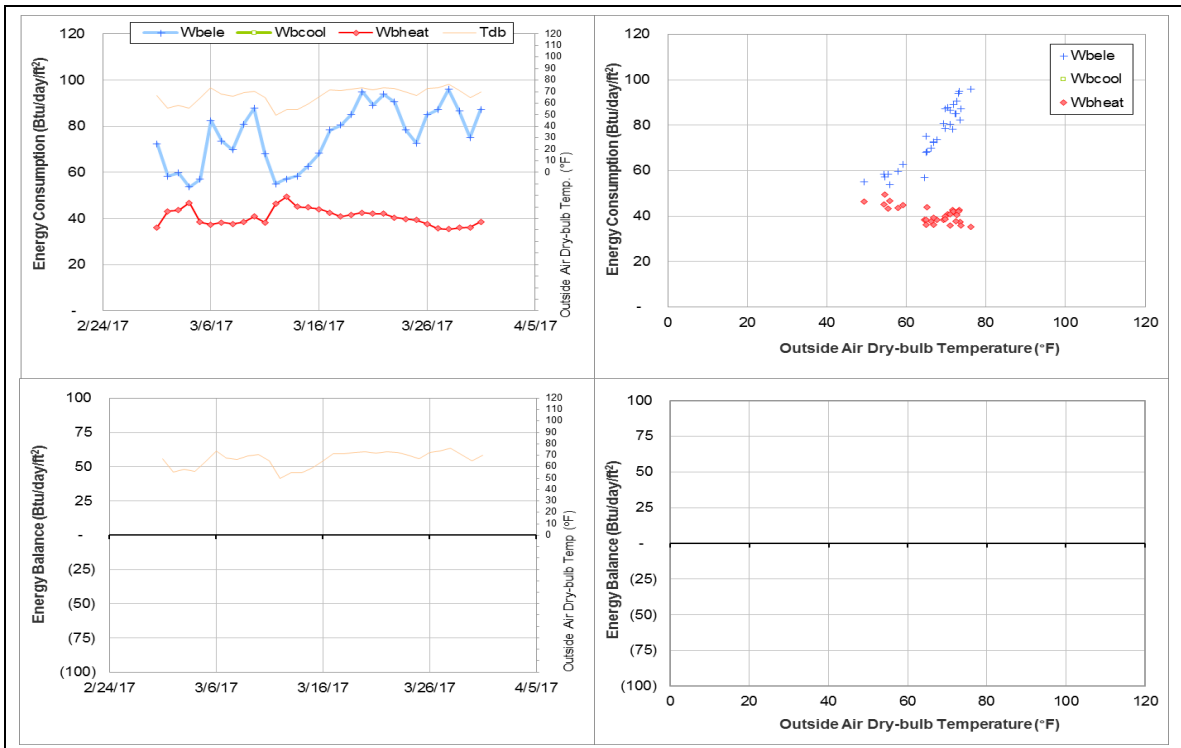
Explanatory Figure: Times series plot of hourly ELE energy consumption for meter #005837. The series in grey represents the recent data from Nov 2016 through Mar 2017.



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Biological Sciences Building – East (TAMU Bldg #467)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003851	31	3/1/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The metered values appear to be faulty.	8/6/2016 – Ongoing

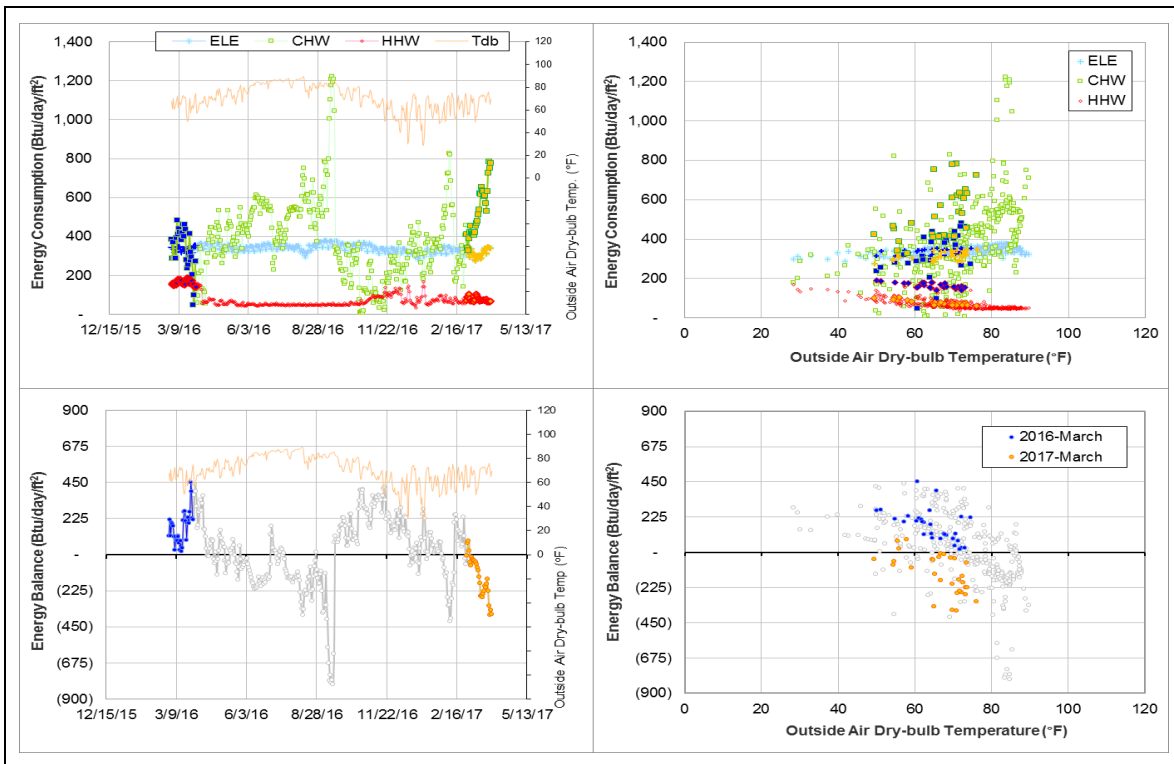
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	003851	8/6/2016 – Ongoing	Supply Temp	Faulty

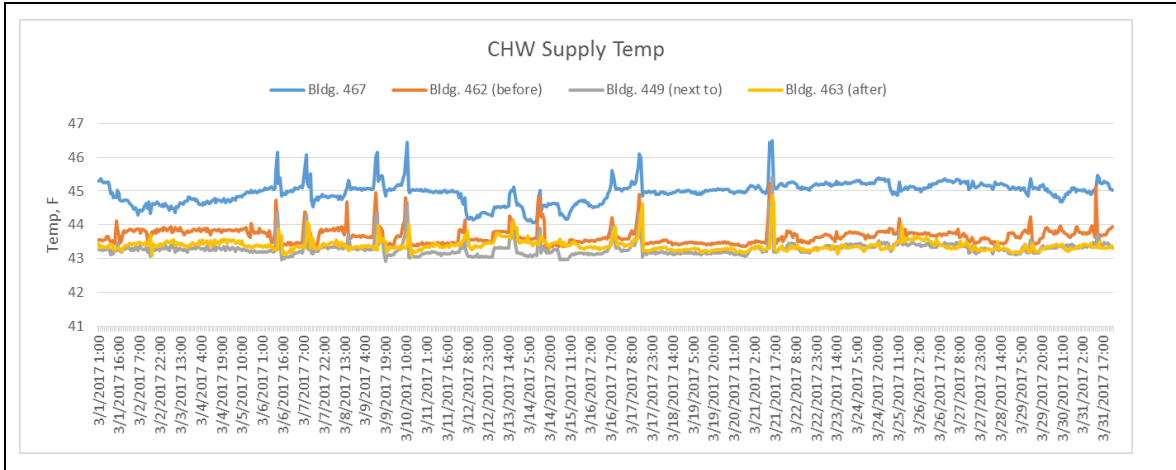
Quantitative descriptions and comments

The CHW supply temp readings for this building started to decrease on 8/6/2016 while all adjacent buildings have stable supply temperature at around 42°F. The supply temperature had a period of obviously erroneous values of 20°F during 9/10 – 9/20/2016, and then increased to 45°F and stays around this higher level. The explanatory figure below shows the supply temperature for Bldg. #467 and the surrounding Bldgs. #462, #449, and #463. The temperature sensor for Bldg. #467 shows to be almost two degrees higher than its neighboring buildings. The CHW for the month of March was estimated using model based on the data during 6/1/2015 - 6/30/2016.

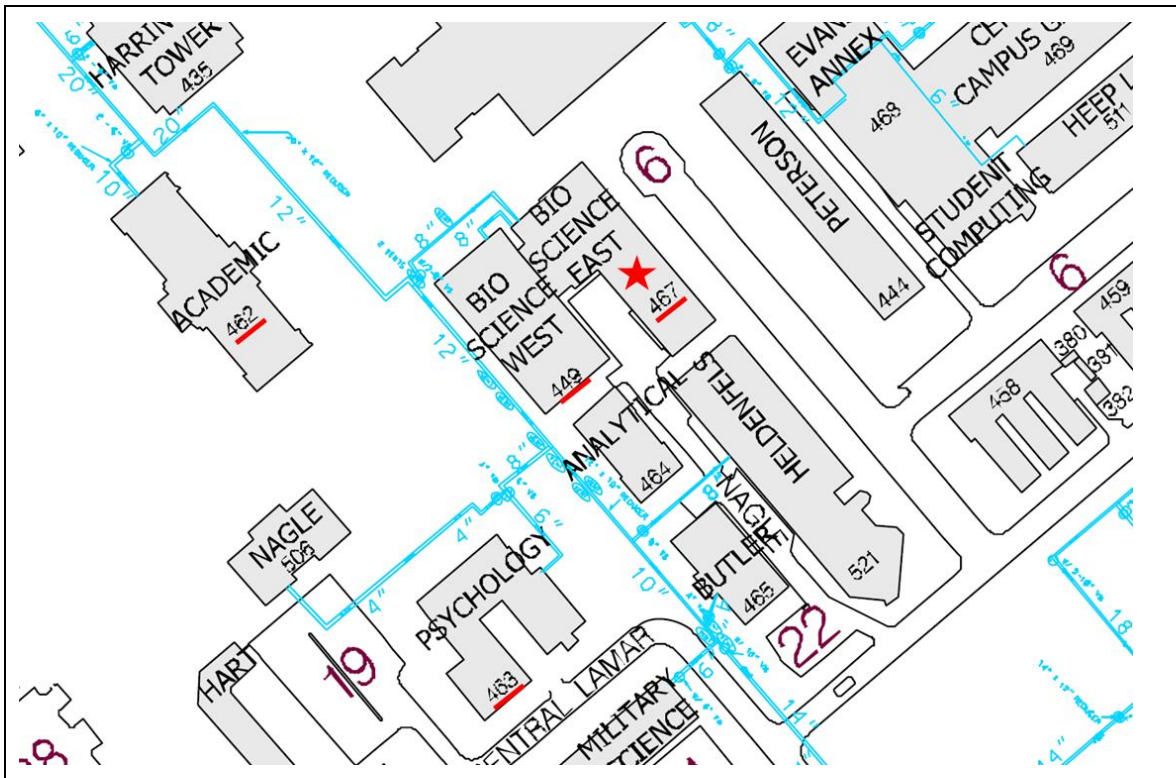
Explanatory Figure: 13 months energy balance plot with original data.



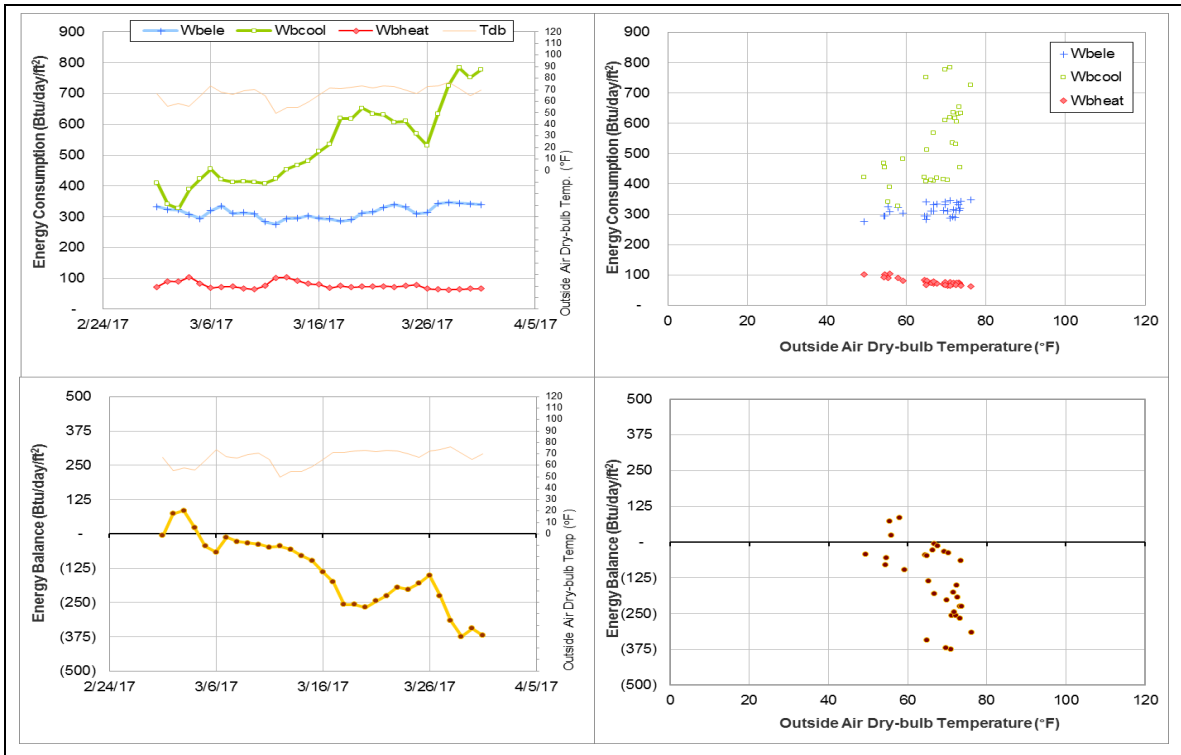
Explanatory Figure: Time series plot of hourly average CHW supply temperature for Bldgs. #467 Biological Sciences East, #462 Academic, #449 Biological Sciences West, and #463 Psychology. (March 2017)



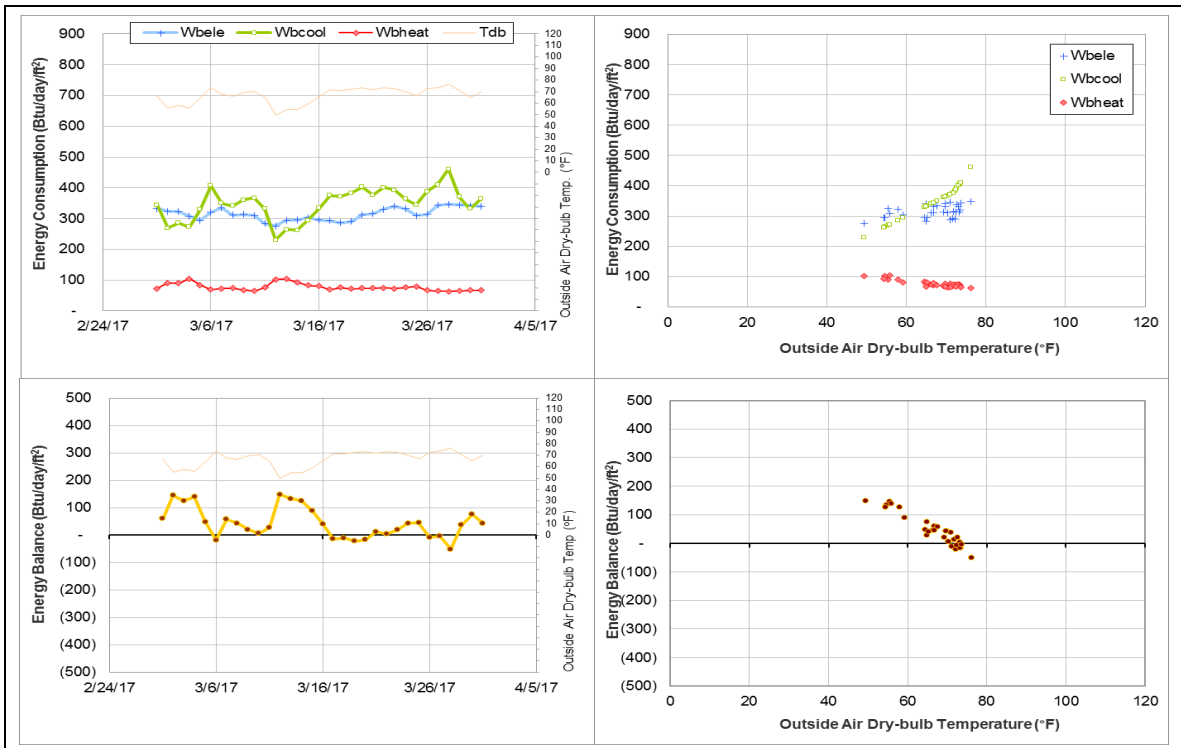
Explanatory Figure: CHW distribution with Bldgs. #467 Biological Sciences East, #462 Academic, #449 Biological Sciences West, and #463 Psychology highlighted.



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Heaton Hall (TAMU Bldg #481)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	007531	31	3/1/2017 – 3/31/2017	Model
HHW	007535	31	3/1/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The CHW consumption decreased largely.	2/1/2017 – Ongoing
HHW	The HHW consumption decreased largely.	2/1/2017 – Ongoing

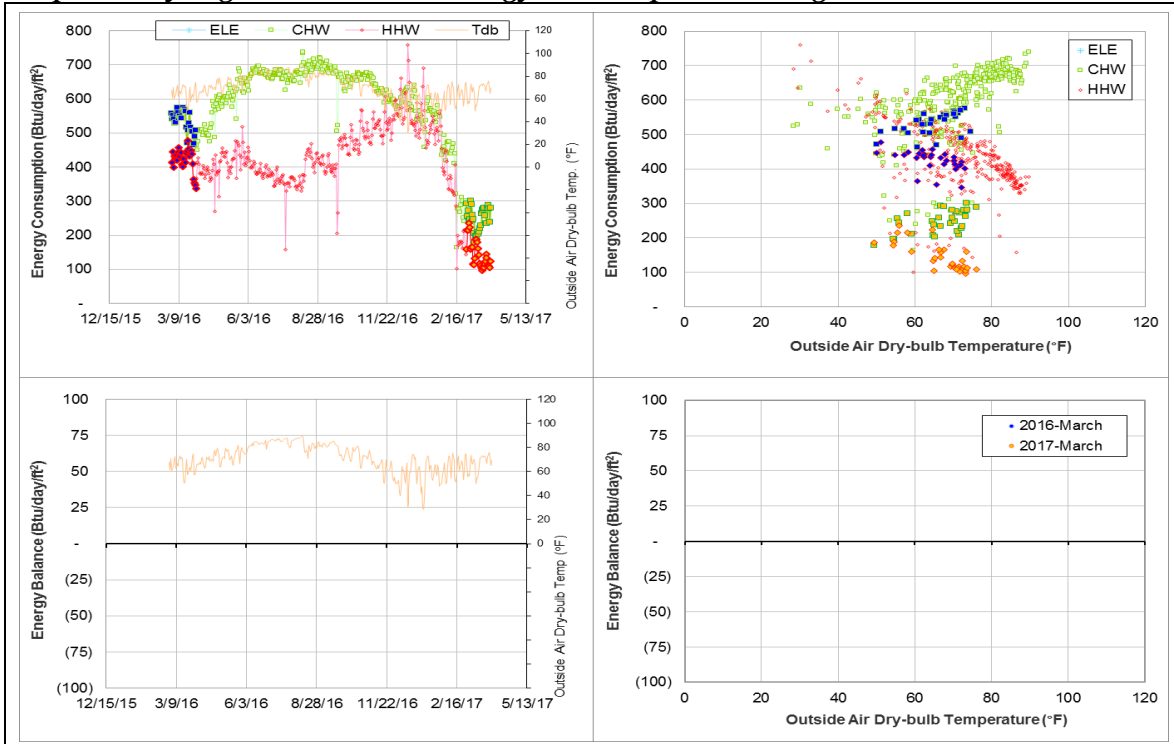
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	007531	2/1/2017 – Ongoing	Flow rate	Decreased
HHW	007535	2/1/2017 – Ongoing	Flow rate	Decreased

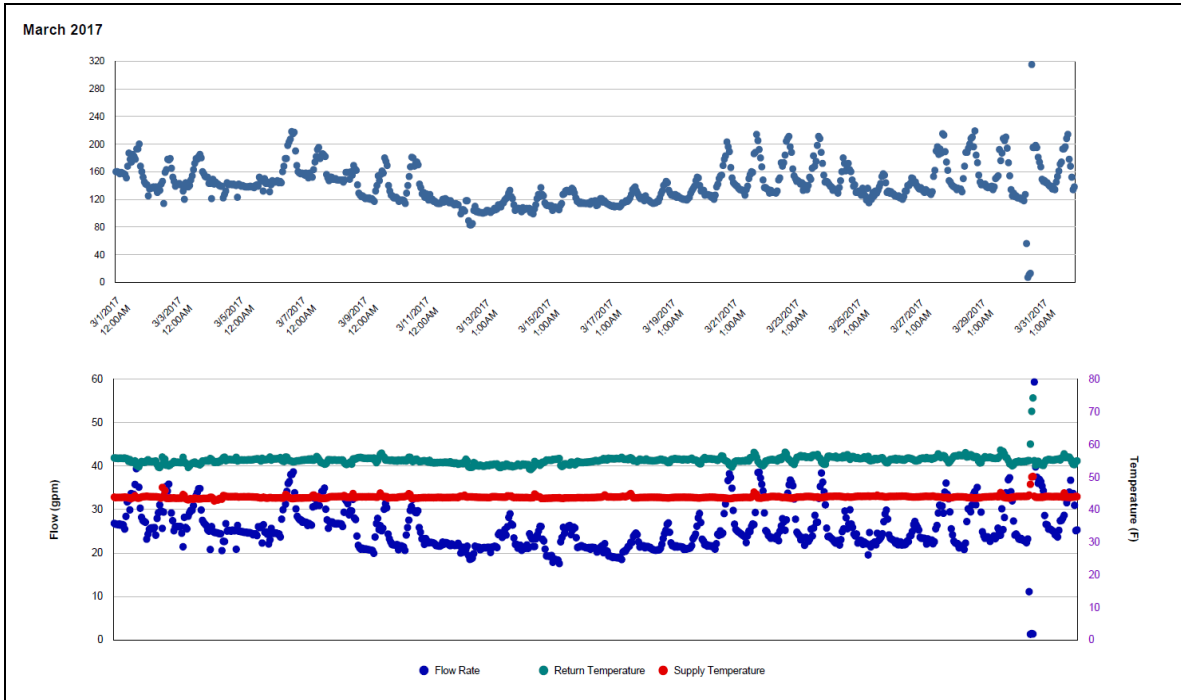
Quantitative descriptions and comments

The CHW and HHW consumption decreased by about 100 Btu/day/ft² at the beginning of February and decreased further by about 200 Btu/day/ft² more around 2/17/2017. The CHW and HHW still continues at this lower level through March. Both the CHW and HHW were estimated by model for the whole month.

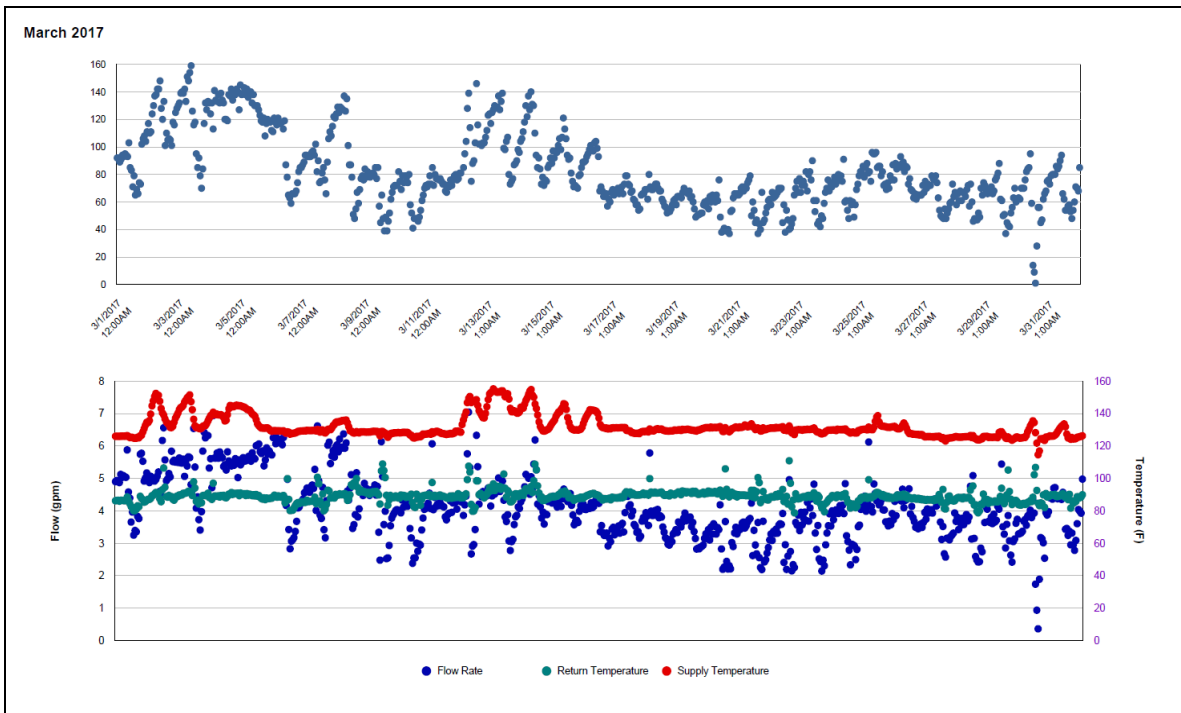
Explanatory Figure: 13 months energy balance plot with original data.



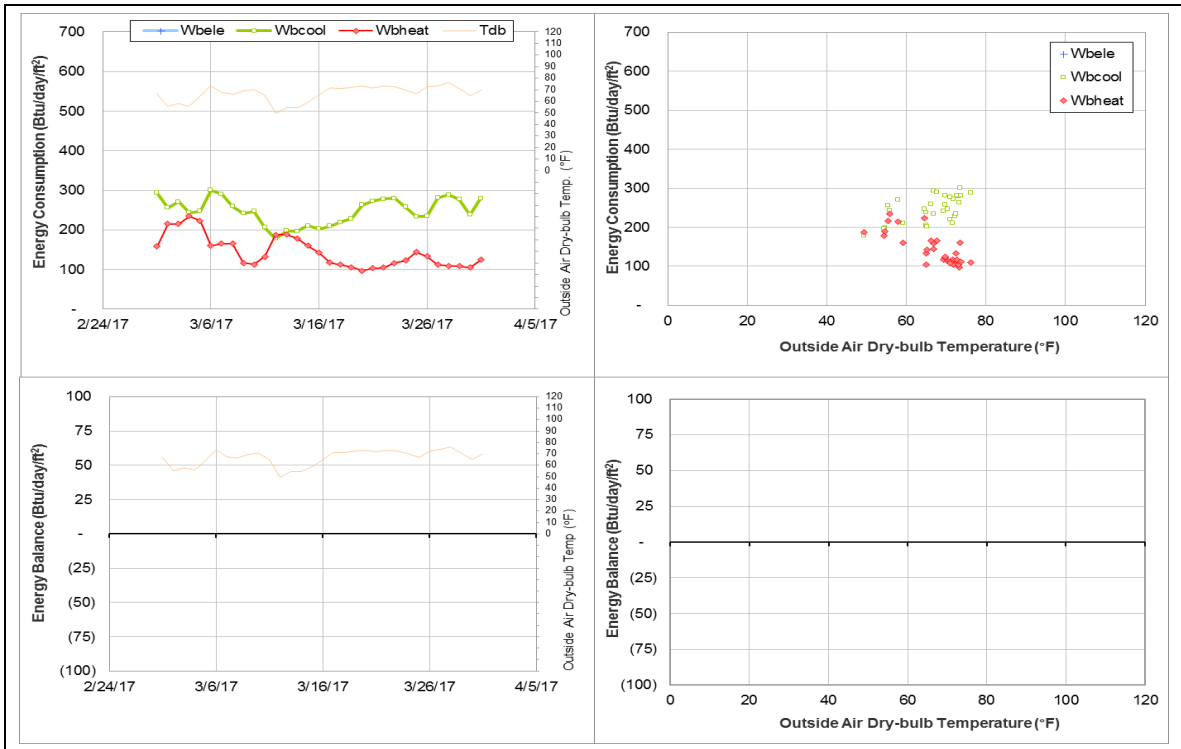
Explanatory Figure: Time series plots of hourly CHW energy consumption, flow, and supply/return temperatures from utilities office. (March 2017)



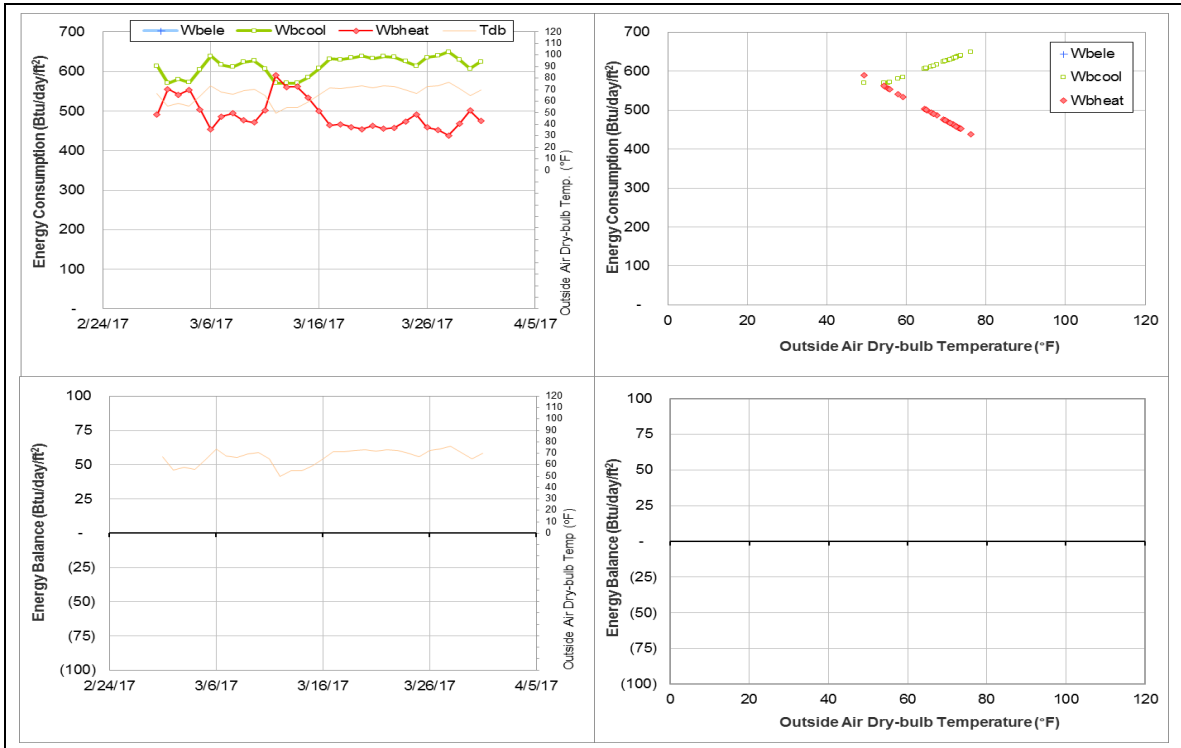
Explanatory Figure: Time series plots of hourly HHW energy consumption, flow, and supply/return temperatures from utilities office. (March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Halbouty Geosciences Building (TAMU Bldg #490)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	006900	31	3/1/2017 – 3/31/2017	Model
	006917	31	3/1/2017 – 3/31/2014	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The HHW consumption decreased to zero. The metered value seems to be faulty (#006900).	12/19/2016 – Ongoing
	The HHW consumption decreased suddenly (#006917).	3/28/2017 – Ongoing

Changes in sensor readings related to the detected issues

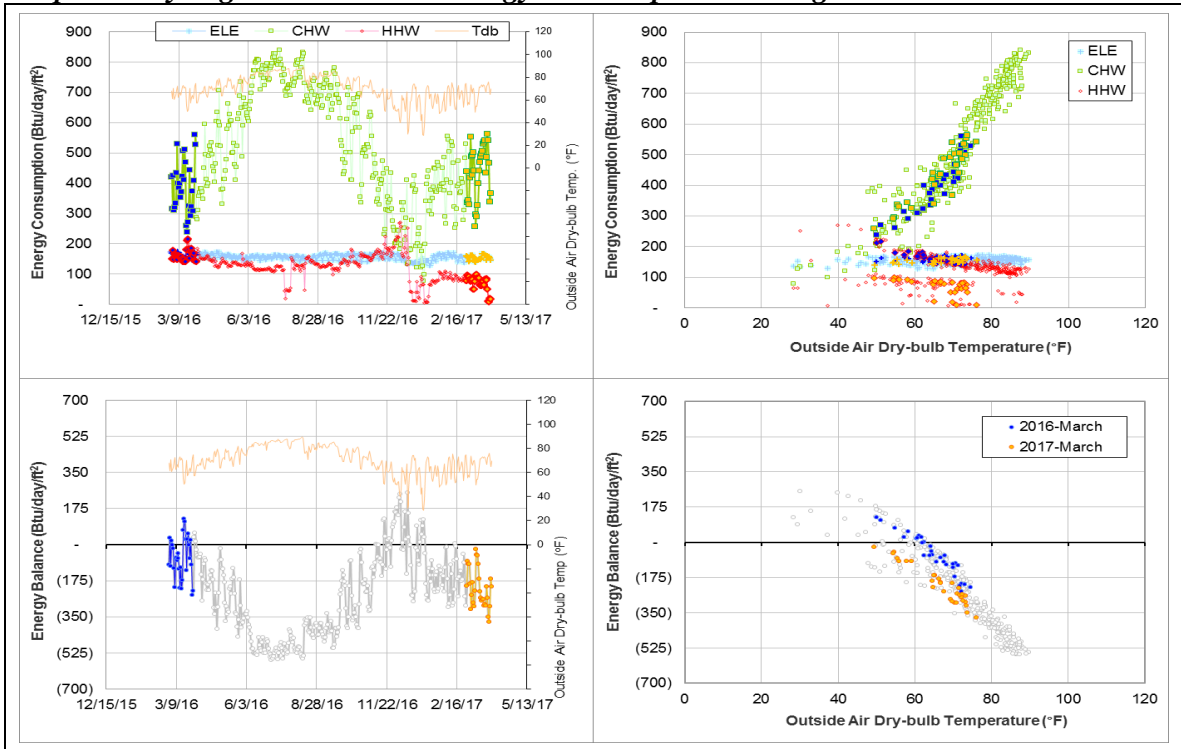
Energy Type	Meter ID	Period	Type	Description
HHW	006900	12/19/2017 – 1/13/2017	Flow Rate	Faulty, Constant value
		12/19/2017 – Ongoing	Supply Temperature	Faulty, Constant value
			Return Temperature	Faulty, Constant value
	006917	2/1/2017 – Ongoing	Flow Rate	Gradually increasing
3/28/2017 – Ongoing		Delta-T	Near zero values	

Quantitative descriptions and comments

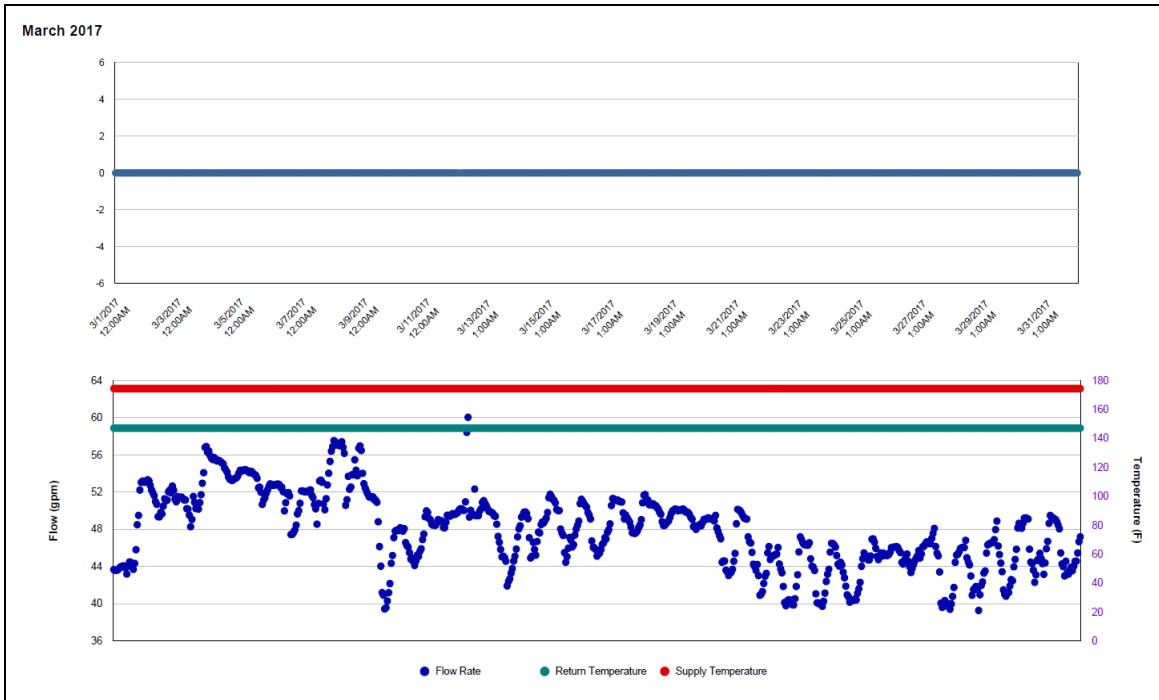
There are two HHW meters (#006900 and #006917) for this building. Starting 12/19/2016, for HHW meter #006900, the consumption suddenly decreased and remained at zero caused by faulty flow rate and constant supply and return temperature values (supply 174°F, return 147°F). The flow rate returned on 1/13/2017, but the temperature sensors still maintain a constant value. The HHW for March was estimated by model for this meter.

The HHW consumption pattern for meter #006917 has shown an increase in consumption starting Feb 2017. The increase is more apparent during the warmer temperatures. The HHW flow rate appears to be gradual increasing. Starting 3/28/2017 a second issue appeared, the Delta-T was reduced to around 0-2°F. The HHW consumption was estimated by model for the month of March for this meter.

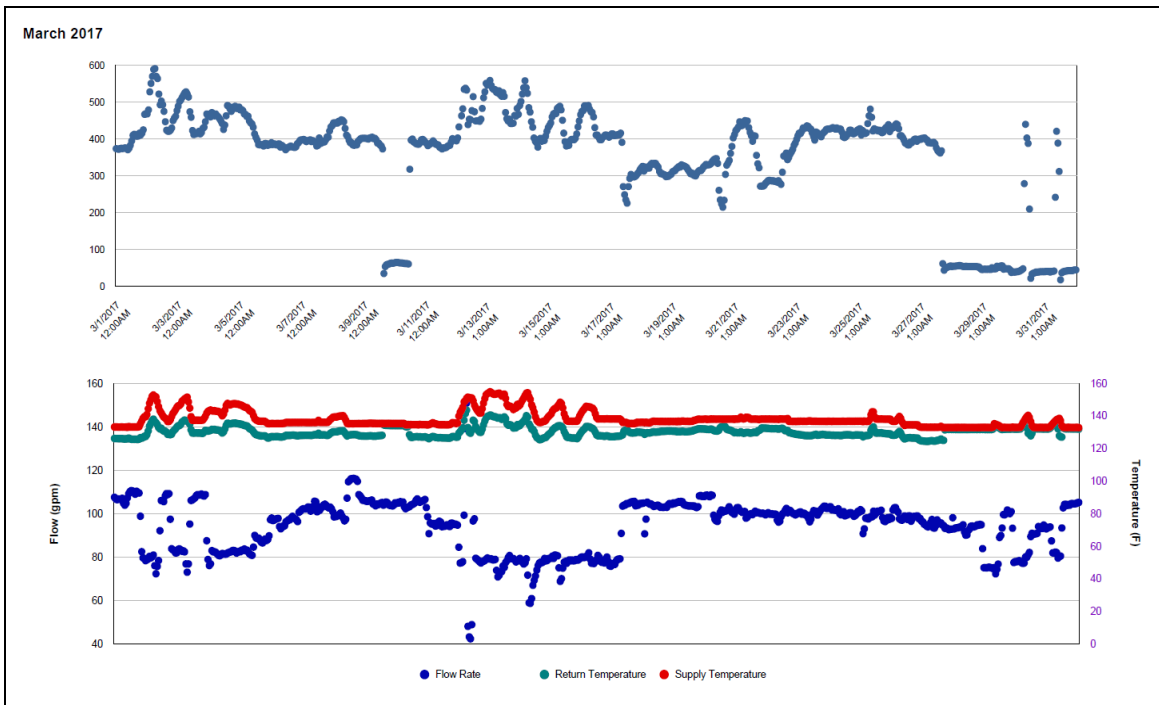
Explanatory Figure: 13 months energy balance plot with original data.



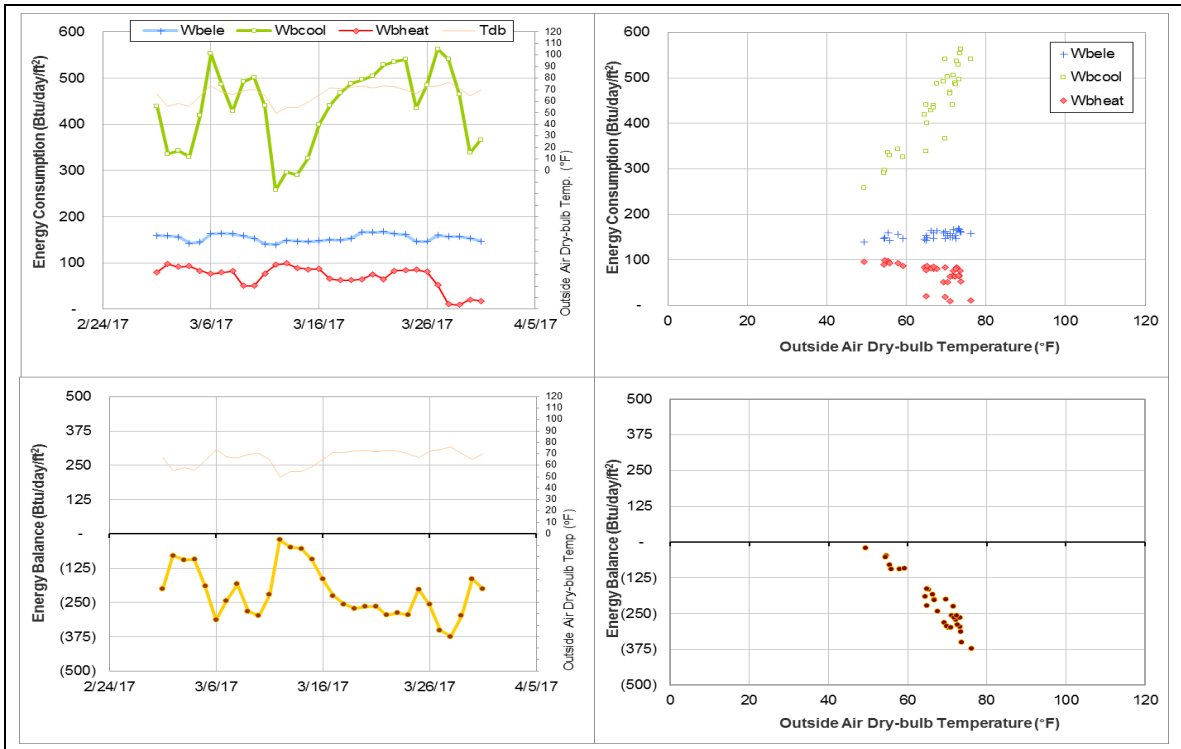
Explanatory Figure: Time series plots of MID 006900 hourly HHW energy consumption, flow, and supply/return temperatures from utilities office. (March 2017)



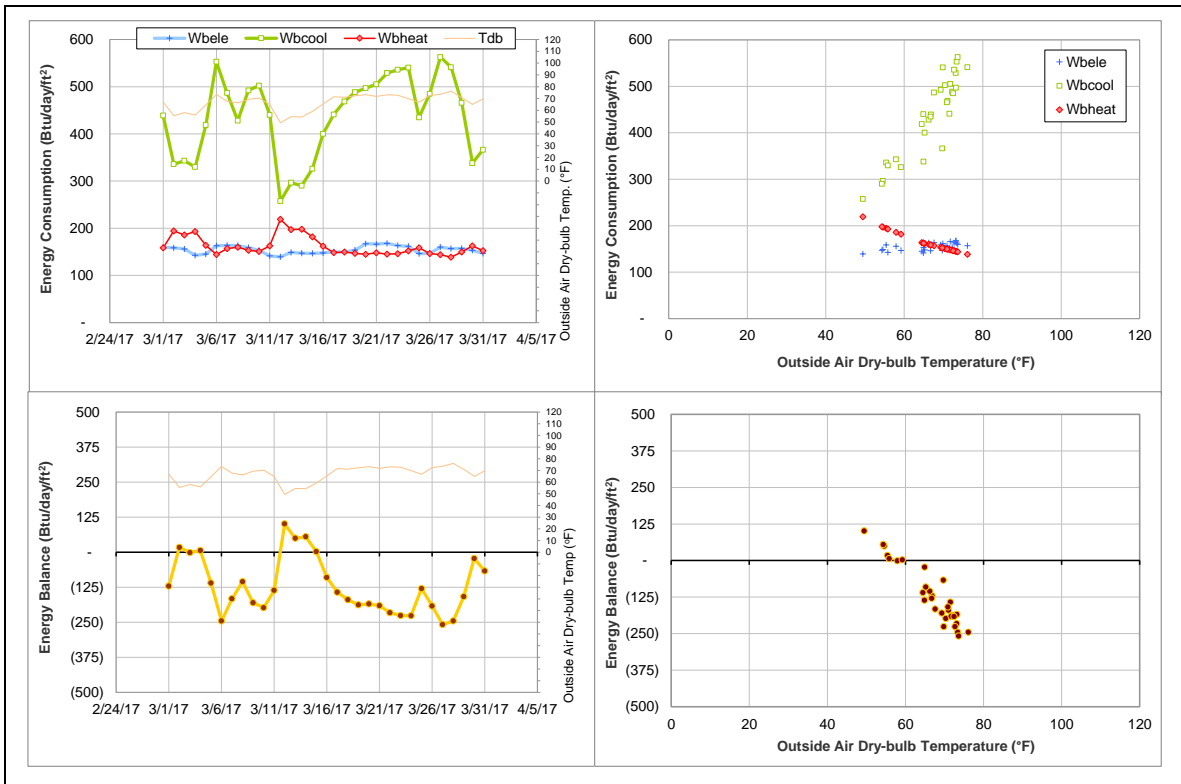
Explanatory Figure: Time series plots of MID 006917 hourly HHW energy consumption, flow, and supply/return temperatures from utilities office. (March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Engineering Innovation Center (TAMU Bldg #499)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	002672	31	3/1/2017 – 3/31/2017	Model
HHW	002683	9	3/1/2017 – 3/9/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The CHW consumption decreased.	2/21/2017 – Ongoing
HHW	The HHW consumption decreased.	2/21/2017 – 3/9/2017

Changes in sensor readings related to the detected issues

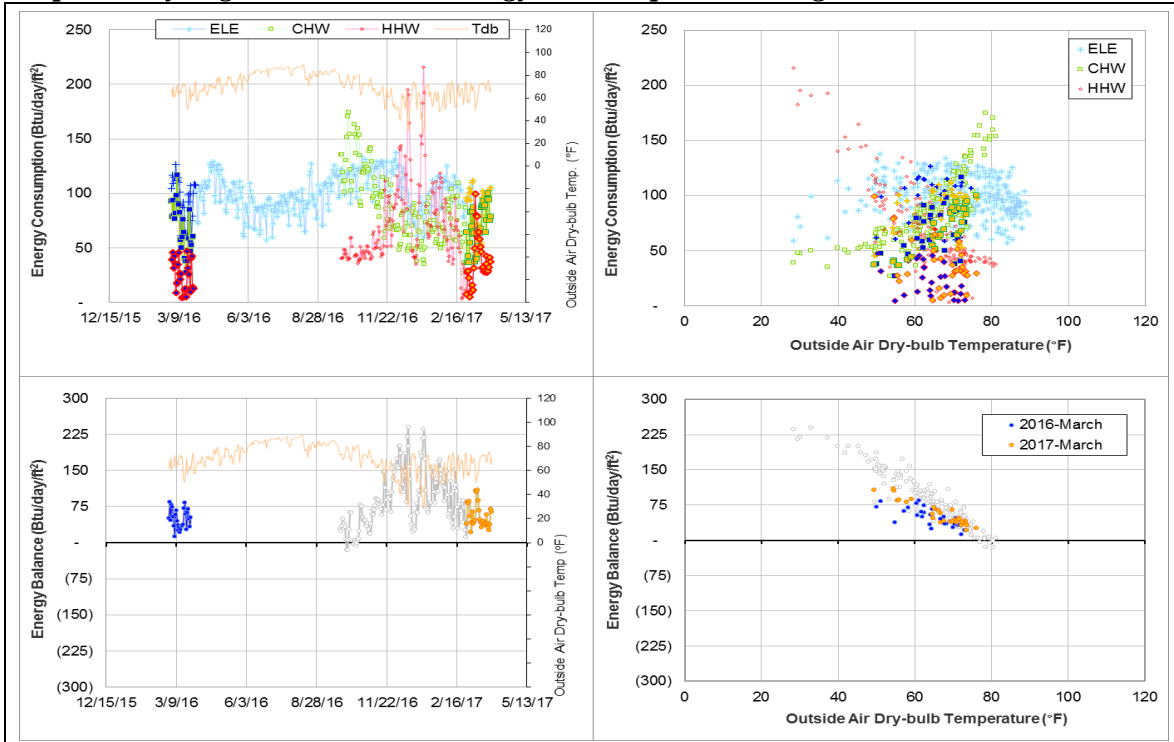
Energy Type	Meter ID	Period	Type	Description
CHW	002672	2/21/2017 – Ongoing	Flow Rate	Decreased
HHW	002683	2/21/2017 – 3/9/2017	Delta-T	Decreased

Quantitative descriptions and comments

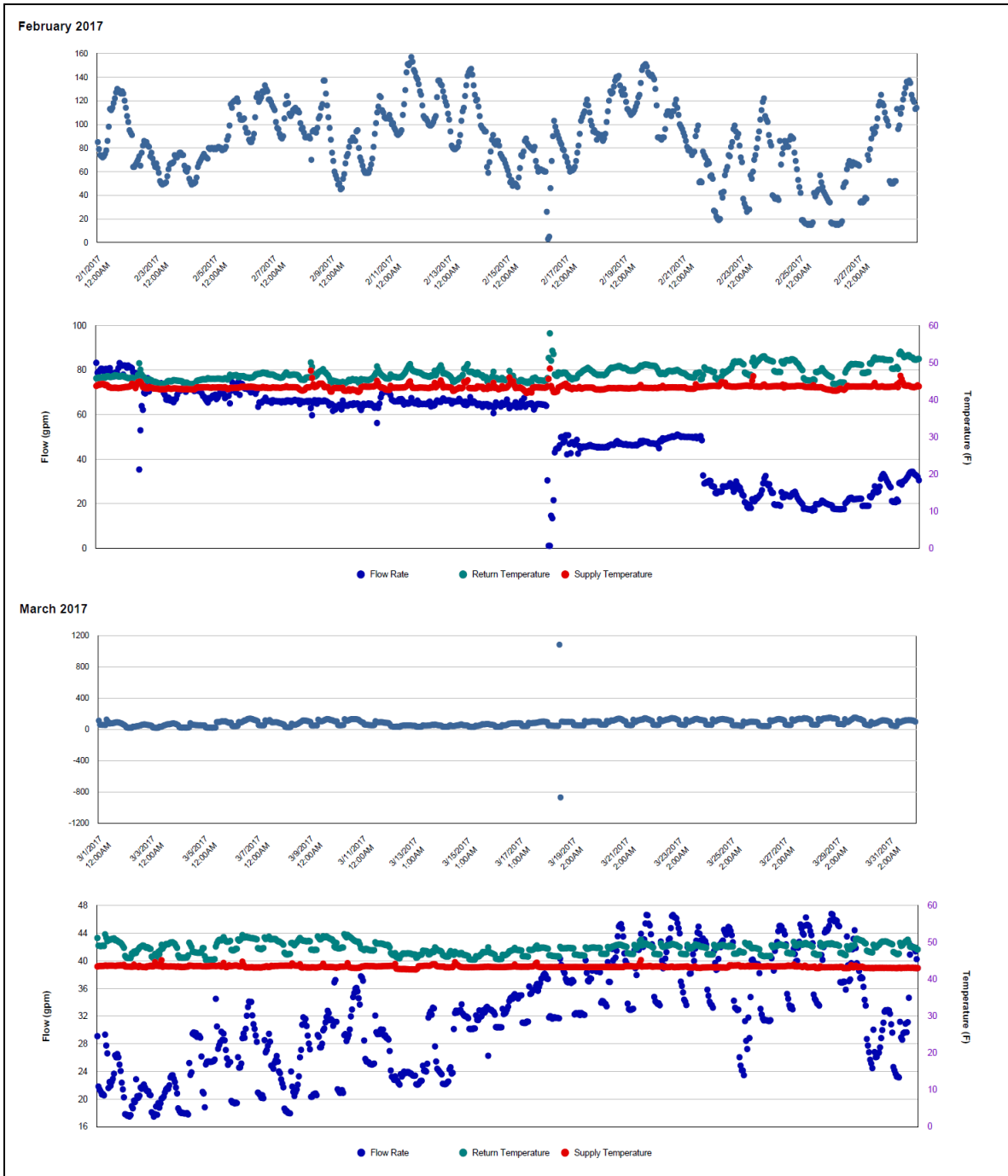
The CHW flow rate decreased recently on 2/21/2017 from 70-80 gpm to below 50 gpm. There was an overall increase in CHW return temperature of about 2°F for this period; however, the decrease in flow rate was enough to create a lower energy consumption pattern than that of the previous months. The CHW consumption for March was estimated by model.

The HHW delta-T decreased to near zero starting 2/21/2017 and returned to higher values on 3/10/2017. The HHW consumption for the first 9 days of March was estimated by model.

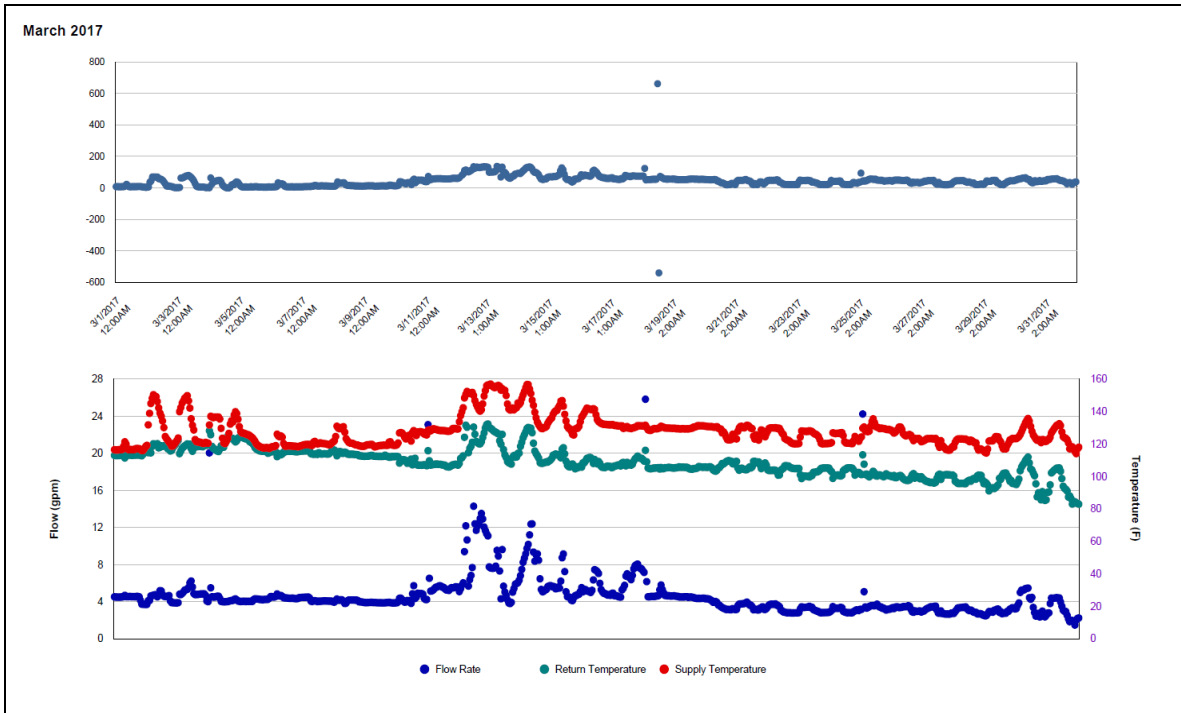
Explanatory Figure: 13 months energy balance plot with original data.



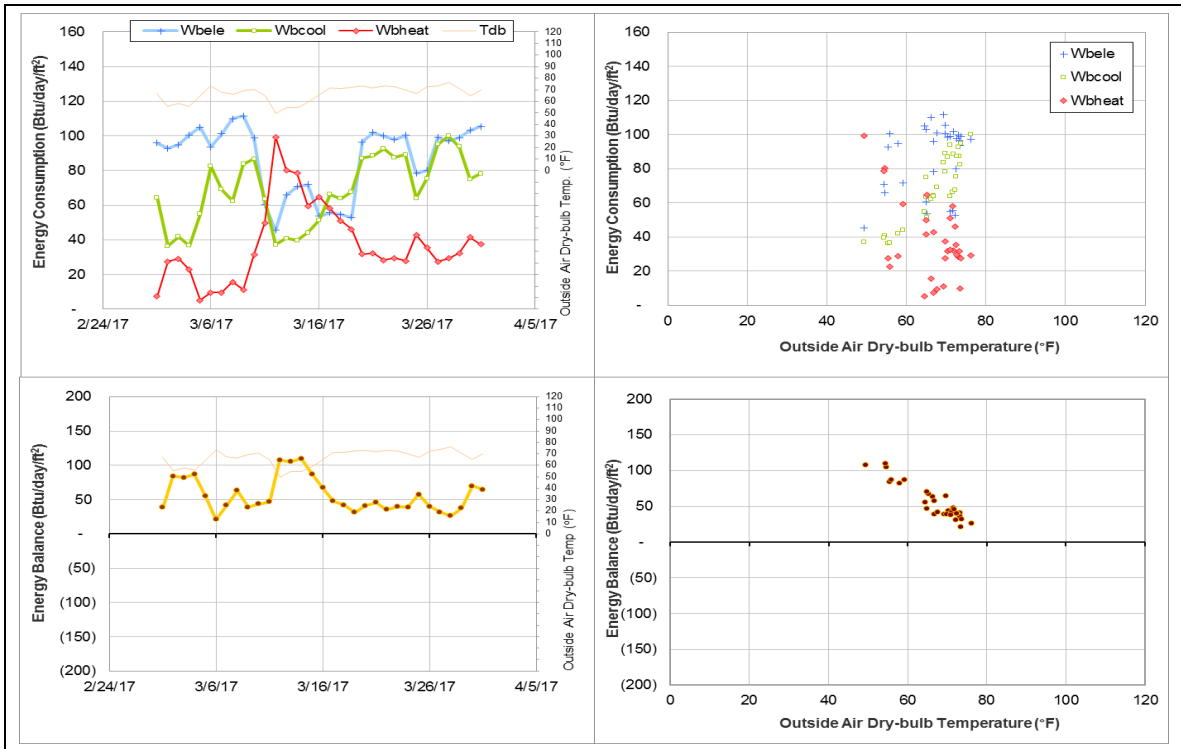
Explanatory Figure: Time series plots of hourly CHW energy consumption, flow, and supply/return temperatures from utilities office. (Top: February 2017, Bottom: March 2017)



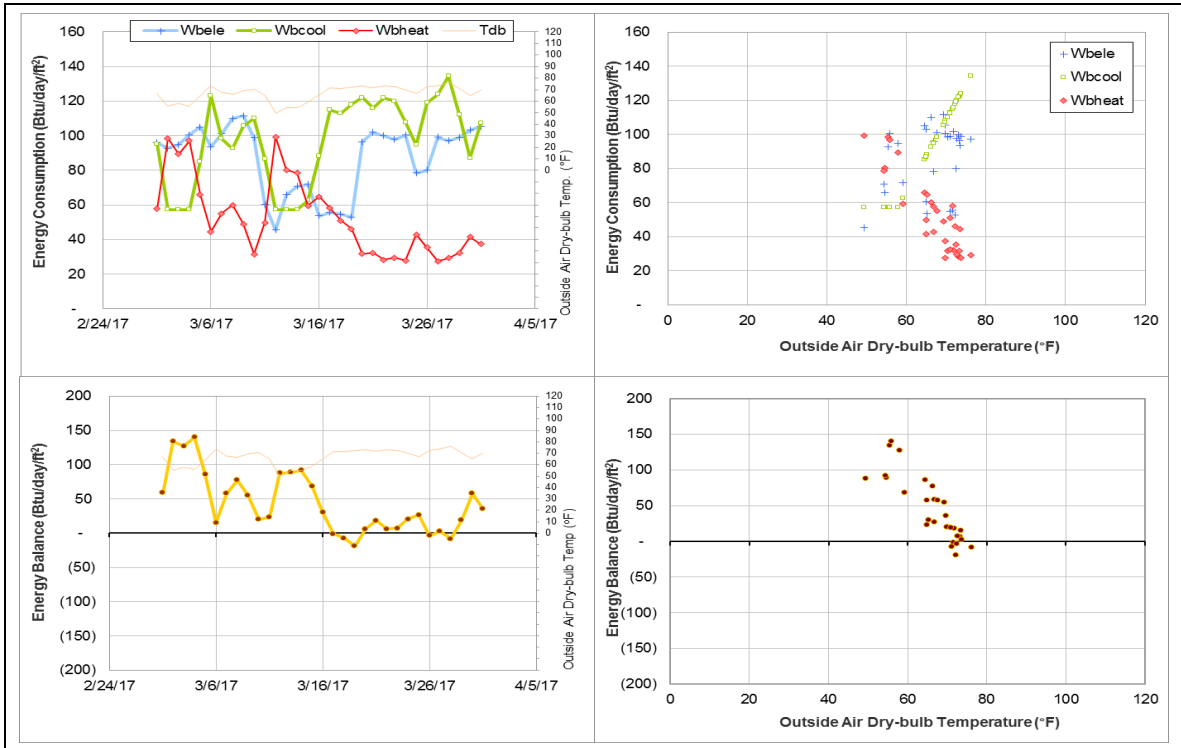
Explanatory Figure: Time series plots of hourly HHW energy consumption, flow, and supply/return temperatures from utilities office. (March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Veterinary Medical Science Building (TAMU Bldg #507)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003640	8	3/15/2017 – 3/22/2017	Model
HHW	003644	8	3/15/2017 – 3/22/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The metered values appear to be faulty.	3/15/2017 – 3/22/2017
HHW	The metered values appear to be faulty.	3/15/2017 – 3/22/2017

Changes in sensor readings related to the detected issues

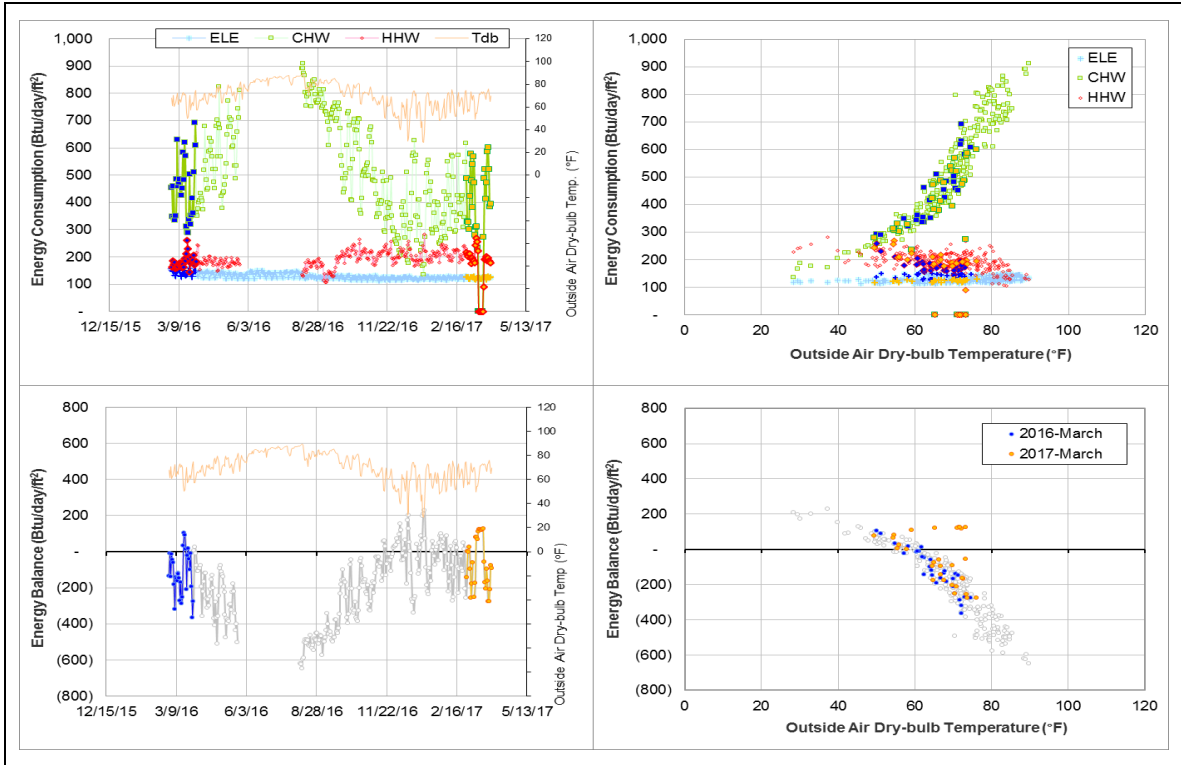
Energy Type	Meter ID	Period	Type	Description
CHW	003640	3/15/2017 – 3/22/2017	Flow Rate	Faulty, Zero value
			Supply Temperature	Faulty, Constant value
			Return Temperature	Faulty, Constant value
HHW	003644	3/15/2017 – 3/22/2017	Flow Rate	Faulty, Zero value
			Supply Temperature	Faulty, Constant value
			Return Temperature	Faulty, Constant value

Quantitative descriptions and comments

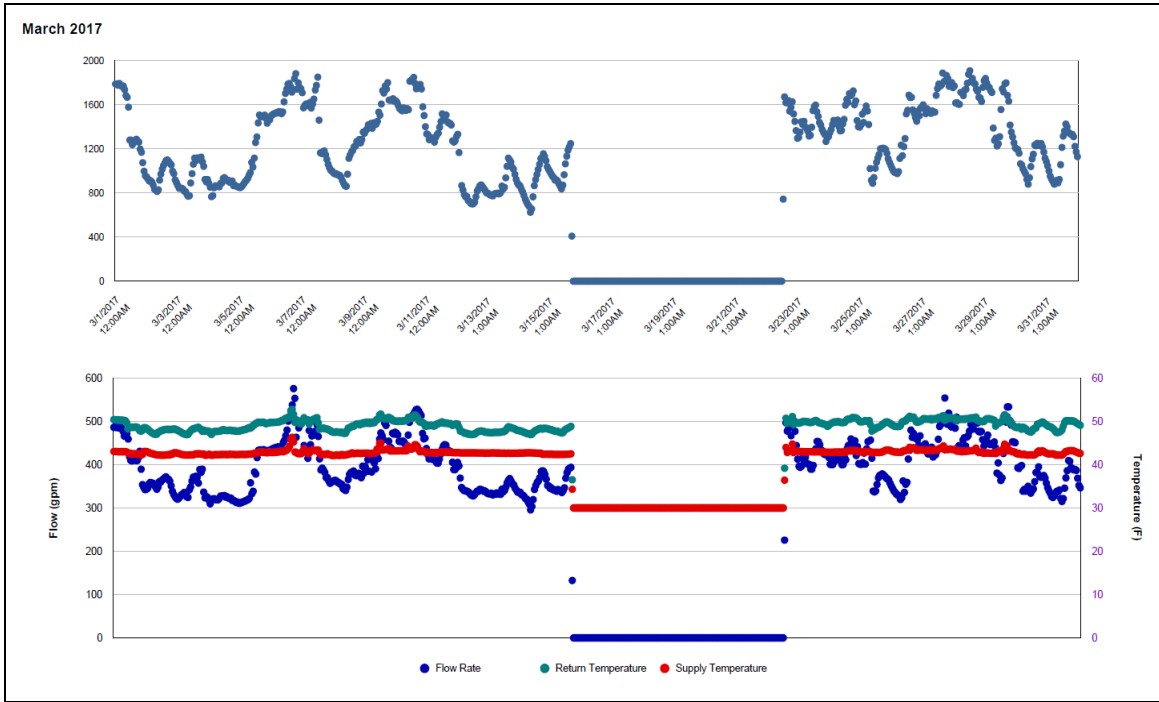
For the period 3/15/2017 – 3/22/2017, the CHW flow rate decreased to zero and both supply and return temperatures maintained a constant value of 30°F. After 3/22/2017, the flow rate and temperatures appear to have returned to normal. The CHW for this period was estimated by model.

For the same period, the HHW flow rate decreased to zero as well as both supply and return temperatures. After 3/22/2017, the flow rate and temperatures appear to have returned to normal. The HHW for this period was estimated by model.

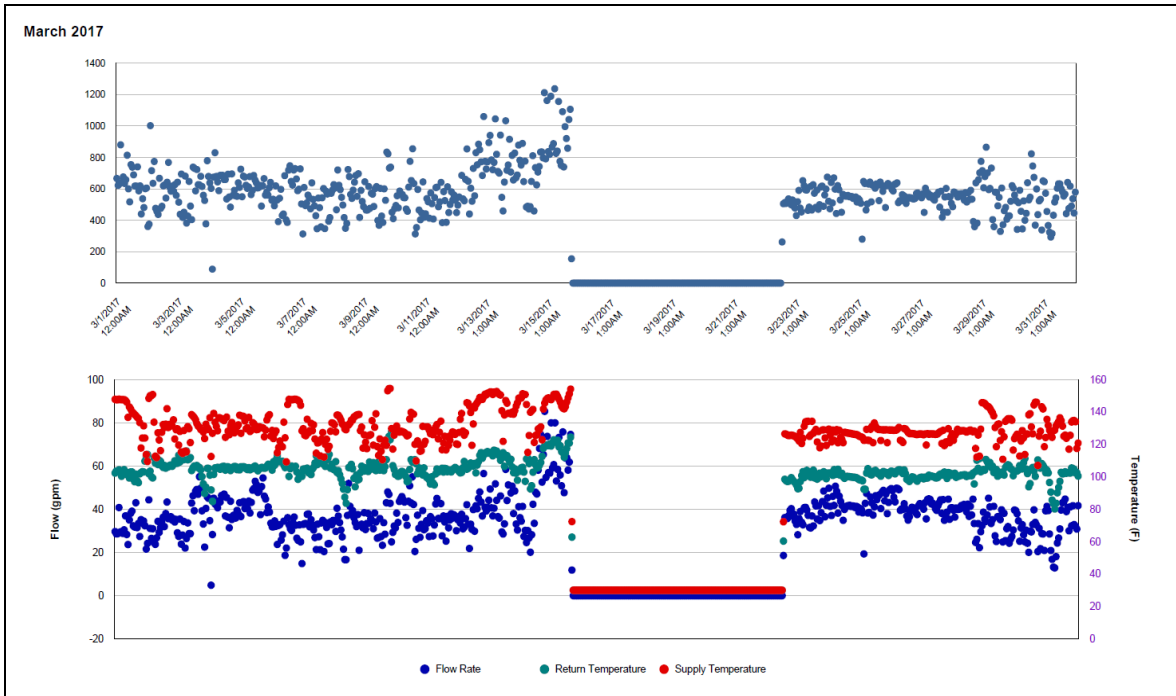
Explanatory Figure: 13 months energy balance plot with original data.



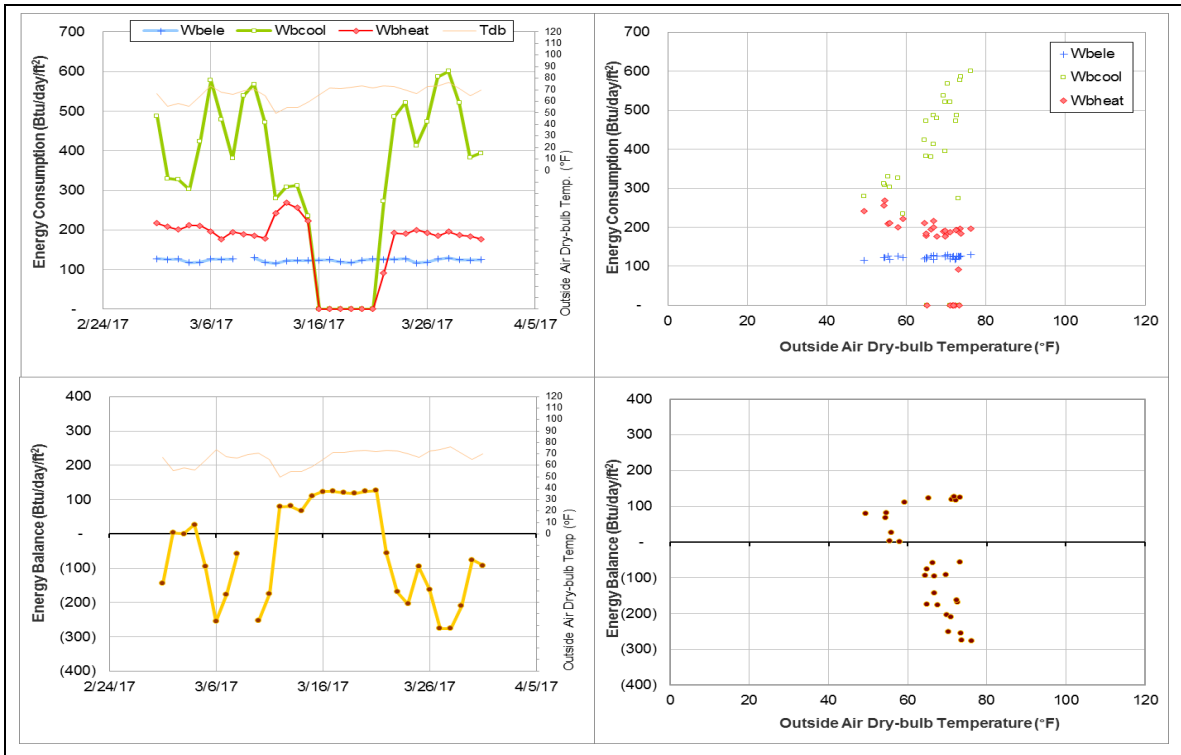
Explanatory Figure: Time series plots of hourly CHW energy consumption, flow rate, and supply and return temperatures from the utilities office. (March 2017)



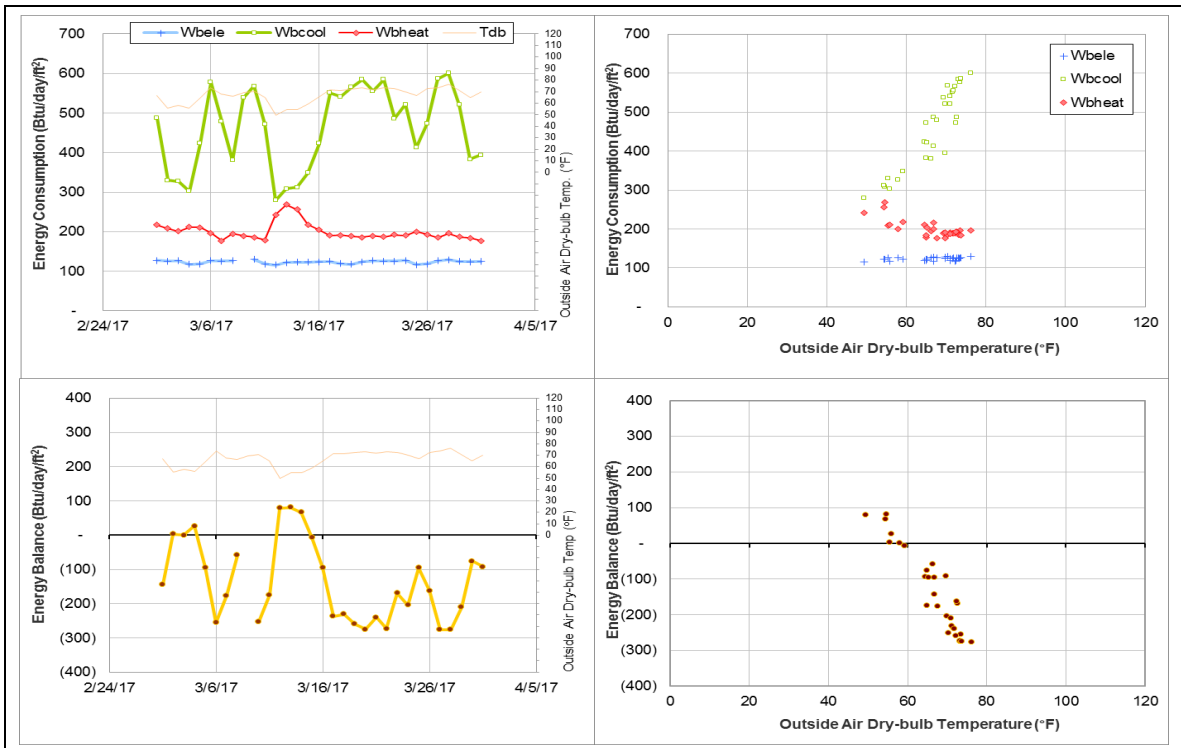
Explanatory Figure: Time series plots of hourly HHW energy consumption, flow rate, and supply and return temperatures from the utilities office. (March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



All Faiths Chapel (TAMU Bldg #512)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	004288	30	3/1/2017 – 3/30/2017	Model
HHW	004293	30	3/1/2017 – 3/30/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The CHW consumption increased.	1/12/2017 – Ongoing
HHW	The HHW consumption increased.	12/19/2016 – Ongoing

Changes in sensor readings related to the detected issues

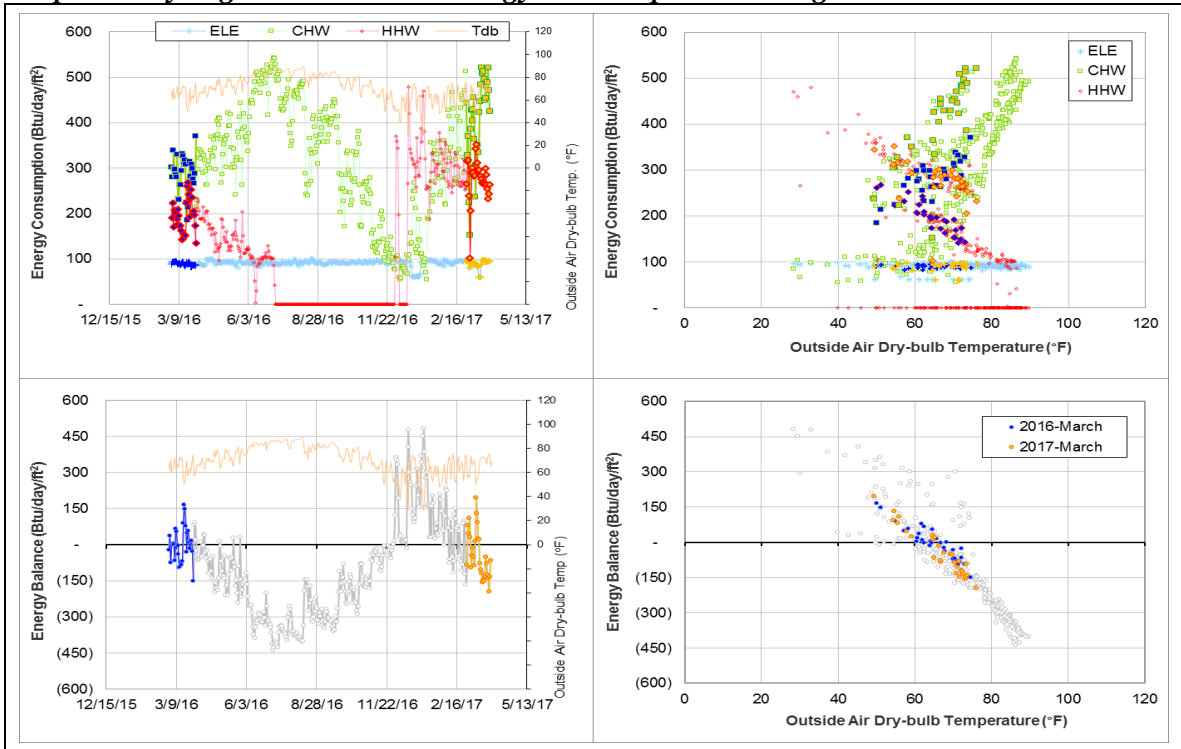
Energy Type	Meter ID	Period	Type	Description
CHW	004288	1/12/2017 – Ongoing	Delta-T	Sudden increase
HHW	004293	12/19/2016 – Ongoing	Flow rate	Increased

Quantitative descriptions and comments

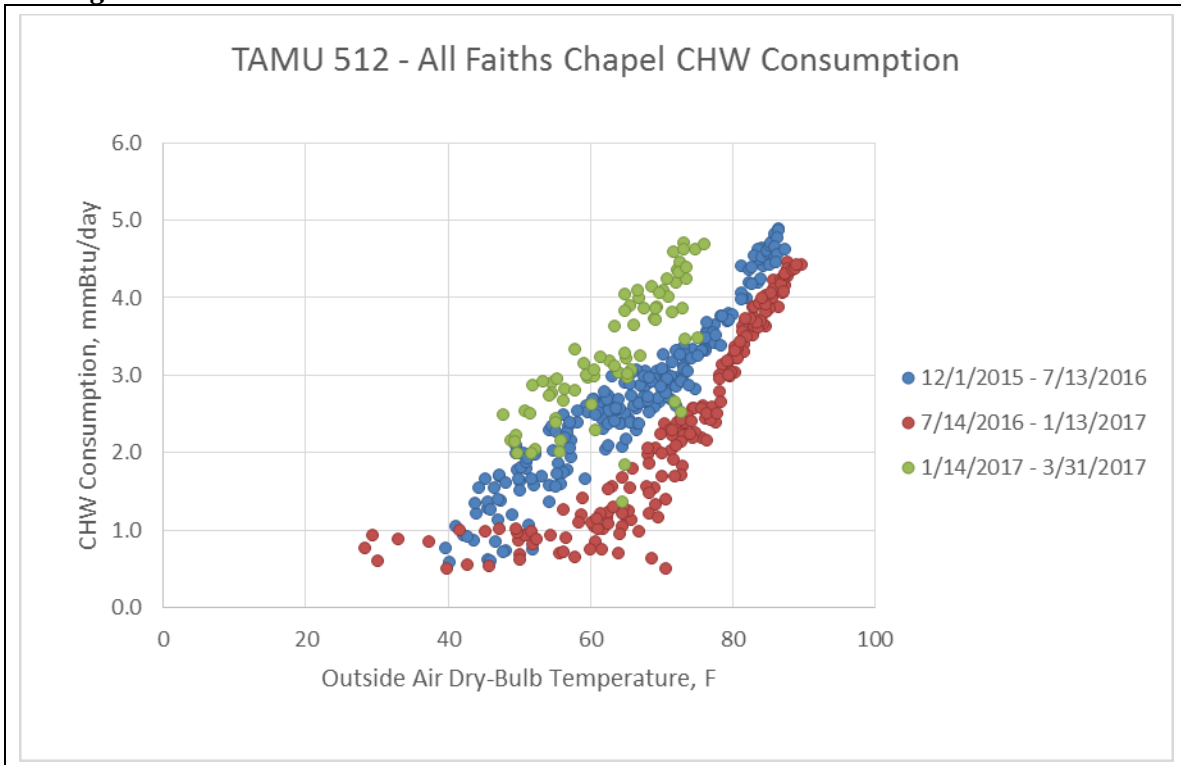
The HHW consumption suddenly decreased to zero on 7/14/2016 due to a zero reading of flow rate. Starting 12/19/2016, the HHW consumption level is higher than the previous trend. The HHW was estimated by model based on the data during 5/1/2015 – 5/31/2016.

The CHW consumption from 7/14/2016 to 1/13/2017 decreased dropping out of the main pattern possibly related with the zero use of HHW. Then on 1/14/2017, the CHW delta-T increased creating a higher consumption pattern. The CHW was estimated by model based on the data during 5/1/2015 – 5/31/2016.

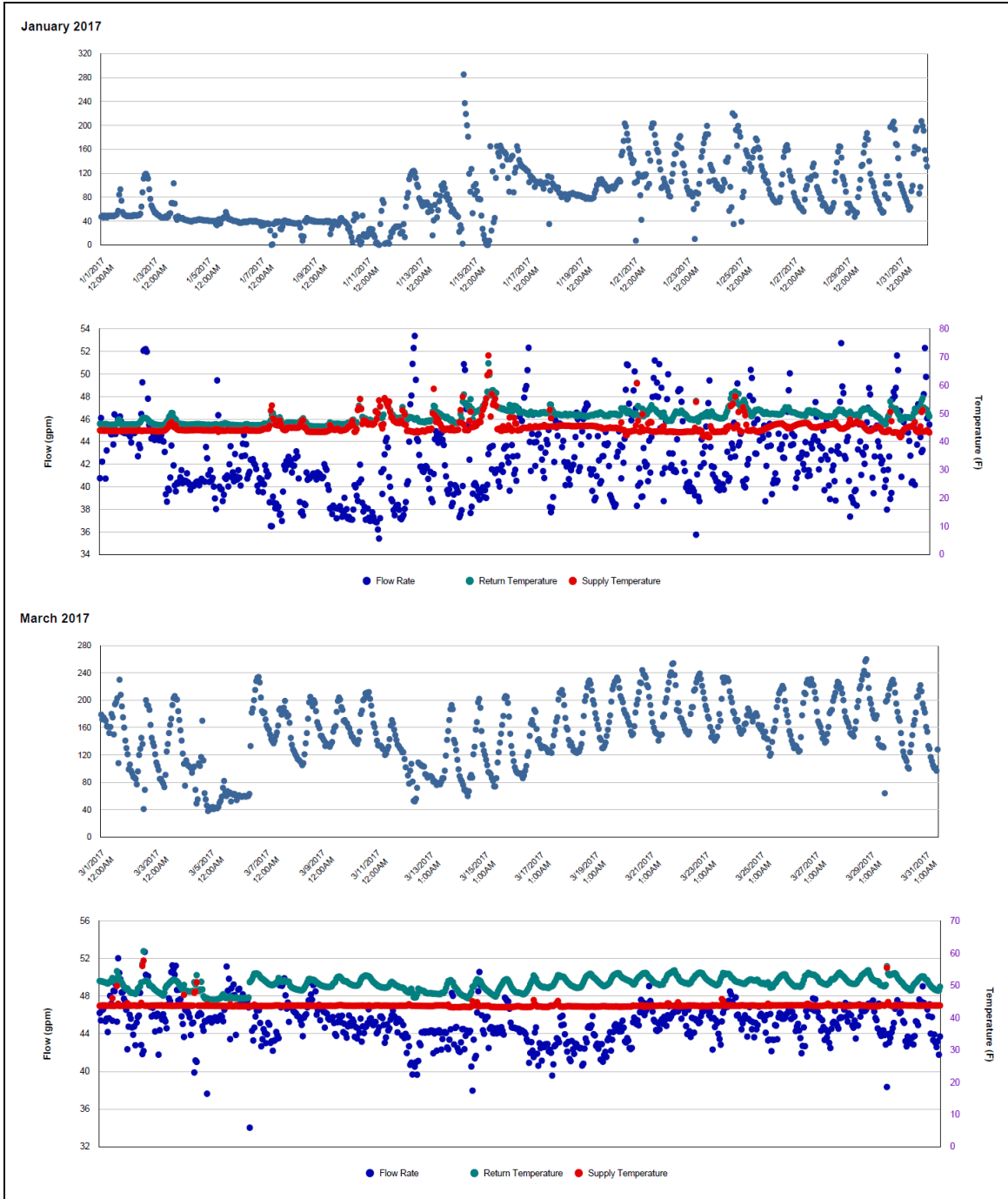
Explanatory Figure: 13 months energy balance plot with original data.



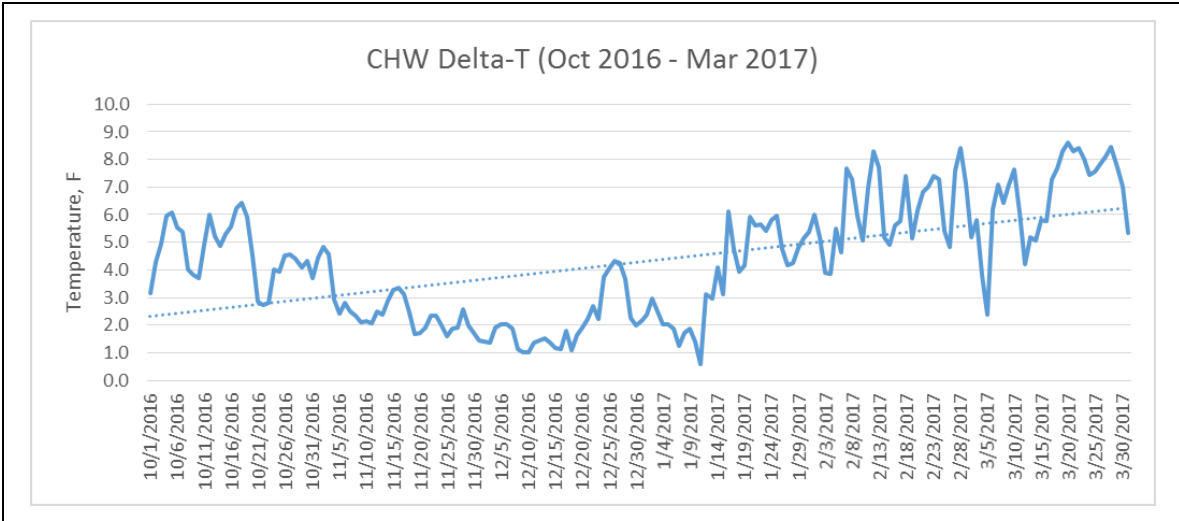
Explanatory Figure: CHW consumption versus outside air dry-bulb temperature during 12/1/2015 – 3/31/2017



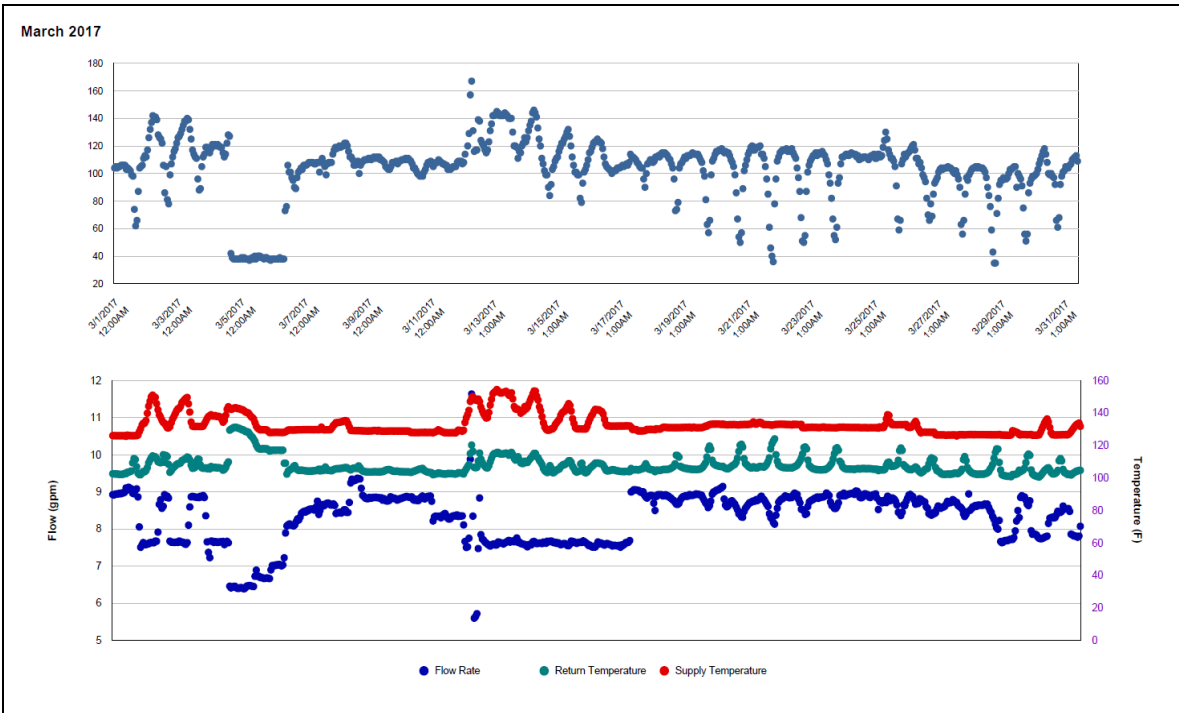
Explanatory Figure: Time series plots of hourly CHW energy consumption, flow, and supply/return temperatures from utilities office. (Top: January 2017, Bottom: March 2017)



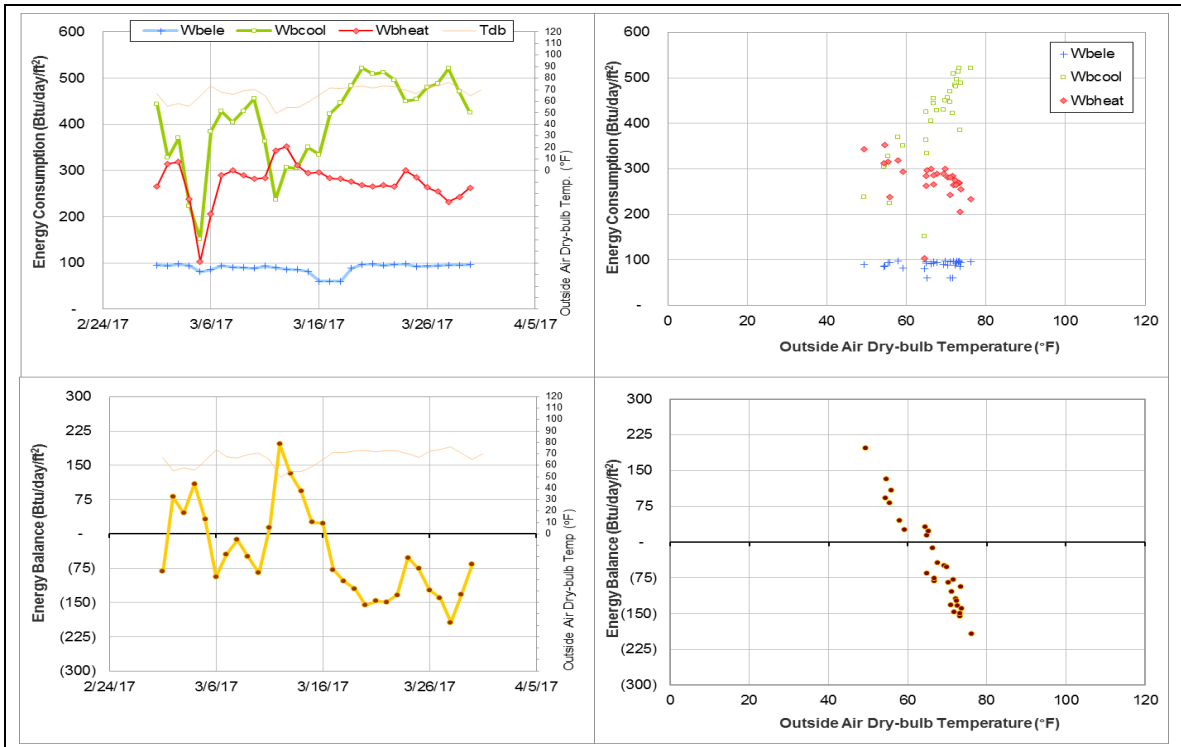
Explanatory Figure: Time series plot of hourly CHW Delta-T for Oct 2016 through March 2017.



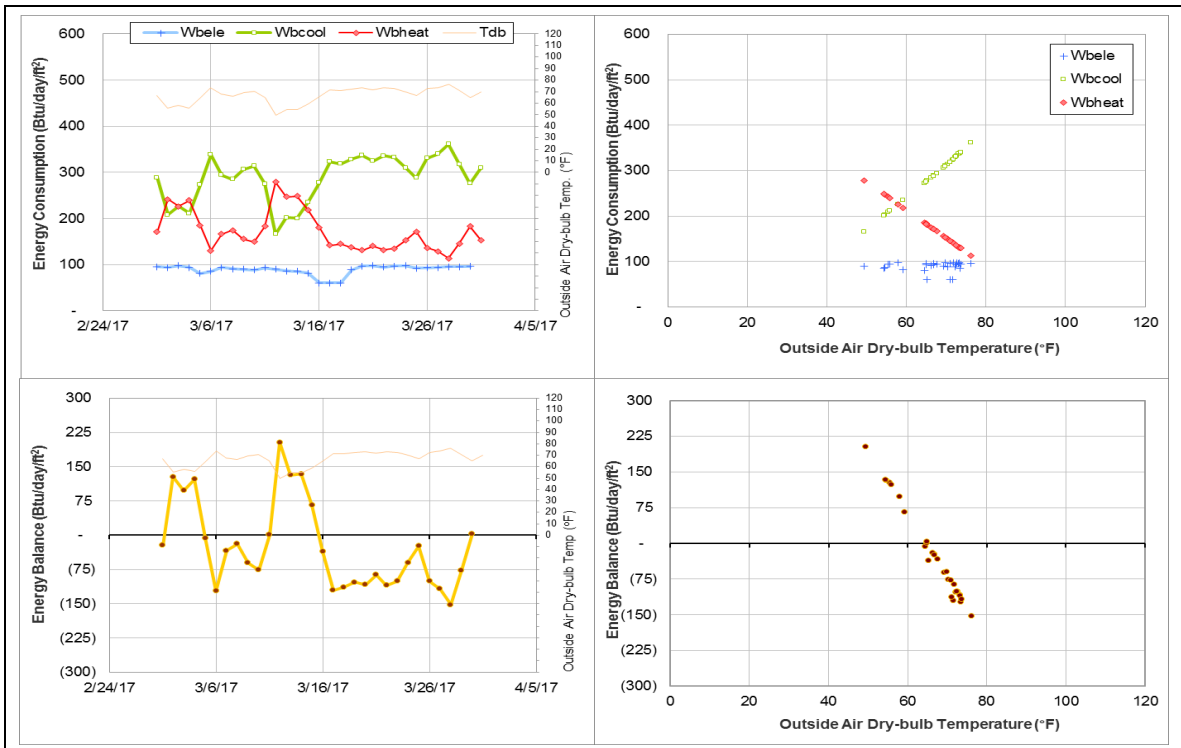
Explanatory Figure: Time series plots of hourly HHW energy consumption, flow, and supply/return temperatures from utilities office. (March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



McNew Laboratory (TAMU Bldg #740)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	005974	31	3/1/2017 – 3/31/2017	Model
HHW	005968	31	3/1/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The CHW consumption level increased.	2/1/2017 – Ongoing
HHW	The HHW consumption pattern is zero or low.	5/1/2016– Ongoing

Changes in sensor readings related to the detected issues

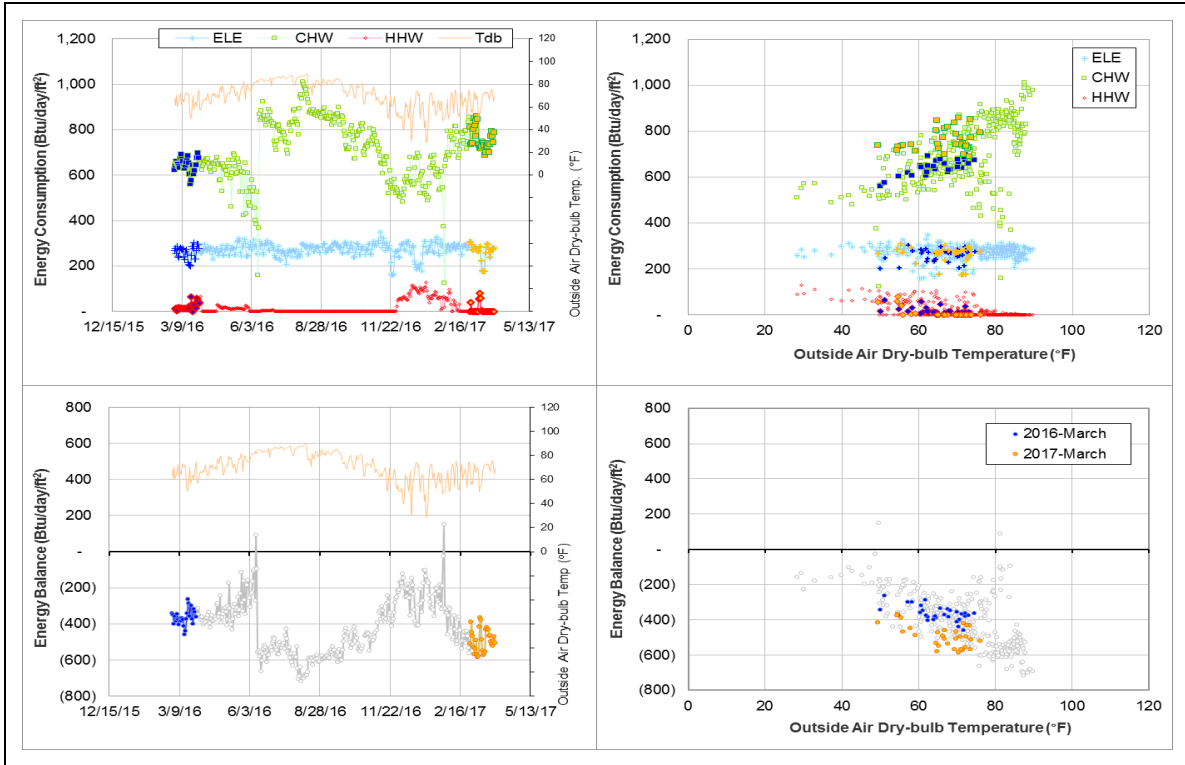
Energy Type	Meter ID	Period	Type	Description
CHW	005974	2/1/2017 – Ongoing	Supply Temperature	Faulty, Gradually decreasing
HHW	005968	5/1/2016 – Ongoing	Flow rate	Decrease to near zero values

Quantitative descriptions and comments

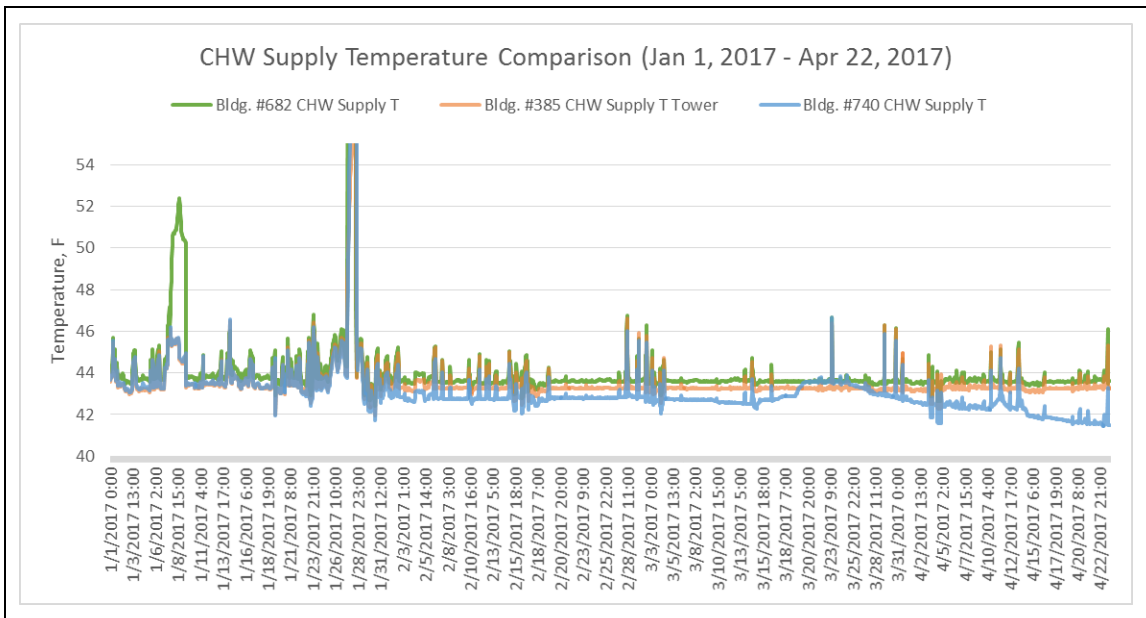
The CHW consumption level increased by about 150 Btu/day/ft² since Jan 2017. The CHW supply temperature sensor seems to be drifting gradually down and is currently 2°F lower than its neighboring buildings (Bldg. #682 Wisenbaker and Bldg. #385 CE/TTI Office). The explanatory figures below shows the temperature comparison of the three buildings and their location on the CHW distribution line. The CHW was estimated by model for the month.

From May 2016 through November 2016 and several days in February 2017, the HHW consumption has been near zero. Starting December 2016 the HHW consumption increased to a range of 56 – 128 Btu/day/ft², but this level may still be a little too low. The HHW was estimated by model based on the data during 1/1/2015 – 12/31/2015.

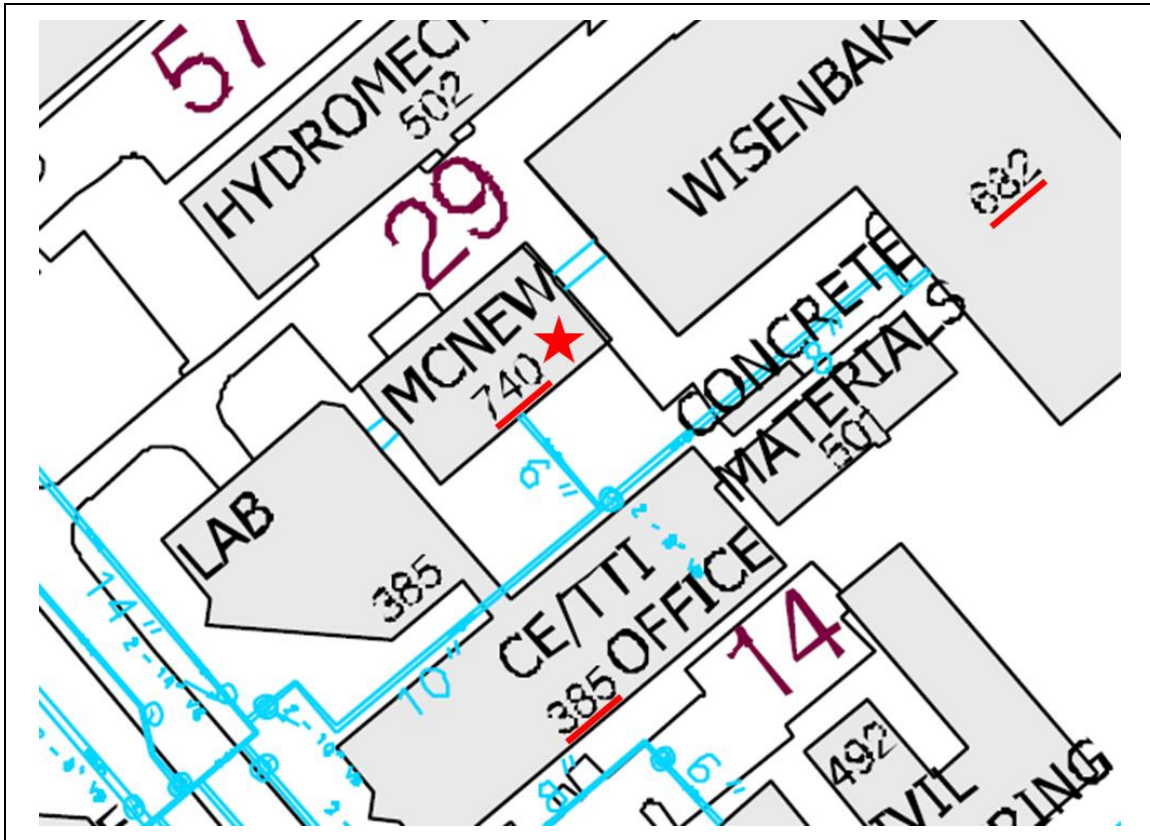
Explanatory Figure: 13 months energy balance plot with original data



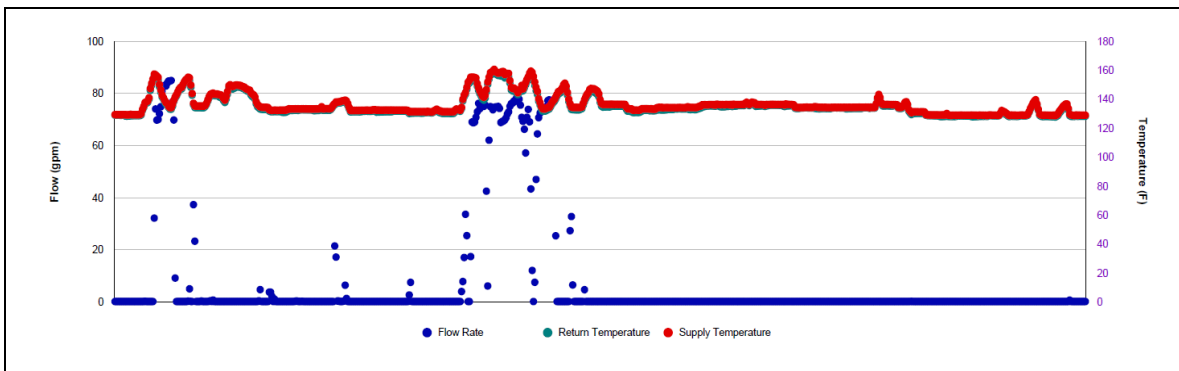
Explanatory Figure: Time series plot of hourly CHW supply temperatures comparison for Bldgs. #740 McNew Laboratory, #682 Wisenbaker, and #385 CE/TTI Office during Jan 1, 2017 – Apr 22, 2017.



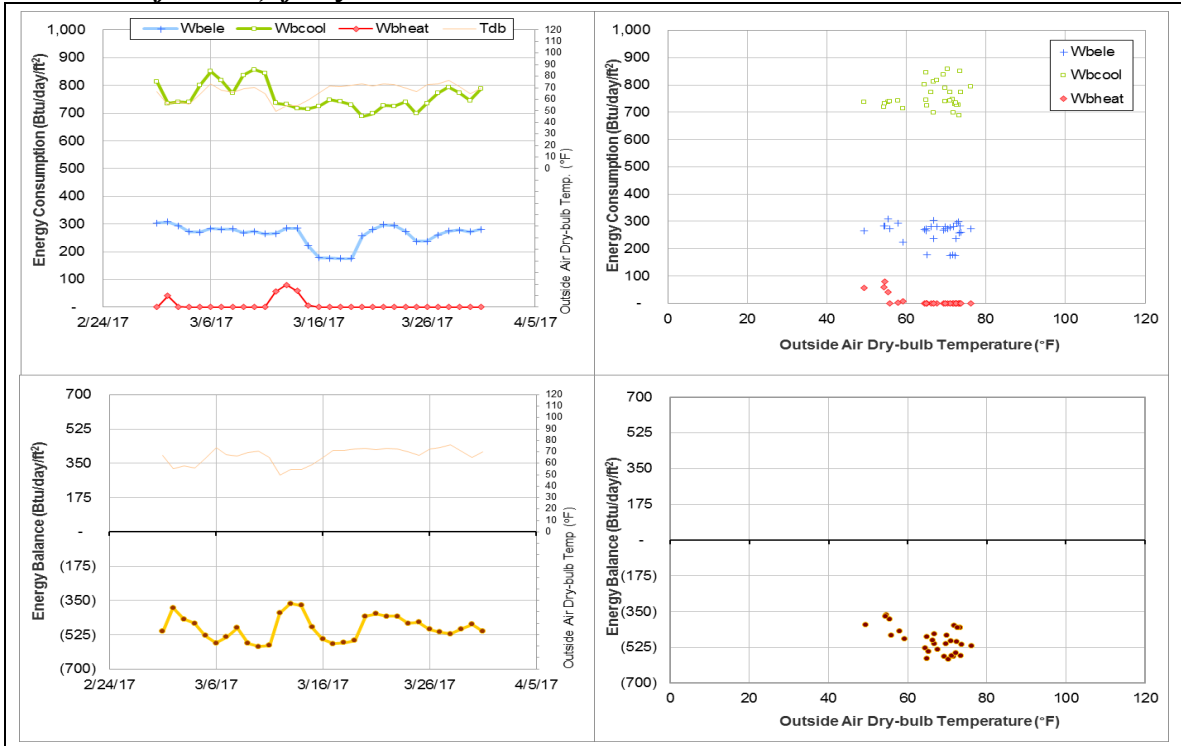
Explanatory Figure: CHW distribution with Bldgs. #740 McNew Laboratory, #682 Wisenbaker, and #385 CE/TTI Office during highlighted.



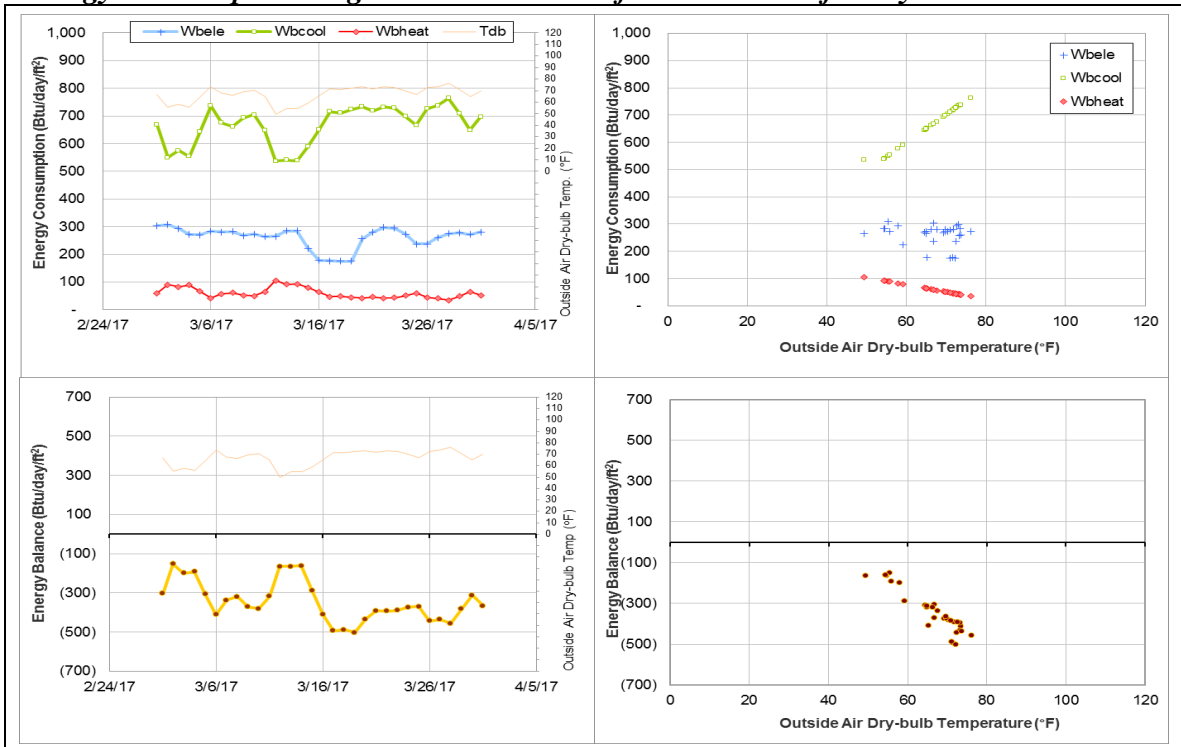
Explanatory Figure: Time series plots of hourly HHW energy consumption, flow rate, and supply and return temperatures from utilities office. (March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Entomology Research Lab (TAMU Bldg #815)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005799	31	3/1/2017 – 3/31/2017	Model

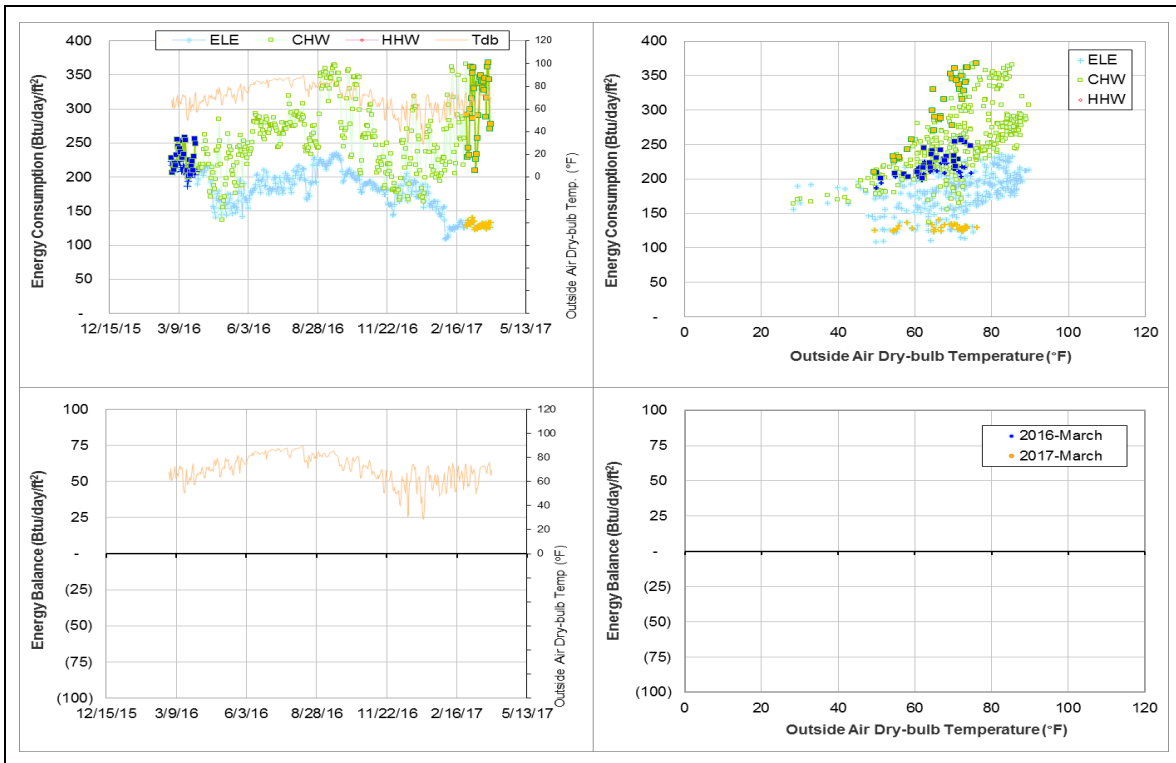
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption level has decreased suddenly.	2/2/2017 – Ongoing

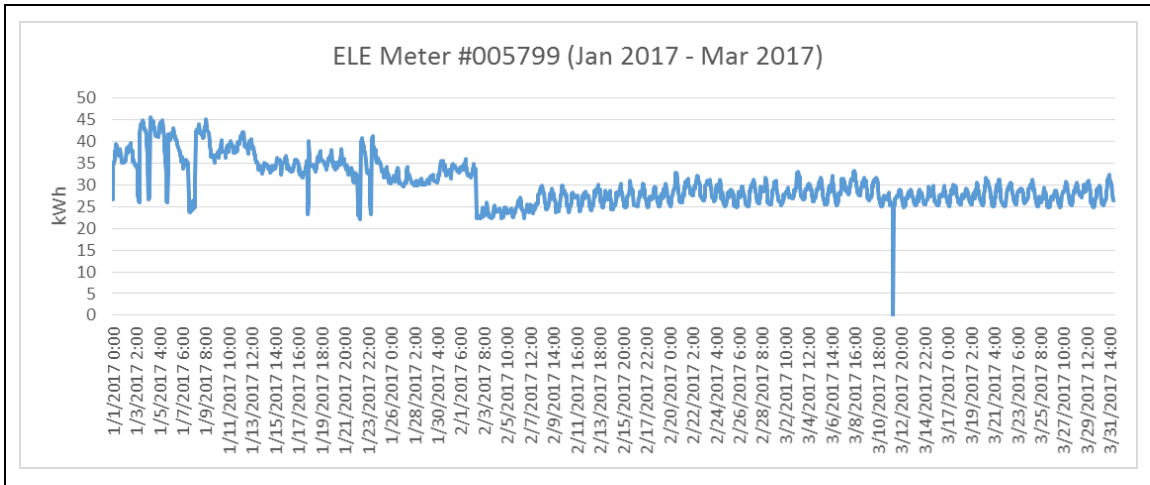
Quantitative descriptions and comments

The ELE consumption level suddenly dropped on 2/2/2017 by approximately 10 kWh/h (~30%). After that, no clear temperature dependence was observed.

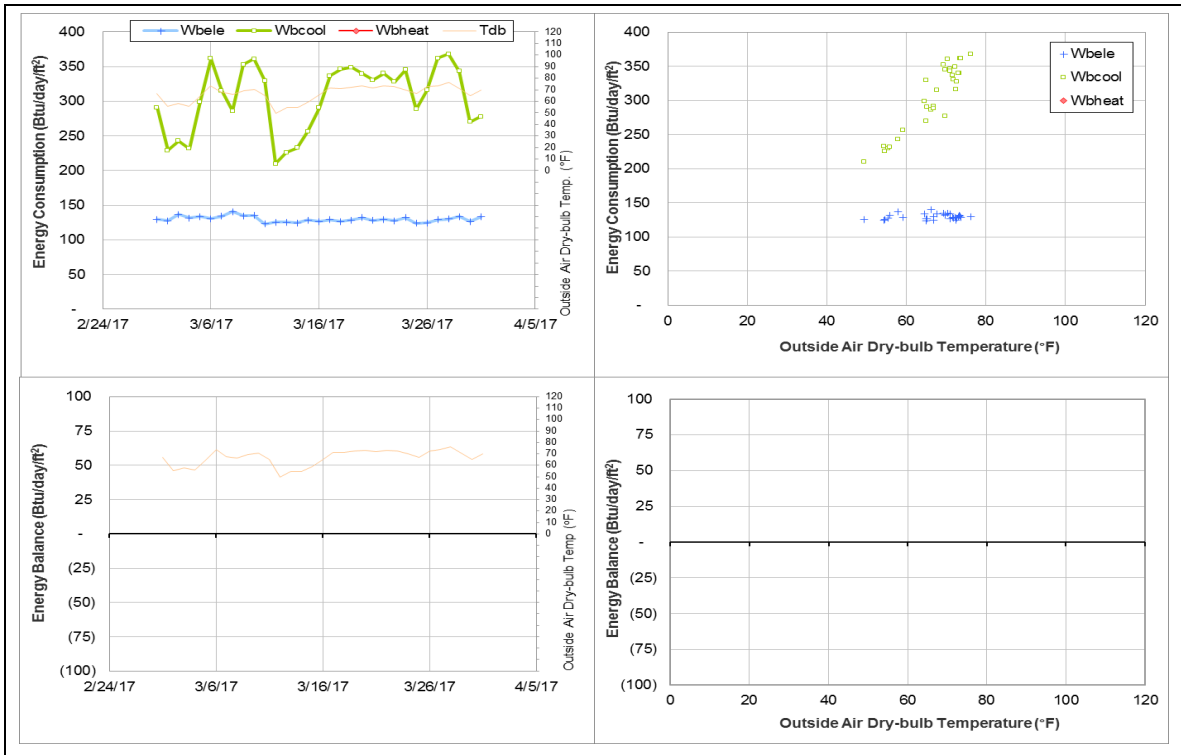
Explanatory Figure: 13 months energy balance plot with original data.



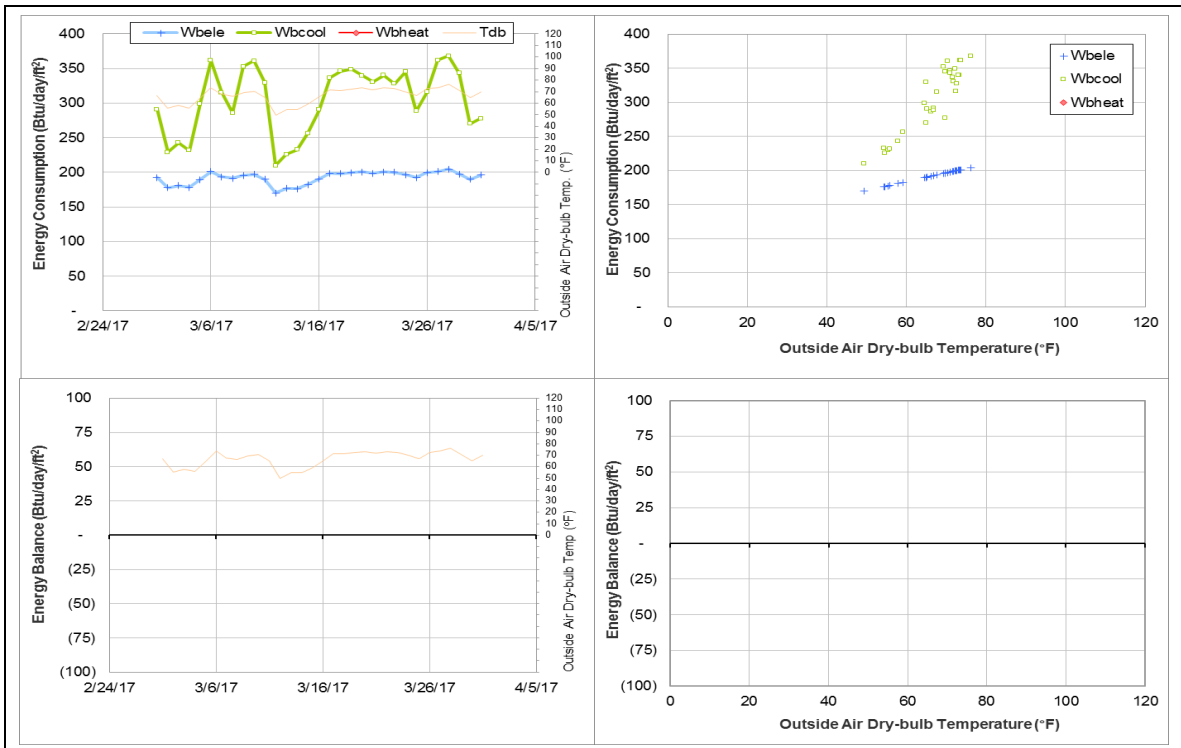
Explanatory Figure: Time series plot of hourly ELE consumption for meter #005799.



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Vivarium III (TAMU Bldg #1020)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	005997	31	3/1/2017 – 3/31/2017	Model
HHW	006001	31	3/1/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The CHW consumption pattern level has increased and flattened out at cooler temperatures.	1/14/2016 – Ongoing
HHW	The HHW consumption is too low.	12/1/2015 – Ongoing
Energy Balance	The energy balance is too low.	12/1/2015 – Ongoing

Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	005997	12/1/2016 – Ongoing	Delta-T	Increased
HHW	006001	12/1/2015 – Ongoing	Flow rate	Periods of near zero

Quantitative descriptions and comments

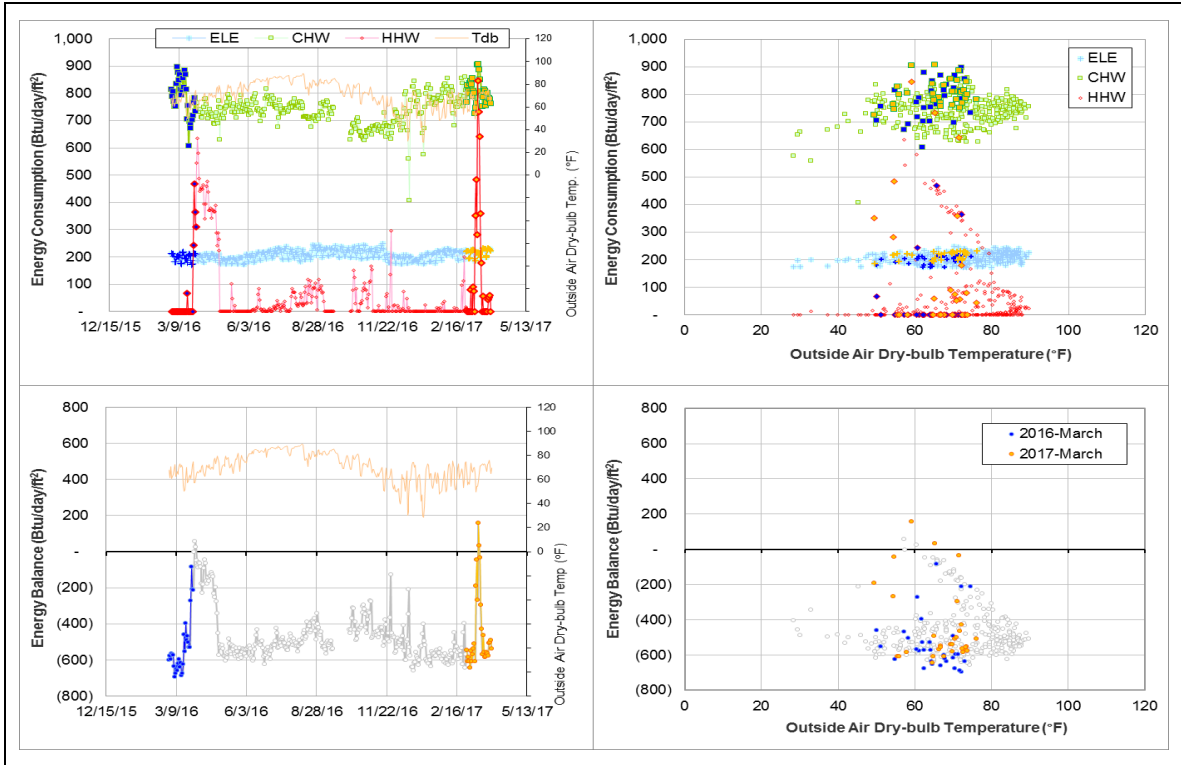
The CHW consumption pattern has increased and flattened out at cooler temperatures starting 1/14/2016. On this day, the CHW Delta-T increased and continues to remain at this higher value. This appears to be a long-term issue resulting in CHW estimates since January 2016 with the exception of the summer period June 2016 – August 2016.

In addition, the HHW consumption is lower than expected for this building. The flow rate is near zero for most of the month. This has been a long-term issue over the past 14 months resulting in HHW estimates. The exceptions being May, which had a flow rate range of 25-65 gpm, and a few days in March 2017. Another exception, the summer period of June 2016 – August 2016, where we would expect low consumption.

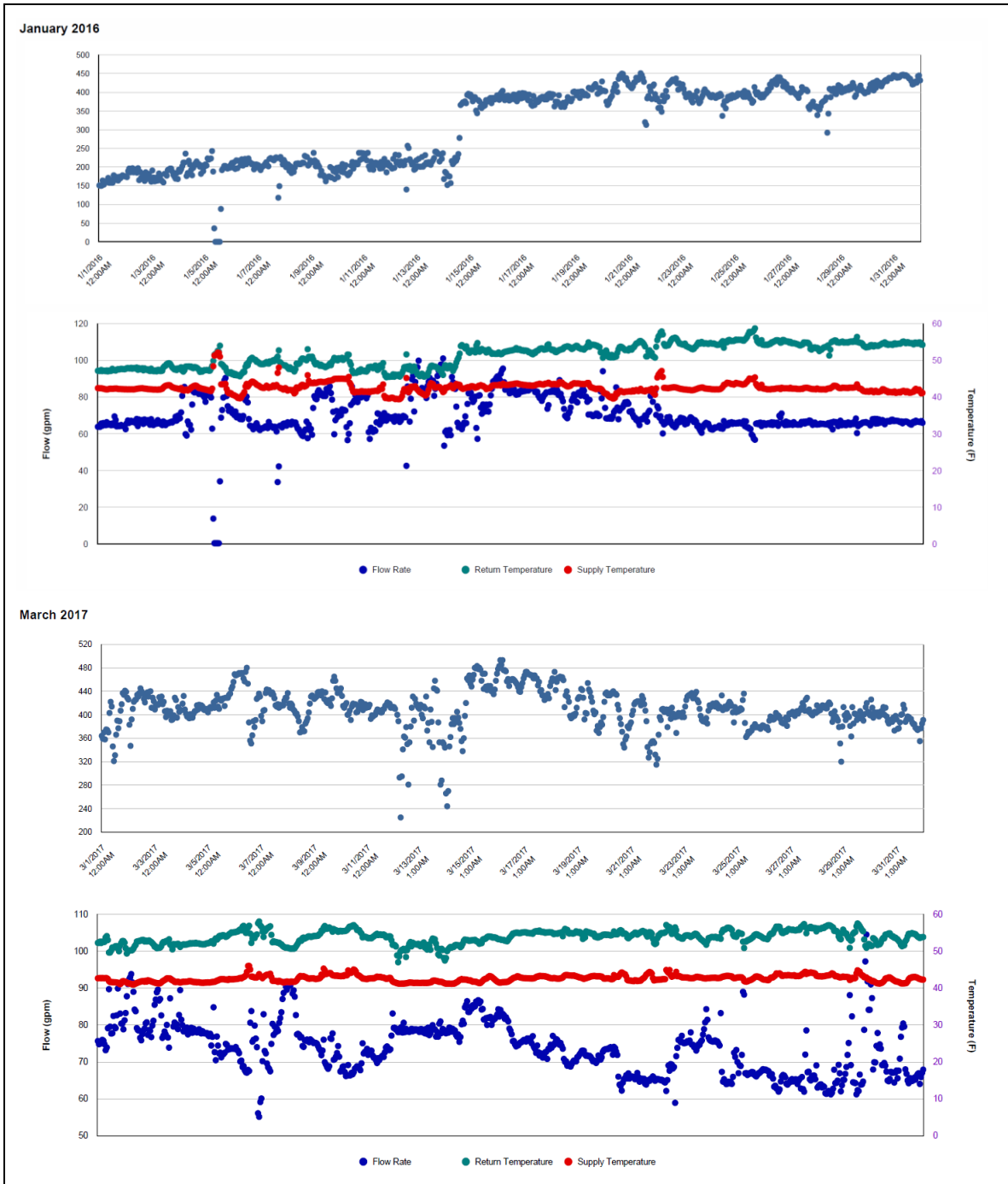
The resulting energy balance with the high CHW consumption and low HHW consumption is too low and does not reach a zero balance at any outside temperature.

Both CHW and HHW consumption for the current month were estimated by model.

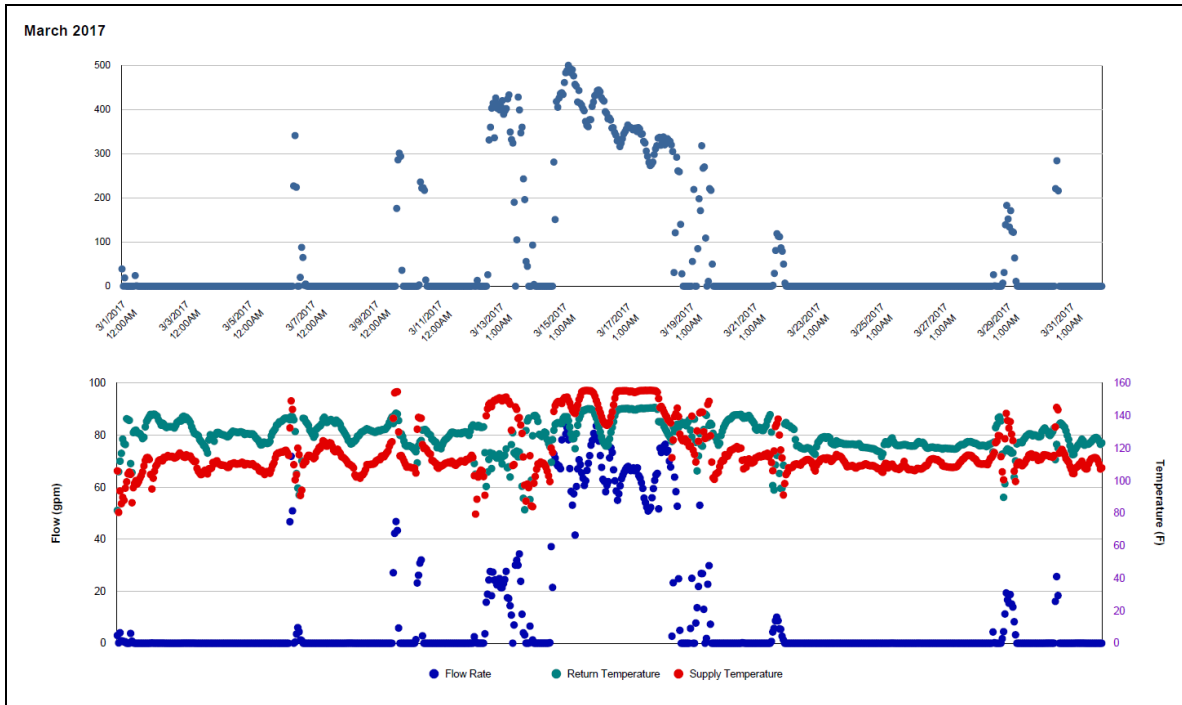
Explanatory Figure: 13 months energy balance plot with original data



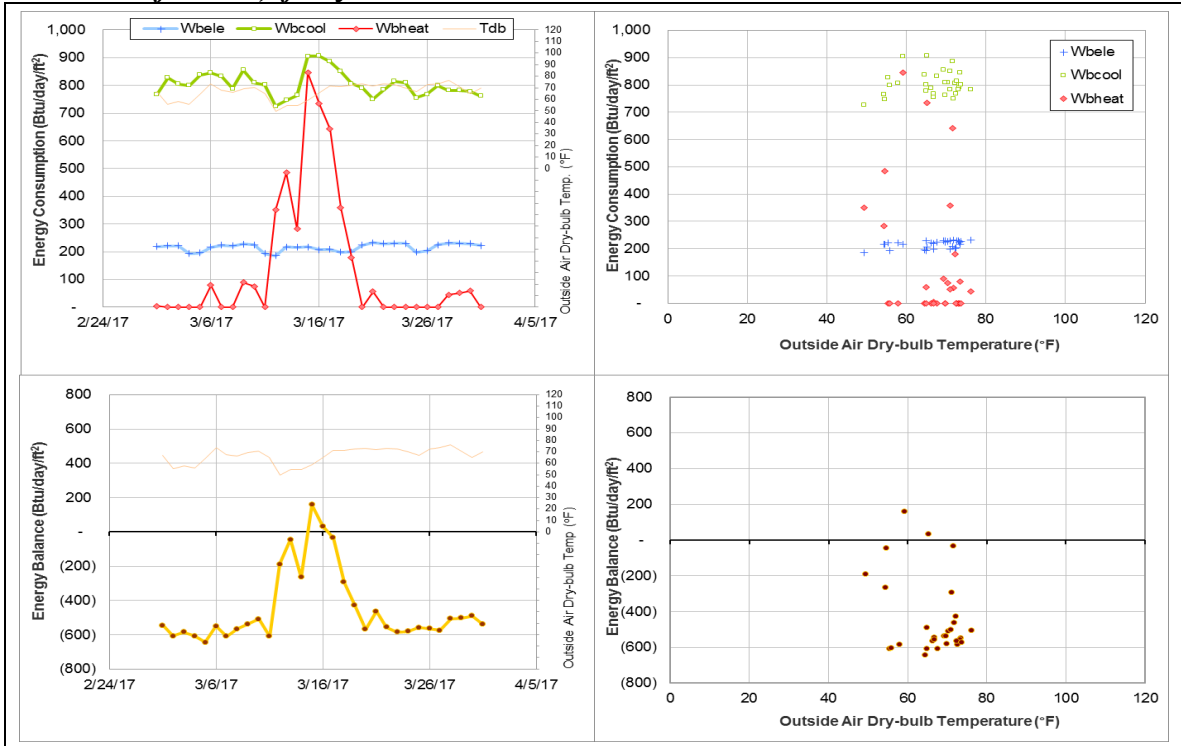
Explanatory Figure: Time series plots of hourly CHW energy consumption, flow rate, and supply and return temperatures from utilities office. (Top: January 2016, Bottom: March 2017)



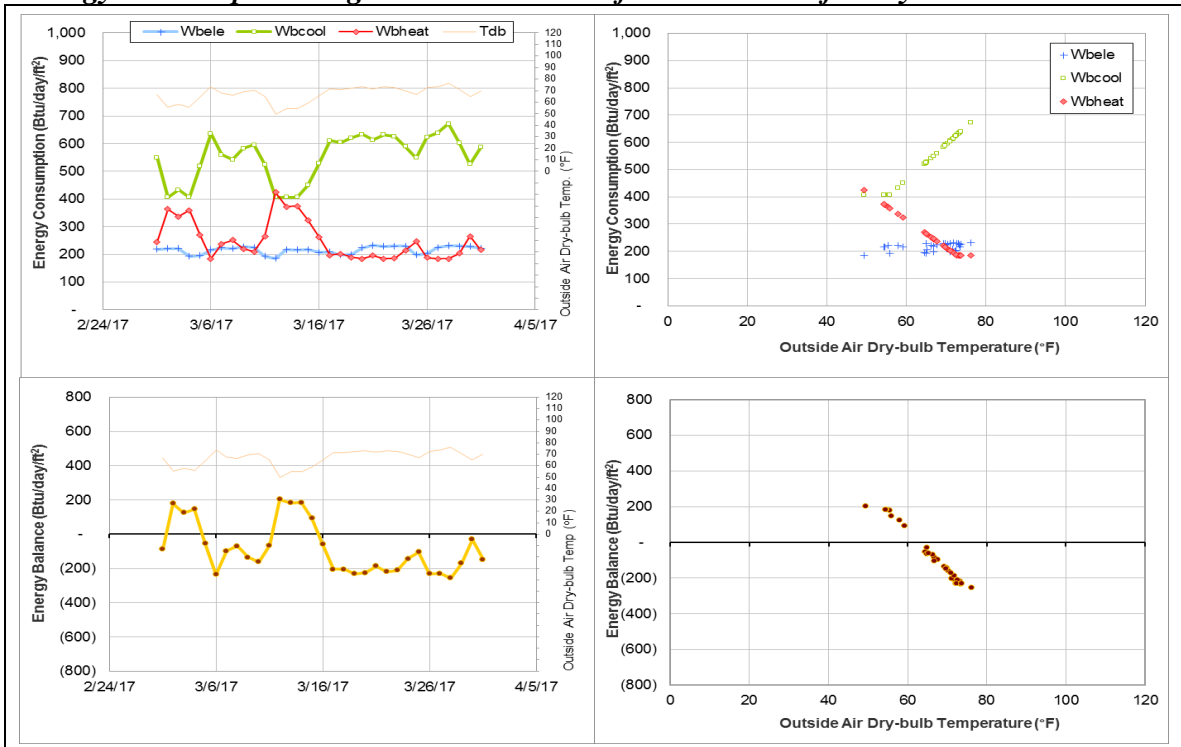
Explanatory Figure: Time series plots of hourly HHW energy consumption, flow rate, and supply and return temperatures from utilities office. (March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis



Veterinary Research Building (TAMU Bldg #1197)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	006066	5	3/9/2017 – 3/13/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption dropped for a short period.	3/9/2017 – 3/13/2017

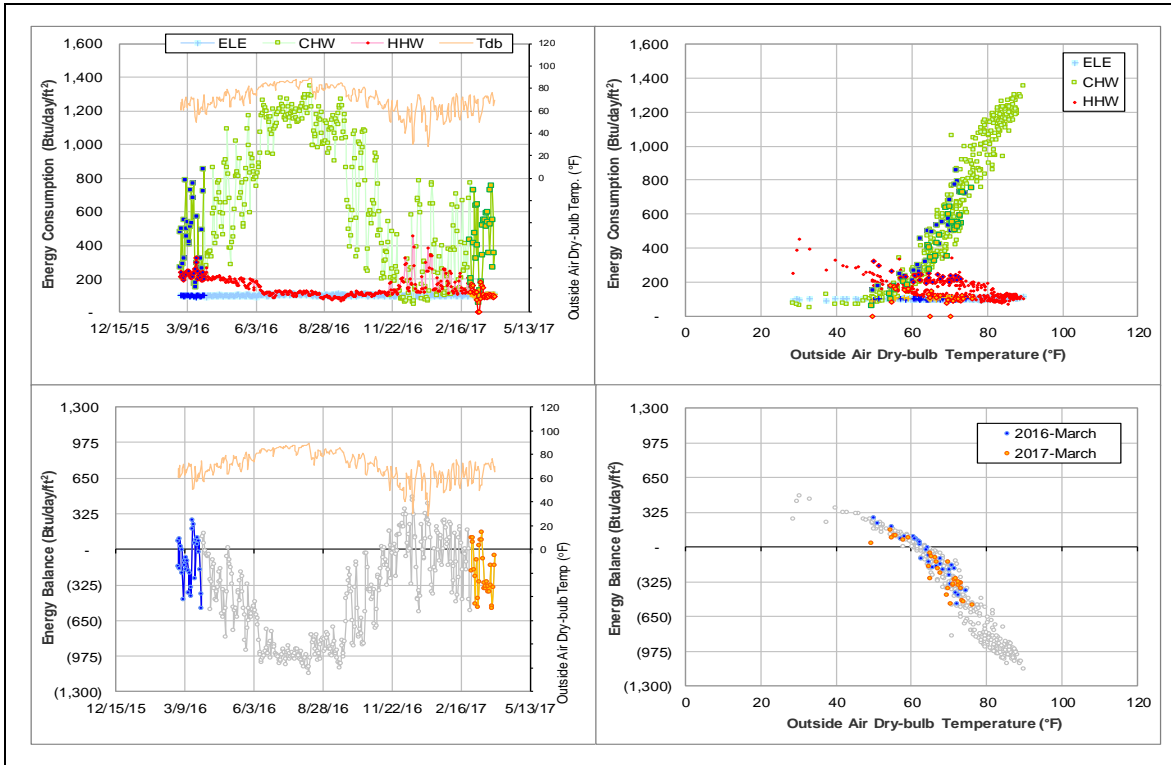
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	006066	3/9/2017 – 3/13/2017	Flow rate	Zero

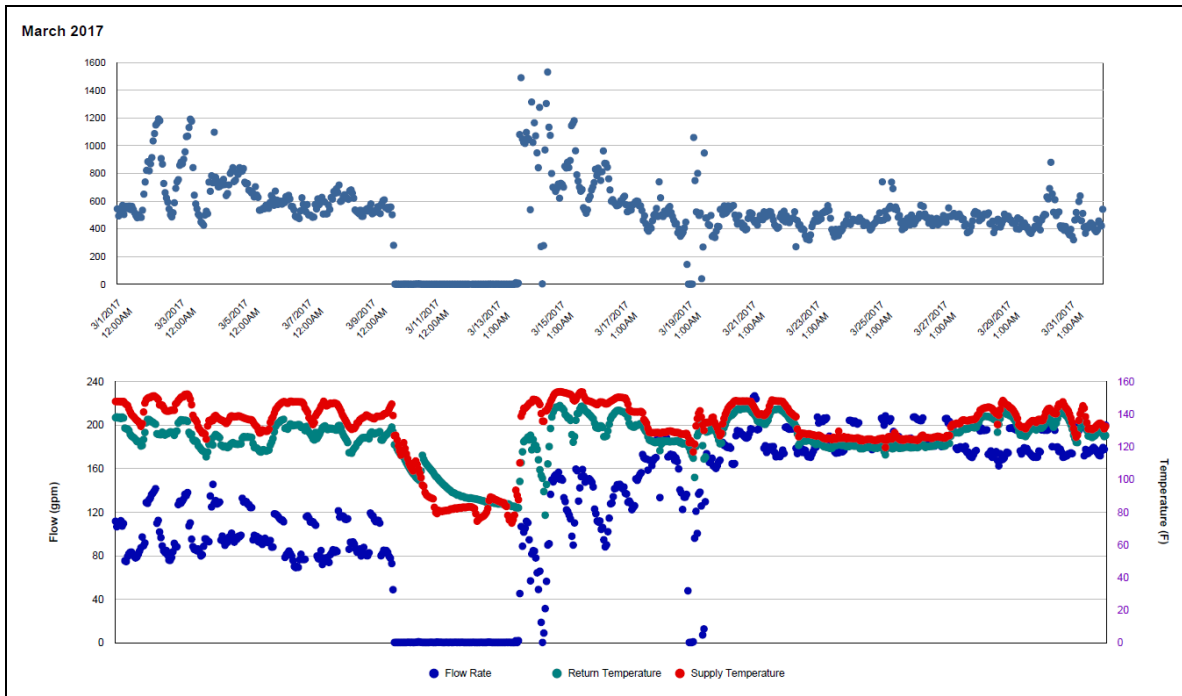
Quantitative descriptions and comments

Flow rate of HHW dropped to zero during 3/9/2017 – 3/13/2017. The supply temperature and return temperature approached room temperature as the flow rate dropped. CHW was not obviously influenced by this drop. This period is estimated using a model. See also Section II-3.

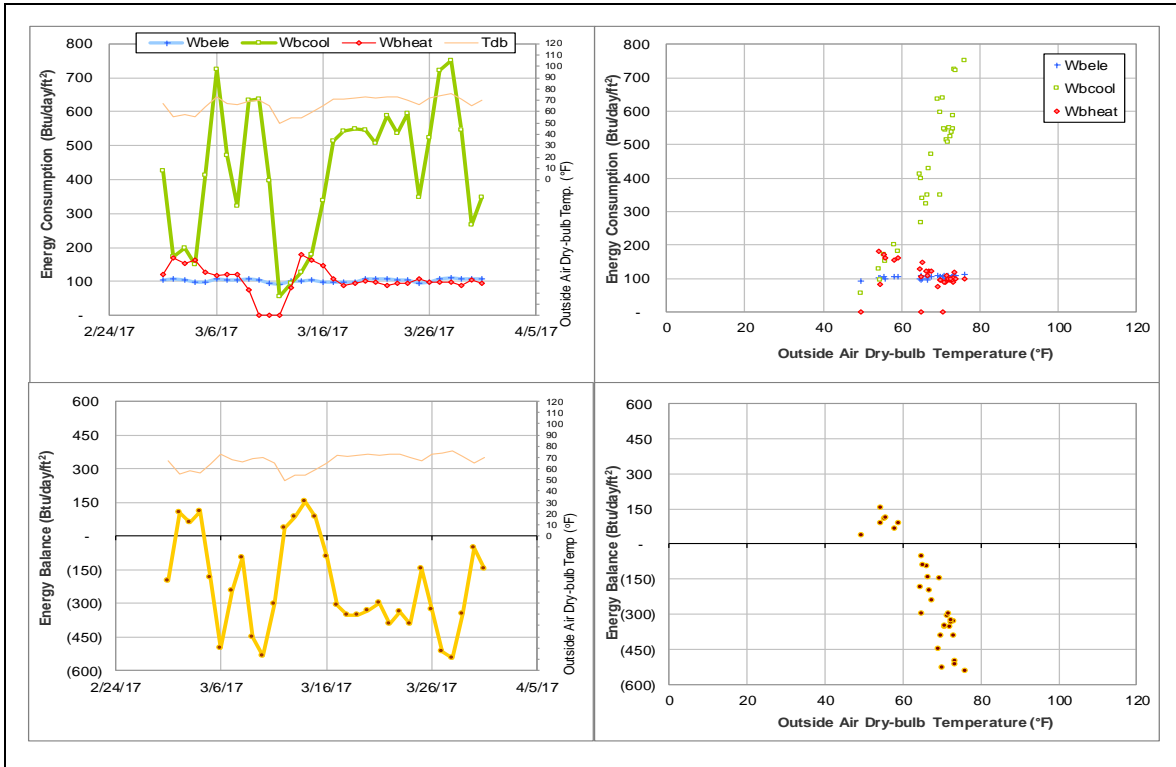
Explanatory Figure: 13 months energy balance plot with original data.



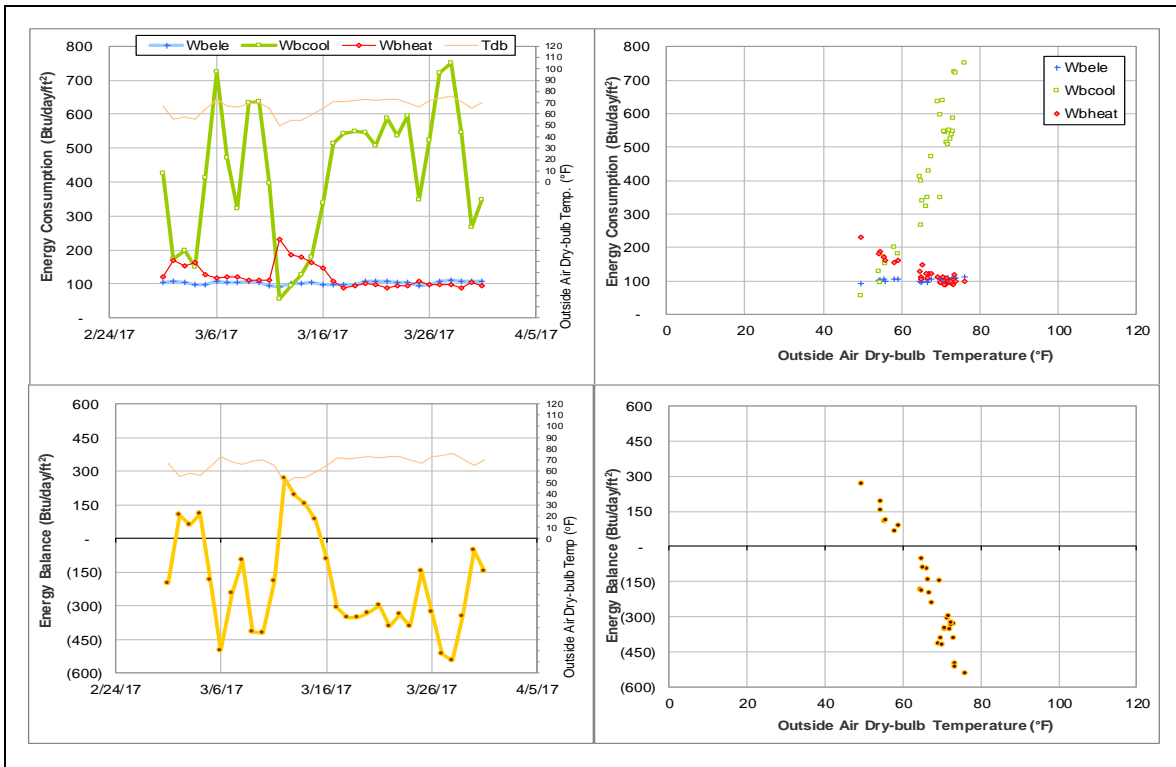
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Kleberg Center (TAMU Bldg #1501)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002628	6	3/10/2017 – 3/13/2017, 3/19/2017, 3/21/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption dropped for a short period.	3/10/2017 – 3/13/2017, 3/19/2017, 3/21/2017

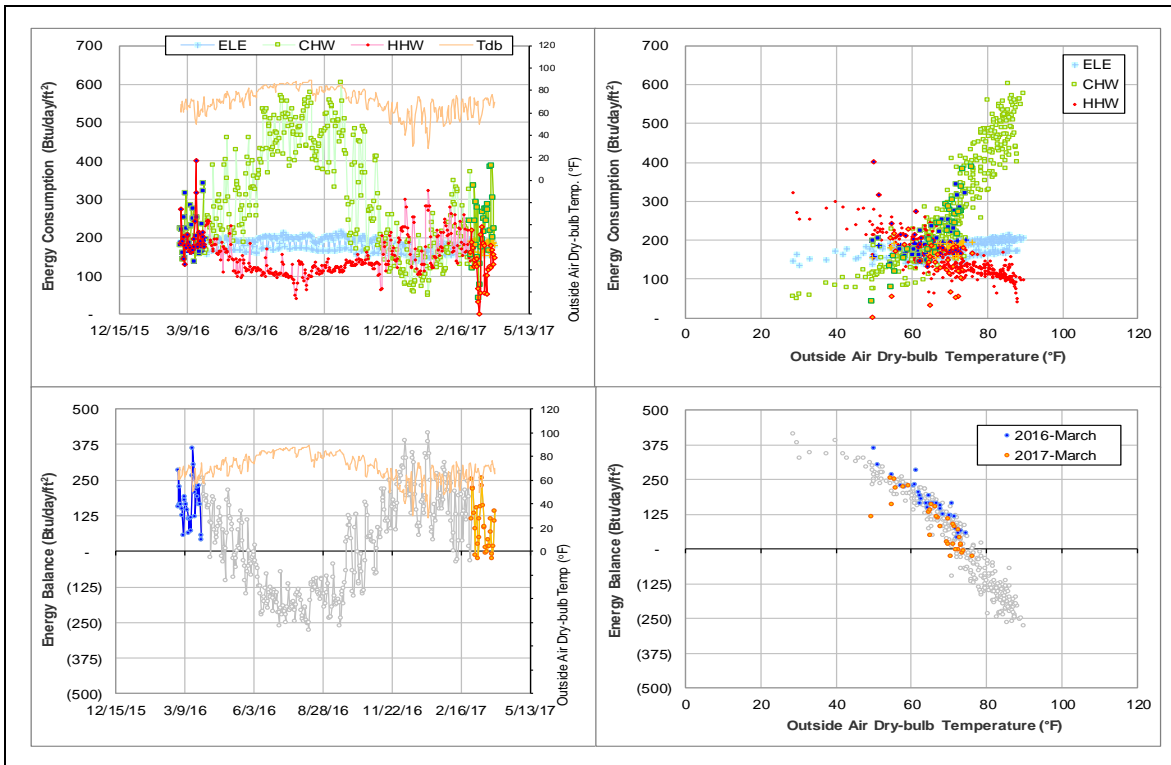
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002628	3/10/2017 – 3/13/2017, 3/19/2017, 3/21/2017	Flow rate	Low or zero

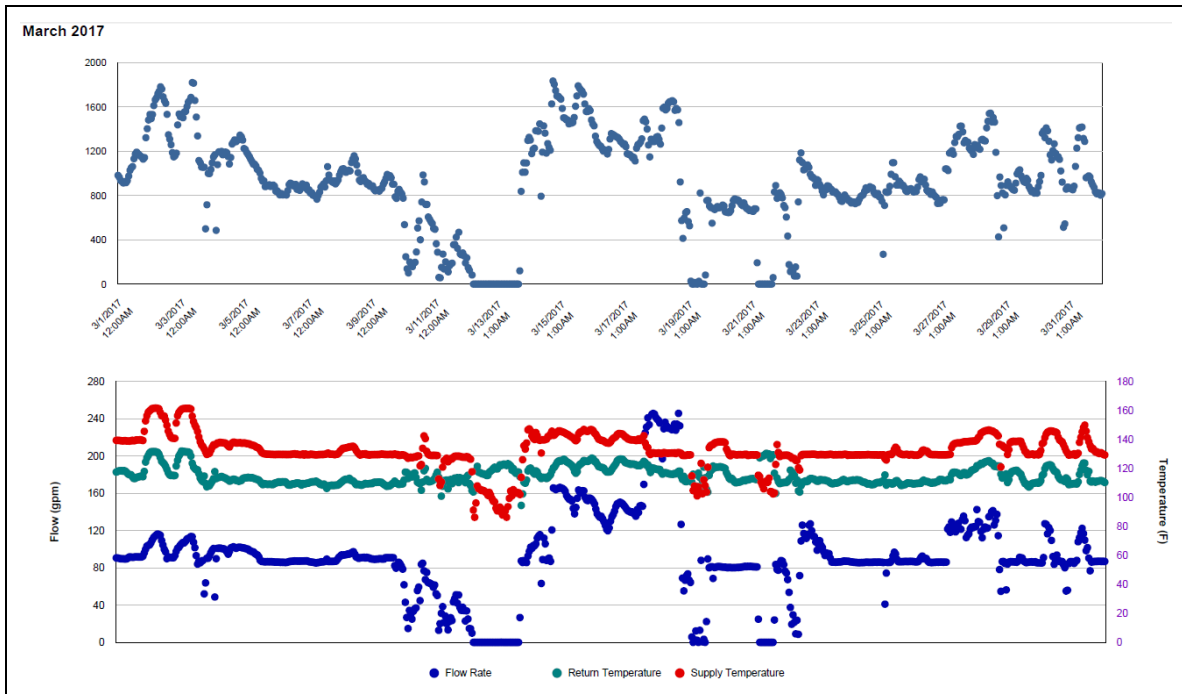
Quantitative descriptions and comments

Flow rate of HHW dropped to very low or zero during 3/10/2017 – 3/13/2017, and dropped to zero on 3/19/2017 and 3/21/2017. CHW was only slightly influenced by this drop. This period of HHW is estimated using a model.

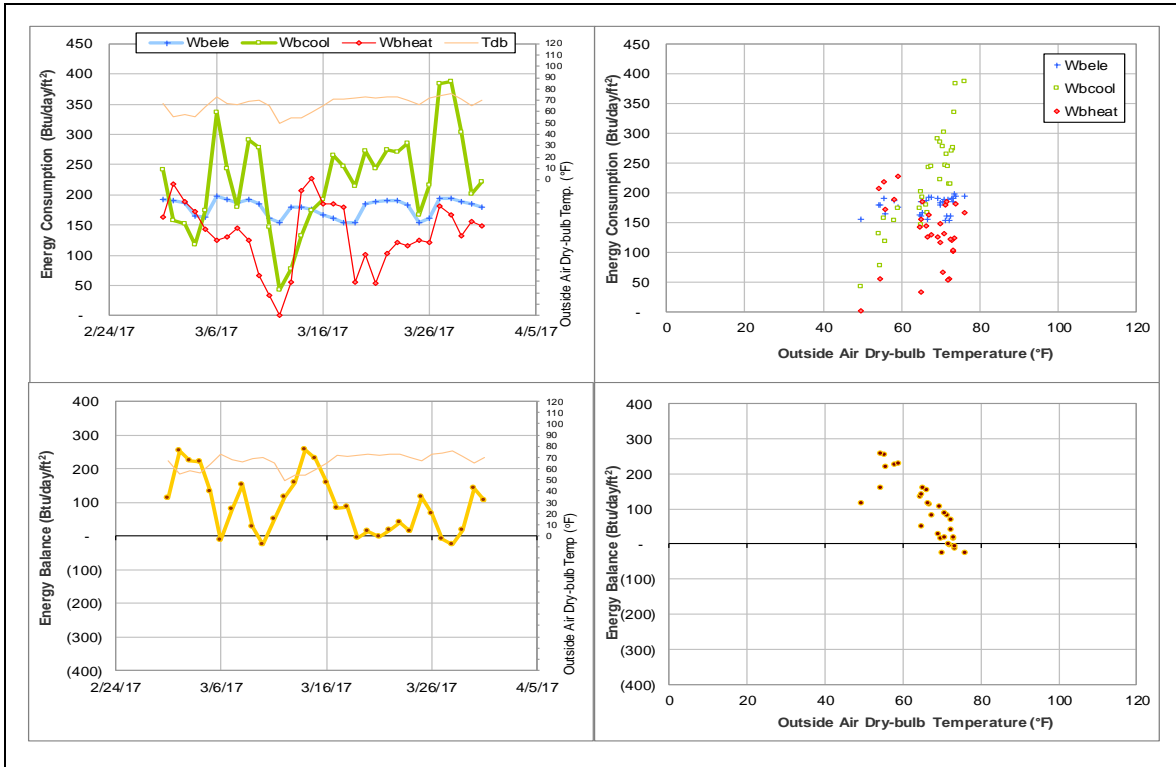
Explanatory Figure: 13 months energy balance plot with original data.



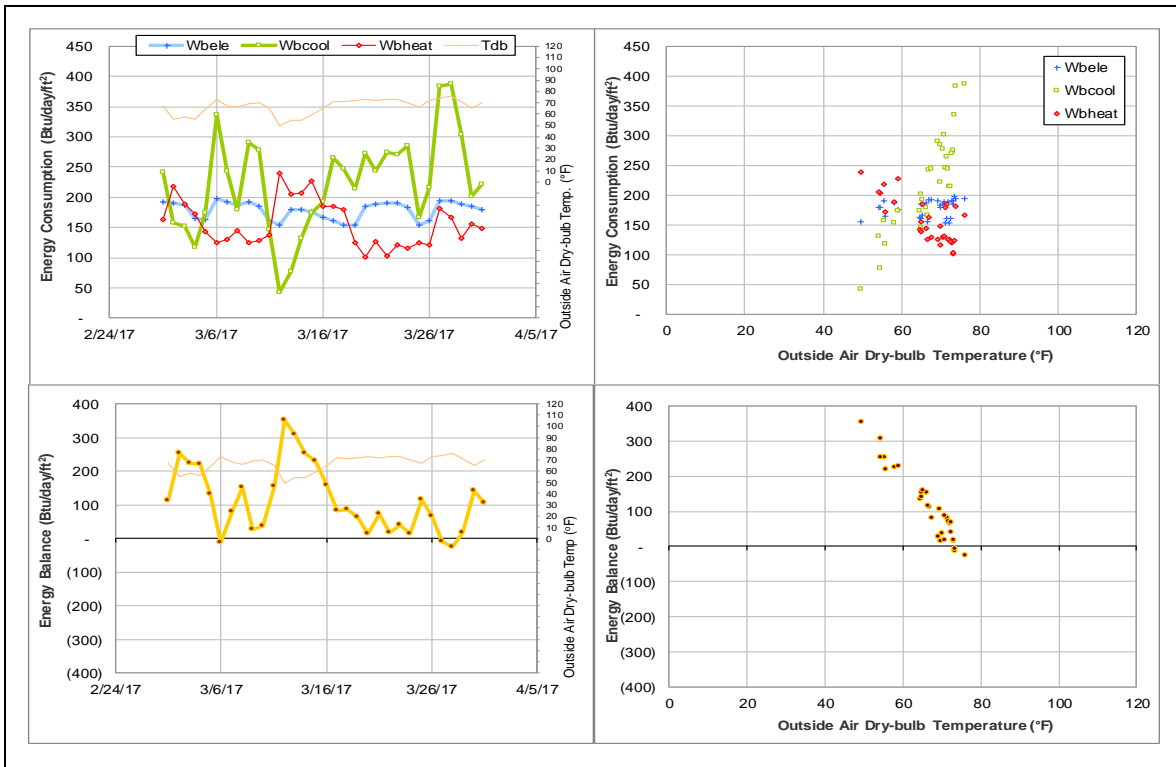
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Heep Center (TAMU Bldg #1502)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002603	6	3/10/2017 – 3/13/2017, 3/19/2017, 3/21/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption dropped for a short period.	3/10/2017 – 3/13/2017, 3/19/2017, 3/21/2017

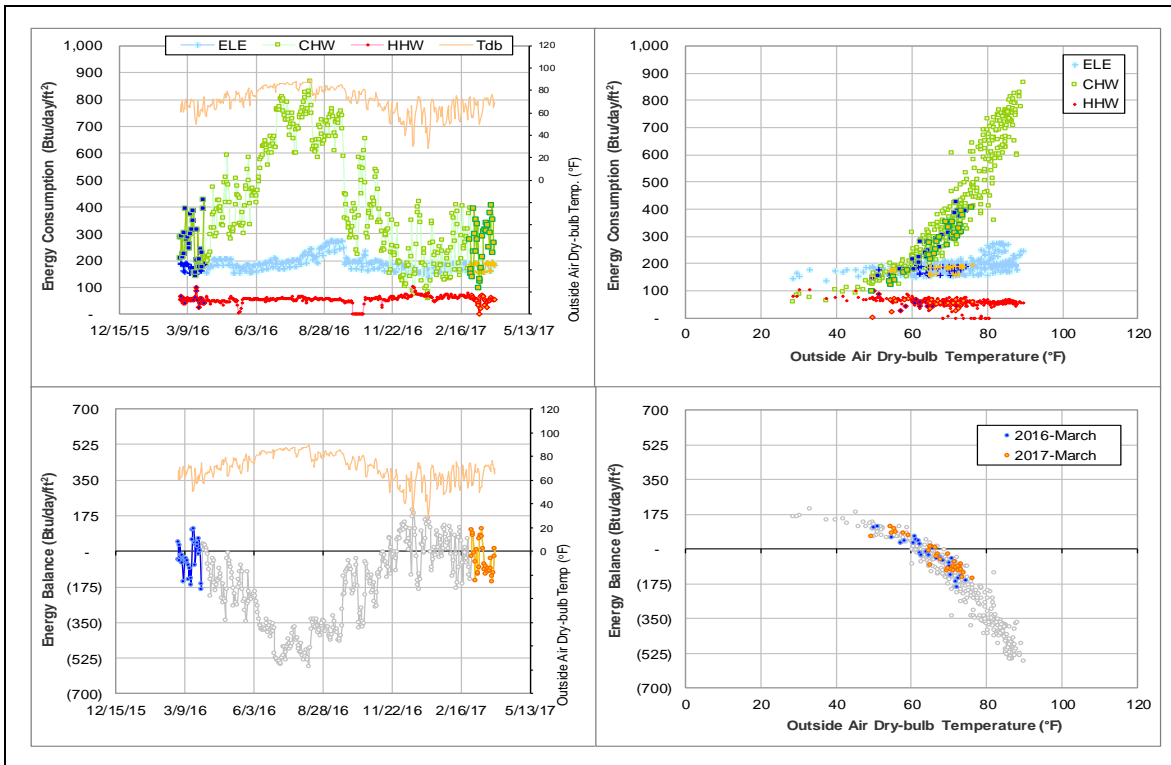
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002603	3/10/2017 – 3/13/2017, 3/19/2017, 3/21/2017	Flow rate	Low or zero

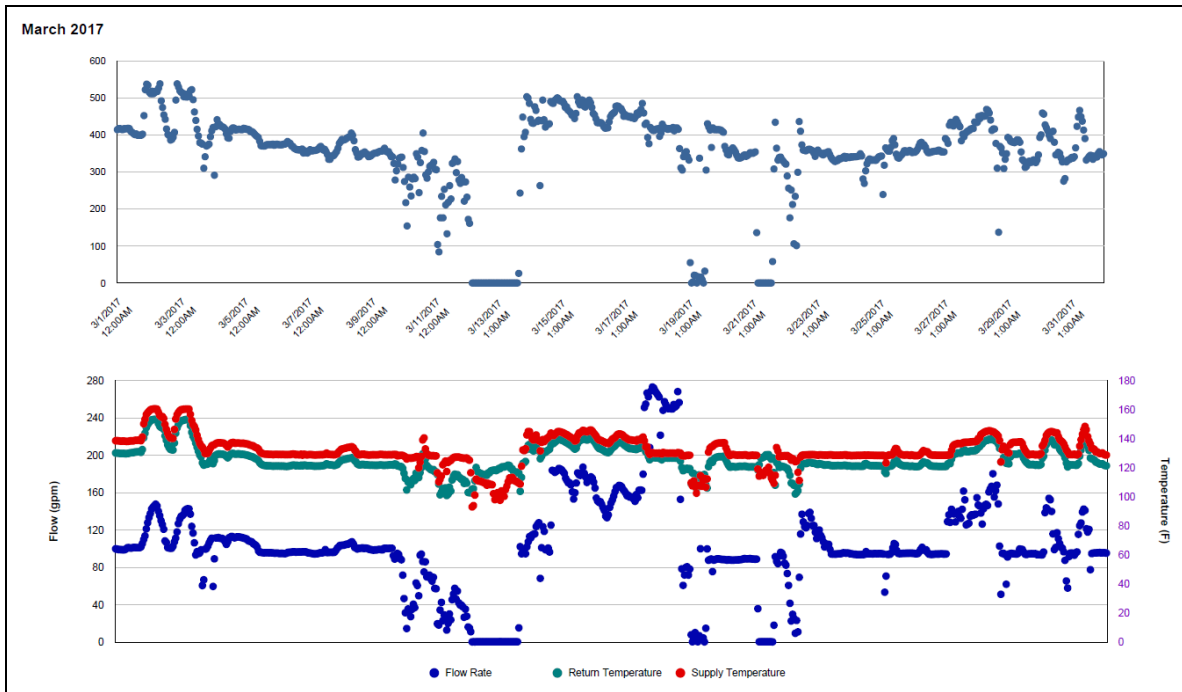
Quantitative descriptions and comments

Flow rate of HHW dropped to very low or zero during 3/10/2017 – 3/13/2017, and dropped to zero on 3/19/2017 and 3/21/2017. CHW was not obviously influenced by this drop. This period of HHW is estimated using a model.

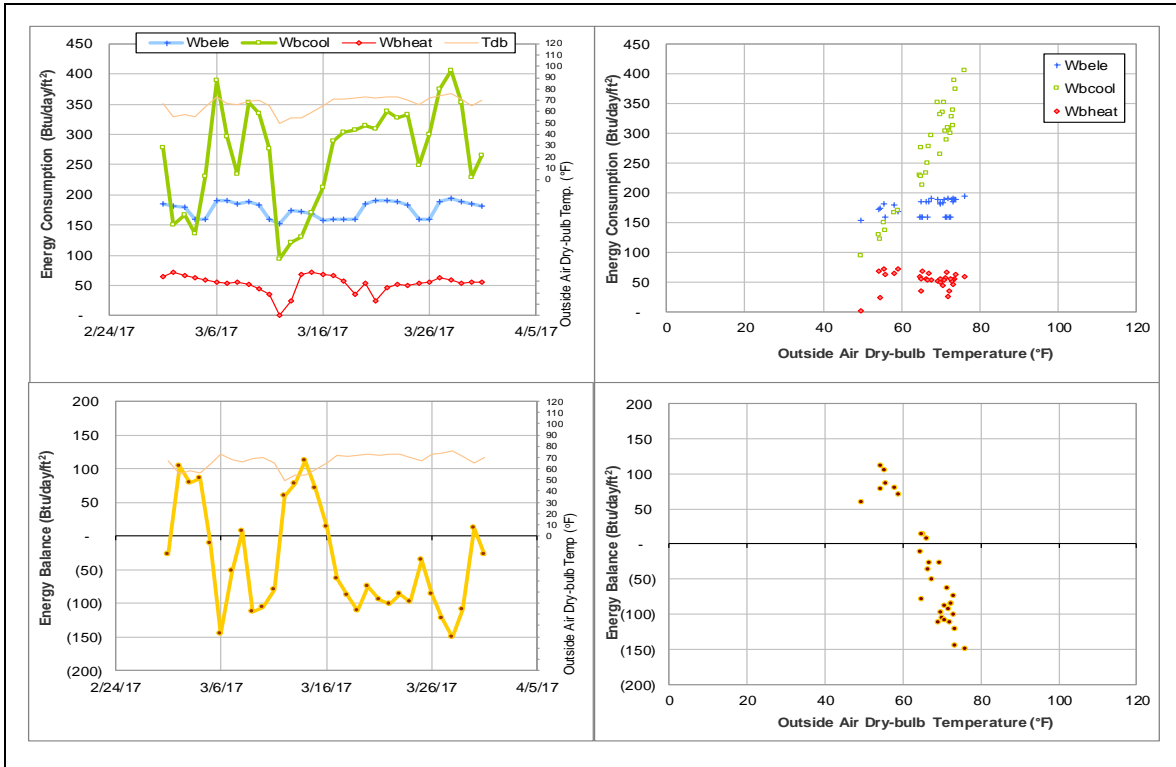
Explanatory Figure: 13 months energy balance plot with original data.



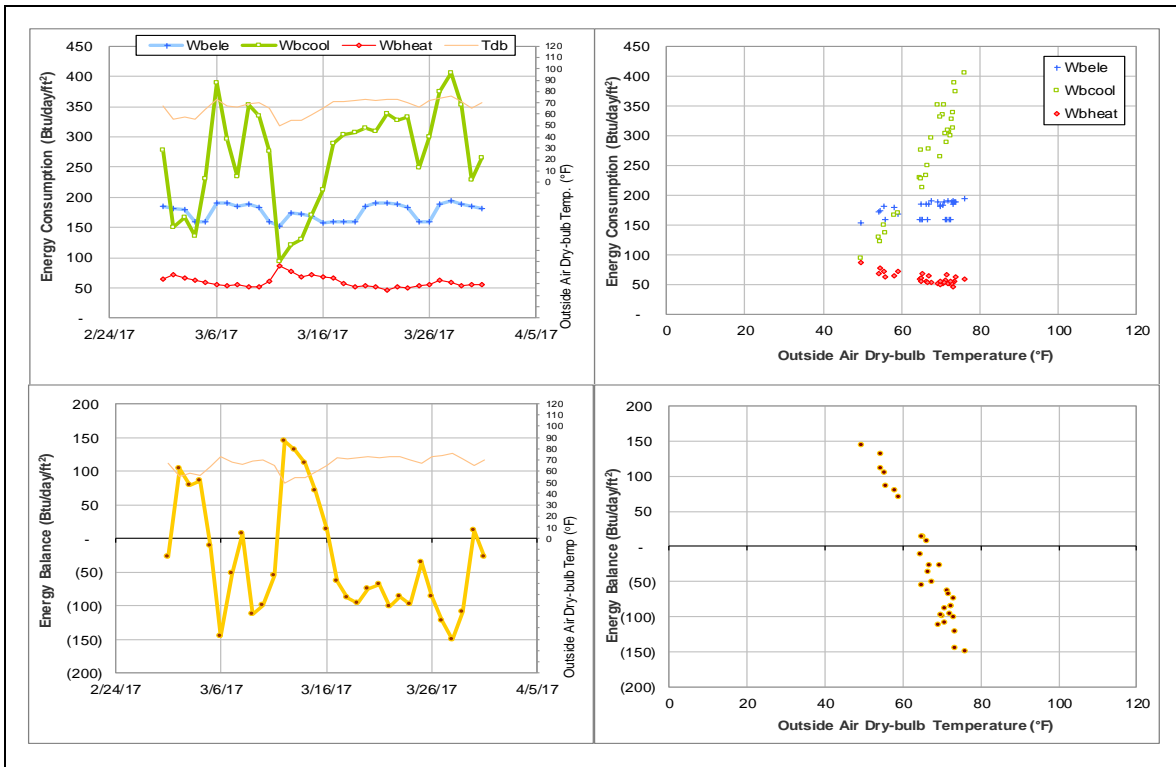
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Reynolds Medical Sciences Building (TAMU Bldg #1504)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	003989	11	3/17/2017 – 3/27/2017	Model
HHW	003993	11	3/17/2017 – 3/27/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption dropped for a short period.	3/17/2017 – 3/27/2017
HHW	The consumption dropped for a short period.	3/17/2017 – 3/27/2017

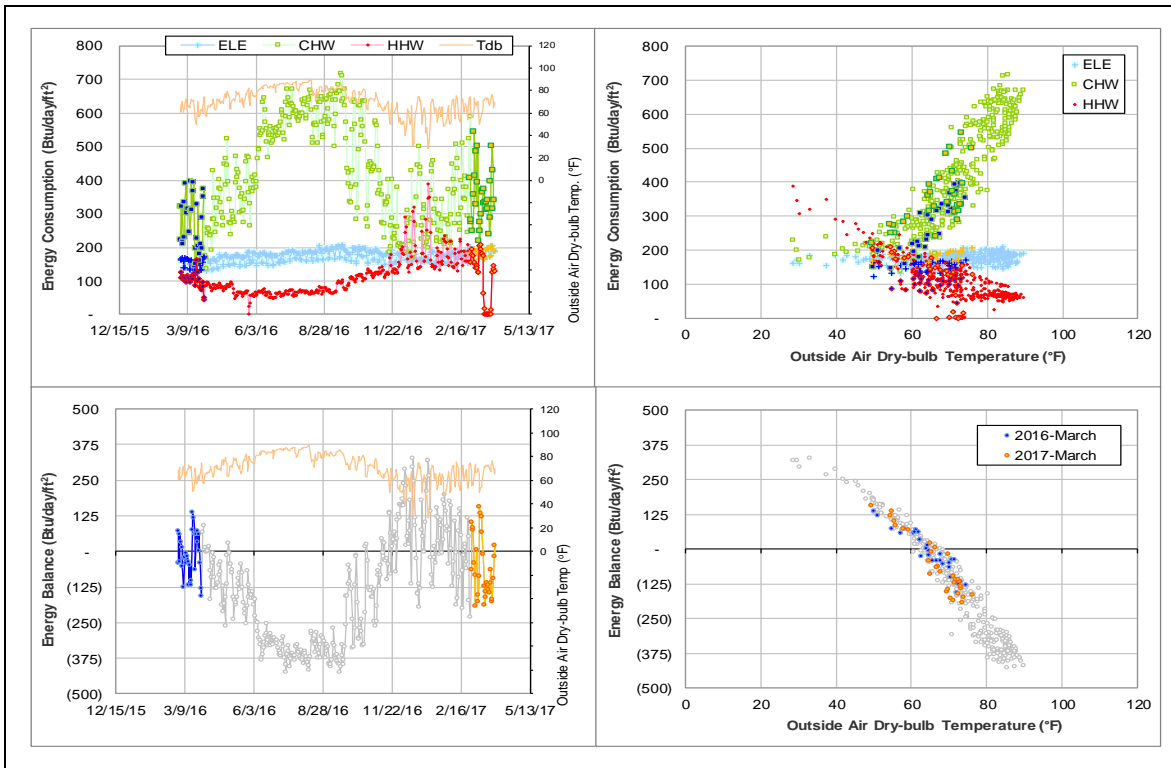
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	003993	3/17/2017 – 3/27/2017	Flow rate	Zero

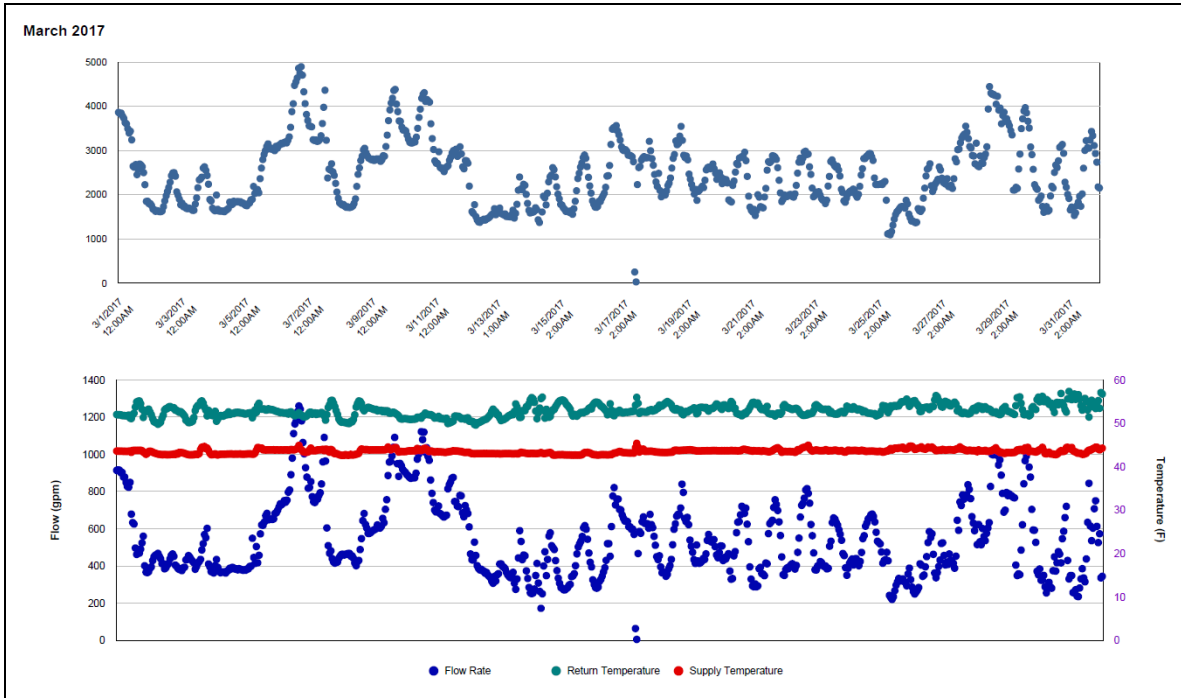
Quantitative descriptions and comments

Flow rate of HHW dropped to zero during 3/17/2017 – 3/27/2017. CHW was influenced by this drop but there is no obvious abnormal behavior in meter readings. This period of CHW and HHW are estimated using models. See also Section II-3.

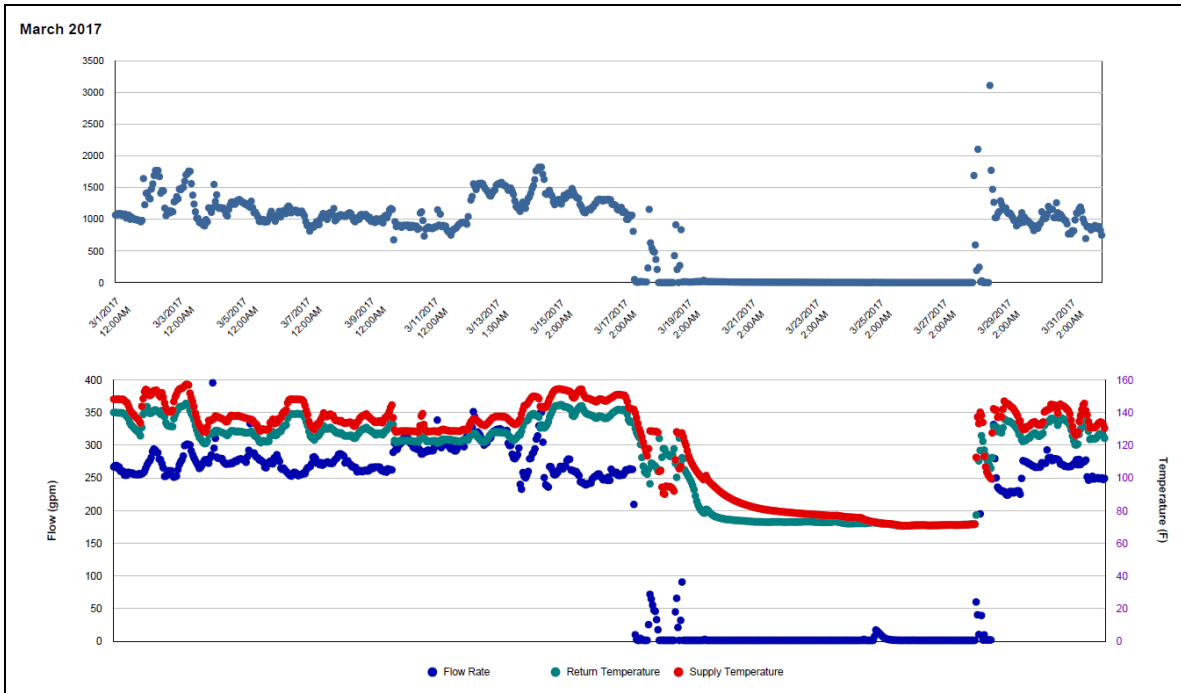
Explanatory Figure: 13 months energy balance plot with original data.



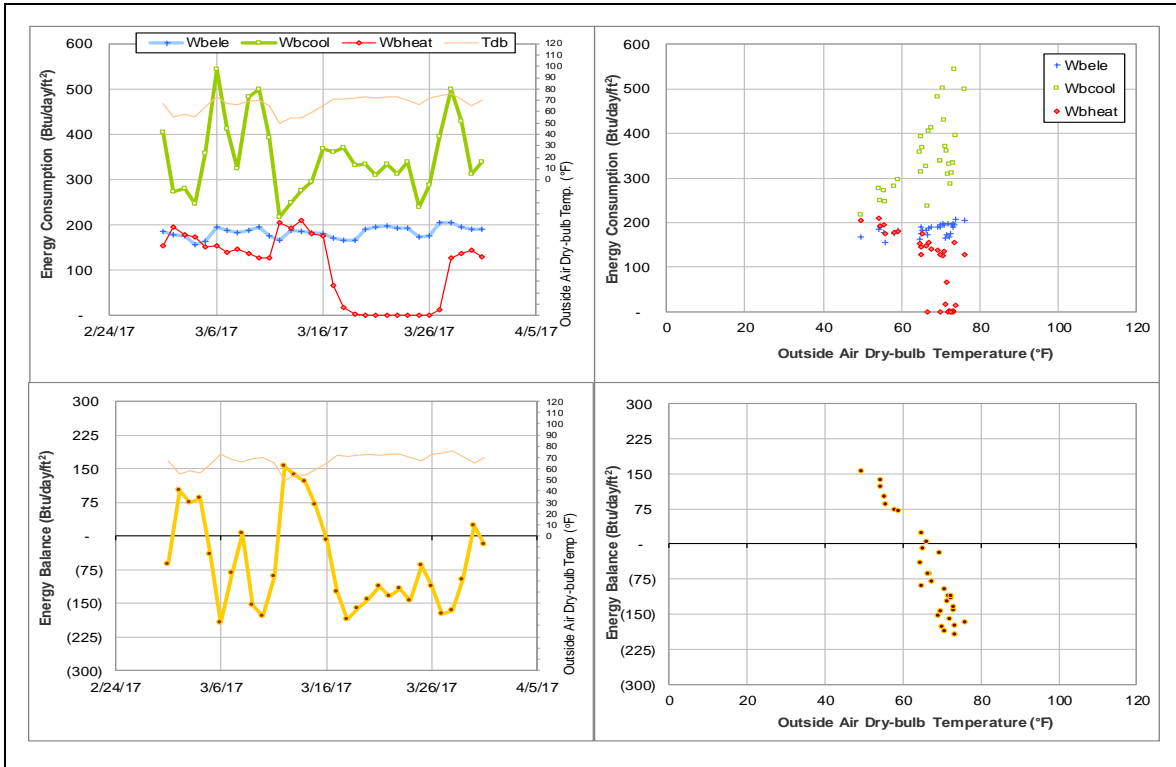
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during March 2017)



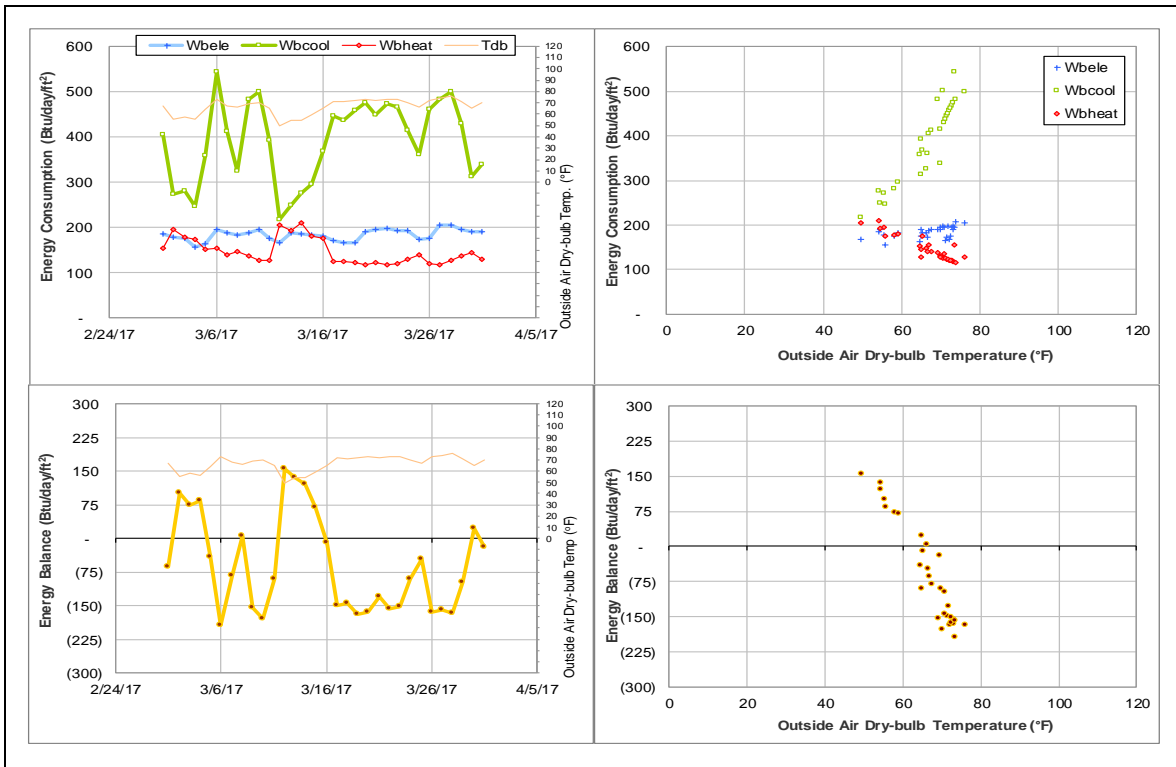
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Rosenthal Meat Science & Technology Center (TAMU Bldg #1505)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	002577	17	3/15/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption dropped for a short period.	3/15/2017 – Ongoing

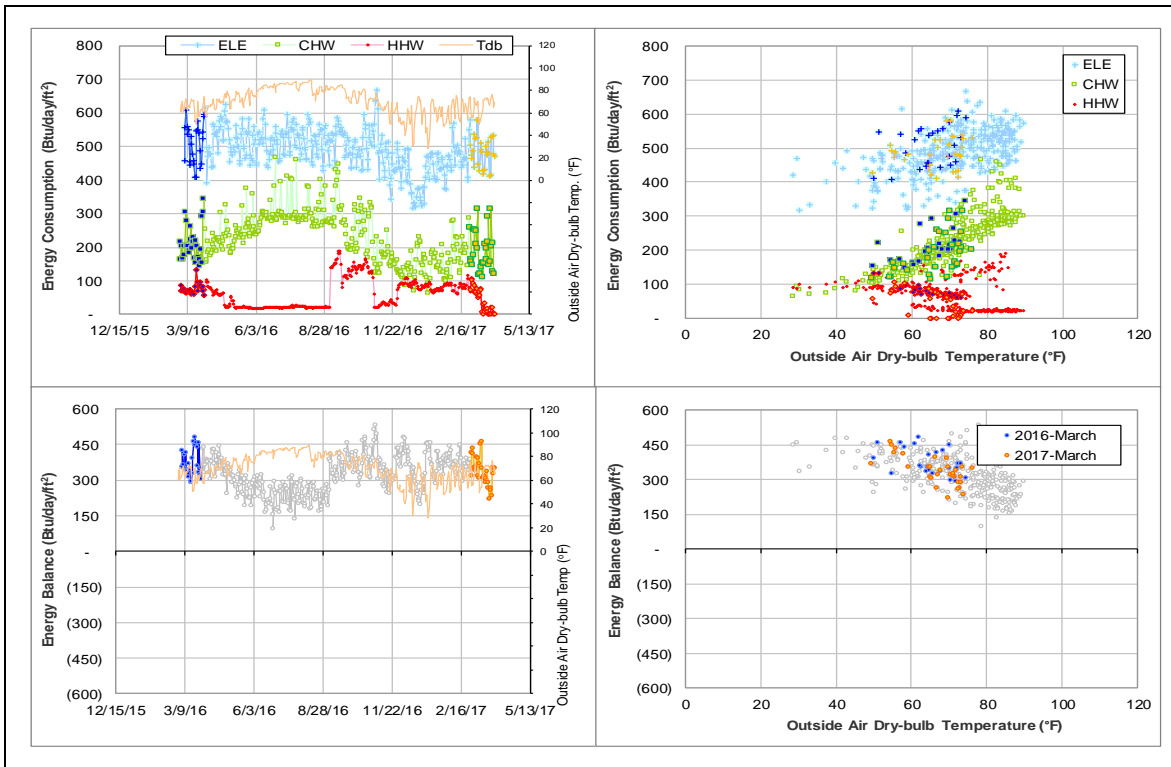
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	002577	3/15/2017 – Ongoing	Flow rate	Zero

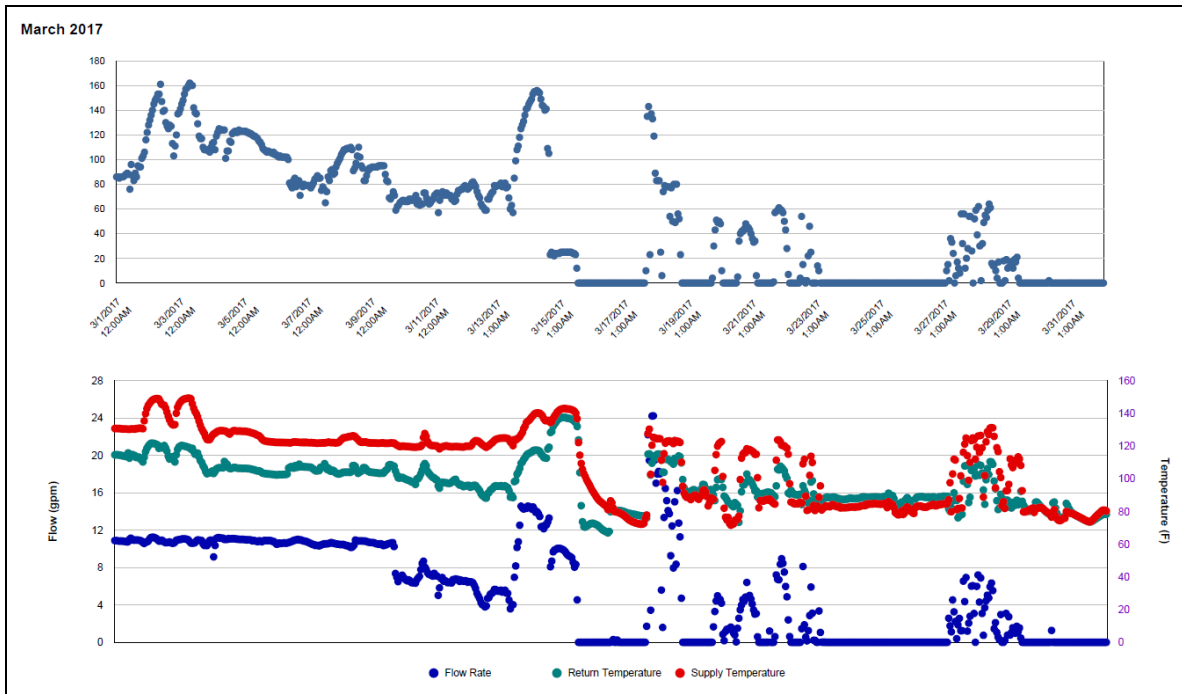
Quantitative descriptions and comments

Flow rate of HHW dropped to very low or zero since 3/15/2017. The influence on CHW is not clear, as the period when CHW dropped from the main pattern was due to spring break. This period of HHW are estimated using a model.

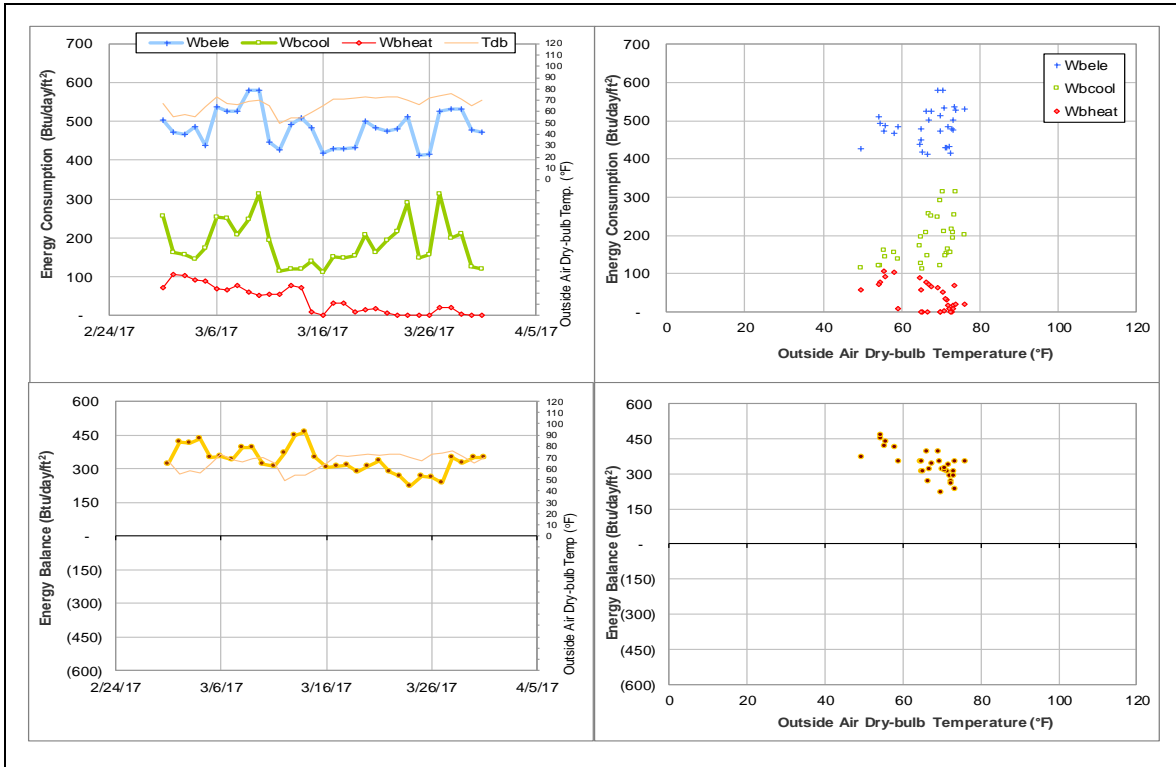
Explanatory Figure: 13 months energy balance plot with original data.



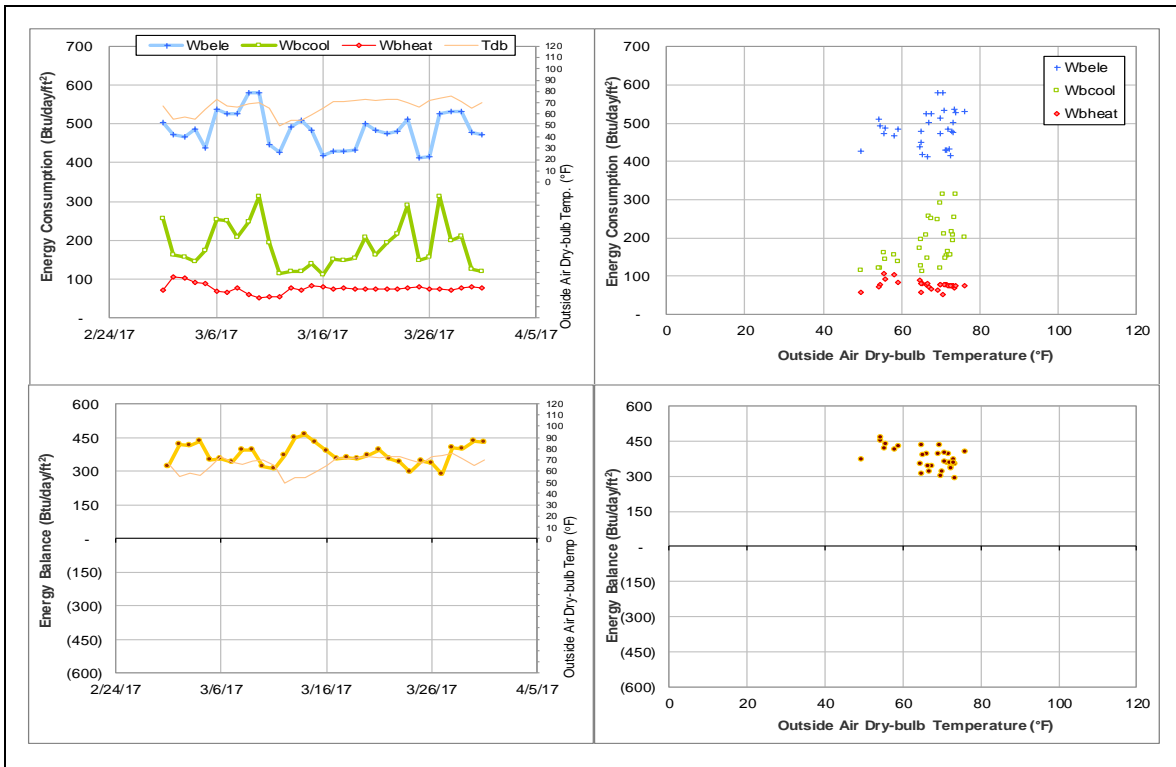
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Medical Sciences Library (TAMU Bldg #1509)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	003781	19	3/13/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The metered values appear to be faulty.	3/13/2017 – Ongoing

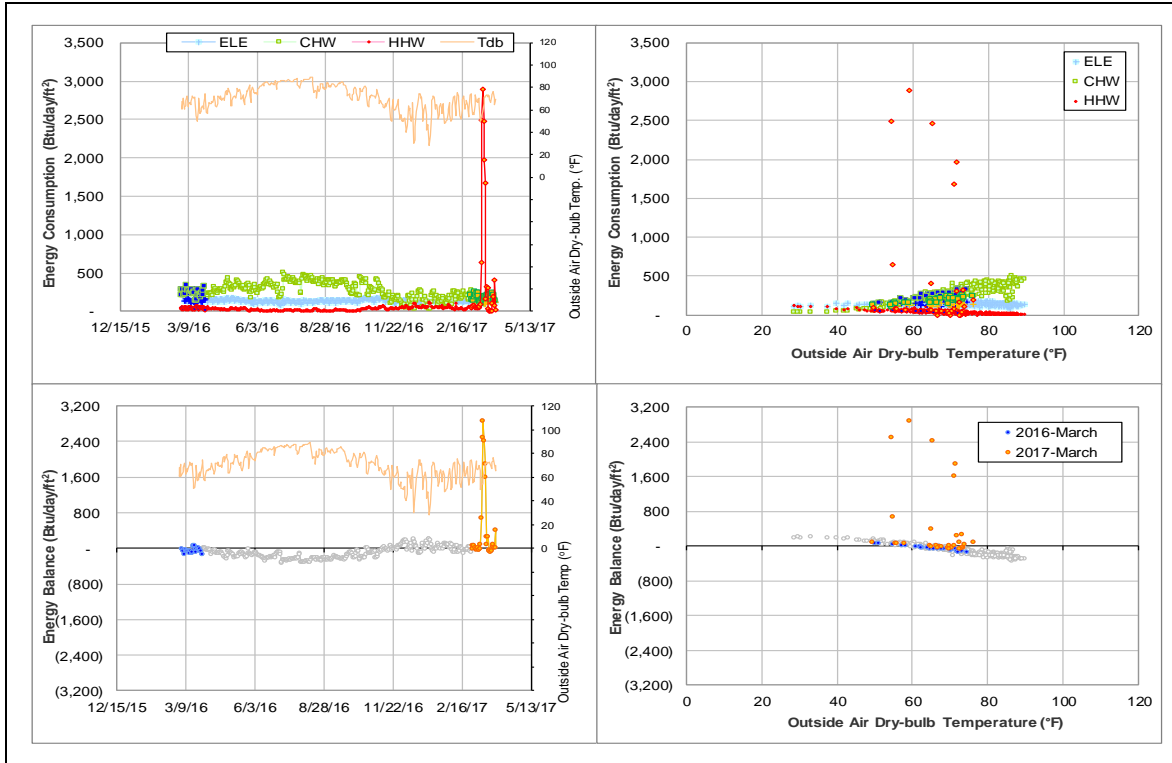
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	003781	3/13/2017 – 3/30/2017	Return temp	Faulty, maintained at a constant value
		3/19/2017 – Ongoing	Flow rate	Zero

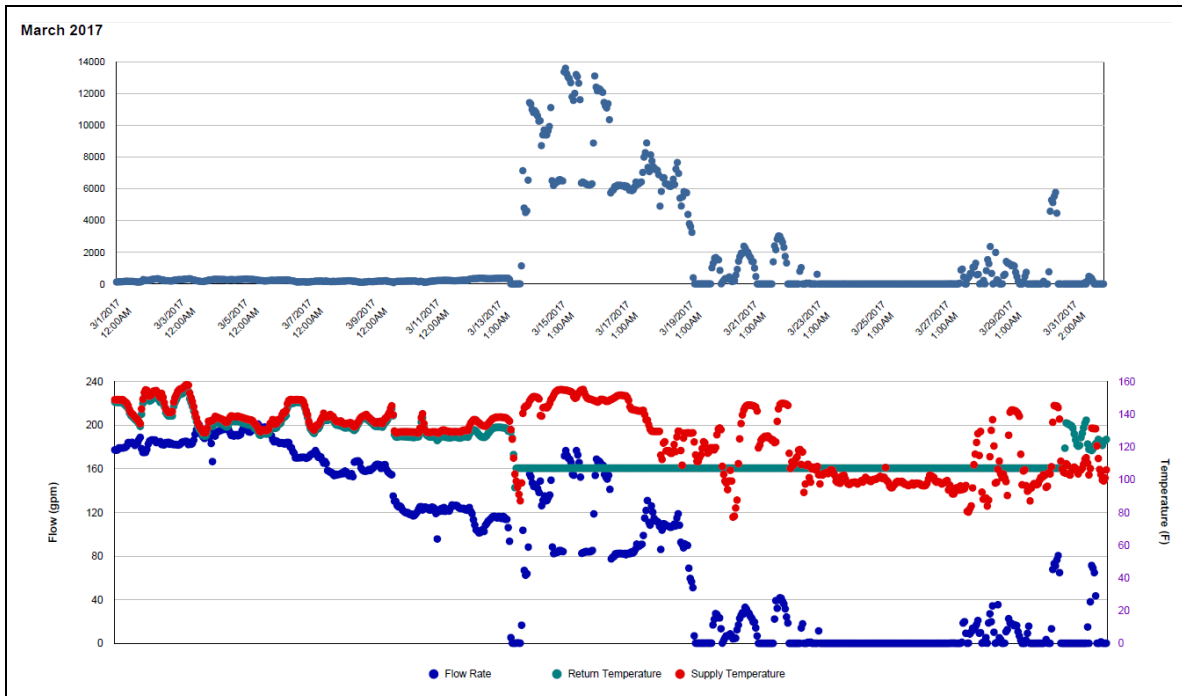
Quantitative descriptions and comments

HHW return temp readings were constant during 3/13/2017 – 3/30/2017 and the meter seems to have been restored on 3/31/2017. The flow rate dropped to zero since 3/19/2017. The faulty period is estimated using a model.

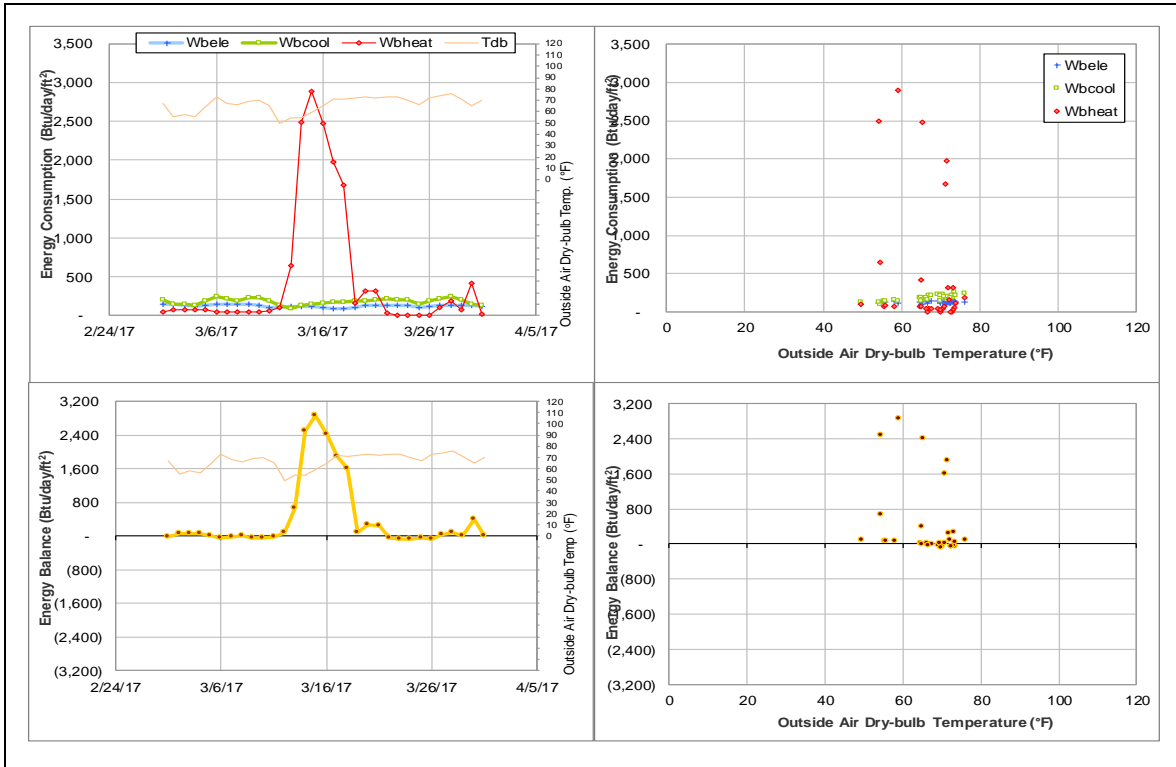
Explanatory Figure: 13 months energy balance plot with original data.



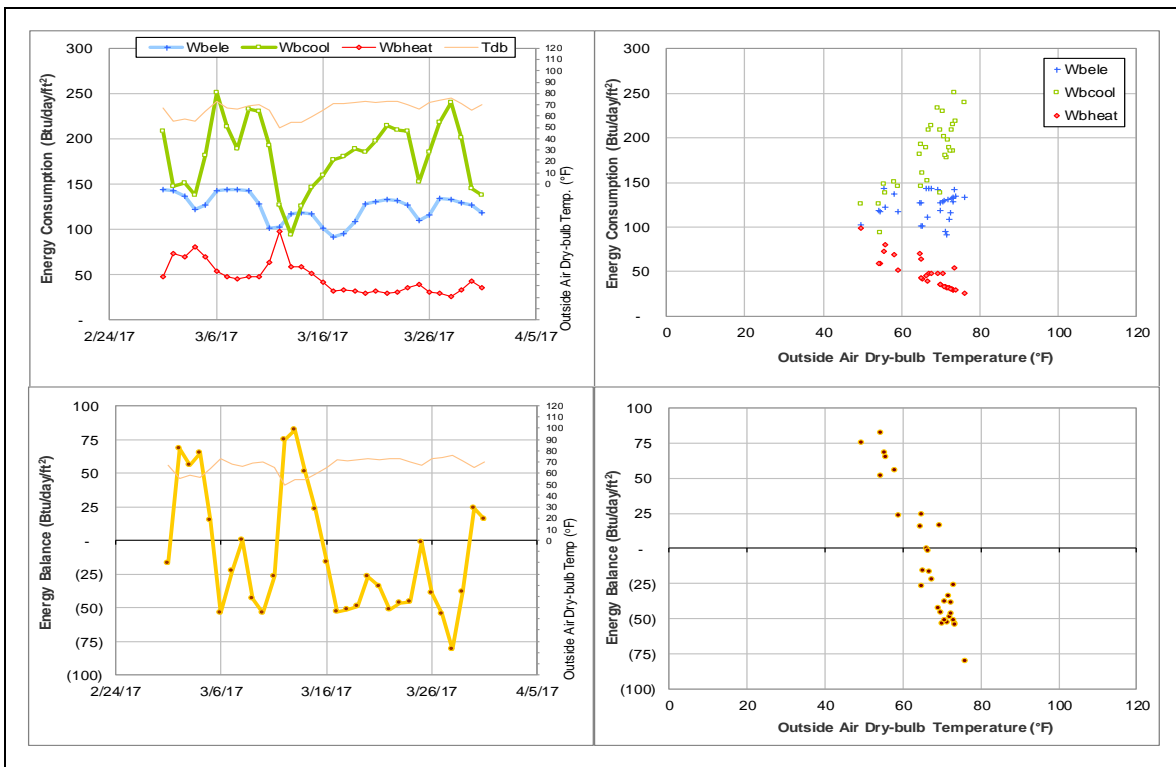
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Southern Crop Improvement Greenhouse (TAMU Bldg #1512)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005931	31	3/1/2017 – 3/31/2017	Model

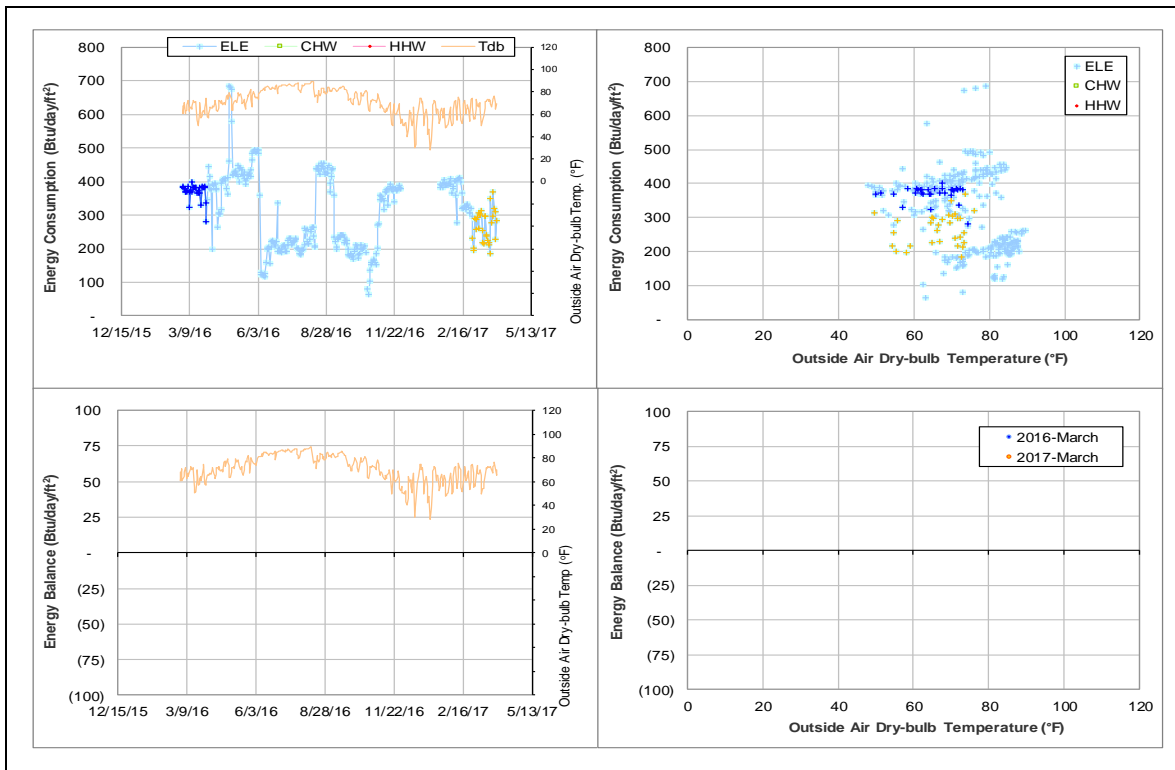
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The ELE consumption increased.	1/19/2017 – Ongoing

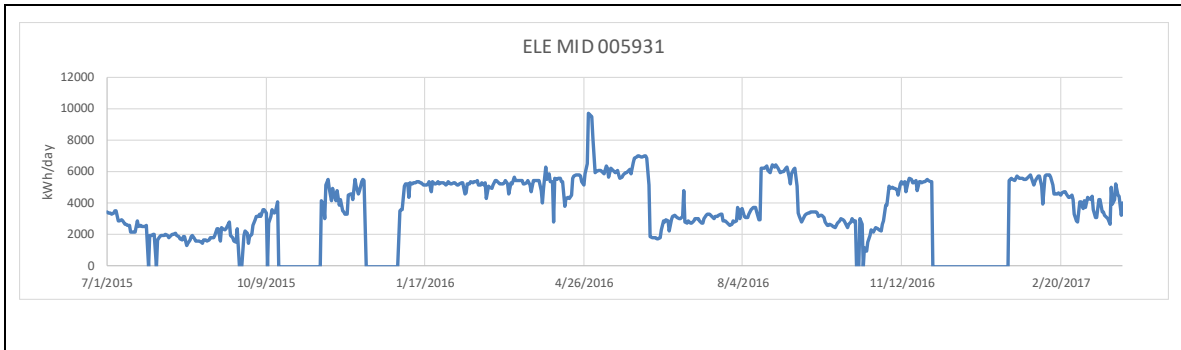
Quantitative descriptions and comments

The ELE consumption level has changed frequently since July 2015 as shown in the time series plot below (see explanatory figure). During the period of 1/22/2017 – 2/15/2017 it increased to the higher consumption pattern but then dropped again. The ELE consumption is estimated using a model based on data during 7/1/2014 – 6/30/2015 when the consumption was stable.

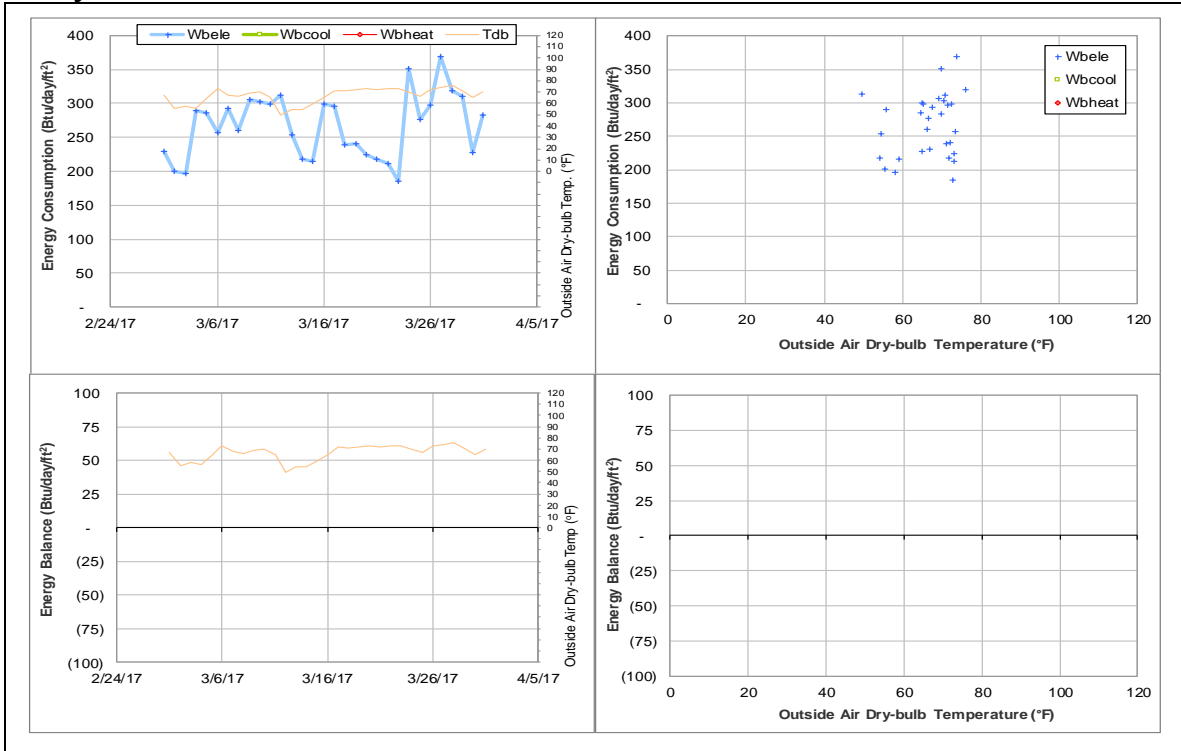
Explanatory Figure: 13 months energy balance plot with original data



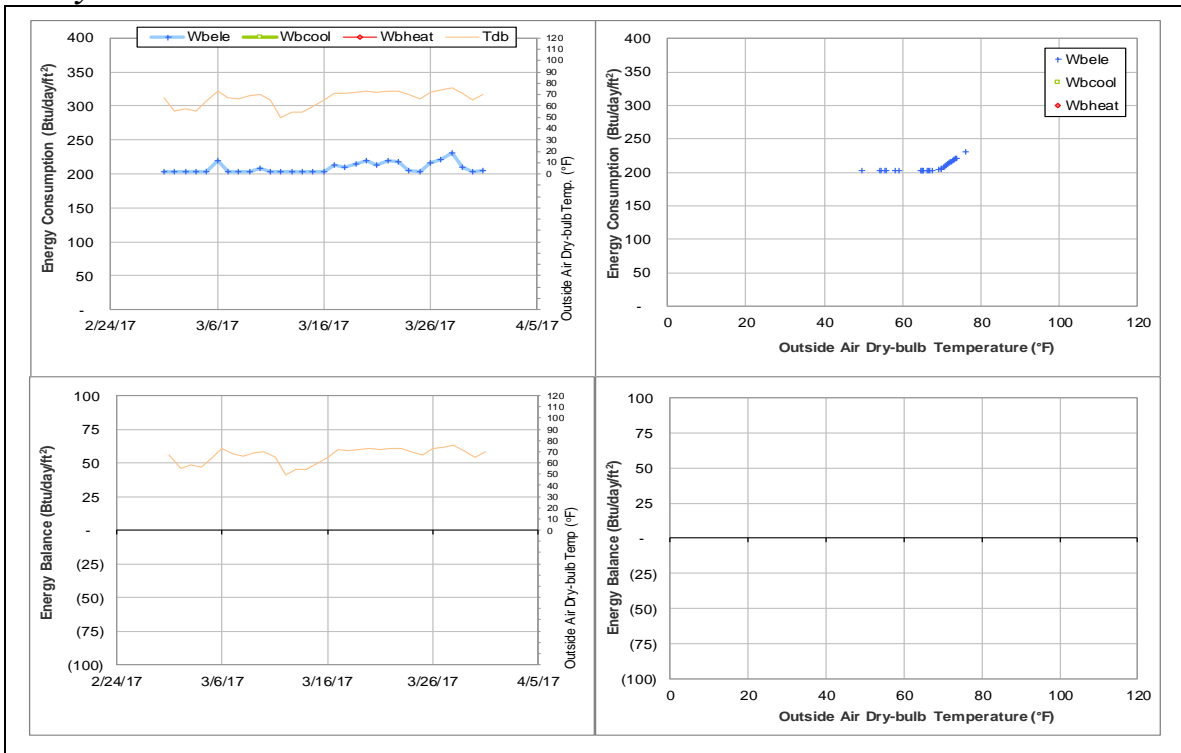
Explanatory Figure: Time series plot using ELE meter #005931 for 7/1/2015 – 2/28/2017. Note the several changes in electricity pattern over the period.



Energy balance plot using the original ELE, CHW and HHW data for the month of analysis.



Energy balance plot using the estimated ELE, CHW and HHW data for the month of analysis.



TX School of Rural Public Health (TAMU Bldg # 1518, 1519, 1520)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
ELE	005274	31	3/1/2017 – 3/31/2017	Switch with 005275
ELE	005275	31	3/1/2017 – 3/31/2017	Switch with 005274

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE (005274)	The consumption level increased largely.	8/14/2015 - ongoing
ELE (005275)	The consumption level decreased largely.	8/14/2015 - ongoing

Comments

ELE meter ID# 005274 serves TX School of Rural Public Health B and ELE meter ID# 005275 is for TX School of Rural Public Health C.

The ELE consumption levels for these two meters had a sudden change on 8/14/2015. The consumption level for meter ID# 005274 increased by approximate 80 kWh/h (~ 100%) and the consumption level for meter ID# 005275 decreased by around 80 kWh/h (~50%). The change observed on 8/14/2015 12:00 AM (see below explanatory figure) suggests that the two meters were switched and may need to be investigated.

Explanatory Figure: The time series plot of hourly electricity consumption for two ELE meters #005274 and# 005275

Time	Cumulative reading	Hourly Consumption	MeterID	Time	Cumulative reading	Hourly Consumption	MeterID
08/13/2015 12:00:00 PM	2930984.013	84.262	005274	08/13/2015 12:00:00 PM	4741958.002	170.658	005275
08/13/2015 01:00:00 PM	2930968.589	84.576	005274	08/13/2015 01:00:00 PM	4742132.336	174.334	005275
08/13/2015 02:00:00 PM	2931051.959	83.37	005274	08/13/2015 02:00:00 PM	4742303.554	171.218	005275
08/13/2015 03:00:00 PM	2931146.799	94.84	005274	08/13/2015 03:00:00 PM	4742483.983	180.129	005275
08/13/2015 04:00:00 PM	2931240.505	93.706	005274	08/13/2015 04:00:00 PM	4742662.753	179.07	005275
08/13/2015 05:00:00 PM	2931324.169	83.664	005274	08/13/2015 05:00:00 PM	4742832.009	169.256	005275
08/13/2015 06:00:00 PM	2931399.91	75.741	005274	08/13/2015 06:00:00 PM	4742993.53	161.521	005275
08/13/2015 07:00:00 PM	2931472.181	72.271	005274	08/13/2015 07:00:00 PM	4743149.675	156.145	005275
08/13/2015 08:00:00 PM	2931543.838	71.657	005274	08/13/2015 08:00:00 PM	4743305.9	156.225	005275
08/13/2015 09:00:00 PM	2931613.306	69.468	005274	08/13/2015 09:00:00 PM	4743462.097	156.197	005275
08/13/2015 10:00:00 PM	2931672.706	59.4	005274	08/13/2015 10:00:00 PM	4743610.221	148.124	005275
08/13/2015 11:00:00 PM	2931733.072	60.366	005274	08/13/2015 11:00:00 PM	4743745.645	135.424	005275
08/14/2015 12:00:00 AM	4743876.03	130.385	005274	08/14/2015 12:00:00 AM	2931791.19	58.118	005275
08/14/2015 01:00:00 AM	4744008.406	132.376	005274	08/14/2015 01:00:00 AM	2931849.35	58.16	005275
08/14/2015 02:00:00 AM	4744141.74	133.334	005274	08/14/2015 02:00:00 AM	2931908.534	59.184	005275
08/14/2015 03:00:00 AM	4744272.553	130.813	005274	08/14/2015 03:00:00 AM	2931966.686	58.152	005275
08/14/2015 04:00:00 AM	4744404.045	131.492	005274	08/14/2015 04:00:00 AM	2932023.869	56.803	005275
08/14/2015 05:00:00 AM	4744534.38	130.335	005274	08/14/2015 05:00:00 AM	2932080.05	56.461	005275
08/14/2015 06:00:00 AM	4744667.111	132.731	005274	08/14/2015 06:00:00 AM	2932137.05	57	005275
08/14/2015 07:00:00 AM	4744820.038	152.927	005274	08/14/2015 07:00:00 AM	2932232.983	95.933	005275
08/14/2015 08:00:00 AM	4744972.221	152.183	005274	08/14/2015 08:00:00 AM	2932319.162	86.179	005275
08/14/2015 09:00:00 AM	4745134.467	162.246	005274	08/14/2015 09:00:00 AM	2932404.691	85.529	005275
08/14/2015 10:00:00 AM	4745308.905	174.438	005274	08/14/2015 10:00:00 AM	2932489.976	85.285	005275
08/14/2015 11:00:00 AM	4745476.832	167.927	005274	08/14/2015 11:00:00 AM	2932564.419	74.443	005275
08/14/2015 12:00:00 PM	4745634.44	157.608	005274	08/14/2015 12:00:00 PM	2932634.064	69.645	005275
08/14/2015 01:00:00 PM	4745793.945	154.505	005274	08/14/2015 01:00:00 PM	2932704.723	70.659	005275
08/14/2015 02:00:00 PM	4745949.369	160.024	005274	08/14/2015 02:00:00 PM	2932777.373	72.65	005275
08/14/2015 03:00:00 PM	4746110.346	160.977	005274	08/14/2015 03:00:00 PM	2932845.908	68.535	005275
08/14/2015 04:00:00 PM	4746270.303	160.957	005274	08/14/2015 04:00:00 PM	2932920.525	74.617	005275
08/14/2015 05:00:00 PM	4746431.347	160.044	005274	08/14/2015 05:00:00 PM	2932996.635	76.31	005275
08/14/2015 06:00:00 PM	4746586.415	155.068	005274	08/14/2015 06:00:00 PM	2933065.518	68.683	005275
08/14/2015 07:00:00 PM	4746727.476	141.061	005274	08/14/2015 07:00:00 PM	2933127.559	62.041	005275
08/14/2015 08:00:00 PM	4746864.372	136.896	005274	08/14/2015 08:00:00 PM	2933195.384	67.825	005275
08/14/2015 09:00:00 PM	4747004.372	140	005274	08/14/2015 09:00:00 PM	2933263.632	68.248	005275
08/14/2015 10:00:00 PM	4747157.886	133.514	005274	08/14/2015 10:00:00 PM	2933323.26	59.628	005275
08/14/2015 11:00:00 PM	4747269.569	131.683	005274	08/14/2015 11:00:00 PM	2933382.3	59.04	005275

West Campus Parking Garage (TAMU Bldg #1559)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
CHW	004322	31	3/1/2017 – 3/31/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	Scattering data are observed.	11/6/2016 – 3/9/2017
	No clear temperature dependence is observed.	
	The consumption level has decreased suddenly.	3/10/2017 – Ongoing

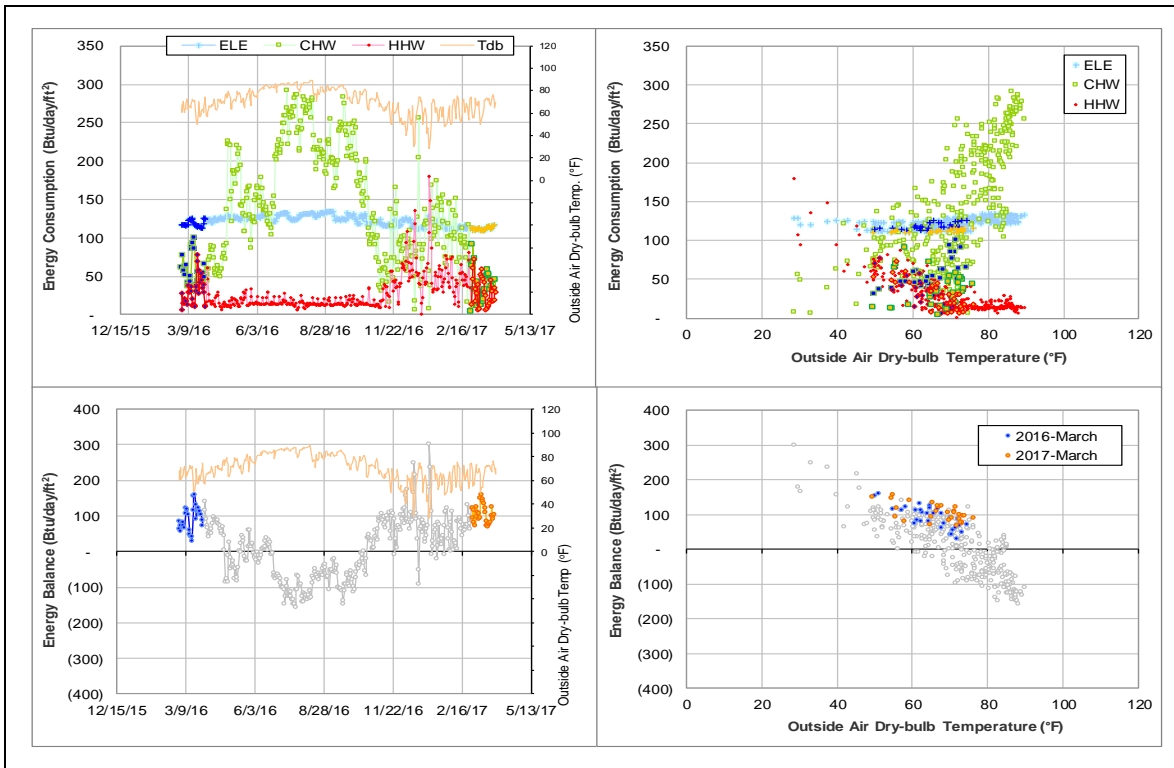
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
CHW	004322	11/6/2016 – 3/9/2017	Flow rate	Scatter
		3/10/2017 – Ongoing	Flow rate	Low

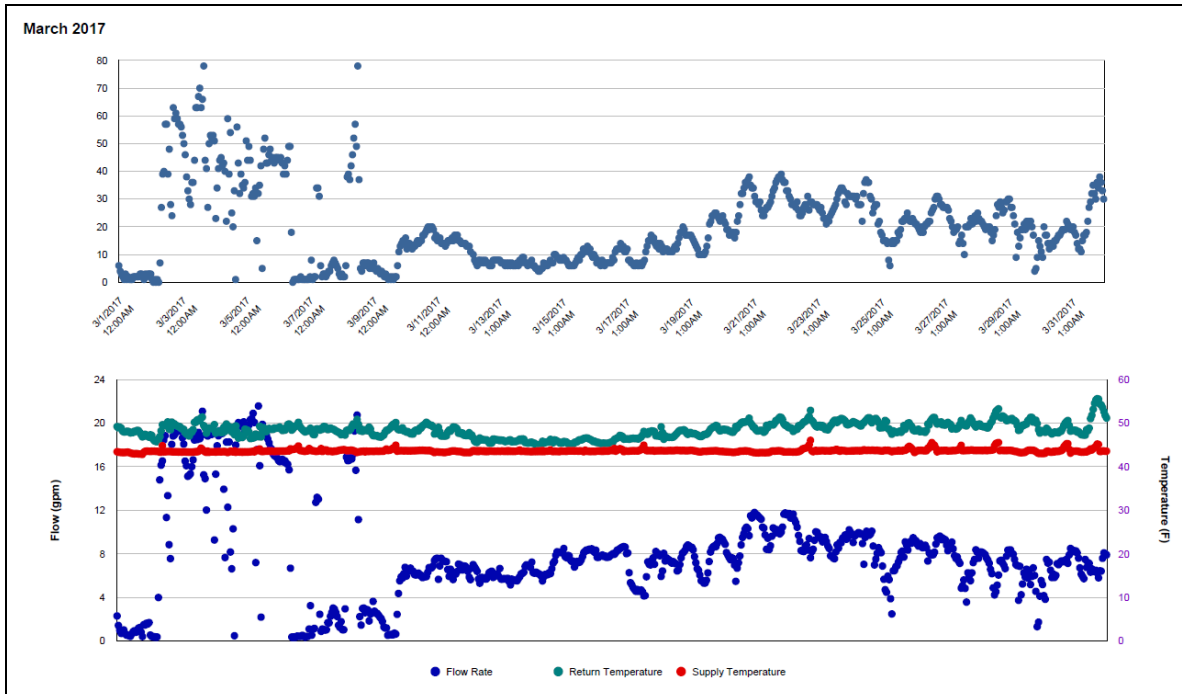
Quantitative descriptions and comments

The CHW flow rate had been severely scattered during 11/6/2016 – 3/9/2017. The flow rate also dropped from 10 – 20 gpm range before the scattering period to 8 – 12 gpm after the period. Since February 2017, CHW has not shown clear temperature dependence. The consumption of this month is estimated using a model based on 6/1/2015 – 5/31/2016 data.

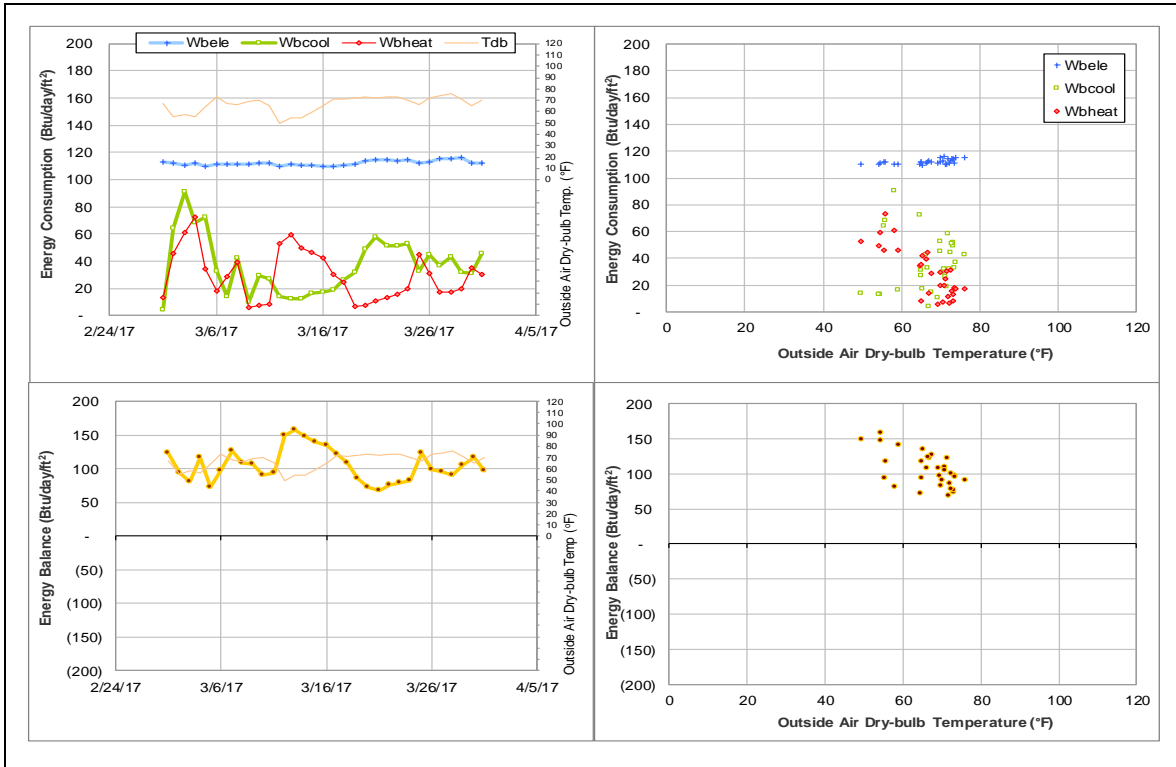
Explanatory Figure: 13 months energy balance plot with original data



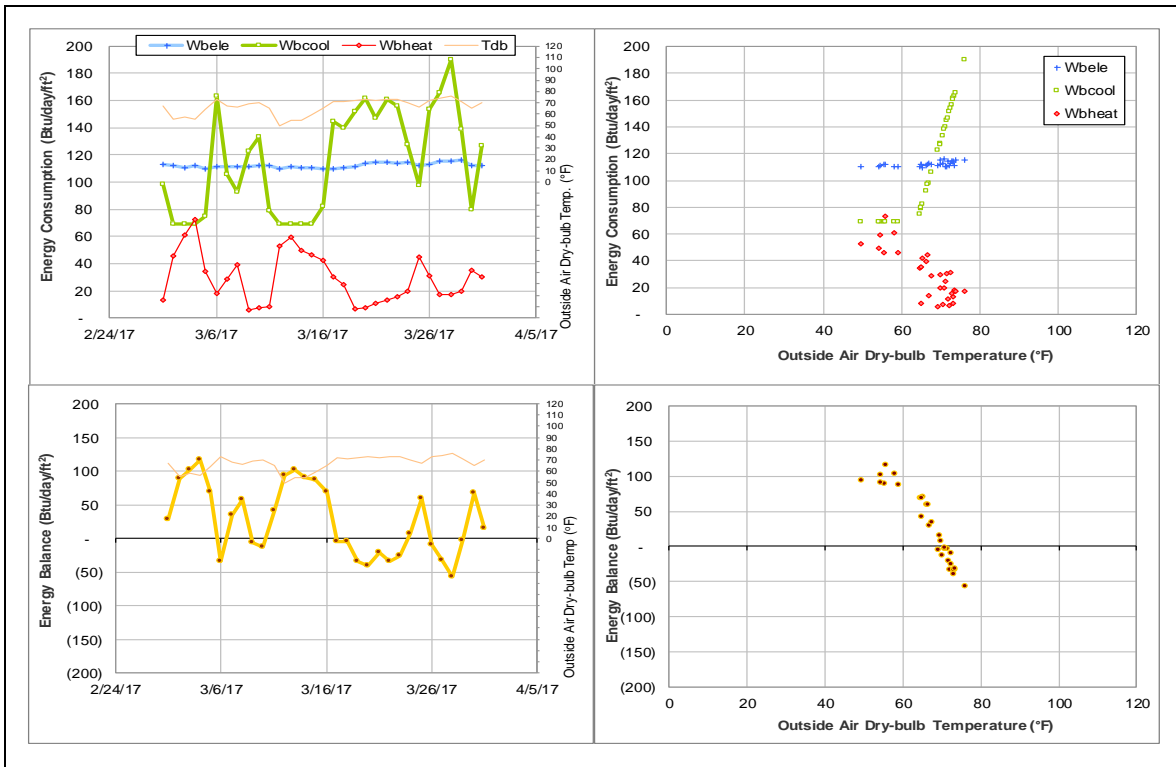
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



International Ocean Discovery Building (TAMU Bldg #1601)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	008145	6	3/9/2017 – 3/14/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption dropped for a short period.	3/9/2017 – 3/14/2017

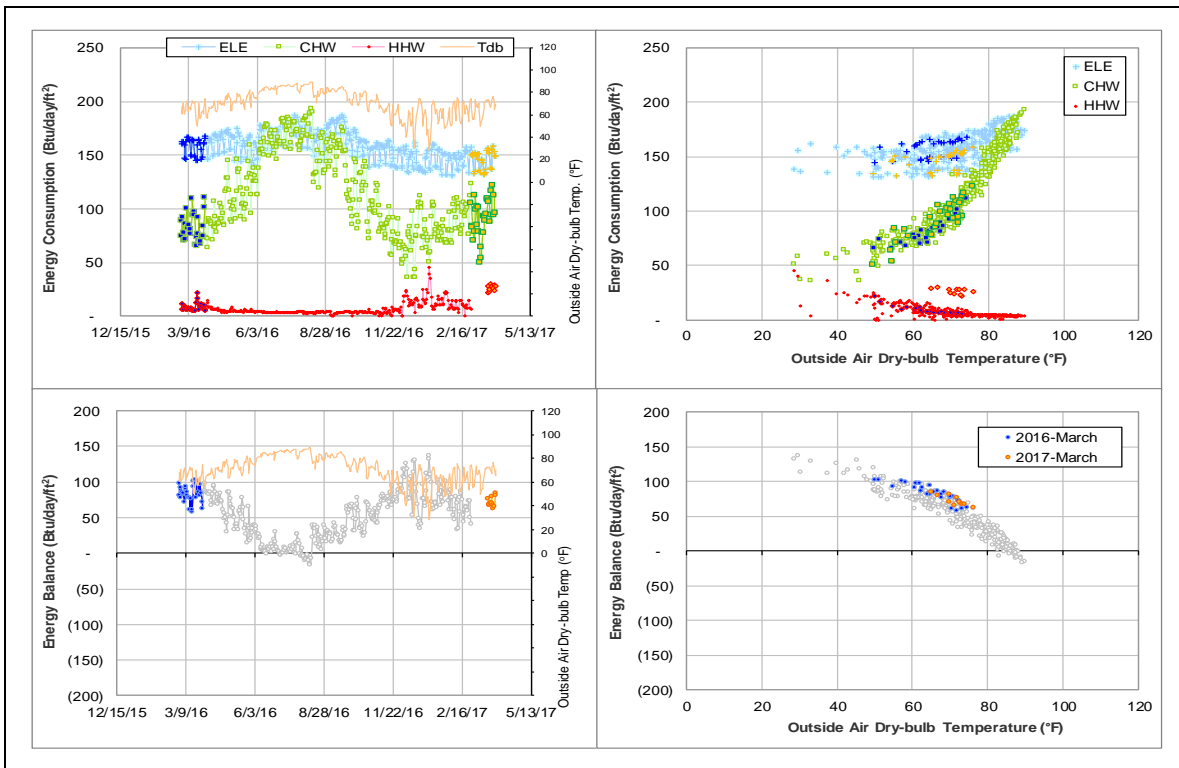
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	008145	3/9/2017 – 3/14/2017	Flow rate	Zero

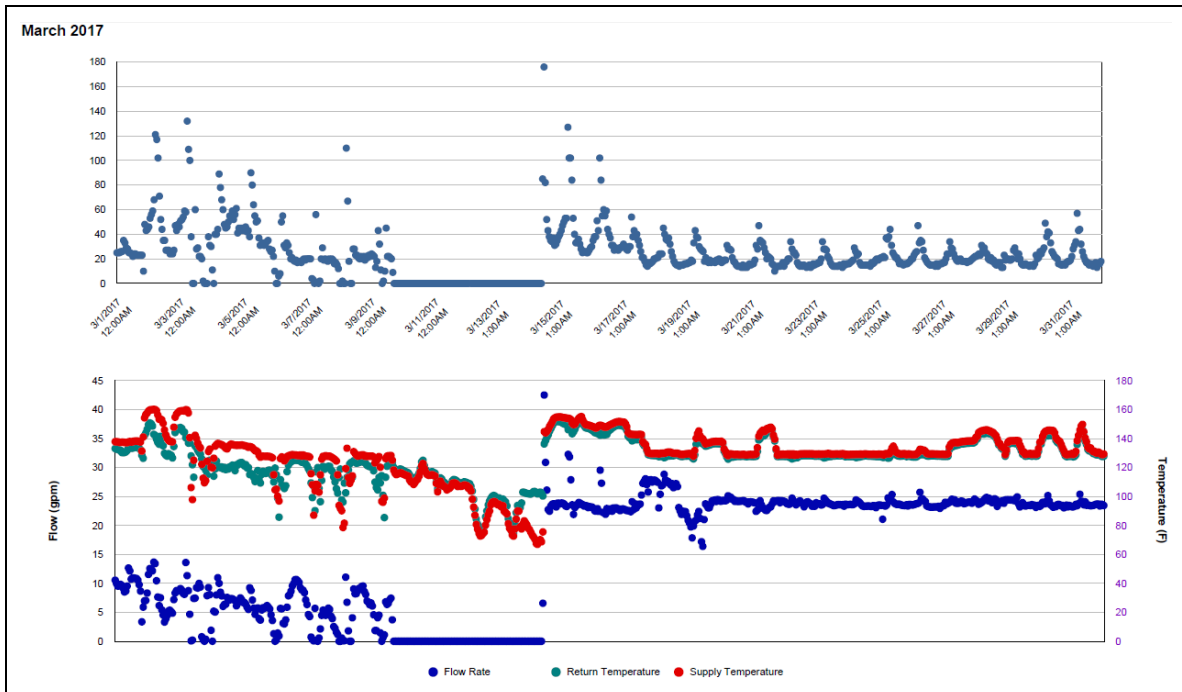
Quantitative descriptions and comments

Flow rate of HHW MID 008145 dropped to zero during 3/9/2017 – 3/14/2017. The flow rate increased substantially after this period, but Delta-T adjusted accordingly and this did not result in a significant change in the consumption level. The days with zero flow rate are estimated using a model. See also Section II-3.

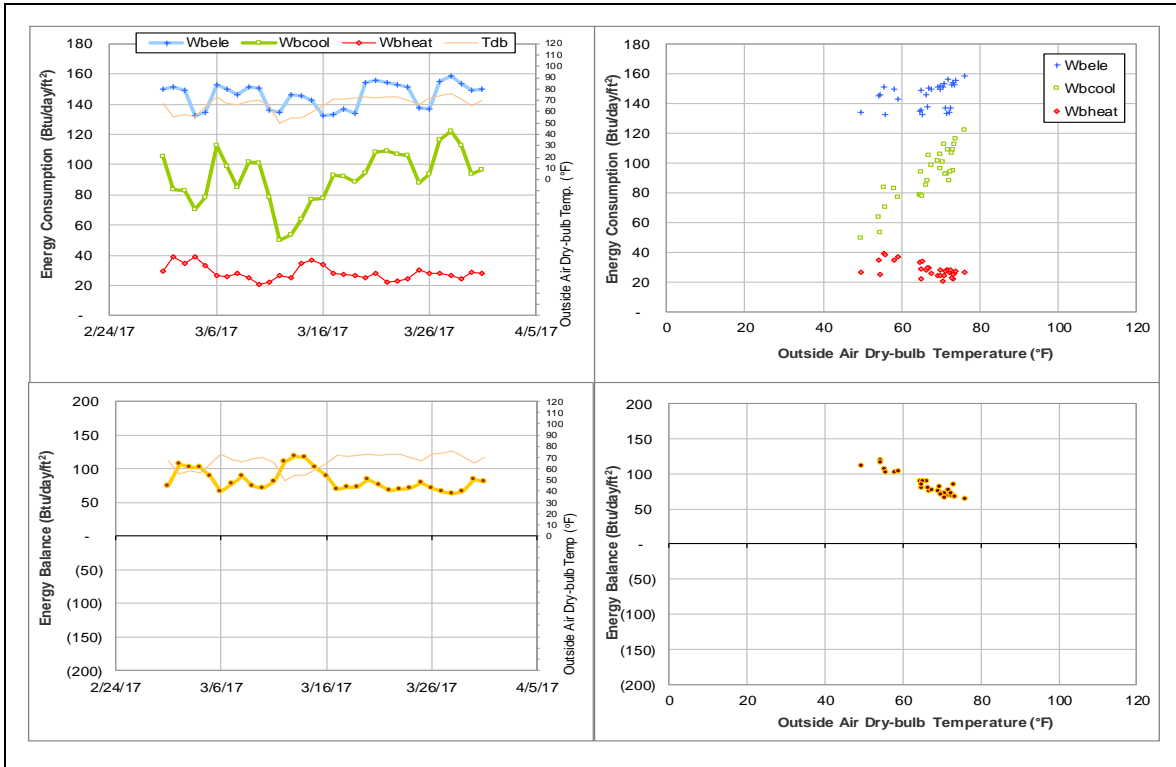
Explanatory Figure: 13 months energy balance plot with original data



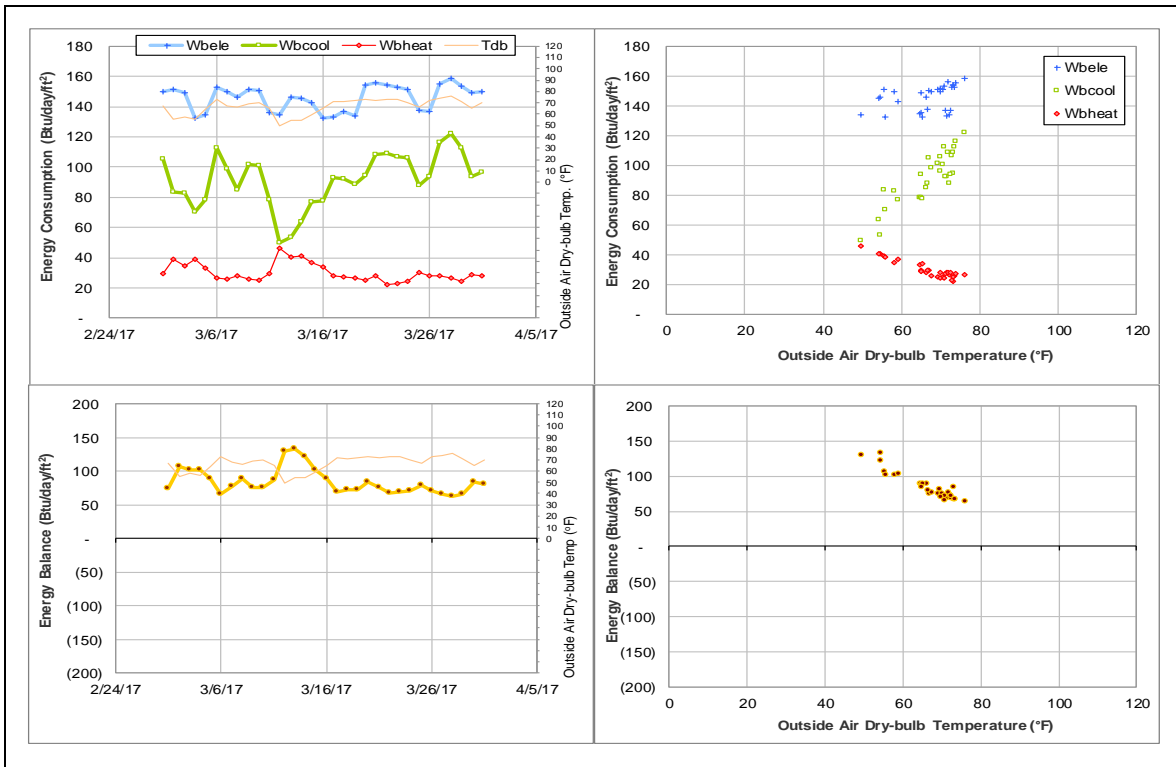
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



Offshore Technology Research Center (TAMU Bldg #1604)

Estimated data

Energy Type	Meter ID	Number of Days	Period	Estimation Method
HHW	008143	6	3/9/2017 – 3/13/2017 3/19/2017	Model

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption dropped for a short period.	3/9/2017 – 3/13/2017 3/19/2017

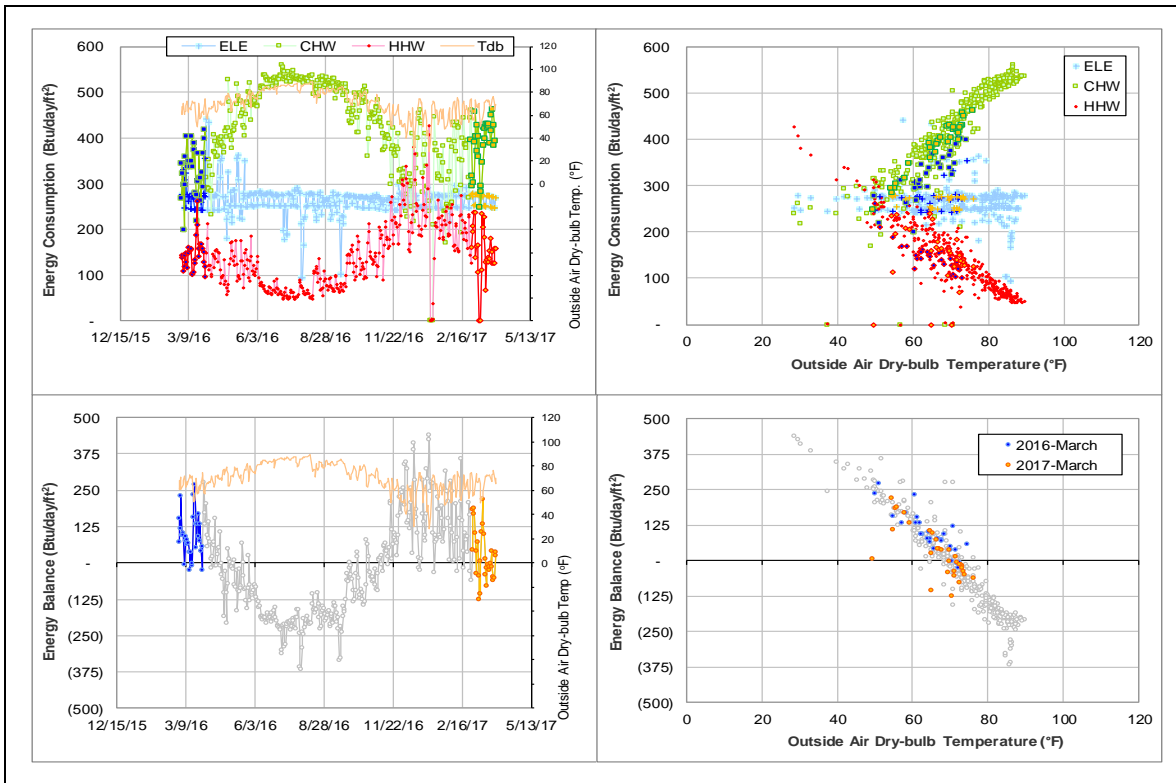
Changes in sensor readings related to the detected issues

Energy Type	Meter ID	Period	Type	Description
HHW	008143	3/9/2017 – 3/13/2017 3/19/2017	Flow rate	Zero

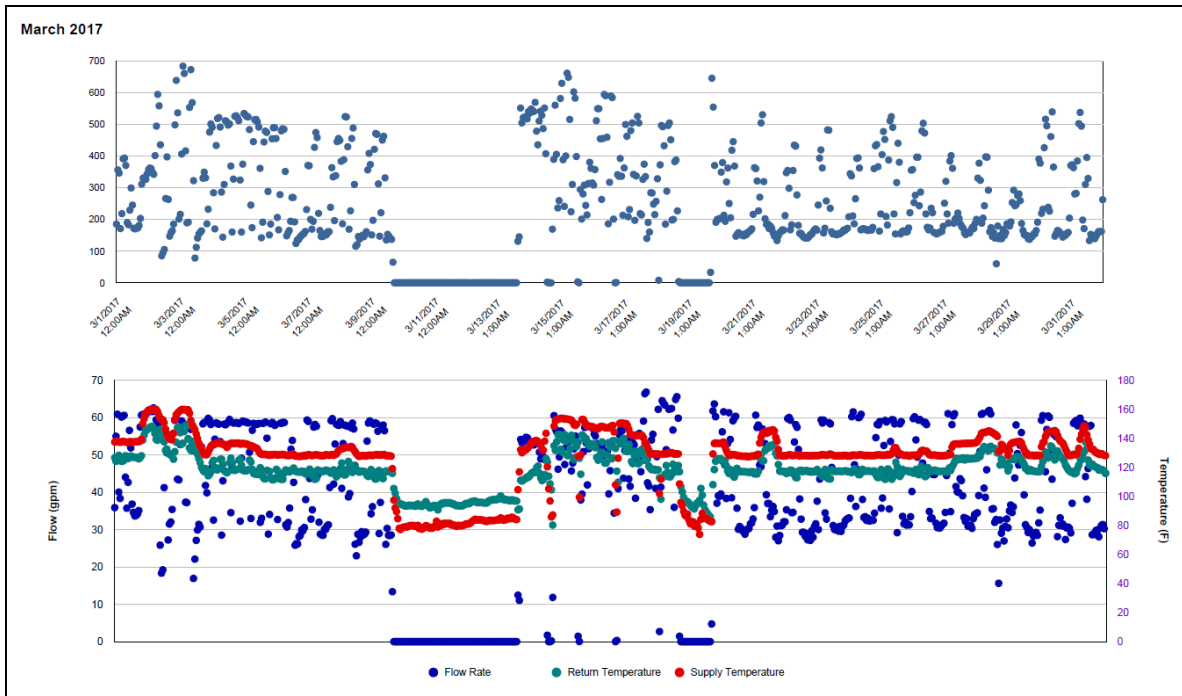
Quantitative descriptions and comments

Flow rate of HHW dropped to zero during 3/9/2017 – 3/13/2017 and on 3/19/2017. These days are estimated using a model. See also Section II-3.

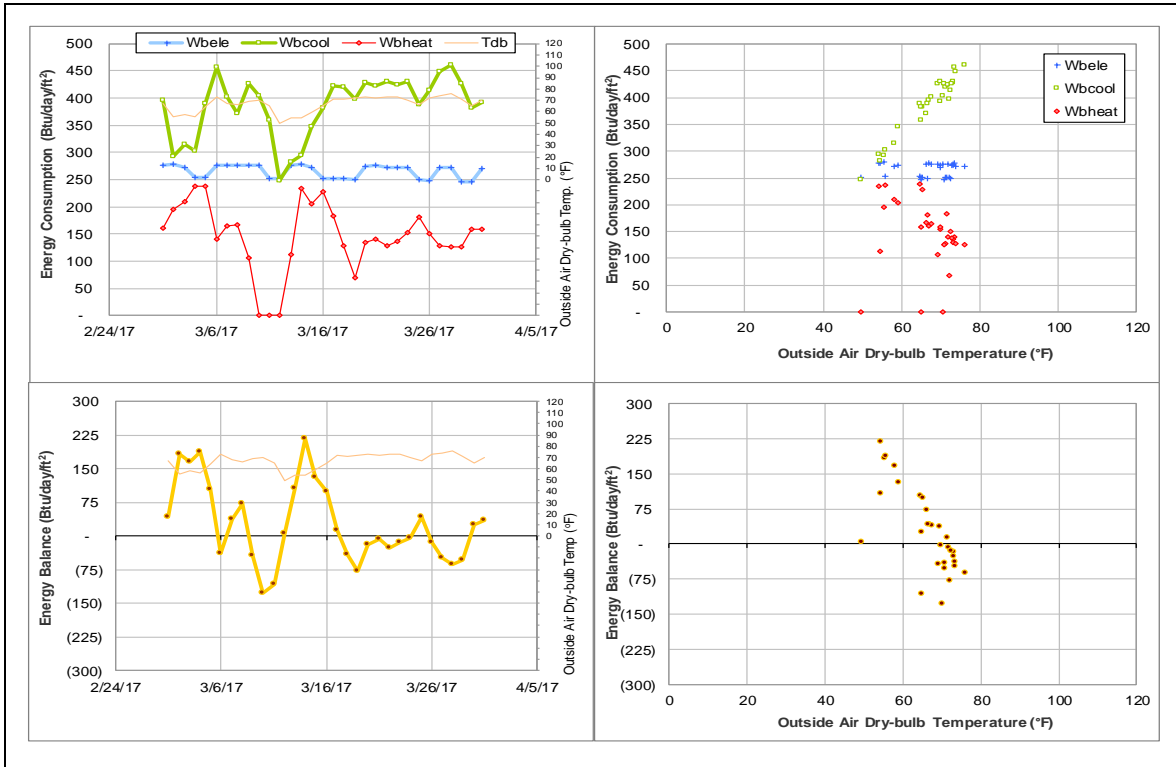
Explanatory Figure: 13 months energy balance plot with original data



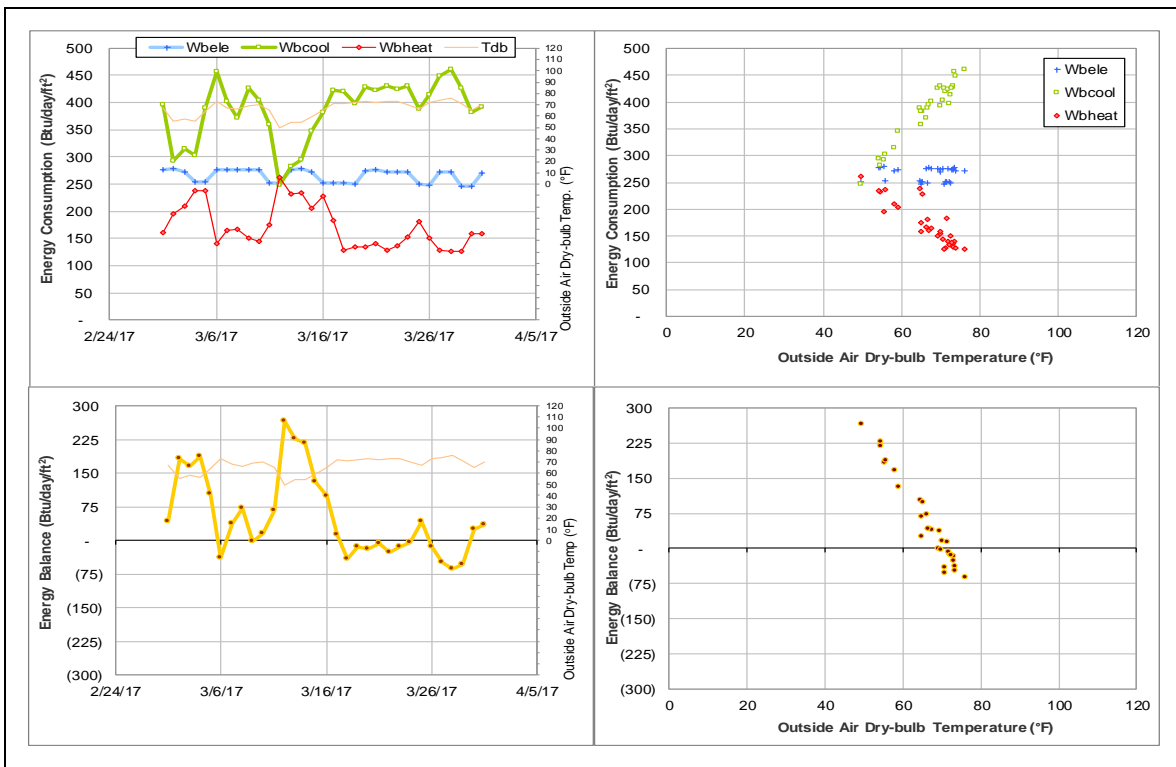
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



Energy balance plot using the original data for the month of analysis. Missing data have been filled in, if any.



Energy balance plot using the estimated data for the month of analysis.



II-3 Meters with Significant Issues in Energy Consumption Data

In this section, significant issues in the data behavior are described. On the contrary to the section II-2, alternative consumption is not estimated for some reasons: presence of continuous problems since the beginning of the data acquisition, unbalanced energy uses in the past data, changes in the consumption patterns without evidence of data problems, etc. Table II-3 gives a list of meters included in this section.

Table II-3 Meters with significant issues in the consumption data during March 2017

Building No.	Building Name	MeterID	Type
0290	Wells Residence Hall	001984	CHW
		001988	HHW
0291	Rudder Residence Hall	002132	CHW
		002136	HHW
0293	Appelt Residence Hall	002062	CHW
		002066	HHW
0353	Bright Aerospace Building	002746	CHW
0394	Underwood Residence Hall	002117	CHW
		002121	HHW
0398	Langford Architecture Center Building A	003951	CHW
		003955	HHW
0419	Legett Residence Hall	000031	ELE
		002218	CHW
		002222	HHW
0434	Luedecke Building (Cyclotron)	005555	ELE
		005558	ELE
		006664	CHW
		006668	HHW
0433	Mosher Residence Hall	009083	ELE
		002485	CHW
		002489	HHW
0447	Aston Residence Hall	002470	HHW
0443	Oceanography & Meteorology Building	006388	CHW
		006392	HHW
0517	DPC Annex	006563	CHW
463	Psychology Building	001575	ELE
		002941	CHW
		002945	HHW
482	Fermier Hall	005878	CHW
		005881	HHW
484	Chemistry Building	007557	ELE
492	Civil Engineering Building	005950	CHW
		005954	HHW
496	Utilities & Energy Services Central Offices	007706	ELE
		006929	CHW
		006933	HHW
499	Engineering Innovation Center	002672	CHW

Building No.	Building Name	MeterID	Type
506	Nagle Hall	001484	ELE
		003619	CHW
		003623	HHW
520	Beutel Health Center	003944	HHW
524	Blocker Building	002918	HHW
740	McNew Laboratory	005874	ELE
		005974	CHW
		005968	HHW
815	Entomology Research Building	006043	CHW
880	TVMC-Small Animal Building	005962	HHW
1026	Veterinary Medicine Administration	006053	HHW
1146	Biological Control Facility	005887	CHW
1156	Physical Plant Administration & Shops	007679	CHW
1197	Veterinary Research Building	006355	ELE
		006359	ELE
1504	Reynolds Medical Sciences Building	003975	ELE
		003989	CHW
		003993	HHW
1525	Nuclear Magnetic Resonance Facility	006716	HHW
1537	Agriculture Public Building	009620	ELE
		009621	ELE
		009622	CHW
		009623	HHW
1558	Cox-McFerrin Center for Aggie Basketball	007577	HHW
1601	International Ocean Discovery Building	006351	ELE
		006382	CHW
		008144	CHW
		008145	HHW
1604	Offshore Technology Research Center	009829	HHW
		006660	ELE
1609	Oceanography & Meteorology Building	008142	CHW
		008143	HHW
1910	National Center for Therapeutics Manufacturing	006496	CHW
		006497	HHW
		007520	HHW

Wells Residence Hall (TAMU Bldg #290)

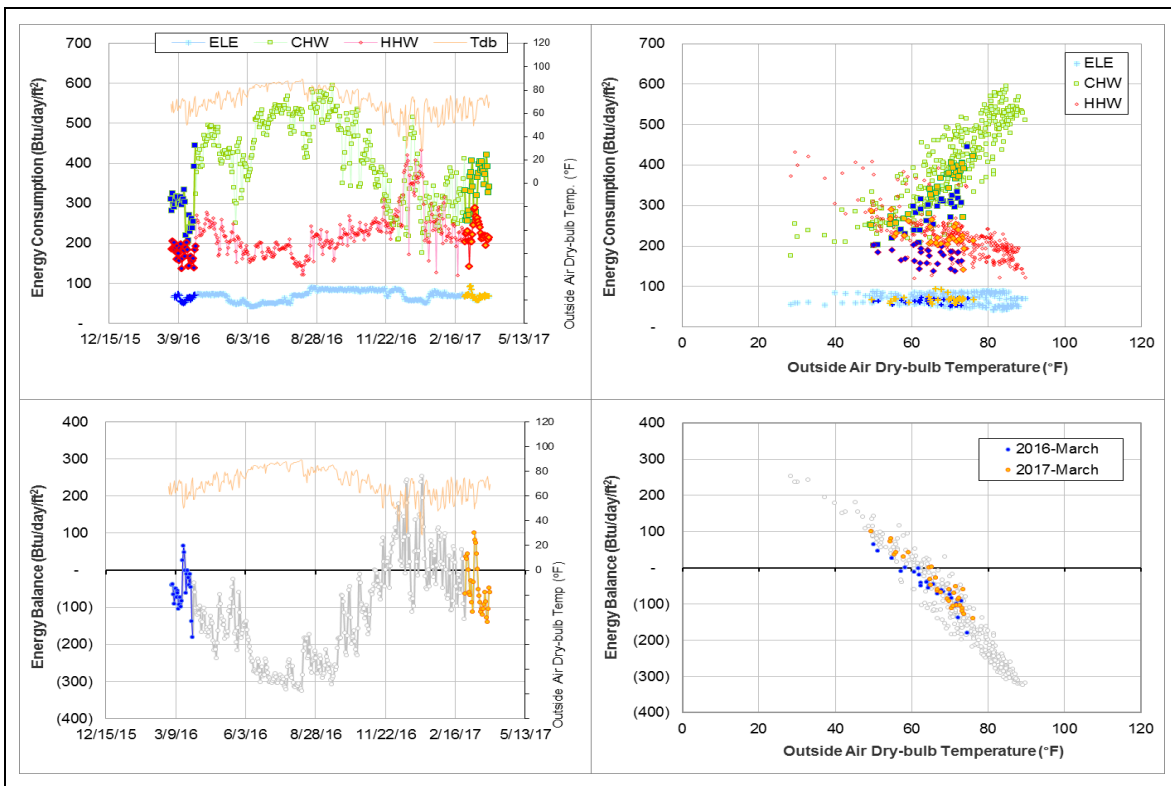
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The energy balance level is low. The cross-point temperature is around 60°F.	For several years

Comments

This building has a low level of energy balance load with the cross-point temperature around 60°F. The low E_{BL} level suggests an imbalance of metered energy use in the building, but we are not able to determine the cause.

Explanatory Figure: 13 months energy balance plot with original data



Rudder Residence Hall (TAMU Bldg #291)

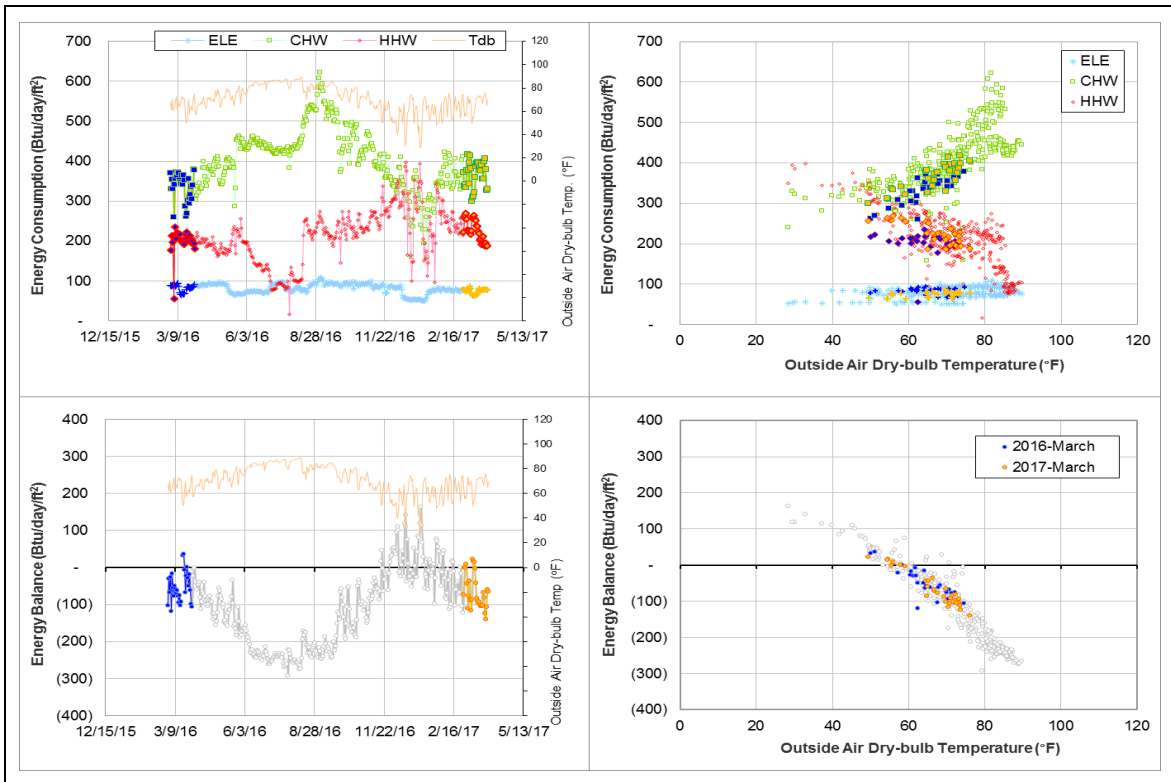
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	Sudden increase by 150 Btu/day/ft ² .	Since August 2016
HHW	Sudden increase by 100 Btu/day/ft ² . The consumption is unstable.	Since August 2016
Energy Balance	The energy balance level is low. The cross-point temperature is around 60°F.	For several years

Comments

This building has a low level of energy balance load with the cross-point temperature around 60°F for years. The low E_{BL} level suggests an imbalance of metered energy use in the building, but we are not able to determine the cause.

Explanatory Figure: 13 months energy balance plot with original data



Appelt Residence Hall (TAMU Bldg #293)

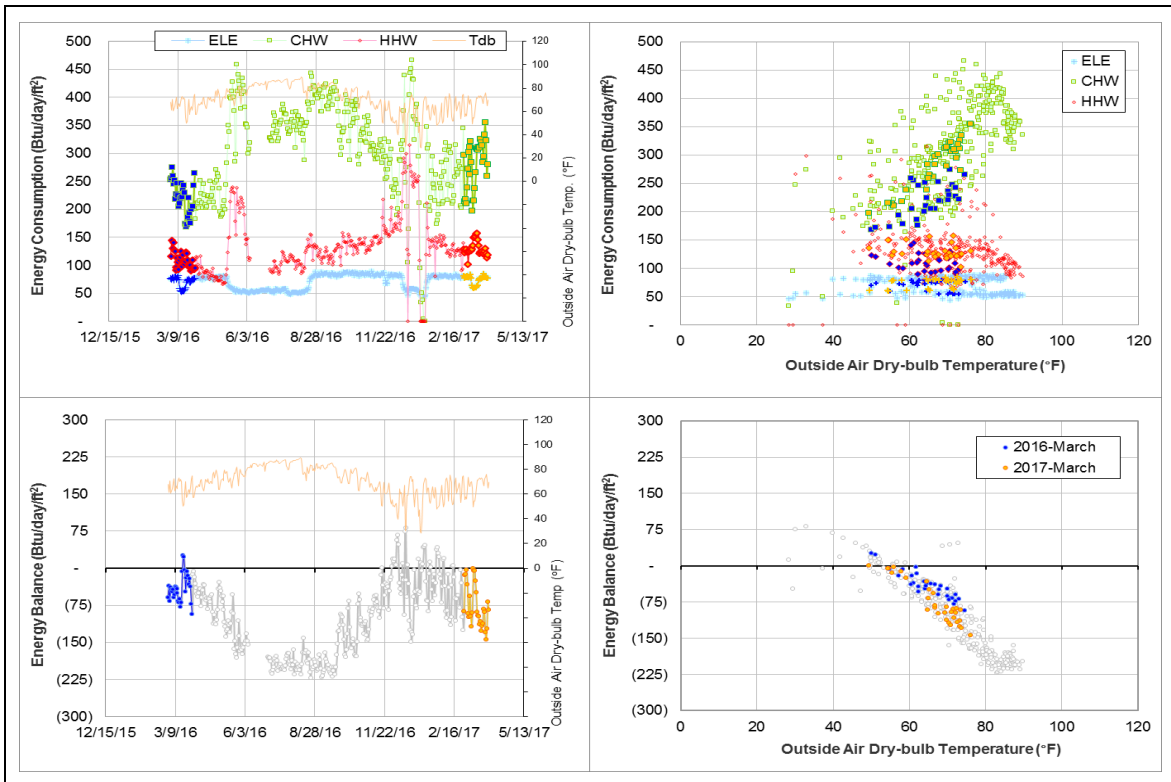
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW and HHW	The consumption level changes frequently	Since December 2014
Energy Balance	The energy balance decreased and the cross-point temperature is around 55°F.	Since January 2015

Comments

Both the CHW and HHW consumption levels have been unstable and changing frequently. The energy balance load was low with the cross-point temperature around 55°F. The low E_{BL} level suggests an imbalance of metered energy use in the building, but we are not able to determine the cause.

Explanatory Figure: 13 months energy balance plot with original data



Bright Building (TAMU Bldg #353)

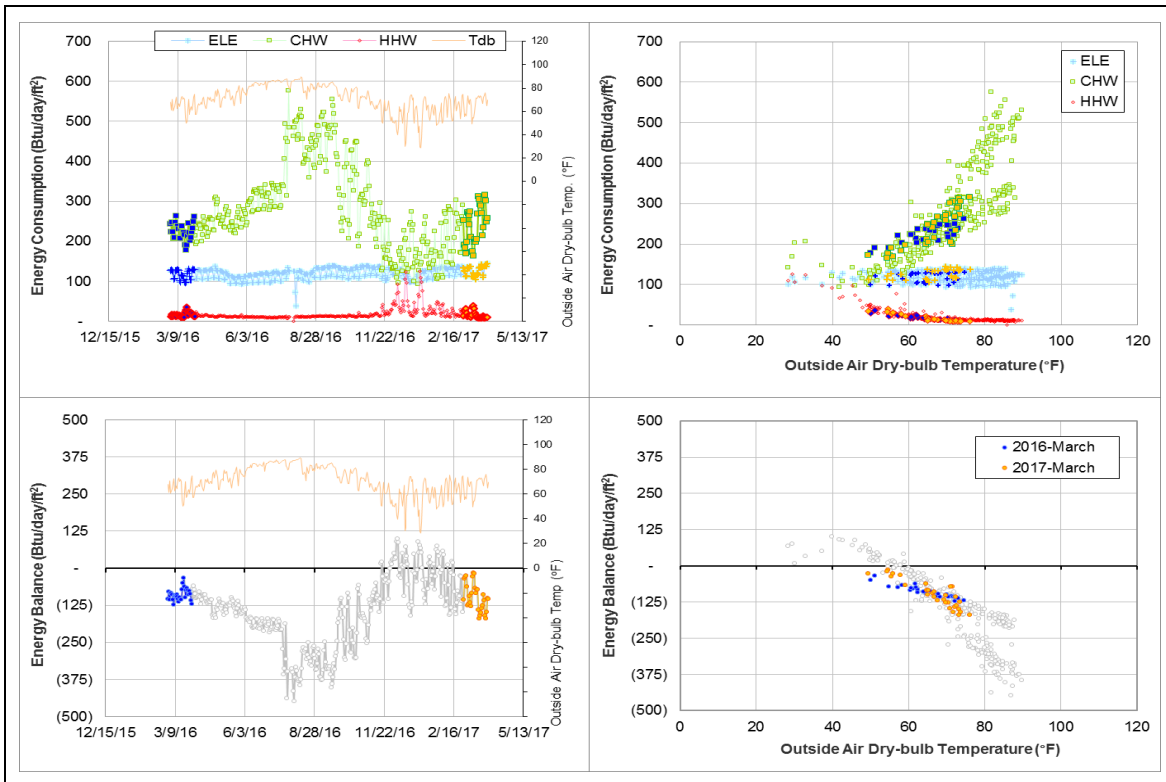
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The energy balance level has been low for years. The cross-point temperature was in the range of 40 - 70 °F.	For several years
CHW	The consumption pattern changed.	Since July 2016

Comments

The energy balance load (E_{BL}) of this building has varied but always been low (the cross-point temperature was between 40°F and 70°F) for years. CHW consumption increased greatly on 7/21/2016 and switched to a new pattern with a steeper slope.

Explanatory Figure: 13 months energy balance plot with original data



Underwood Residence Hall (TAMU Bldg #394)

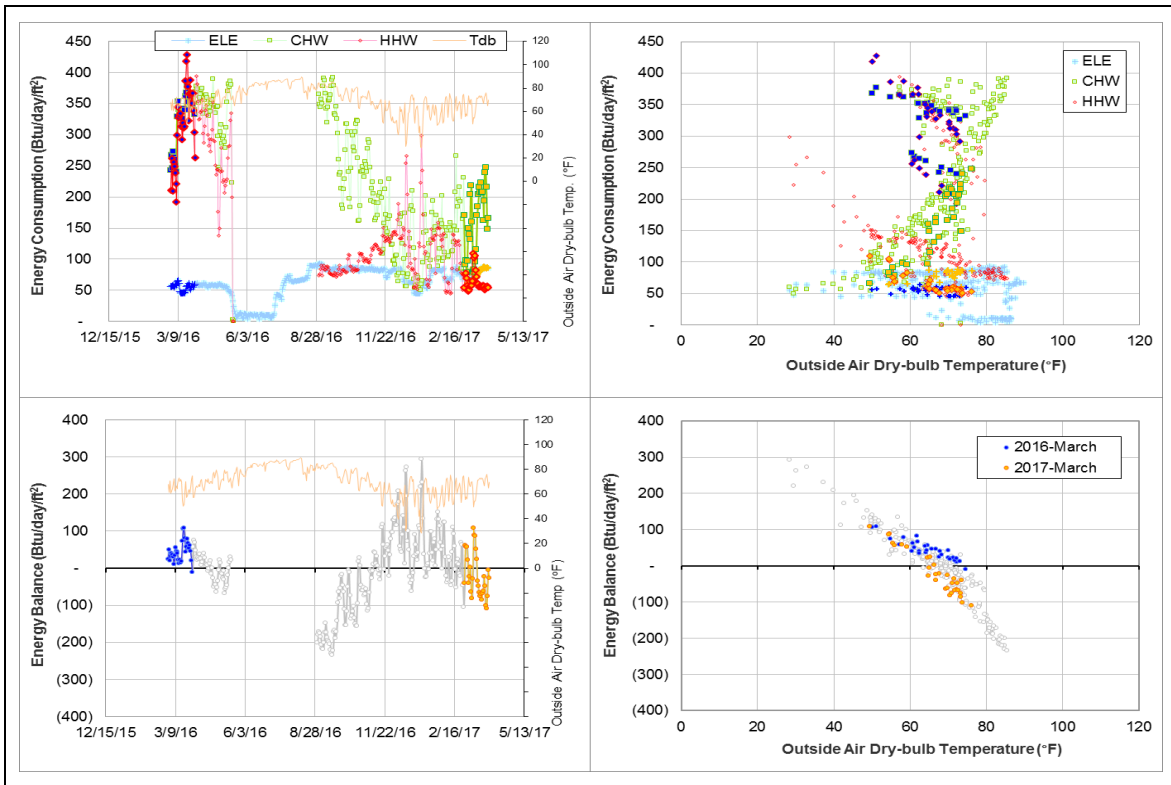
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption pattern is unstable.	9/1/2016 - ongoing
HHW	The consumption pattern is unstable.	9/1/2016 - ongoing

Comments

The CHW and HHW consumption has decreased since the data return in September 2016. This building was in ESCO list. However, there seem to be two different patterns forming after ESCO. More data is needed to see how the pattern develops.

Explanatory Figure: 13 months energy balance plot with original data.



Langford Architecture Center Building A (TAMU BLDG # 398)

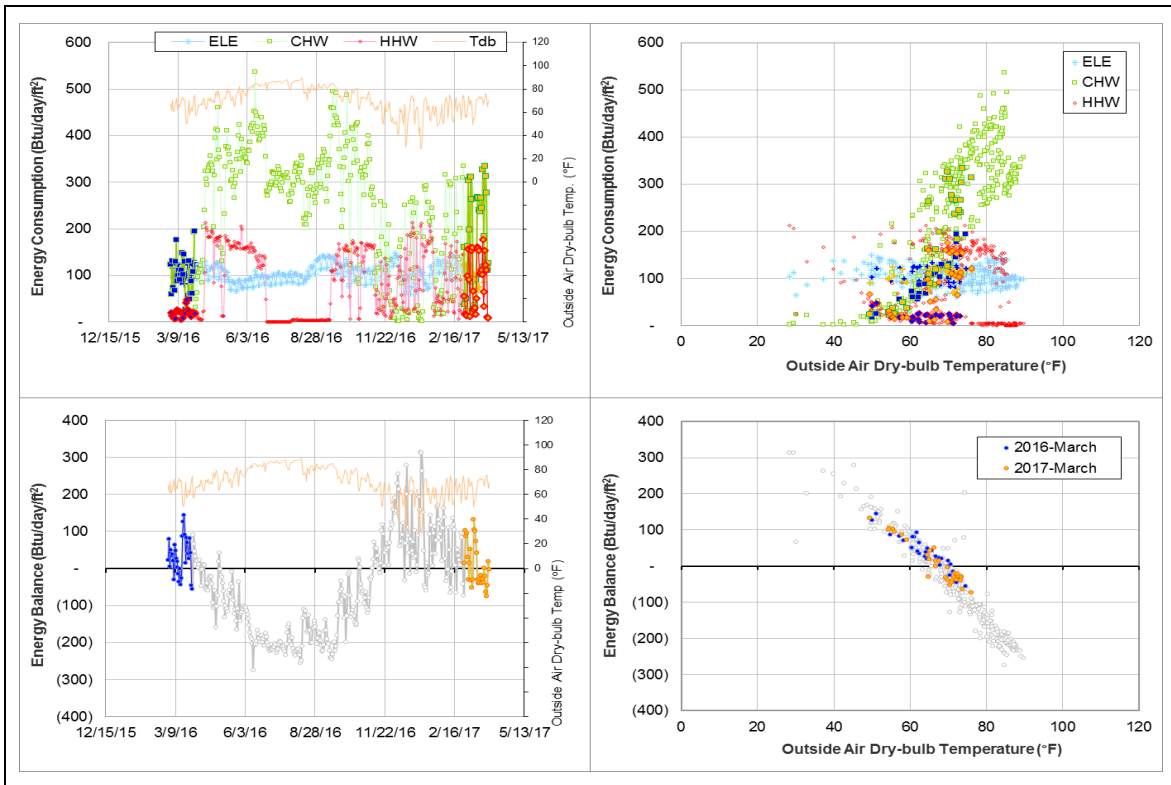
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW and HHW	The consumption has been fluctuating greatly.	For several years

Comments

CHW and HHW consumption has been unstable for several years. HHW flow rate can be seen going up and down between a maximum level and a very low level. The energy balance, however, is not disturbed during these fluctuations.

Explanatory Figure: 13 months energy balance plot with original data



Legett Residence Hall (TAMU BLDG # 419)

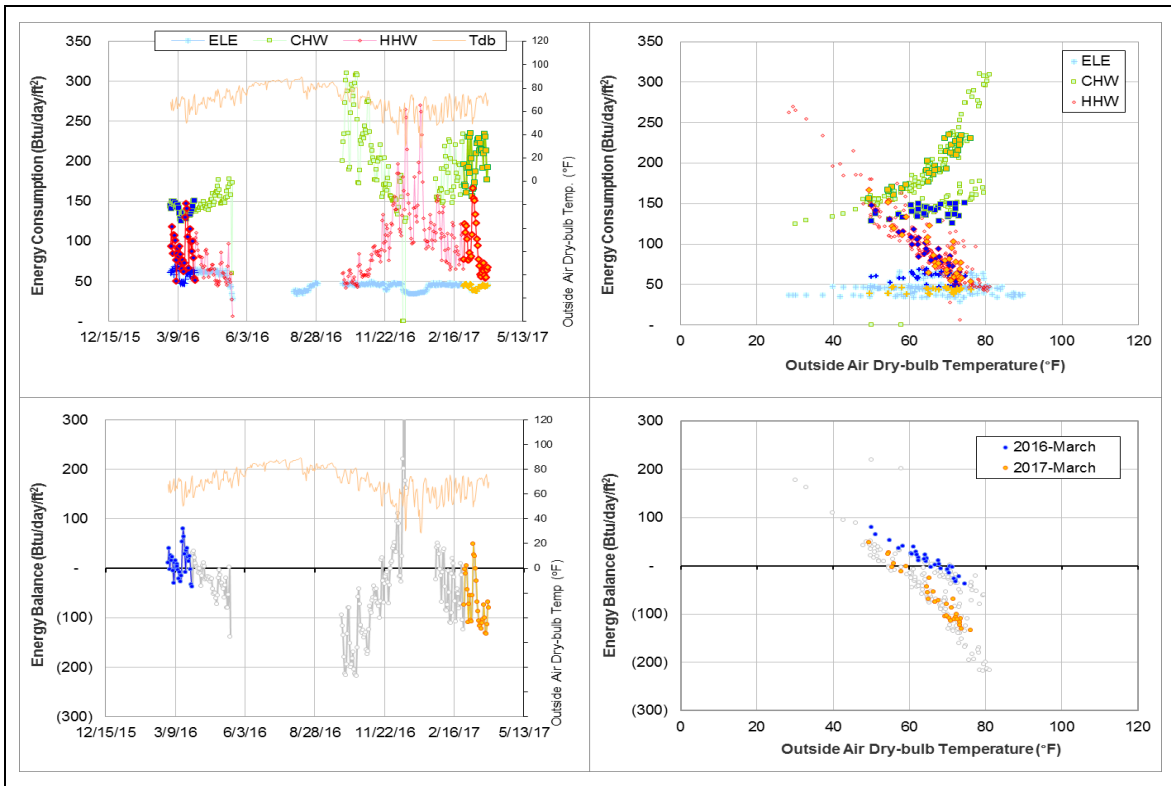
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption decreased after the missing period.	Since October 2016
CHW	The consumption increased after the missing period.	Since October 2016
HHW	The consumption decreased after the missing period.	Since October 2016
EB	The cross-point moved from 68°F to 55°F.	Since October 2016

Comments

After the missing period from May to October 2016, ELE and HHW consumption decreased and CHW consumption increased. EB cross-point moved from 68°F to 55°F since then.

Explanatory Figure: 13 months energy balance plot with original data (The plot is rescaled to remove the spikes.)



Legett Residence Hall (TAMU Bldg #419) and Aston Residence Hall (TAMU Bldg #447)

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level is higher than normal.	3/13/2017 – 3/17/2017

Comments

The HHW consumption level during the week of spring break (3/13/2017 – 3/17/2017) is higher than normal for Legett Residence Hall (TAMU Bldg # 419) and Aston Residence Hall (TAMU Bldg # 447). But no metering issue is observed.

Luedecke Building (Cyclotron) (TAMU BLDG # 434)

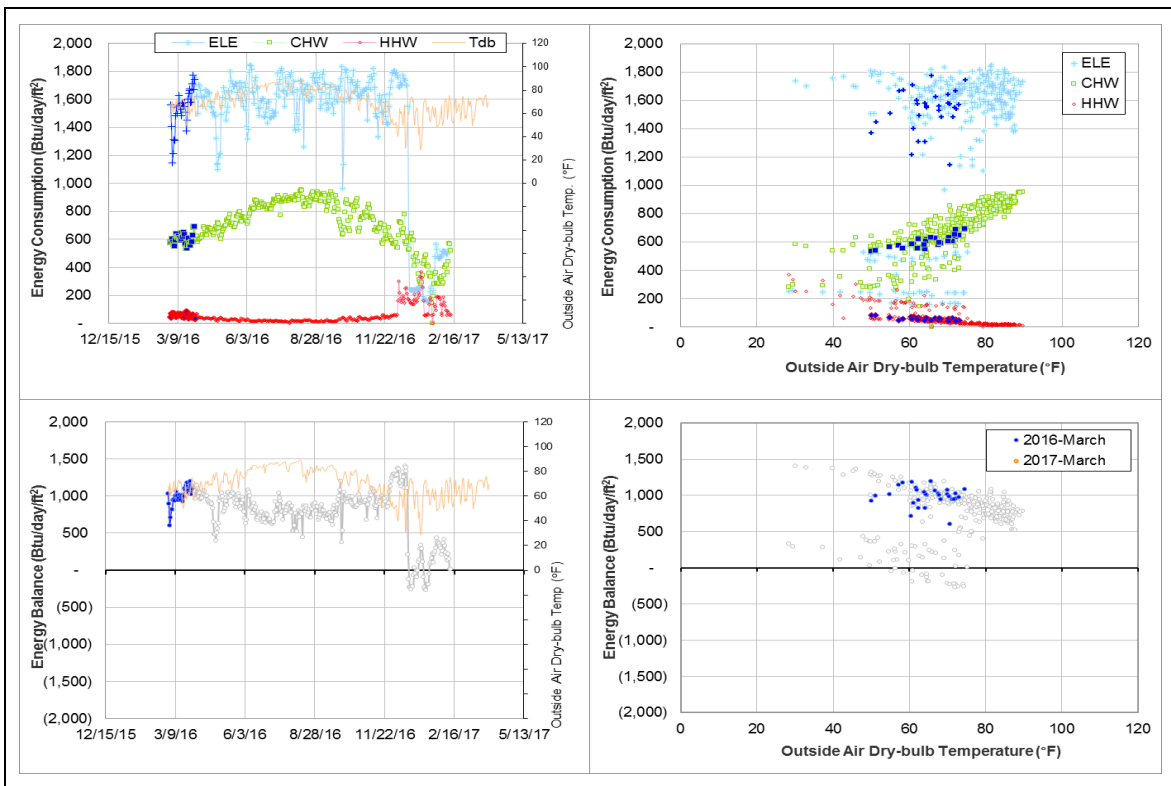
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
All utilities	Utilities did not rise back to normal level.	Starting February 2017

Comments

The consumption of all utilities of this building drops to a very low level in December and gradually rises back to normal in February each year. The meter readings went missing on 2/13/2017. But the consumption had not increased back to normal by then as expected. The missing consumption after 2/13/2017 was estimated by models based on the data with higher levels.

Explanatory Figure: 13 months energy balance plot with original data



Mosher Residence Hall (TAMU BLDG # 433)

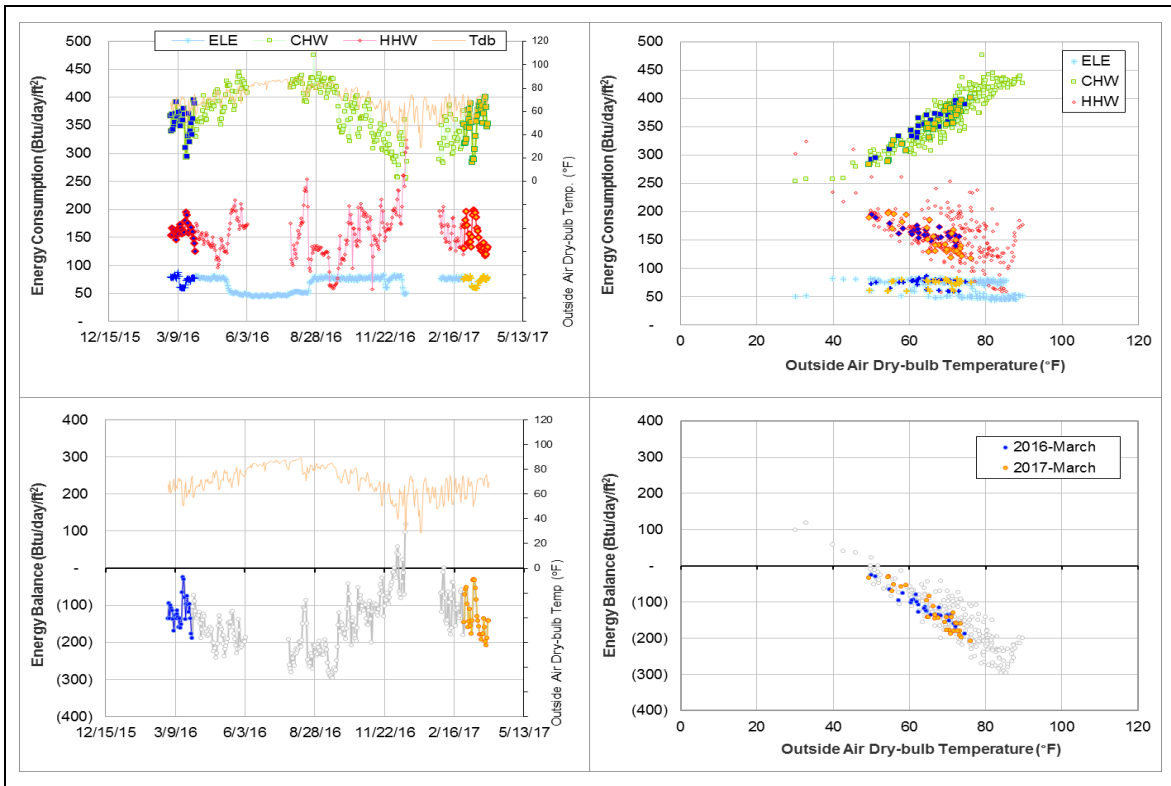
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption level gradually increased.	Since 2015
HHW	The consumption level gradually decreased.	Since 2015
ELE	The consumption level suddenly decreased.	Since January 2016
Energy Balance	The cross-point temperature is lower than 50°F.	Since 2015

Comments

The ELE meter (MID 009083) replaced old meter (MID 000290) since January 2016. After that, the consumption decreased from 105 Btu/day/ft² to 80 Btu/day/ft² (approximately 25%). At near 40°F compared to 11/2014, CHW increased slightly by about 25 Btu/day/ft² and HHW decreased slightly by about 25 Btu/day/ft². HHW started to scatter since 5/2016 (shortly before the missing period). The cross-point temperature decreased further from near 55°F to lower than 50°F now. It is suggested to investigate these meters.

Explanatory Figure: 13 months energy balance plot with original data



Oceanography & Meteorology Building (TAMU Bldg #443)

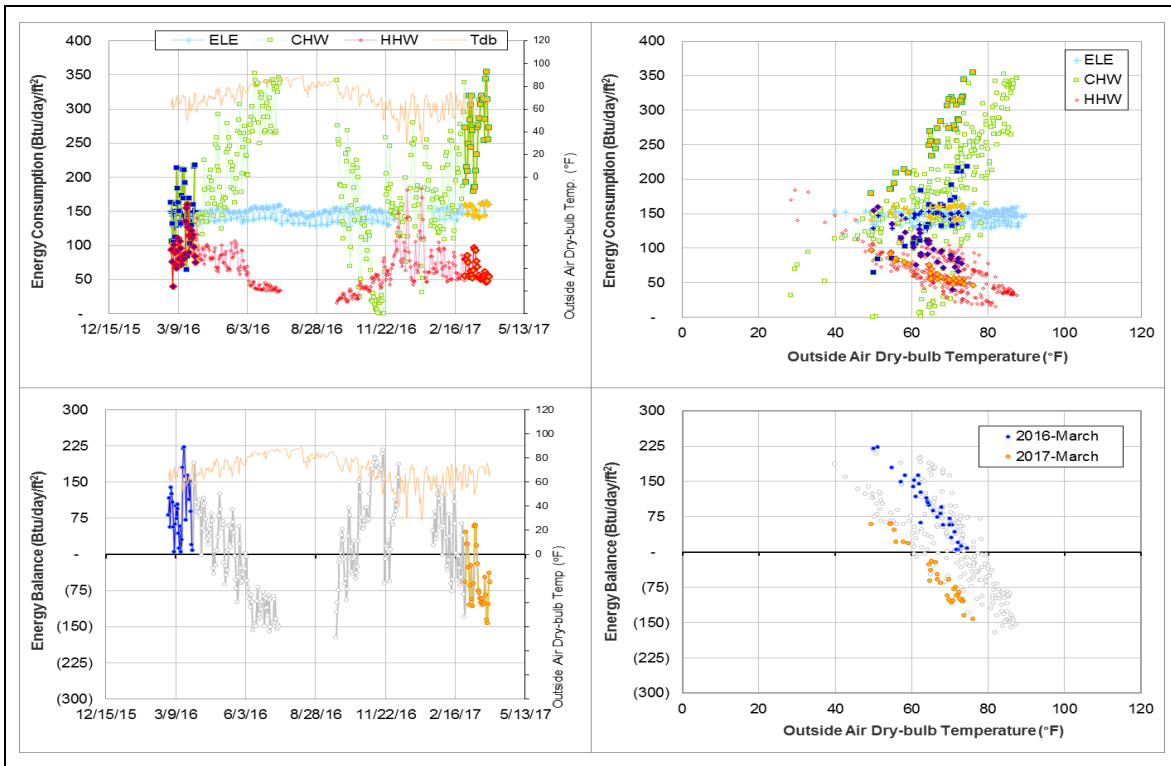
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	The consumption significantly decreased after a missing period.	Since September 2016
	The consumption increased suddenly.	Since November 2016
HHW	The consumption significantly decreased after a missing period.	Since September 2016
EB	The cross-point temperature moved from 75°F to 62°F.	Since November 2016

Comments

Both CHW and HHW consumption decreased significantly in September 2016 due to changes in Delta-T including negative values for CHW Delta-T. Starting 11/22/2016, the CHW Delta-T became positive but the consumption showed a sharp increase causing the EB cross-point temperature to move from 75°F to 62°F. See also section II-2.

Explanatory Figure: 13 months energy balance plot with original data.



DPC Annex (TAMU BLDG # 517)

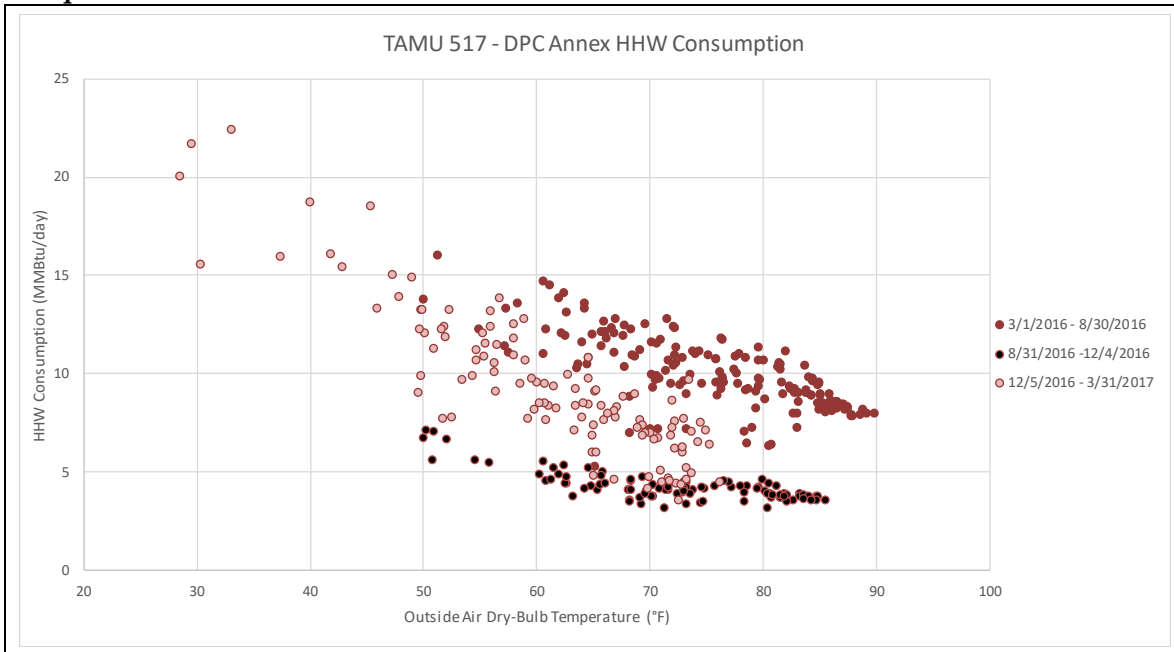
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The HHW consumption level decreased.	8/31/2016 – Ongoing

Comments

Starting 8/31/2016, the HHW consumption level decreased dropping clearly below the main pattern until 12/4/2016. The most recent data (12/5/2016 – 3/31/2017) appears between the main pattern and the lower pattern. This does not appear to be a meter issue. More data is needed to see how the pattern continues.

Explanatory Figure: 13 months energy consumption versus outside air dry-bulb temperature.



Psychology Building (TAMU Bldg #463)

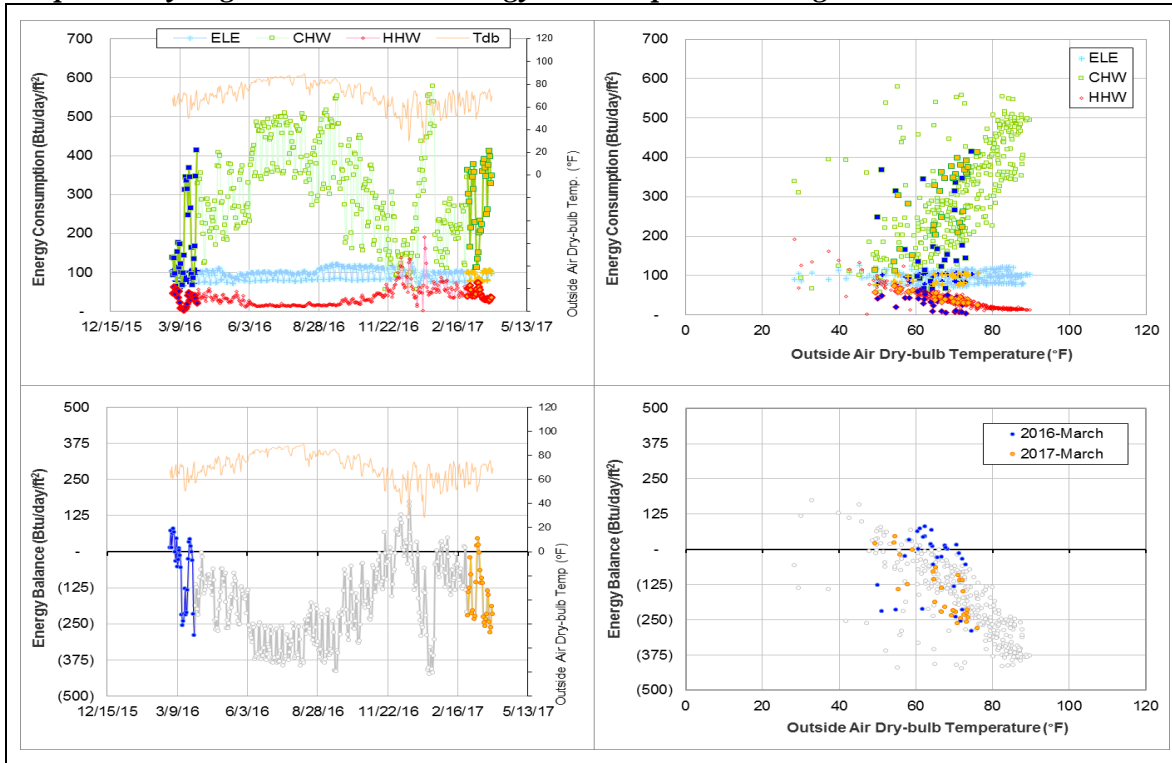
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The pattern is scattered and the level is low.	Ongoing after ESCO implementation in 2011
CHW	The consumption pattern versus ambient temperature scatters.	

Comments

The CHW consumption pattern versus ambient temperature started to scatter after ESCO implementation. The CHW consumption level is high, because the CHW temperature differential is around 20°F that is high for an office building with conventional HVAC systems. The building had energy efficiency improvements by ESCO during the period of 5/9/2011–8/19/2011.

Explanatory Figure: 13 months energy balance plot with original data.



Fermier Hall (TAMU Bldg #482)

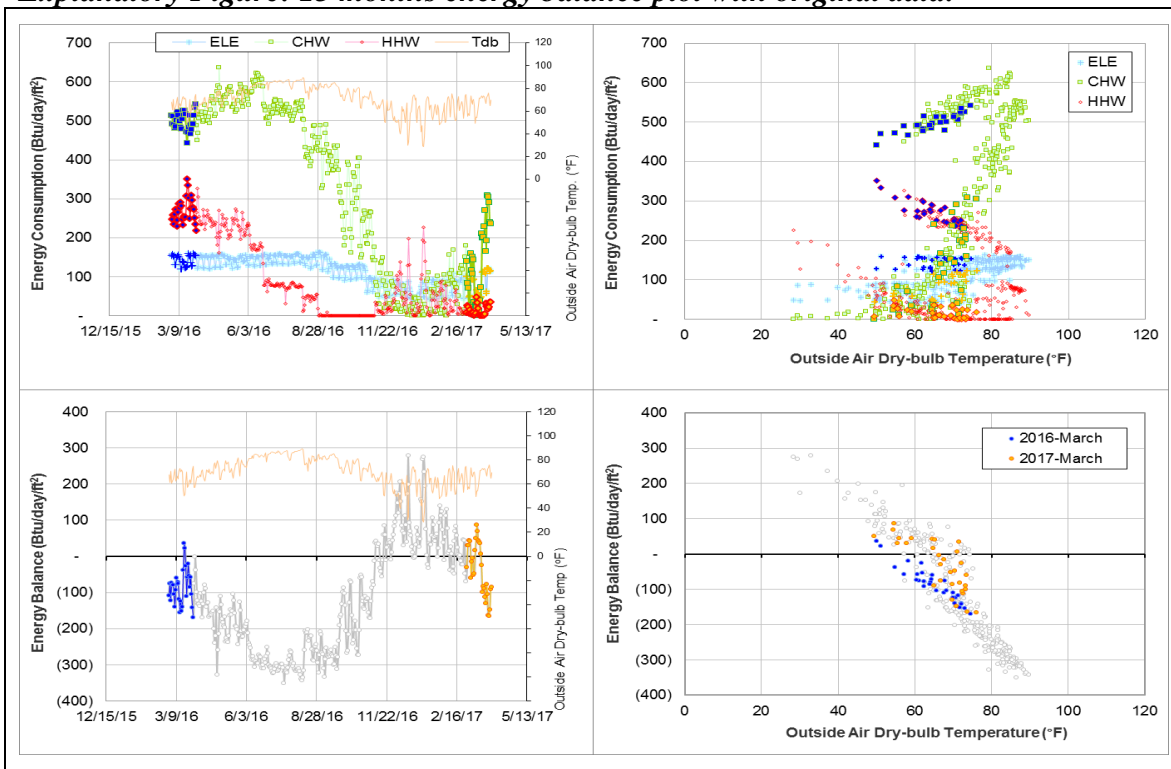
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW/HHW	The consumption level has significantly decreased.	6/24/2016 – Ongoing

Comments

CHW and HHW of this building decreased significantly in steps since 6/24/2016. Since the energy balance plot has retained its pattern up to 12/23/2016, the drop may be due to a decrease in usage. The CHW winter break (12/23/2016 – 12/31/2016) consumption is lower than the recent pattern but does not appear to be a meter issue.

Explanatory Figure: 13 months energy balance plot with original data.



Chemistry Building (TAMU Bldg #484)

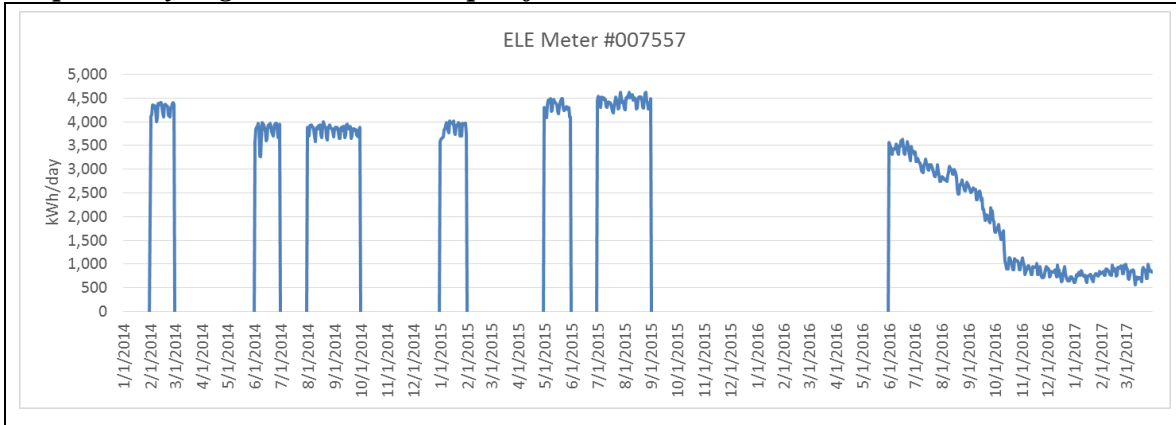
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The ELE consumption level has decreased significantly.	6/1/2016 – ongoing

Comments

There are four ELE meters for this building. The consumption for one of them (MID #007557) decreased gradually from 6/1/2016 to 8/31/2016 then more significantly in September and October 2016. This change appears to be related to building renovations.

Explanatory Figure: Times series plot for meter #007557



Civil Engineering Building (TAMU Bldg #492)

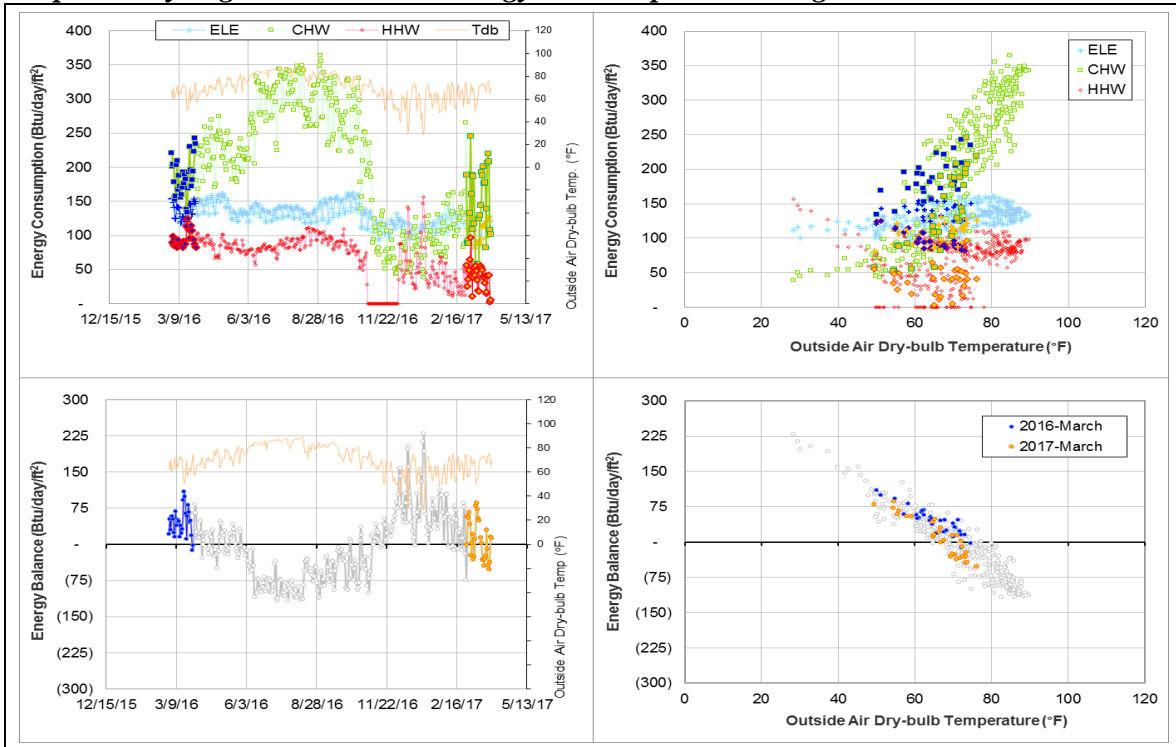
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW/HHW	The consumption level decreased.	10/29/2016 – Ongoing.

Comments

Starting 10/29/2016, the CHW and HHW consumption levels decreased and continued to remain low. Excluding HHW meter issue from 10/29/2016 – 12/7/2016 (zero flow rate and near zero delta-T), the lower consumption levels may be due to ESCO.

Explanatory Figure: 13 months energy balance plot with original data.



Utilities & Energy Services Central Office (TAMU Bldg #496)

Detected issues in the energy balance and/or the consumption data

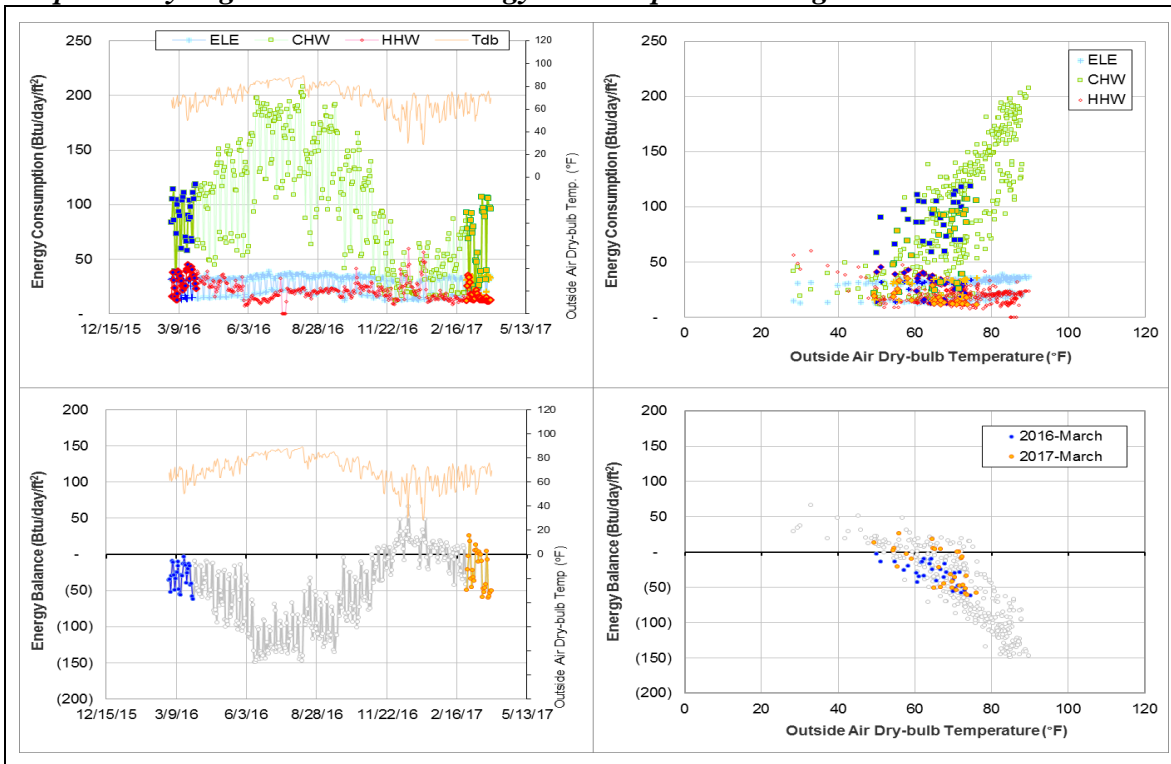
Data Type	Description of data behaviors	Period
ELE, CHW, and HHW	The energy use per unit floor area is low compared to other buildings.	Since the data became available on 7/1/2012

Comments

The peak electricity use density was around 0.65 W/ft² which is small compared to that of other office buildings on campus. The delta T for HHW seemed to be small for years. The CHW and HHW consumption per the unit floor area also seemed to be low. It is possible that the GSF we have (46,110 ft²) includes substantial unoccupied space. The CHW consumption during the winter break period (12/23/2016 – 12/31/2016) is lower than previous winter break periods but does not appear to be a meter issue.

The energy balance scatter is due to the consumption level changes for CHW and HHW, the cross-point temperature of the energy balance was in the range of 50 to 70°F.

Explanatory Figure: 13 months energy balance plot with original data.



Engineering Innovation Center (TAMU Bldg # 499)

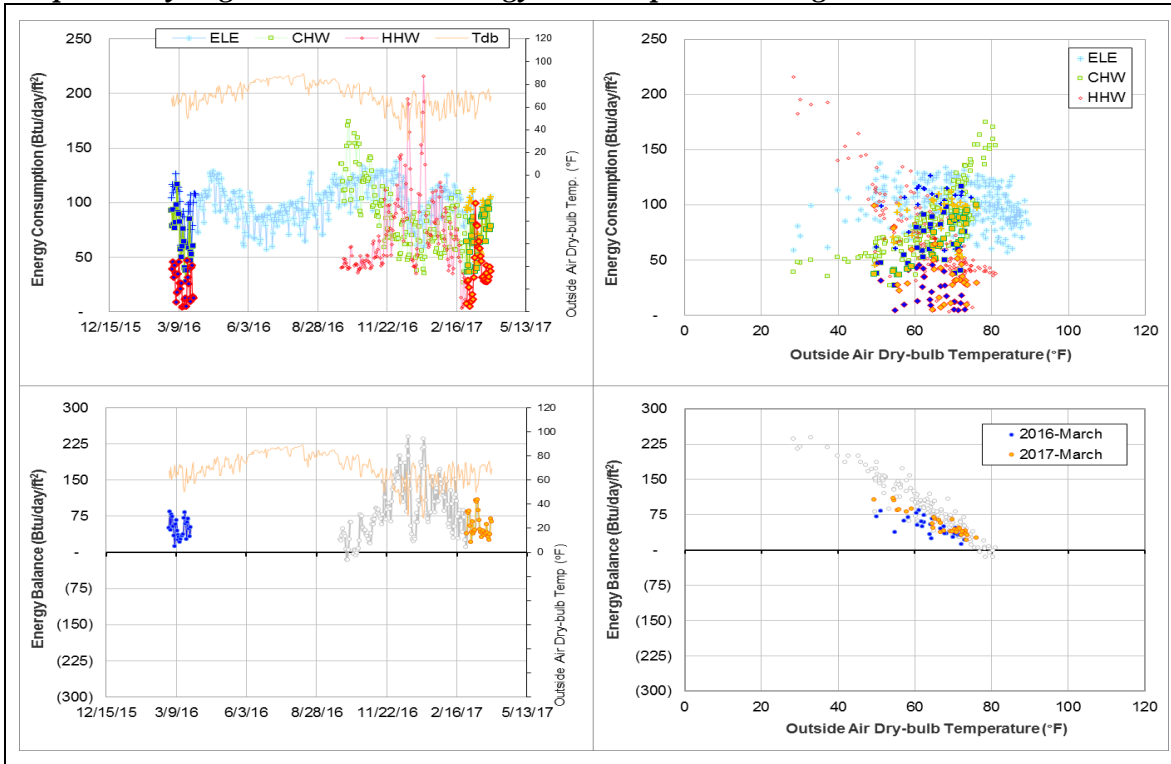
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point temperature is high, around 80 °F.	For years
CHW	The consumption level is low compared to the ELE and HHW consumption.	For years

Comments

The CHW consumption is relatively low when compared to the ELE and HHW consumption and could be the reason for the high cross-point temperature of energy balance for this building.

Explanatory Figure: 13 months energy balance plot with original data.



Nagle Hall (TAMU Bldg #506)

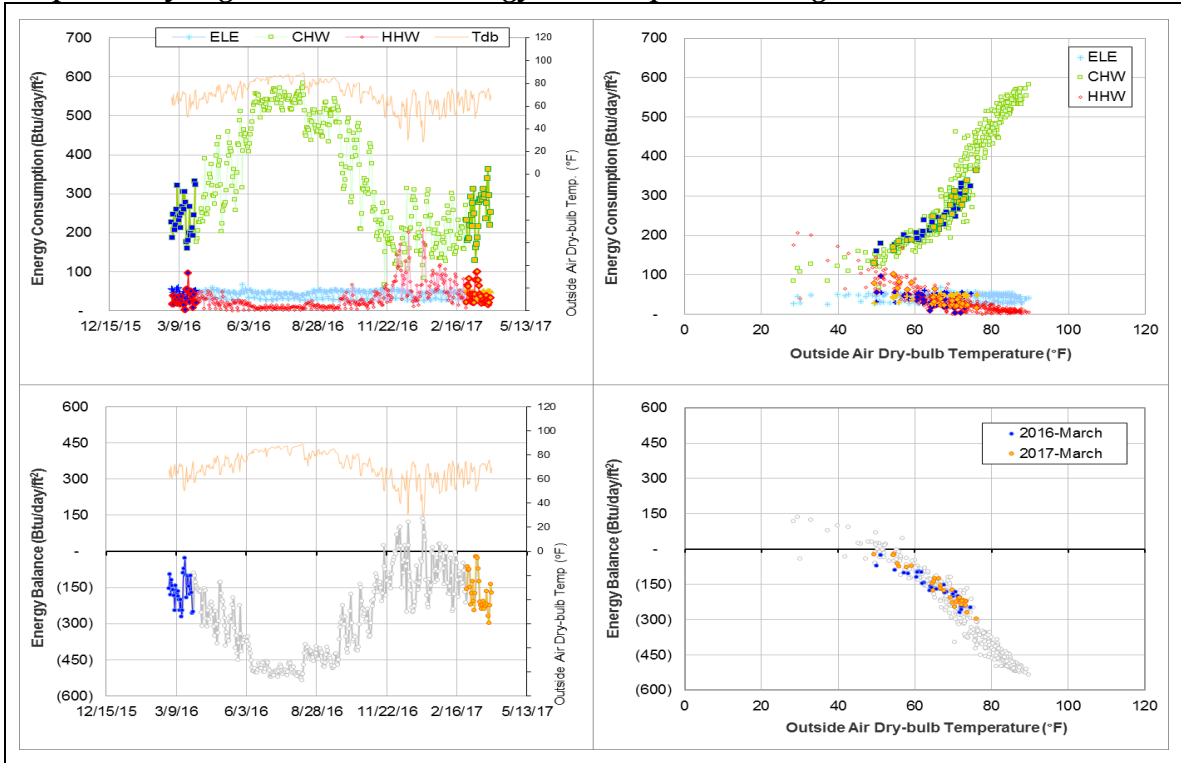
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The level was low and the cross-point temperature was around 50°F.	The cross-point temperature has always been low.
ELE	The consumption per unit floor area was smaller than those for other office buildings.	The level was always low and gradually decreased over the past 4 years.

Comments

The ELE consumption was about 100 Btu/day/ft² lower than the levels in typical office buildings on campus, and this might be a metering error or this meter might not cover the whole building.

Explanatory Figure: 13 months energy balance plot with original data



Beutel Health Center (TAMU Bldg #520)

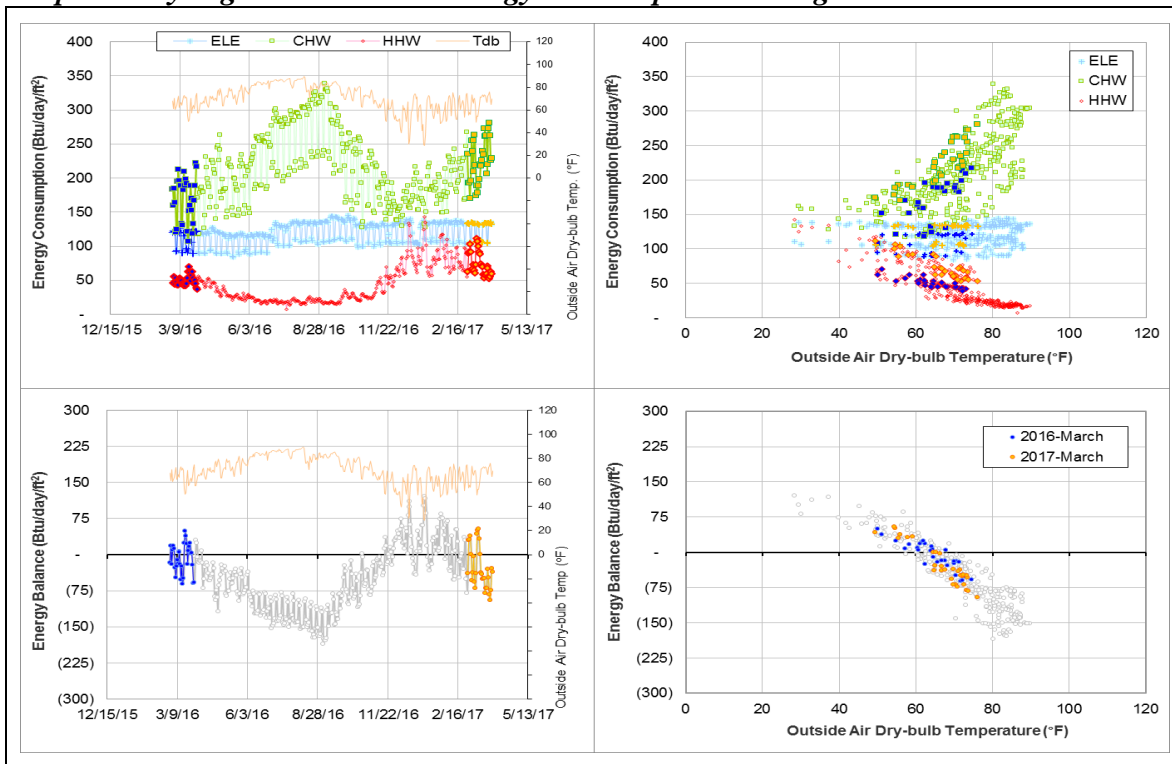
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	The consumption level increased.	December 2016 – Ongoing

Comments

Starting from December 2016, the HHW flow rate has increased creating a higher consumption pattern (15 - 40 Btu/day/ft²), especially in the cooler temperature range. There is also a slight increase in the ELE and CHW patterns. The energy balance is showing little change. This increase does not appear to be a meter issue.

Explanatory Figure: 13 months energy balance plot with original data



Blocker Building (TAMU Bldg #524)

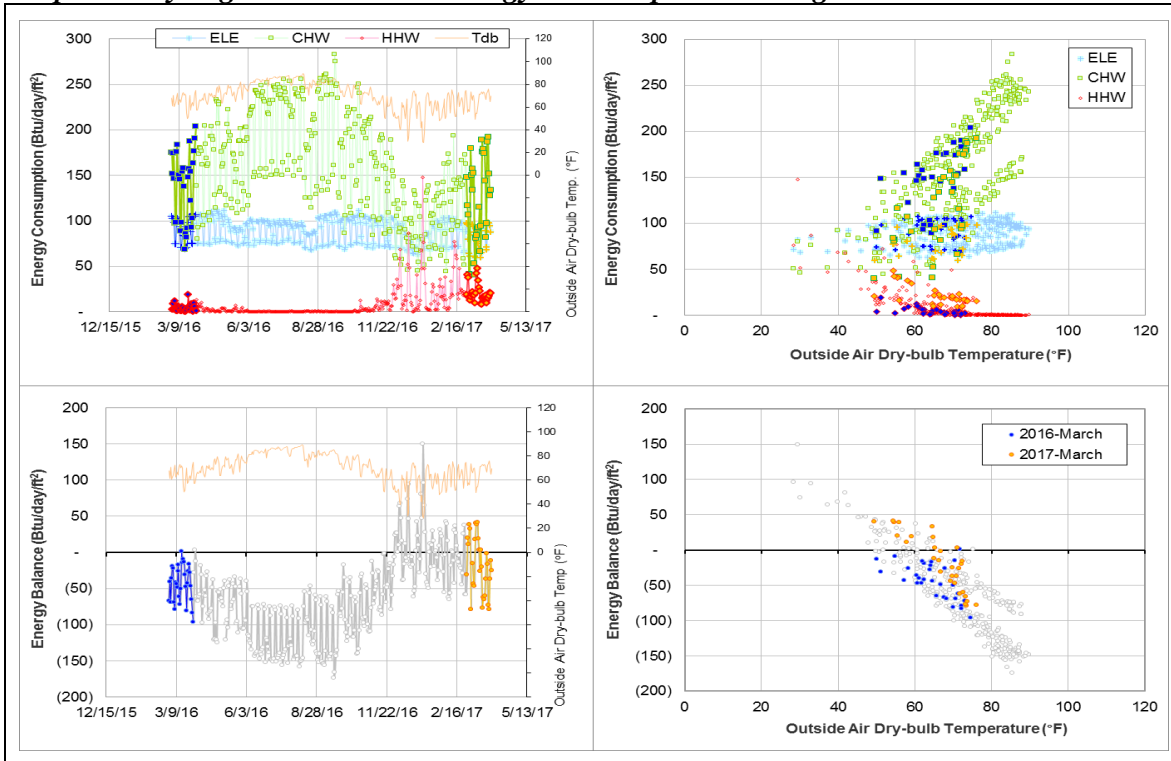
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy balance	The level was low and the cross-point temperature was 50 - 60°F.	For years
HHW	The consumption level might be low.	Past several years

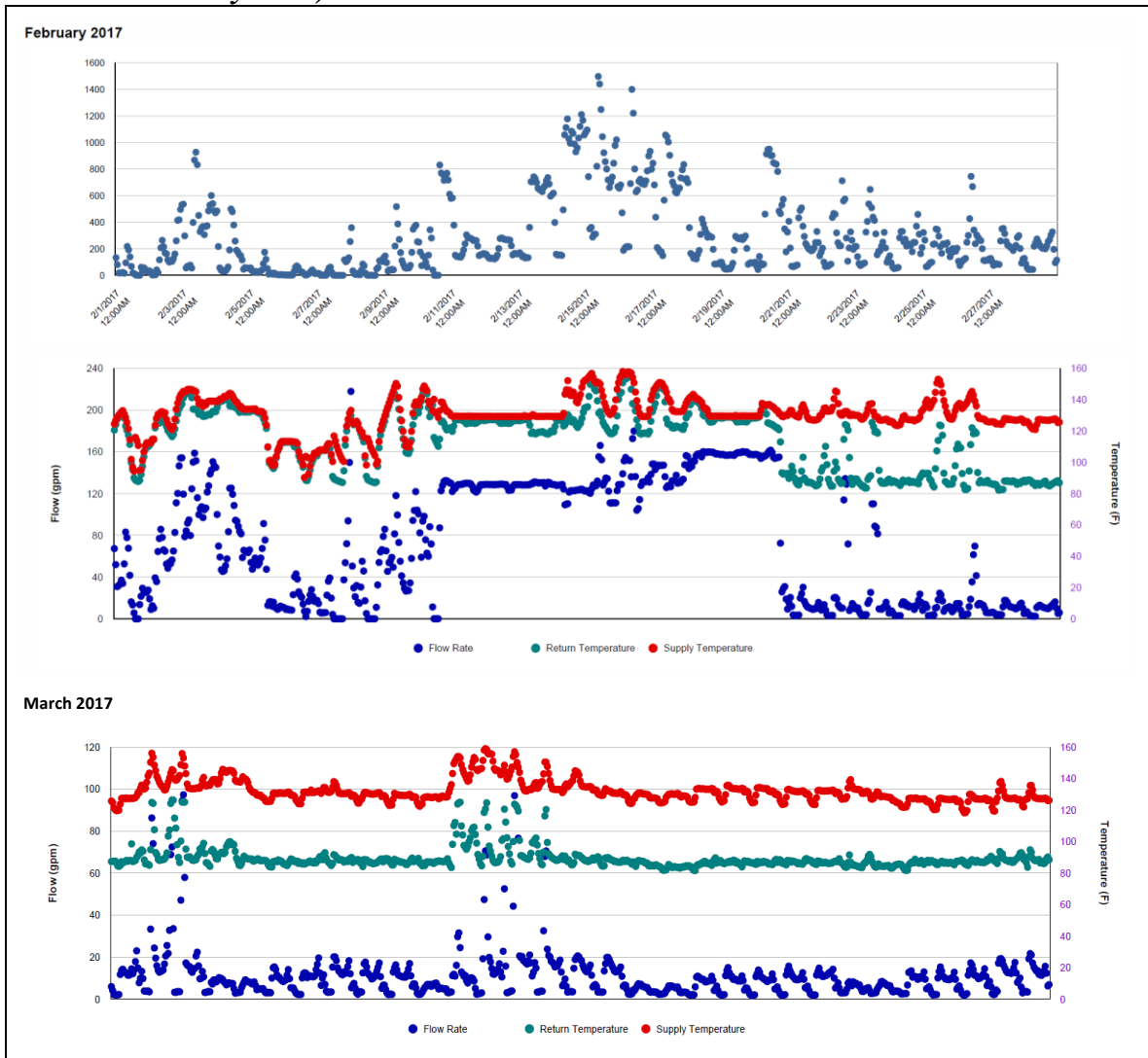
Comments

The cross-point of temperature of energy balance has been low for years. The delta-T and consumption level for HHW seems low for the past couple of years. However, there has been a recent change. While HHW flow rate remains low for March 2017, there has been significant increase in Delta-T. The explanatory figures below show the change in Delta-T from February to March. With this increase in HHW consumption, the energy balance is showing improvement with a cross-point temperature of 65-72 °F. More information is needed to see if this new trend will continue.

Explanatory Figure: 13 months energy balance plot with original data



Explanatory Figure: Time series plots of hourly HHW energy consumption, flow rate, and supply and return temperatures from the utilities office. (top: February 2016, bottom: February 2017)



McNew Laboratory (TAMU Bldg #740)

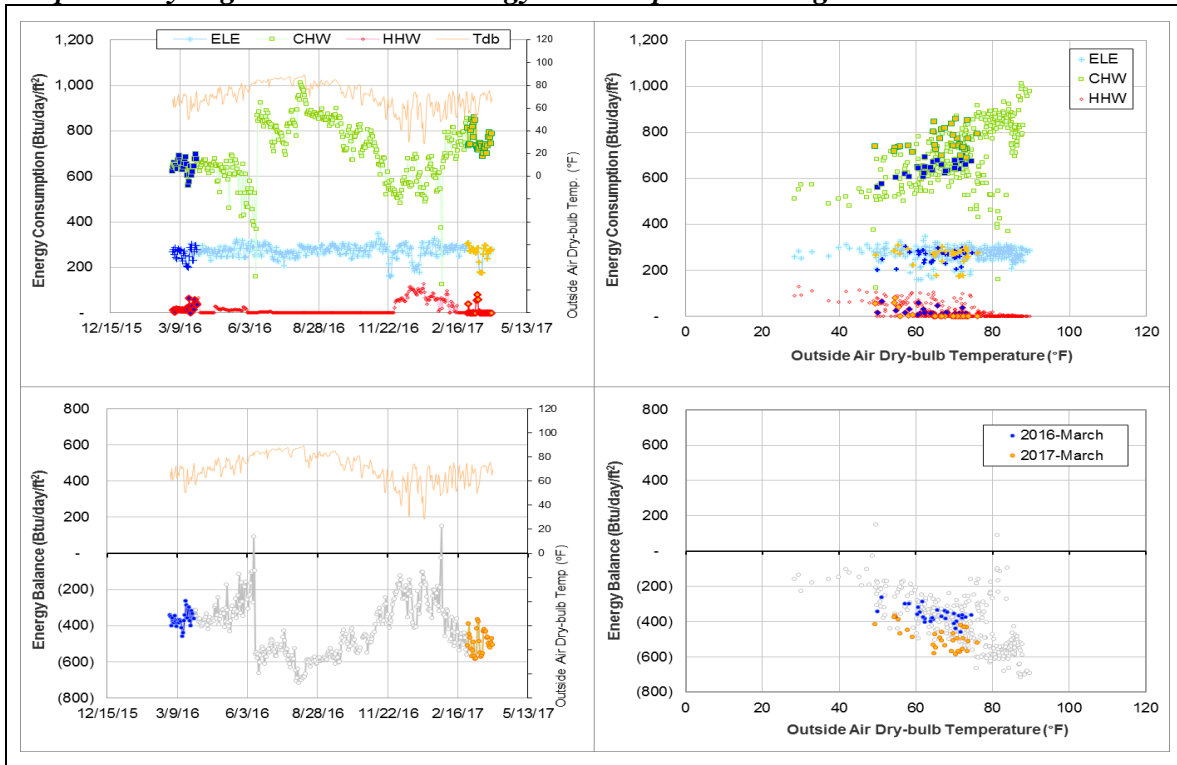
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The energy balance pattern level is low.	Past several years
HHW	The consumption level might be low.	Past several years

Comments

The energy balance level has consistently been low and does not even reach a cross-point temperature. Since 2013 there has been a large decrease in HHW use. After that, HHW consumption decreased gradually year by year. Since May 2016, the majority days have zero/nearly zero consumption. Recently, the CHW has increased starting February 2017, causing the energy balance to reduce even more. More information is needed to help identify the reason causing the low energy balance for this building.

Explanatory Figure: 13 months energy balance plot with original data



Entomology Research Lab (TAMU Bldg #815)

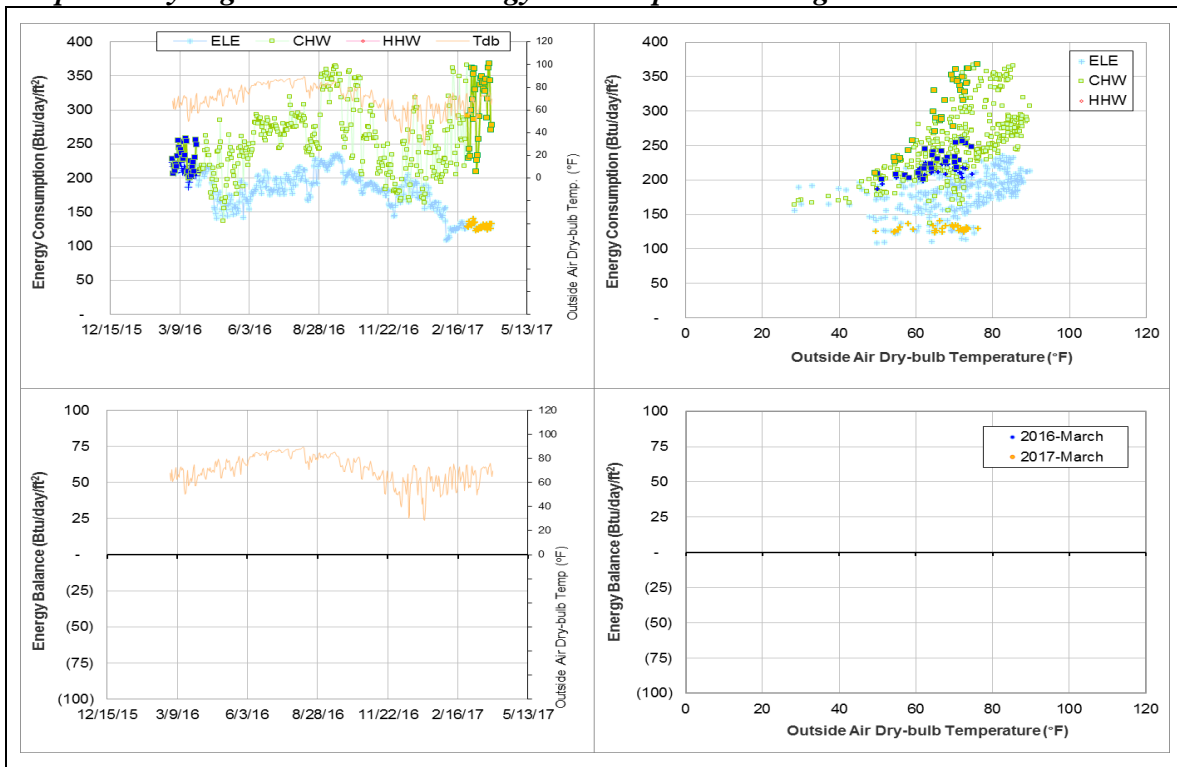
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	Change in energy consumption pattern	September 2016 – Ongoing

Comments

Starting September 2016, the CHW energy consumption pattern appears to be becoming steeper. Consumption levels have increased at higher temperatures compared to previous months. Since there is no HHW for this building, an energy balance chart cannot be created to check the change in CHW with the overall building balance.

Explanatory Figure: 13 months energy balance plot with original data



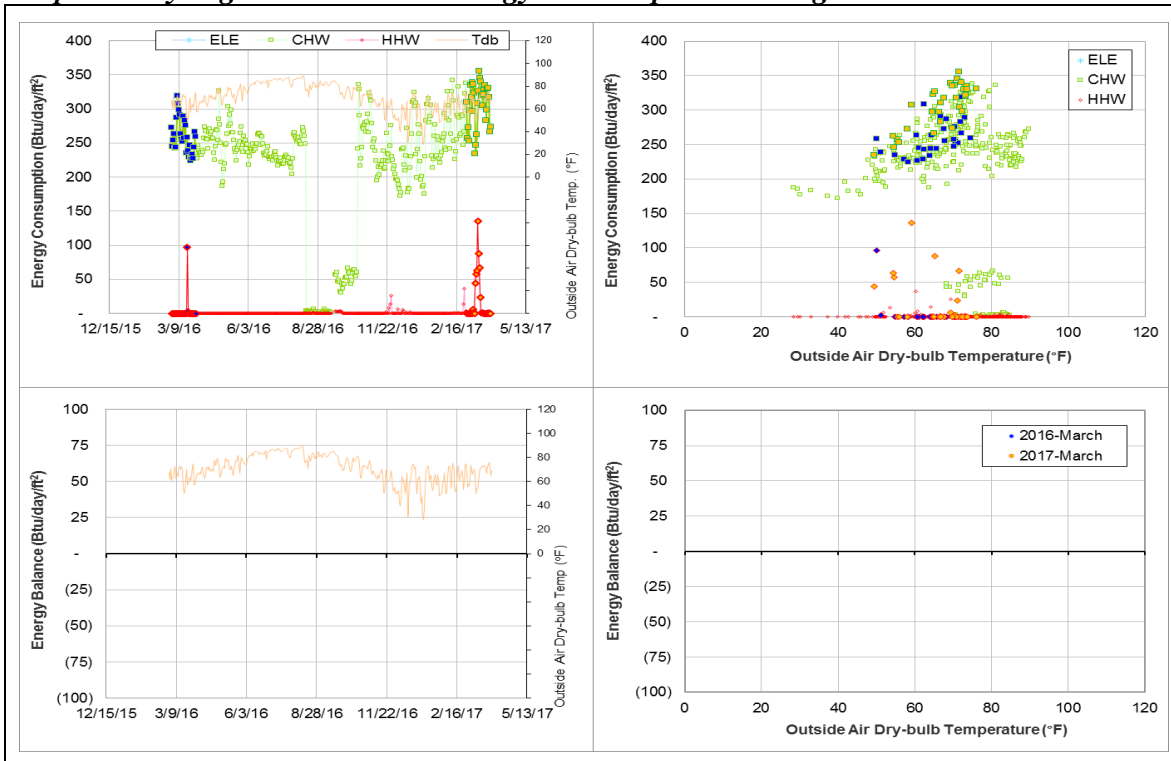
TVMC-Small Animal Building (TAMU Bldg# 880)

Data Type	Description of data behaviors	Period
HHW	The daily consumption is zero or nearly zero for the majority of the days during the year.	Since the data became available in October 2008

Comments

The daily HHW consumption pattern is zero or nearly zero for the majority of the days for years. Because the HHW consumption level appears unstable since the data became available, a valid consumption model for this meter has not been created.

Explanatory Figure: 13 months energy balance plot with original data



Veterinary Medicine Administration (TAMU Bldg# 1026)

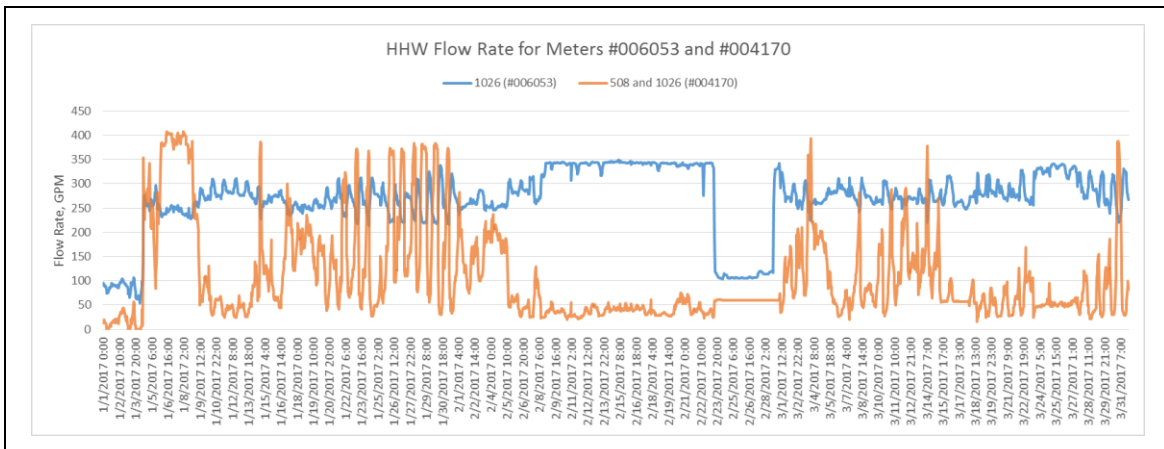
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW 006053	The sub-meter's (006053) flow rate for one building sometimes is higher than the total meter (004170) for two buildings.	For several years

Comments

The HHW meter ID 006053 is a sub-meter of the meter ID 004170 which meters the total energy use in the buildings #508 and 1026. It is questionable that the flow rate of the sub-meter exceeds the flow rate of the main meter. We would like to know the HHW distribution route for the two buildings and the locations of the sensors.

Explanatory Figure: Time series of hourly HHW flow rates for Veterinary Medicine Administration (Bldg #1026) during 1/1/2017–3/31/2017. The combined HHW metered for Bldg #1026 and #508 (orange) is lower than the standalone HHW meter for only Bldg #1026 (blue).



Biological Control Facility (TAMU Bldg# 1146)

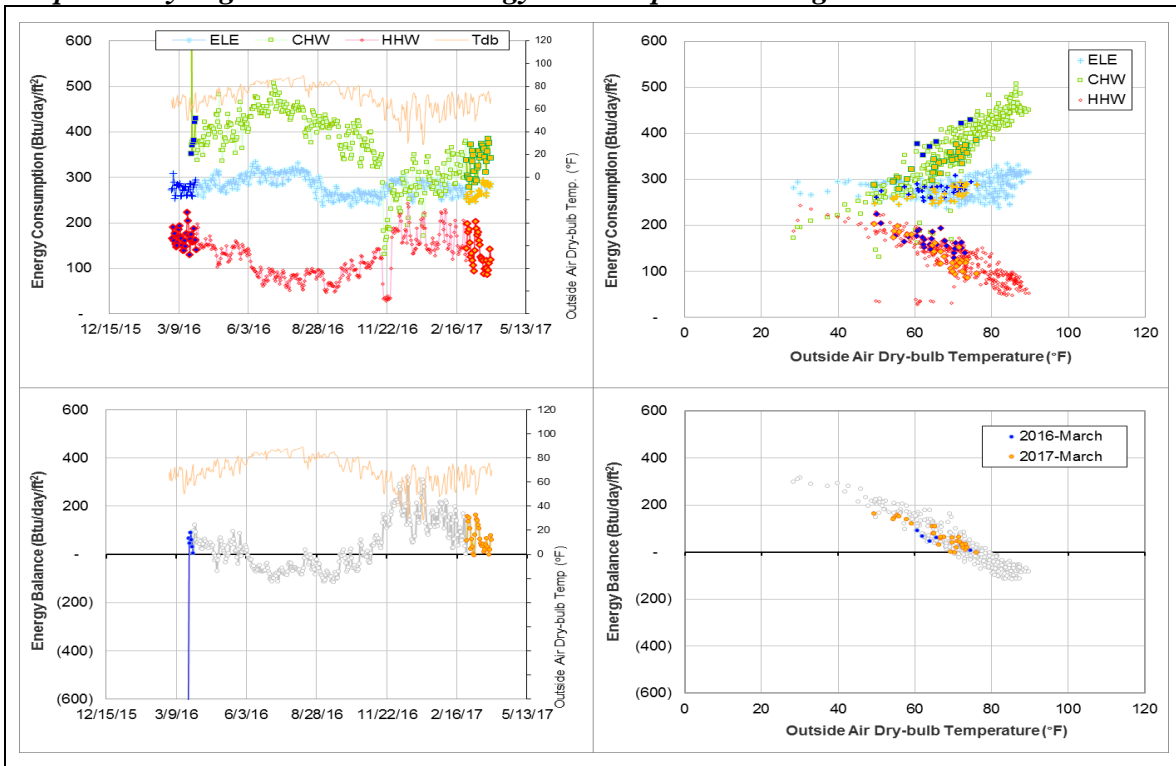
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW	Decrease in energy consumption pattern.	December 2016 – Ongoing
Energy Balance	Increase in energy balance pattern.	December 2016 – Ongoing

Comments

Starting in December 2016, the CHW consumption pattern seems to have decreased, especially in higher temperatures. The energy balance pattern is also showing an increase. We will continue to monitor data to see if this is a new pattern emerging.

Explanatory Figure: 13 months energy balance plot with original data



Physical Plant Administration & Shops (TAMU Bldg# 1156)

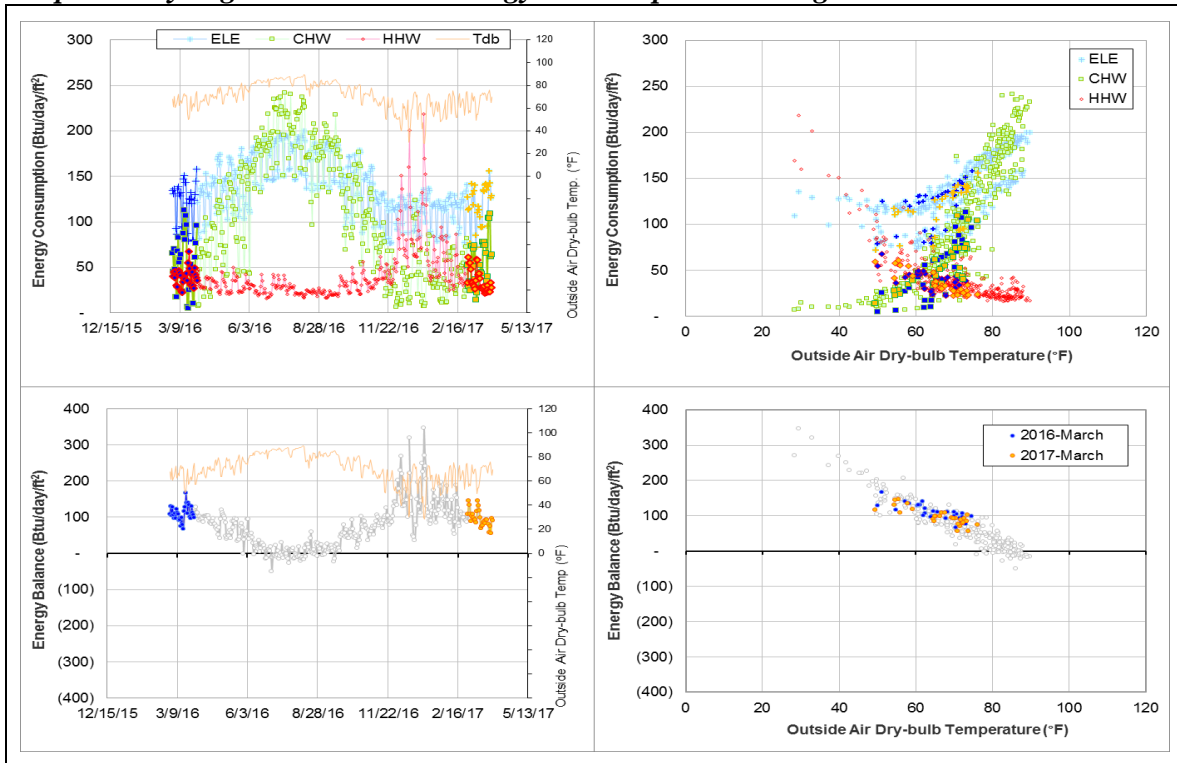
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point temperature is high, ~85°F.	7/1/2014-ongoing
CHW	The consumption level might be low compared to the ELE and HHW use level.	Since the data became available on 7/1/2012.

Comments

The electricity is not available until 7/1/2014. CHW consumption level might be low when compared to the ELE and HHW use level, but the CHW consumption level has been stable since the data became available on 7/1/2012. More information is needed to help identify which type energy causes the high cross-point temperature. One question, how much of the 101,704 ft² of space is conditioned?

Explanatory Figure: 13 months energy balance plot with original data



Veterinary Research Building (TAMU Bldg# 1197)

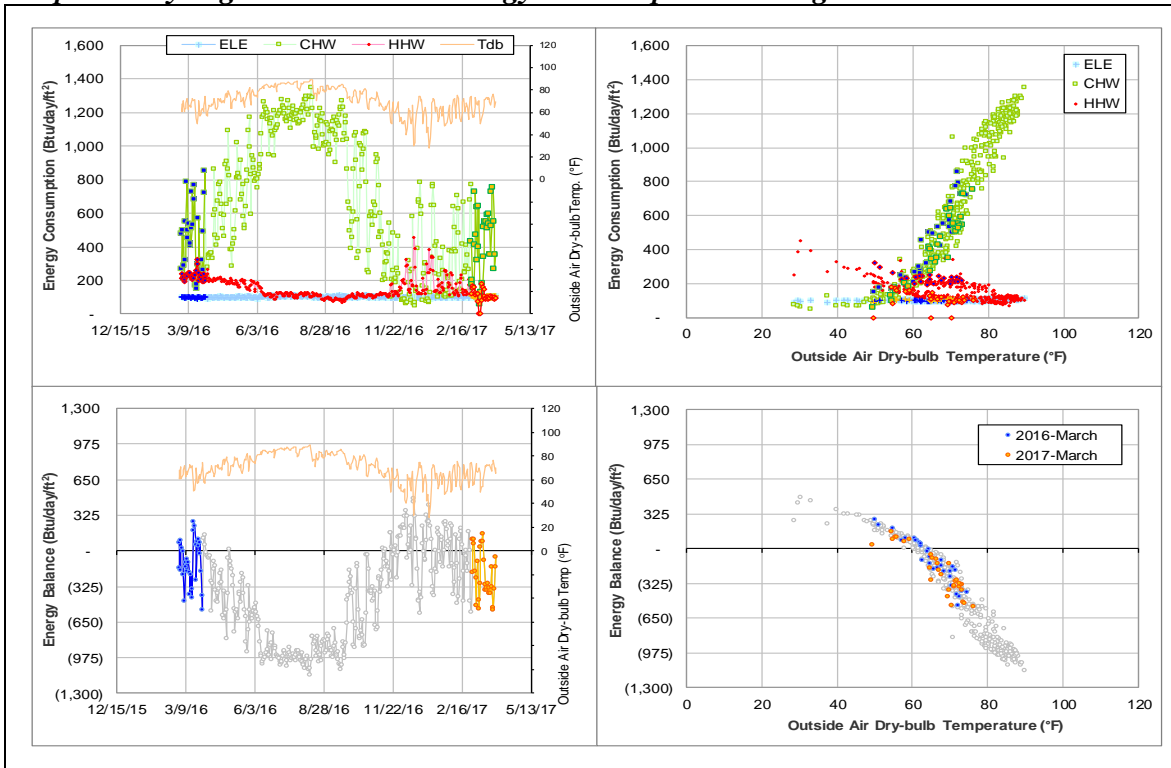
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
ELE	The consumption is low for a laboratory building.	Since January 2010 when the meter was added to this report

Comments

The whole building hourly electricity use is in the range 120 kWh to 160 kWh (1.05 W/ft² to 1.40 W/ft²), which is low for a veterinary laboratory building on the campus. This seems to be the reason for the low level of the energy balance load. The temperature-axis intercept of the energy balance is around 62°F. See also Section II-2.

Explanatory Figure: 13 months energy balance plot with original data



Reynolds Medical Sciences Building (TAMU Bldg# 1504)

Detected issues in the energy balance and/or the consumption data

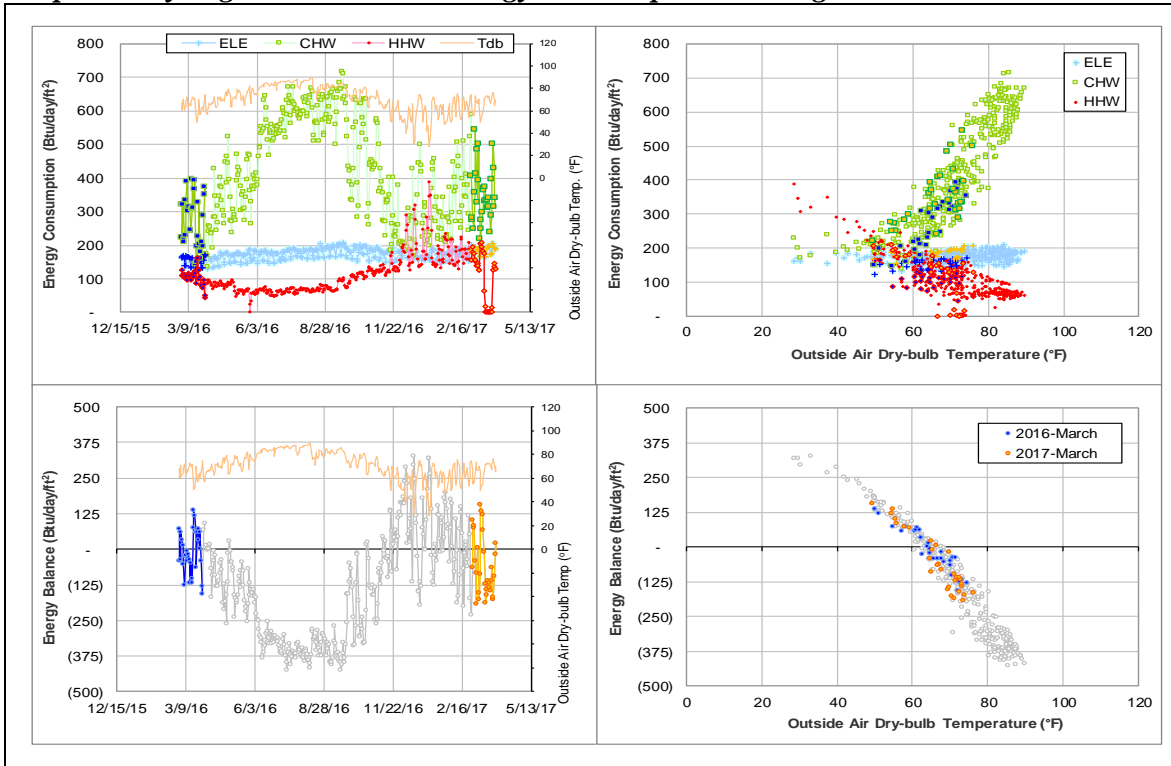
Data Type	Description of data behaviors	Period
ELE	Increase in energy consumption pattern.	September 2016 – Ongoing
CHW	Slight increase in energy consumption pattern.	September 2016 – Ongoing
HHW	Increase in energy consumption pattern	September 2016 – Ongoing

Comments

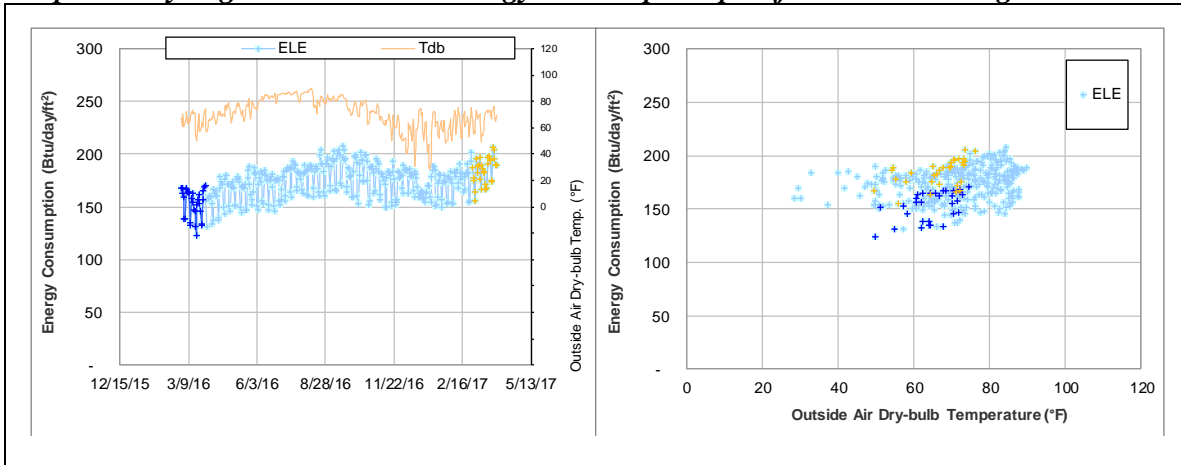
The HHW energy consumption pattern has increased by approximately 40 Btu/day/ft² starting in September 2016. Around the same time, the CHW and ELE energy consumption also shows a slight increase. Even though the energy consumption has increased, the energy balance for the building is still within the range of the previous months. It does not seem to be a metering problem.

Recently in December 2016, the increase in ELE consumption pattern has been more significant, especially in the lower temperature range. Please see explanatory figure below for a plot of just the ELE consumption pattern.

Explanatory Figure: 13 months energy balance plot with original data



Explanatory Figure: 13 months energy consumption plot for ELE with original data



Nuclear Magnetic Resonance Facility (TAMU Bldg# 1525)

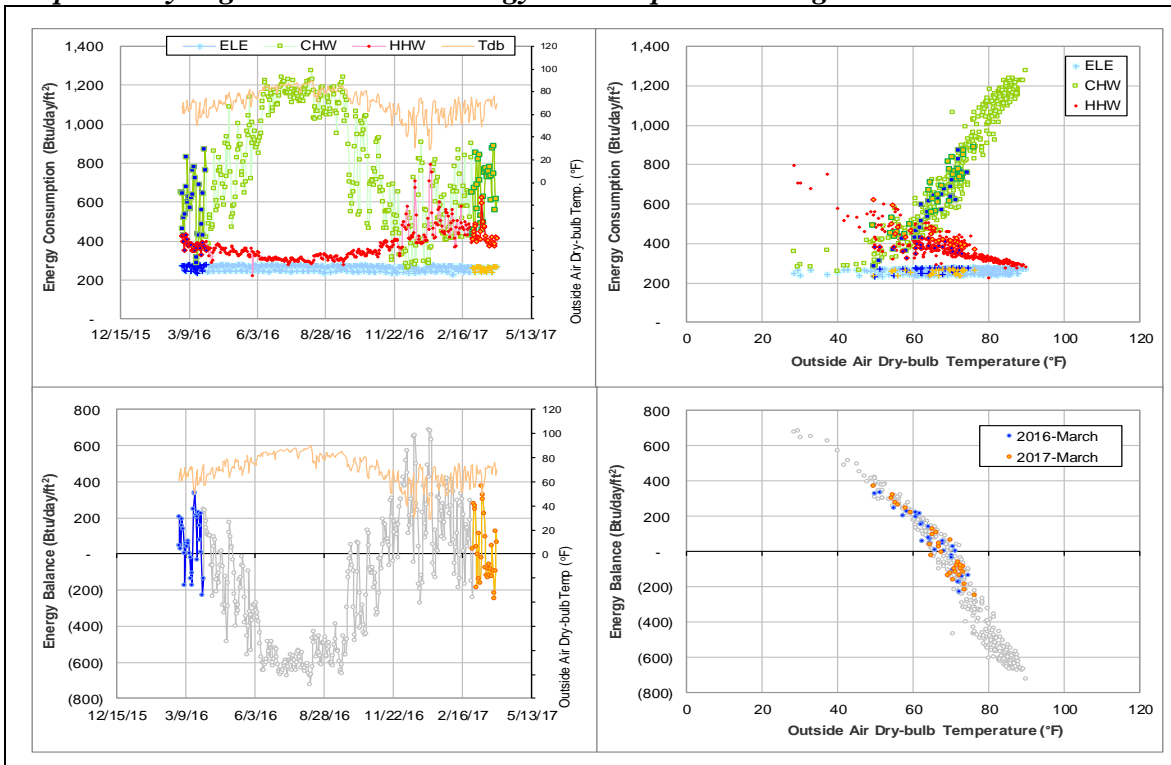
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	Increase in energy consumption pattern.	December 2016 – Ongoing

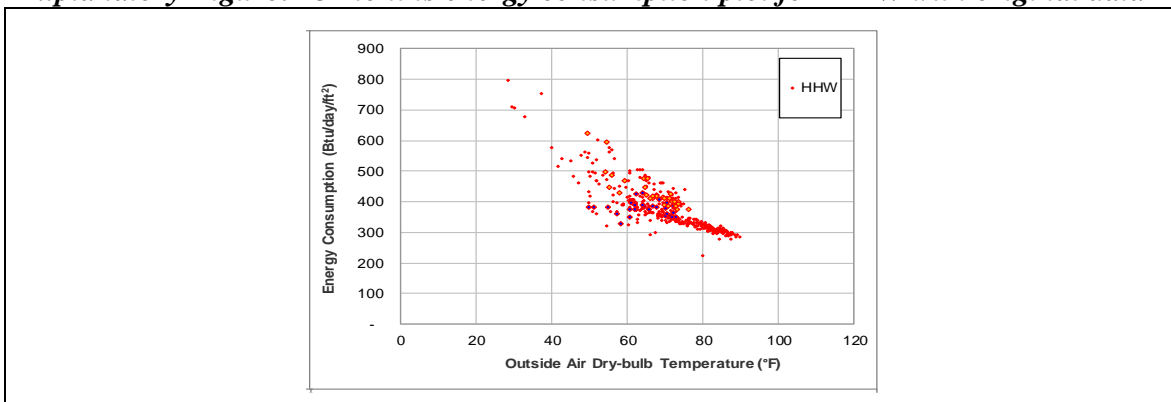
Comments

Recently in December 2016, the HHW pattern has started to increase by about 70-100 Btu/day/ft² with the larger difference appearing in warmer temperatures. However, the energy balance has maintained the same pattern, so it does not appear to be metering problem.

Explanatory Figure: 13 months energy balance plot with original data



Explanatory Figure: 13 months energy consumption plot for HHW with original data



Agriculture Public Building (TAMU Bldg# 1537)

Detected issues in the energy balance and/or the consumption data

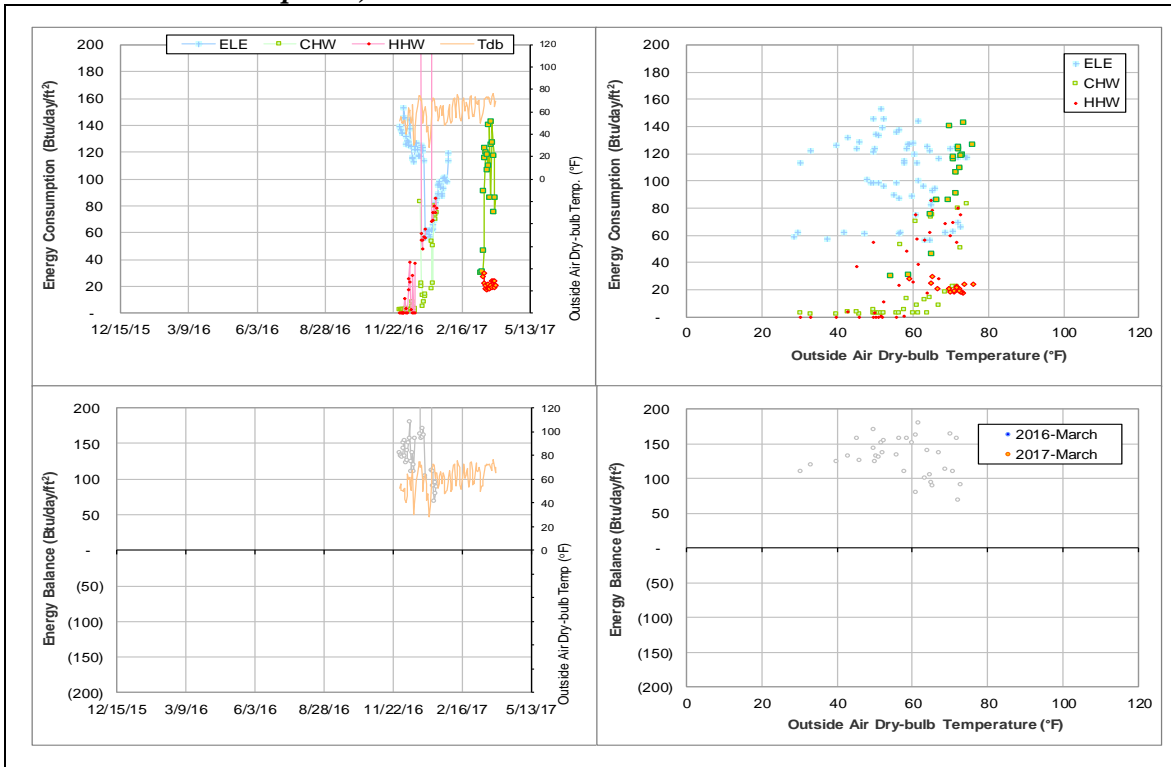
Data Type	Description of data behaviors	Period
ELE, CHW, HHW	Limited data available for baseline period.	February 2017

Comments

The Agriculture Public Building is a new building that was still under construction in January 2017. The ELE, CHW, and HHW data only recently became available, and it is limited to 2-3 months of data. Due to the construction, the consumption levels during these 2-3 months is not steady but continues to increase. To estimate the consumption, an average was calculated using the last few days of available data in order to capture highest level of consumption for each meter. The below plots show the period used estimating the February consumption. The baseline for ELE meter #009620 is 1/15/2017 – 1/31/2017 (17 days) with an average of 11 W/day/ft². The baseline for ELE meter #009621 is 1/15/2017 – 1/31/2017 (17 days) with an average of 17.3 W/day/ft².

New data of CHW and HHW became available in the latter half of March 2017. Temporary models are built using data of 3/15/2017 – 3/31/2017 for CHW and 3/16/2017 – 3/31/2017 for HHW for estimation.

Explanatory Figure: 13 months energy balance plot with original data (The figure is rescaled to remove spikes.)



Cox-McFerrin Center for Aggie Basketball (TAMU Bldg# 1558)

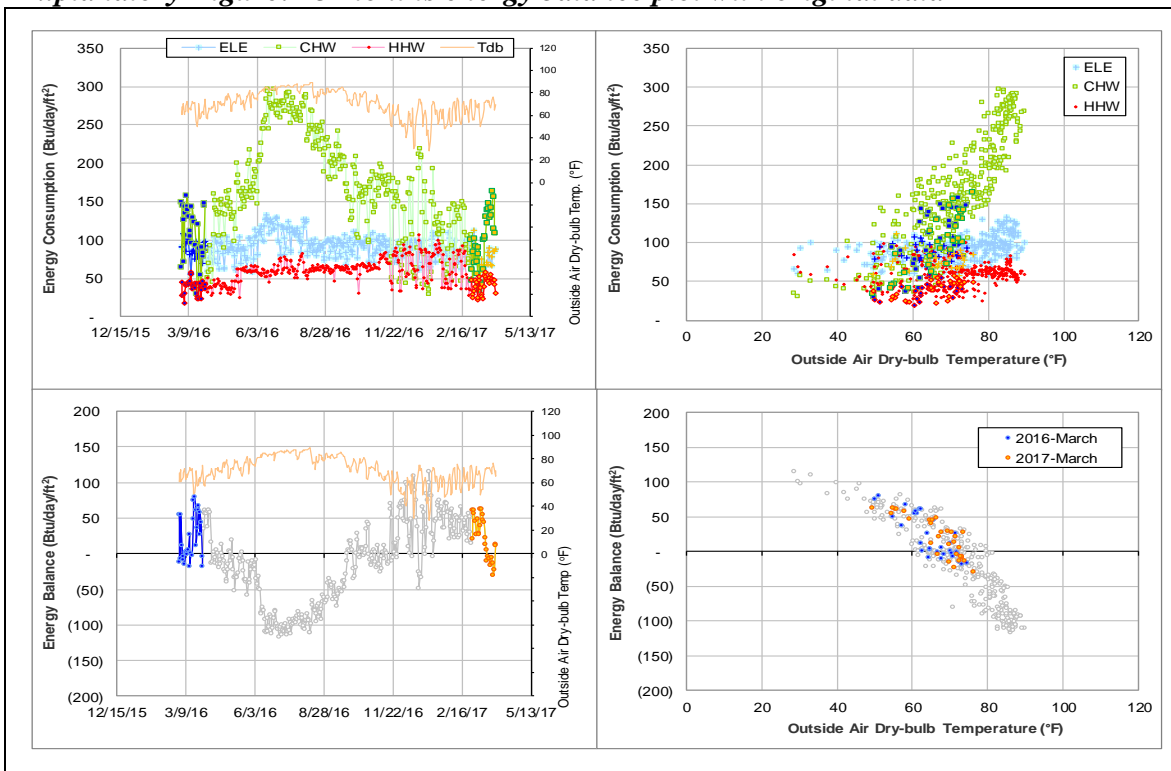
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	Consumption pattern is not weather dependent.	11/5/2016 – Ongoing

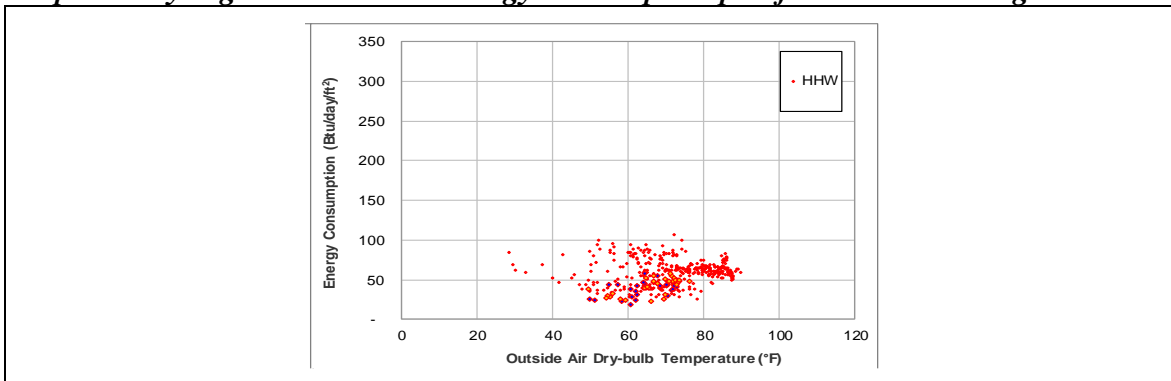
Comments

On 11/5/2016, the CHW and HHW energy consumption patterns appeared to be shifting to a higher level. The CHW consumption showed an increase in warmer temperatures by about 40 Btu/day/ft², and the HHW consumption showed an increase of 10 – 15 Btu/day/ft². In January 2017, the CHW pattern appears to be shifting back to its previous pattern. However, the HHW pattern still remains scattered and does not appear to be weather dependent.

Explanatory Figure: 13 months energy balance plot with original data



Explanatory Figure: 13 months energy consumption plot for HHW with original data



International Ocean Discovery Building (TAMU Bldg# 1601)

Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
Energy Balance	The cross-point is high, around 85°F.	Since data became available in Feb 2015
HHW	A new MID is added.	3/21/2017

Comments

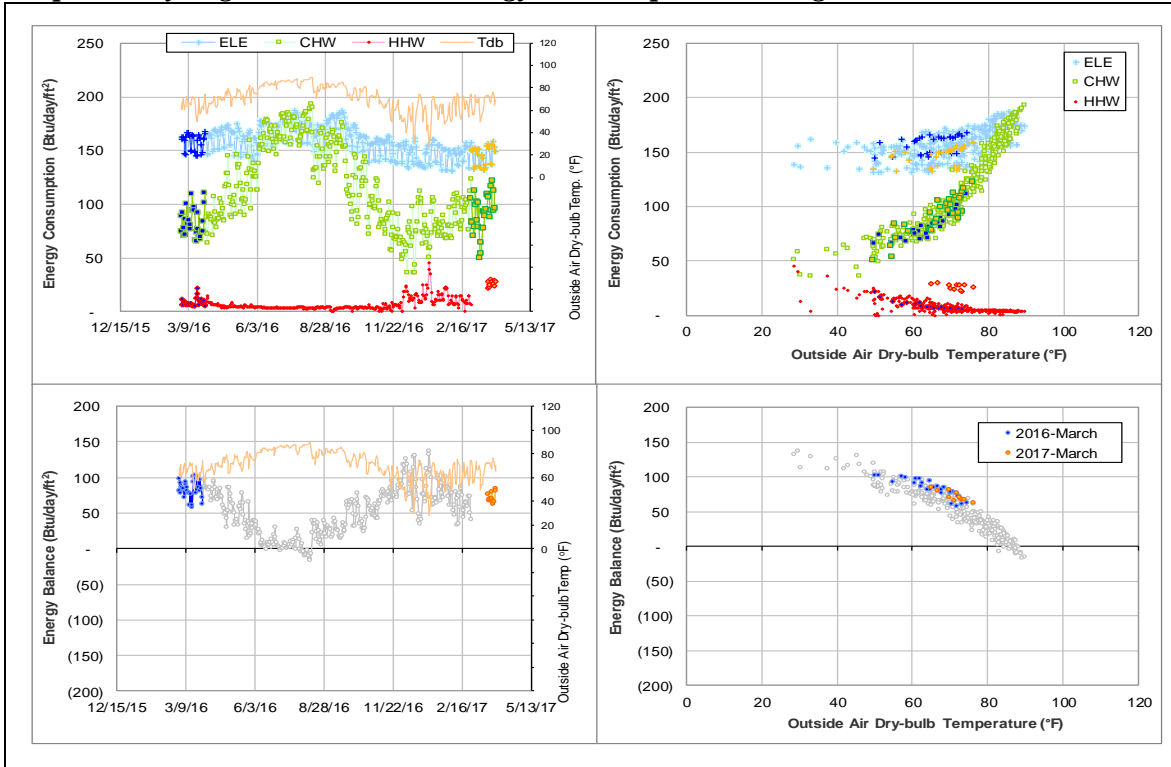
The cross-point temperature is high for this building, around 85°F. The daily CHW consumption for last year is 36 – 200 Btu/day/ft². The CHW consumption level is low compared to ELE and HHW levels. This building might have its own chillers.

Recently, the ELE consumption appears to have dropped compared to the same month last year, and the CHW is showing a slight increase.

A new MID 009829 for HHW was discovered on 3/21/2017 and it has been making significant contribution to the HHW consumption. Its missing period at the beginning of the month is estimated referring to the limited available data.

See also Section II-2.

Explanatory Figure: 13 months energy balance plot with original data



Offshore Technology Research Center (TAMU Bldg# 1604)

Detected issues in the energy balance and/or the consumption data

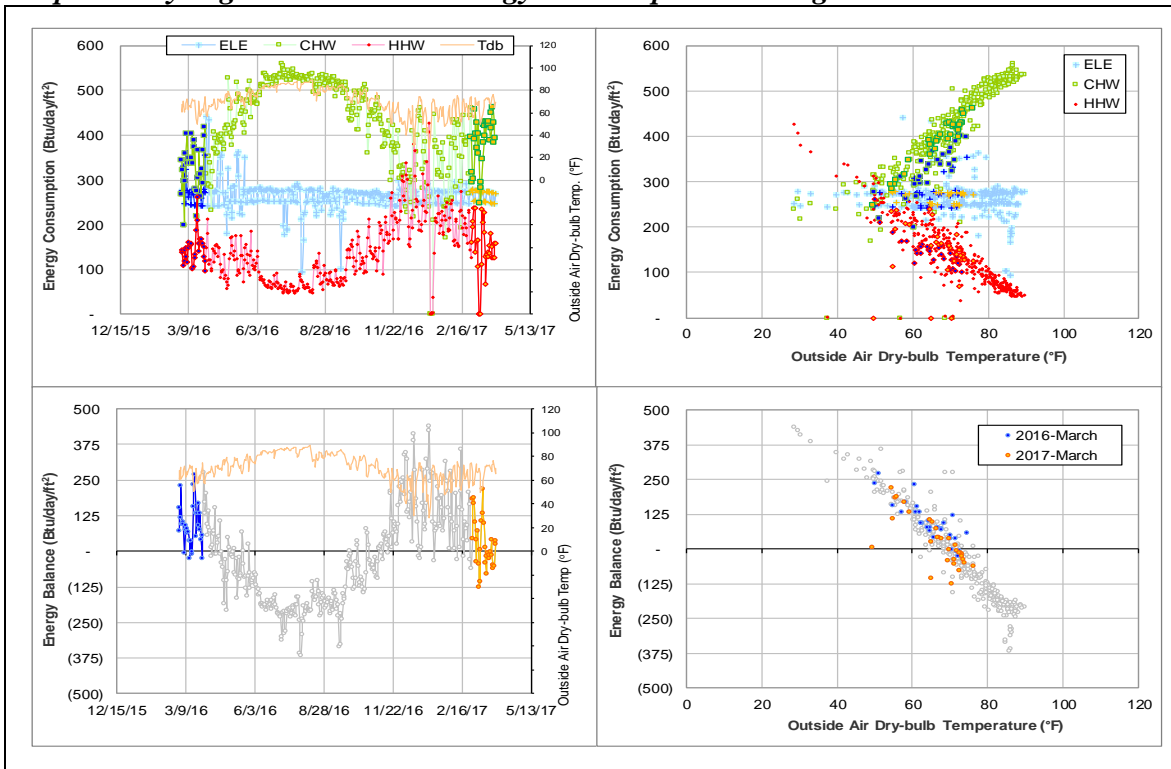
Data Type	Description of data behaviors	Period
ELE #006660	Consumption is zero for most of the time.	2/1/2015 – Ongoing
CHW and HHW	The consumption level is higher than that of last year.	5/1/2016 – Ongoing

Comments

The electric consumption for meter #006660 has been zero for most of the time it has been available since 2/1/2015. This meter is suspected to measure consumption for a specific piece of equipment that only runs occasionally.

New consumption patterns appear to be developing starting May 2016. The CHW consumption level is showing an overall increase, most notably in the warmer months. The HHW consumption level is also showing an increase for warmer temperatures. However, the energy balance maintained the same pattern. It does not appear to be metering problem. See also Section II-2.

Explanatory Figure: 13 months energy balance plot with original data



TTI Headquarters (TAMU Bldg# 1609)

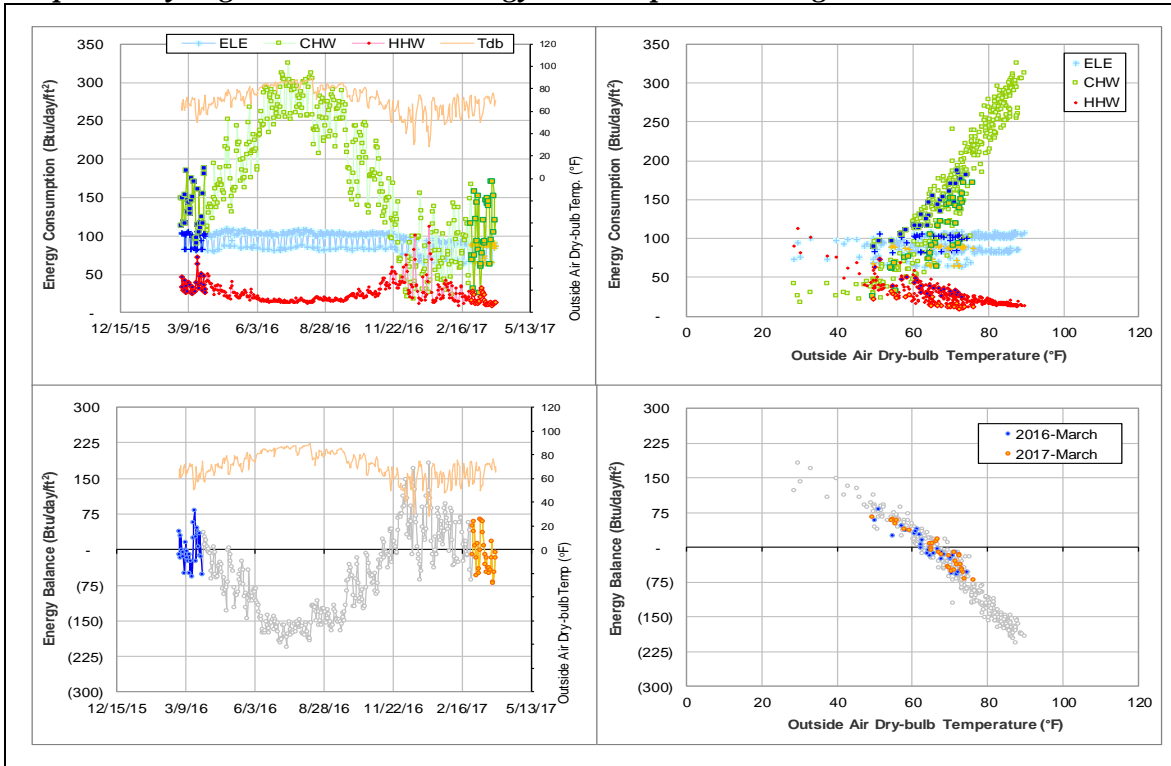
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
CHW, HHW	Decrease in energy consumption pattern.	February 2017

Comments

The CHW and HHW consumption are showing a decrease compared to the past months. Both CHW and HHW have a very clear pattern. CHW is even showing weekday/weekend pattern. This building is listed as an ESCO building.

Explanatory Figure: 13 months energy balance plot with original data



National Center for Therapeutics Manufacturing (TAMU Bldg# 1910)

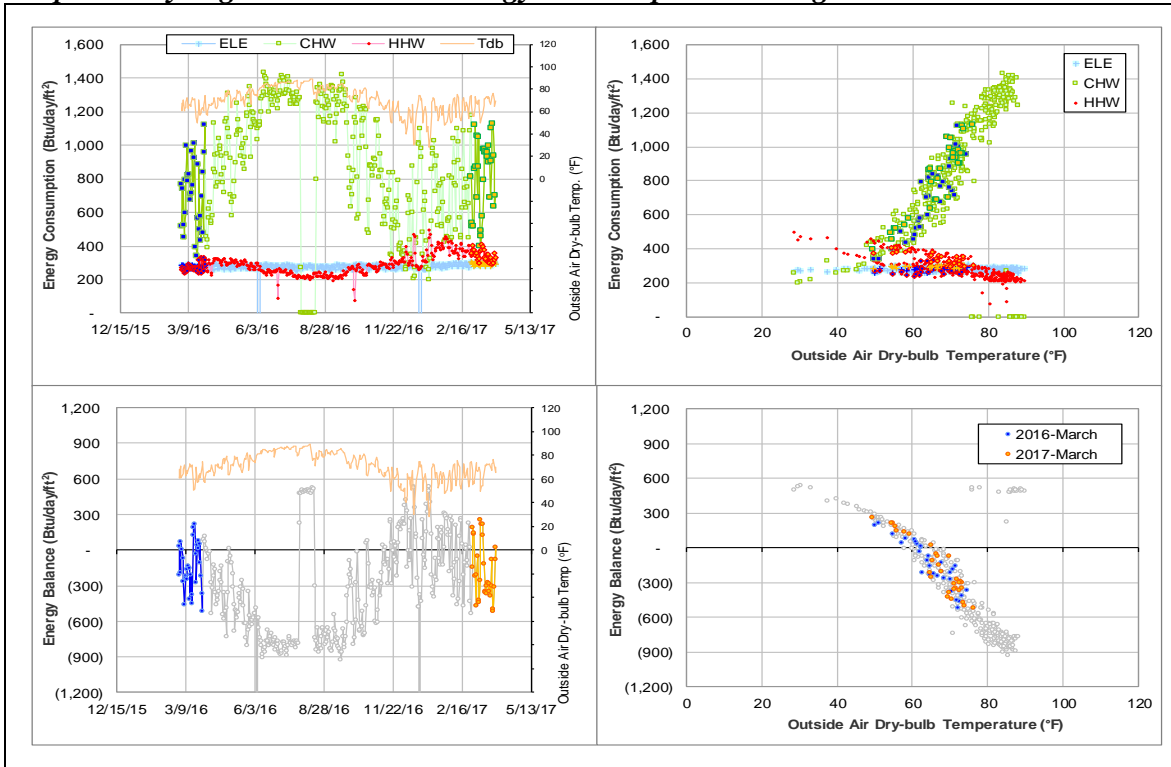
Detected issues in the energy balance and/or the consumption data

Data Type	Description of data behaviors	Period
HHW	Increase in energy consumption pattern.	February 2017

Comments

The HHW is showing an increase in consumption by about 80-100 Btu/day/ft². Even with the increase, the energy balance has not changed. It does not appear to be a meter issue.

Explanatory Figure: 13 months energy balance plot with original data



III. Time Series Plots for March 2017 Consumption

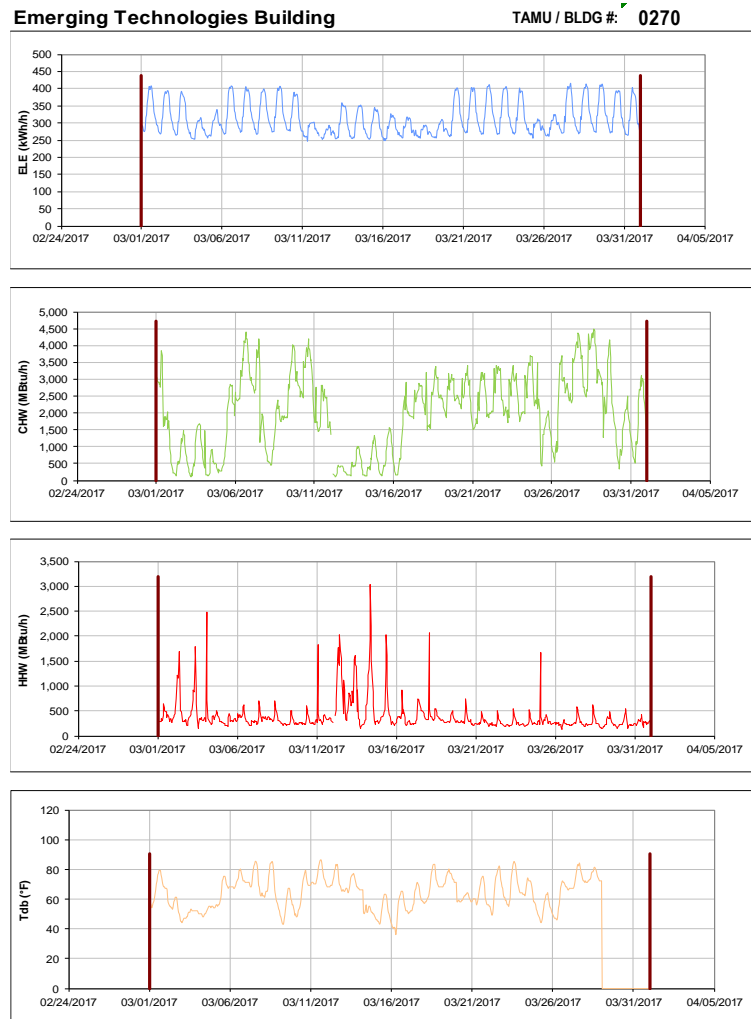


Figure III-1 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Emerging Technologies Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

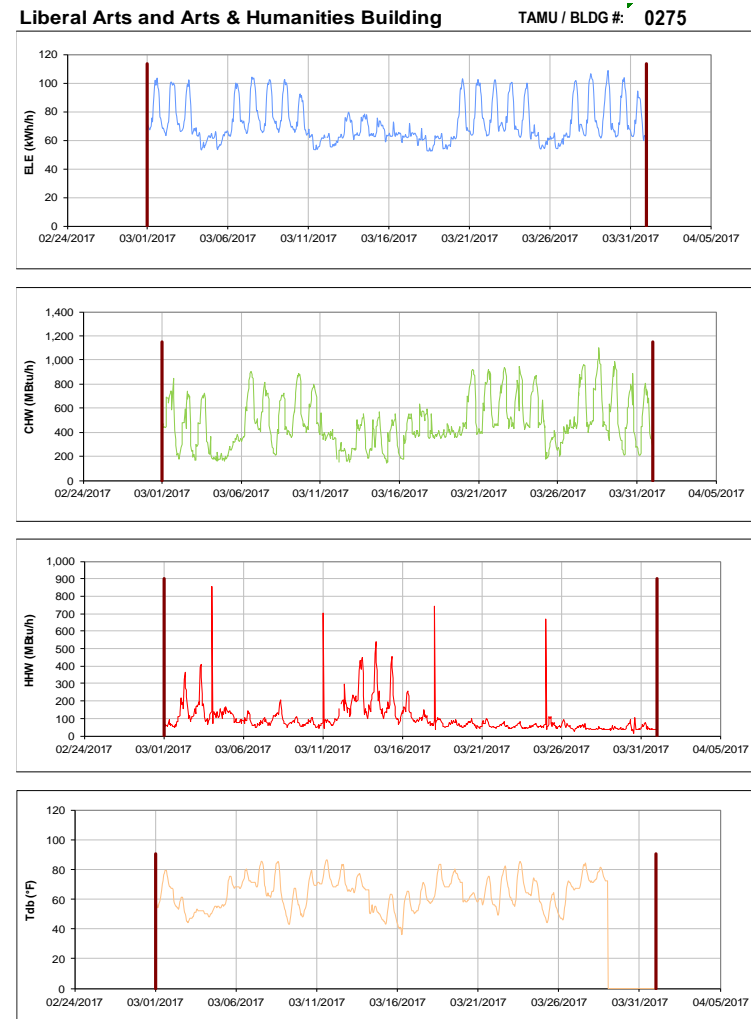


Figure III-2 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Liberal Arts and Arts & Humanities Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

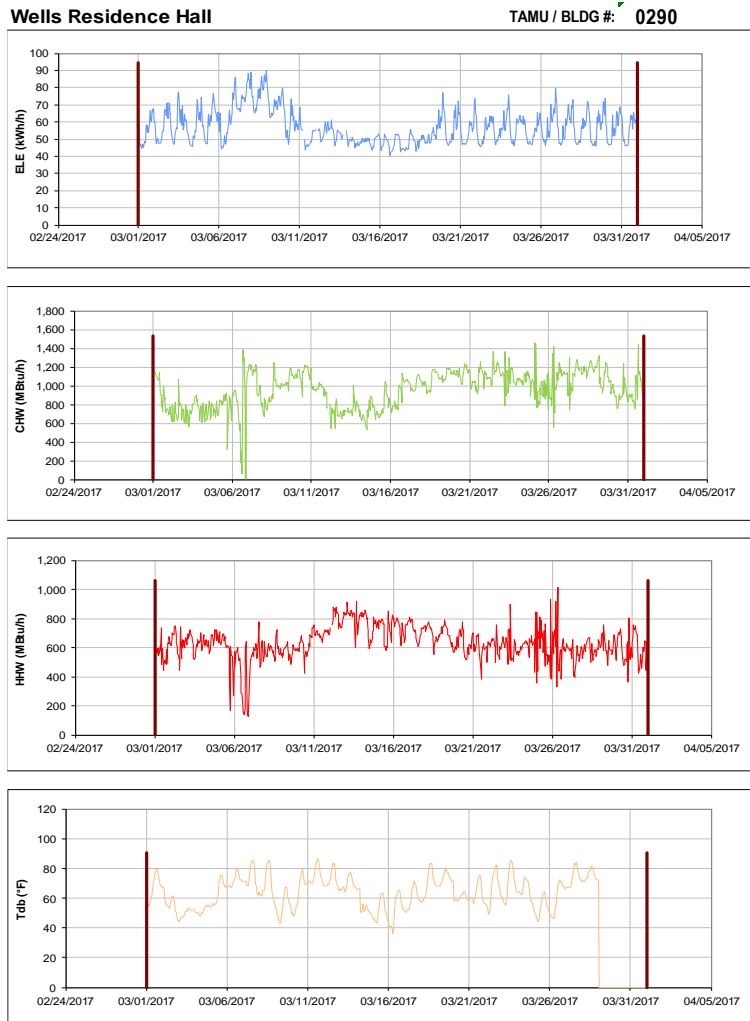


Figure III-3 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wells Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

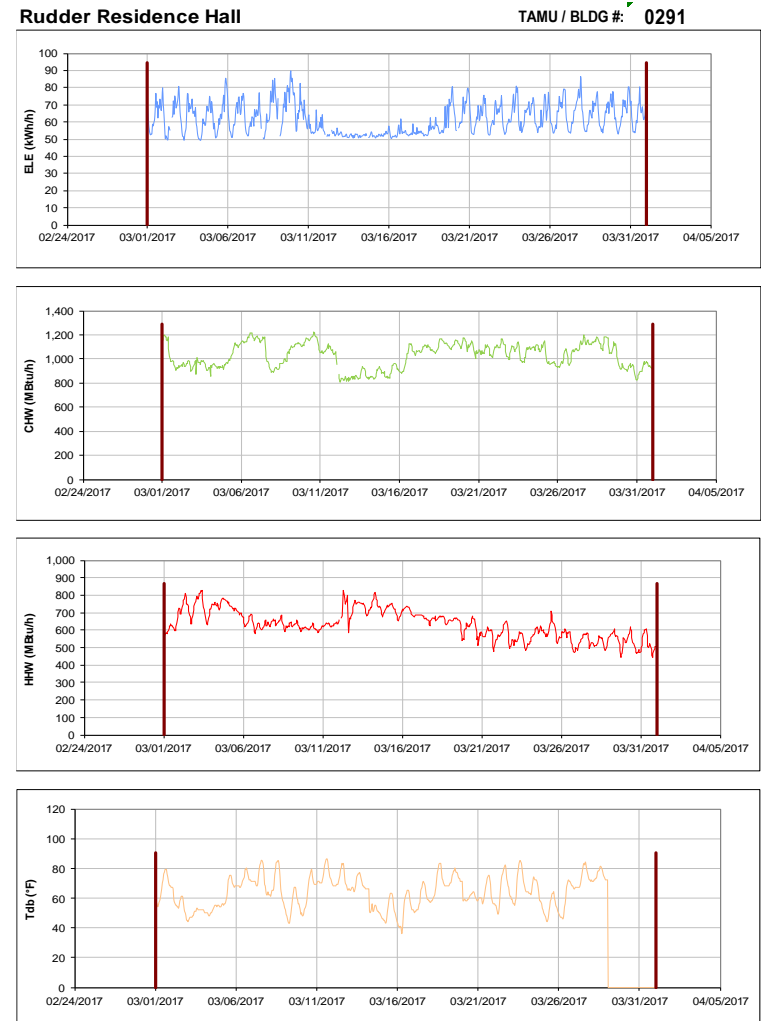


Figure III-4 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

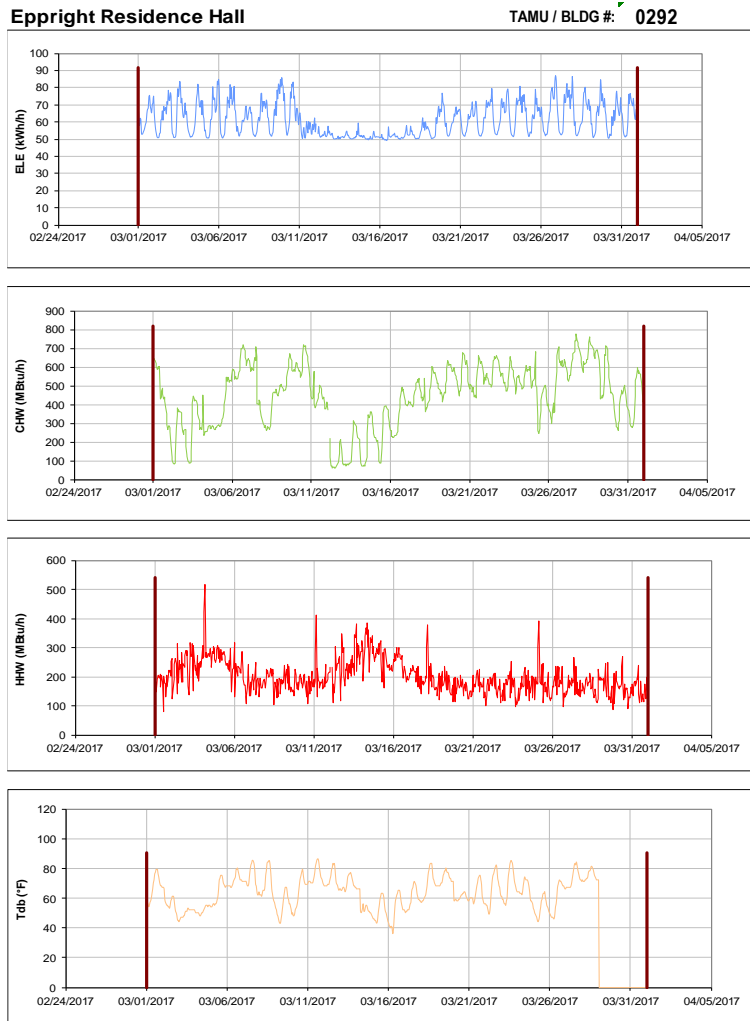


Figure III-5 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Eppright Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

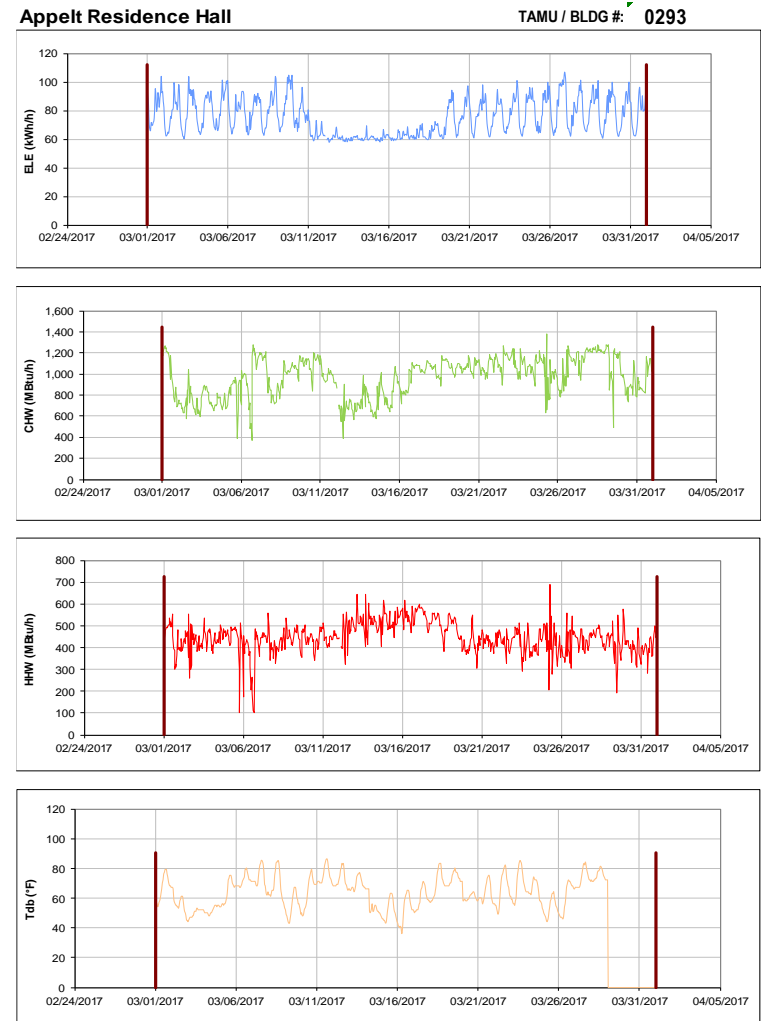


Figure III-6 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Appelt Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

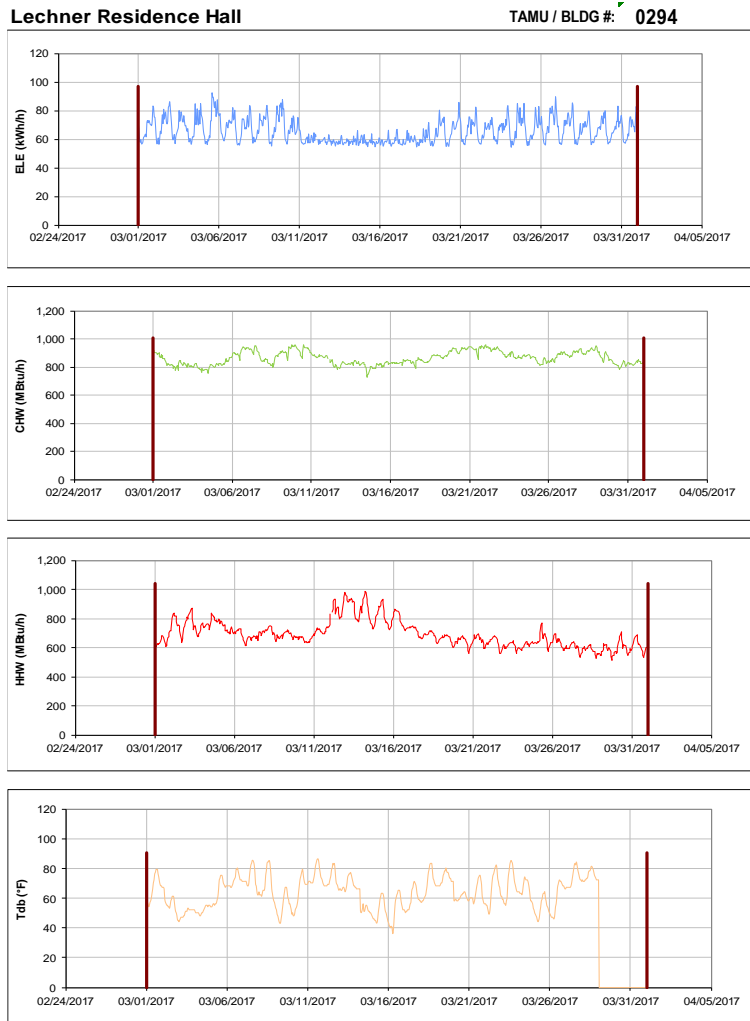


Figure III-7 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lechner Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

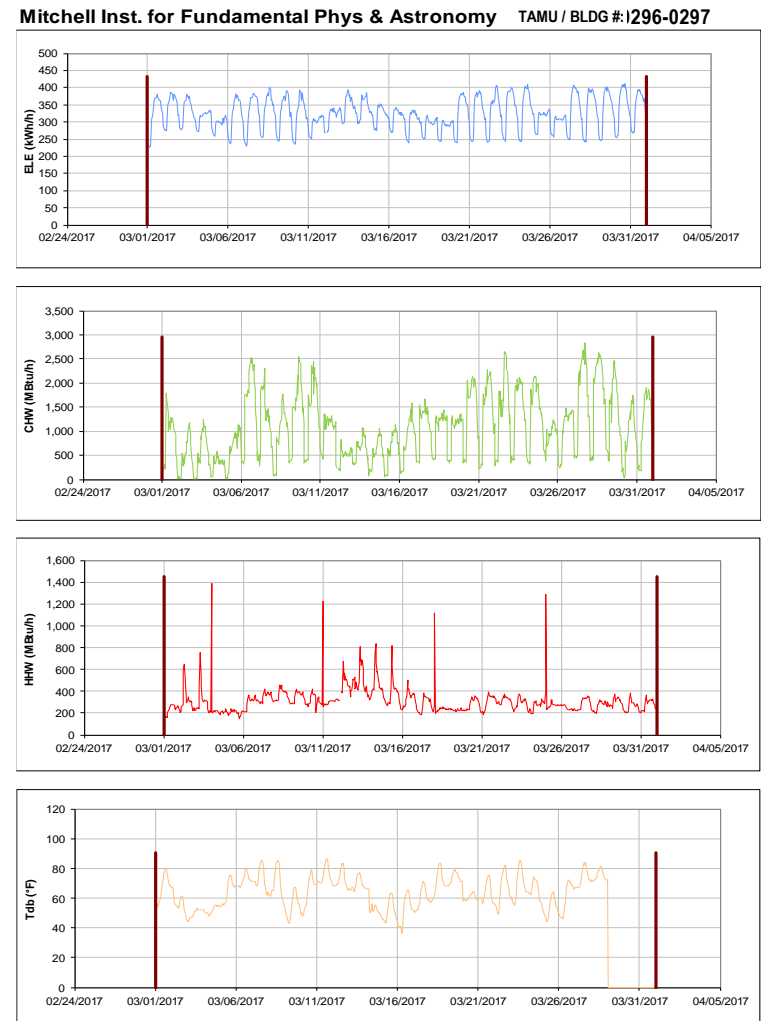


Figure III-8 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mitchell Inst. for Fundamental Phys & Astronomy during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-9 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for CE TTI Office & Lab Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

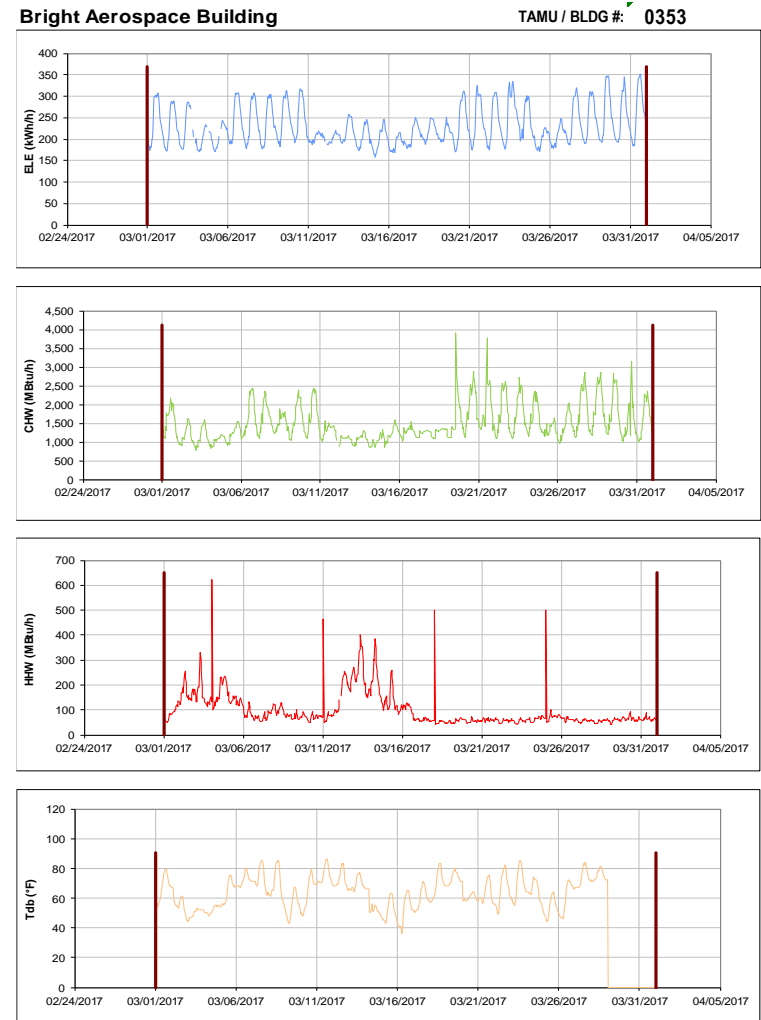


Figure III-10 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bright Aerospace Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Davis Football Player Development Center TAMU / BLDG #: 0358



Figure III-11 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Davis Football Player Development Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Architecture Building B&C TAMU / BLDG #: 1359-0432



Figure III-12 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building B&C during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

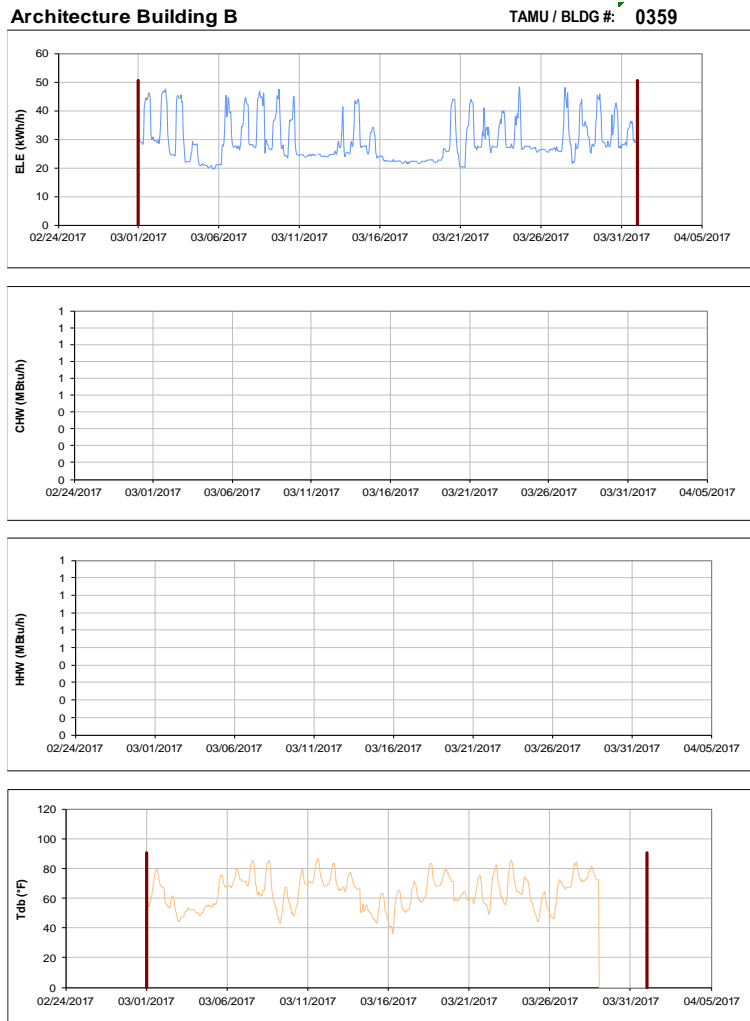


Figure III-13 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building B during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

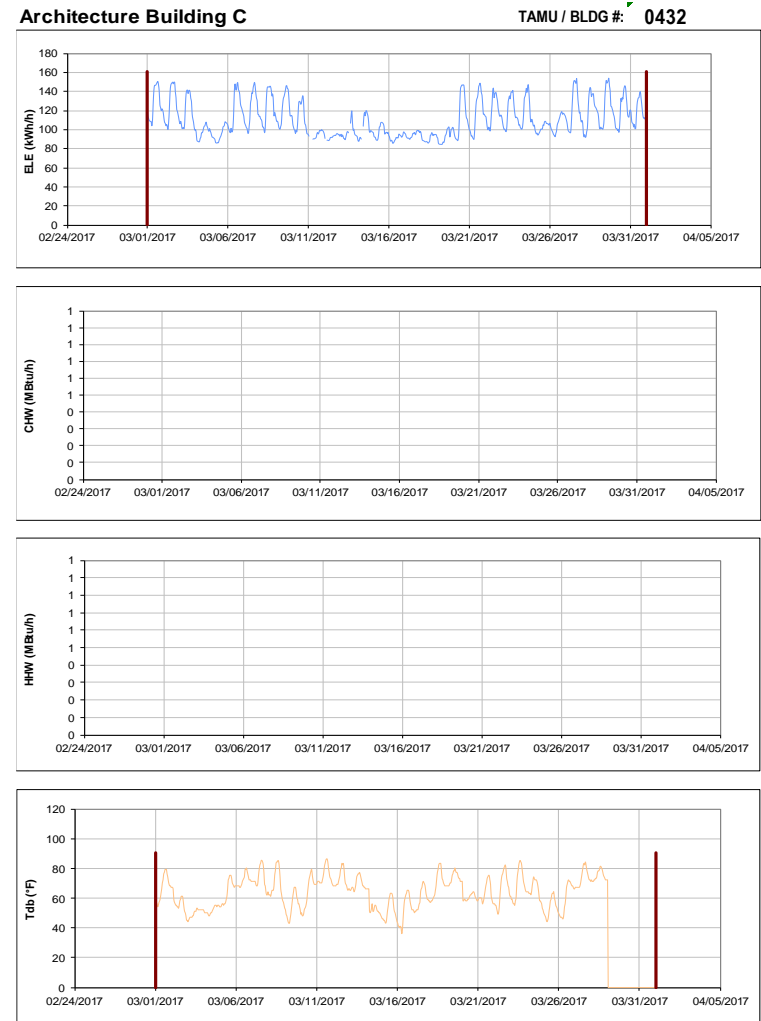


Figure III-14 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building C during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

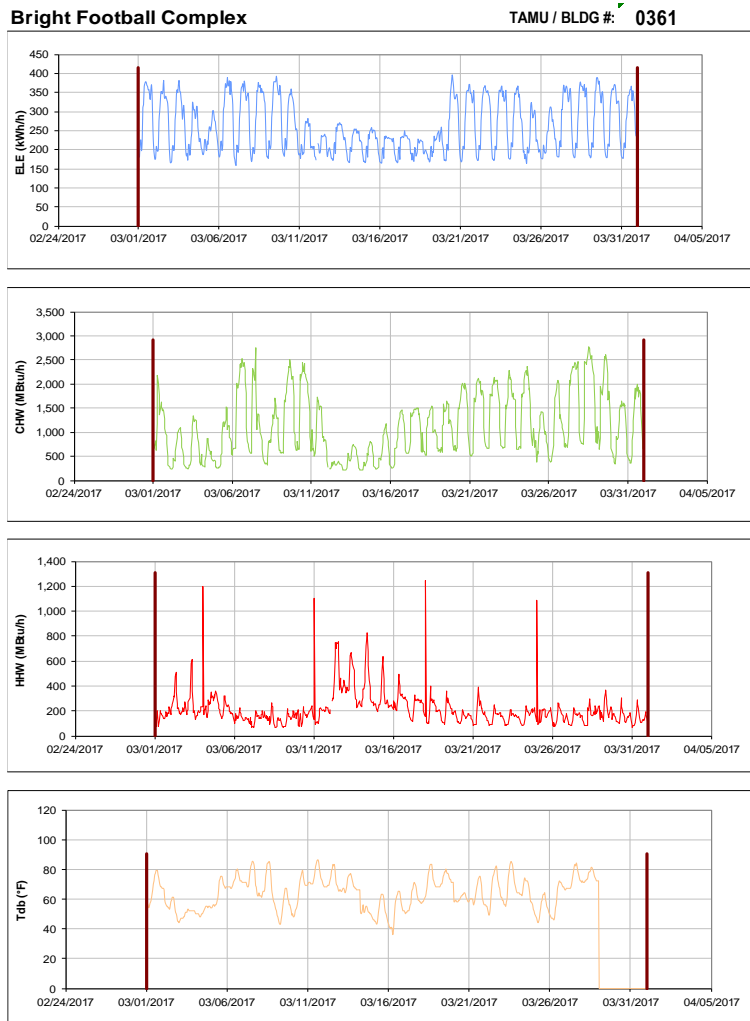


Figure III-15 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bright Football Complex during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

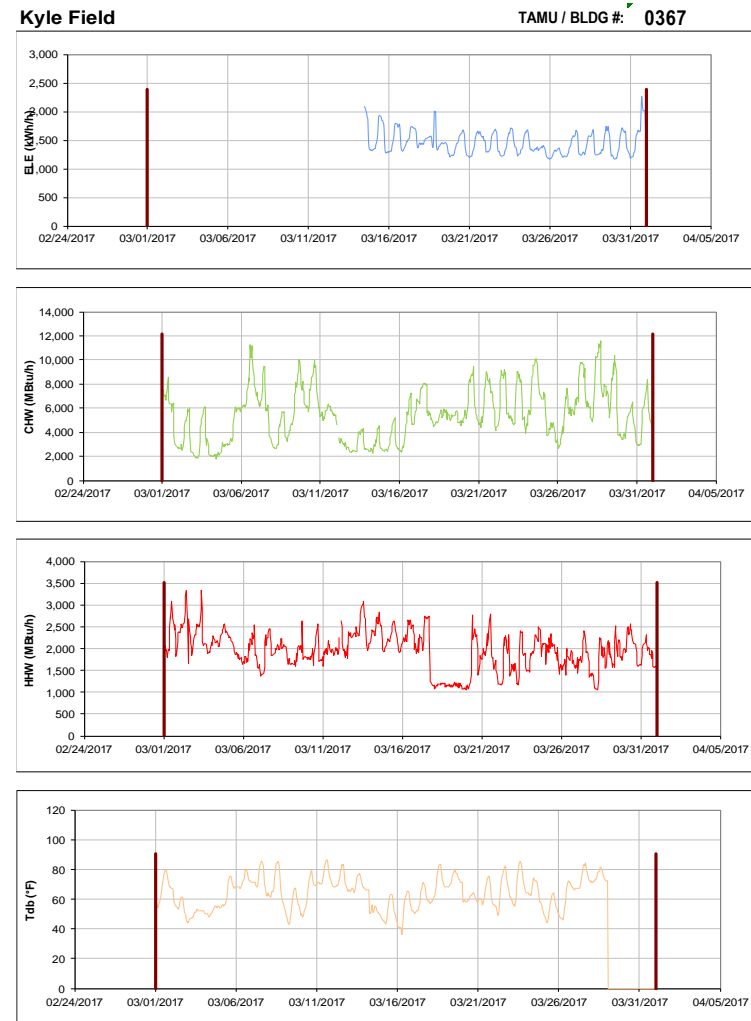


Figure III-16 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kyle Field during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-17 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Chemistry Building Addition during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-18 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Koldus Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

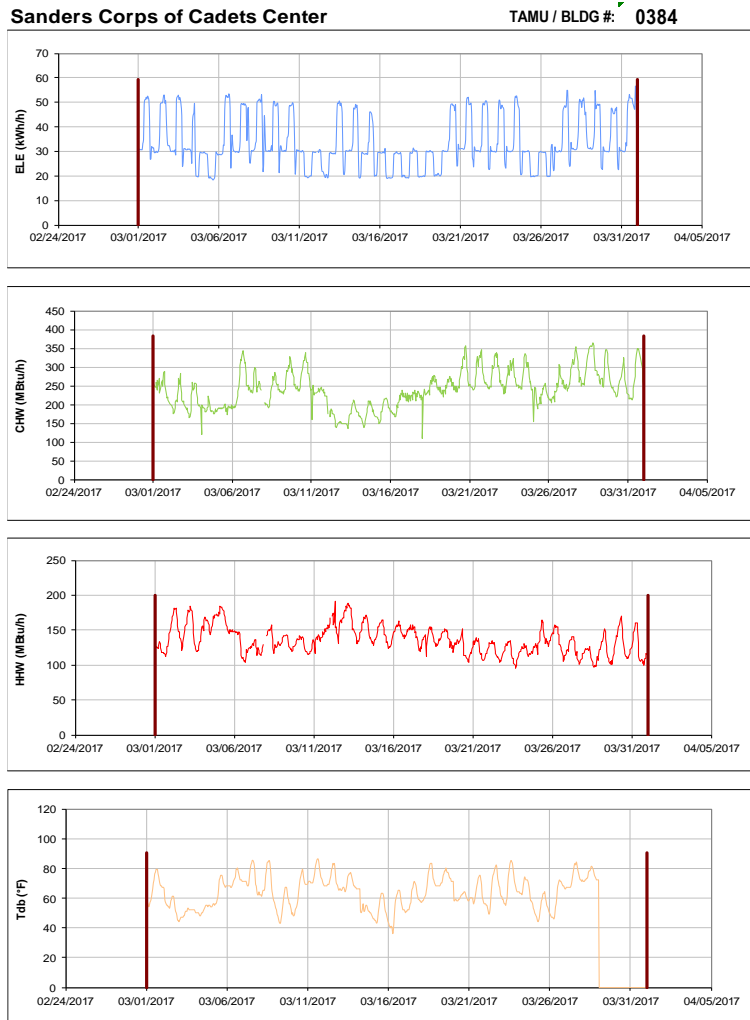


Figure III-19 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Sanders Corps of Cadets Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

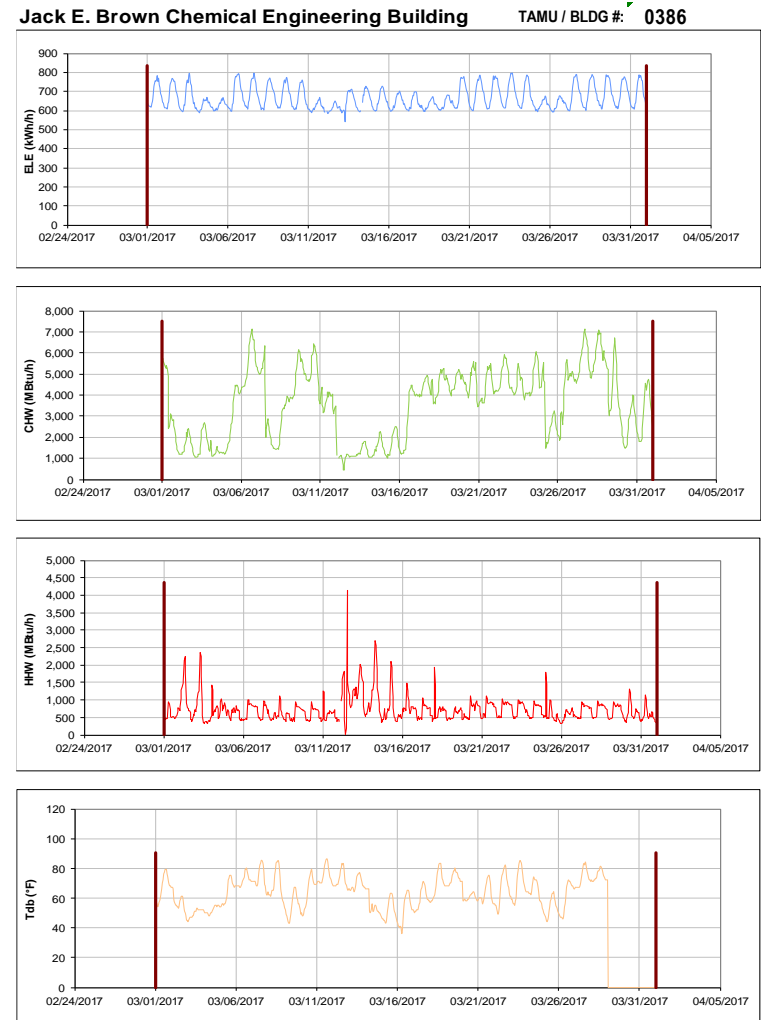


Figure III-20 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Jack E. Brown Chemical Engineering Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Richardson Petroleum Engineering Building TAMU / BLDG #: 0387



Figure III-21 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Richardson Petroleum Engineering Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

James J. Cain'51 and Mechanical Engineering Office Building TAMU / BLDG #: 1391-0392



Figure III-22 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for James J. Cain'51 and Mechanical Engineering Office Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

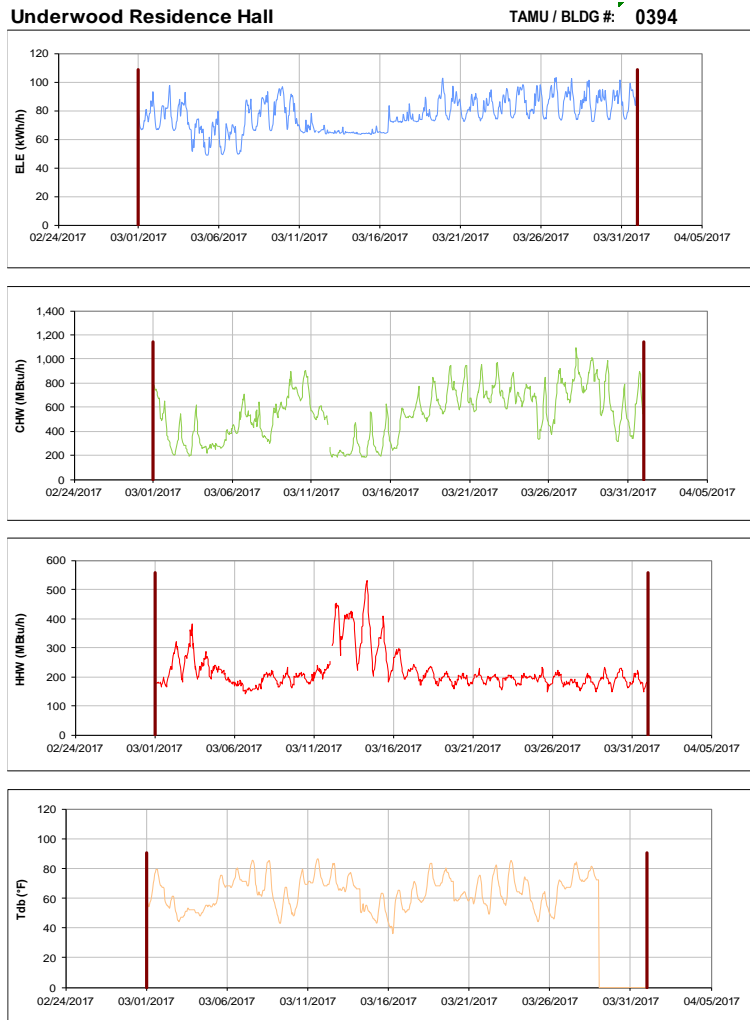


Figure III-23 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Underwood Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-24 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Langford Architecture Center Building A during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Spence Hall, Briggs Hall, and Ash II LLC TAMU / BLDG #: 0-0402-1405

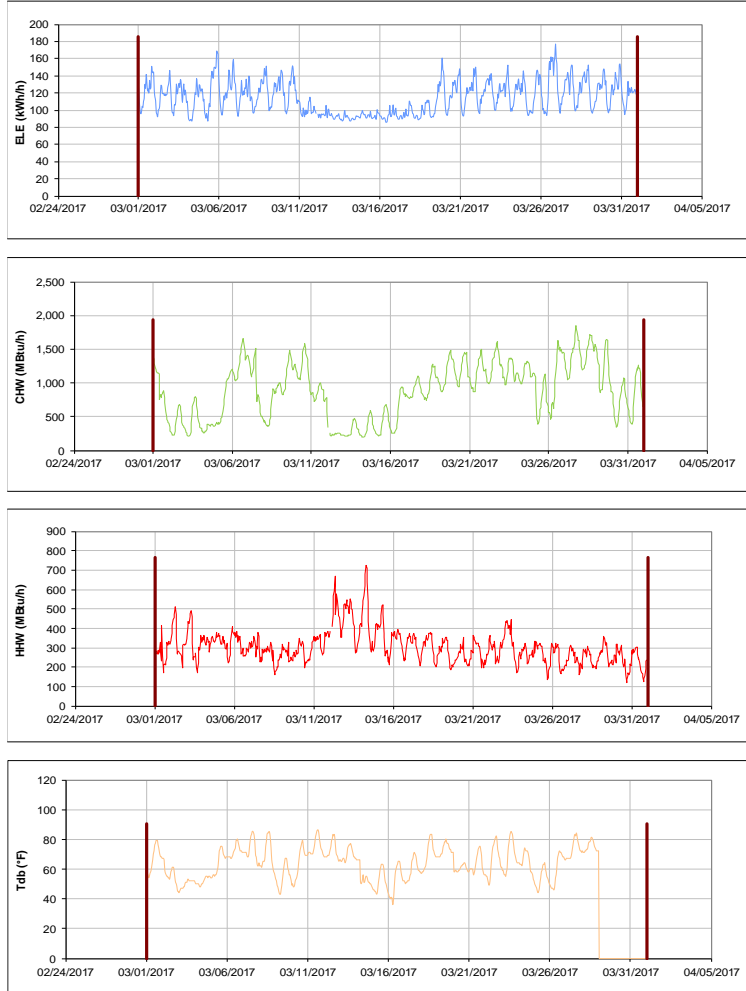


Figure III-25 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Spence Hall, Briggs Hall, and Ash II LLC during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Spence Hall Dorm 1 TAMU / BLDG #: 0400

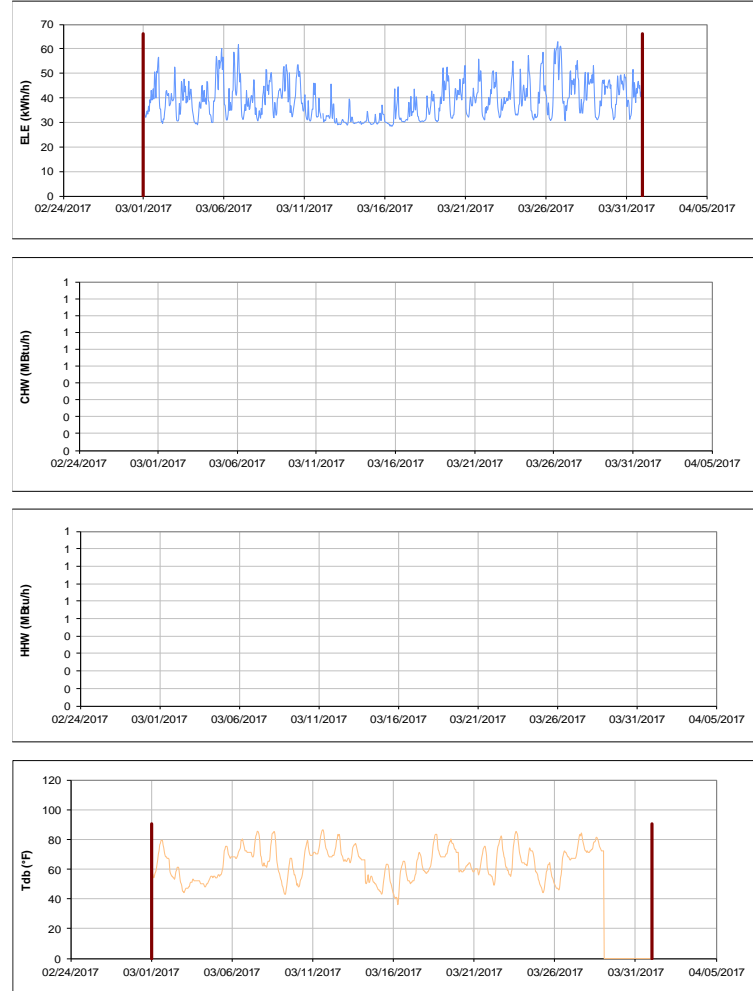


Figure III-26 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Spence Hall Dorm 1 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Briggs Hall Dorm 3

TAMU / BLDG #: 0402

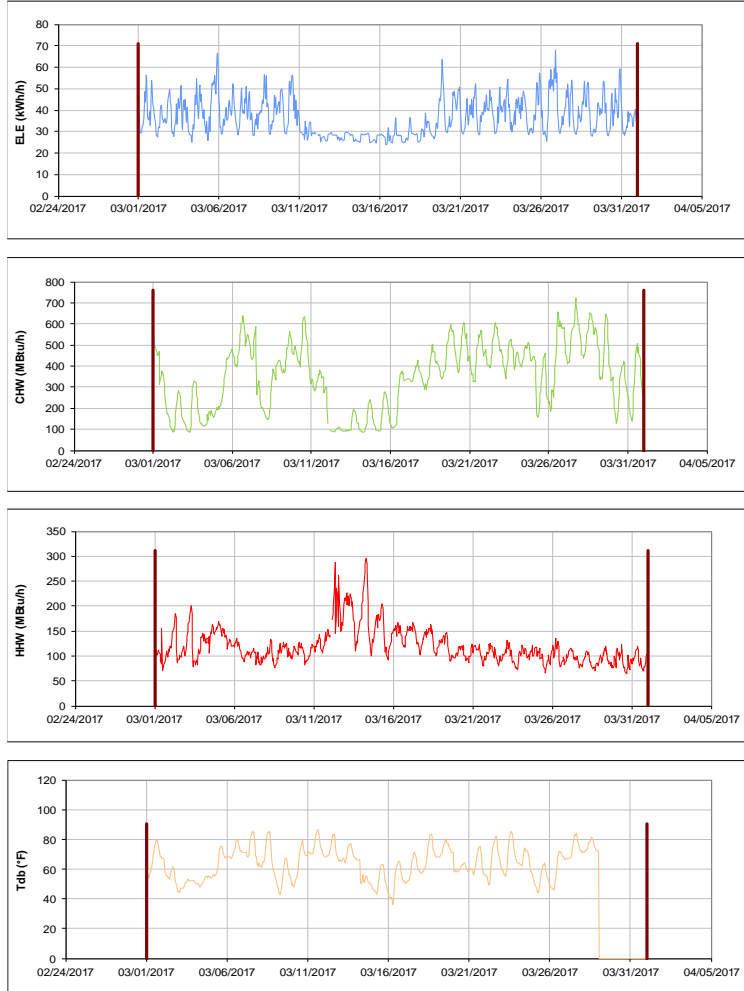


Figure III-27 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Briggs Hall Dorm 3 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Ash II LLC

TAMU / BLDG #: 1405

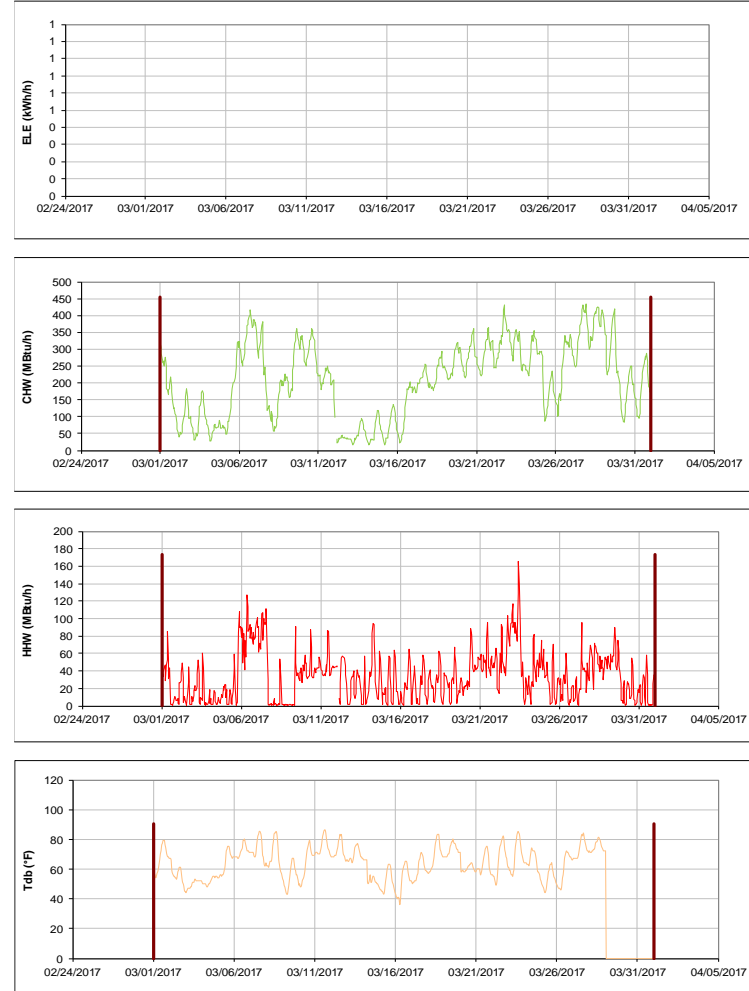


Figure III-28 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Ash II LLC during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Kiest Hall, Fountain Hall, and Plank LLC TAMU / BLDG #: 1-0403-1404

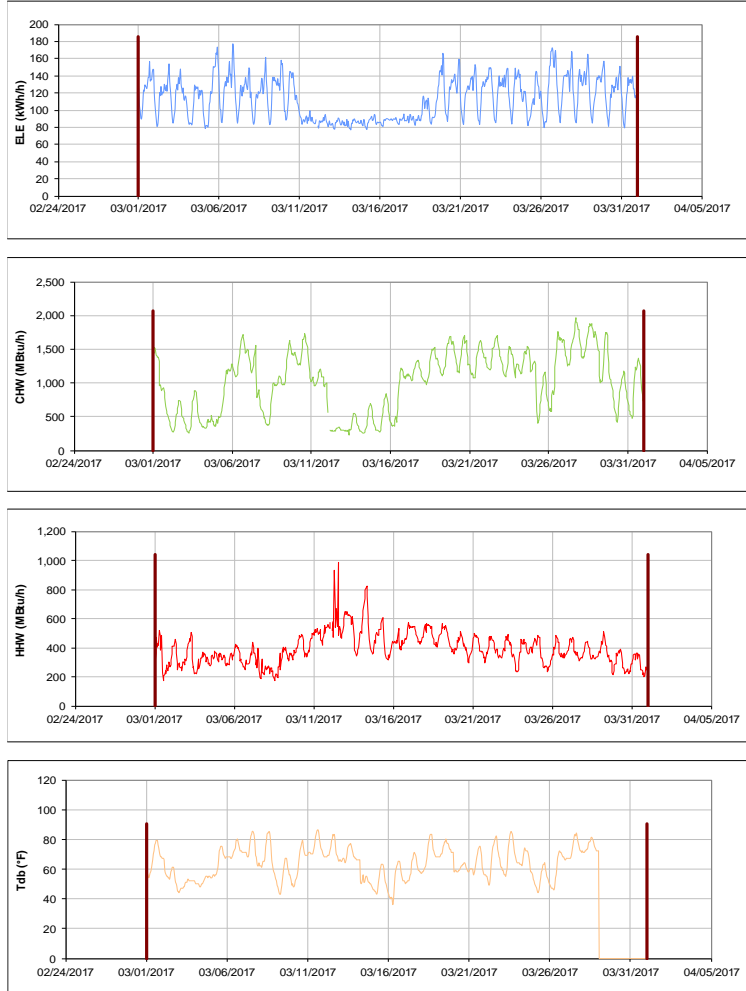


Figure III-29 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kiest Hall, Fountain Hall, and Plank LLC during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Kiest Hall Dorm 2 TAMU / BLDG #: 0401

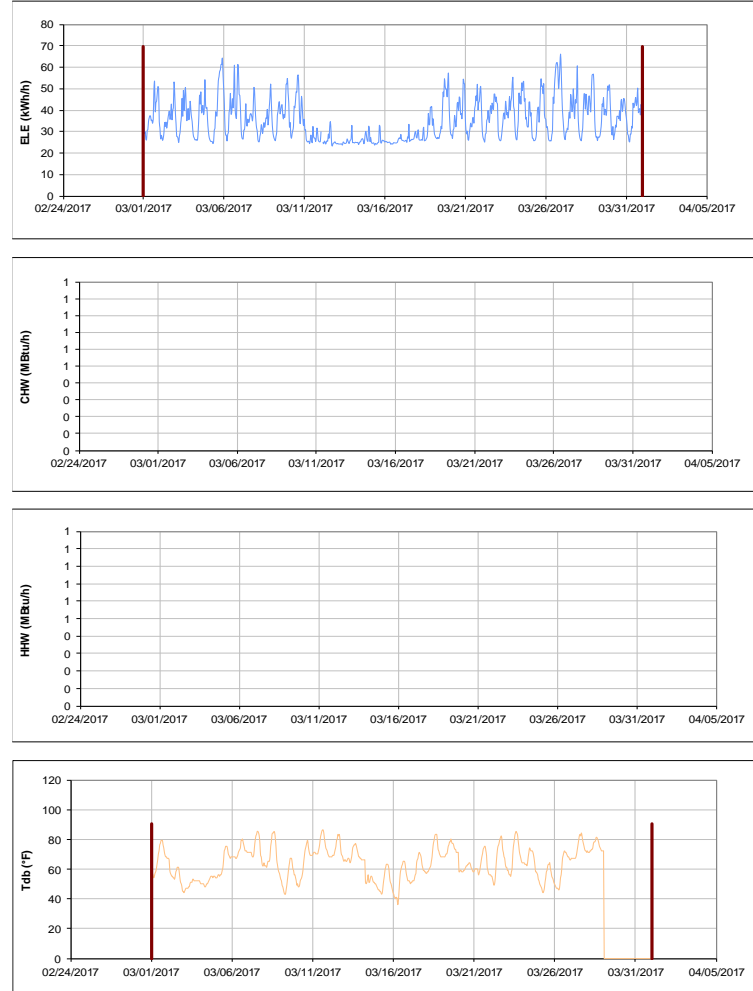


Figure III-30 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kiest Hall Dorm 2 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

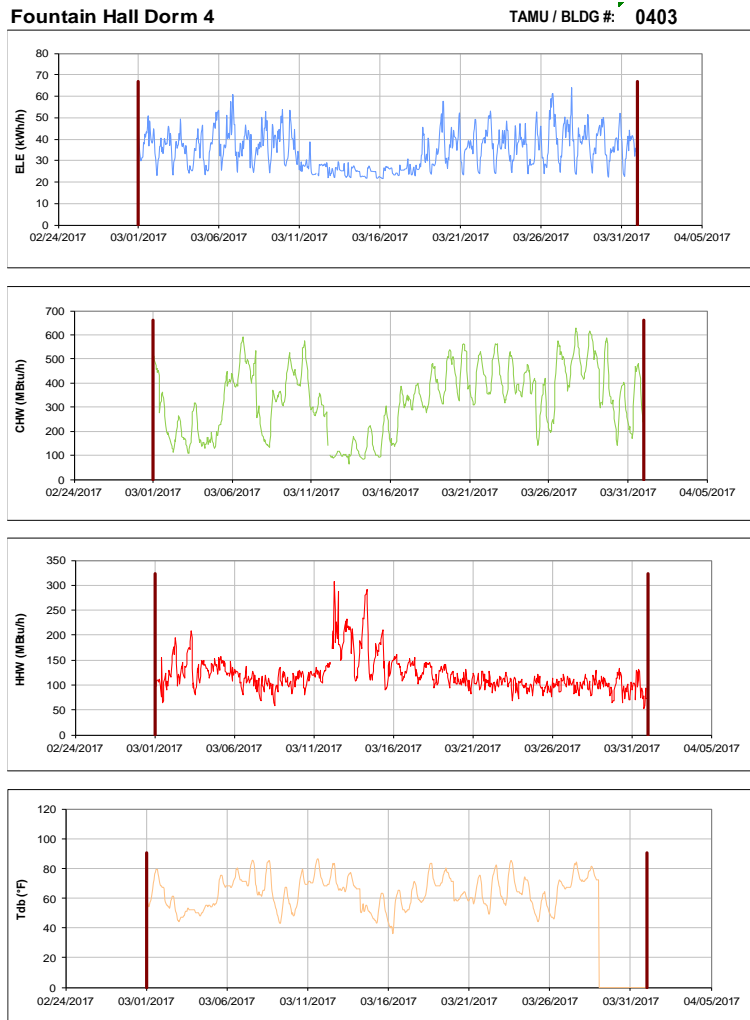


Figure III-31 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Fountain Hall Dorm 4 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

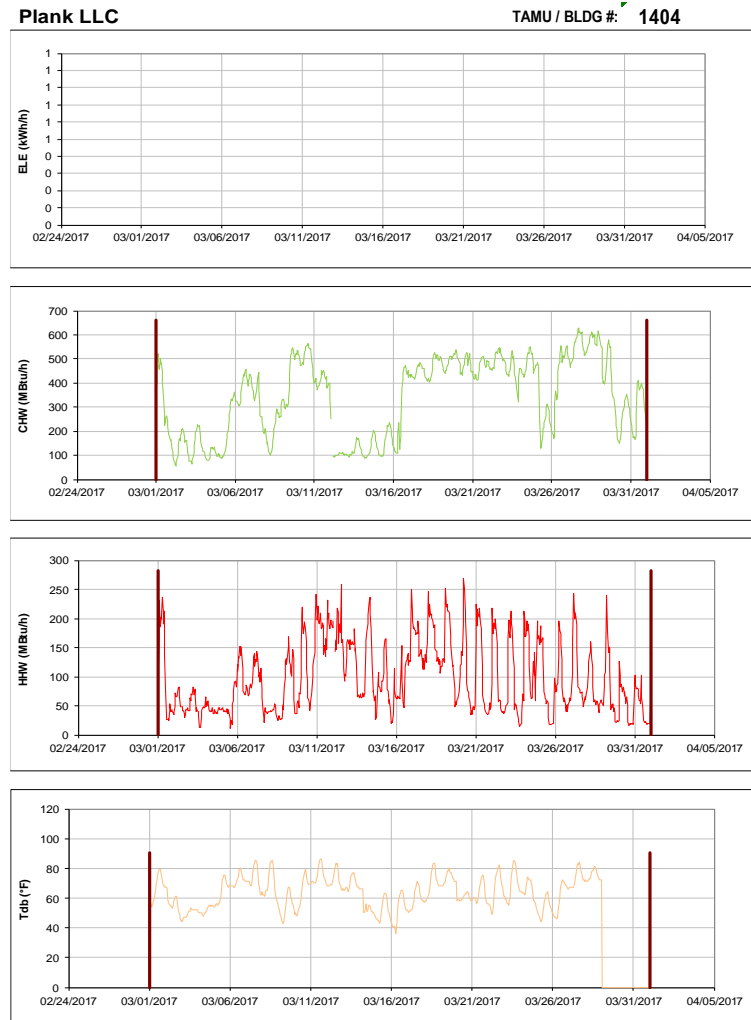


Figure III-32 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Plank LLC during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Gainer Hall, Leonard Hall and Ash LLC TAMU / BLDG #: 4-0406-1403

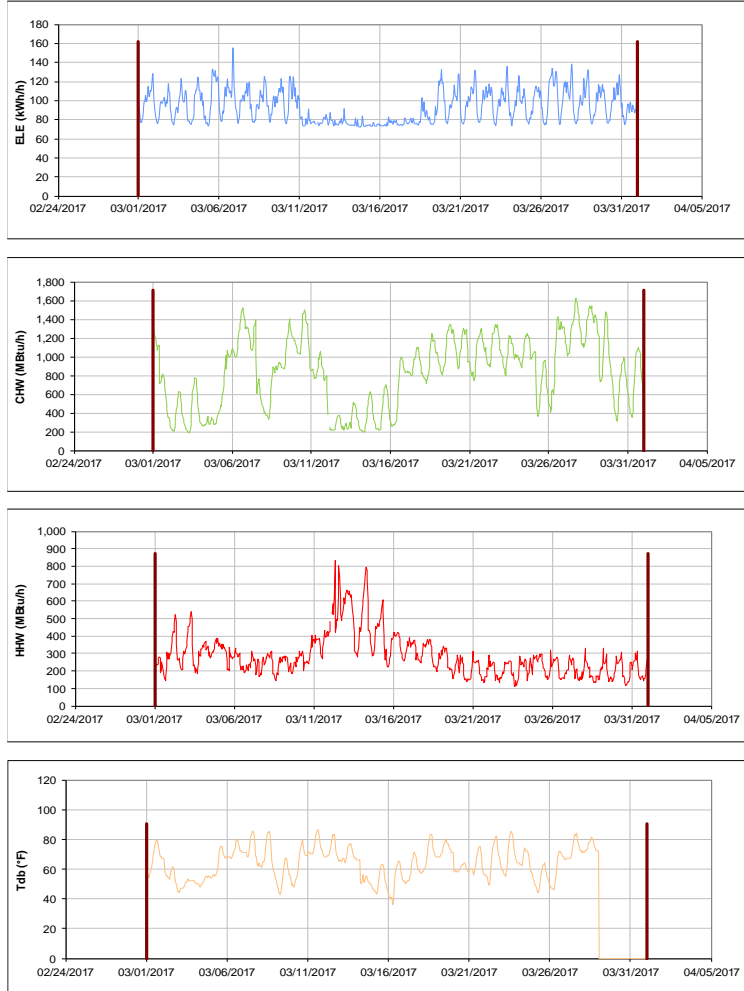


Figure III-33 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gainer Hall, Leonard Hall and Ash LLC during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Gainer Hall Dorm 5 TAMU / BLDG #: 0404

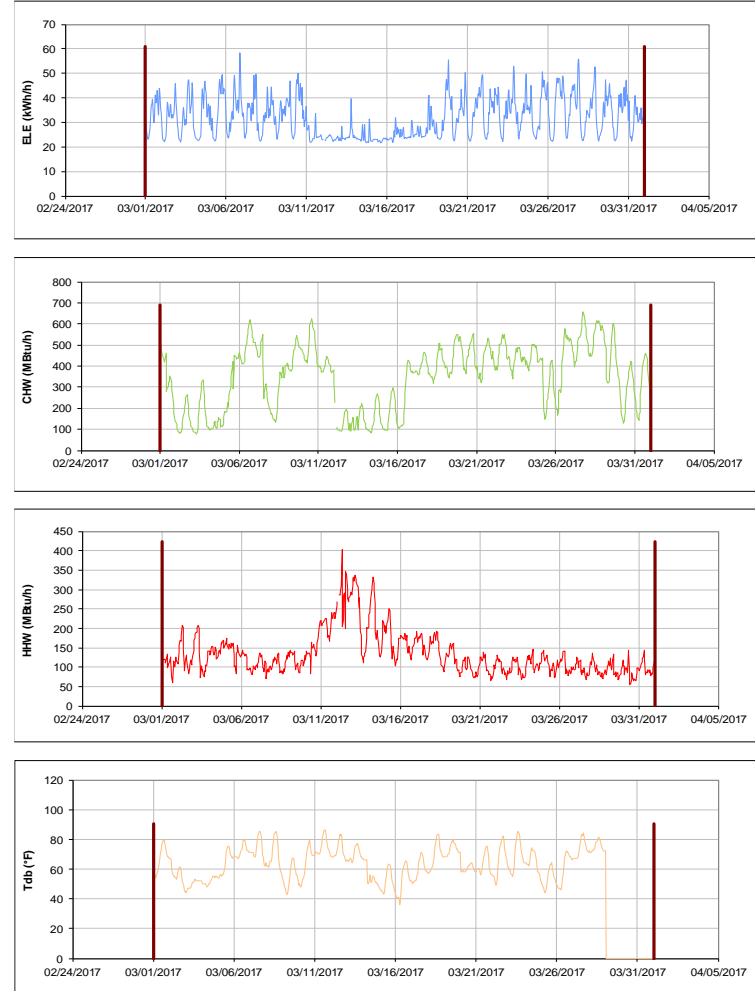


Figure III-34 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gainer Hall Dorm 5 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

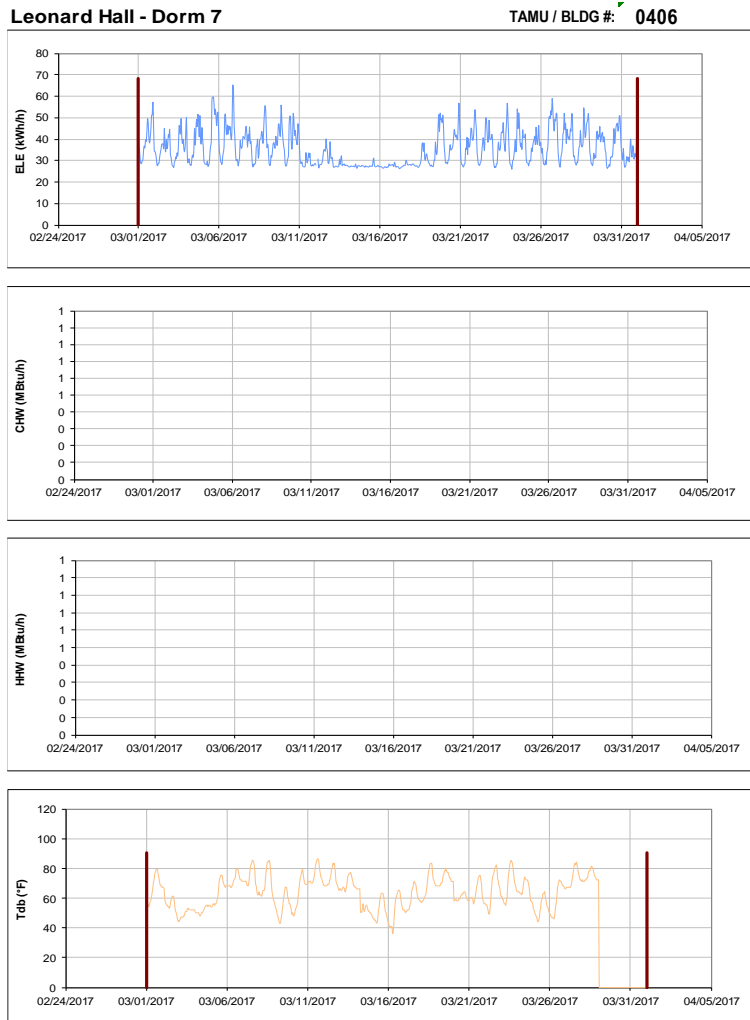


Figure III-35 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Leonard Hall - Dorm 7 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

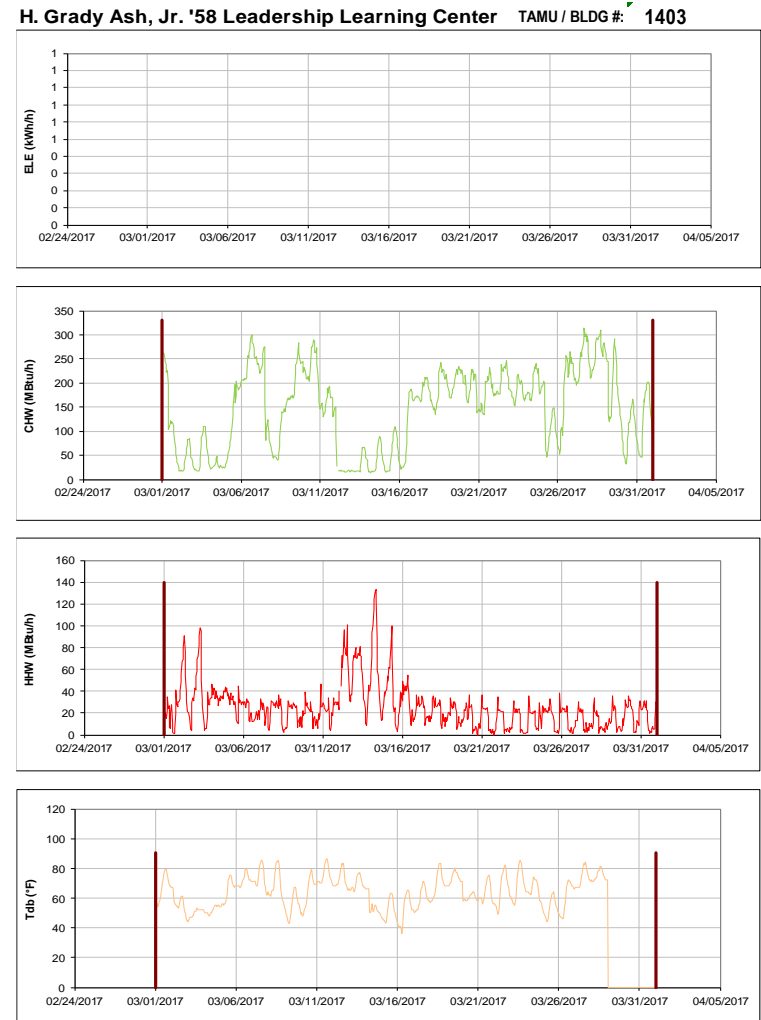


Figure III-36 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for H. Grady Ash, Jr. '58 Leadership Learning Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center / BLDG #: 5-0407-1402

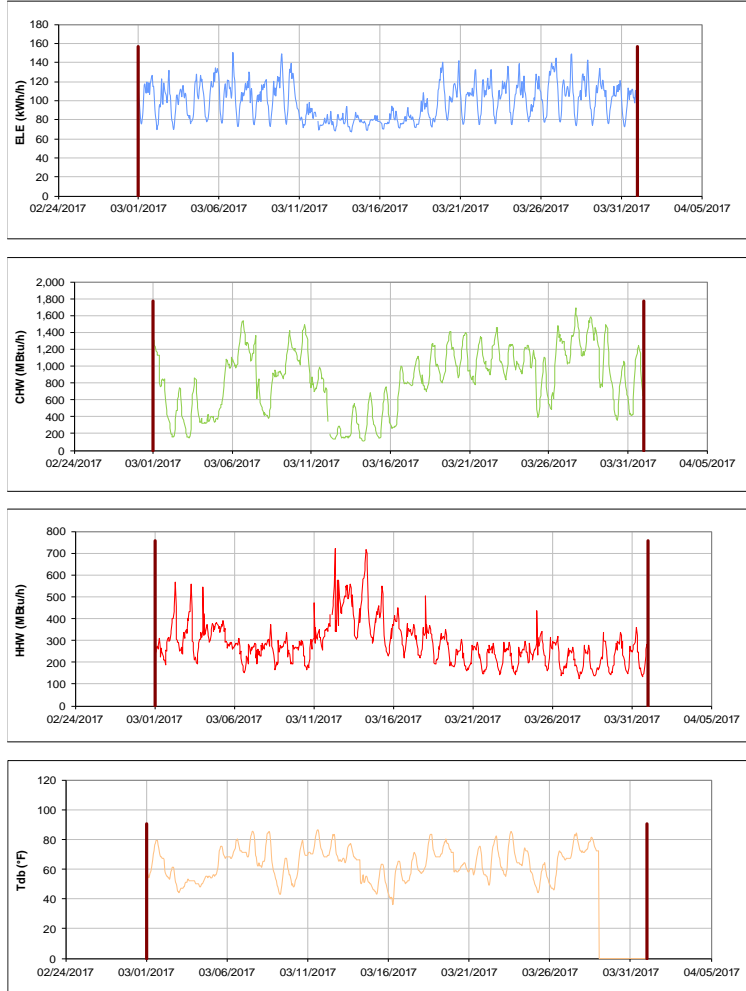


Figure III-37 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Lacy Hall - Dorm 6 TAMU / BLDG #: 0405

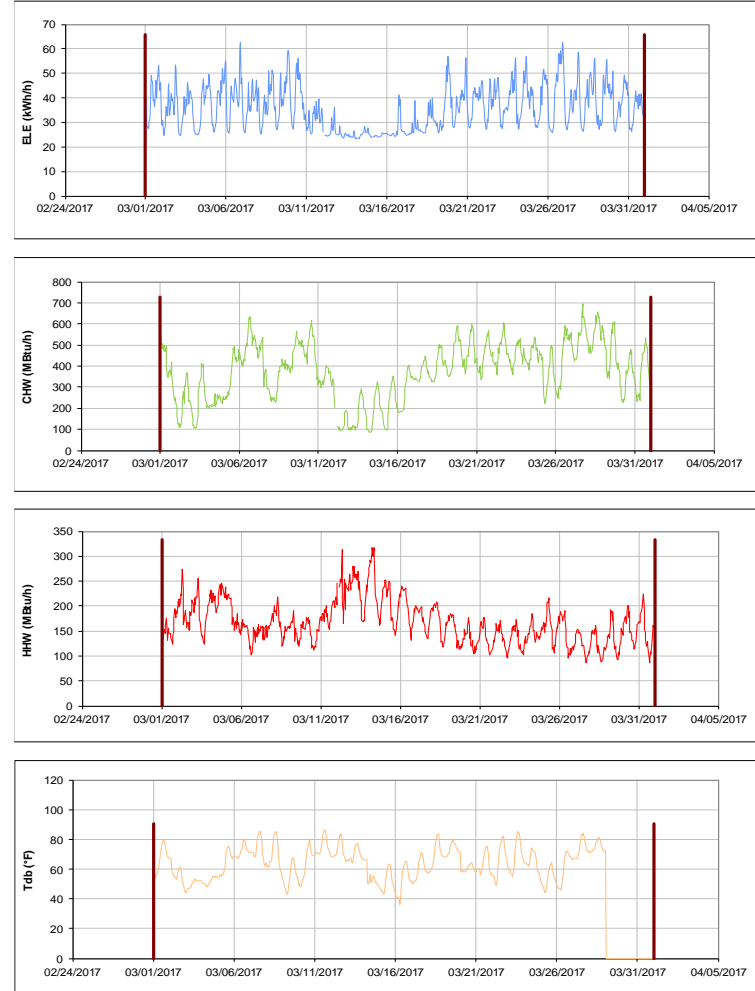


Figure III-38 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lacy Hall - Dorm 6 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Harrell Hall - Dorm 8

TAMU / BLDG #: 0407

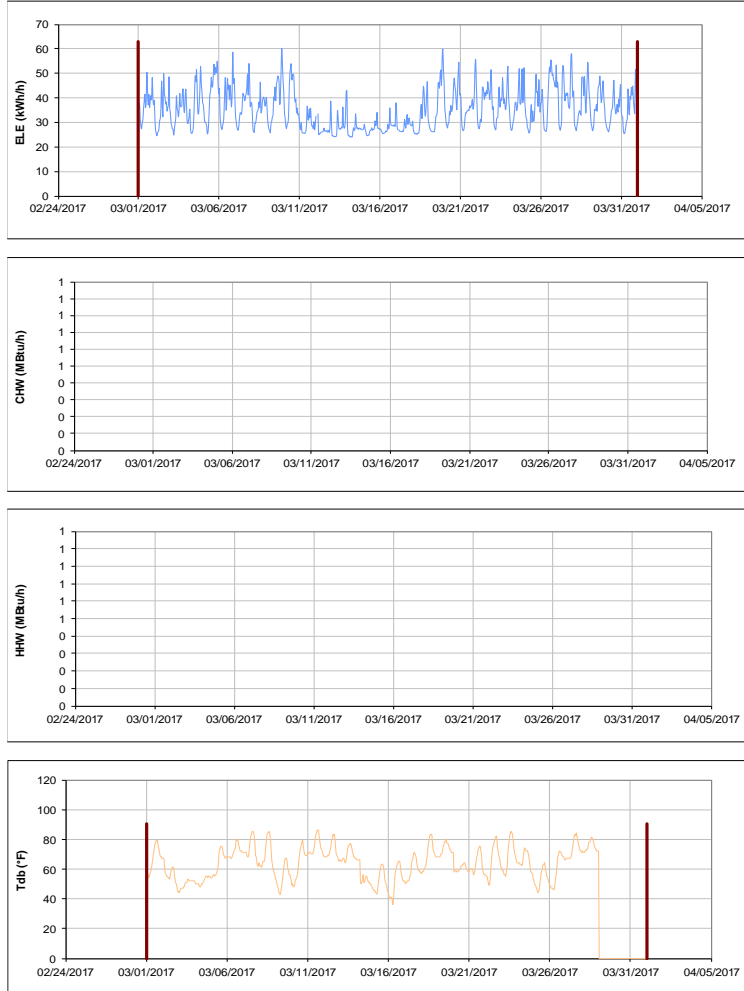


Figure III-39 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrell Hall - Dorm 8 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Buzbee Leadership Learning Center

TAMU / BLDG #: 1402

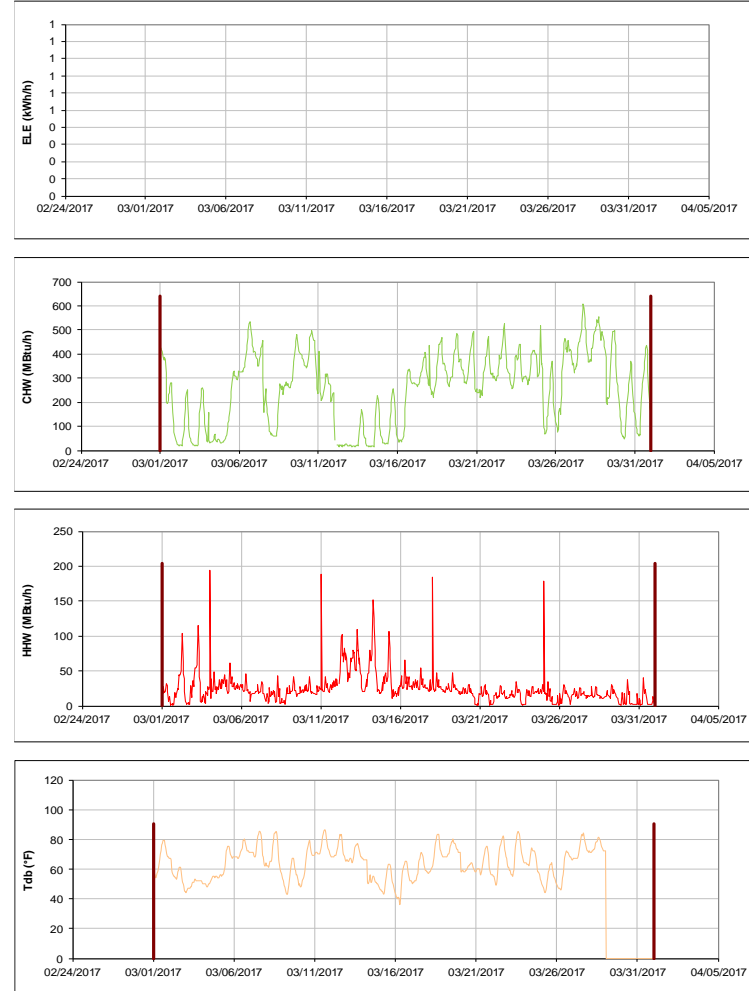


Figure III-40 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Buzbee Leadership Learning Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Moses Residence Hall

TAMU / BLDG #: 0412

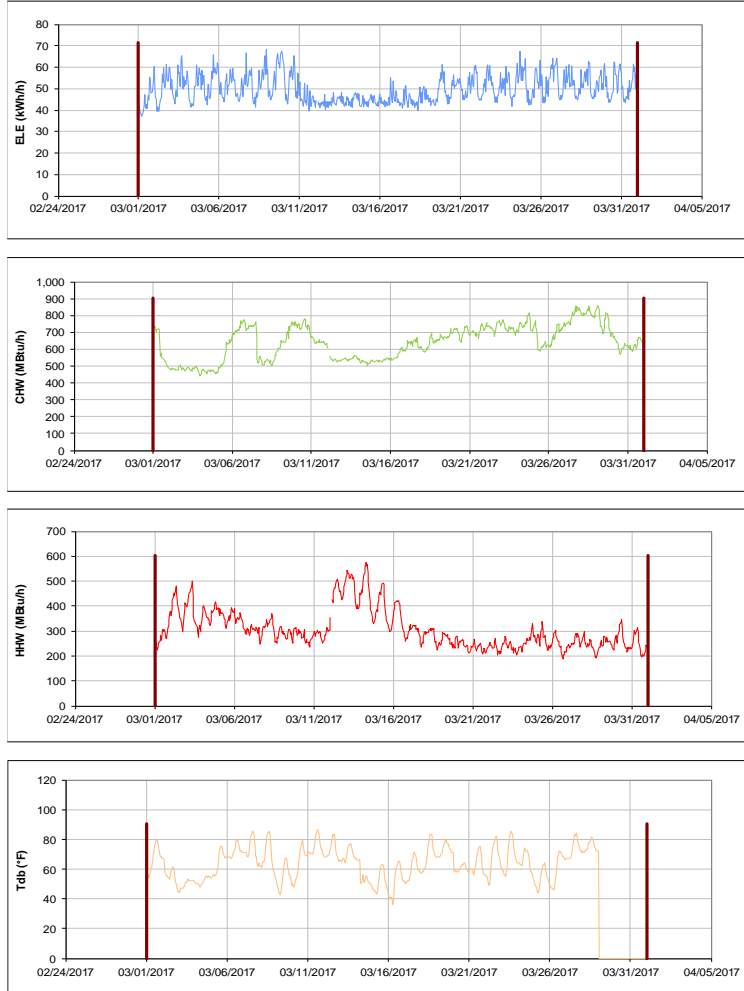


Figure III-41 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Moses Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Davis-Gary Residence Hall

TAMU / BLDG #: 0415

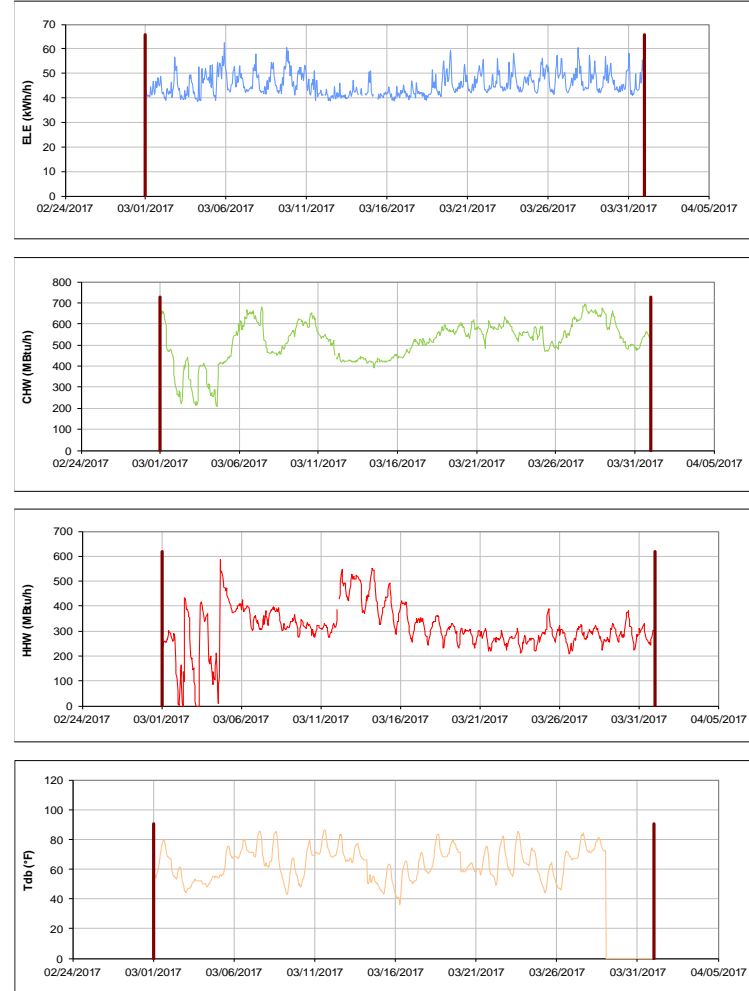


Figure III-42 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Davis-Gary Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

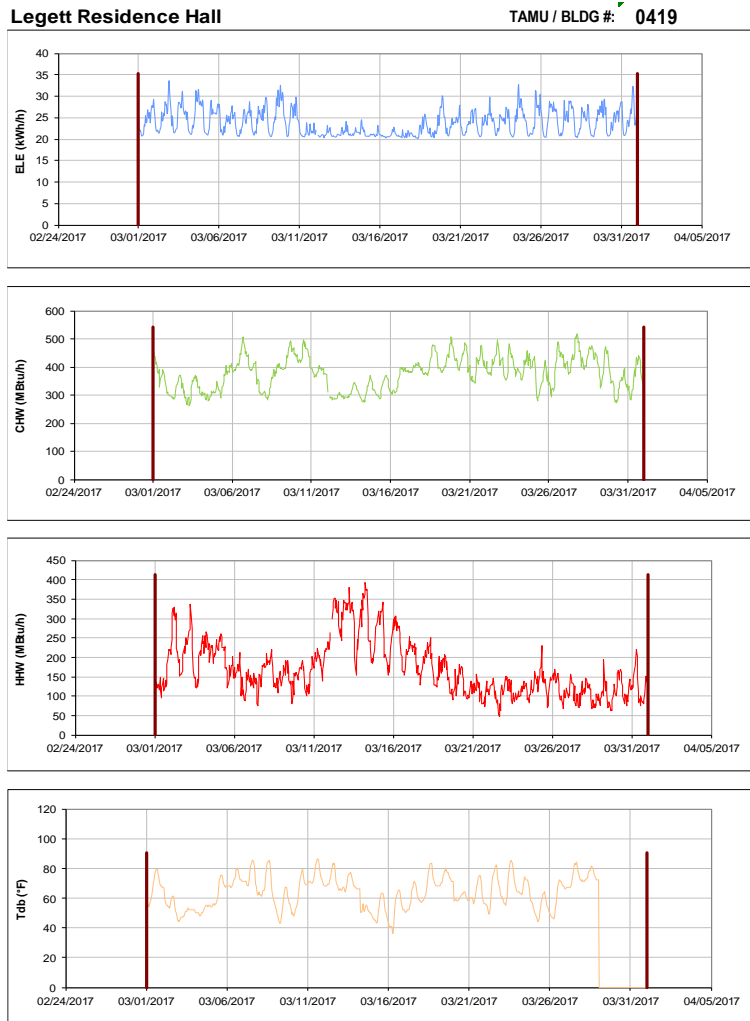


Figure III-43 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Legett Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

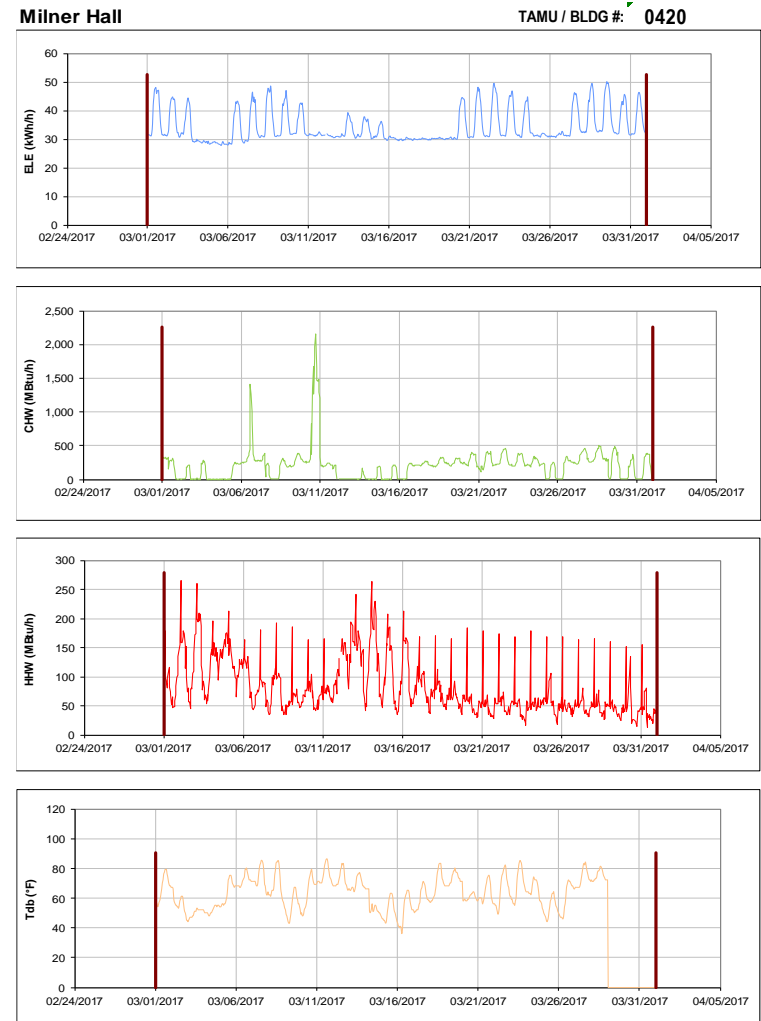


Figure III-44 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Milner Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

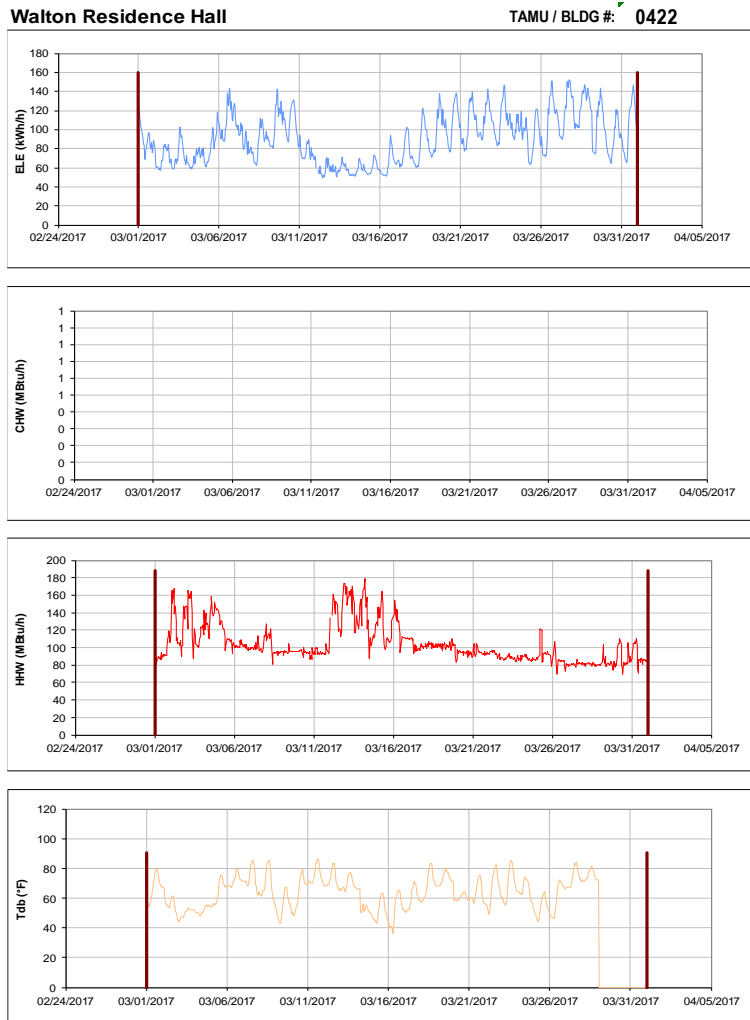


Figure III-45 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Walton Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

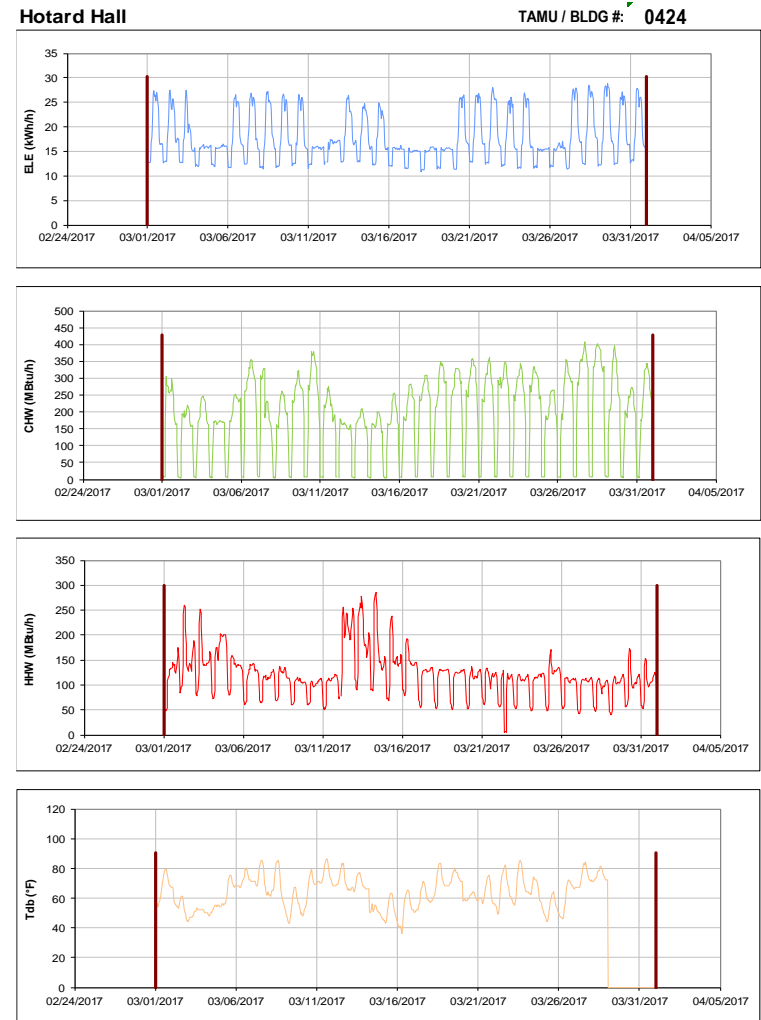


Figure III-46 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hotard Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-47 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Henderson Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

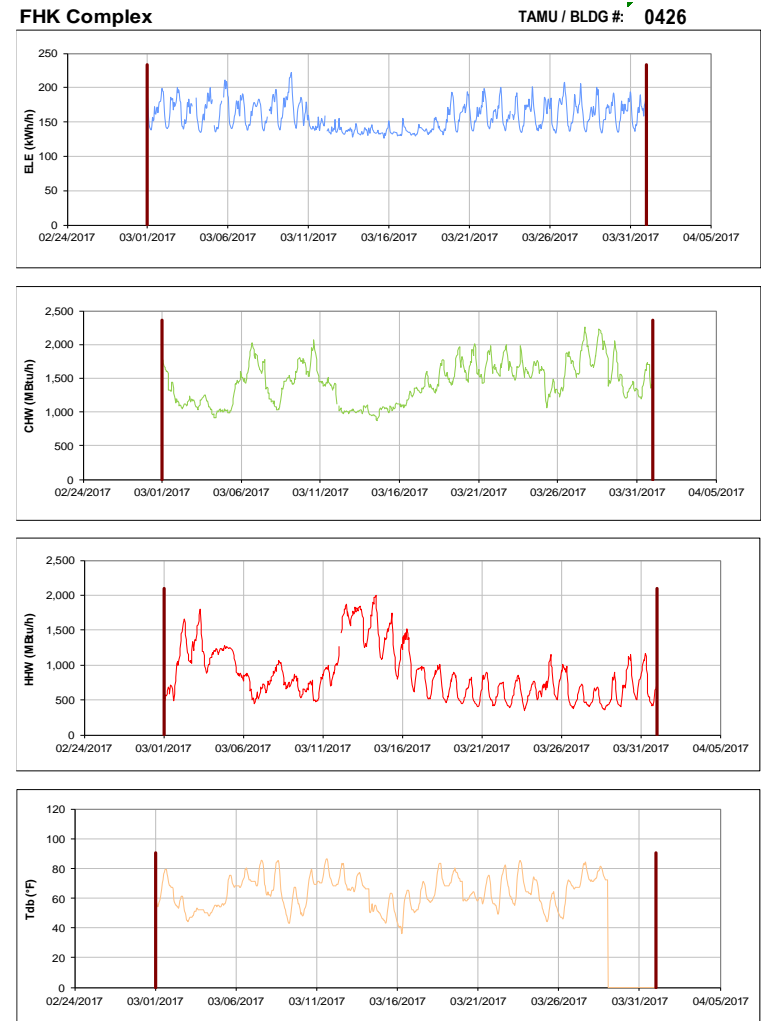


Figure III-48 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for FHK Complex during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Schumacher Residence Hall

TAMU / BLDG #: 0430

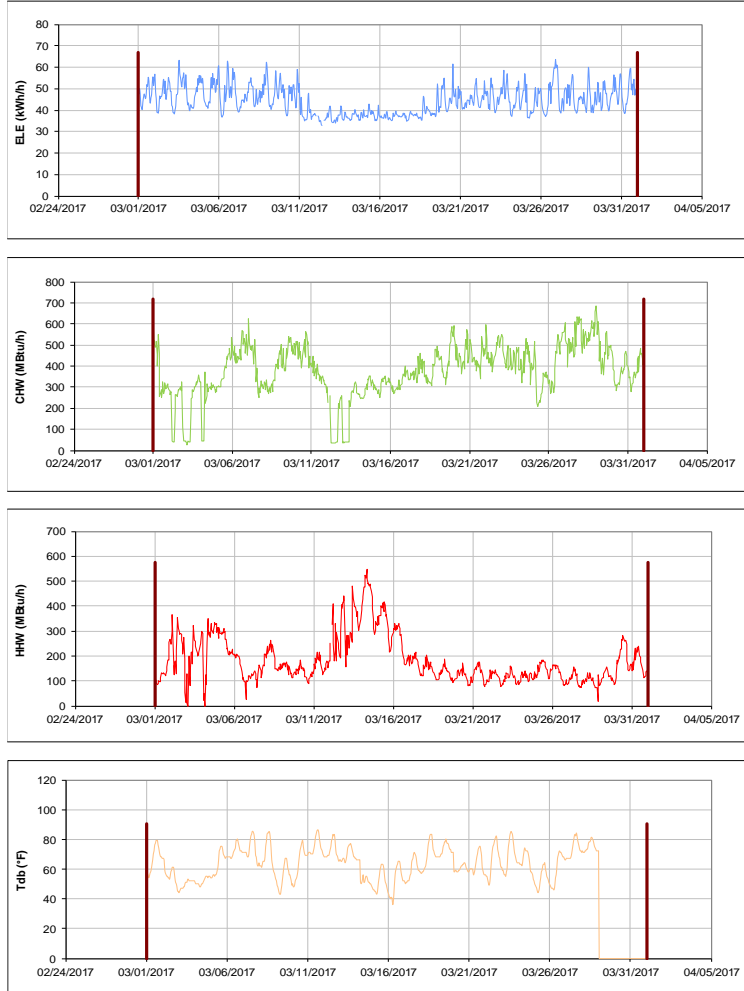


Figure III-49 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Schumacher Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Mosher Commons Krueger Dunn Aston

TAMU / BLDG #: 0-0441-0442-0447

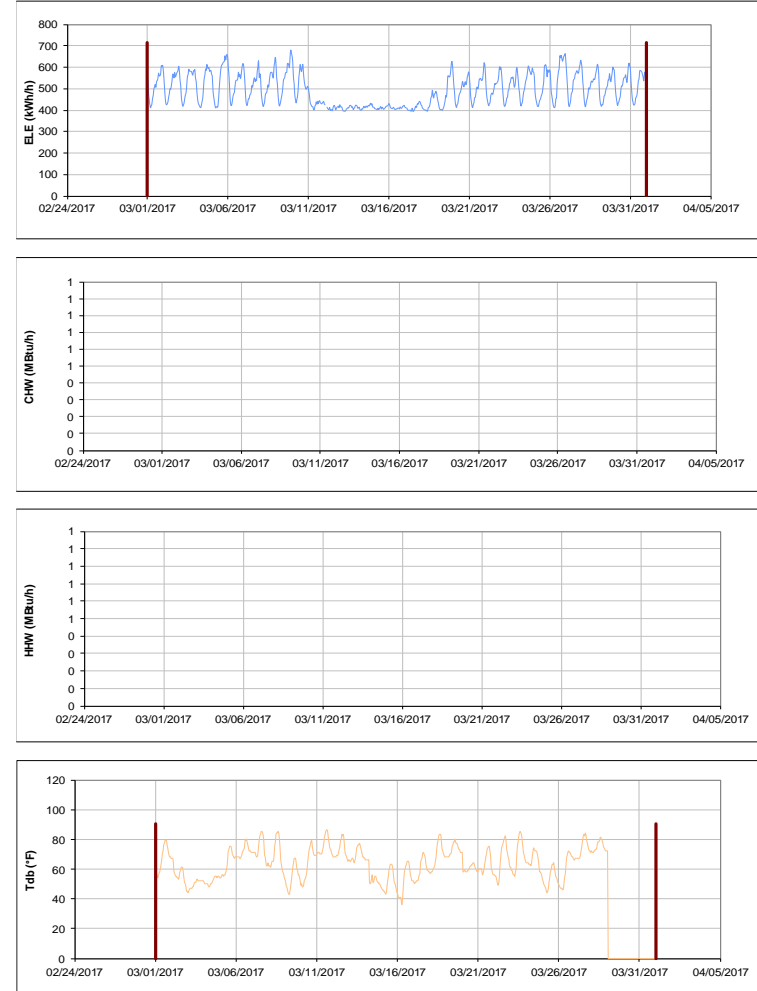


Figure III-50 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mosher Commons Krueger Dunn Aston during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

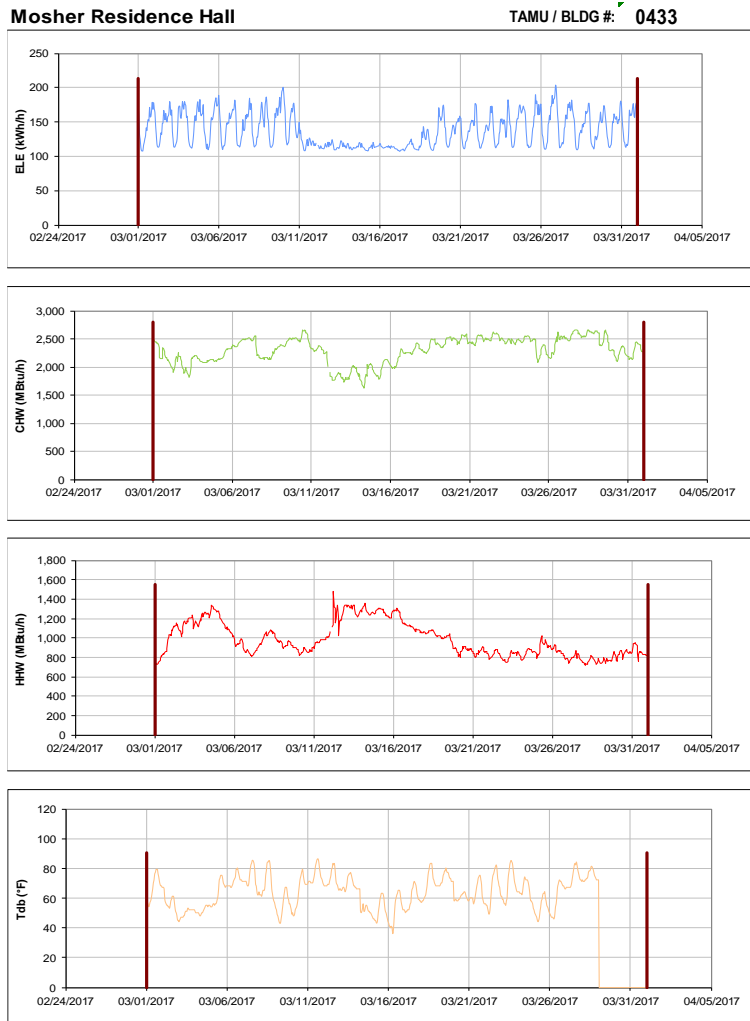


Figure III-51 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mosher Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-52 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Commons Krueger during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

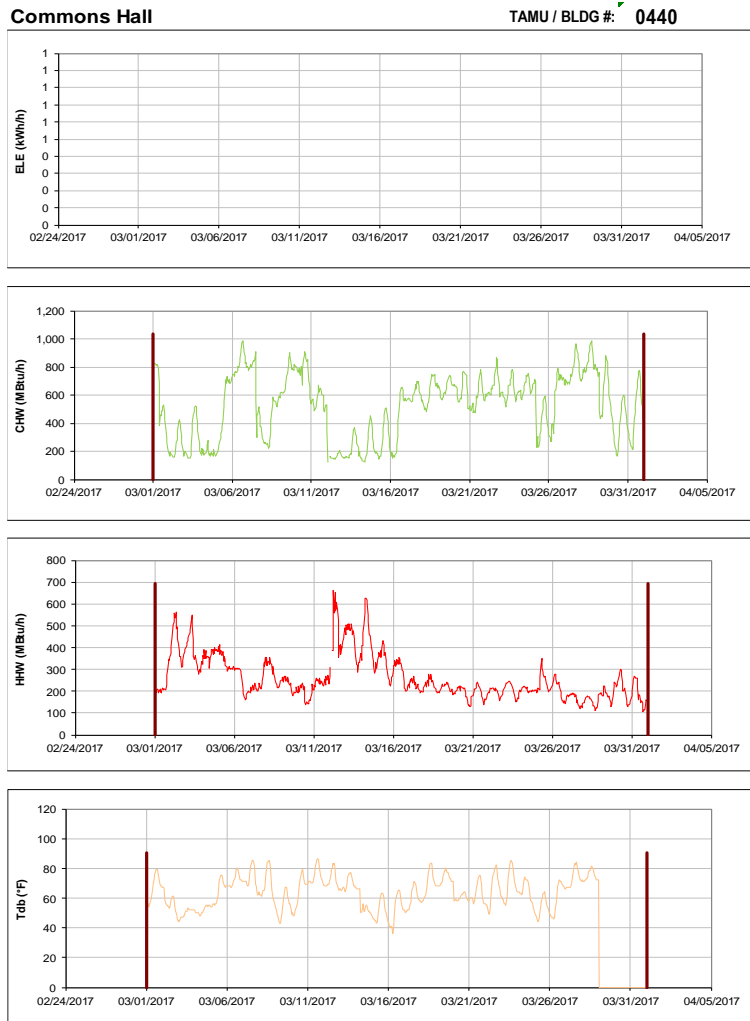


Figure III-53 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Commons Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-54 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Krueger Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-55 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Dunn Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

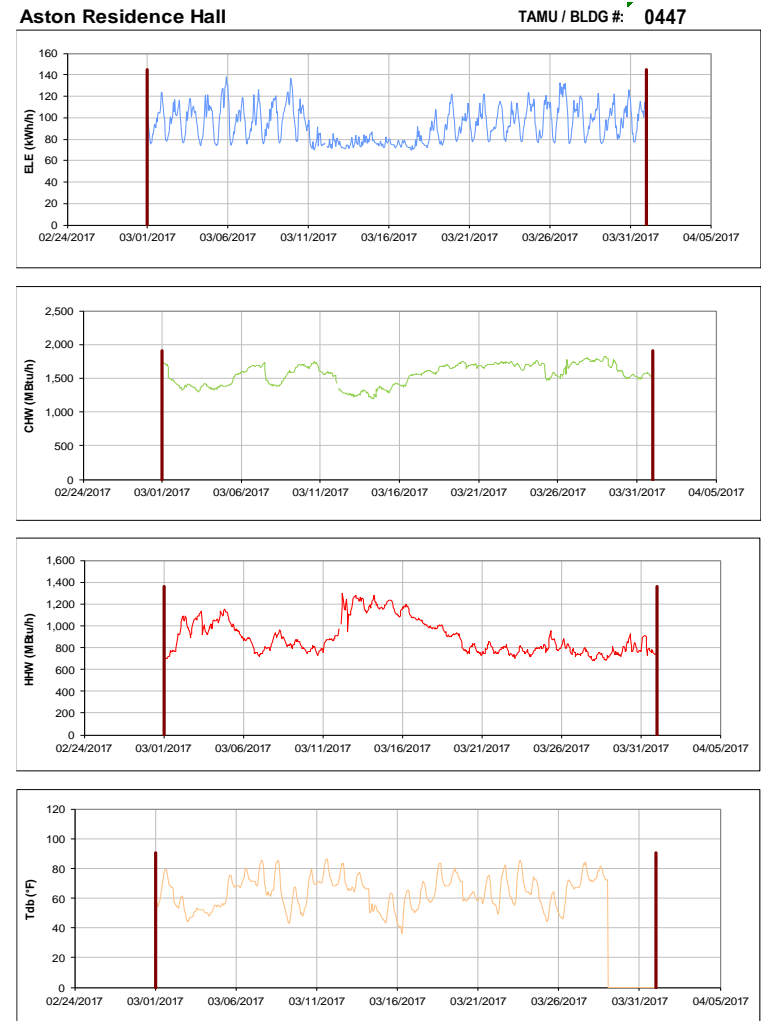


Figure III-56 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Aston Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Luedecke Building (Cyclotron)

TAMU / BLDG #: 0434

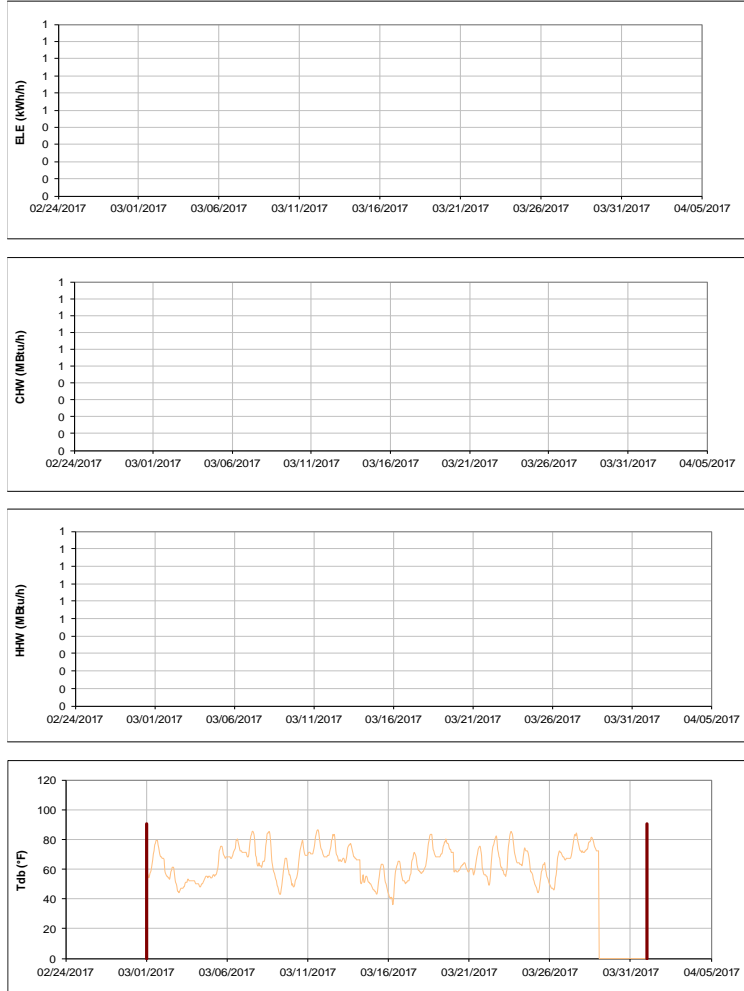


Figure III-57 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Luedecke Building (Cyclotron) during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Harrington Education Center Office Tower

TAMU / BLDG #: 0435

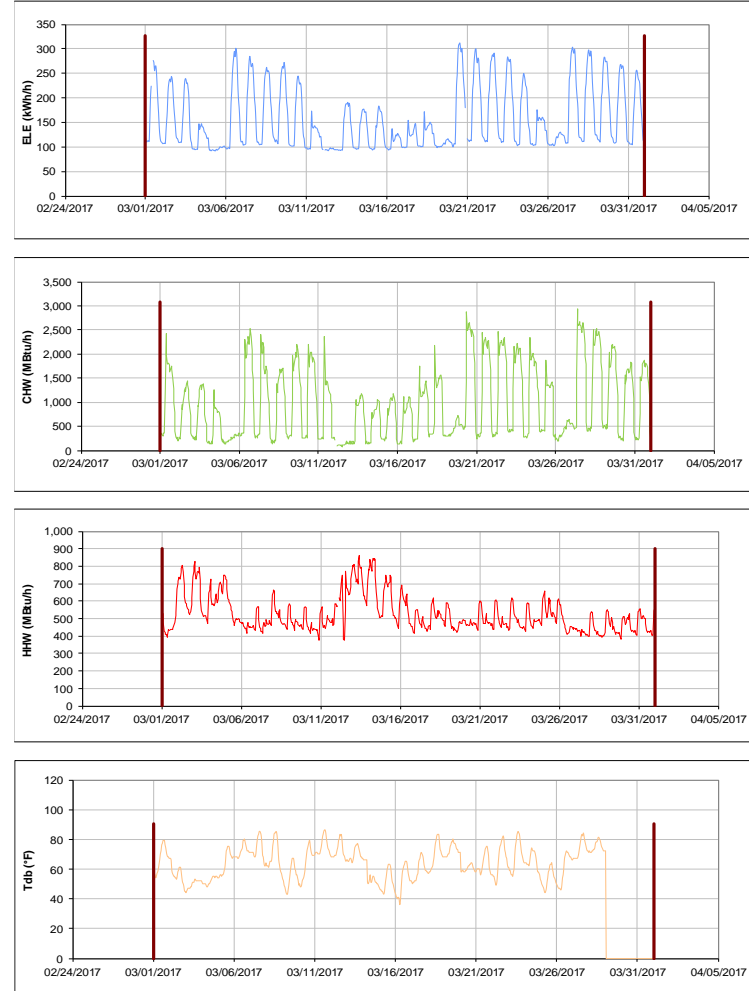


Figure III-58 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Education Center Office Tower during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Reed-McDonald and Engineering Innovation Center TAMU / BLDG #: 1436-0499

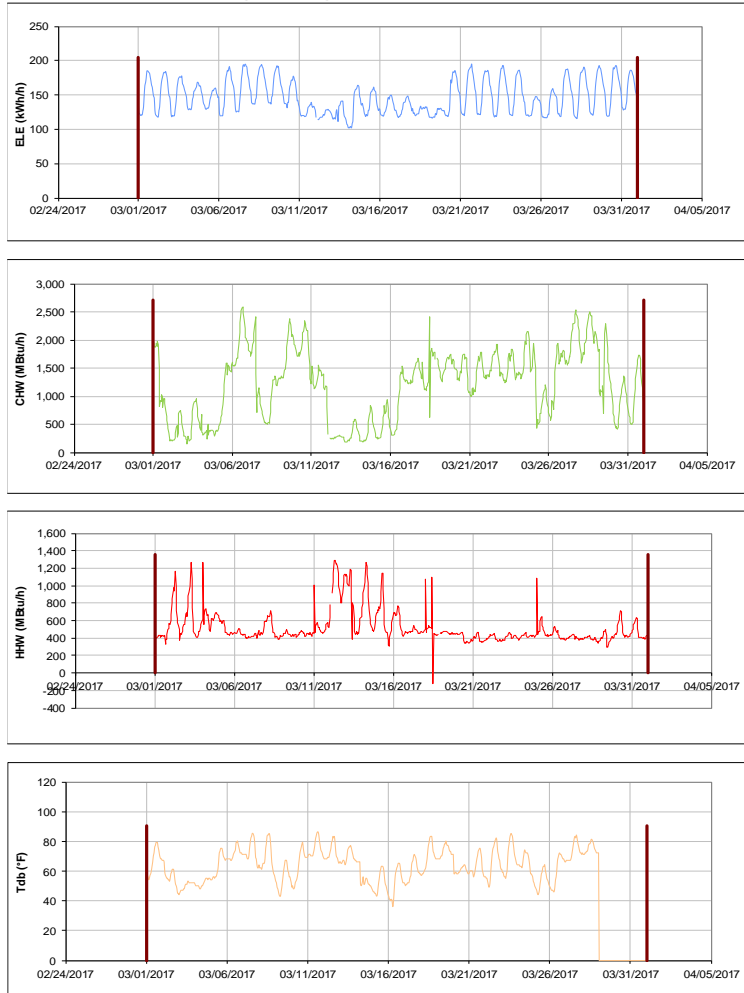


Figure III-59 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed-McDonald and Engineering Innovation Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Reed-McDonald Building TAMU / BLDG #: 0436

TAMU / BLDG #: 0436

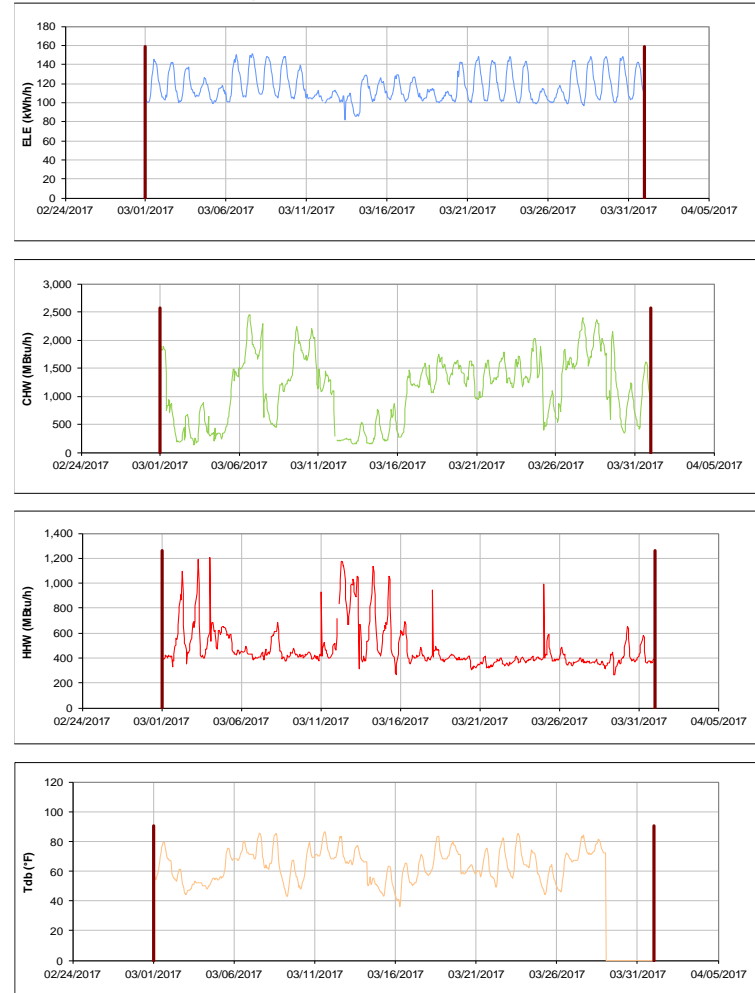


Figure III-60 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed-McDonald Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Engineering Innovation Center

TAMU / BLDG #: 0499

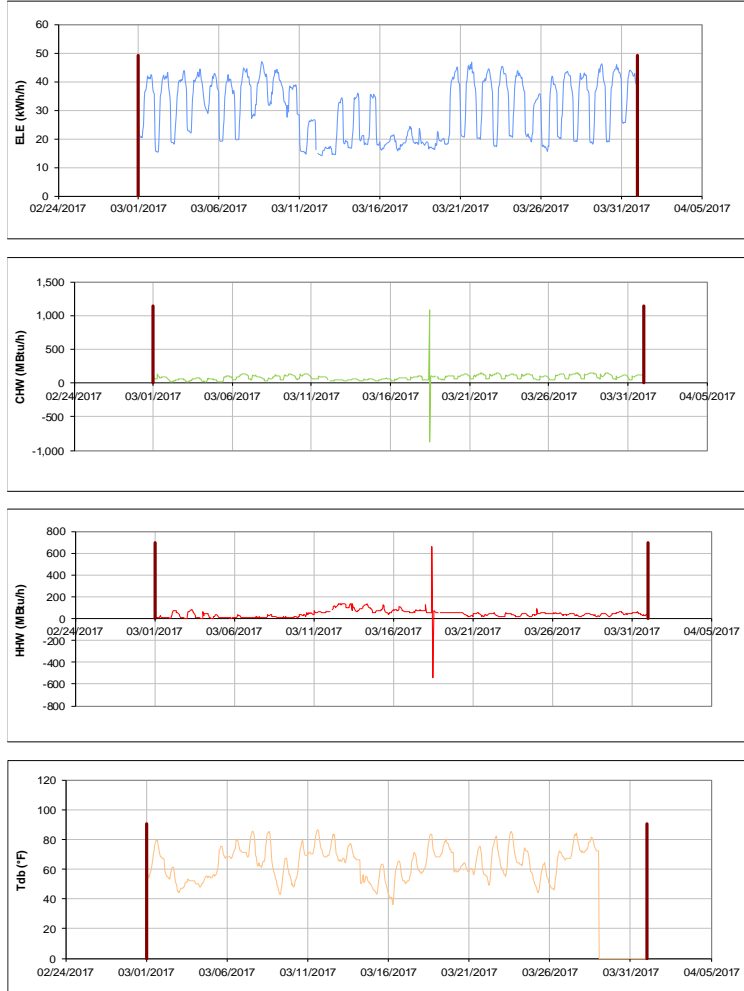


Figure III-61 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Engineering Innovation Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Harrington Education Center Classroom Building TAMU / BLDG #: 0438



Figure III-62 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Education Center Classroom Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-63 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Oceanography & Meteorology Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-64 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Peterson Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Teague Research Center and DPC Annex TAMU / BLDG #: 1445-0517

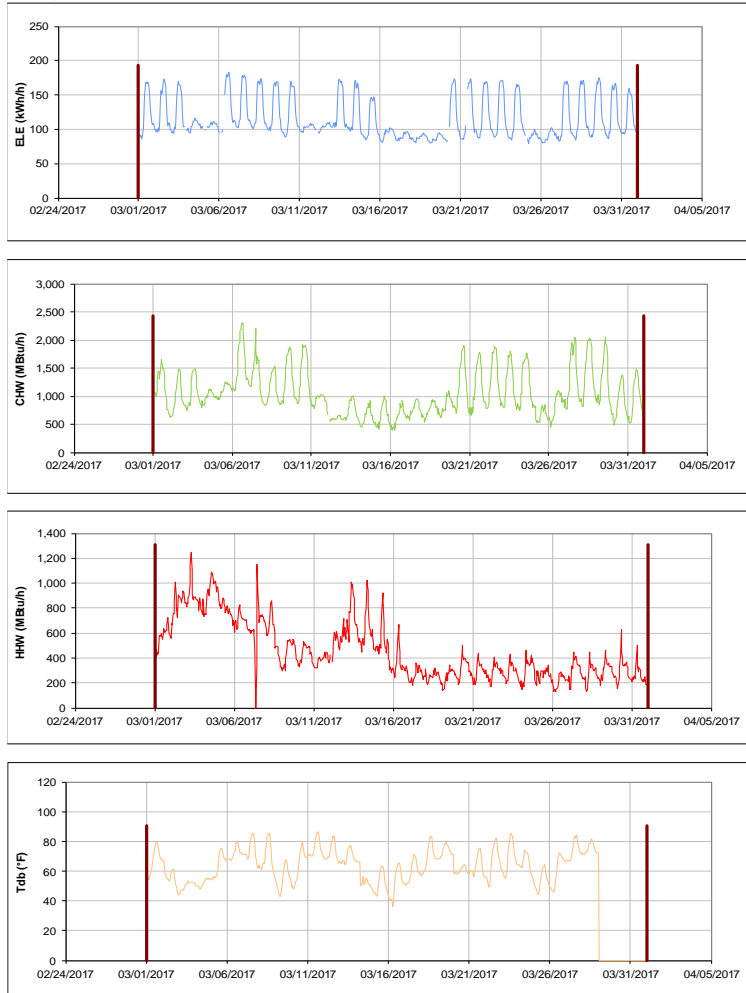


Figure III-65 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Teague Research Center and DPC Annex during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Teague Research Center TAMU / BLDG #: 0445

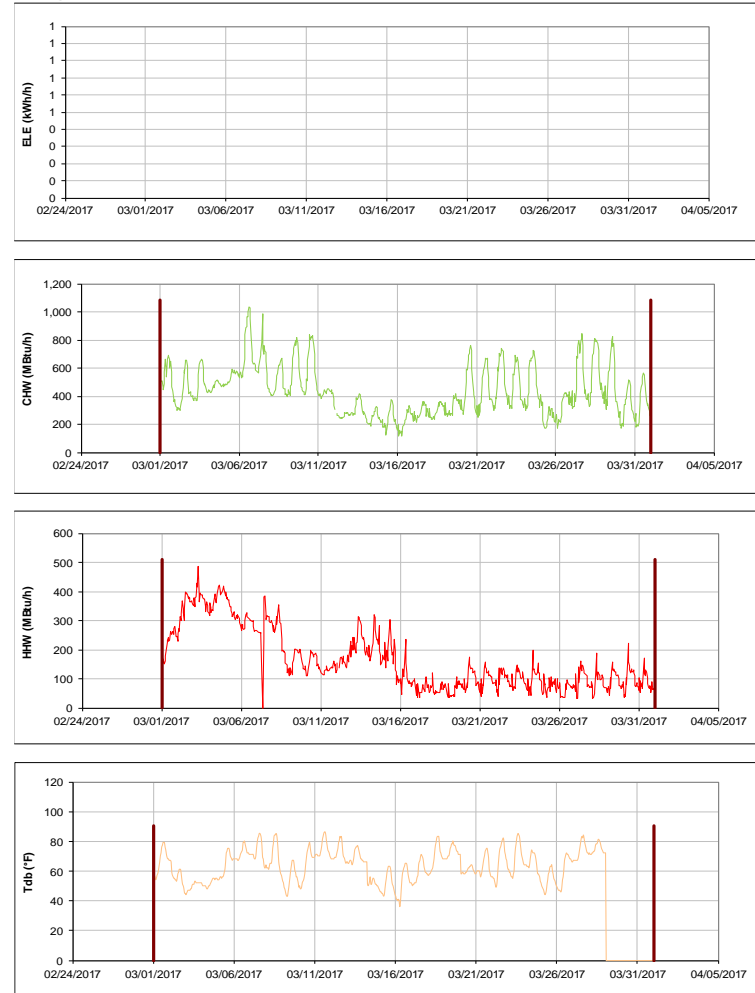


Figure III-66 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Teague Research Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-67 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for DPC Annex during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

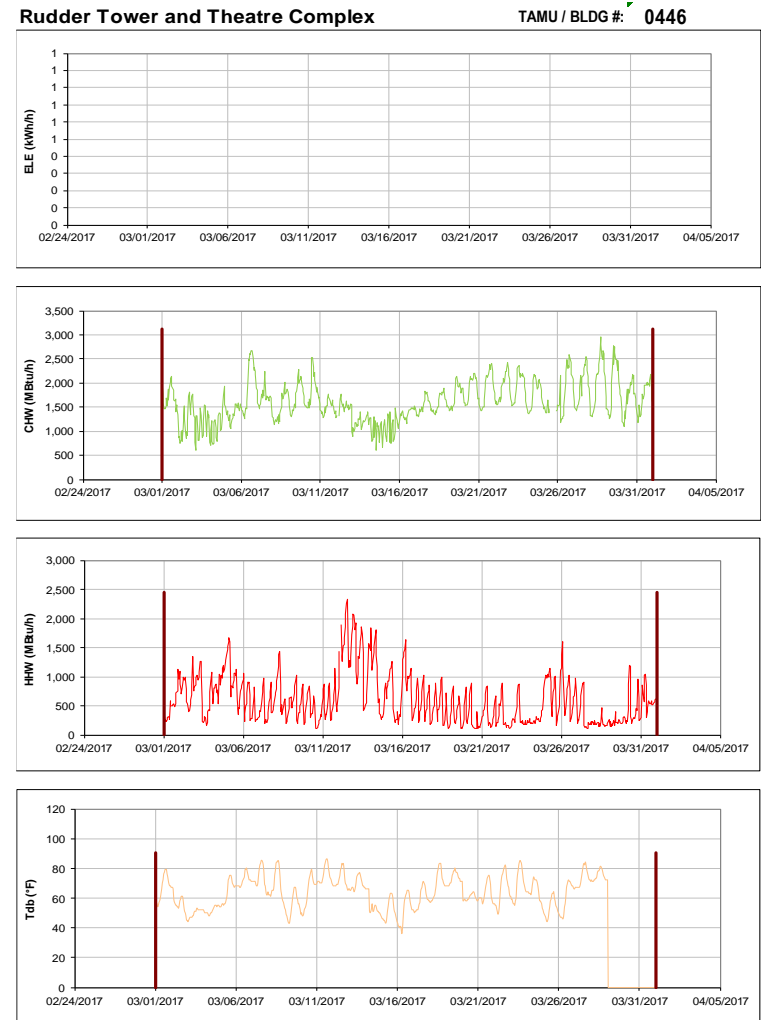


Figure III-68 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Tower and Theatre Complex during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Rudder Theatre Complex

TAMU / BLDG #: 0446-A

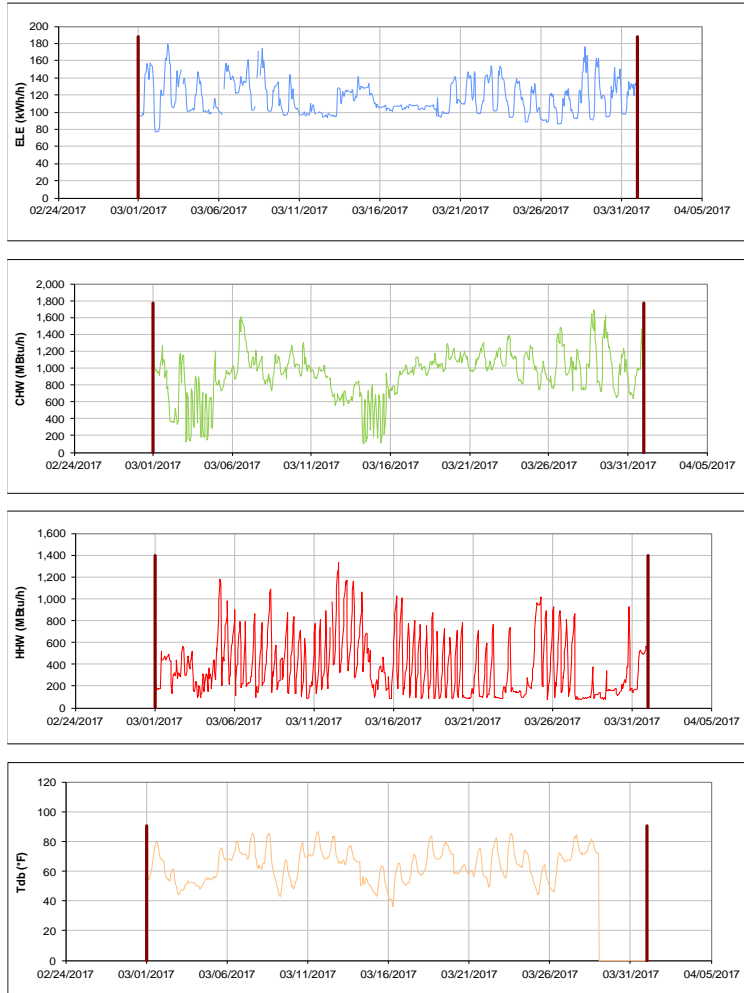


Figure III-69 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Theatre Complex during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Rudder Tower

TAMU / BLDG #: 0446-B

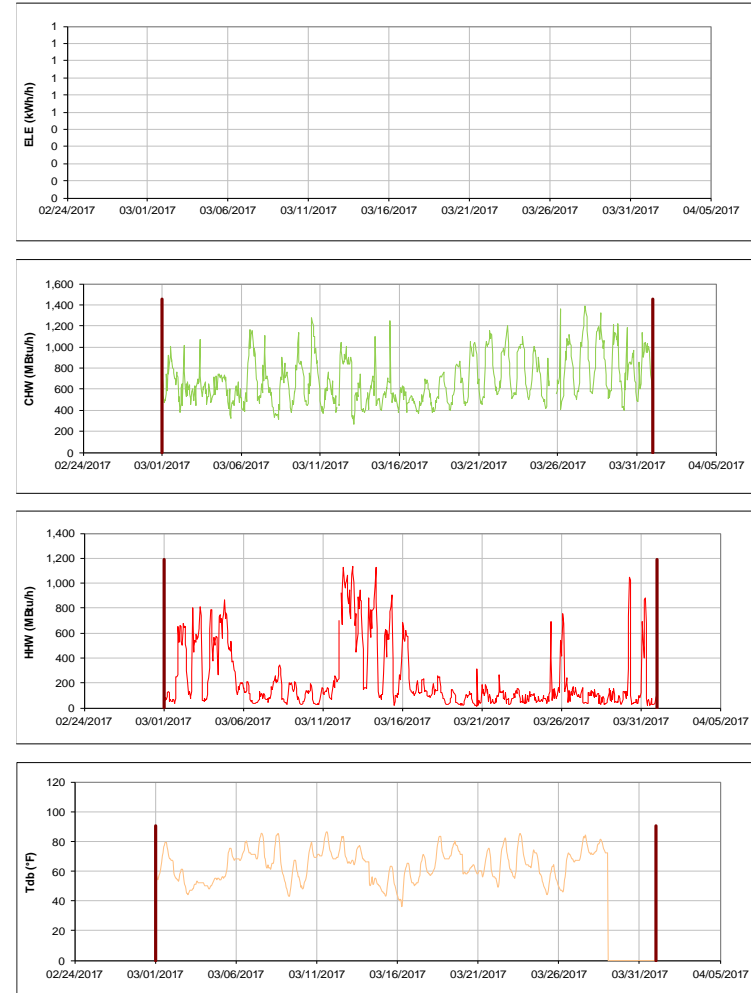


Figure III-70 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Tower during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

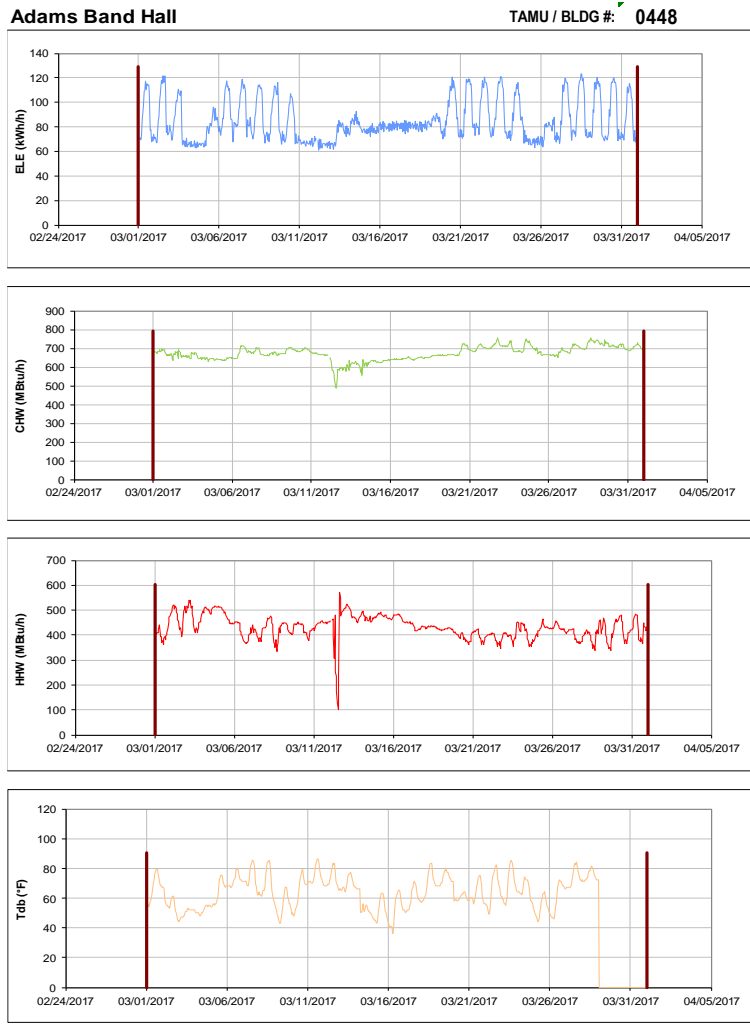


Figure III-71 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Adams Band Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-72 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Sciences Building - West during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-73 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Duncan Dining Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

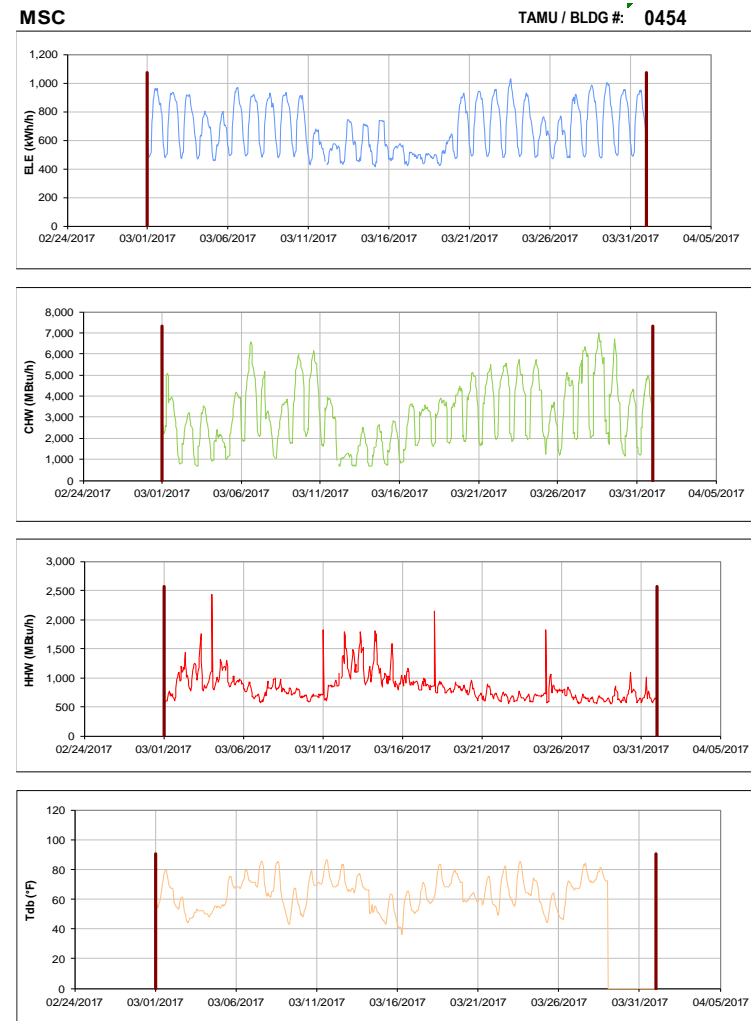


Figure III-74 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for MSC during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Military Sciences Building

TAMU / BLDG #: 0456

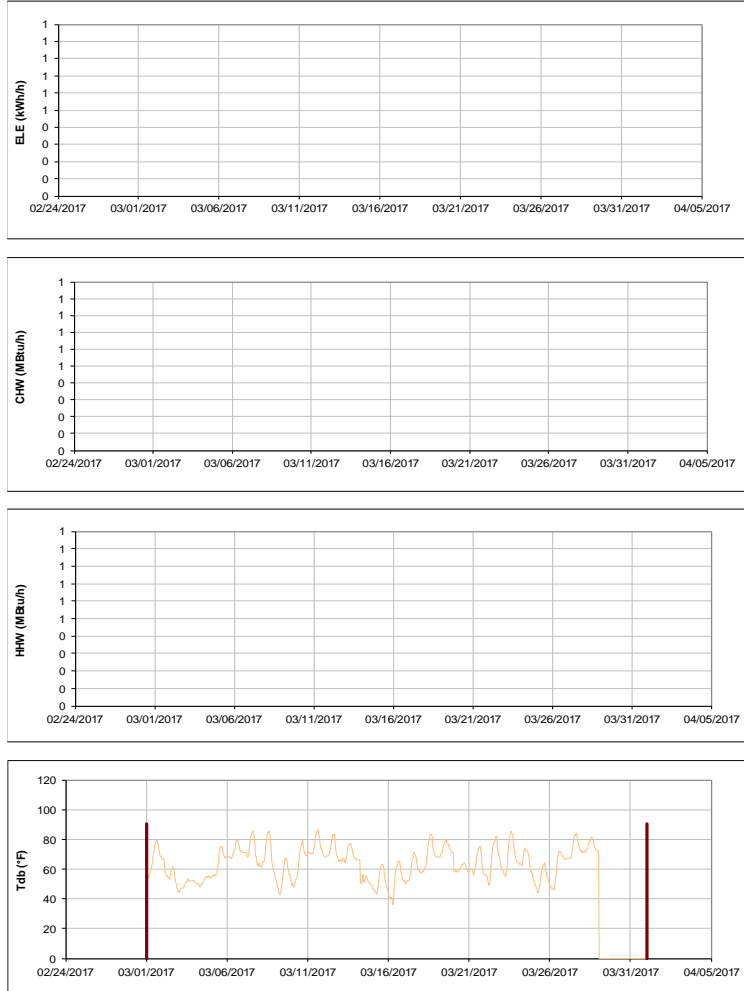


Figure III-75 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Military Sciences Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

TAES Annex Building

TAMU / BLDG #: 0457

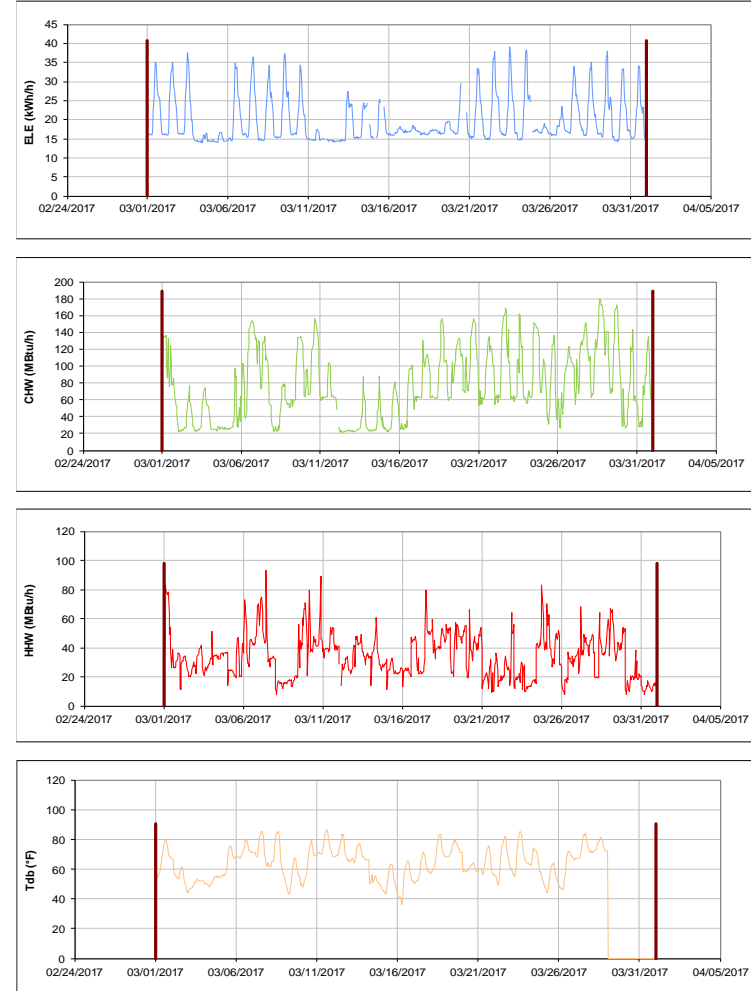


Figure III-76 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TAES Annex Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-77 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Coke Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-78 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Academic Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

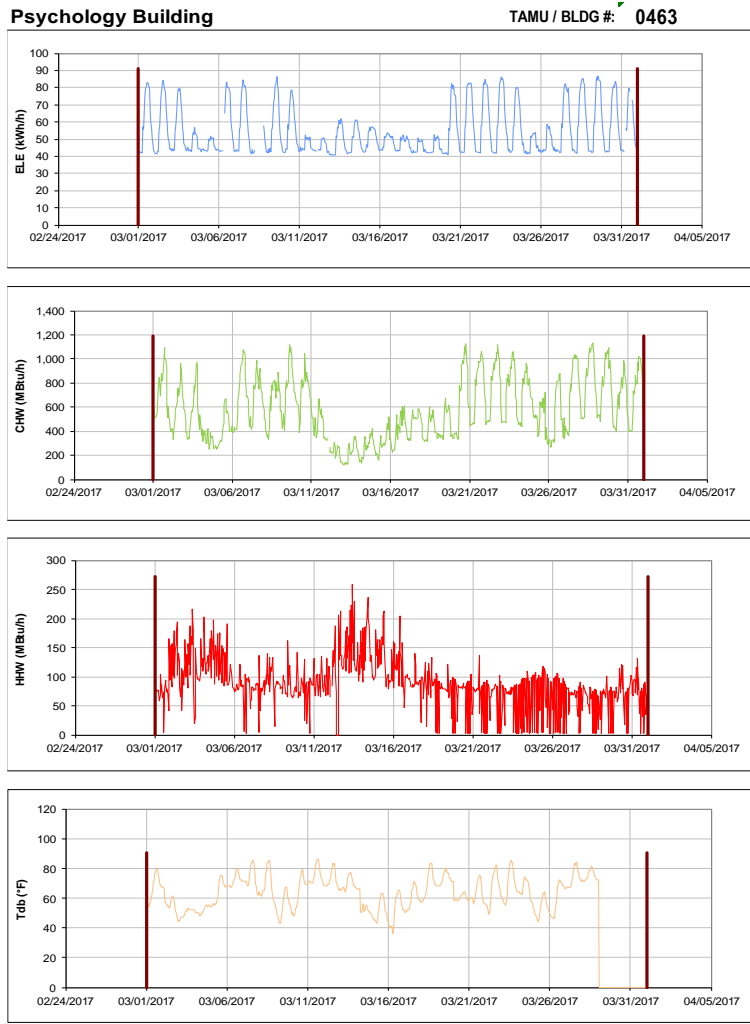


Figure III-79 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Psychology Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

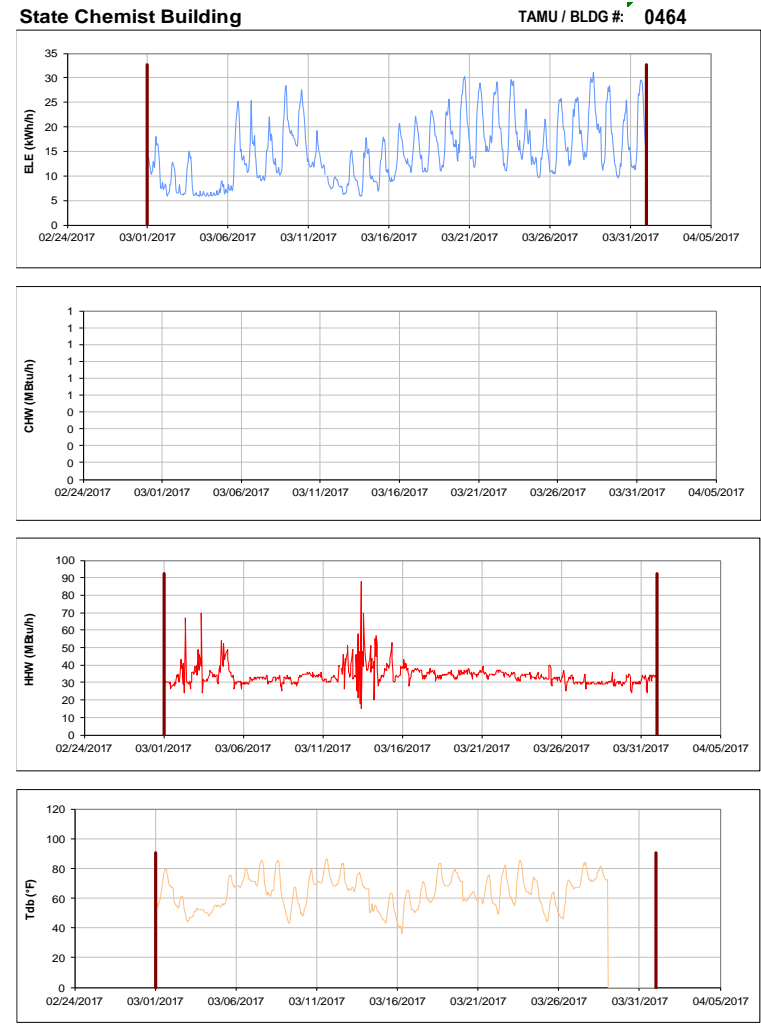


Figure III-80 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for State Chemist Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

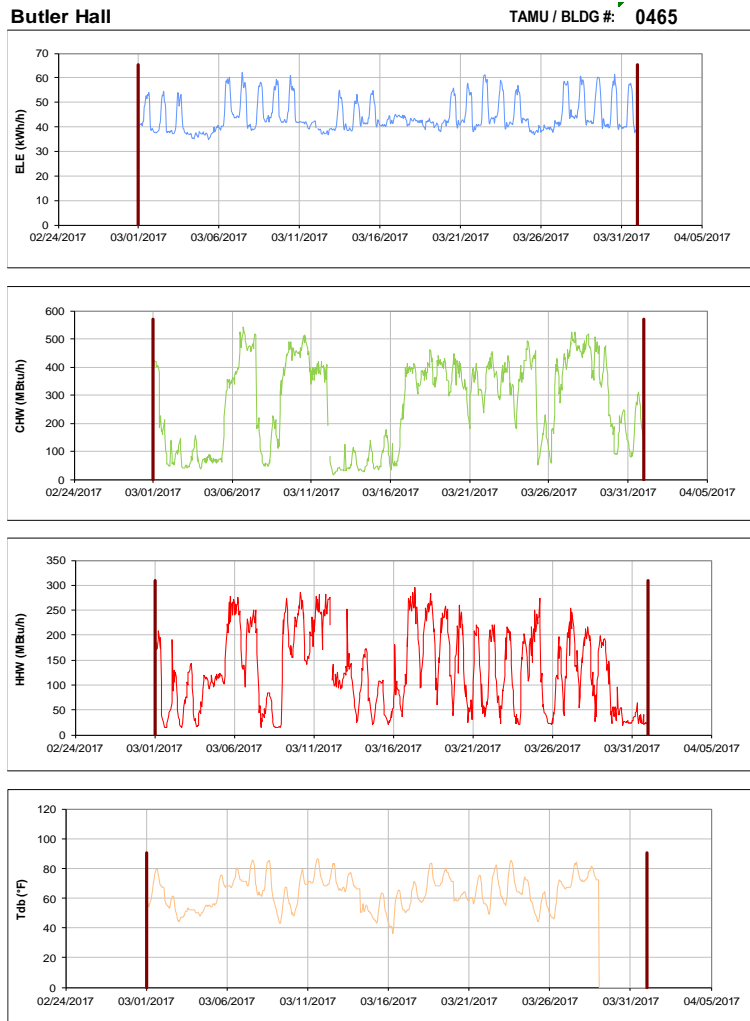


Figure III-81 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Butler Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

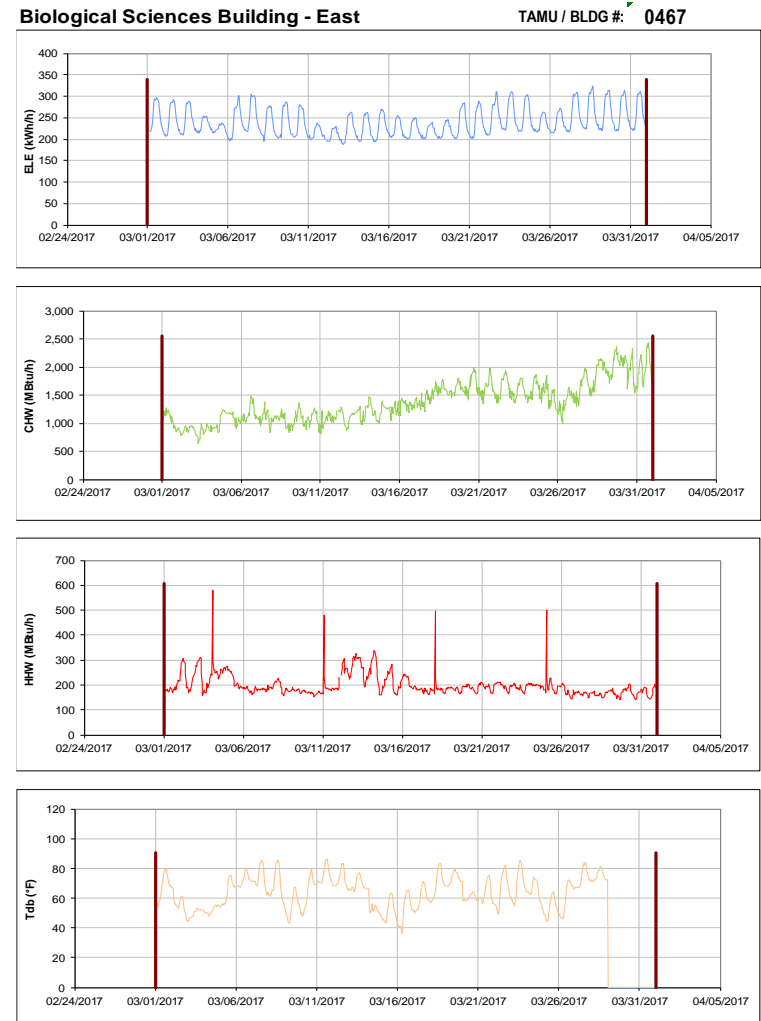


Figure III-82 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Sciences Building - East during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

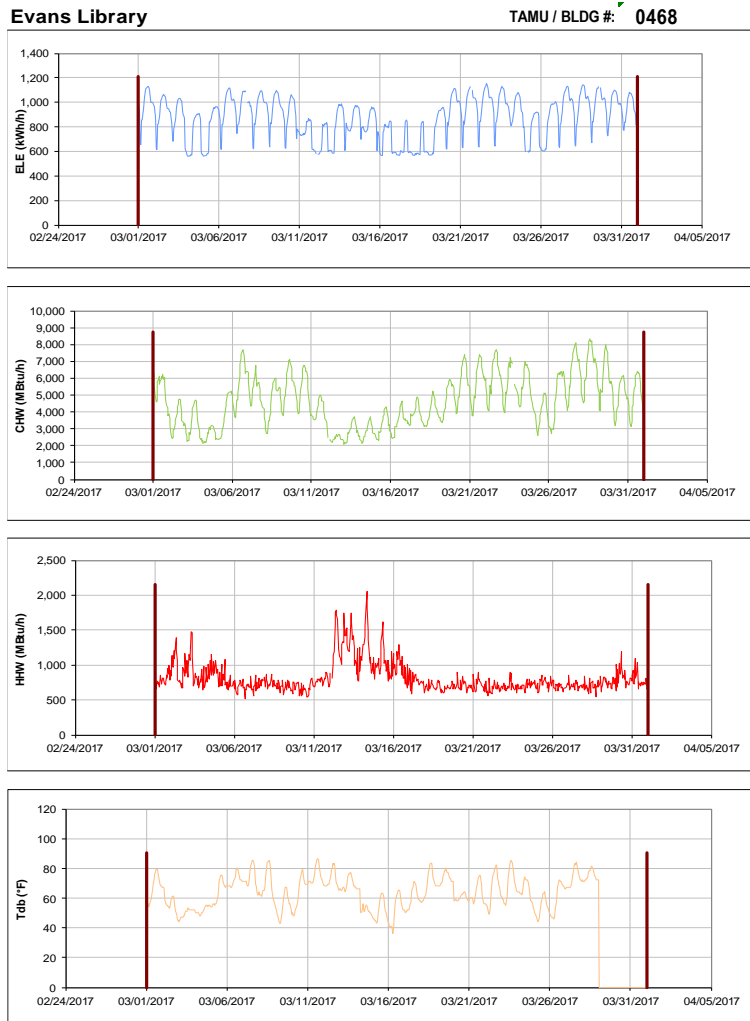


Figure III-83 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Evans Library during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

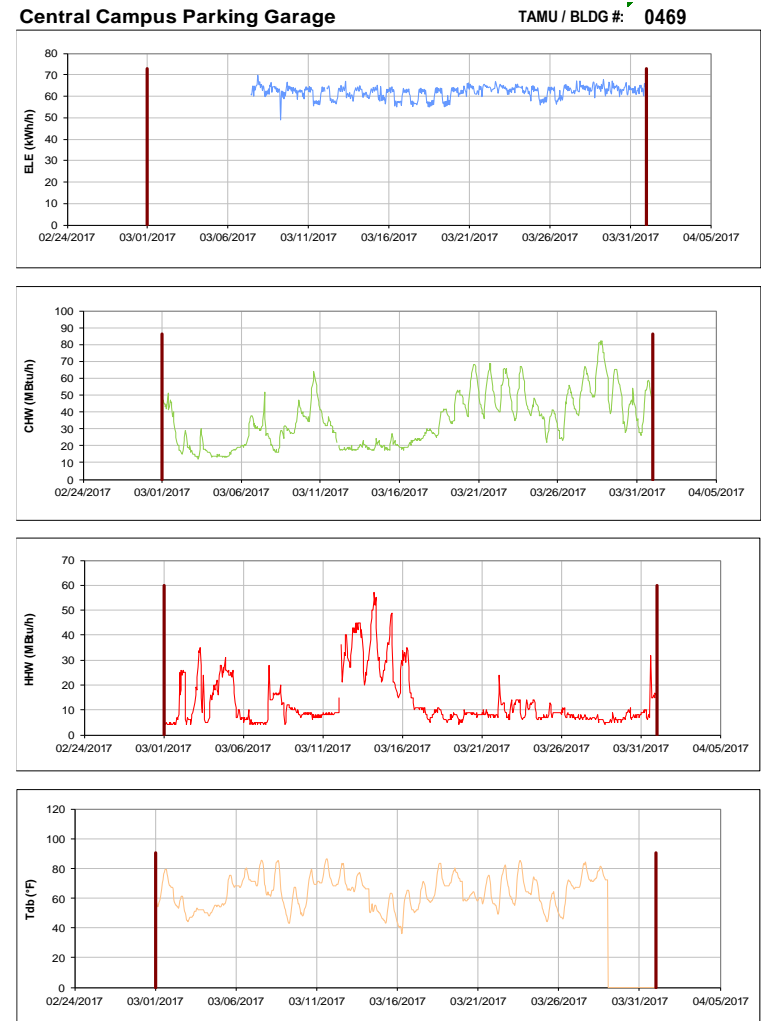


Figure III-84 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Central Campus Parking Garage during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

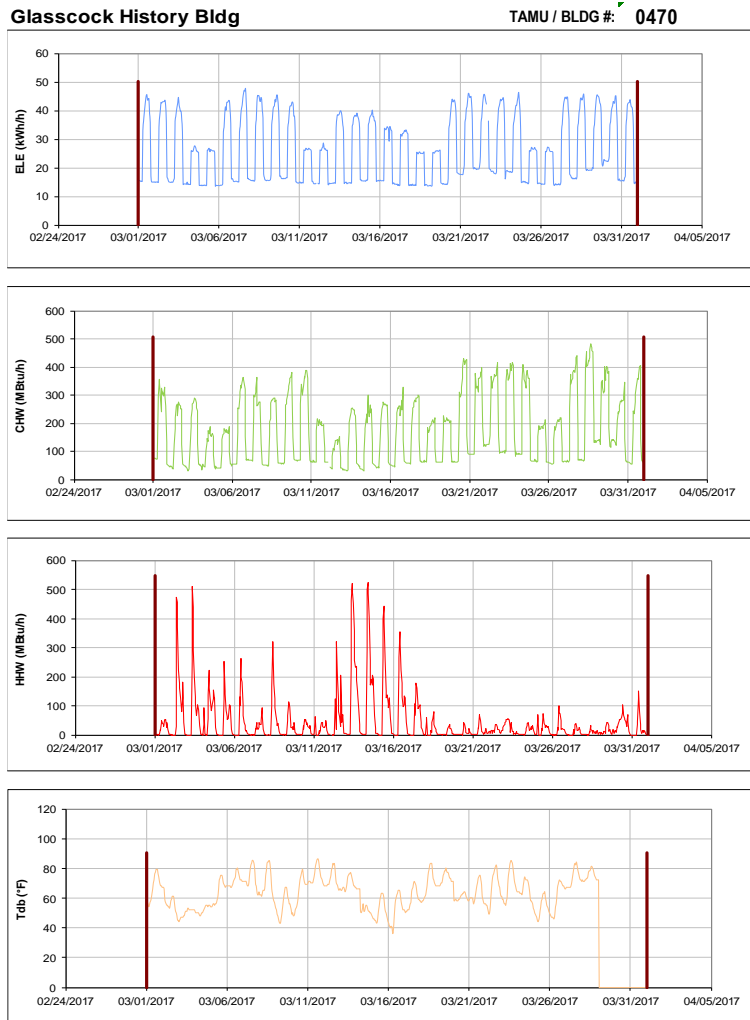


Figure III-85 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Glasscock History Bldg during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

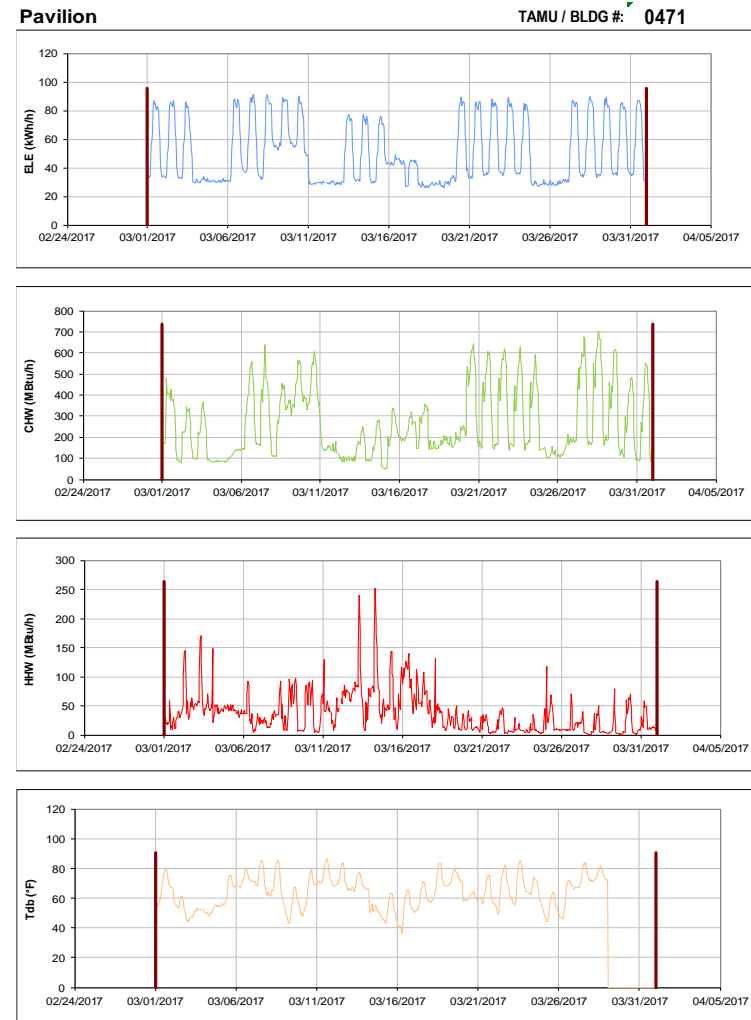


Figure III-86 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Pavilion during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

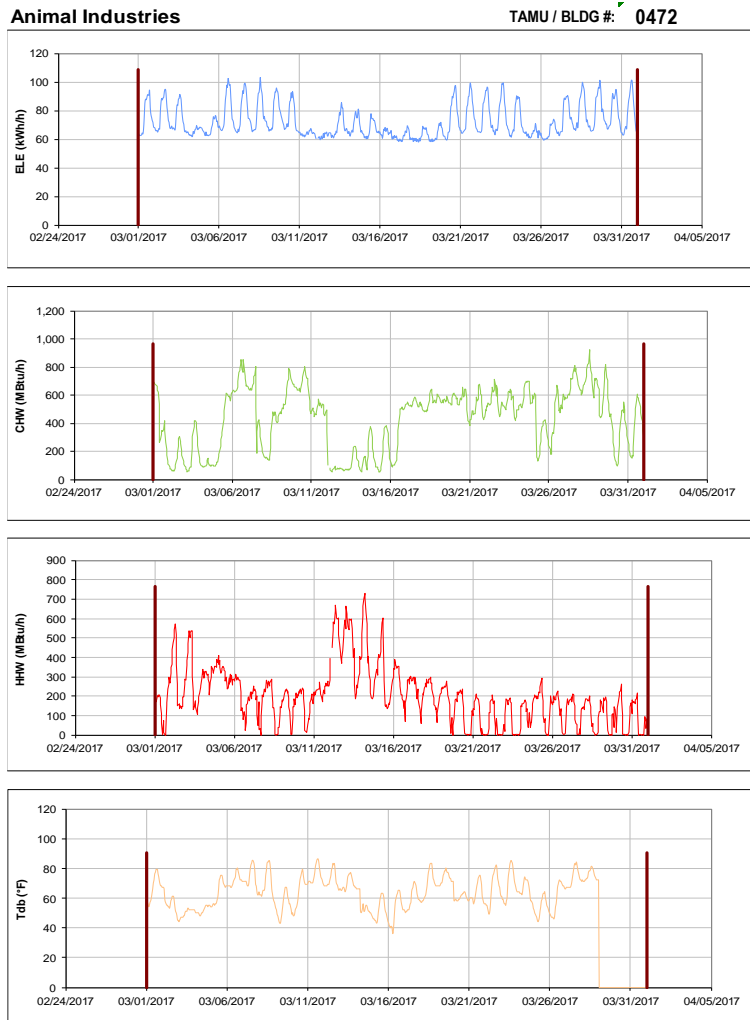


Figure III-87 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Animal Industries during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

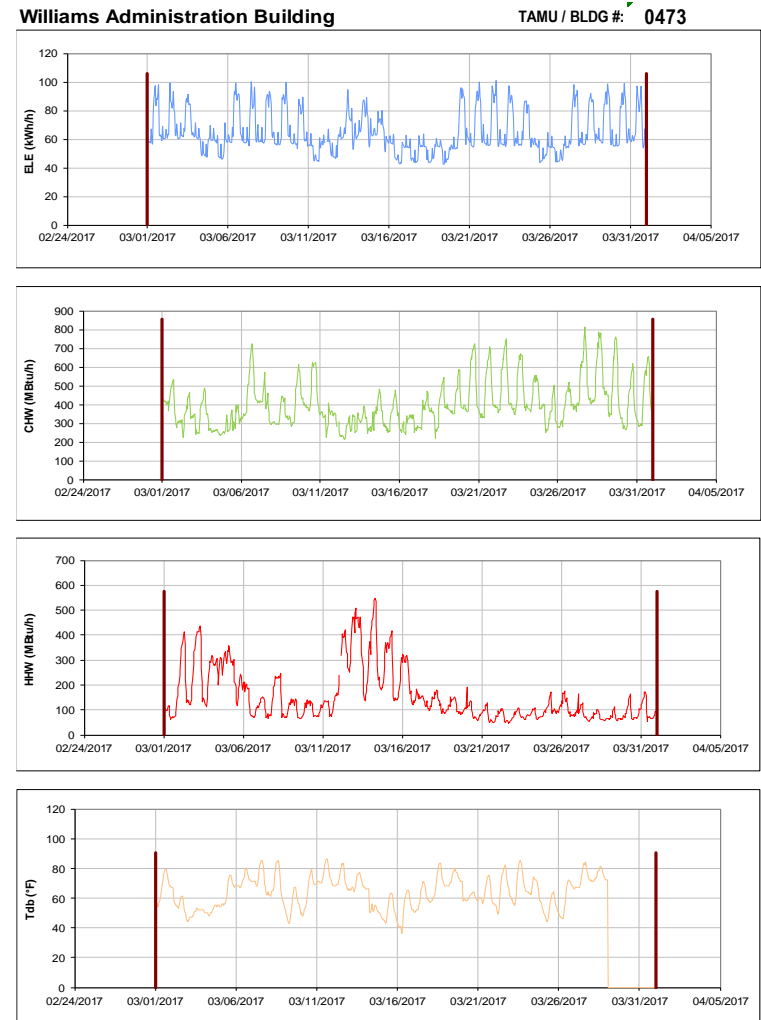


Figure III-88 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Williams Administration Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

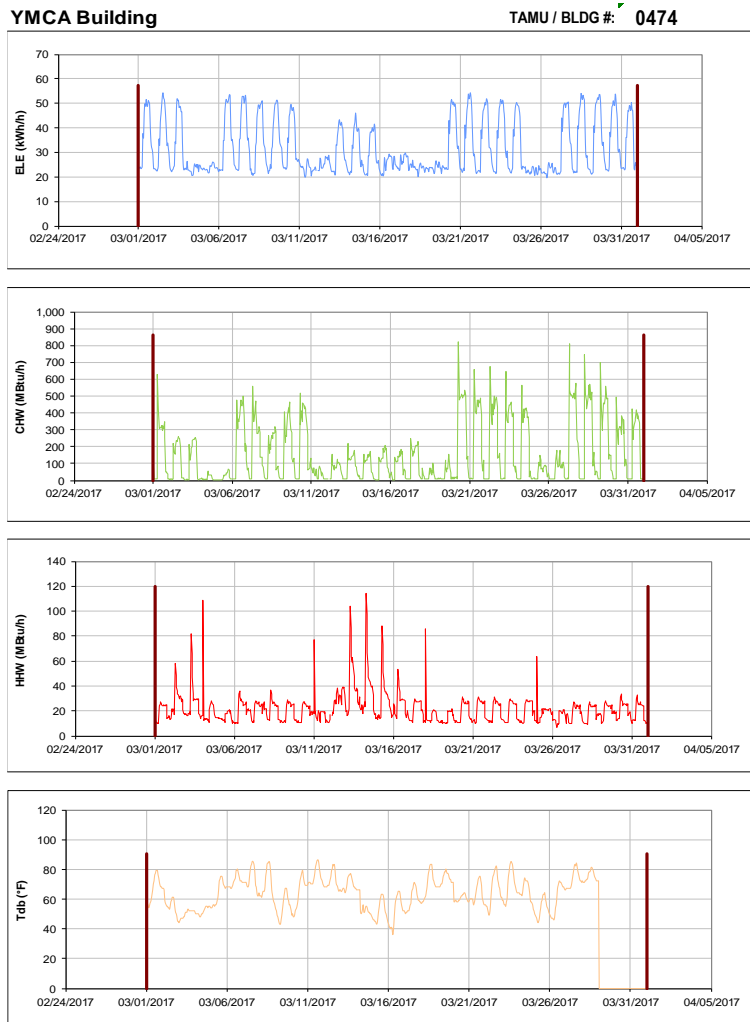


Figure III-89 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for YMCA Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

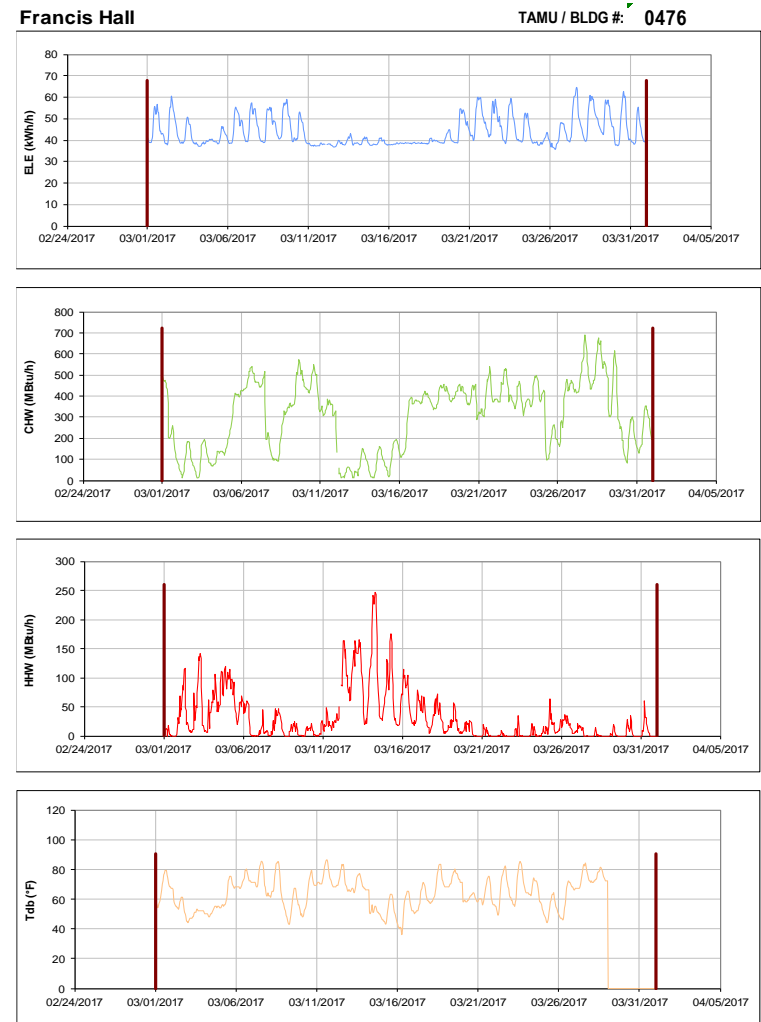


Figure III-90 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Francis Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Anthropology Building

TAMU / BLDG #: 0477

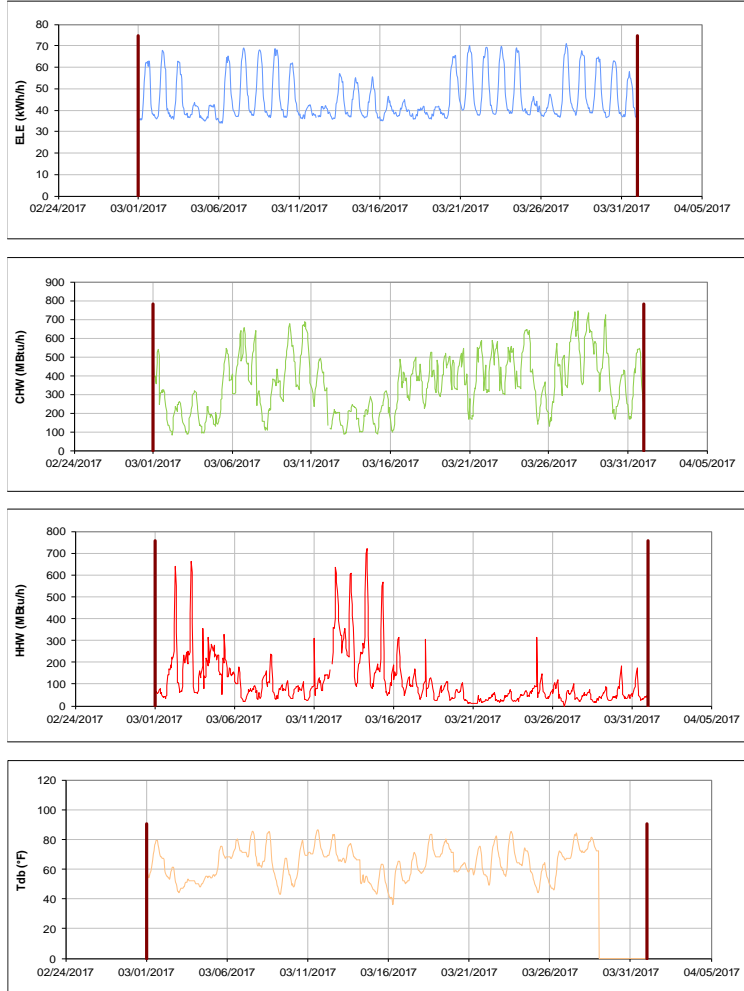


Figure III-91 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Anthropology Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Scoates Hall

TAMU / BLDG #: 0478

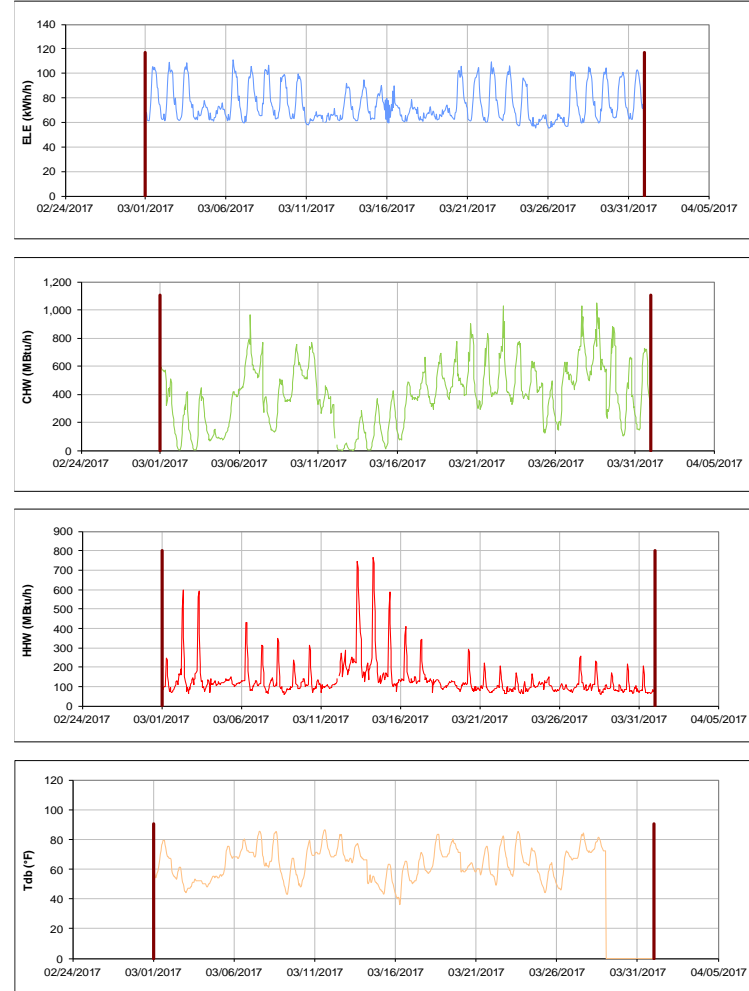


Figure III-92 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Scoates Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Bolton Hall

TAMU / BLDG #: 0480



Figure III-93 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bolton Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Heaton Hall

TAMU / BLDG #: 0481

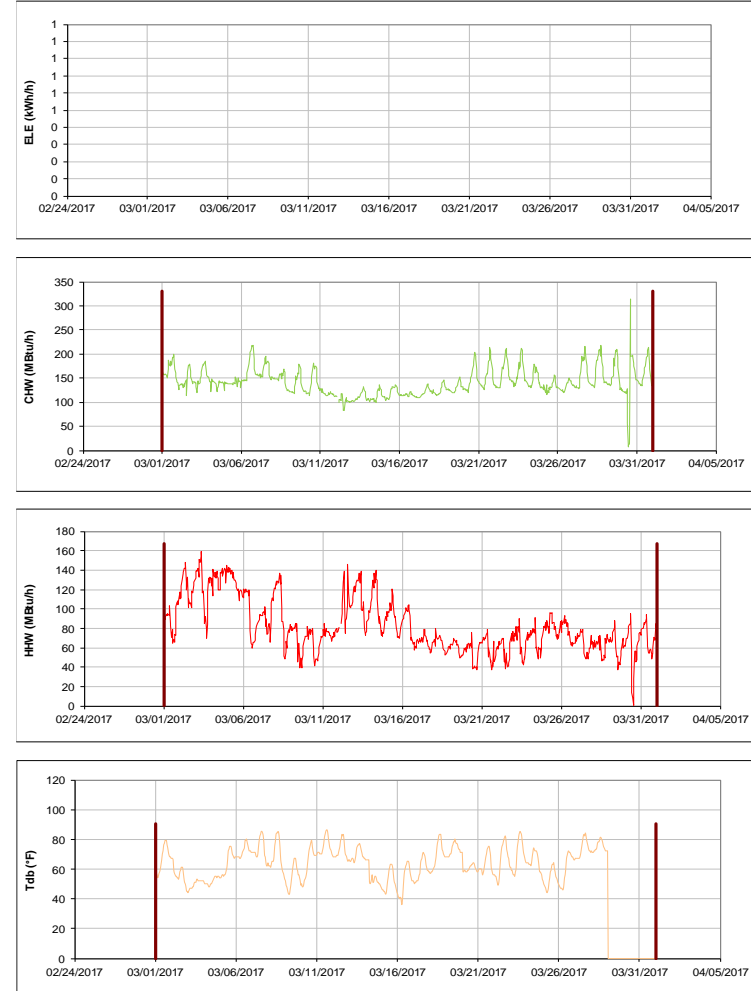


Figure III-94 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heaton Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-95 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Fermier Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

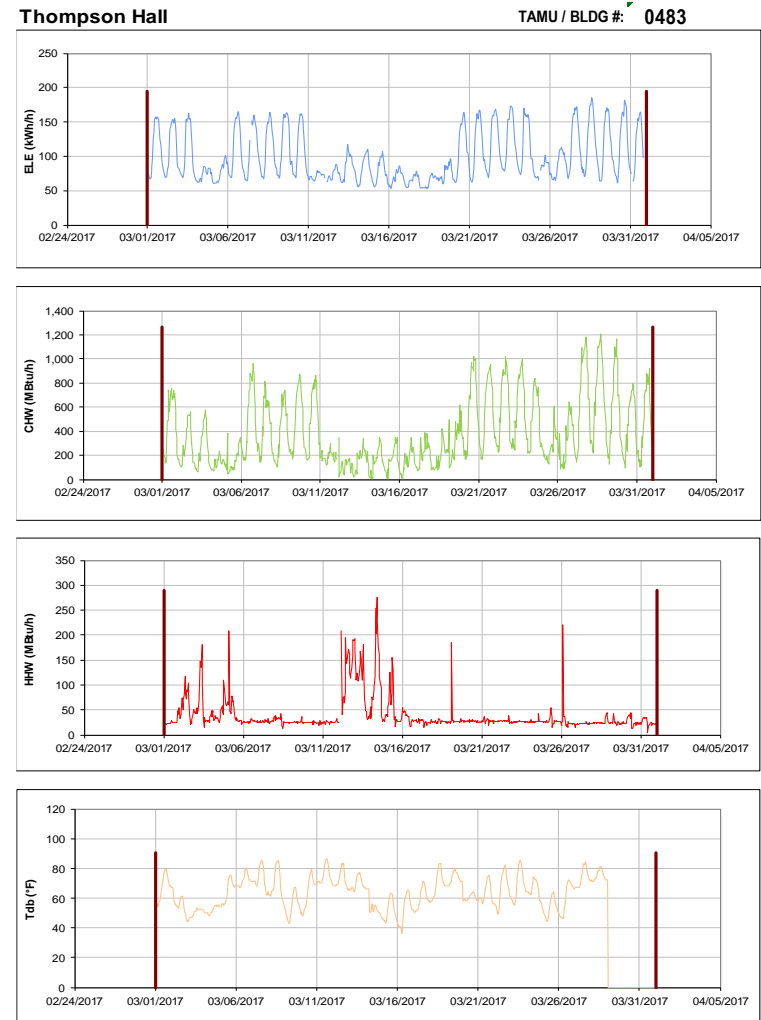


Figure III-96 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Thompson Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Chemistry Building

TAMU / BLDG #: 0484

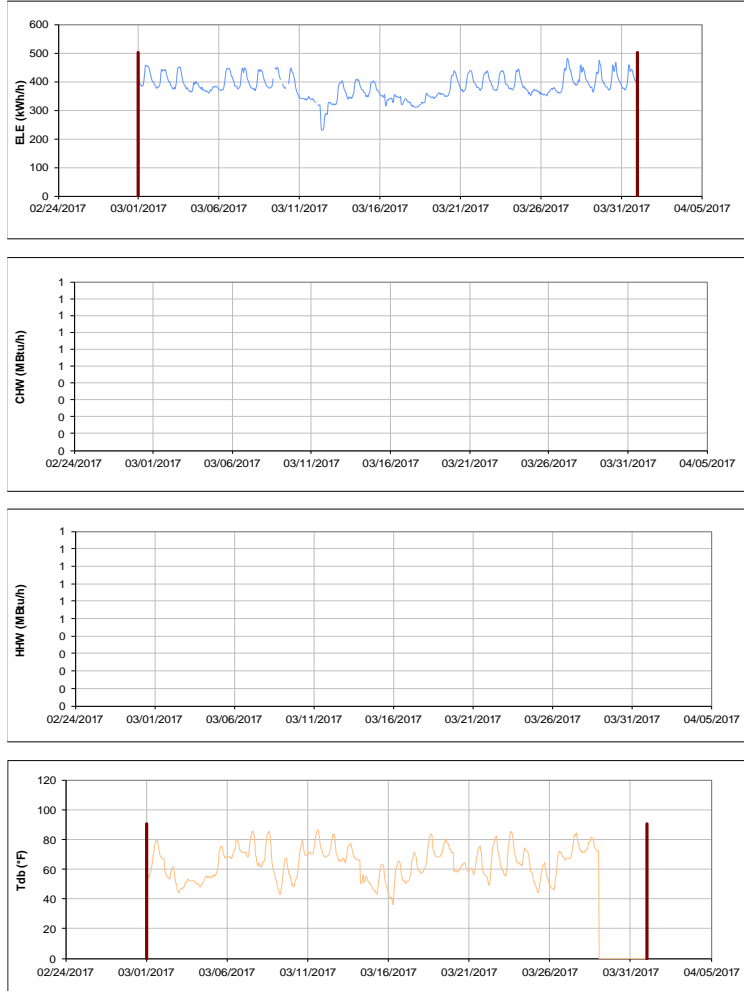


Figure III-97 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Chemistry Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Halbuty Geosciences Building

TAMU / BLDG #: 0490



Figure III-98 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Halbuty Geosciences Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Civil Engineering Building

TAMU / BLDG #: 0492

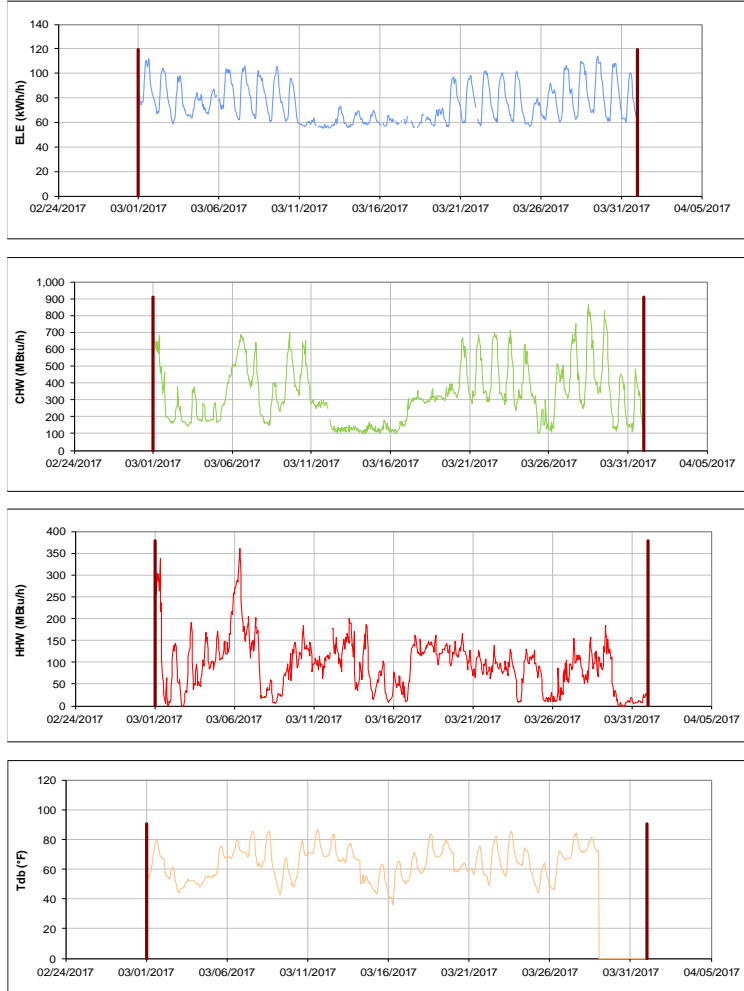


Figure III-99 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Civil Engineering Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Sbisa Dining Hall

TAMU / BLDG #: 0495

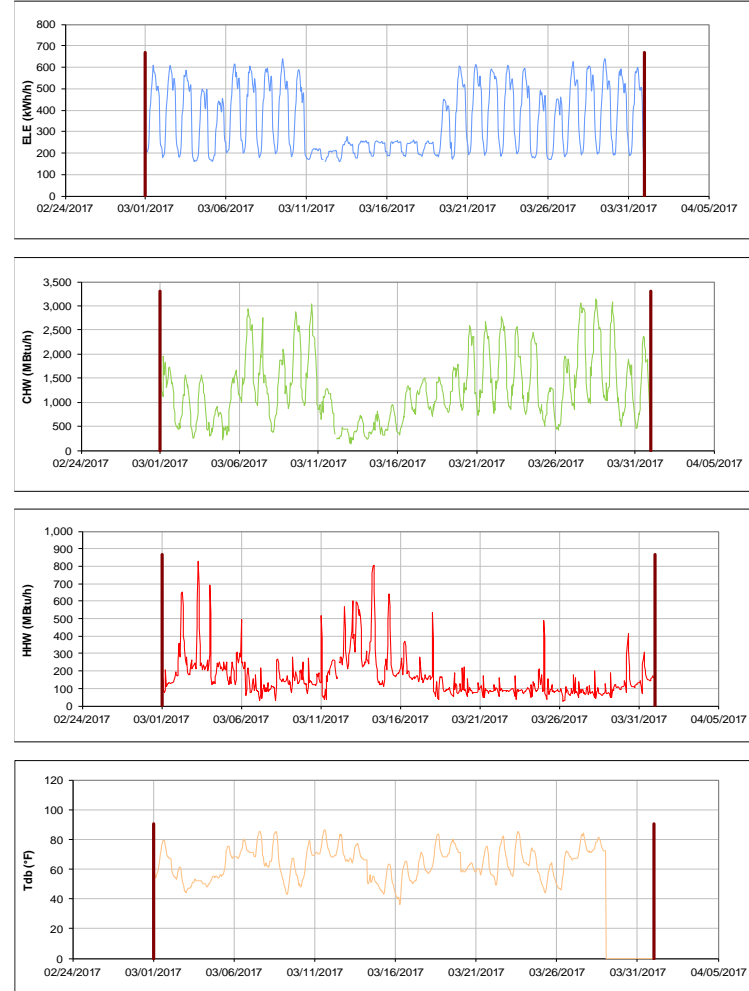


Figure III-100 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Sbisa Dining Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

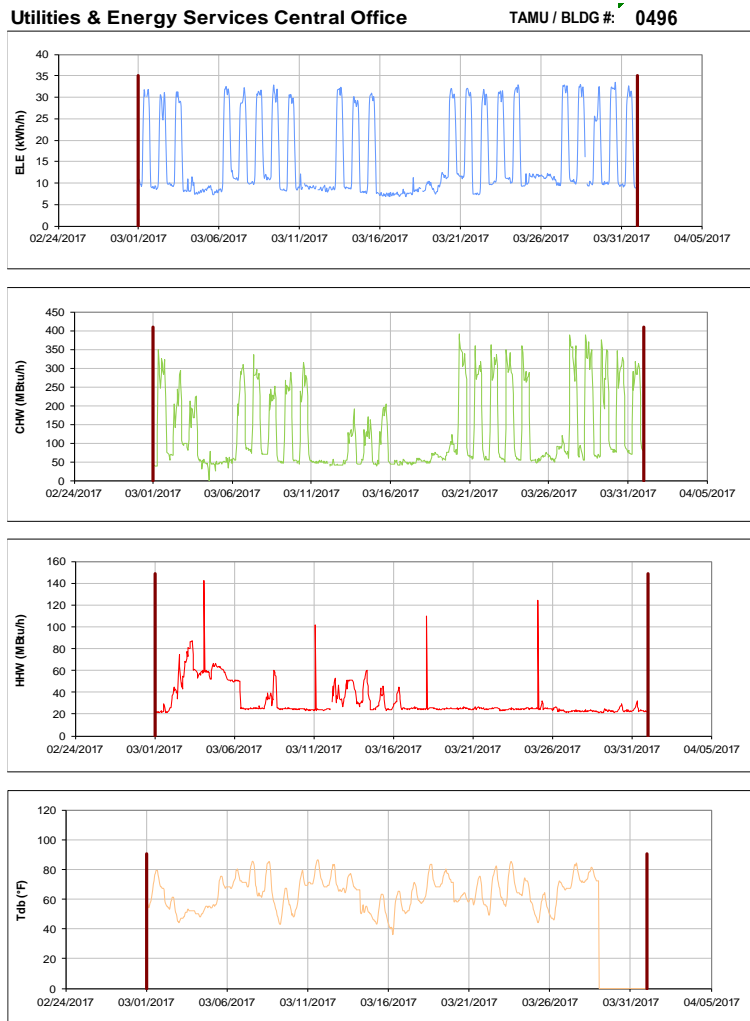


Figure III-101 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities & Energy Services Central Office during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

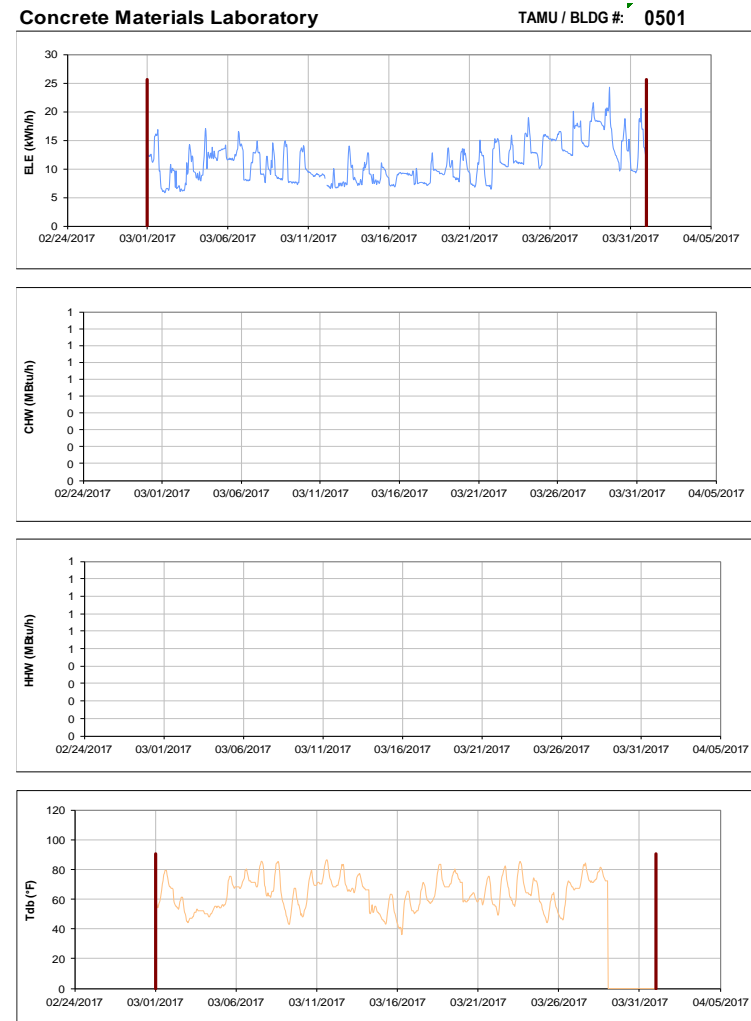


Figure III-102 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Concrete Materials Laboratory during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

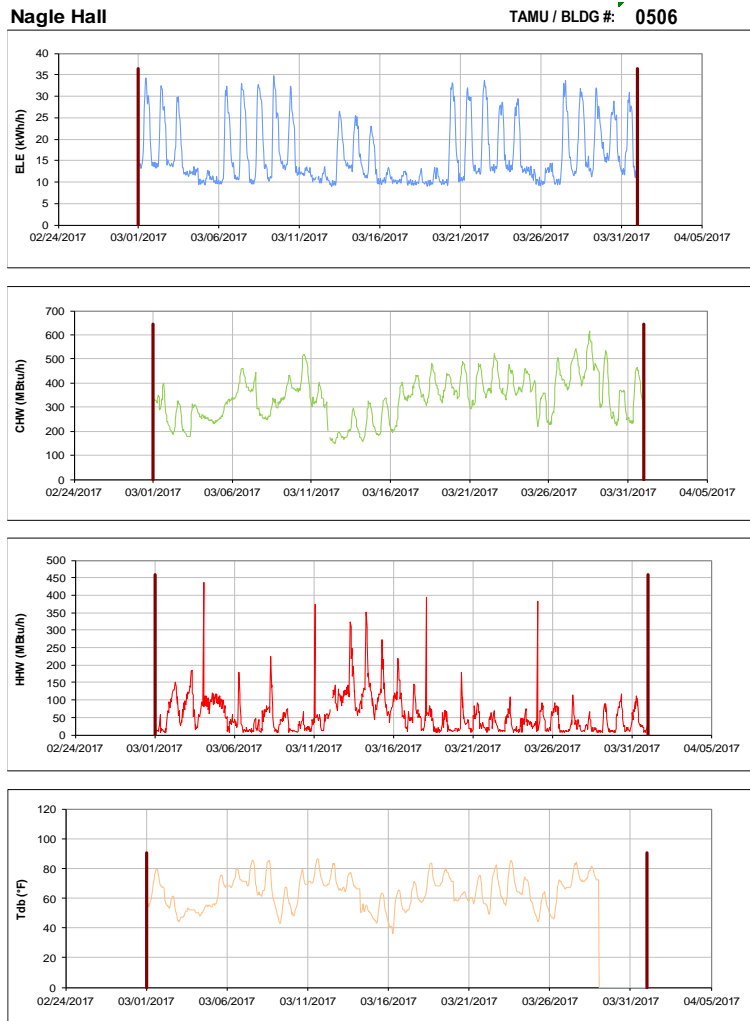


Figure III-103 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Nagle Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

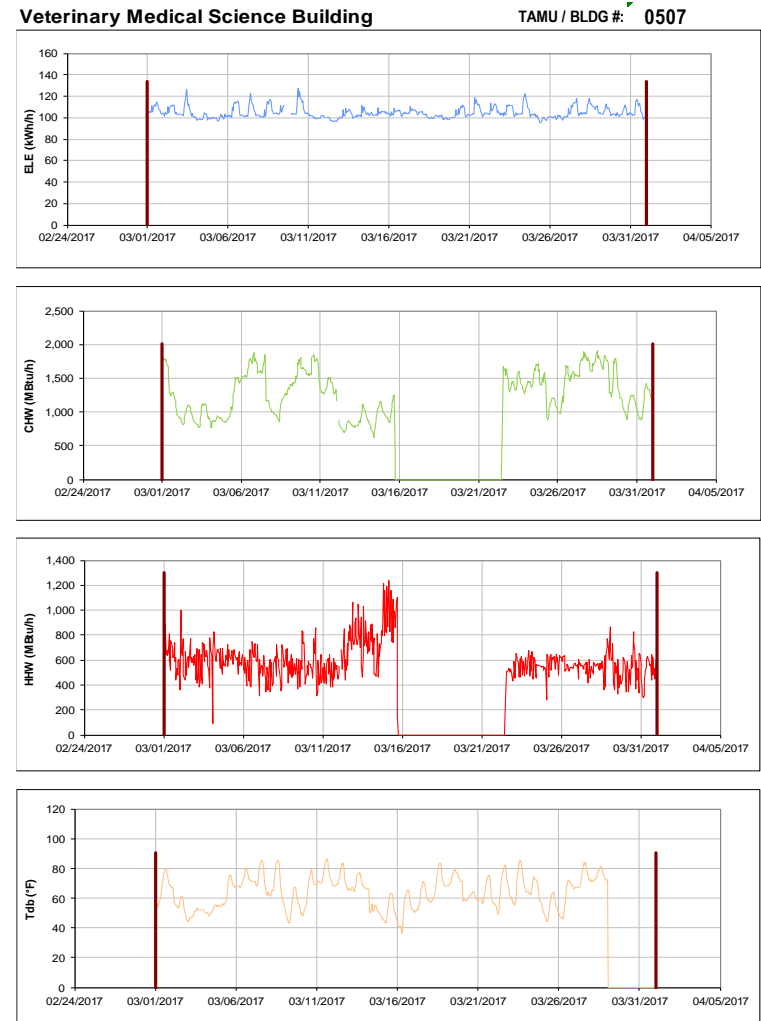


Figure III-104 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medical Science Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Veterinary Teaching Hospital and Med Adm TAMU / BLDG #: 1508-1026



Figure III-105 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Teaching Hospital and Med Adm during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Veterinary Medicine Administration TAMU / BLDG #: 1026



Figure III-106 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medicine Administration during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-107 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heep Laboratory Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

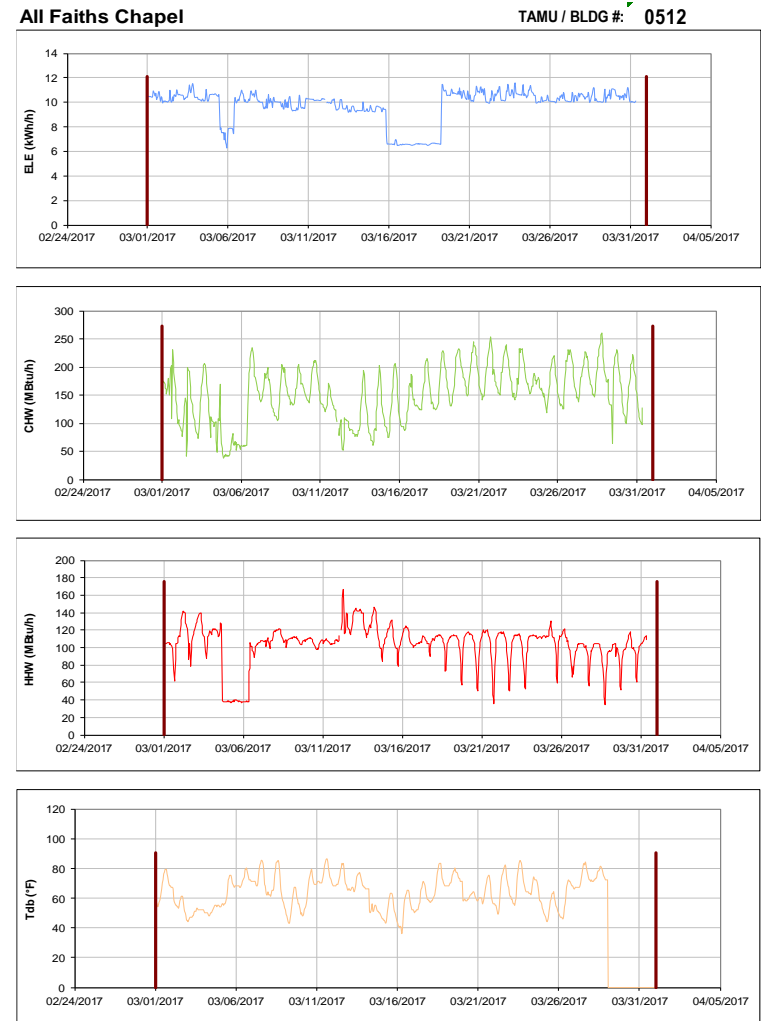


Figure III-108 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for All Faiths Chapel during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-109 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Doherty Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

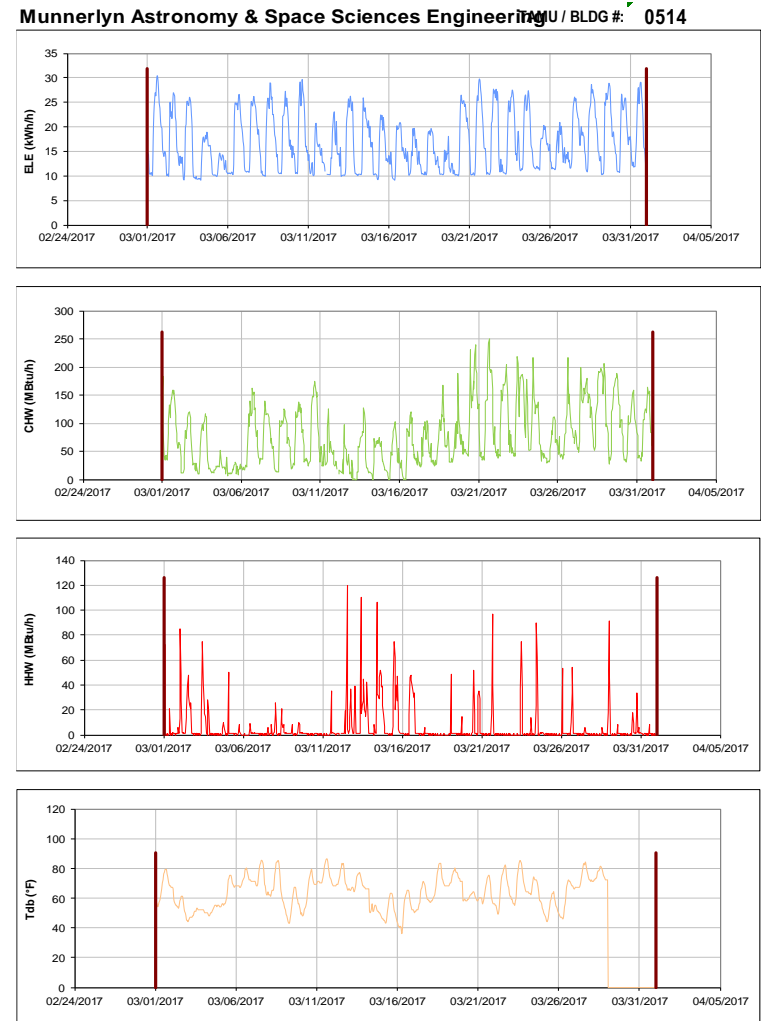


Figure III-110 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Munnerlyn Astronomy & Space Sciences Engineering during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Computing Services Center

TAMU / BLDG #: 0516

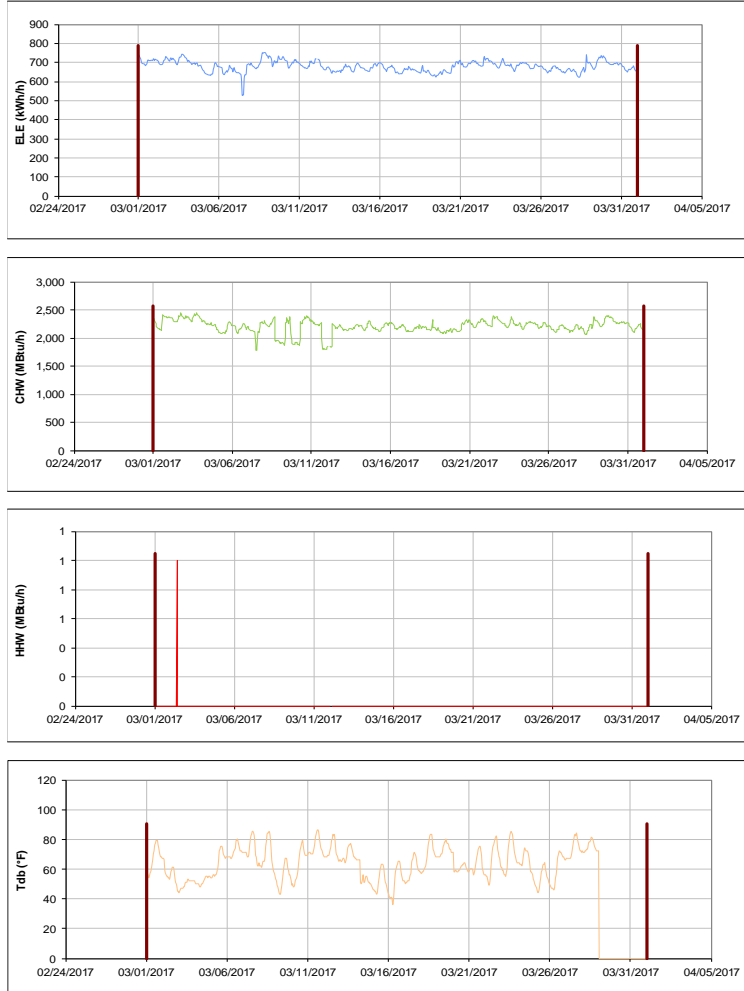


Figure III-111 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Computing Services Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Beutel Health Center

TAMU / BLDG #: 0520

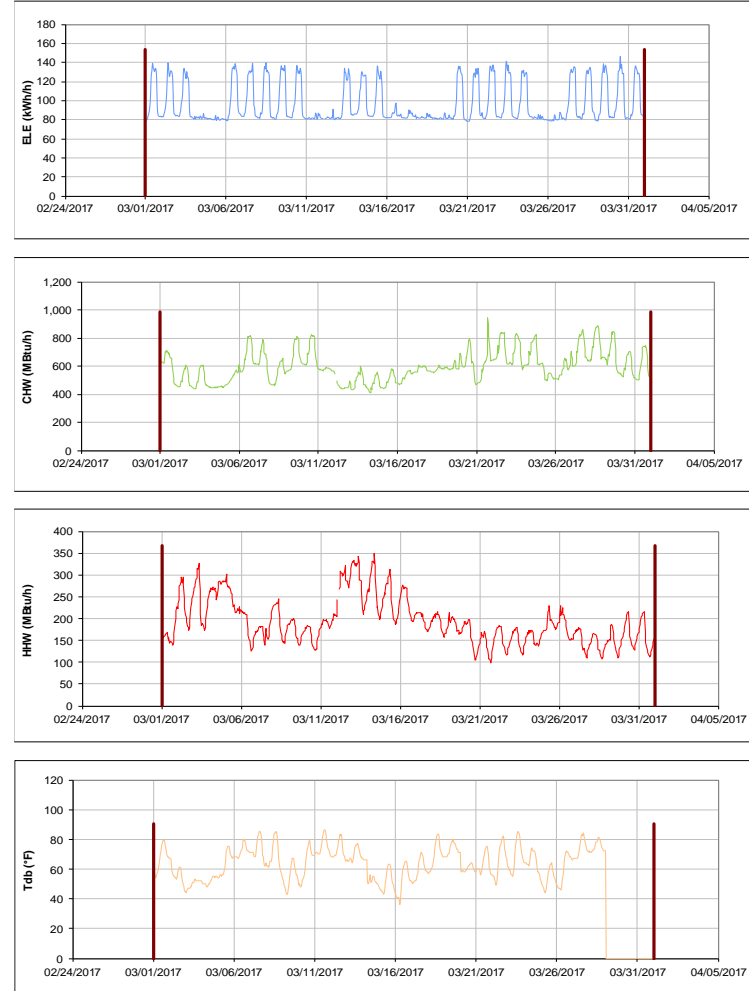


Figure III-112 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Beutel Health Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

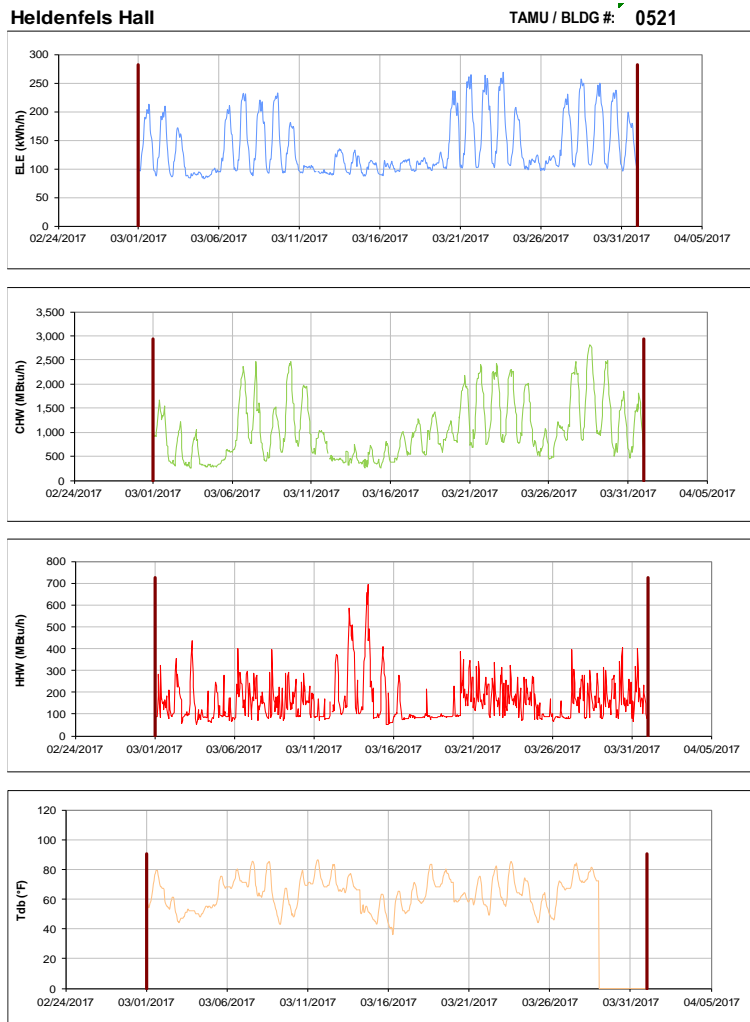


Figure III-113 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heldenfels Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-114 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Blocker building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

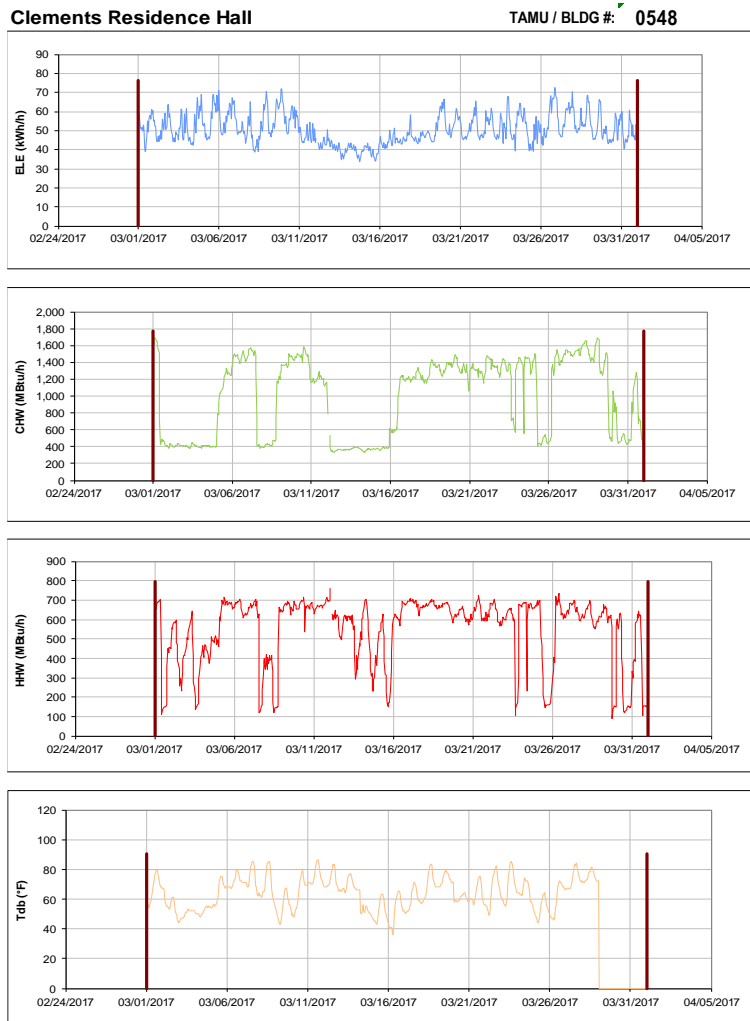


Figure III-115 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Clements Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

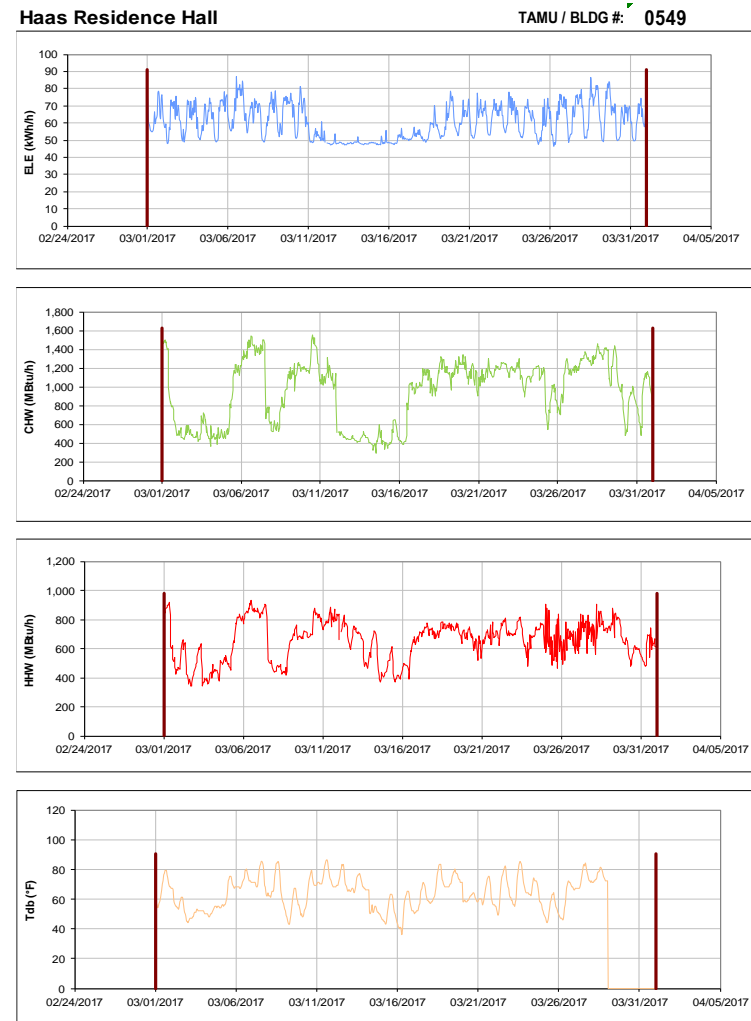


Figure III-116 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Haas Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

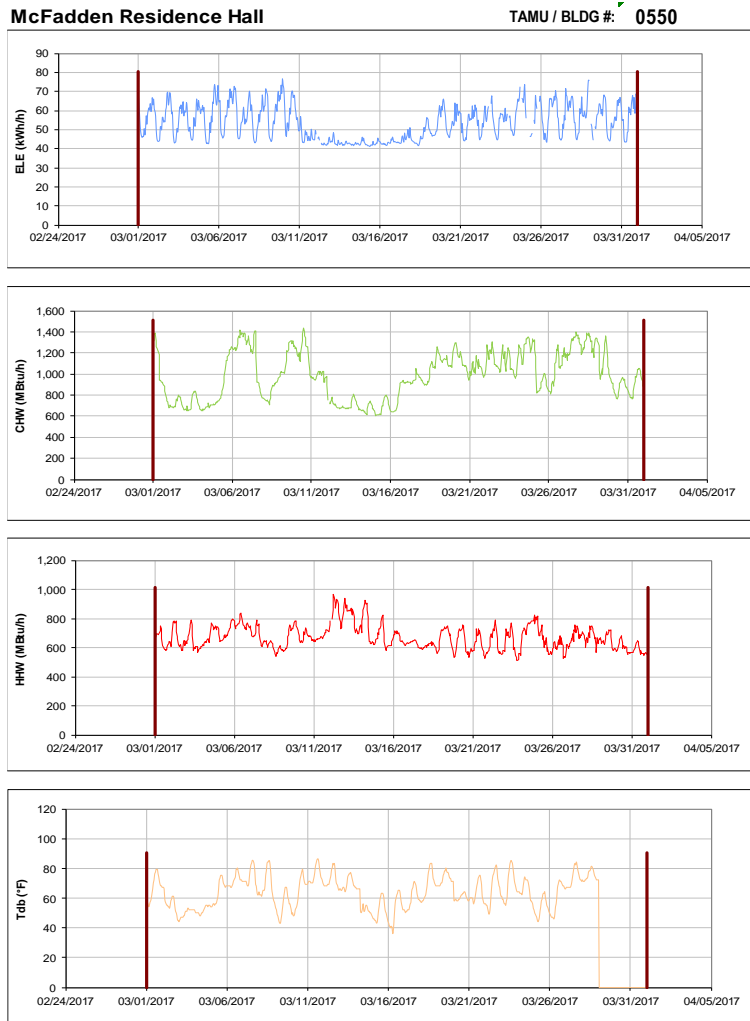


Figure III-117 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for McFadden Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

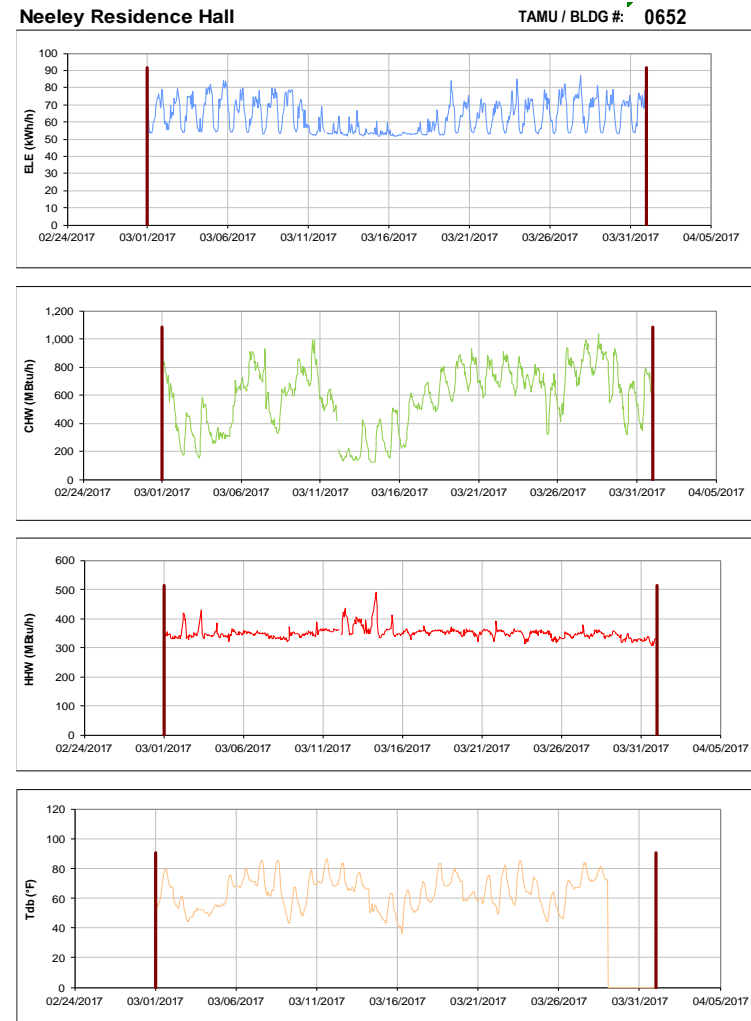


Figure III-118 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Neeley Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-119 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hobby Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

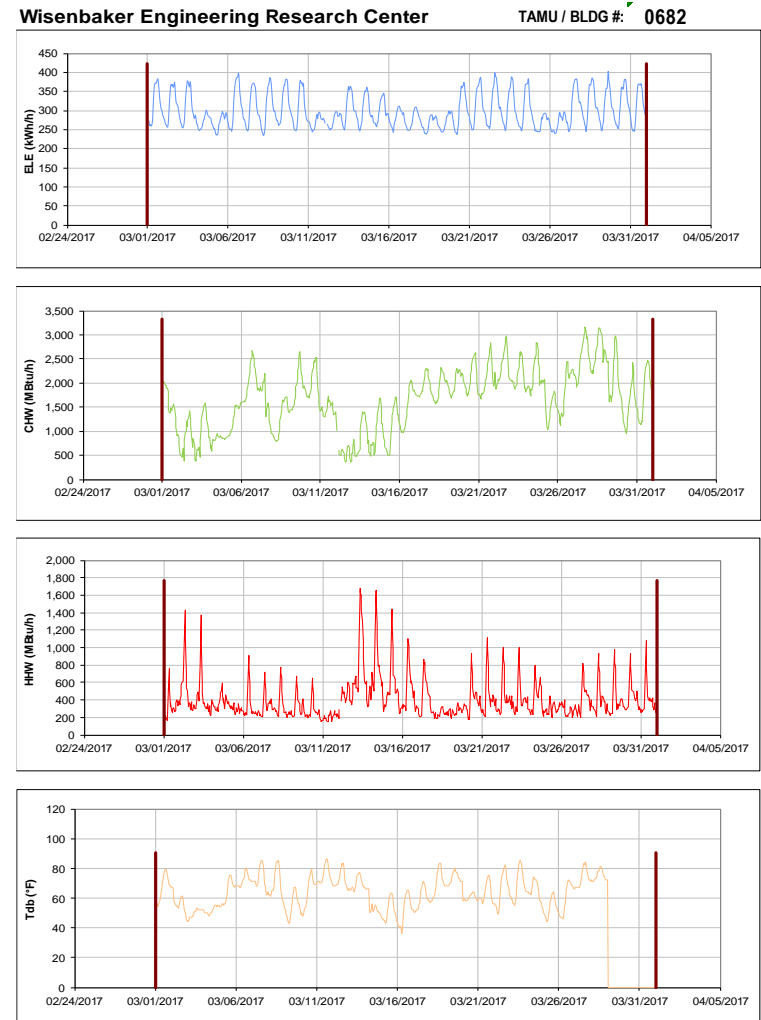


Figure III-120 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wisnaker Engineering Research Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

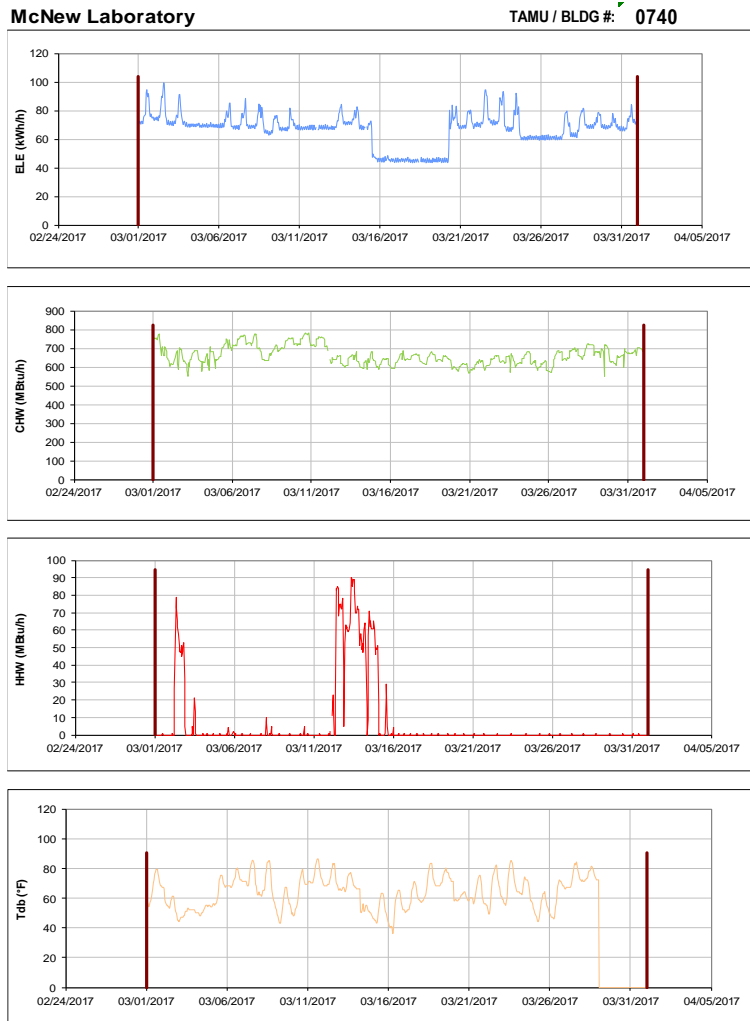


Figure III-121 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for McNew Laboratory during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

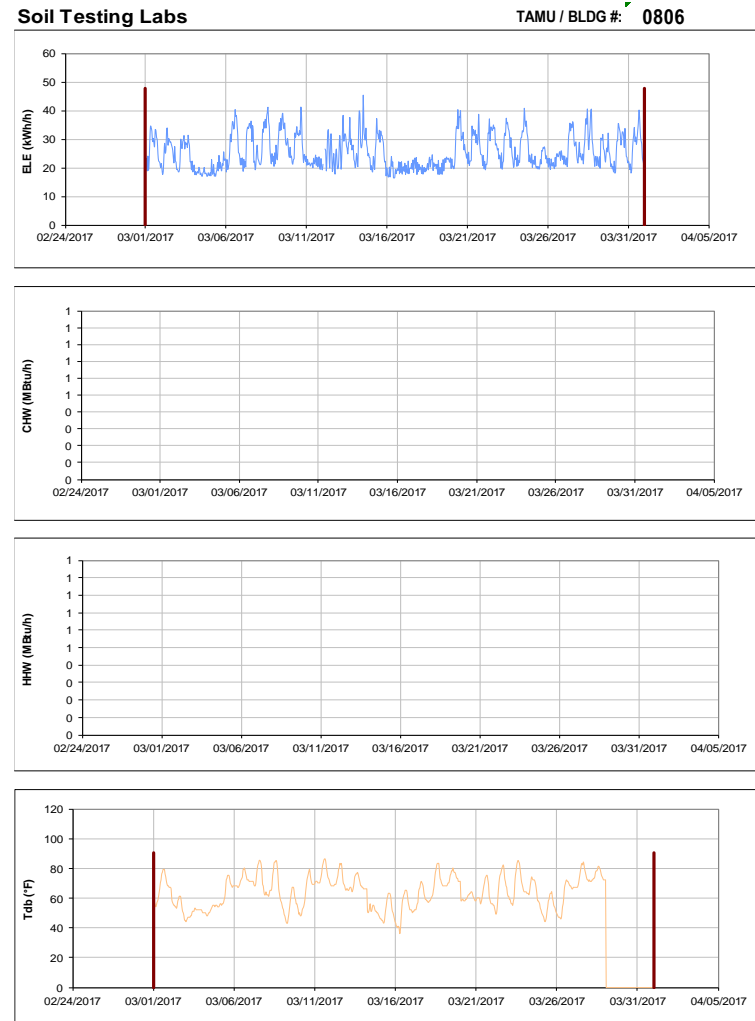


Figure III-122 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Soil Testing Labs during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-123 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Entomology Research Lab during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

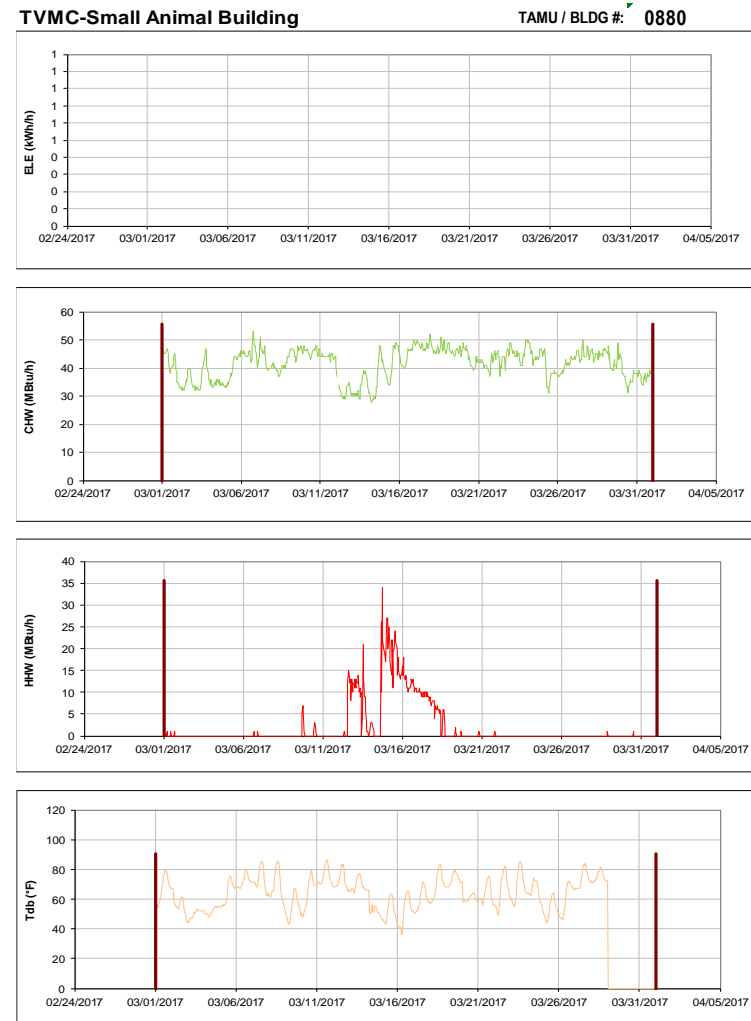


Figure III-124 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TVMC-Small Animal Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

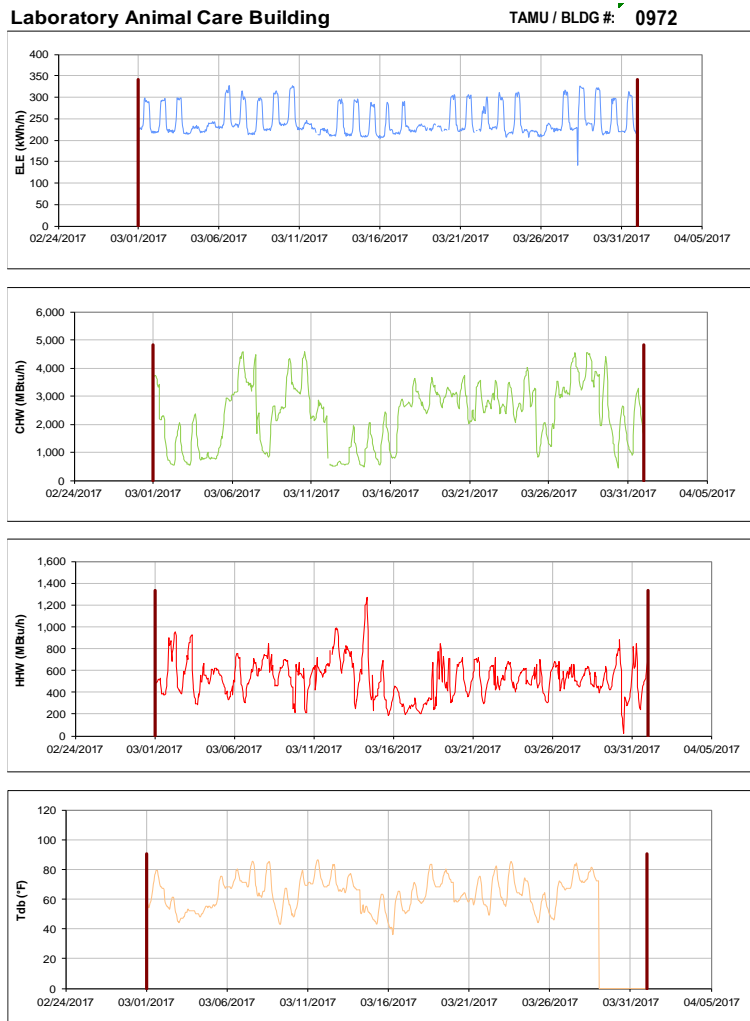


Figure III-125 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Laboratory Animal Care Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

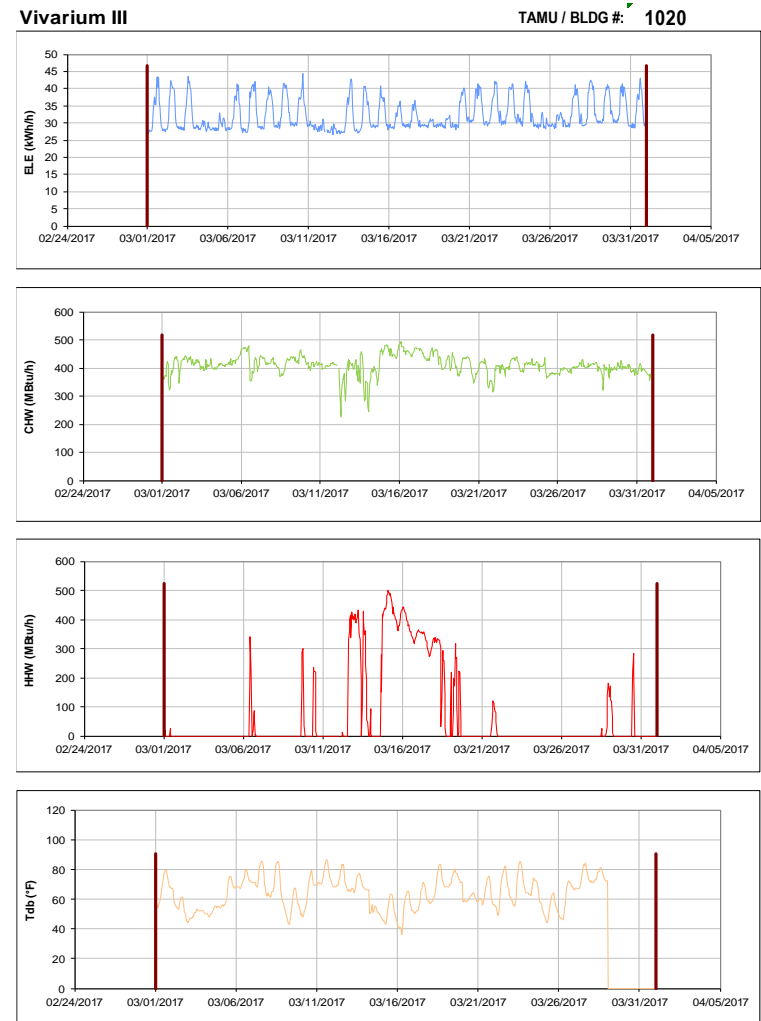


Figure III-126 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Vivarium III during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Texas Vet Med Diagnostic Lab

TAMU / BLDG #: 1041

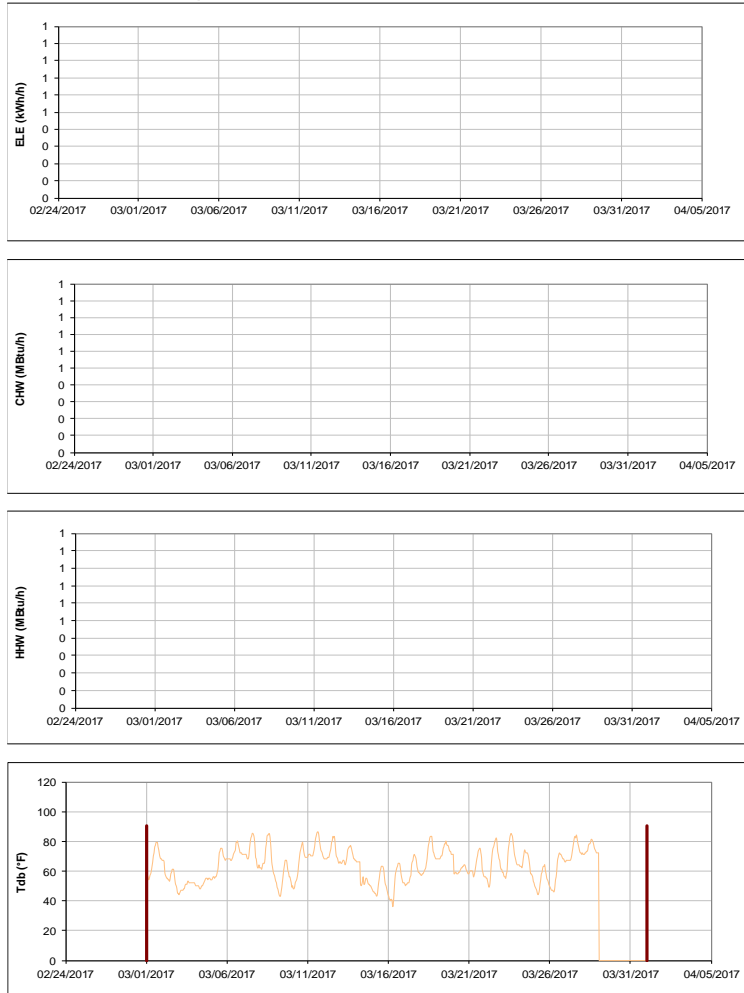


Figure III-127 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas Vet Med Diagnostic Lab during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Forest Science Laboratory Building

TAMU / BLDG #: 1042

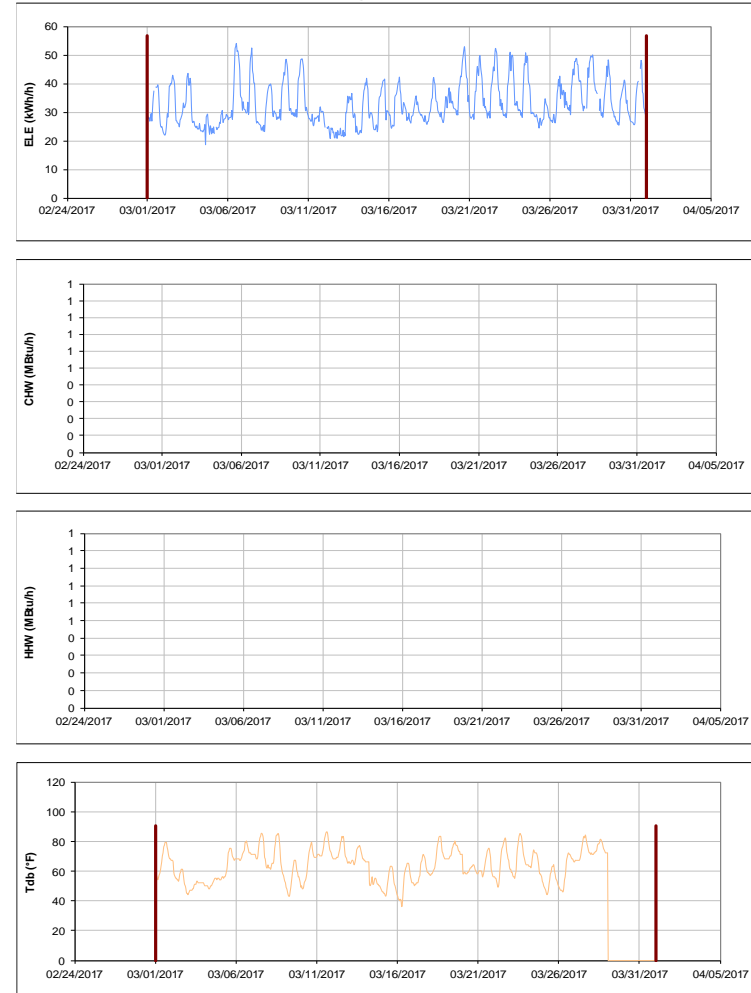


Figure III-128 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Forest Science Laboratory Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-129 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Small Animal Hospital during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

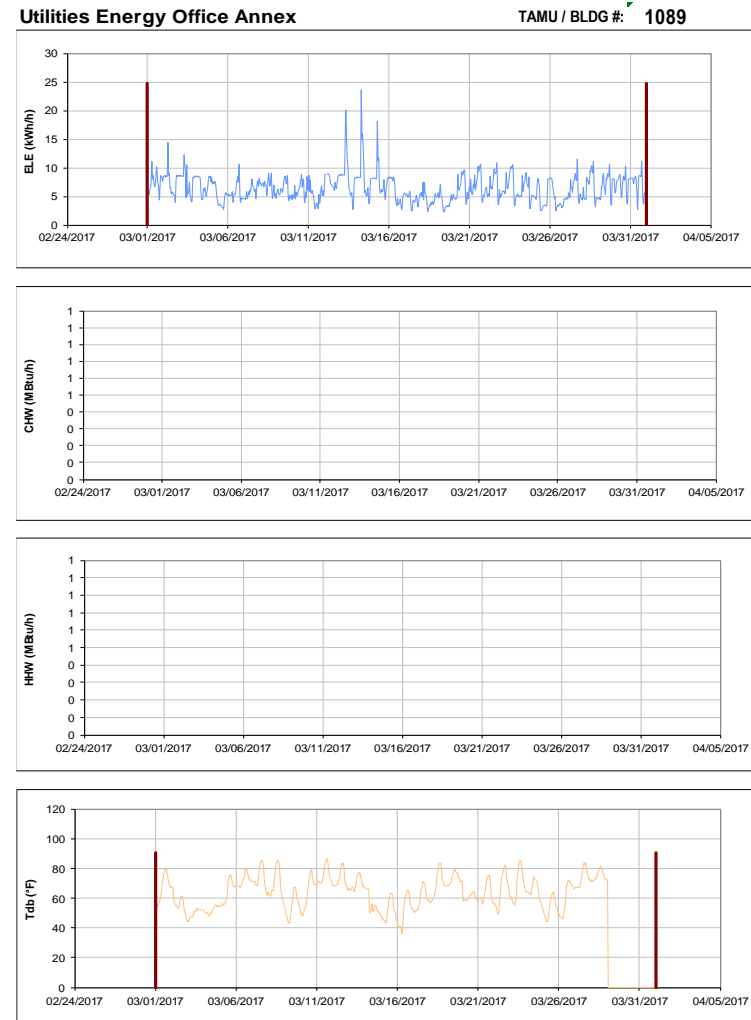


Figure III-130 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities Energy Office Annex during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Biological Control Facility

TAMU / BLDG #: 1146



Figure III-131 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Control Facility during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Physical Plant Administration & Shops

TAMU / BLDG #: 1156

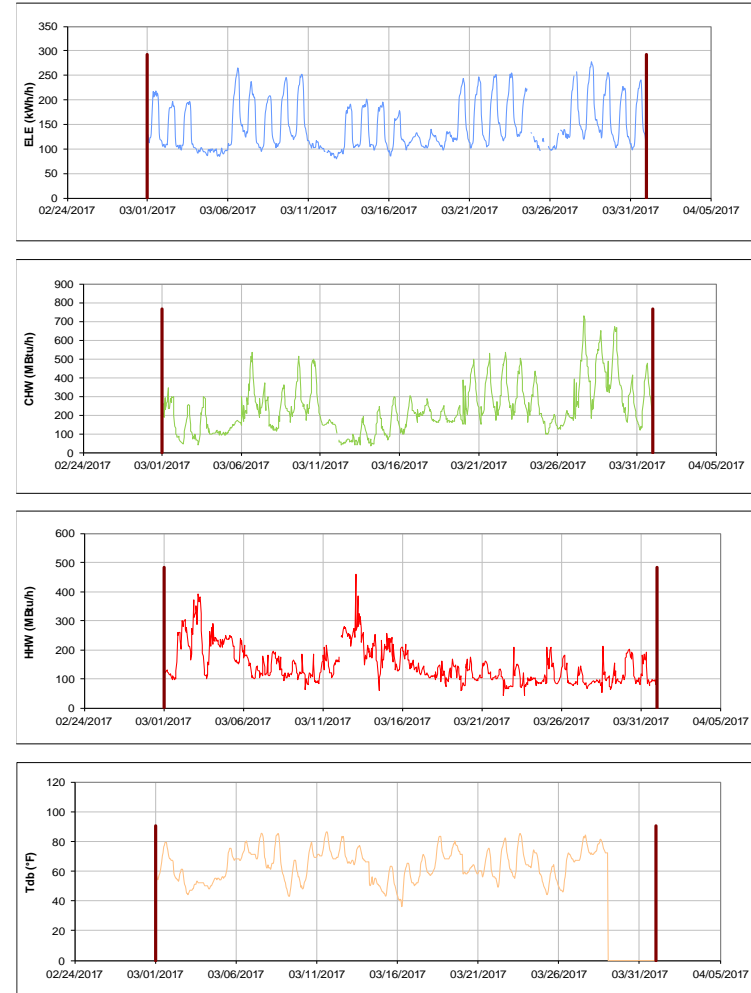


Figure III-132 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Physical Plant Administration & Shops during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

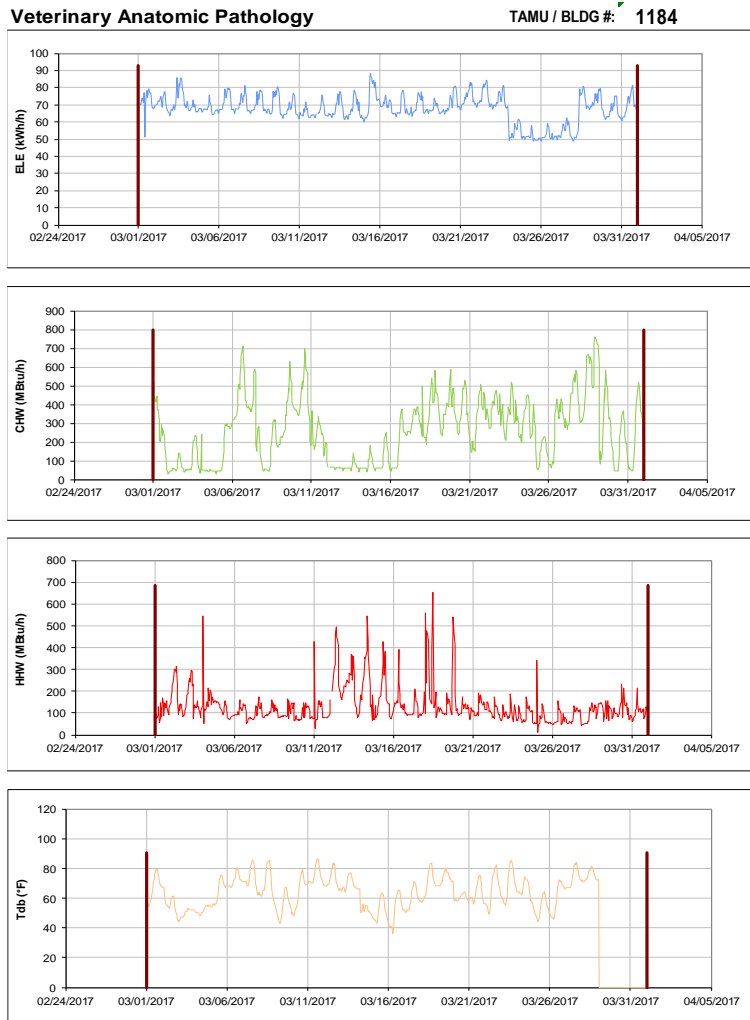


Figure III-133 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Anatomic Pathology during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

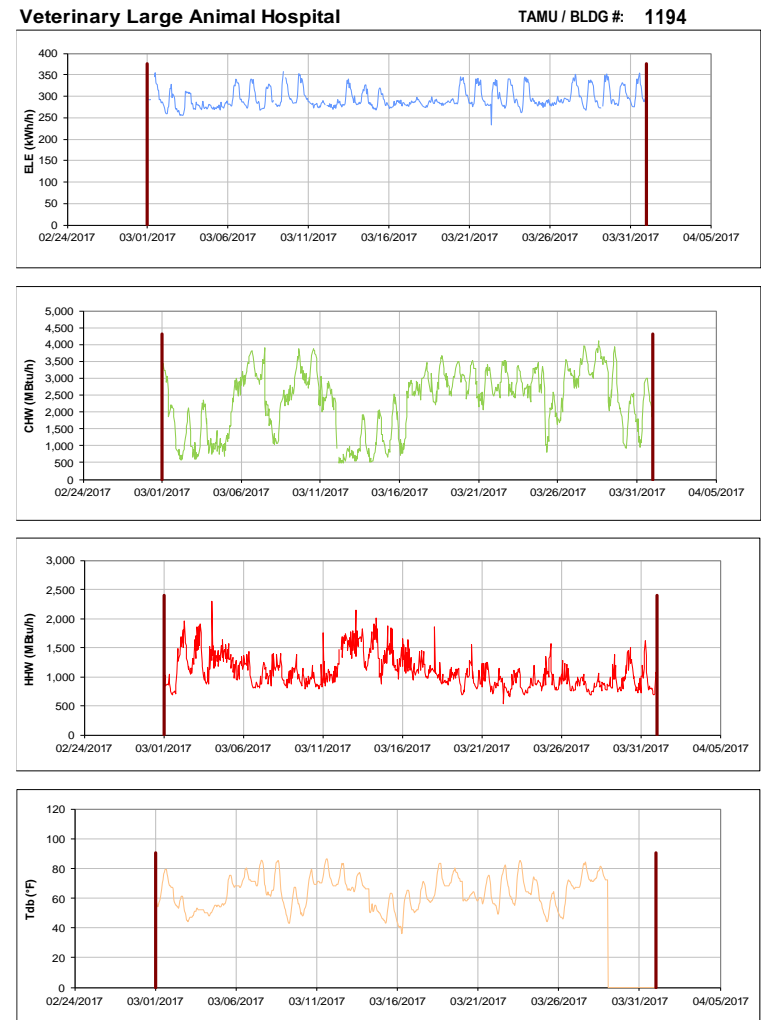


Figure III-134 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Large Animal Hospital during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Veterinary Research Building

TAMU / BLDG #: 1197

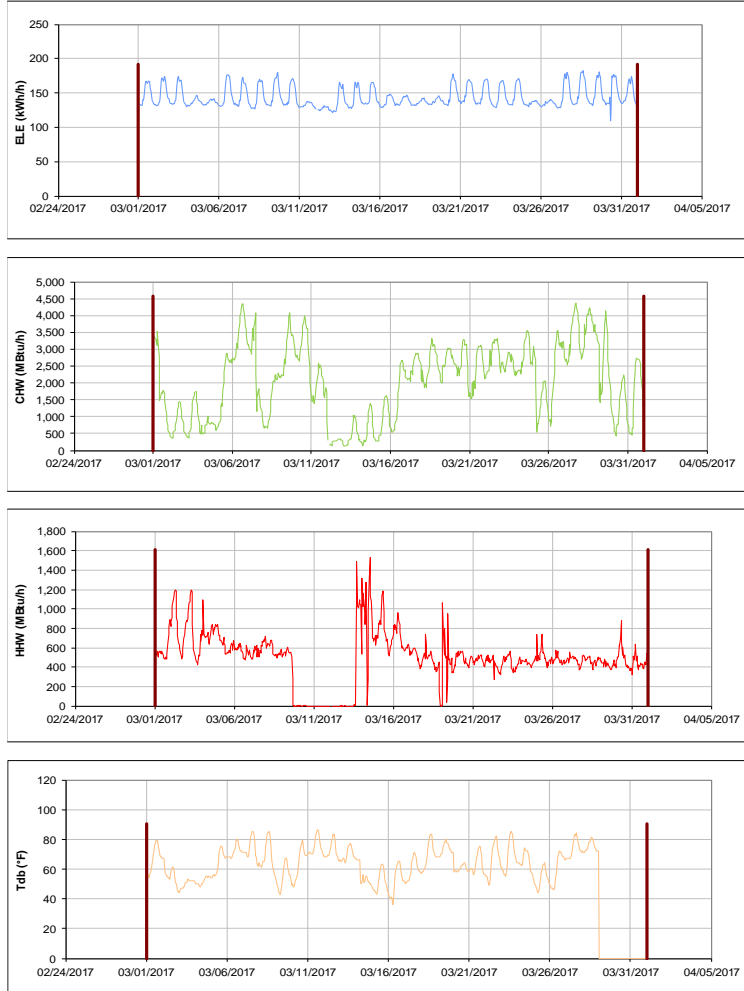


Figure III-135 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Research Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Hullabaloo Residence Hall

TAMU / BLDG #: 1416



Figure III-136 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hullabaloo Residence Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - Laundry at the Gardens TAMU / BLDG #: 1450

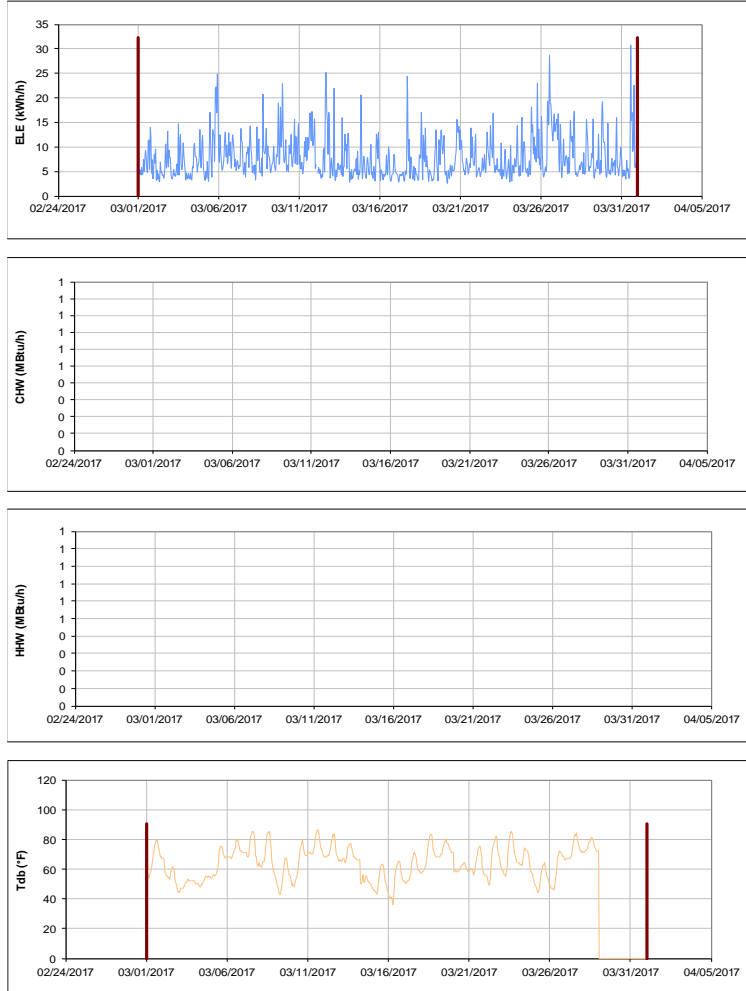


Figure III-137 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - Laundry at the Gardens during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - The Gardens J TAMU / BLDG #: 1451

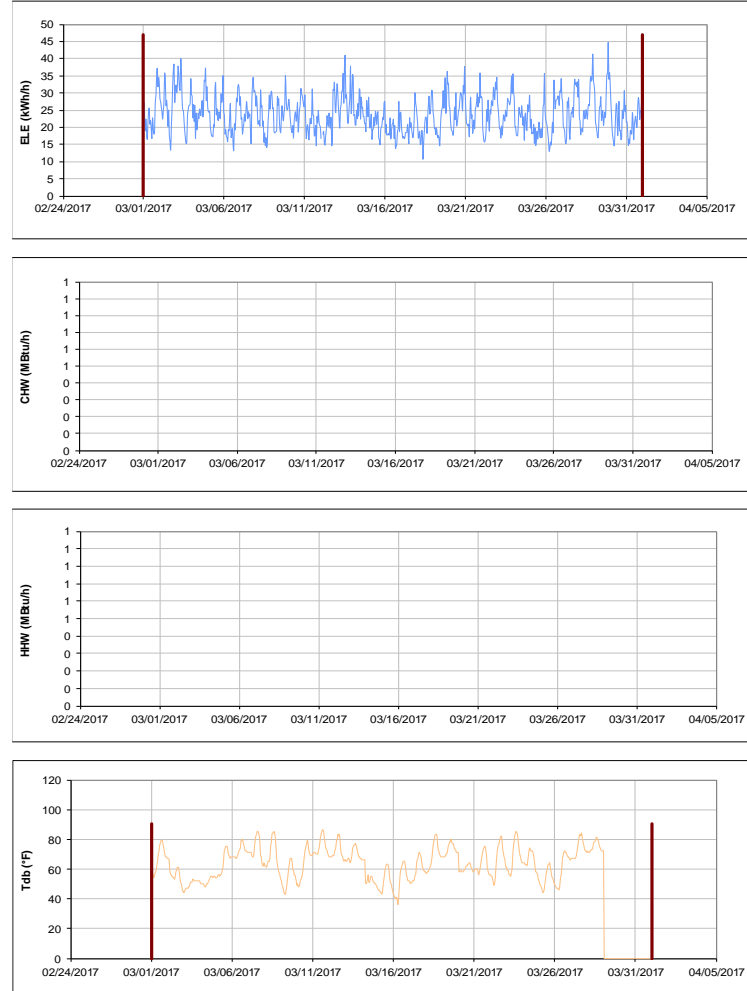


Figure III-138 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens J during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

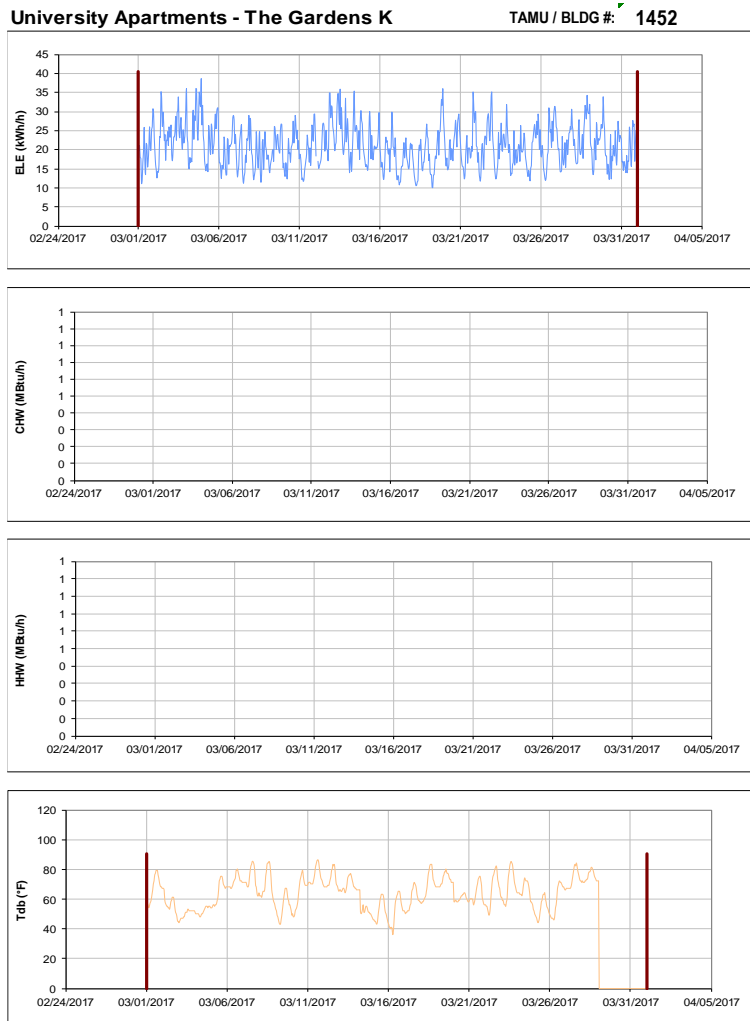


Figure III-139 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens K during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

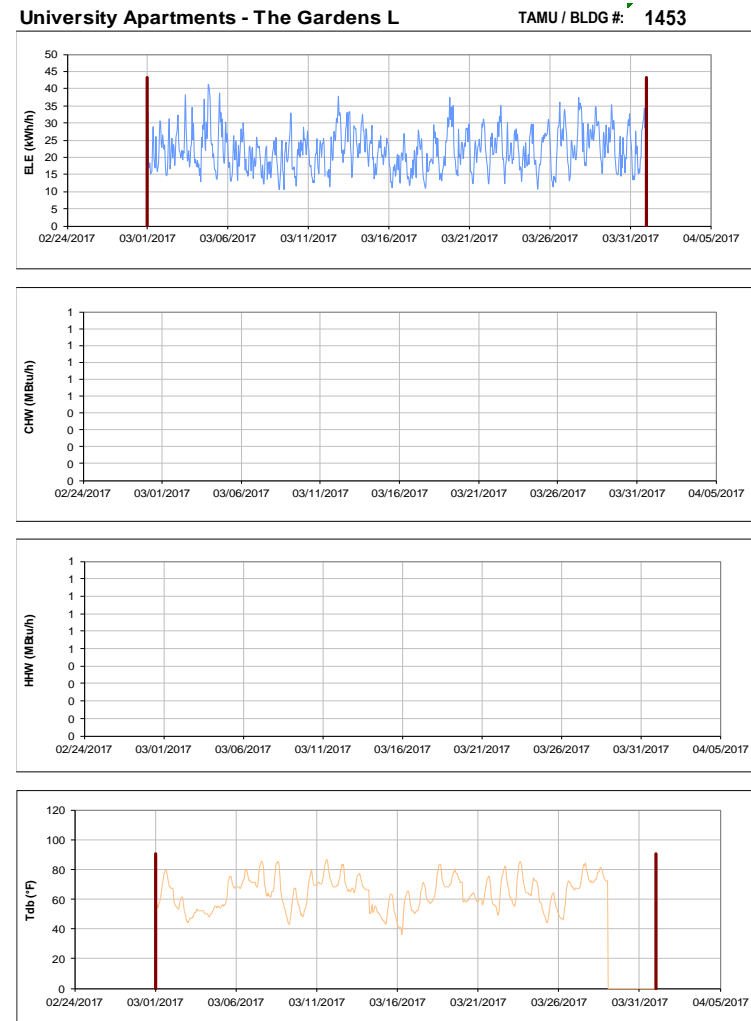


Figure III-140 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens L during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

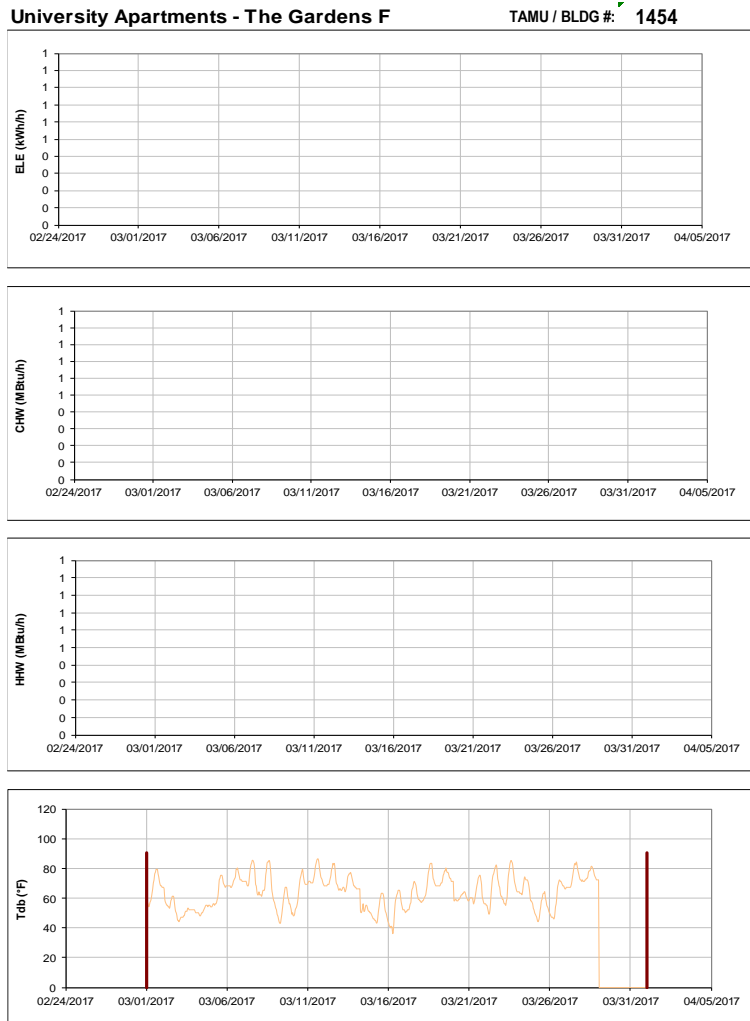


Figure III-141 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens F during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

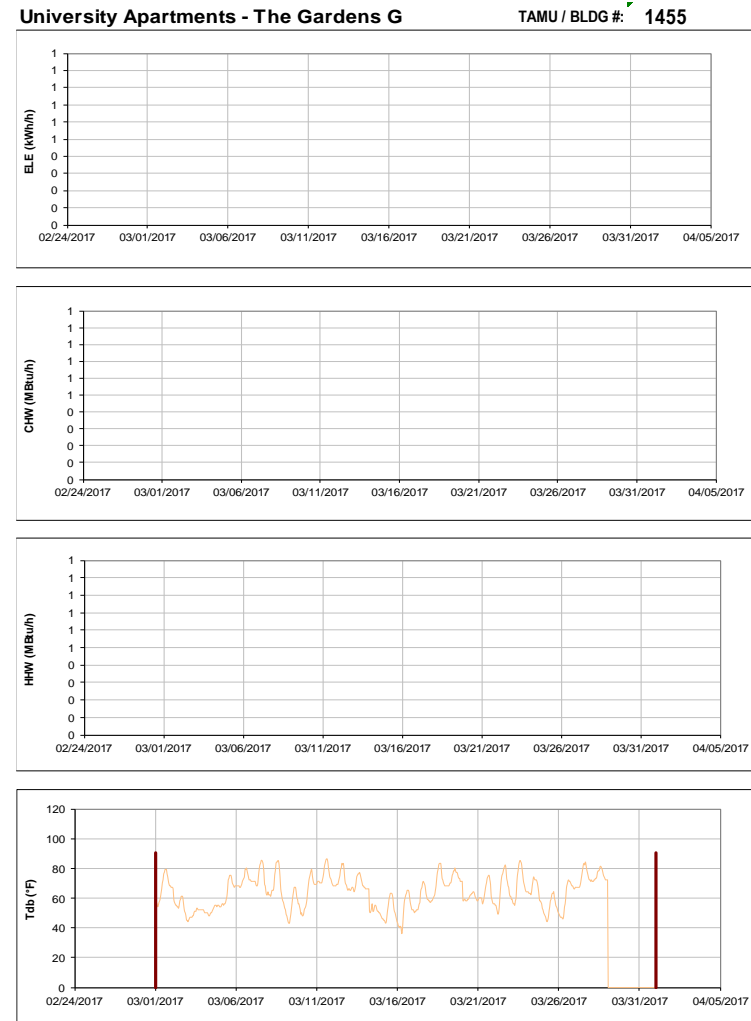


Figure III-142 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens G during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

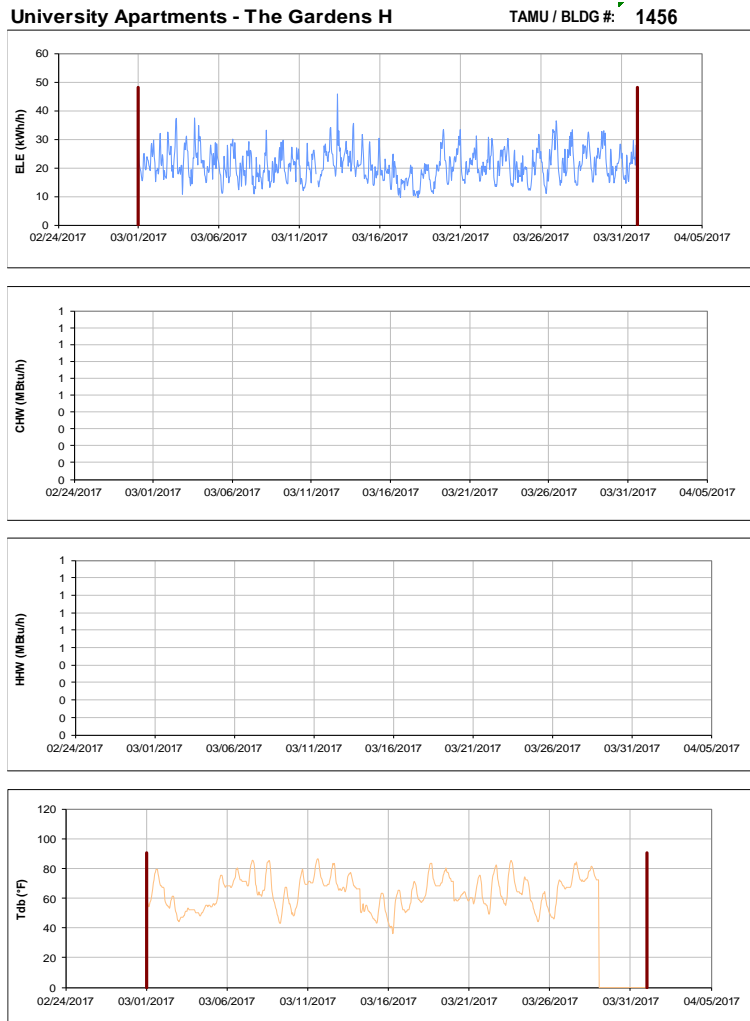


Figure III-143 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens H during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

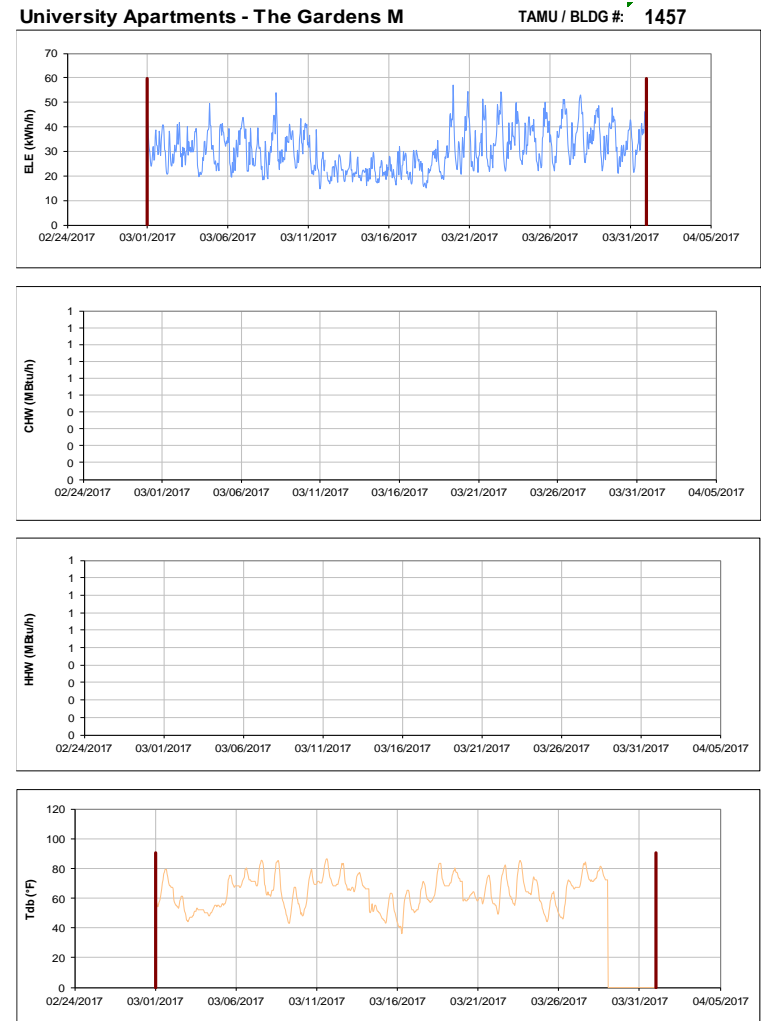


Figure III-144 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens M during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

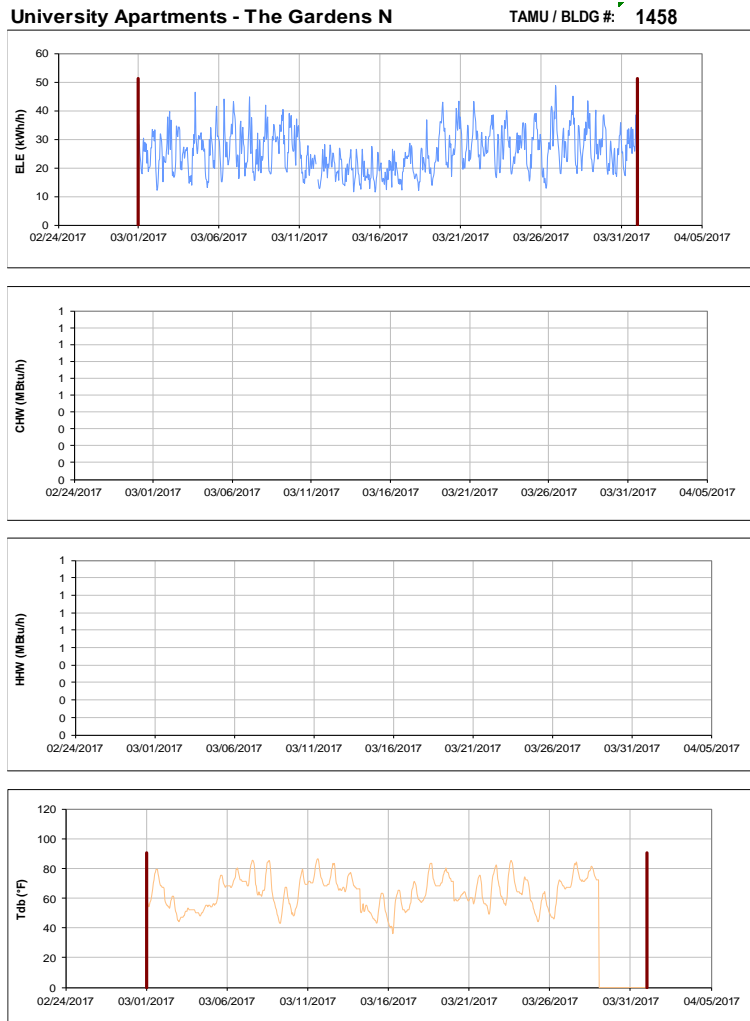


Figure III-145 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens N during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

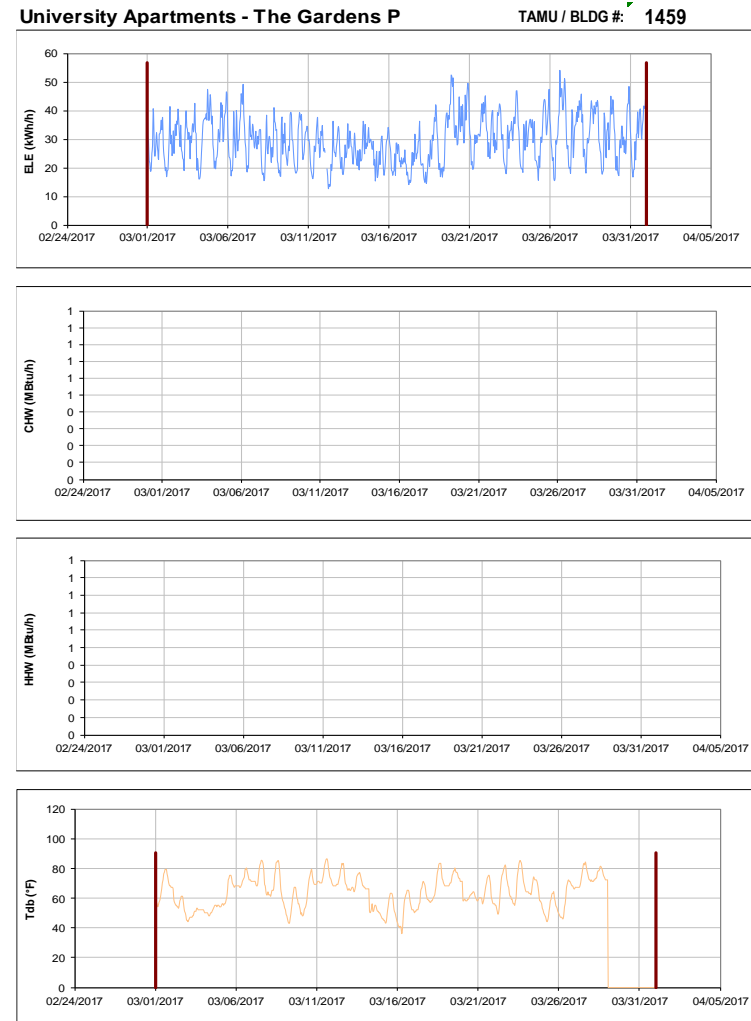


Figure III-146 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens P during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

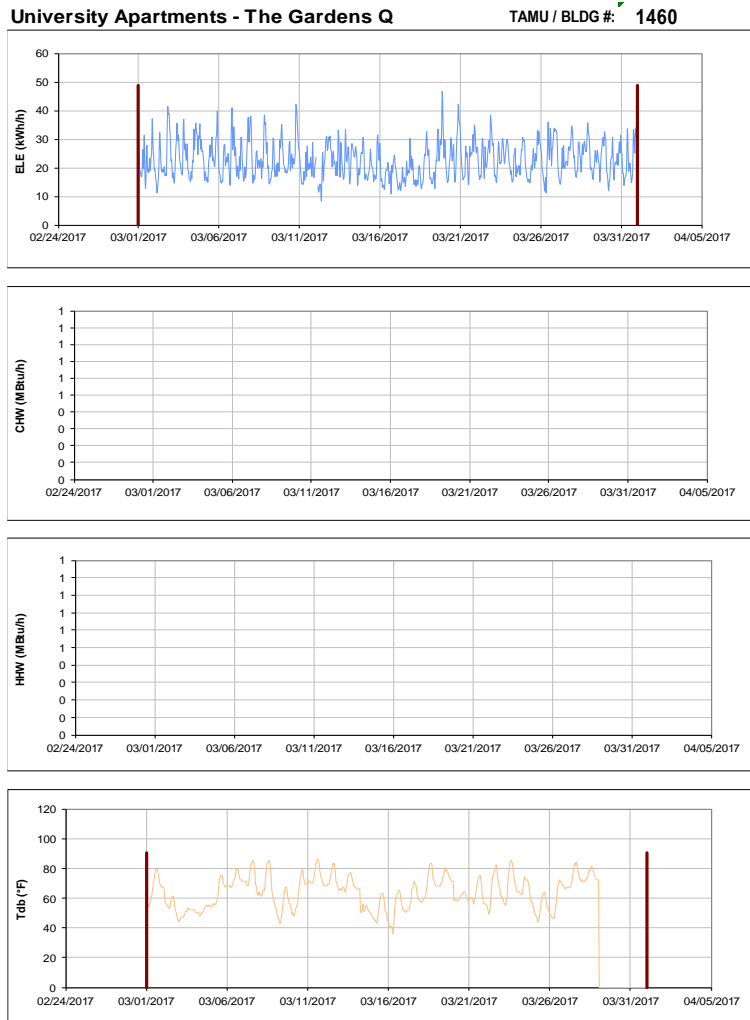


Figure III-147 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens Q during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

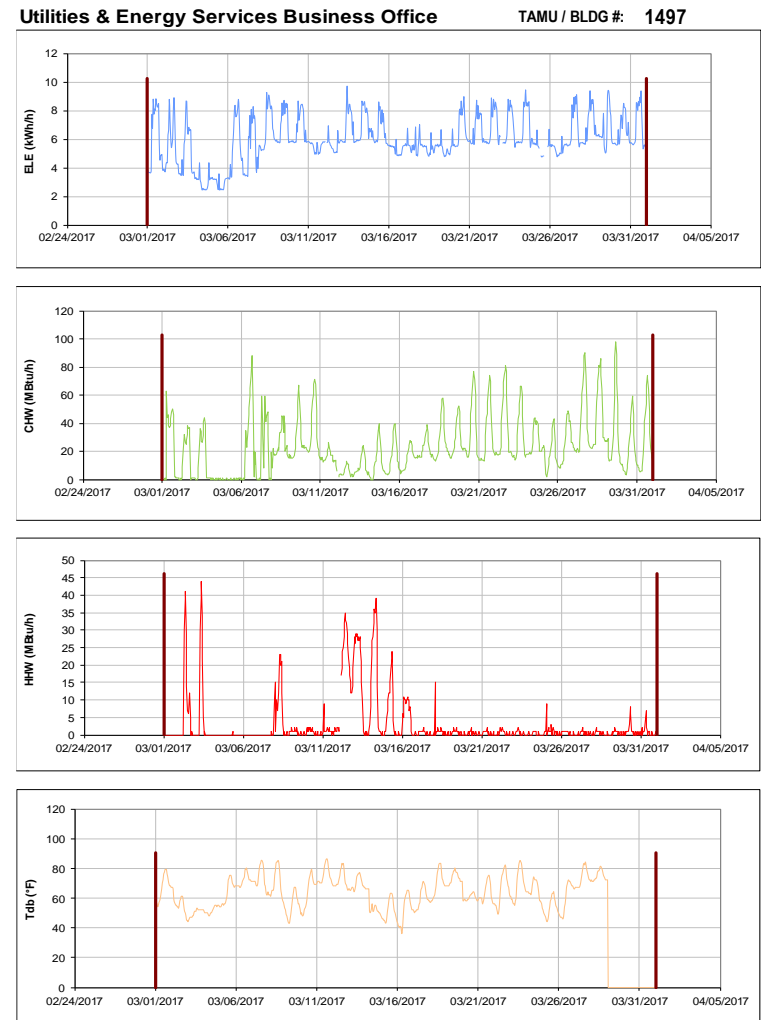


Figure III-148 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities & Energy Services Business Office during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

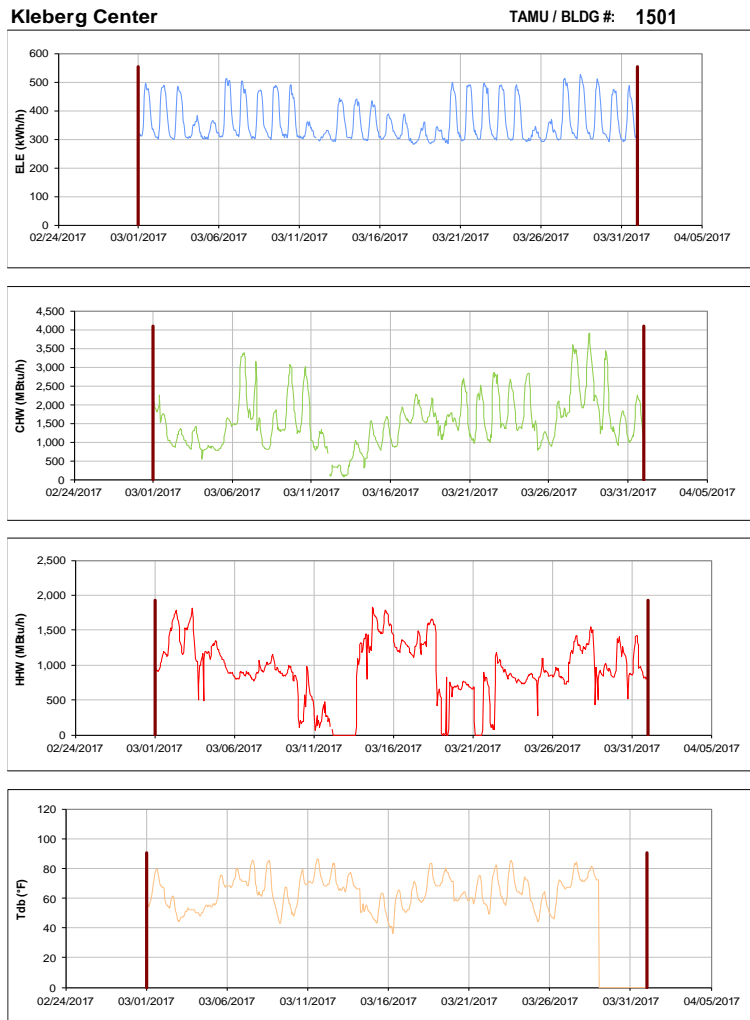


Figure III-149 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kleberg Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

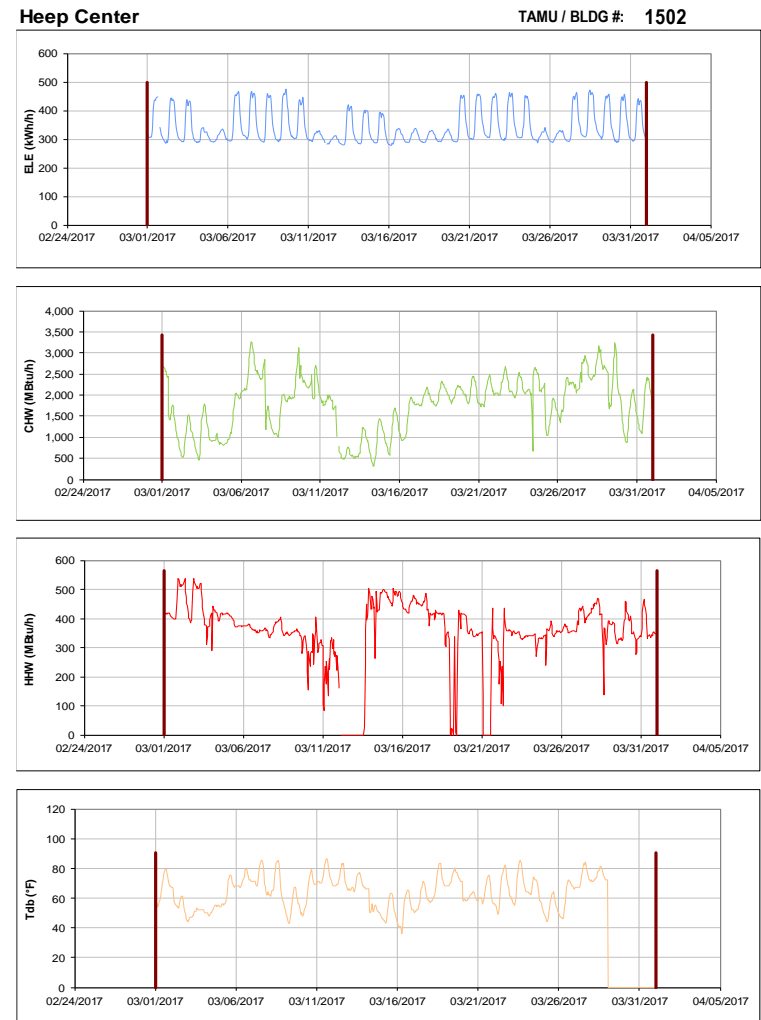


Figure III-150 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heep Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

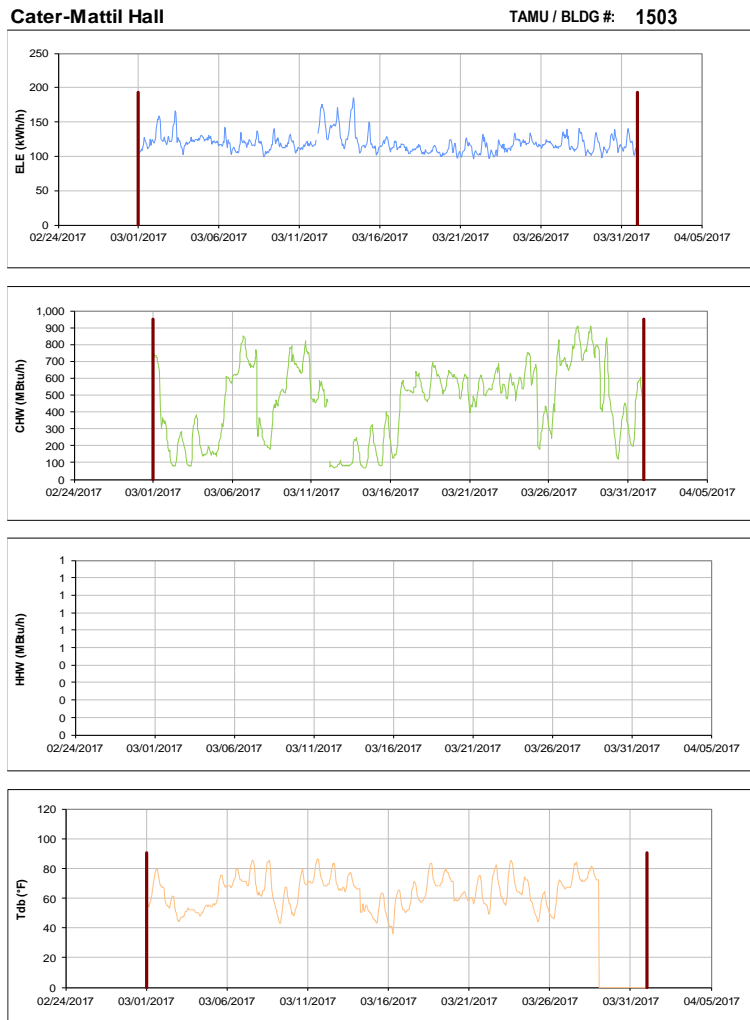


Figure III-151 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cater-Mattil Hall during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

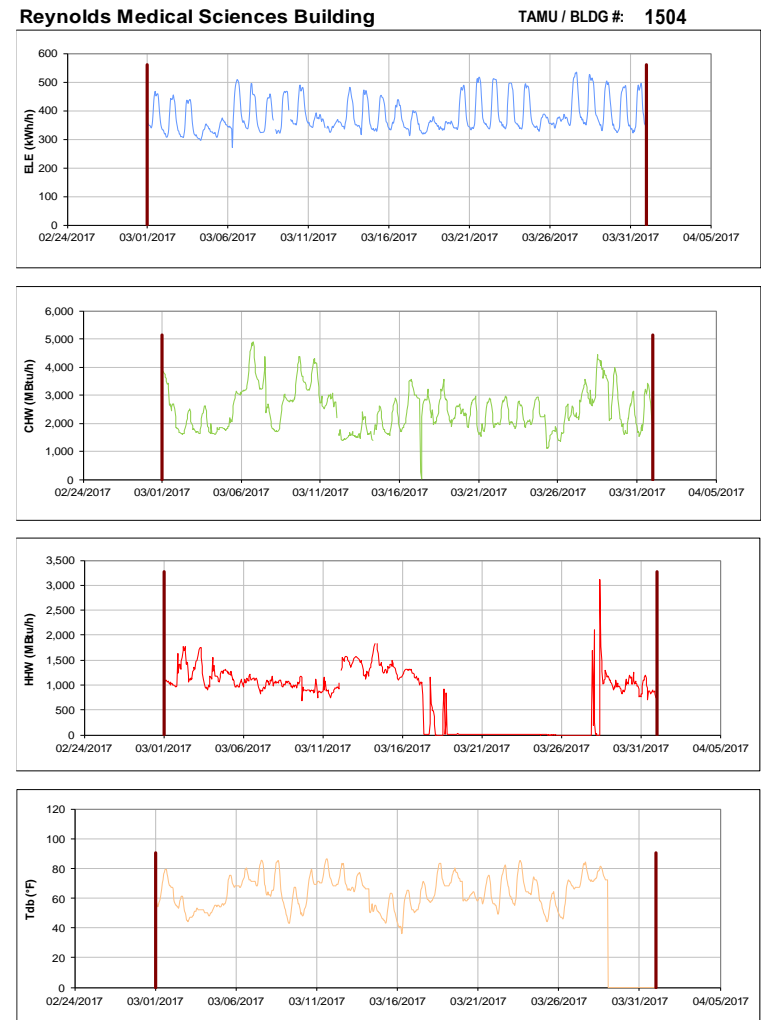


Figure III-152 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reynolds Medical Sciences Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Rosenthal Meat Science & Technology Center TAMU / BLDG #: 1505

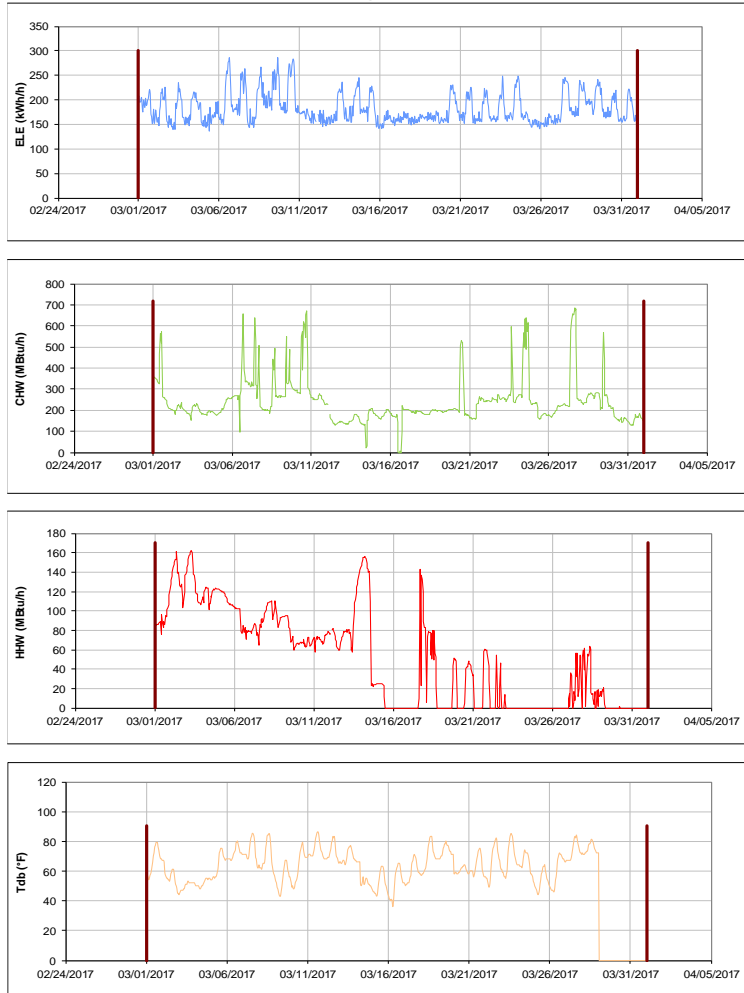


Figure III-153 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rosenthal Meat Science & Technology Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Horticulture-Forest Science Building TAMU / BLDG #: 1506

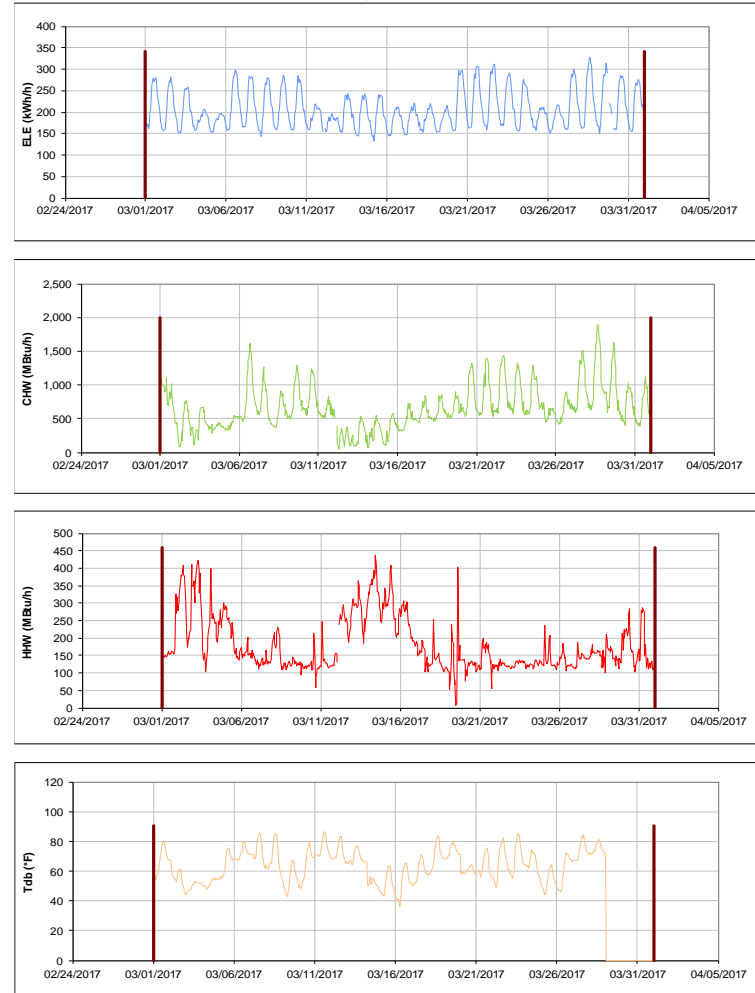


Figure III-154 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Horticulture-Forest Science Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

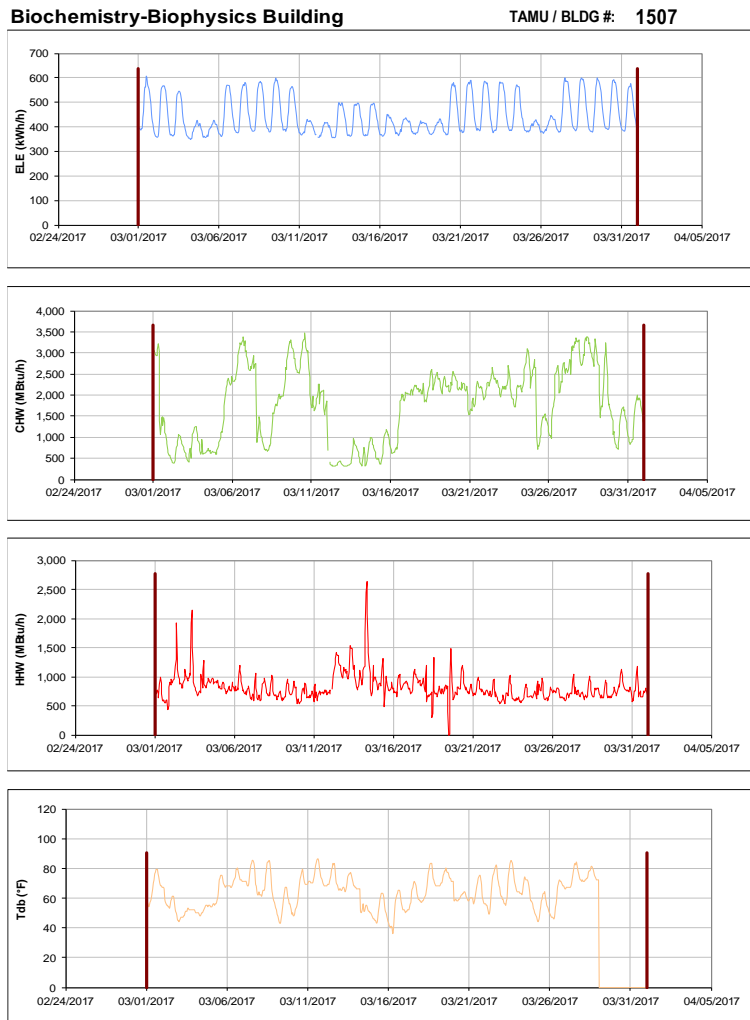


Figure III-155 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biochemistry-Biophysics Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

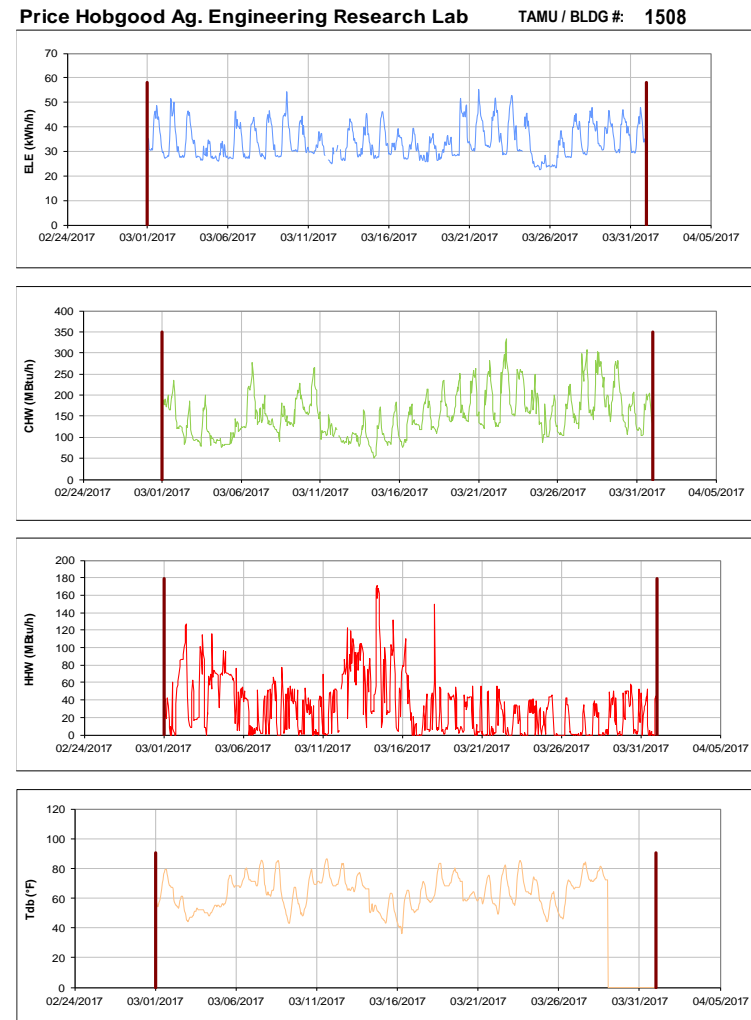


Figure III-156 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Price Hobgood Ag. Engineering Research Lab during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

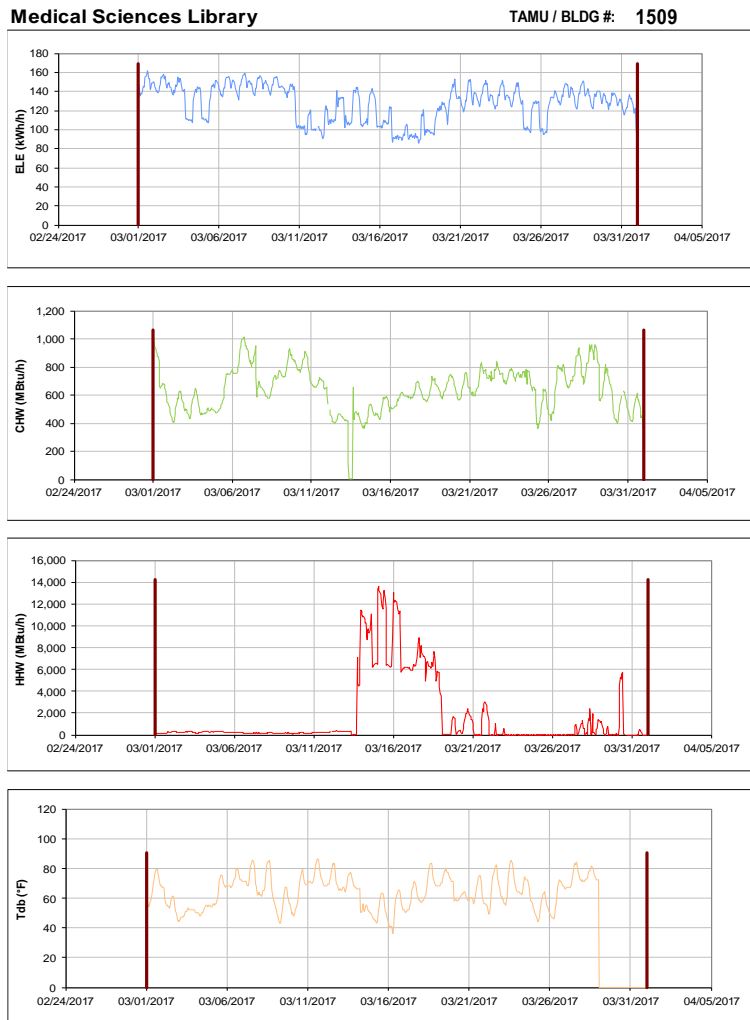


Figure III-157 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Medical Sciences Library during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

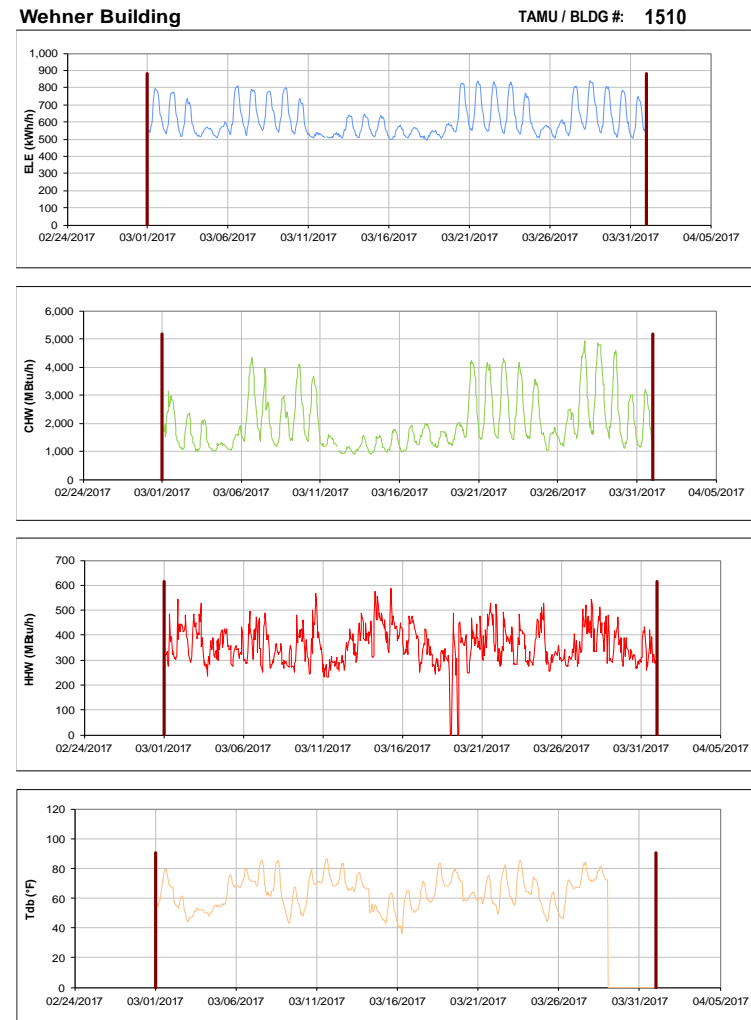


Figure III-158 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wehner Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-159 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for West Campus Library Facility during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

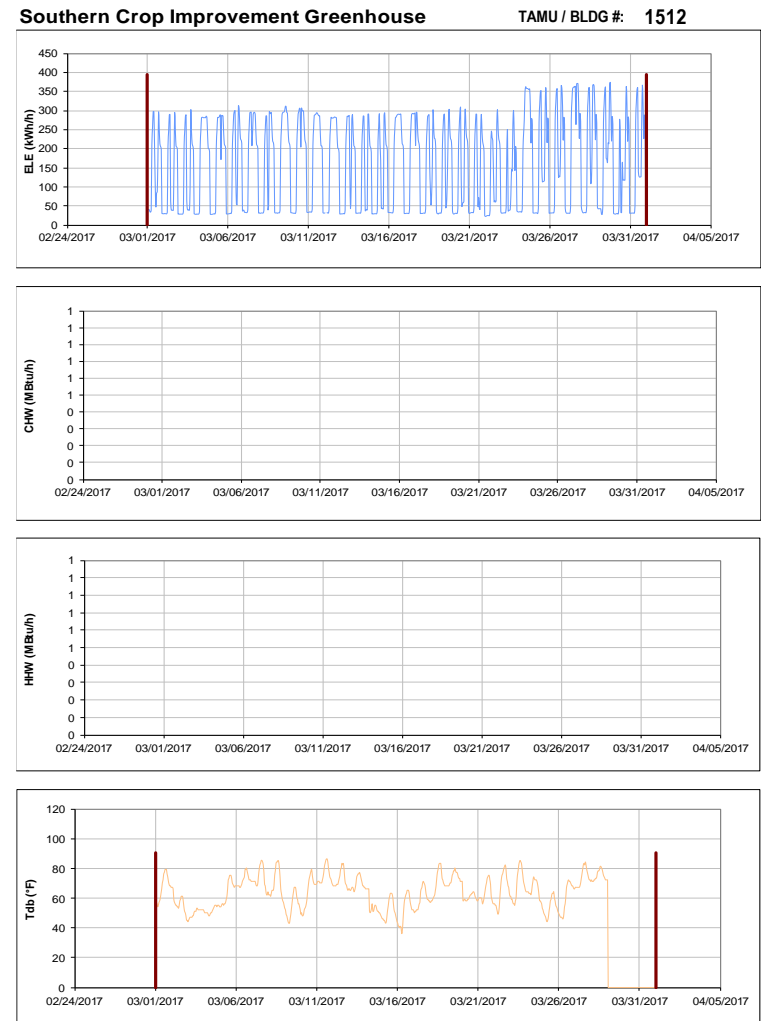


Figure III-160 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Southern Crop Improvement Greenhouse during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Borlaug Center for Southern Crop Improvement TAMU / BLDG #: 1513



Figure III-161 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Borlaug Center for Southern Crop Improvement during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

TX School of Rural Public Health TAMU / BLDG #: 1518

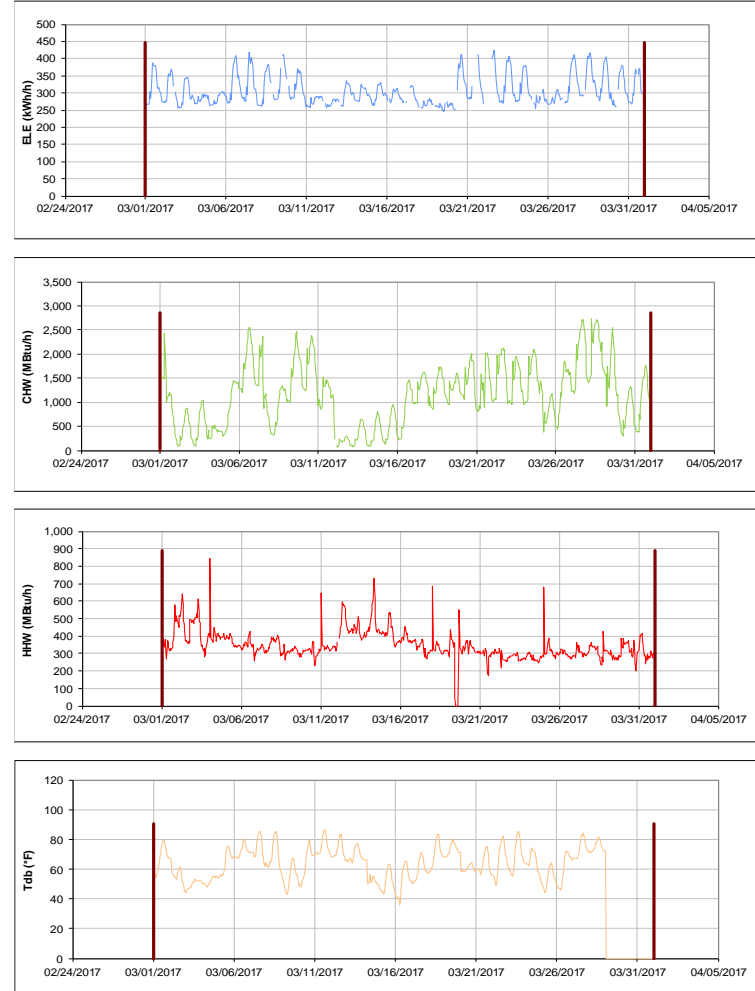


Figure III-162 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TX School of Rural Public Health during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-163 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Nuclear Magnetic Resonance Facility during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-164 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Interdisciplinary Life Sciences Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-165 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture and Life Sciences Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-166 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for AgriLife Services Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Agriculture Public Building

TAMU / BLDG #: 1537

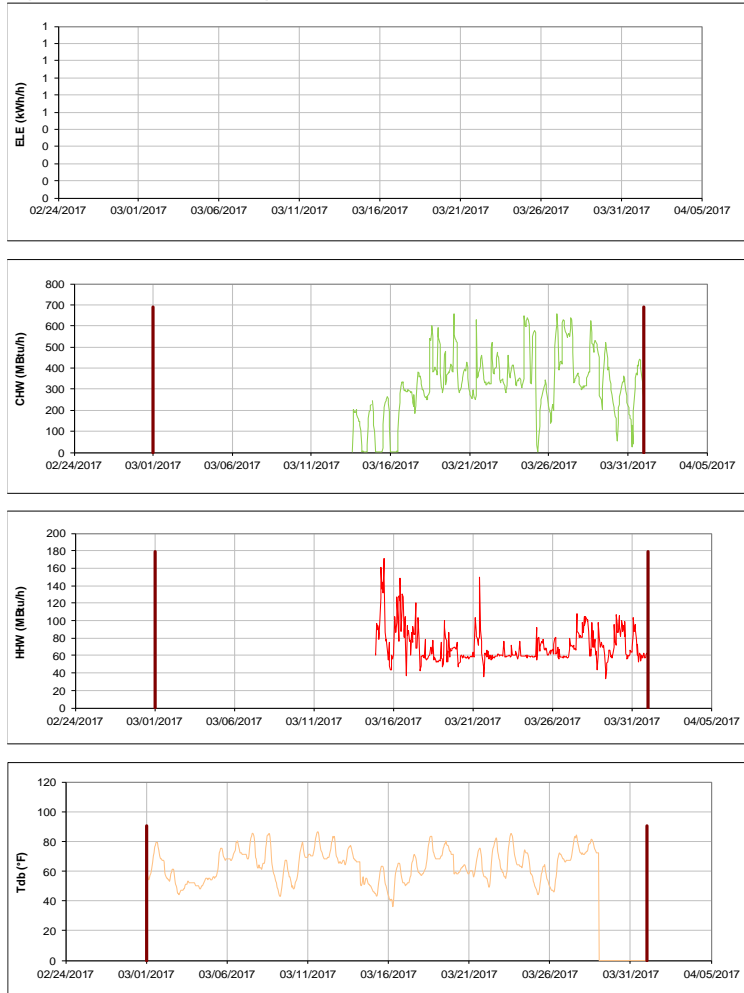


Figure III-167 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture Public Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Agriculture Program Visitors Center

TAMU / BLDG #: 1538



Figure III-168 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture Program Visitors Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Physical Education Activity Program Building TAMU / BLDG #: 1540

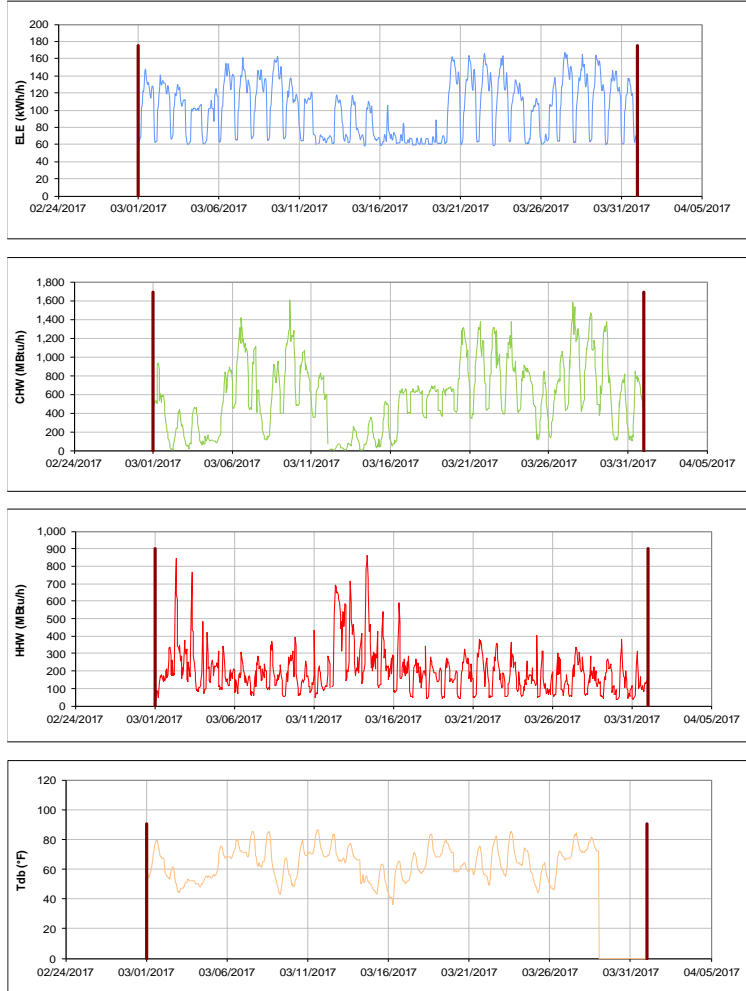


Figure III-169 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Physical Education Activity Program Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Human Clinical Research Building TAMU / BLDG #: 1542

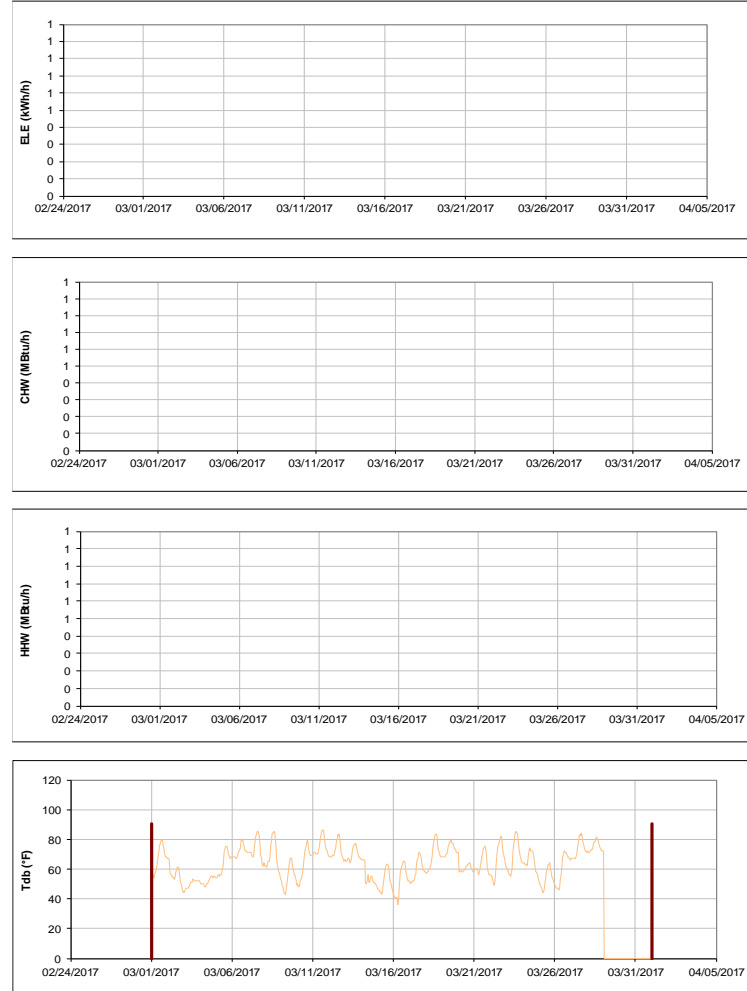


Figure III-170 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Human Clinical Research Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Cain Garage

TAMU / BLDG #: 1544

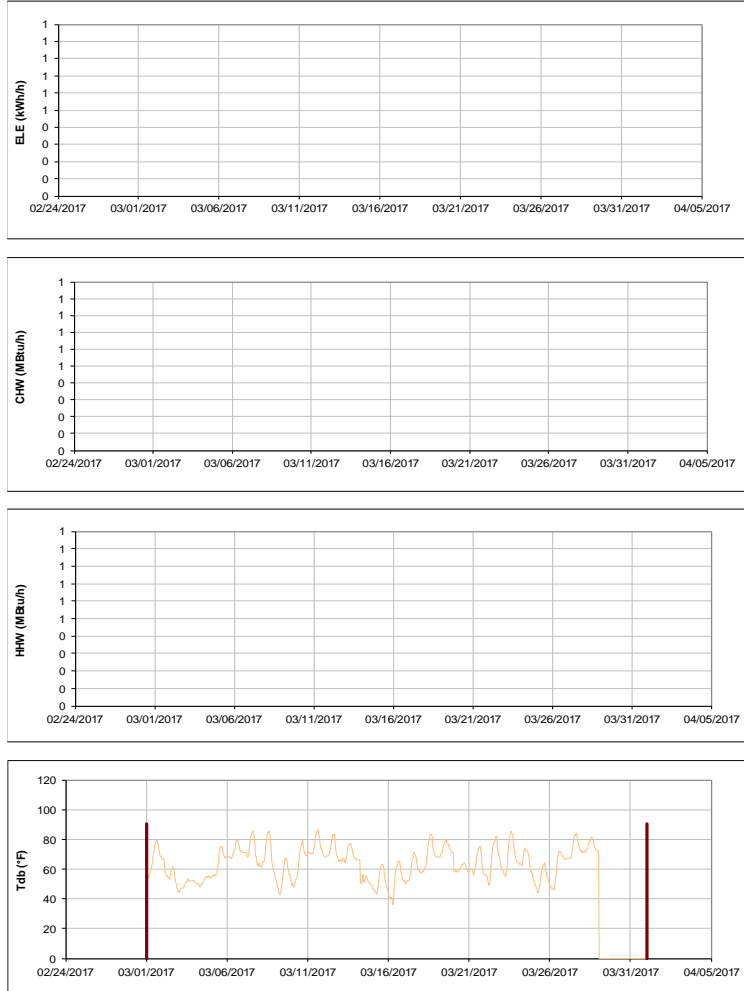


Figure III-171 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cain Garage during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Olsen Field at Bluebell Park

TAMU / BLDG #: 1550

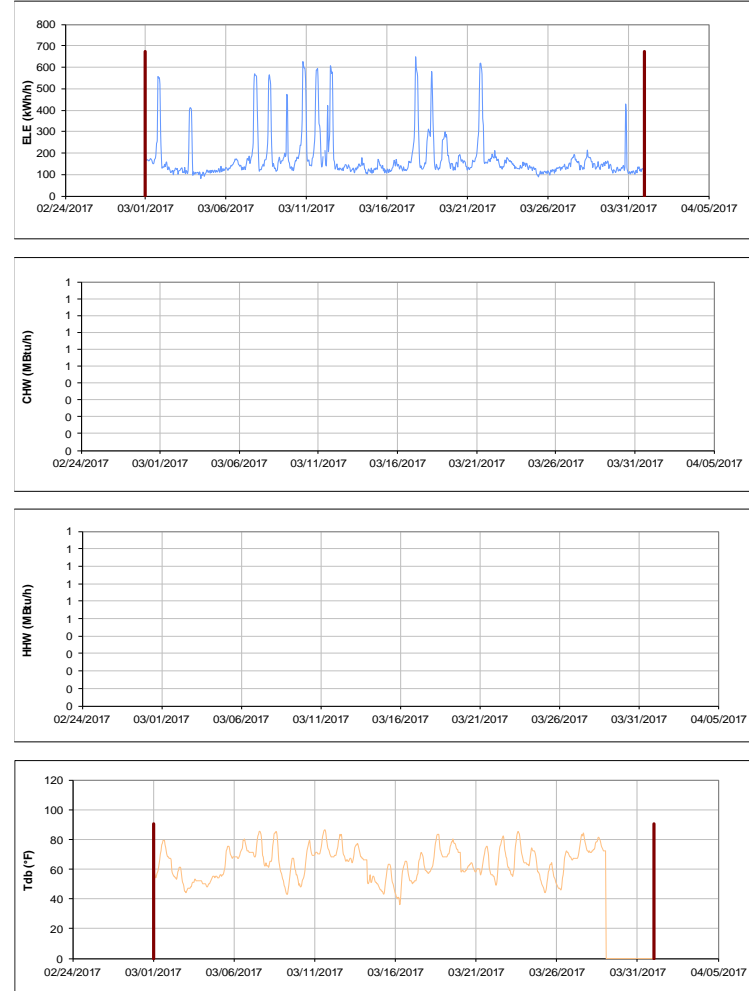


Figure III-172 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Olsen Field at Bluebell Park during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Reed Arena and Cox-McFerrin Center TAMU / BLDG #: 554-1558

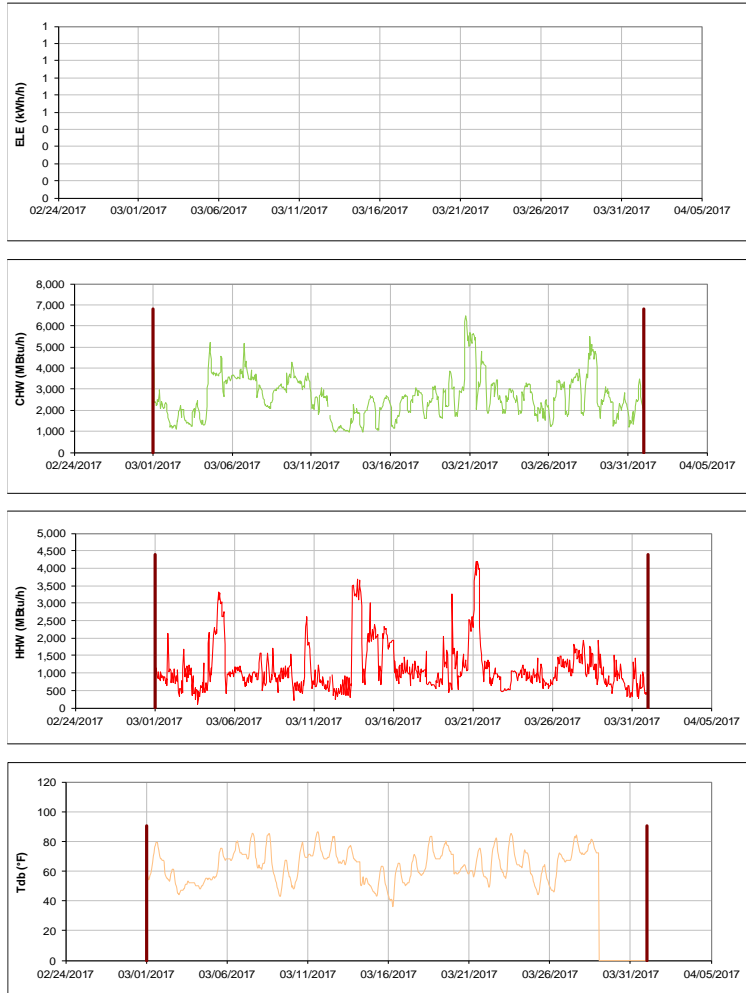


Figure III-173 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed Arena and Cox-McFerrin Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Cox-McFerrin Center for Aggie Basketball TAMU / BLDG #: 1558

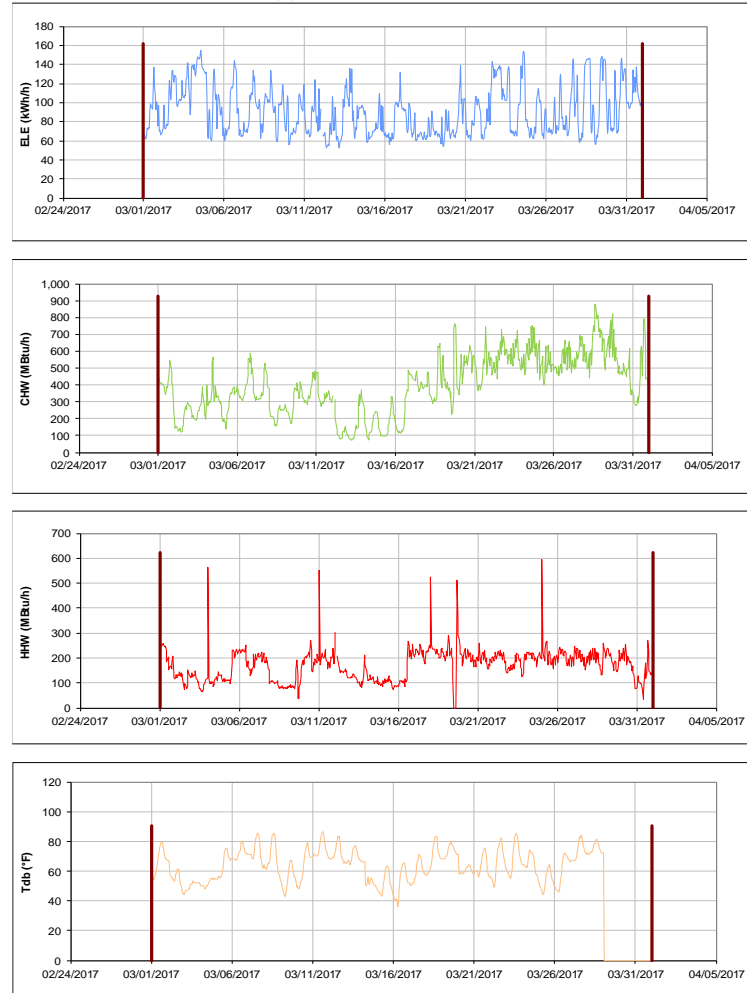


Figure III-174 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cox-McFerrin Center for Aggie Basketball during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

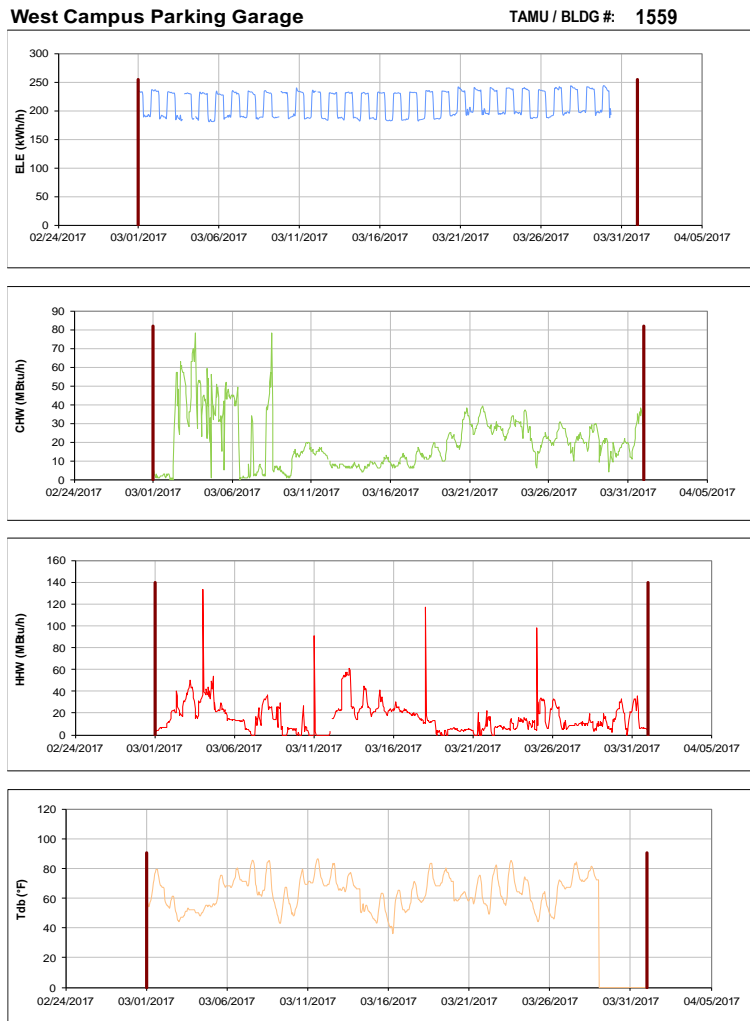


Figure III-175 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for West Campus Parking Garage during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

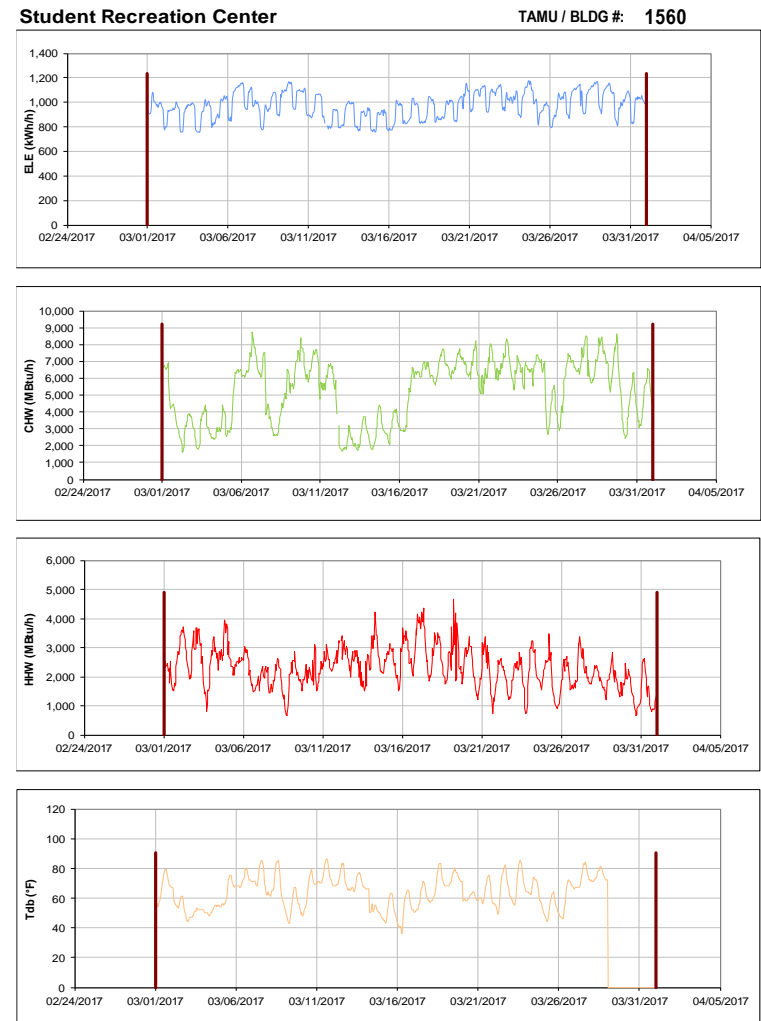


Figure III-176 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Student Recreation Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

White Creek Apartment 1 and White Creek Apts Activity Center / BLDG #: 589-1590

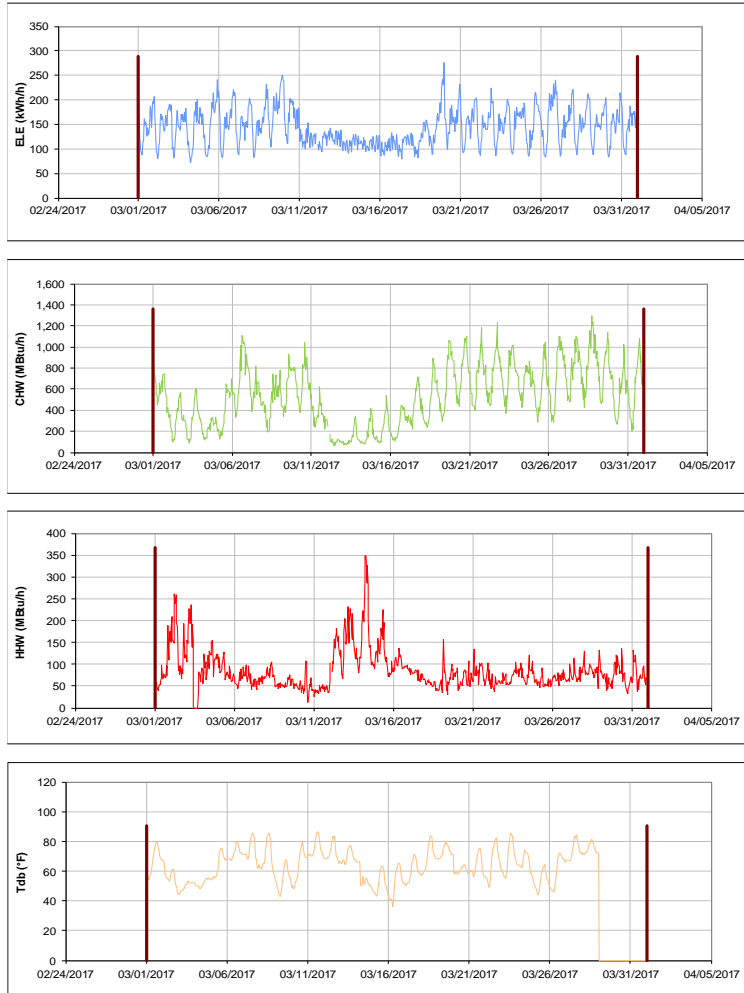


Figure III-177 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 1 and White Creek Apts Activity Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

White Creek Apartment 2 TAMU / BLDG #: 1591

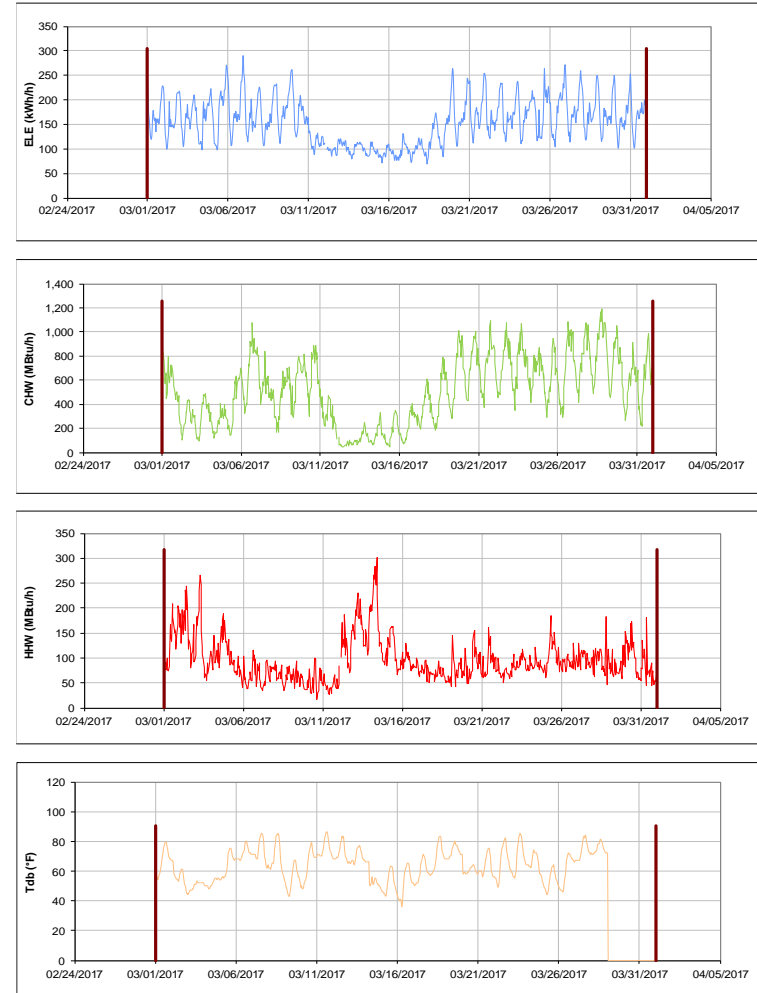


Figure III-178 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 2 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

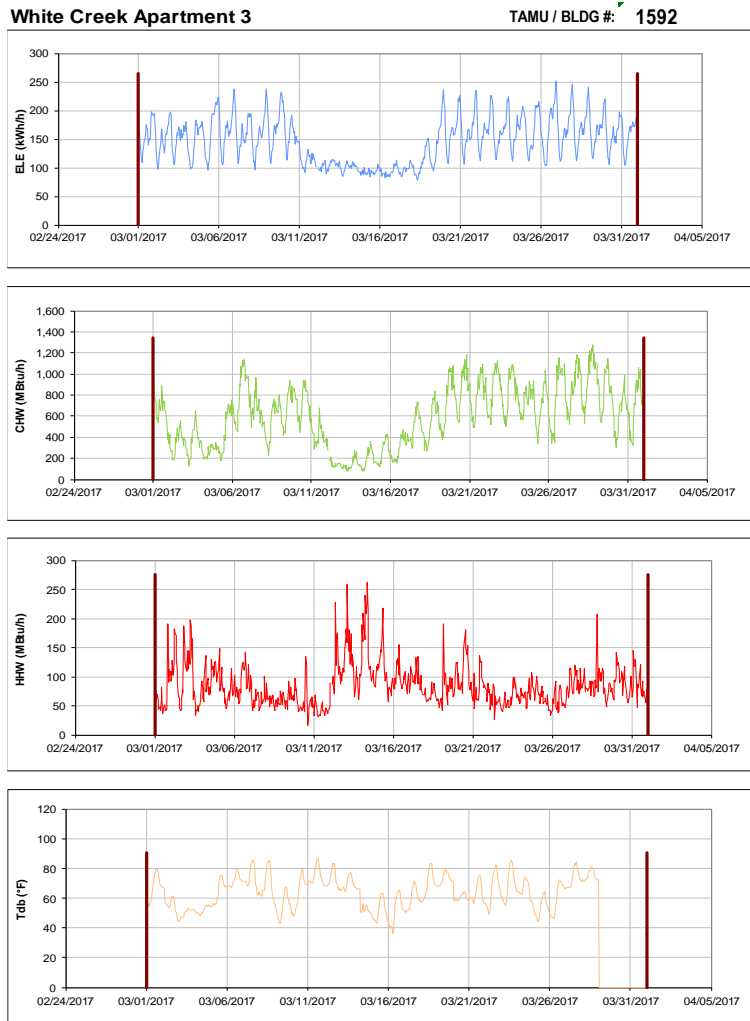


Figure III-179 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 3 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

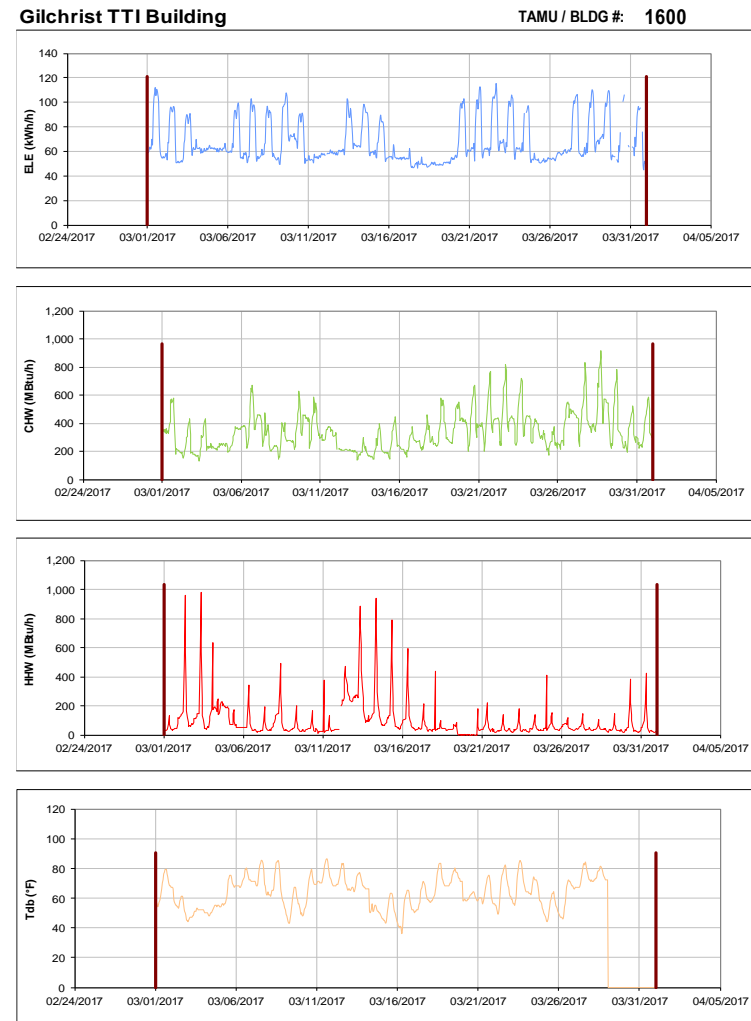


Figure III-180 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gilchrist TTI Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

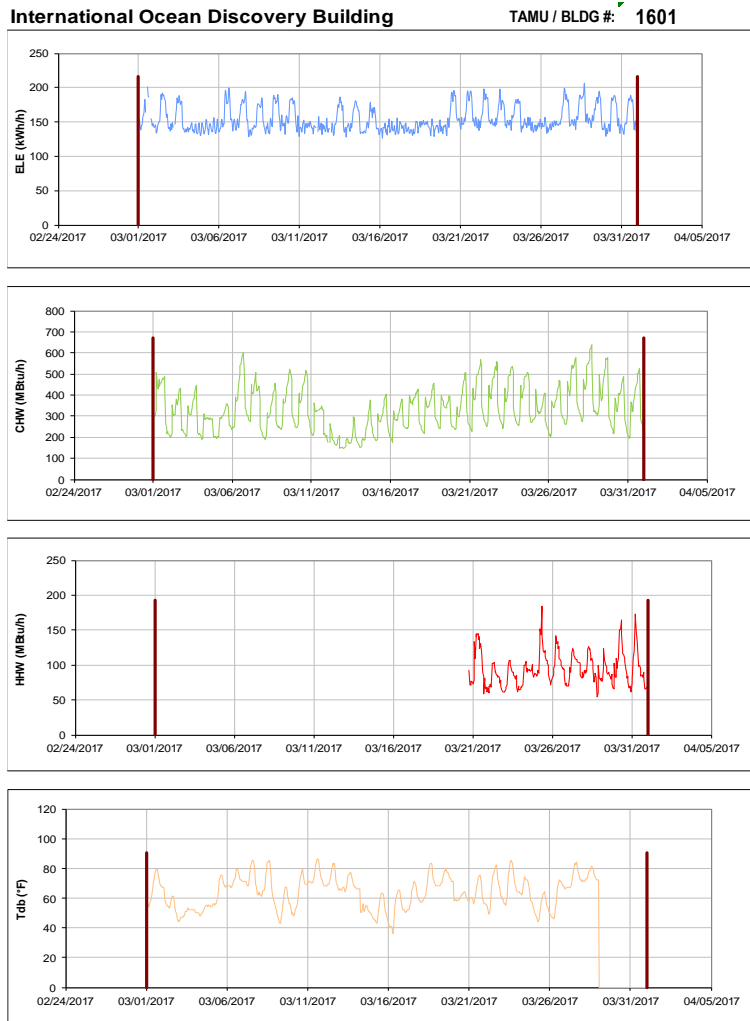


Figure III-181 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for International Ocean Discovery Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

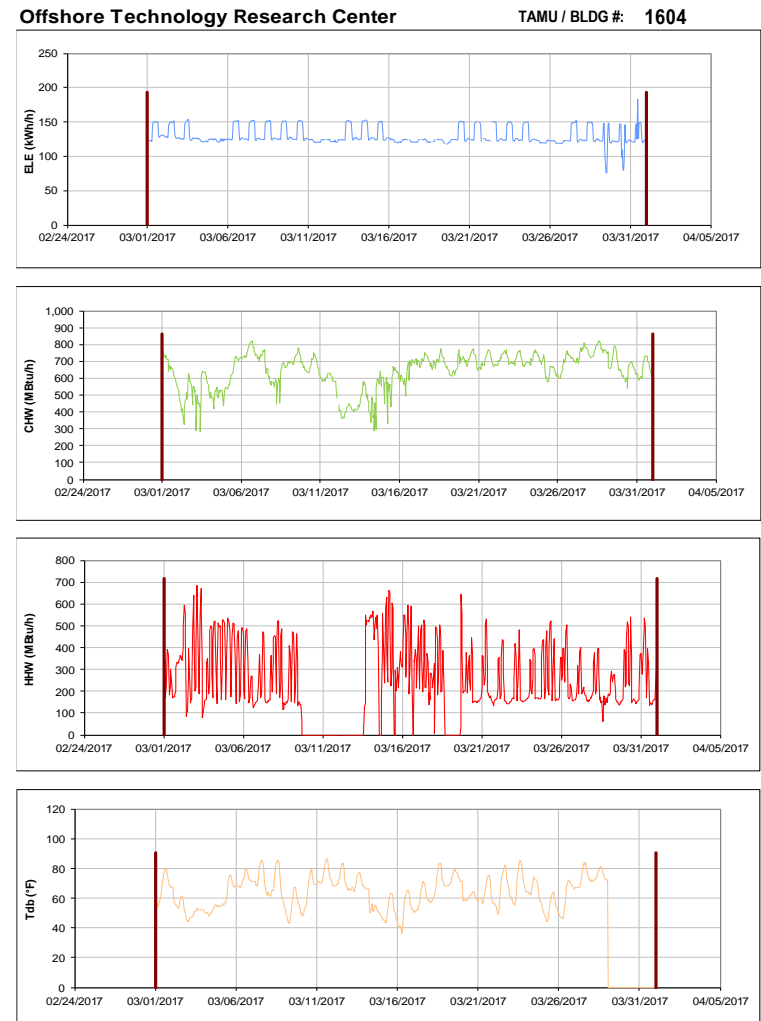


Figure III-182 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Offshore Technology Research Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

George Bush Presidential Library & Museum TAMU / BLDG #: 1606

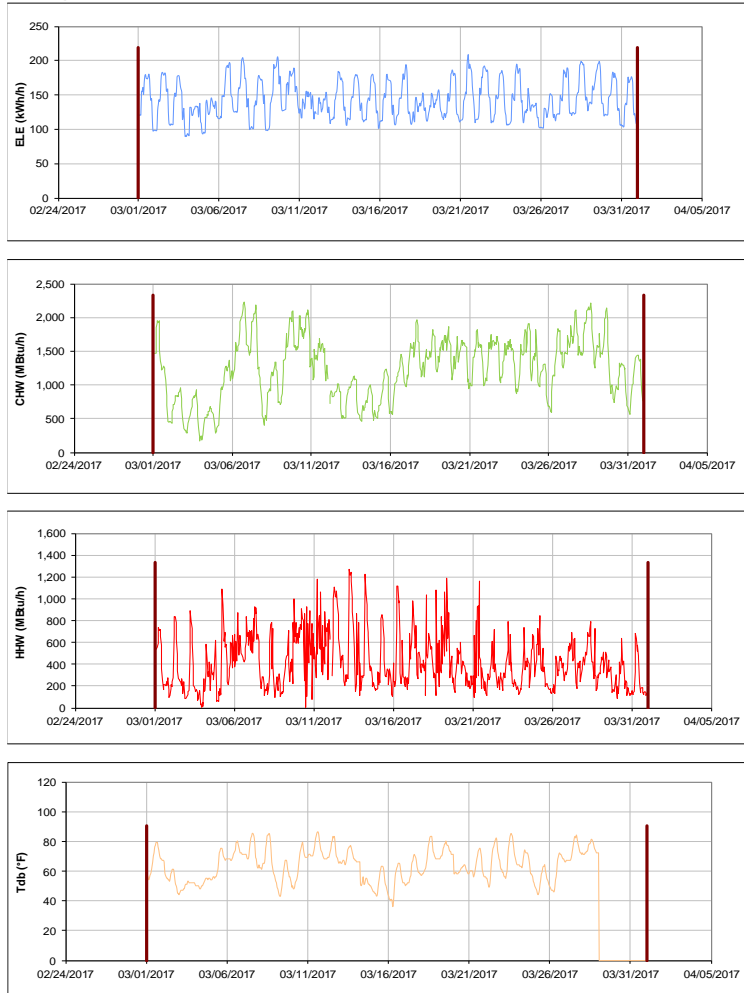


Figure III-183 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for George Bush Presidential Library & Museum during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Allen Building TAMU / BLDG #: 1607

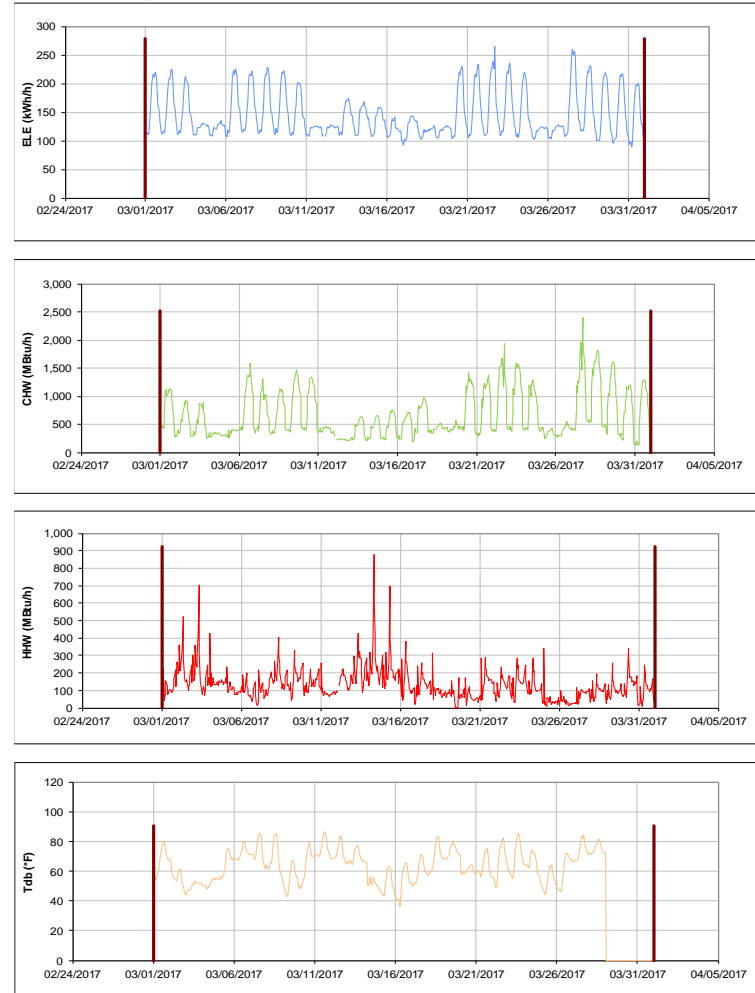


Figure III-184 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Allen Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Annenberg Presidential Conference Center TAMU / BLDG #: 1608

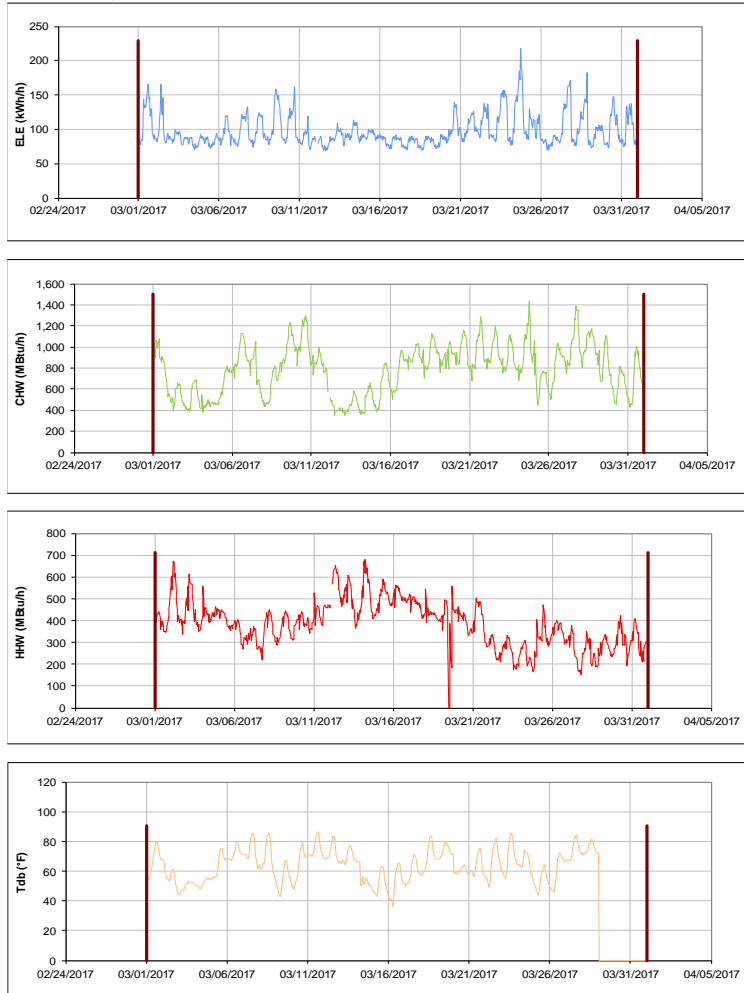


Figure III-185 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Annenberg Presidential Conference Center during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

TTI Headquarters TAMU / BLDG #: 1609

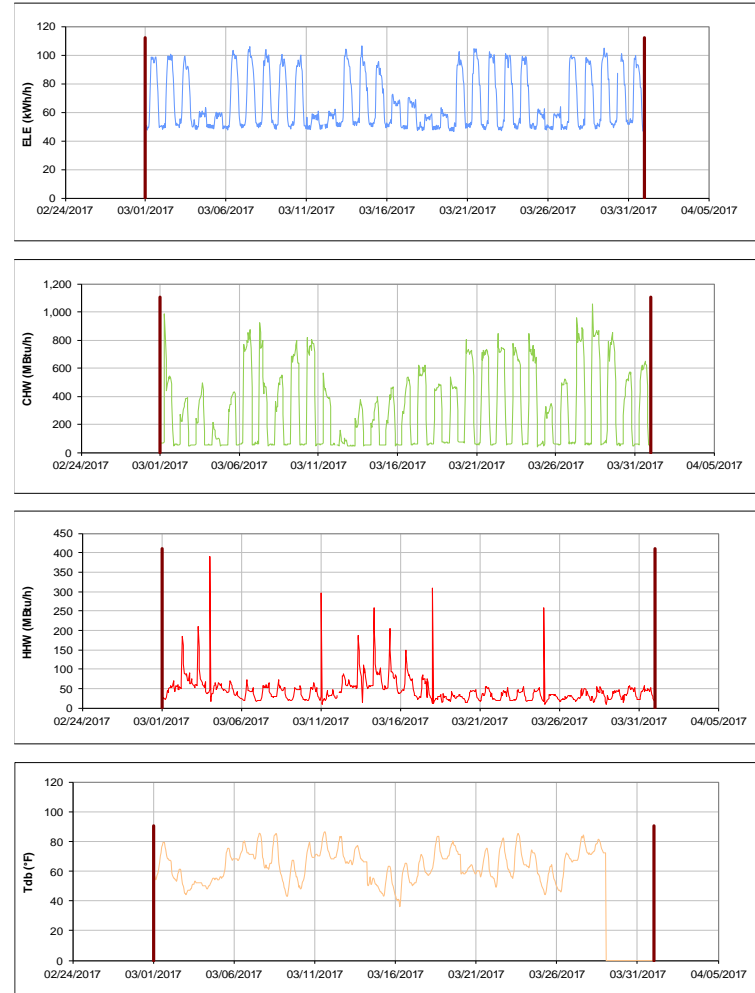


Figure III-186 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TTI Headquarters during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-187 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Engineering Research Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

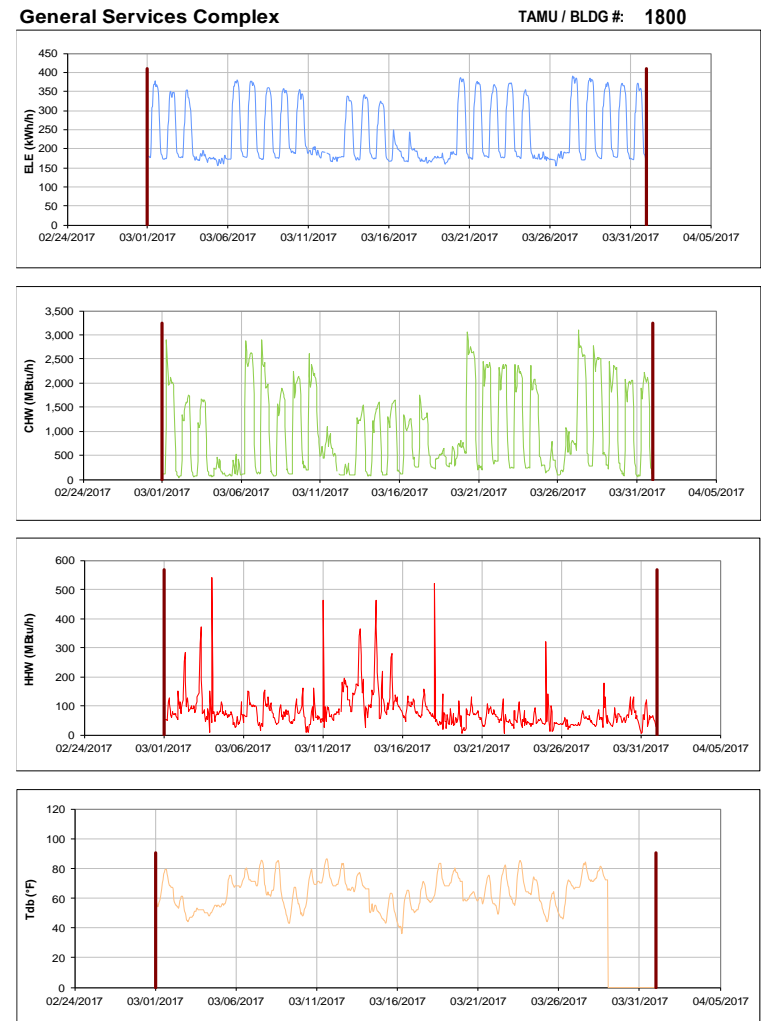


Figure III-188 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for General Services Complex during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

New TVMDL

TAMU / BLDG #: 1809

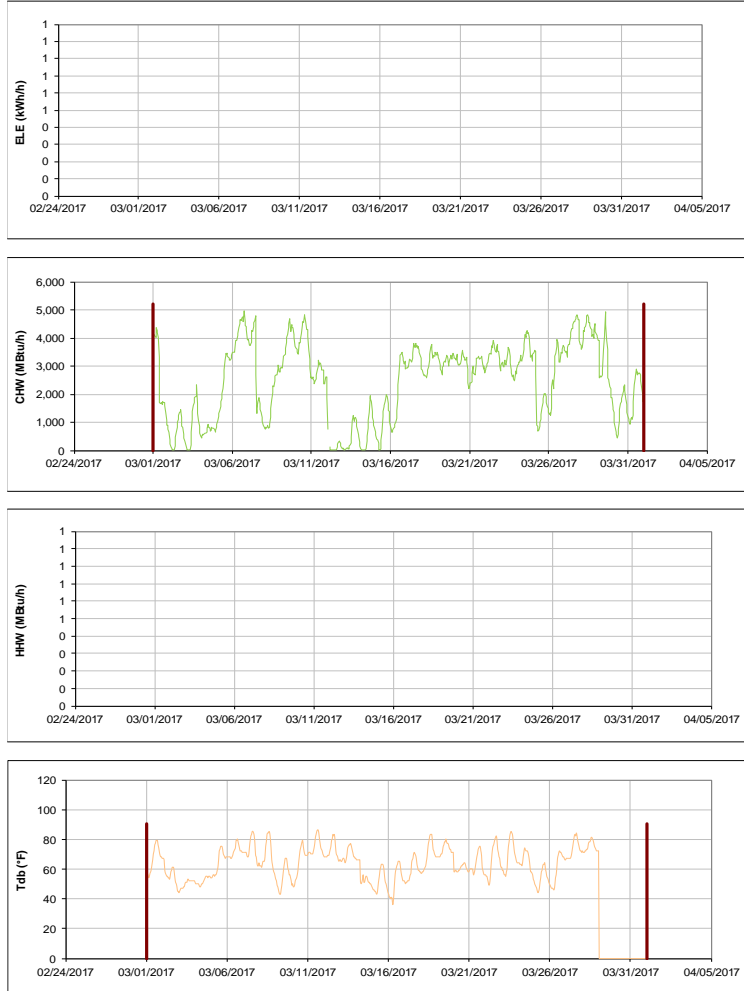


Figure III-189 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for New TVMDL during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Office of the State Chemist Building

TAMU / BLDG #: 1810

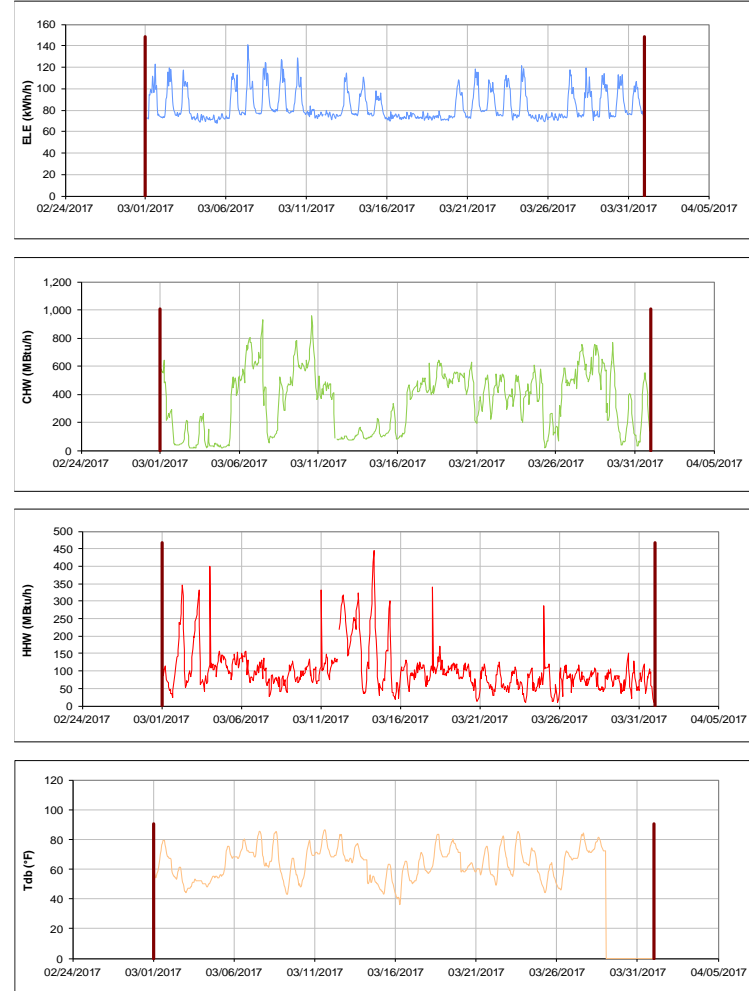


Figure III-190 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Office of the State Chemist Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Vet Med Research Bldg Addition

TAMU / BLDG #: 1811

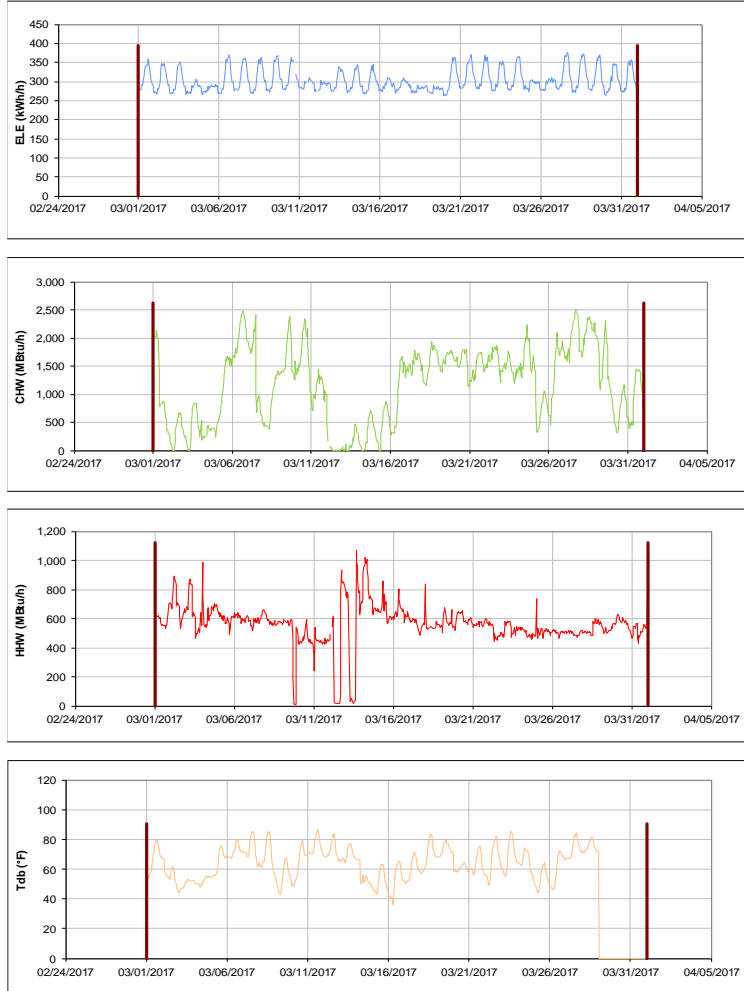


Figure III-191 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Vet Med Research Bldg Addition during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Veterinary Medicine Building 1, 2, and 3

TAMU / BLDG #: 2-1813-1814

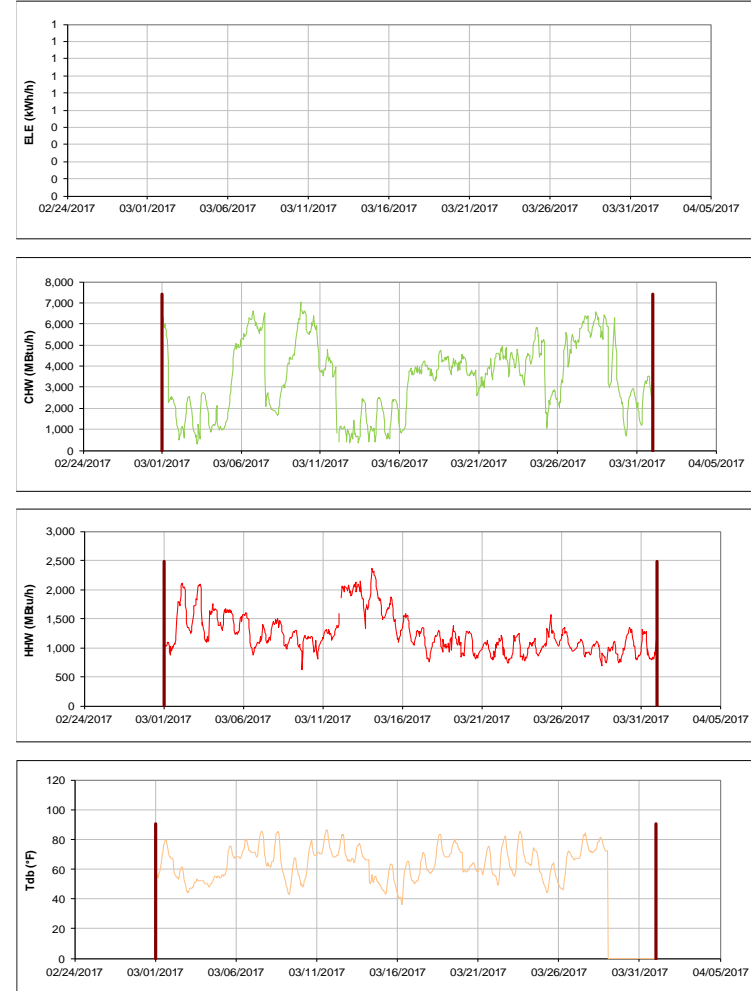


Figure III-192 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medicine Building 1, 2, and 3 during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

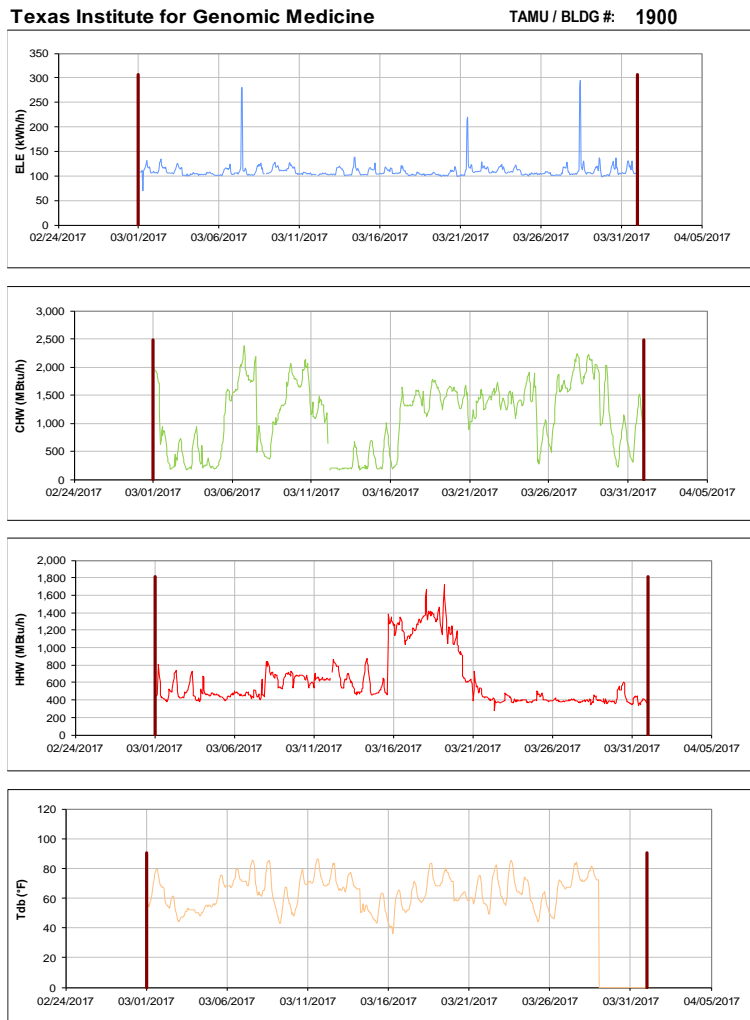


Figure III-193 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas Institute for Genomic Medicine during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-194 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas A&M Institute for Preclinical Studies A during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

National Center for Therapeutics Manufacturing TAMU / BLDG #: 1910

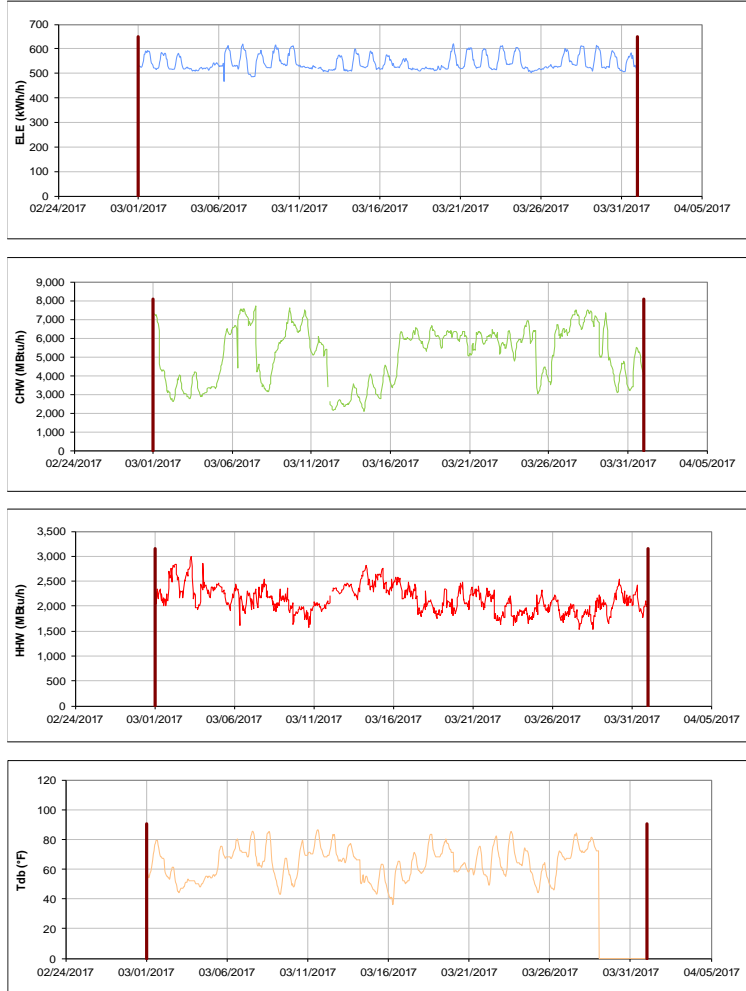


Figure III-195 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for National Center for Therapeutics Manufacturing during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Multi-Species Research Building TAMU / BLDG #: 1911

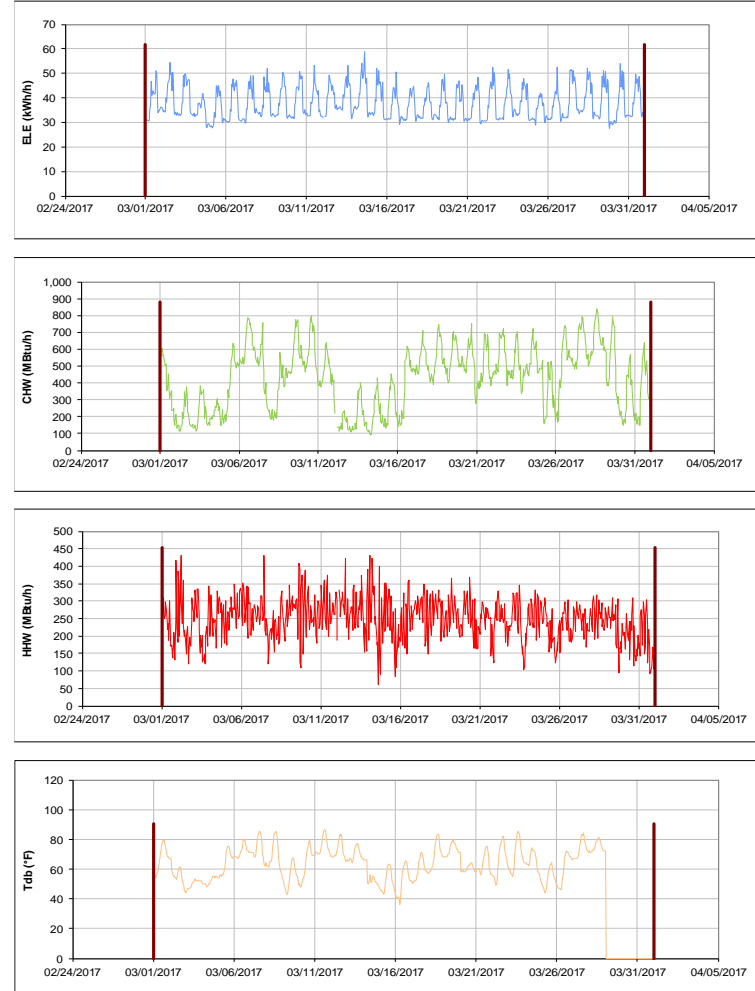


Figure III-196 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Multi-Species Research Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

NCTM Manufacturing Building

TAMU / BLDG #: 10226

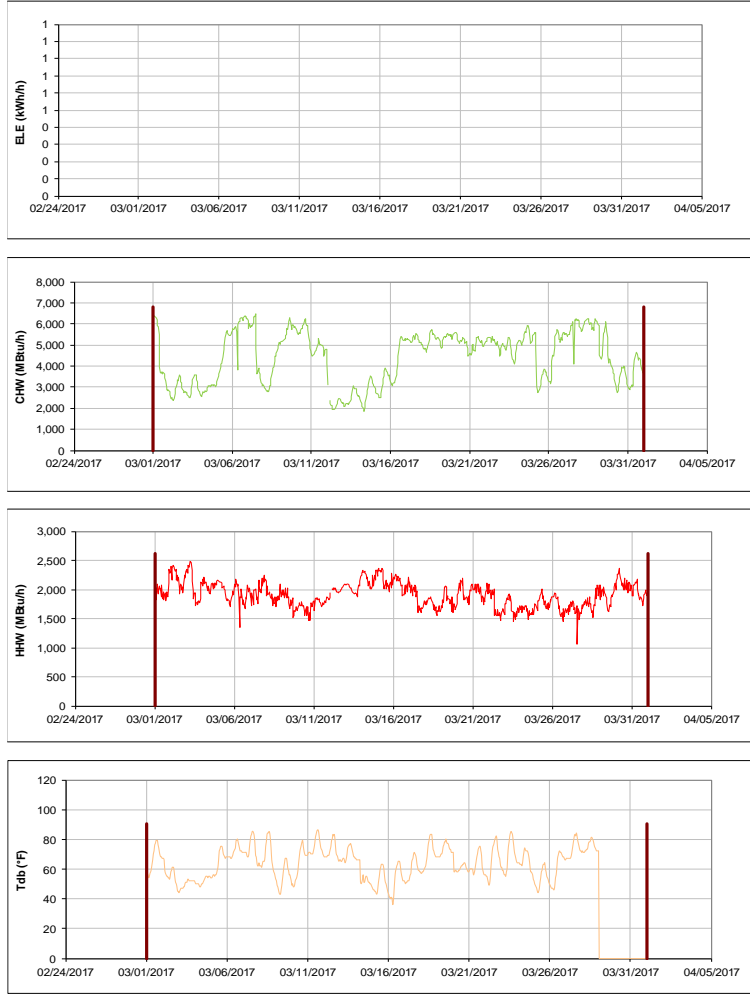


Figure III-197 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for NCTM Manufacturing Building during the Month of March 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

**IV. Energy Balance Plots for March 2017
Consumption**

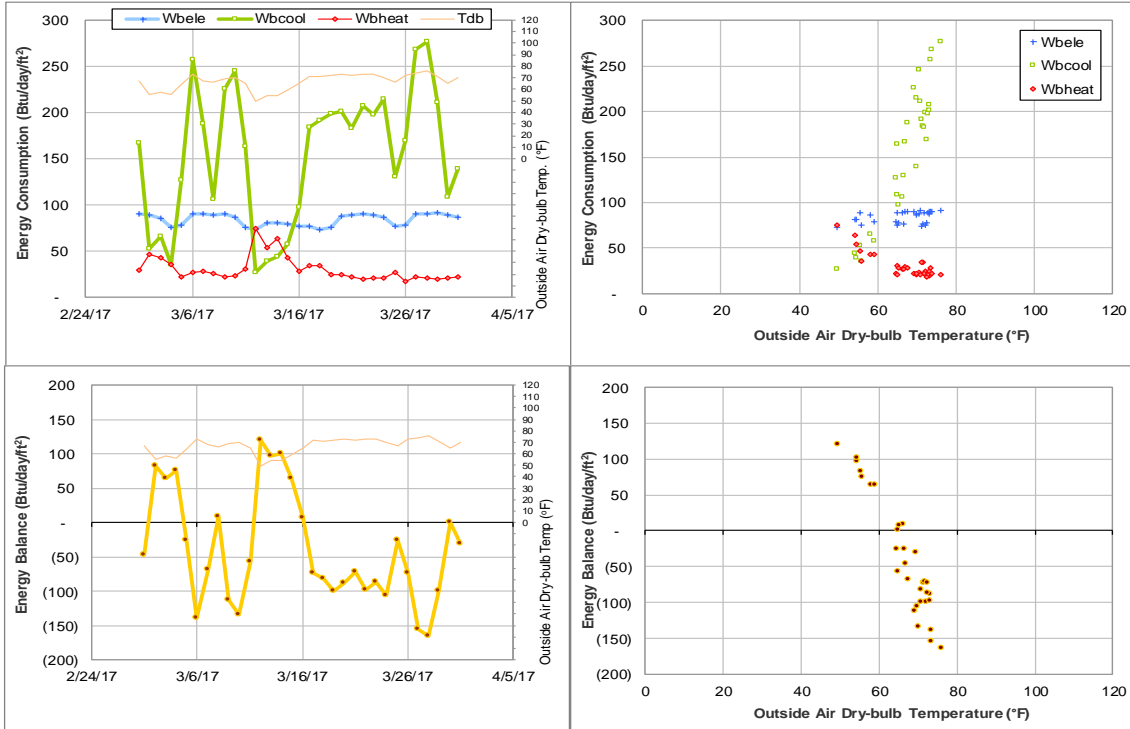


Figure IV-1 Emerging Technologies Building TAMU BLDG # 270 Energy Balance Plot during March 2017

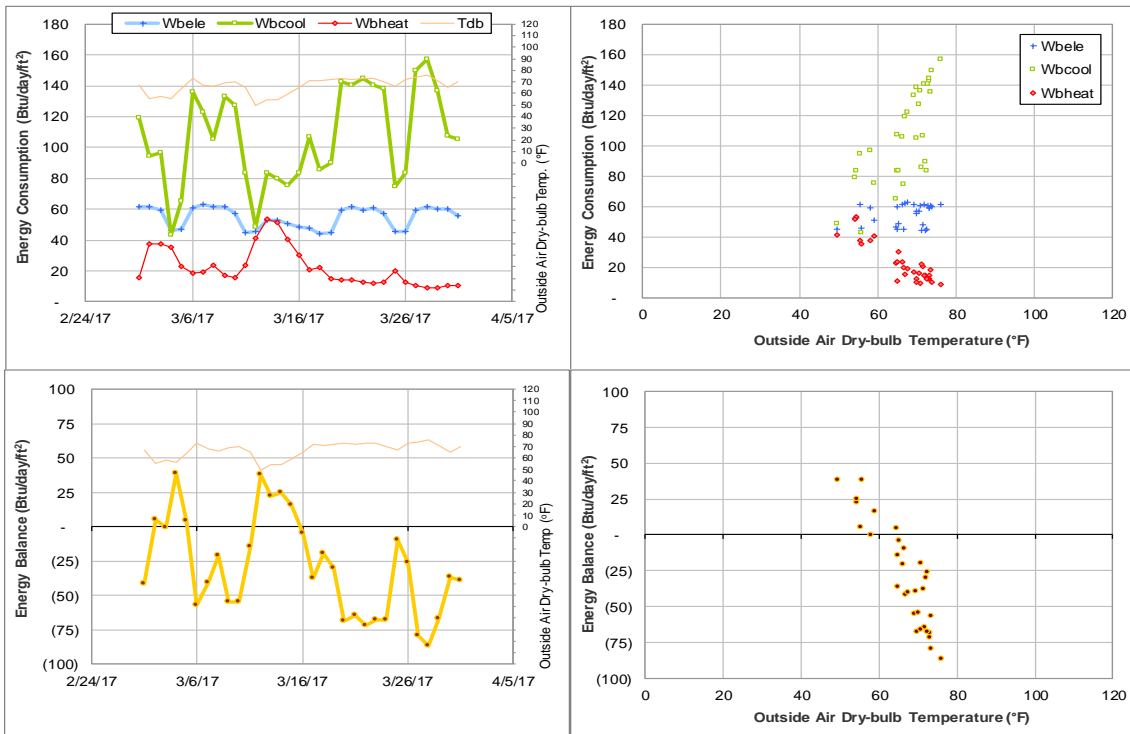


Figure IV-2 Liberal Arts and Arts & Humanities Building TAMU BLDG # 275 Energy Balance Plot during March 2017

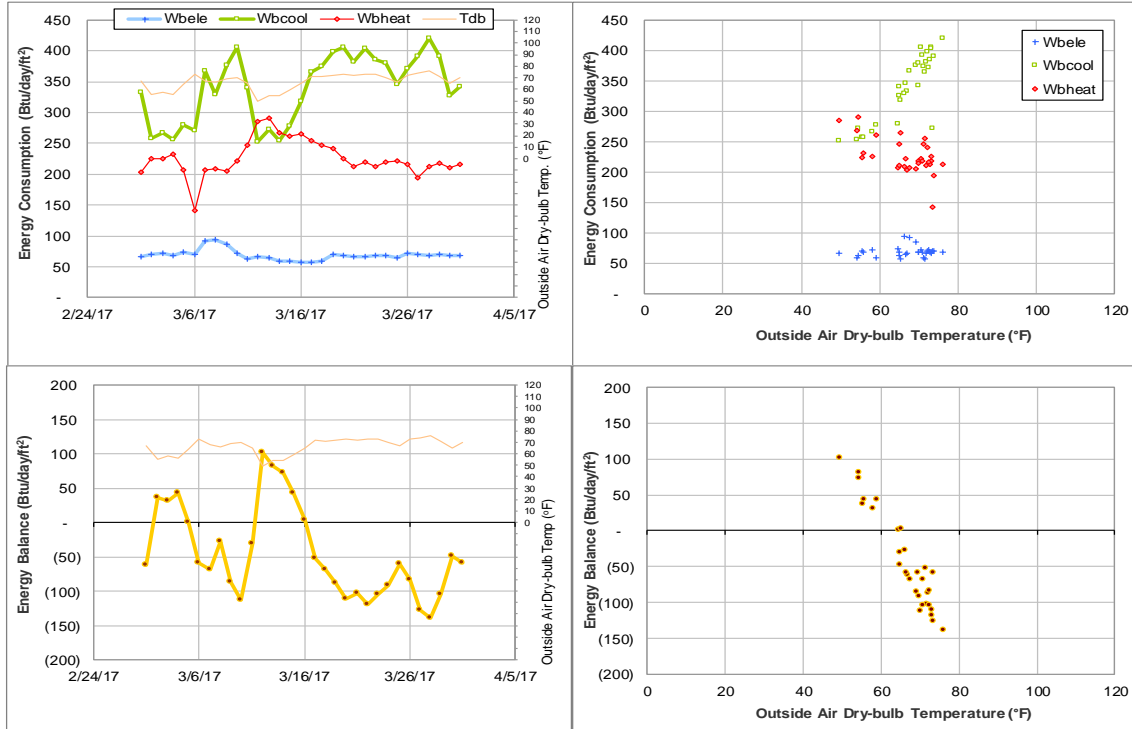


Figure IV-3 Wells Residence Hall TAMU BLDG # 290 Energy Balance Plot during March 2017

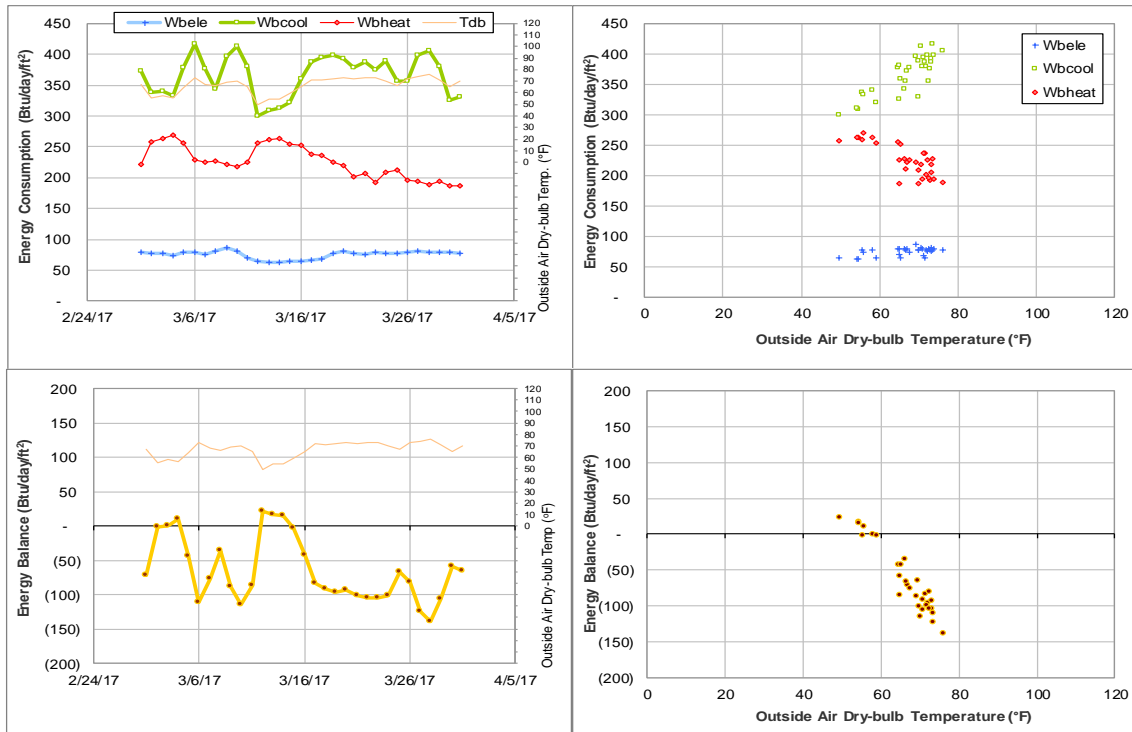


Figure IV-4 Rudder Residence Hall TAMU BLDG # 291 Energy Balance Plot during March 2017

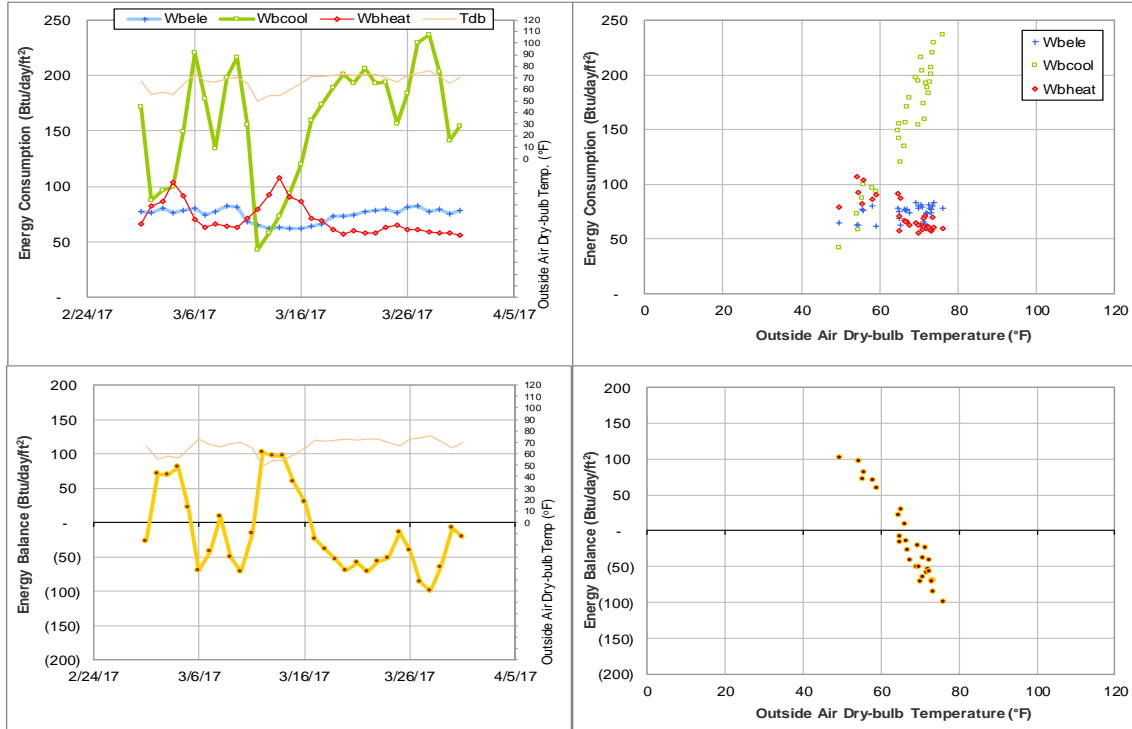


Figure IV-5 Eppright Residence Hall TAMU BLDG # 292 Energy Balance Plot during March 2017

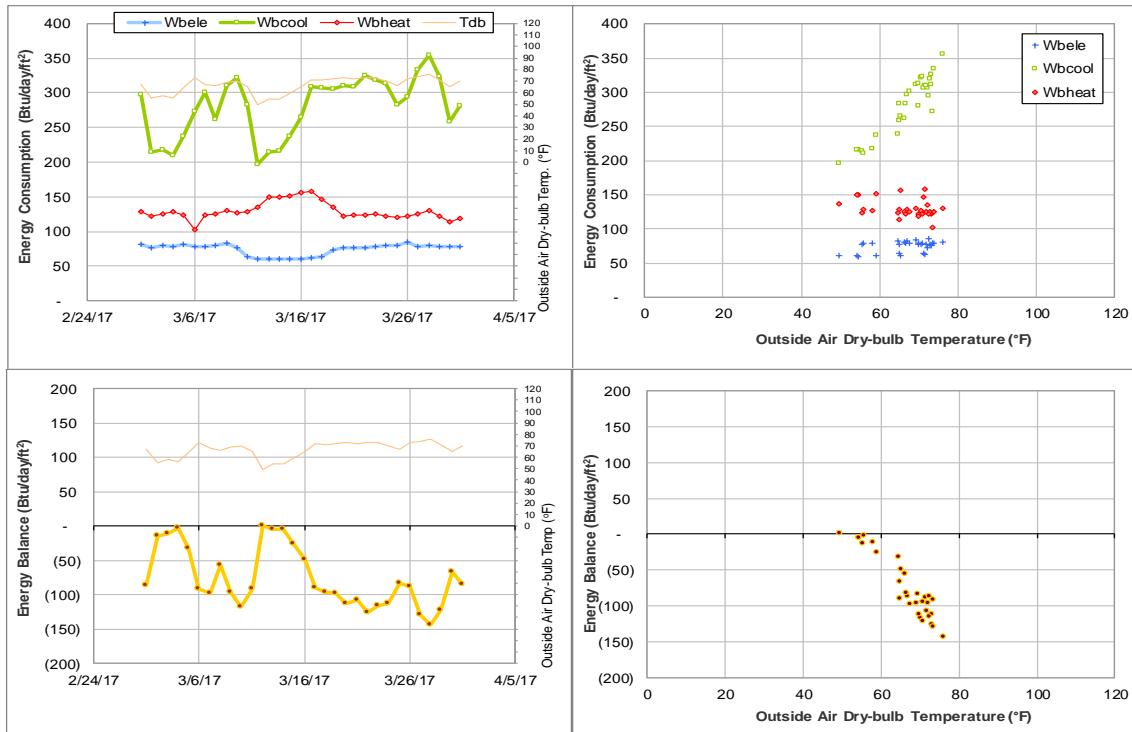


Figure IV-6 Appelt Residence Hall TAMU BLDG # 293 Energy Balance Plot during March 2017

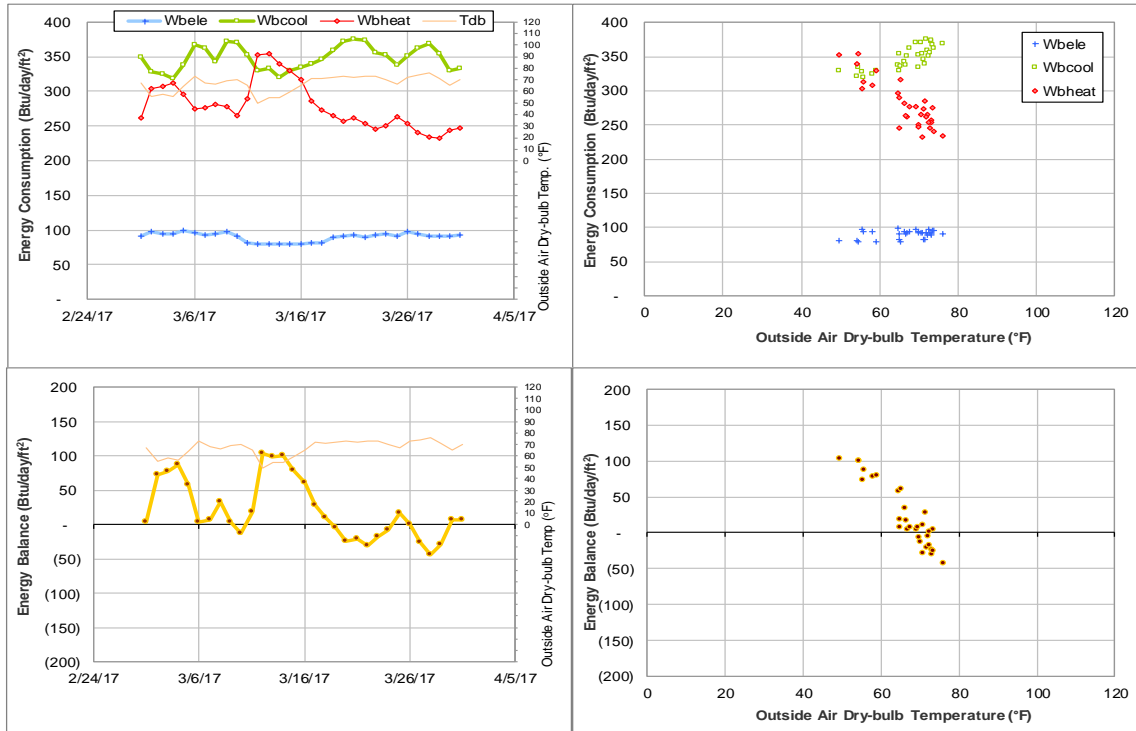


Figure IV-7 Lechner Residence Hall TAMU BLDG # 294 Energy Balance Plot during March 2017

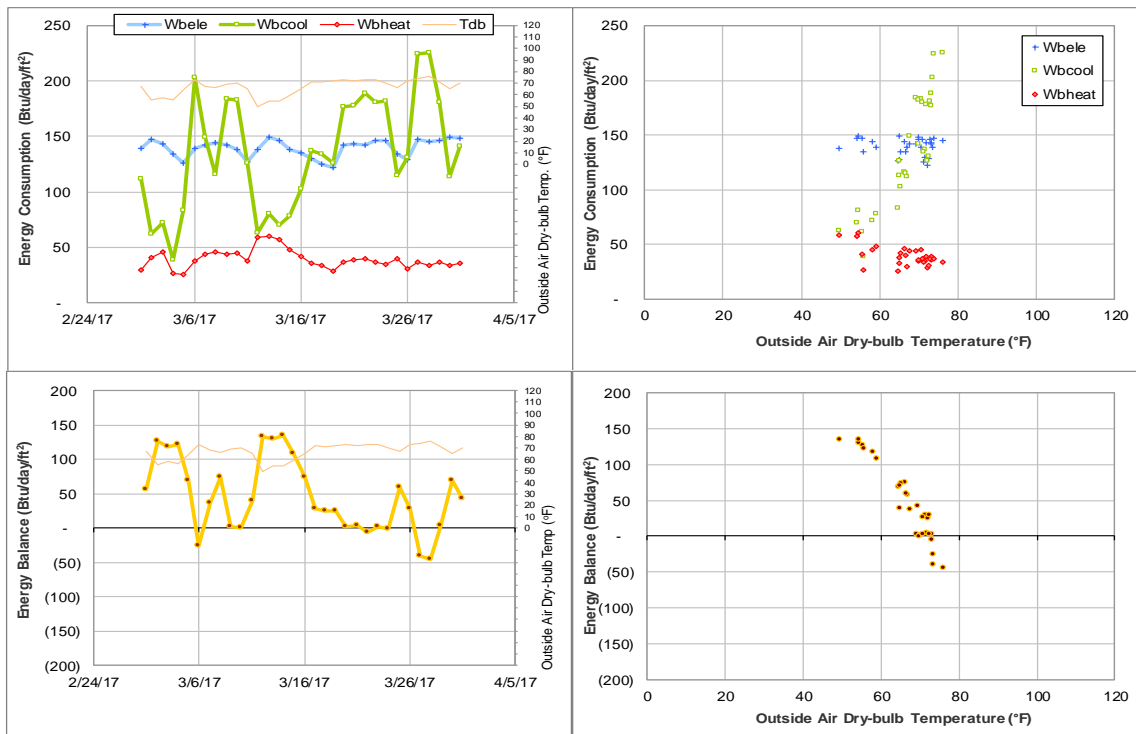


Figure IV-8 Mitchell Inst. for Fundamental Phys & Astronomy TAMU BLDG # 296 Energy Balance Plot during March 2017

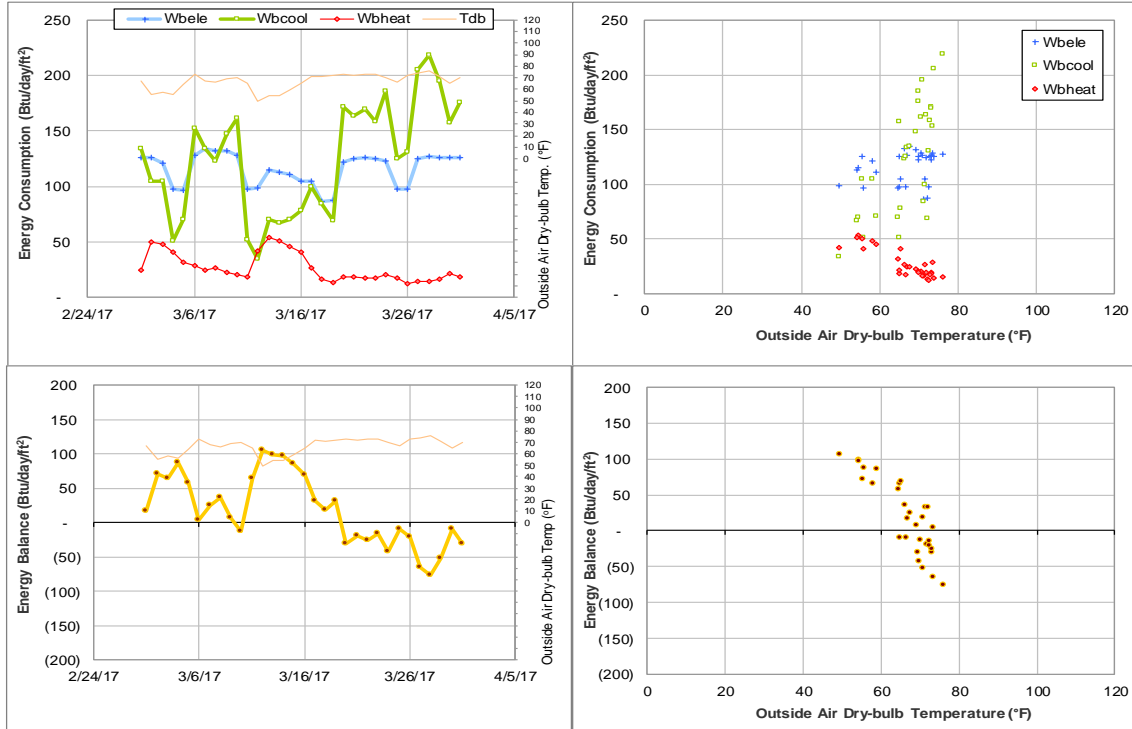


Figure IV-9 CE TTI Office & Lab Building TAMU BLDG # 325 Energy Balance Plot during March 2017

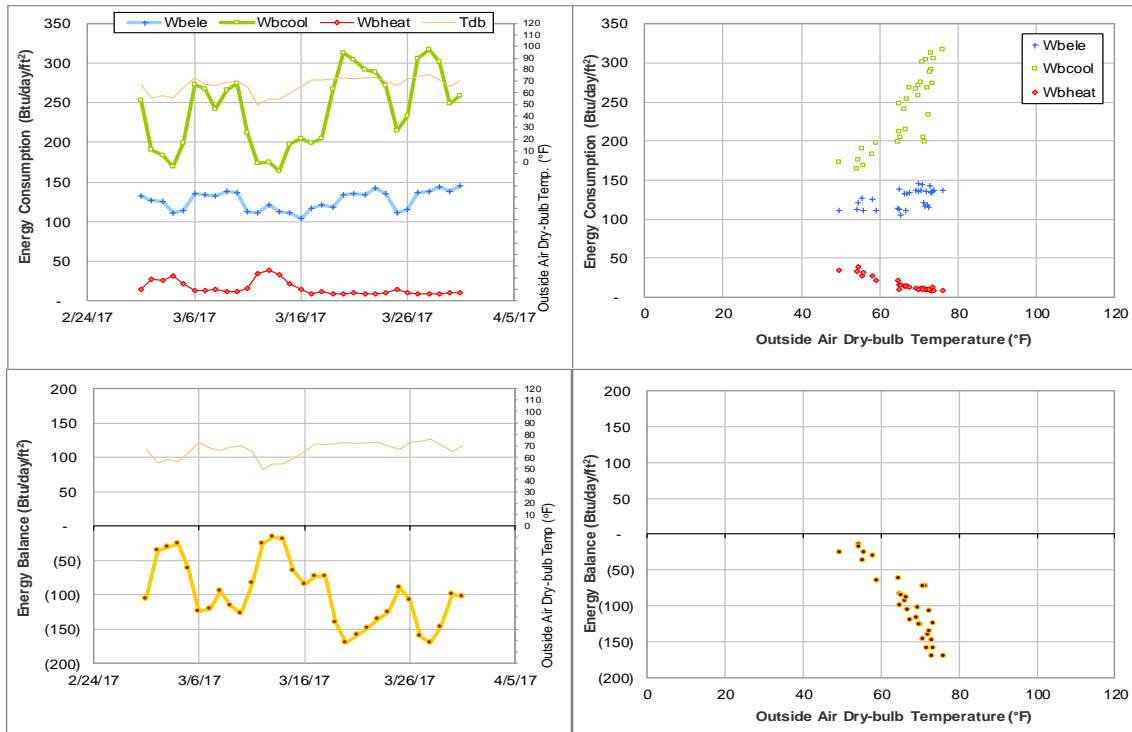


Figure IV-10 Bright Aerospace Building TAMU BLDG # 353 Energy Balance Plot during March 2017

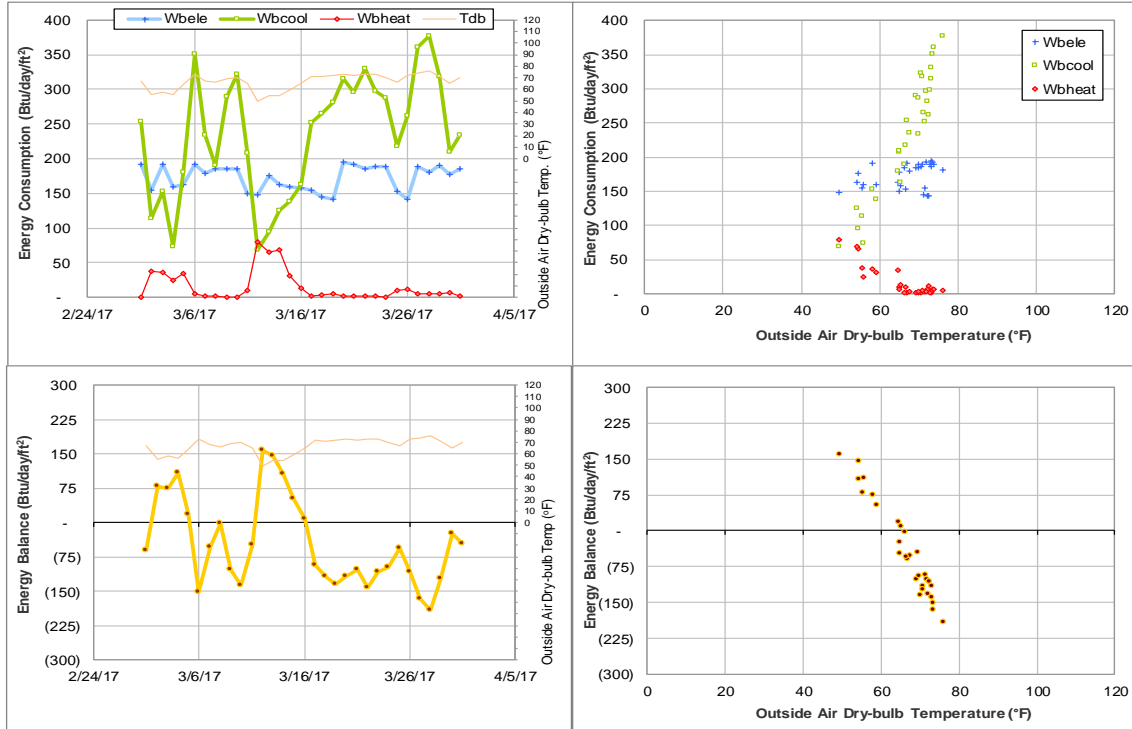


Figure IV-11 Davis Football Player Development Center TAMU BLDG # 358 Energy Balance Plot during March 2017

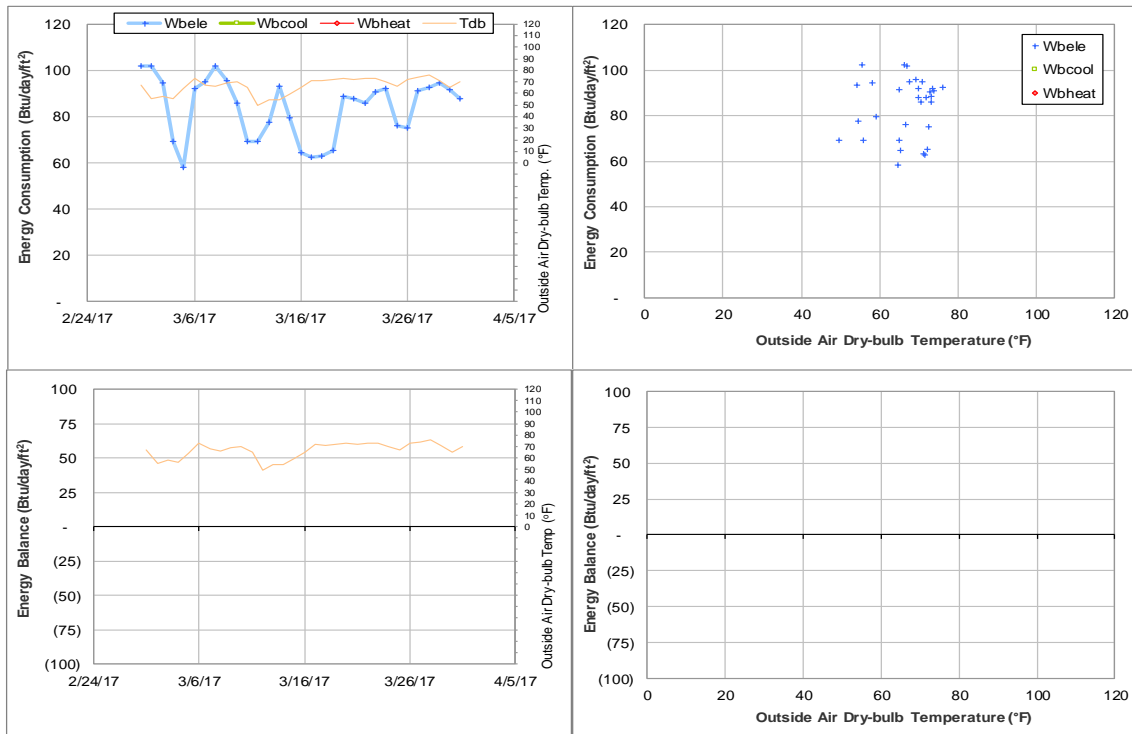


Figure IV-12 Architecture Building B TAMU BLDG # 359 Energy Balance Plot during March 2017

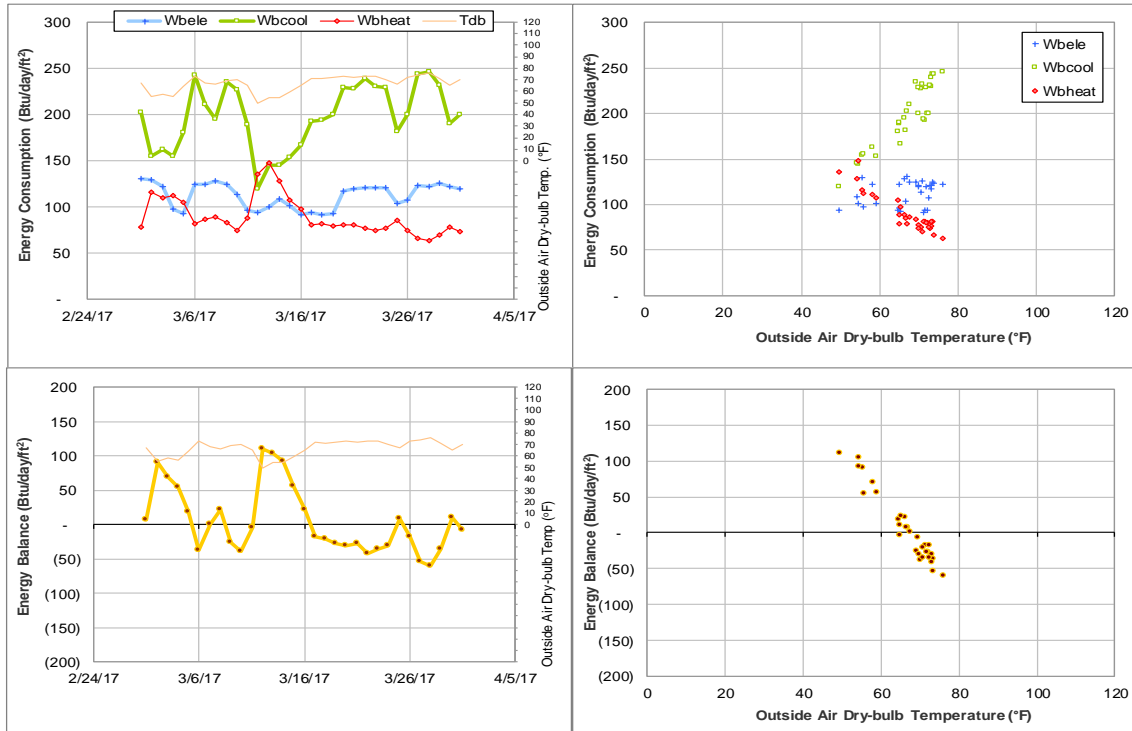


Figure IV-13 Architecture Building B&C TAMU BLDG # 359 Energy Balance Plot during March 2017

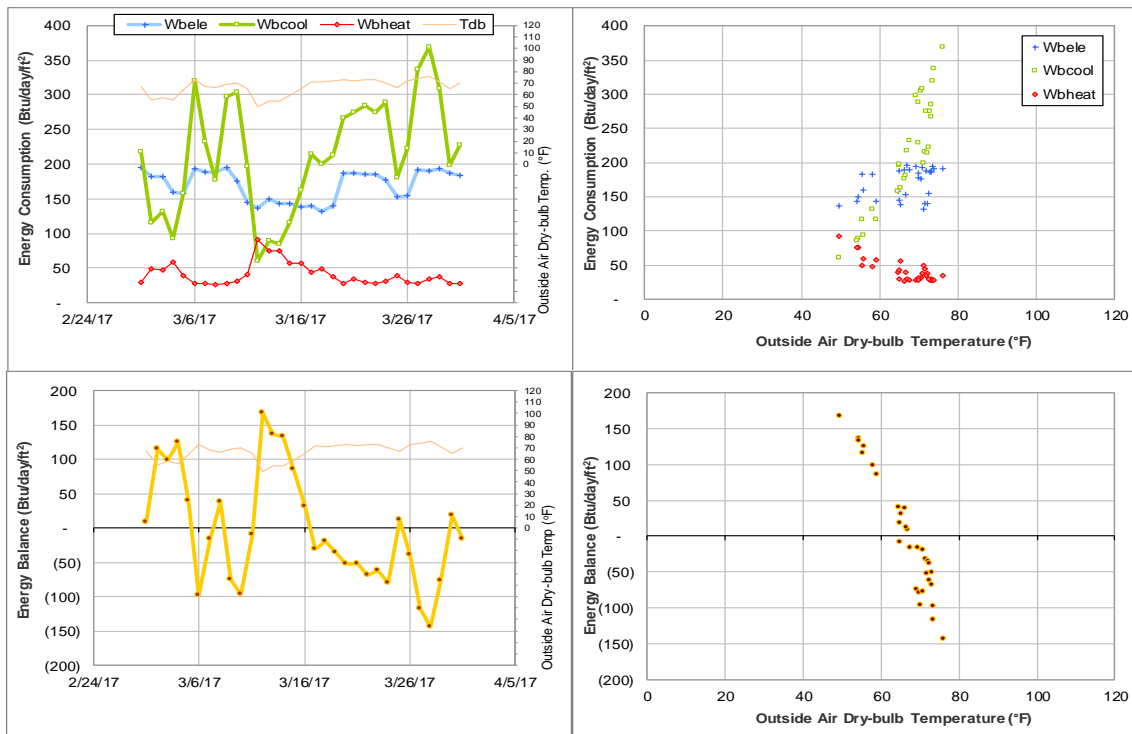


Figure IV-14 Bright Football Complex TAMU BLDG # 361 Energy Balance Plot during March 2017

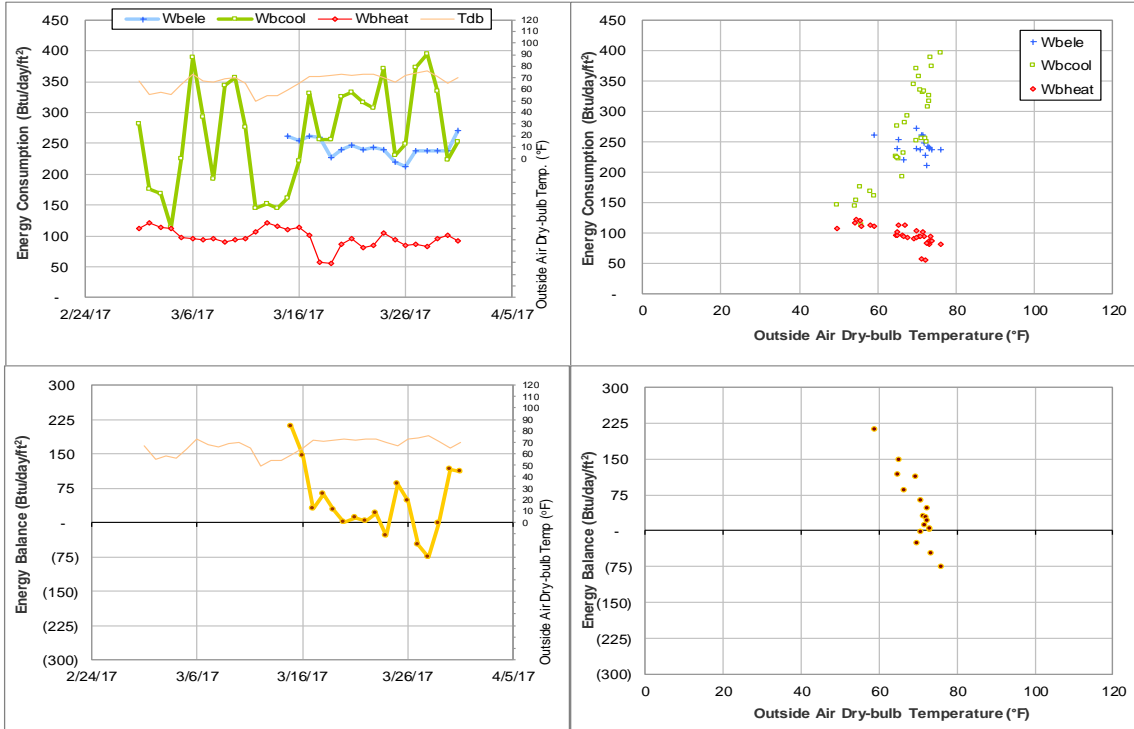


Figure IV-15 Kyle Field TAMU BLDG # 367 Energy Balance Plot during March 2017

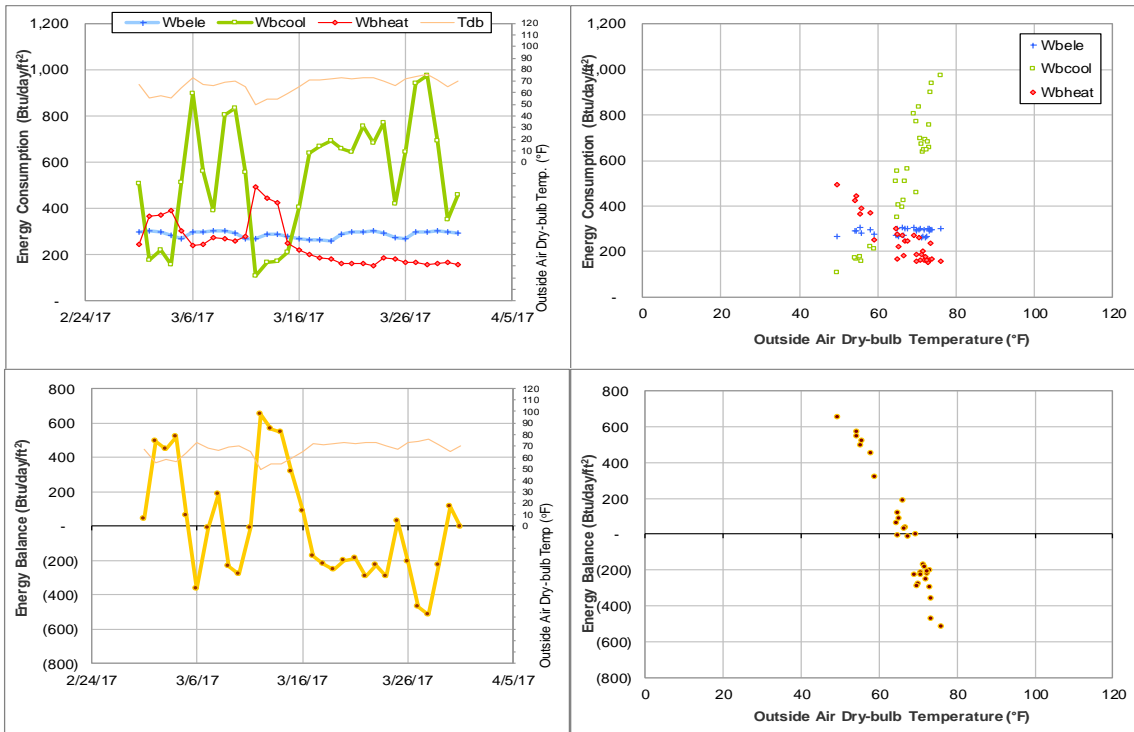


Figure IV-16 Chemistry Building Addition TAMU BLDG # 376 Energy Balance Plot during March 2017

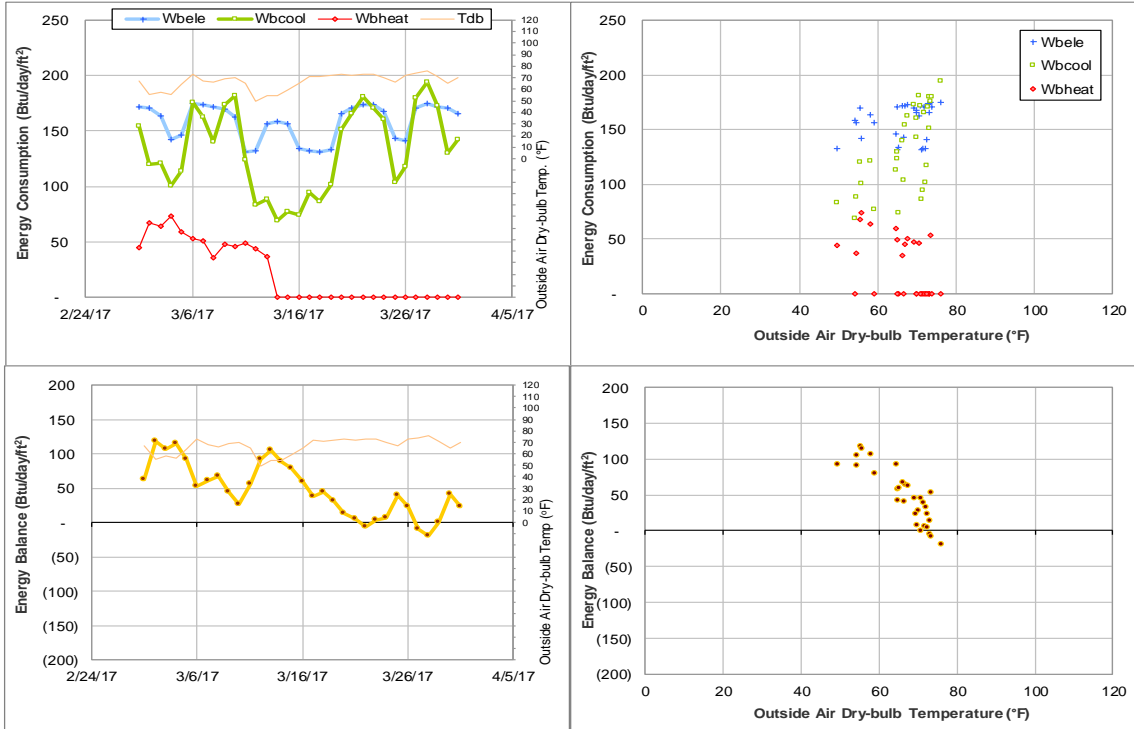


Figure IV-17 Koldus Building TAMU BLDG # 383 Energy Balance Plot during March 2017

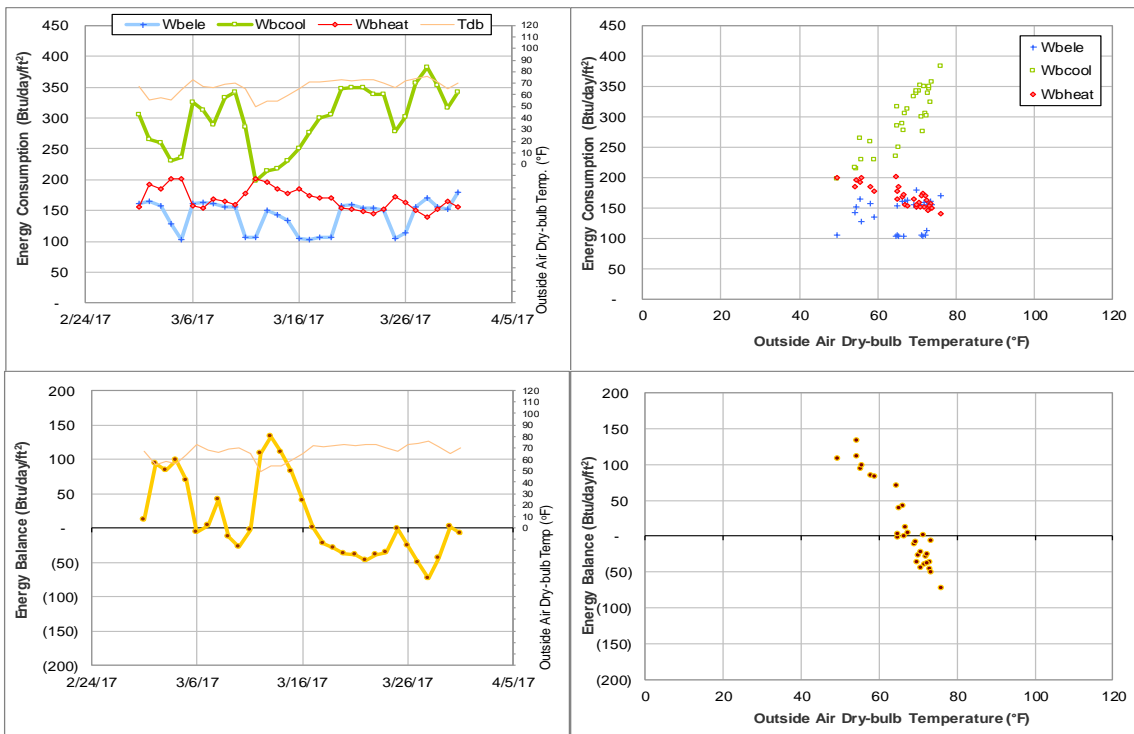


Figure IV-18 Sanders Corps of Cadets Center TAMU BLDG # 384 Energy Balance Plot during March 2017

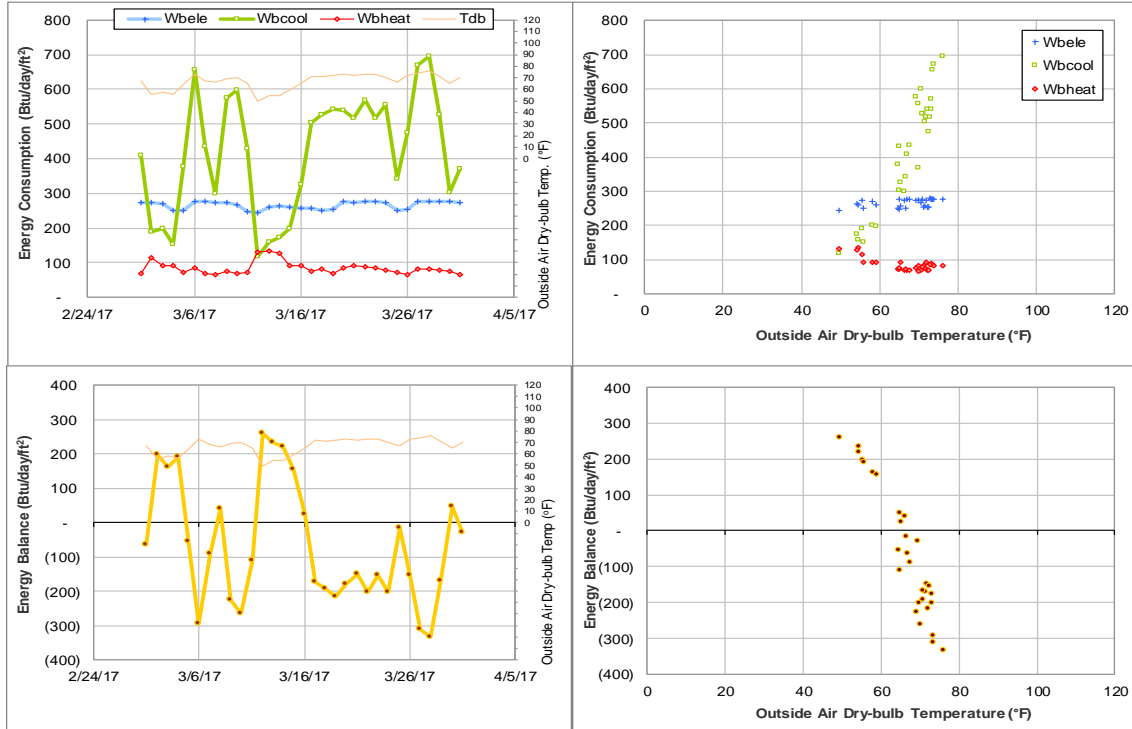


Figure IV-19 Jack E. Brown Chemical Engineering Building TAMU BLDG # 386 Energy Balance Plot during March 2017

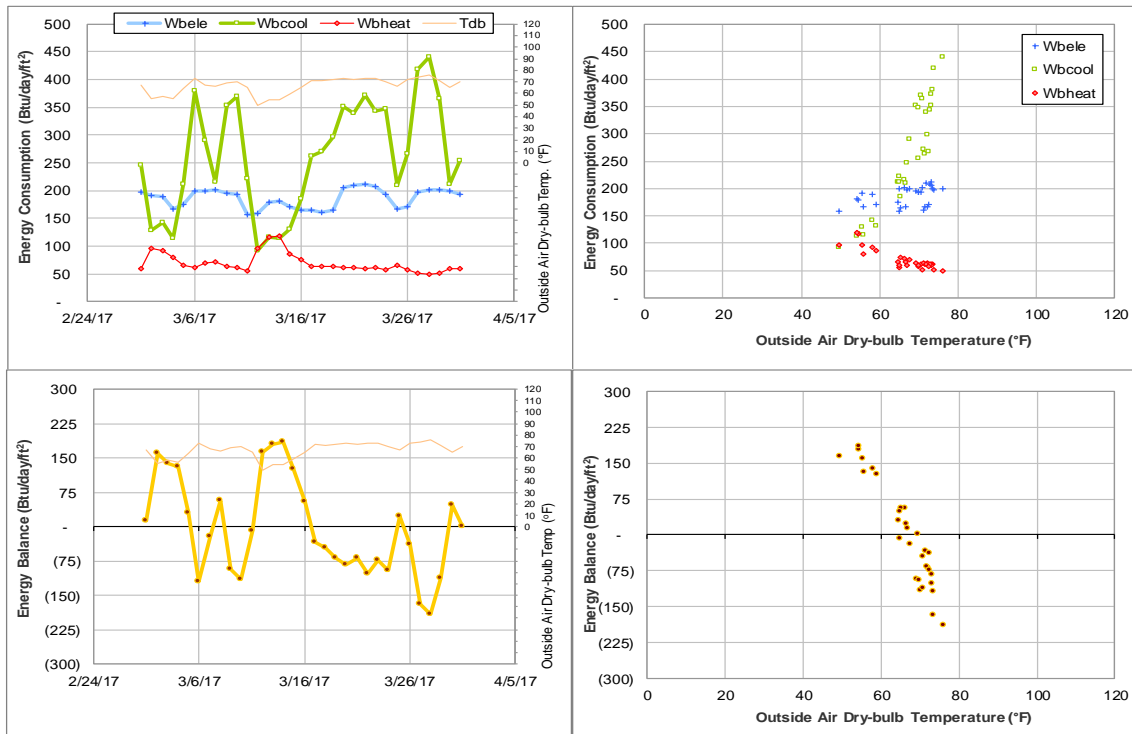


Figure IV-20 Richardson Petroleum Engineering Building TAMU BLDG # 387 Energy Balance Plot during March 2017

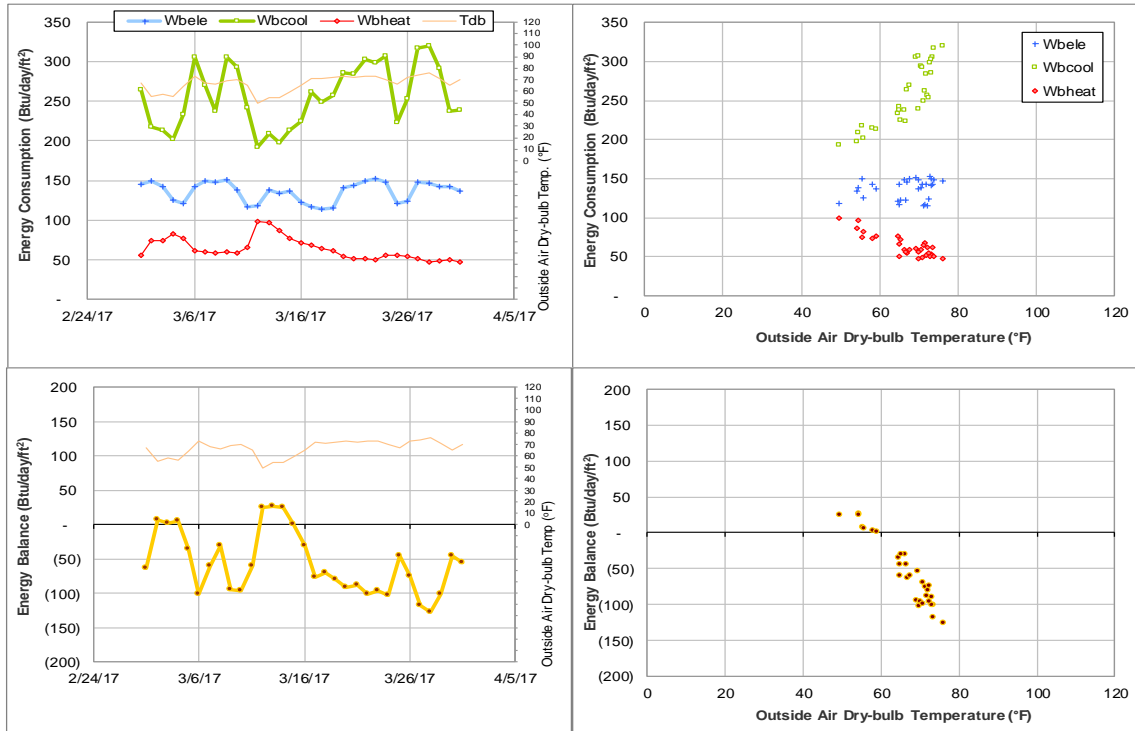


Figure IV-21 James J. Cain's 51 and Mechanical Engineering Office Building TAMU BLDG # 391 Energy Balance Plot during March 2017

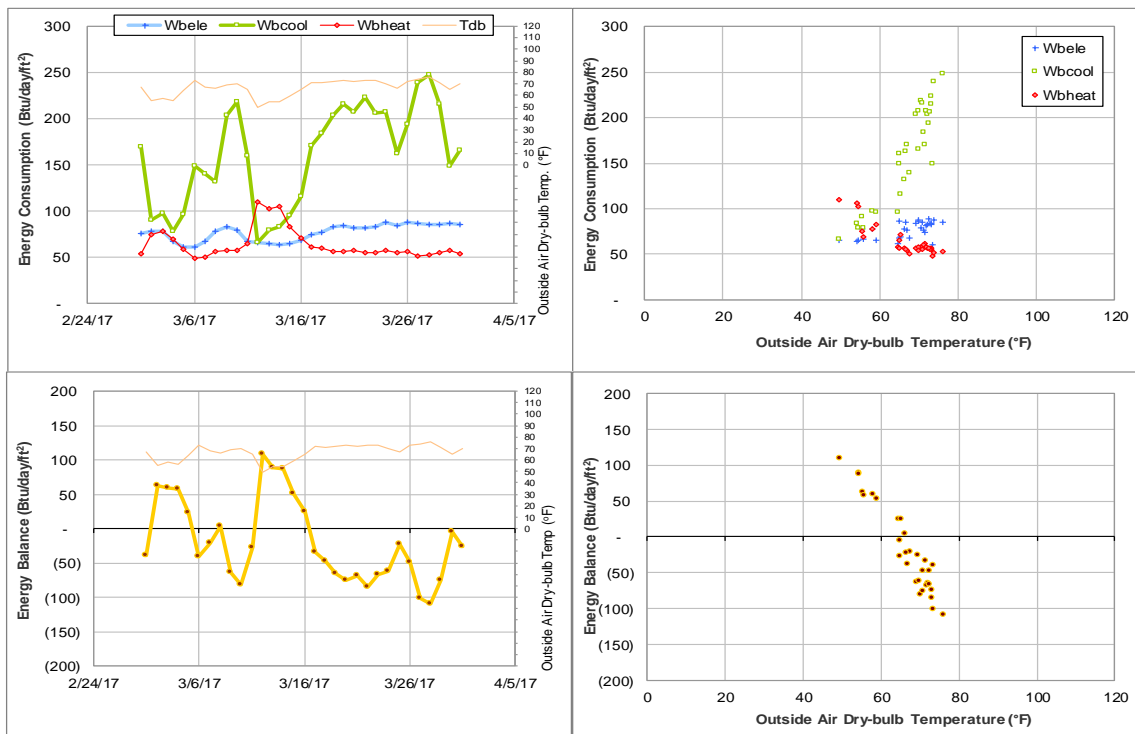


Figure IV-22 Underwood Residence Hall TAMU BLDG # 394 Energy Balance Plot during March 2017

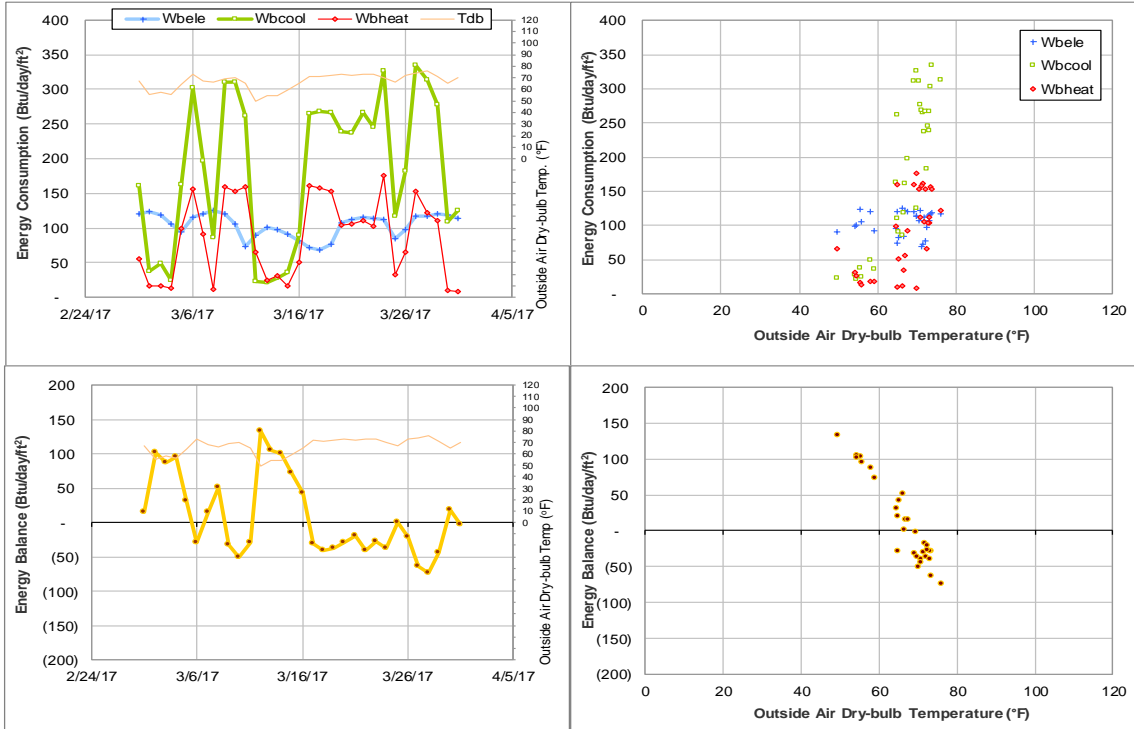


Figure IV-23 Langford Architecture Center Building A TAMU BLDG # 398 Energy Balance Plot during March 2017

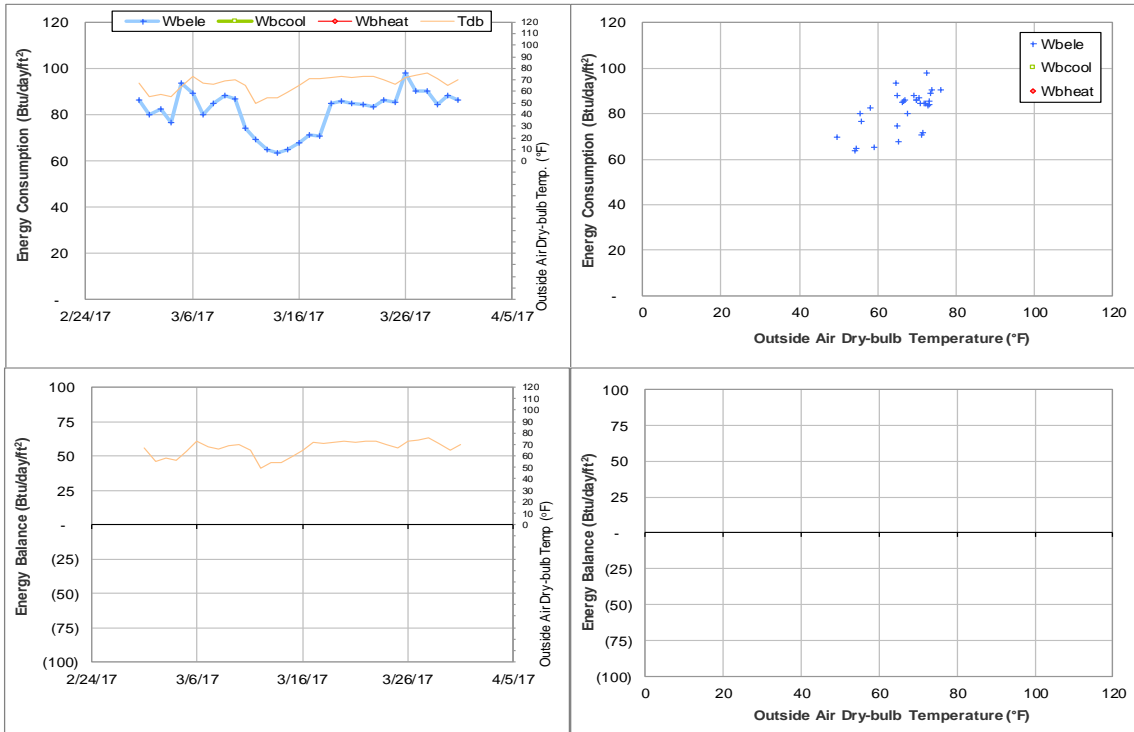


Figure IV-24 Spence Hall Dorm 1 TAMU BLDG # 400 Energy Balance Plot during March 2017

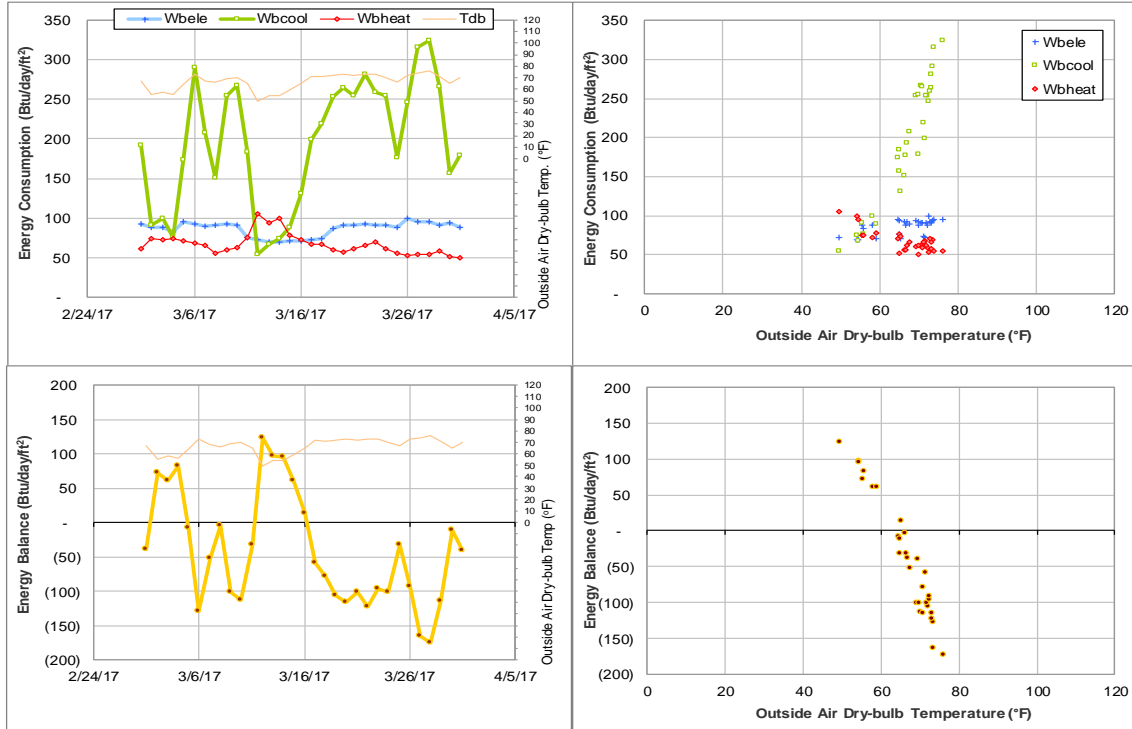


Figure IV-25 Spence Hall, Briggs Hall, and Ash II LLC TAMU BLDG # 400 Energy Balance Plot during March 2017

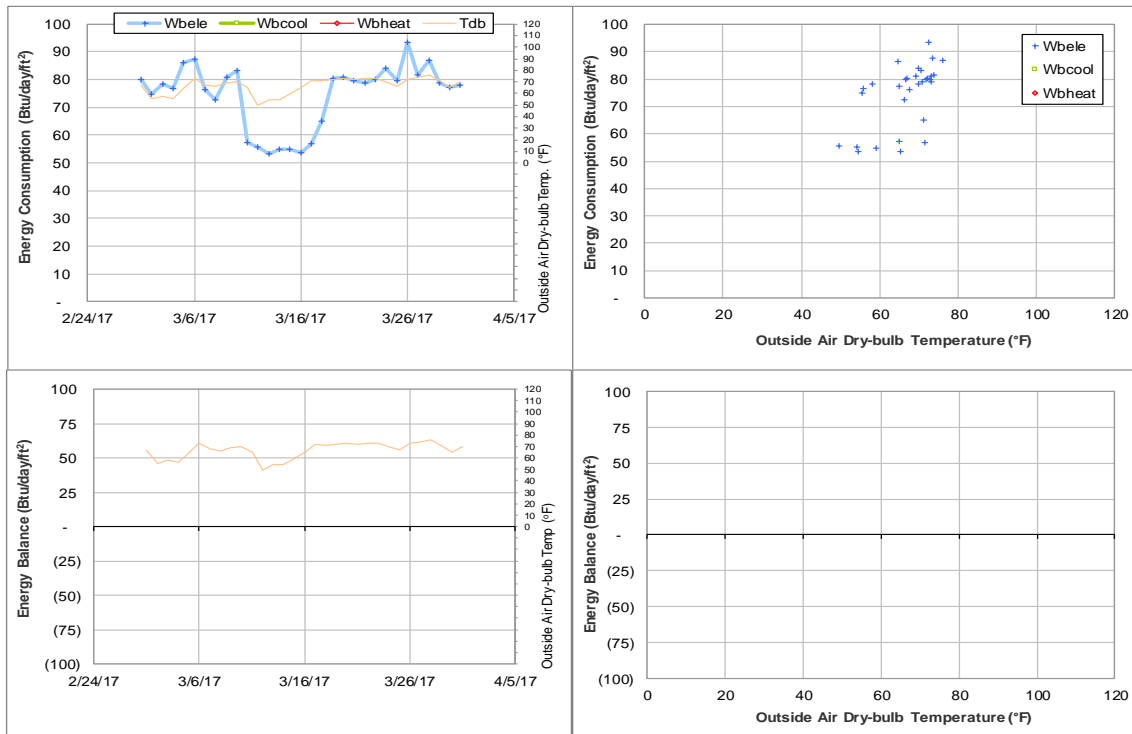


Figure IV-26 Kiest Hall Dorm 2 TAMU BLDG # 401 Energy Balance Plot during March 2017

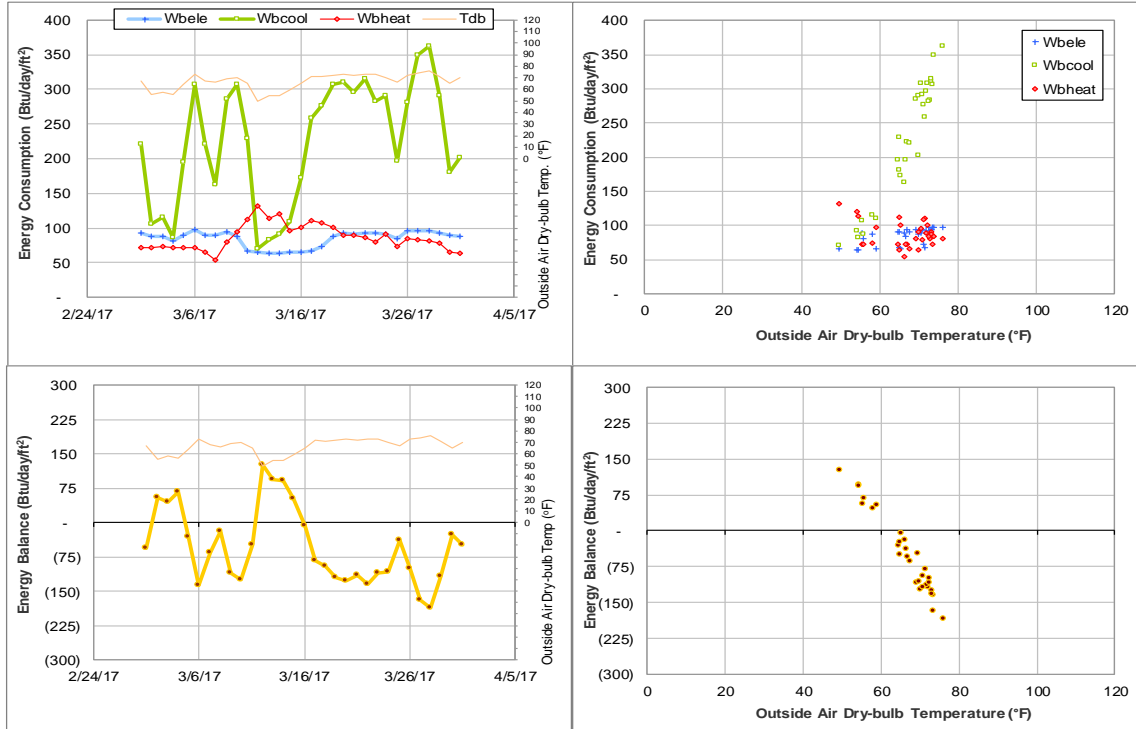


Figure IV-27 Kiest Hall, Fountain Hall, and Plank LLC TAMU BLDG # 401 Energy Balance Plot during March 2017

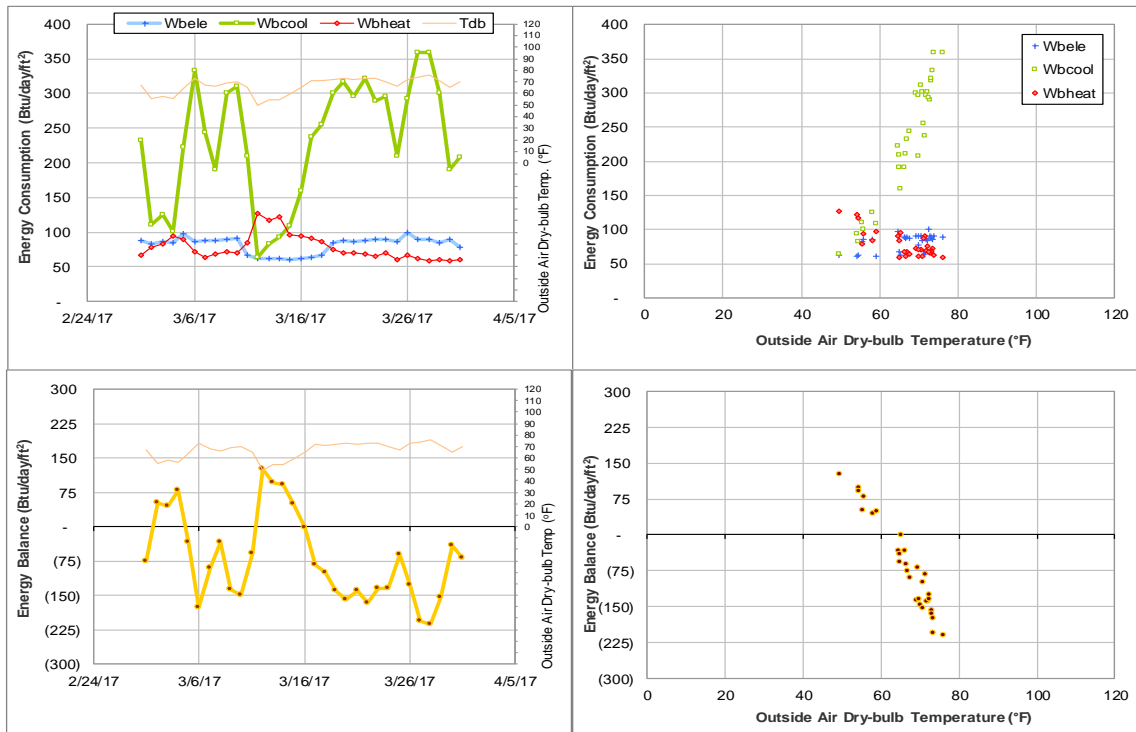


Figure IV-28 Briggs Hall Dorm 3 TAMU BLDG # 402 Energy Balance Plot during March 2017

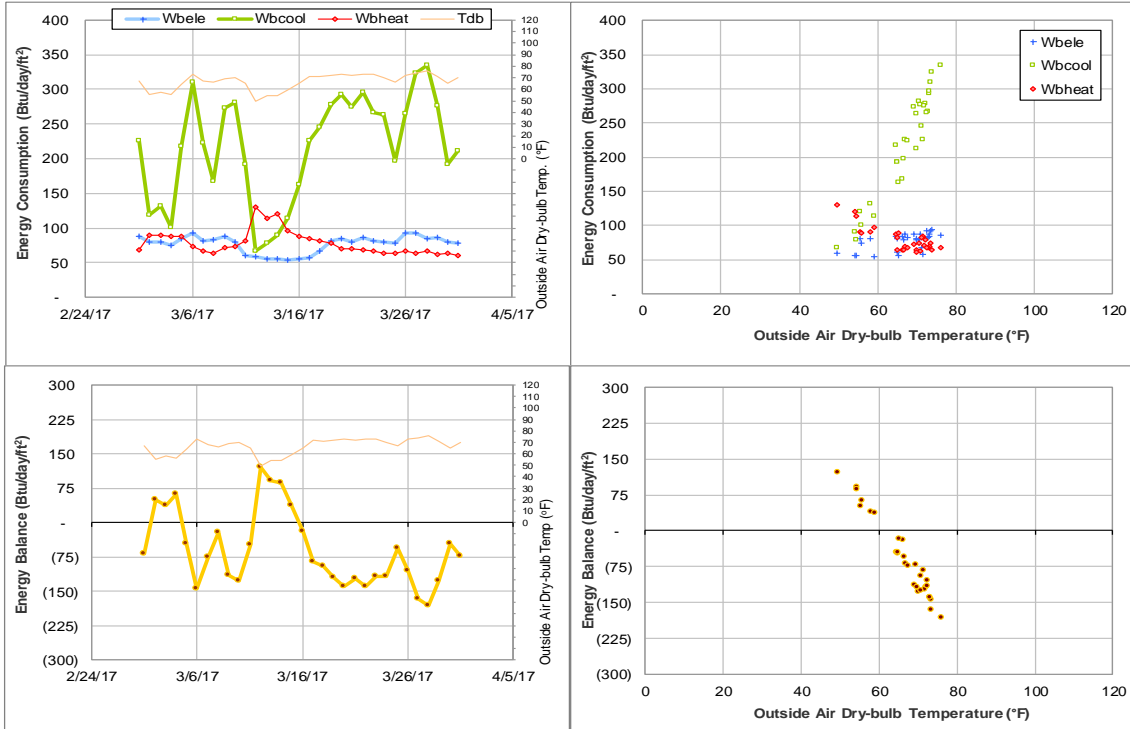


Figure IV-29 Fountain Hall Dorm 4 TAMU BLDG # 403 Energy Balance Plot during March 2017

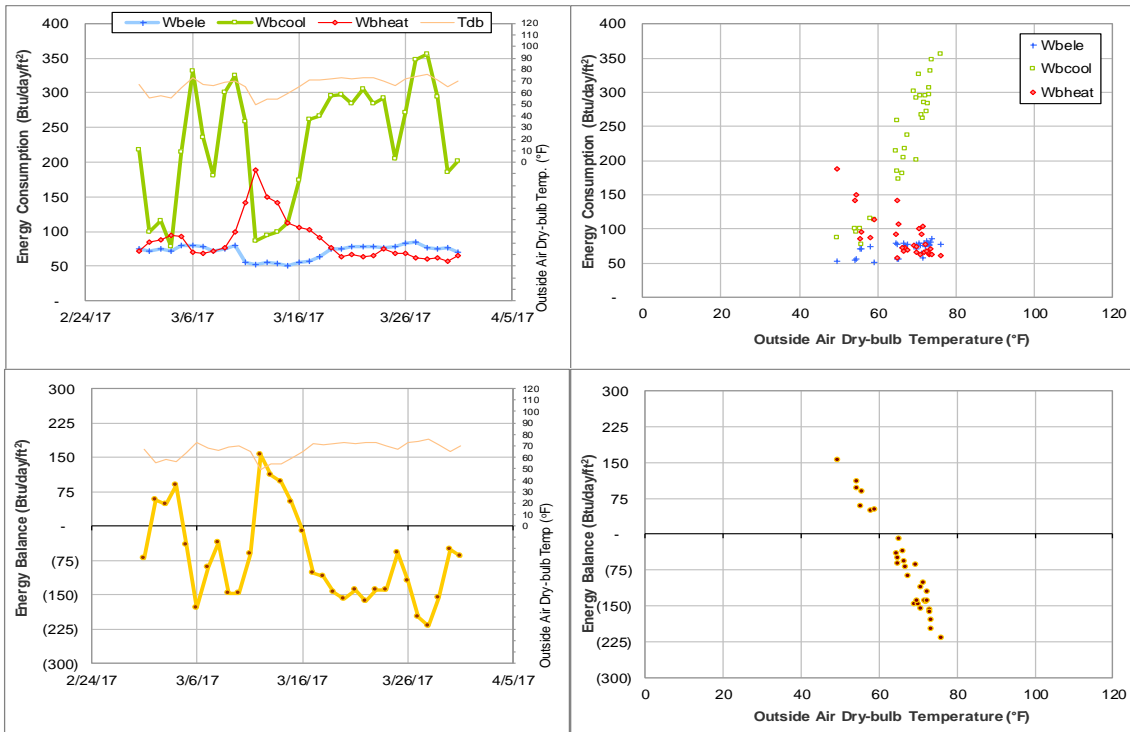


Figure IV-30 Gainer Hall Dorm 5 TAMU BLDG # 404 Energy Balance Plot during March 2017

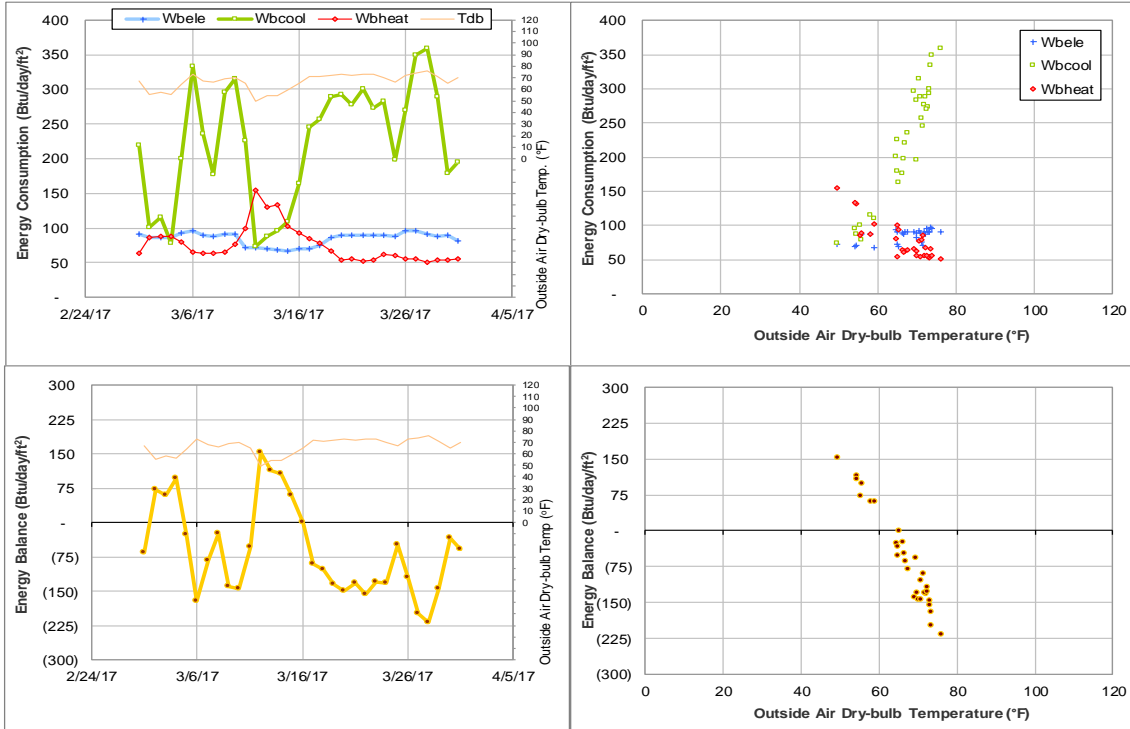


Figure IV-31 Gainer Hall, Leonard Hall and Ash LLC TAMU BLDG # 404 Energy Balance Plot during March 2017

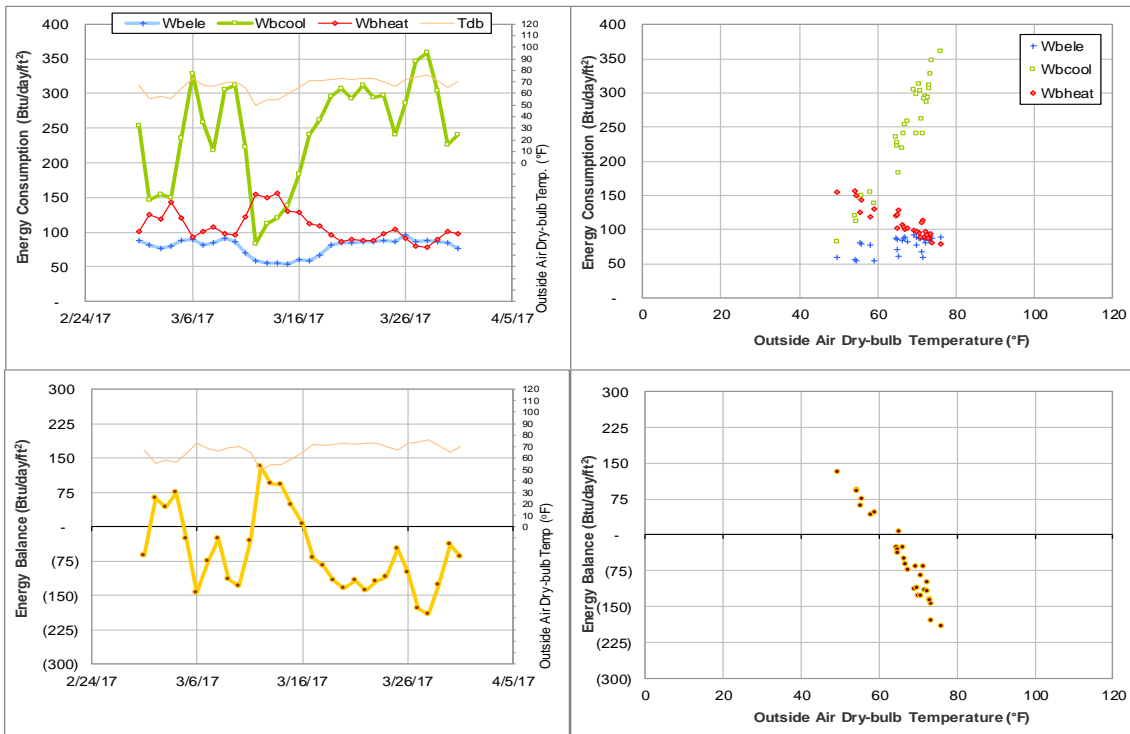


Figure IV-32 Lacy Hall - Dorm 6 TAMU BLDG # 405 Energy Balance Plot during March 2017

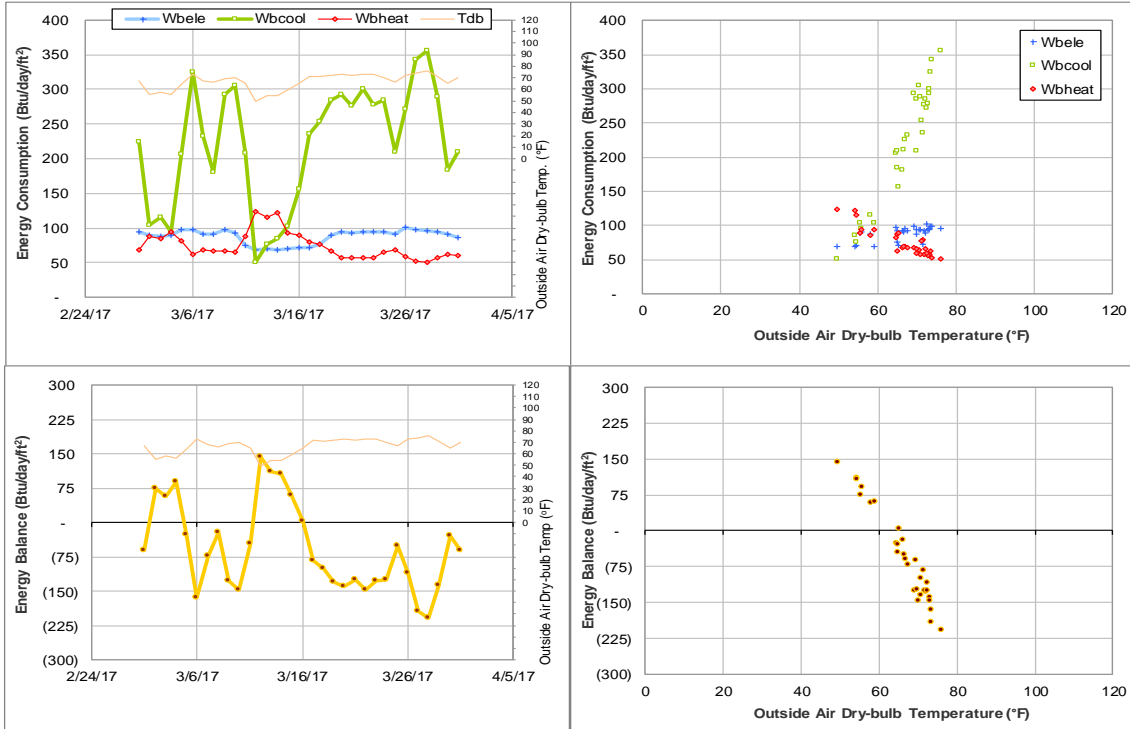


Figure IV-33 Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center TAMU BLDG # 405 Energy Balance Plot during March 2017

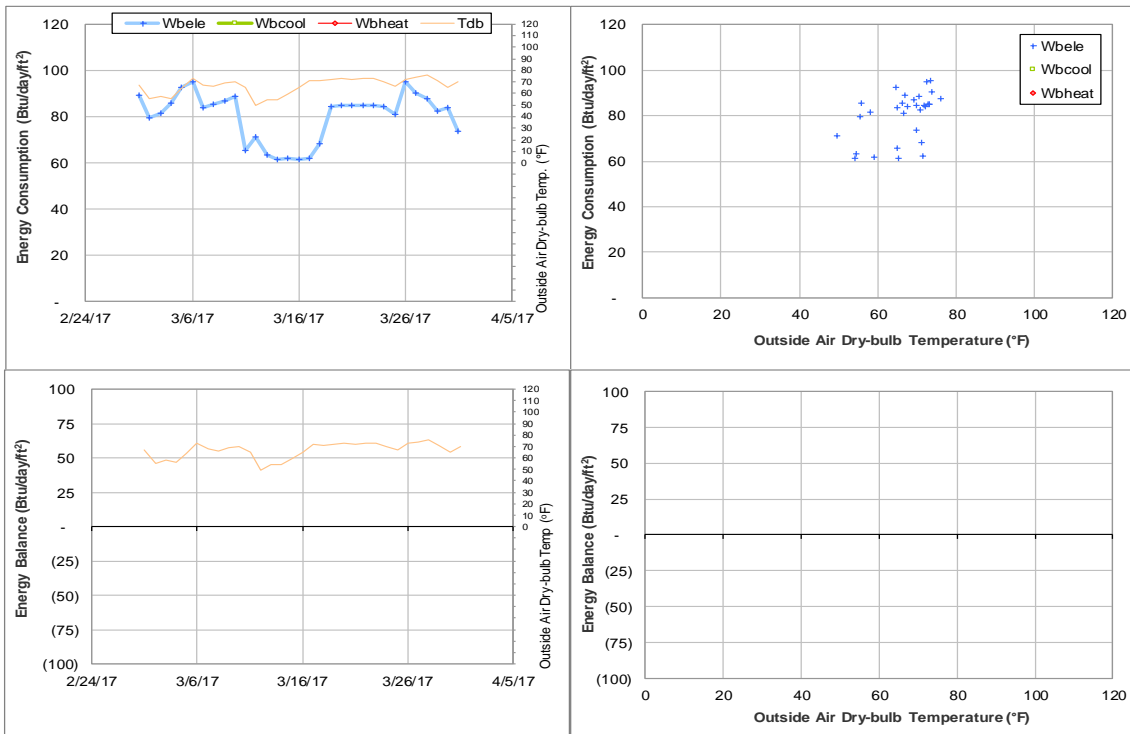


Figure IV-34 Leonard Hall - Dorm 7 TAMU BLDG # 406 Energy Balance Plot during March 2017

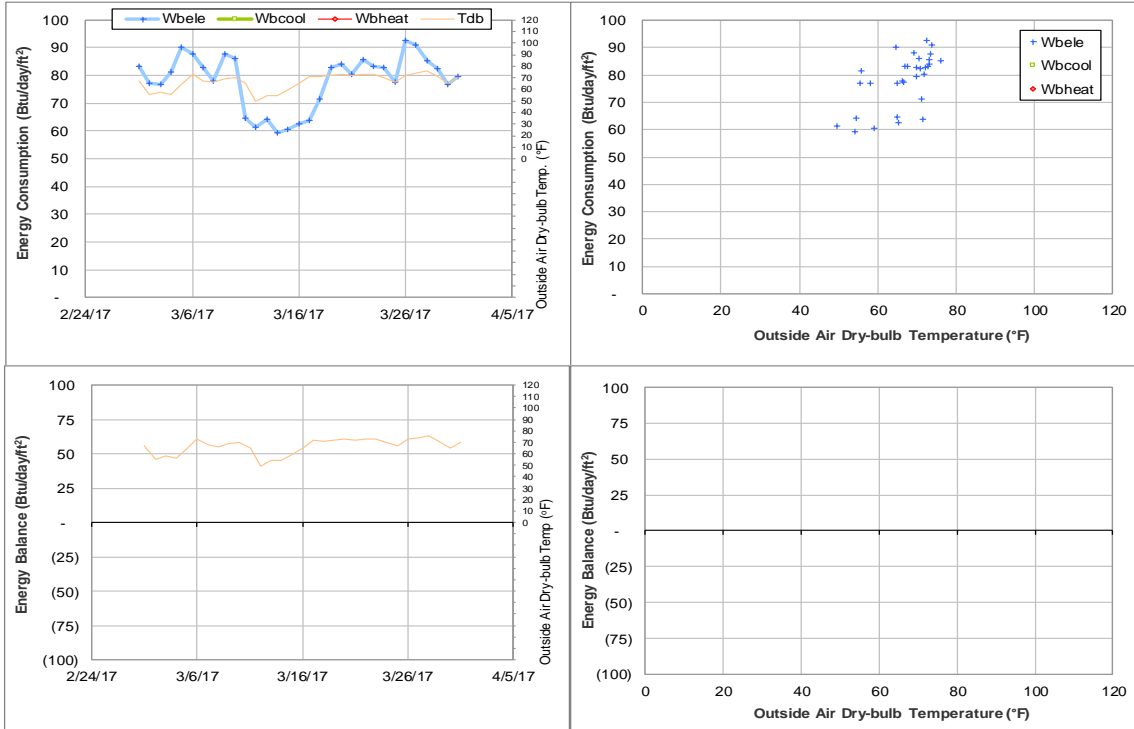


Figure IV-35 Harrell Hall - Dorm 8 TAMU BLDG # 407 Energy Balance Plot during March 2017

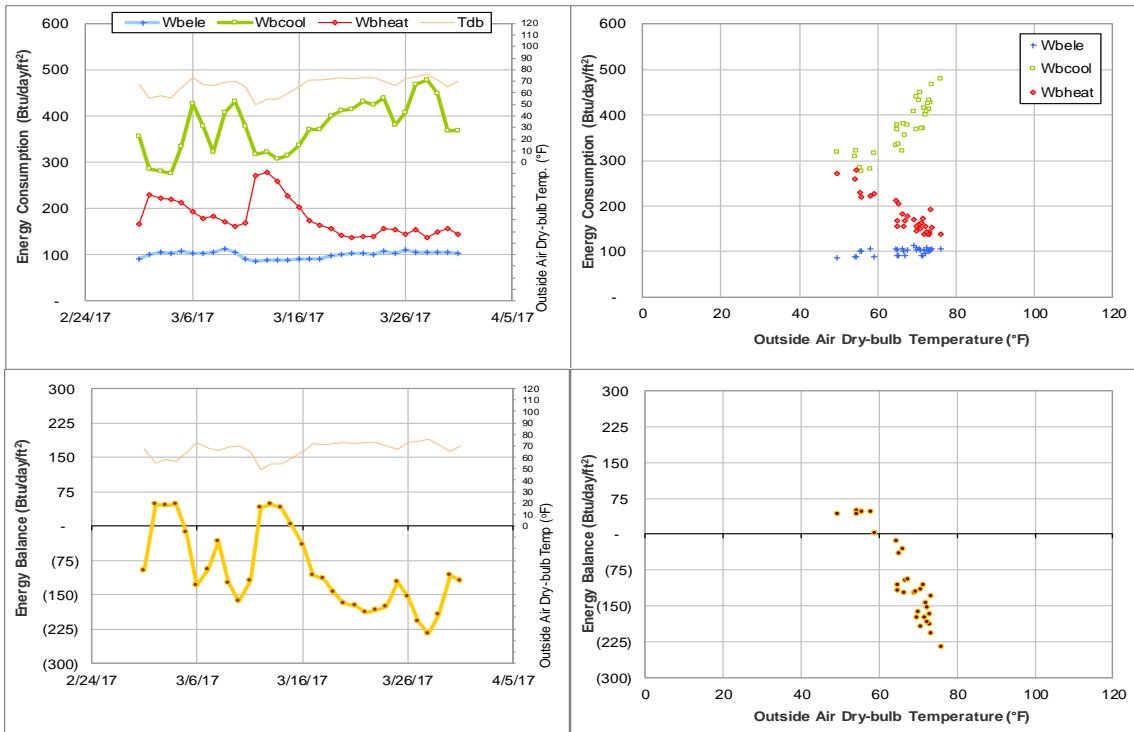


Figure IV-36 Moses Residence Hall TAMU BLDG # 412 Energy Balance Plot during March 2017

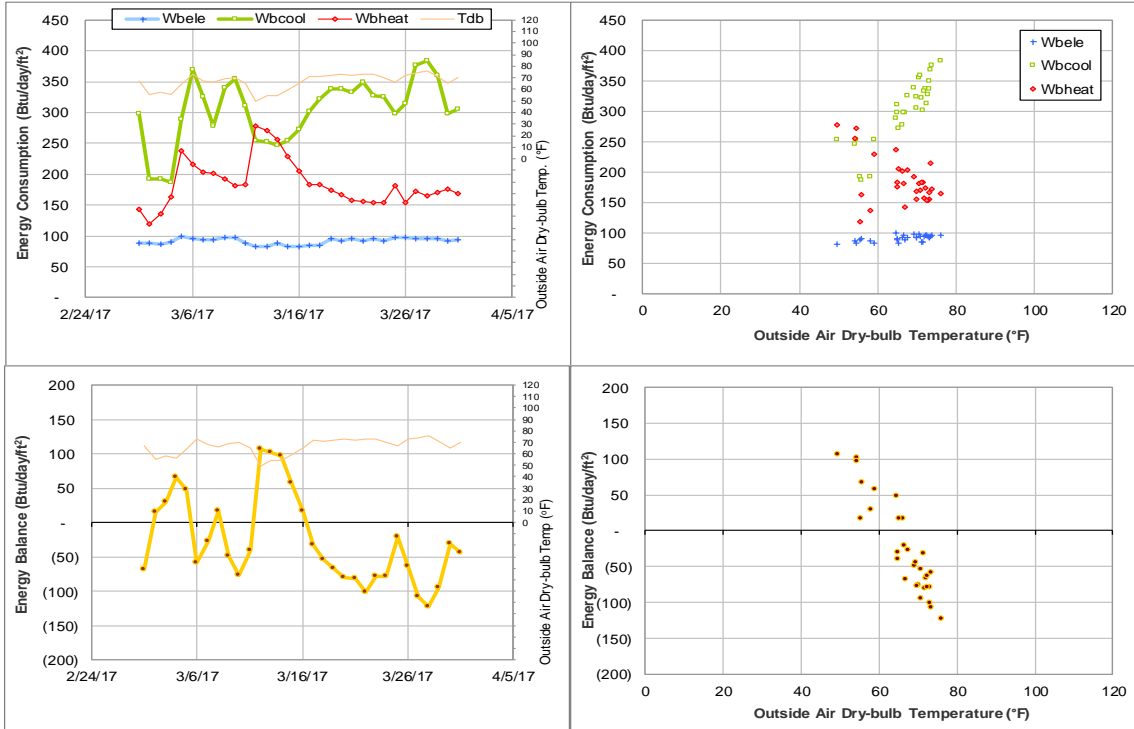


Figure IV-37 Davis-Gary Residence Hall TAMU BLDG # 415 Energy Balance Plot during March 2017

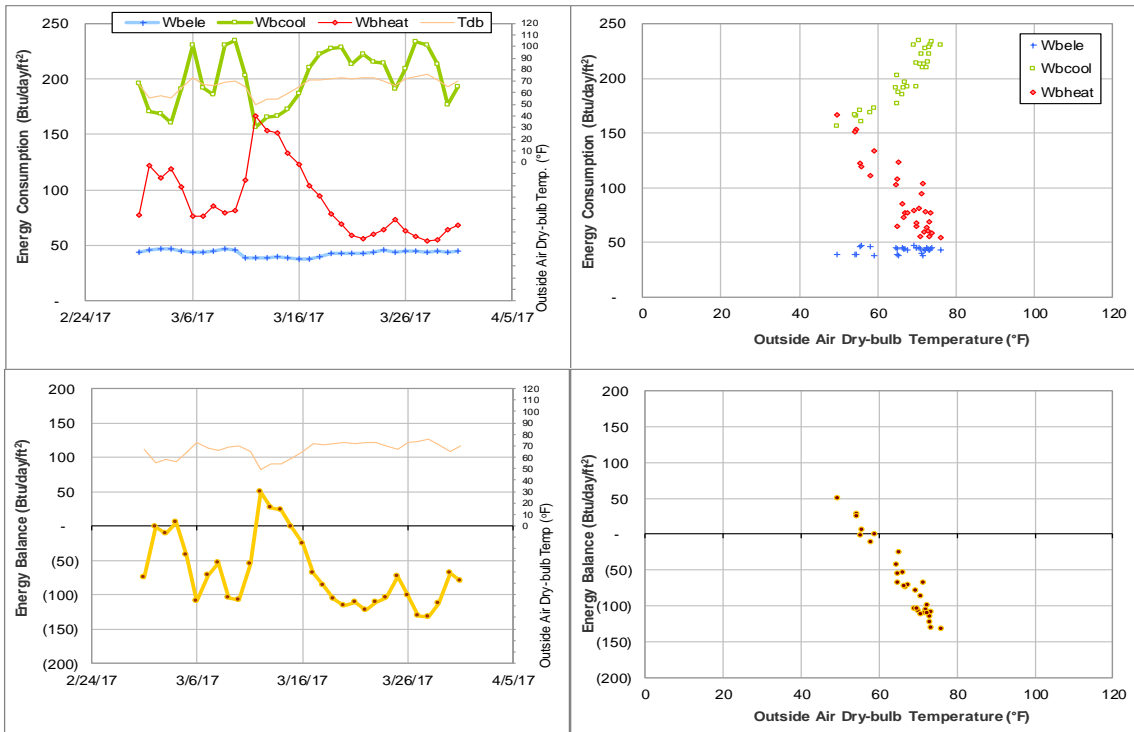


Figure IV-38 Legett Residence Hall TAMU BLDG # 419 Energy Balance Plot during March 2017

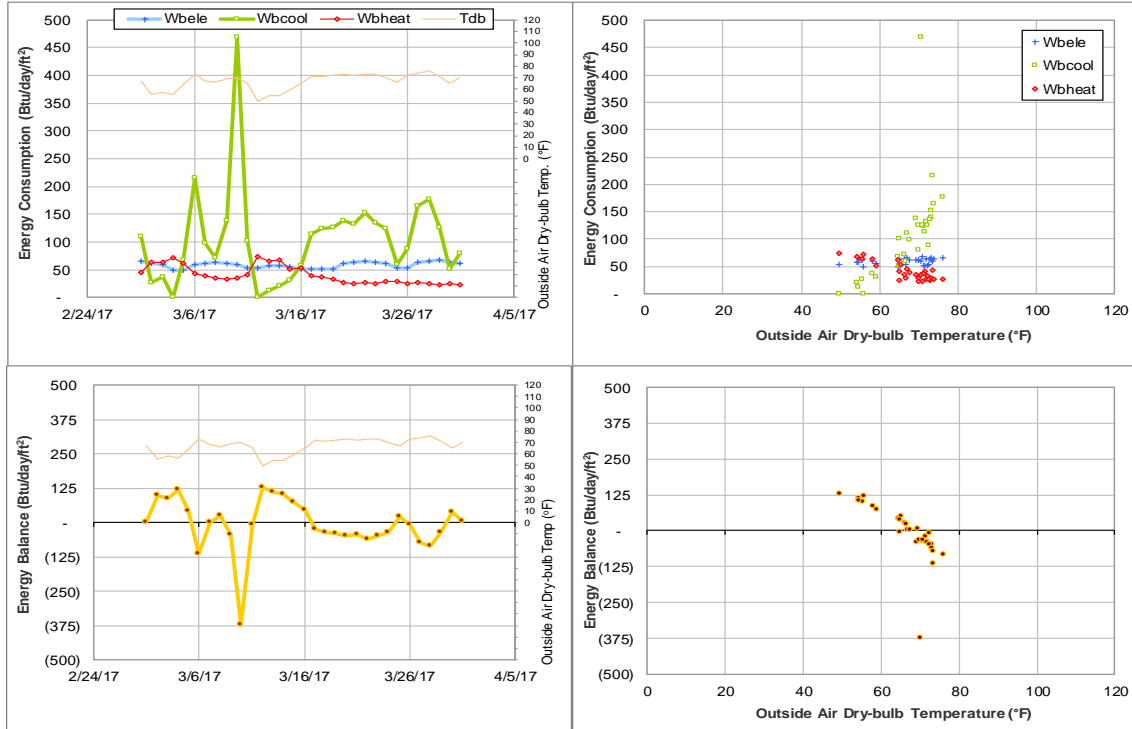


Figure IV-39 Milner Hall TAMU BLDG # 420 Energy Balance Plot during March 2017

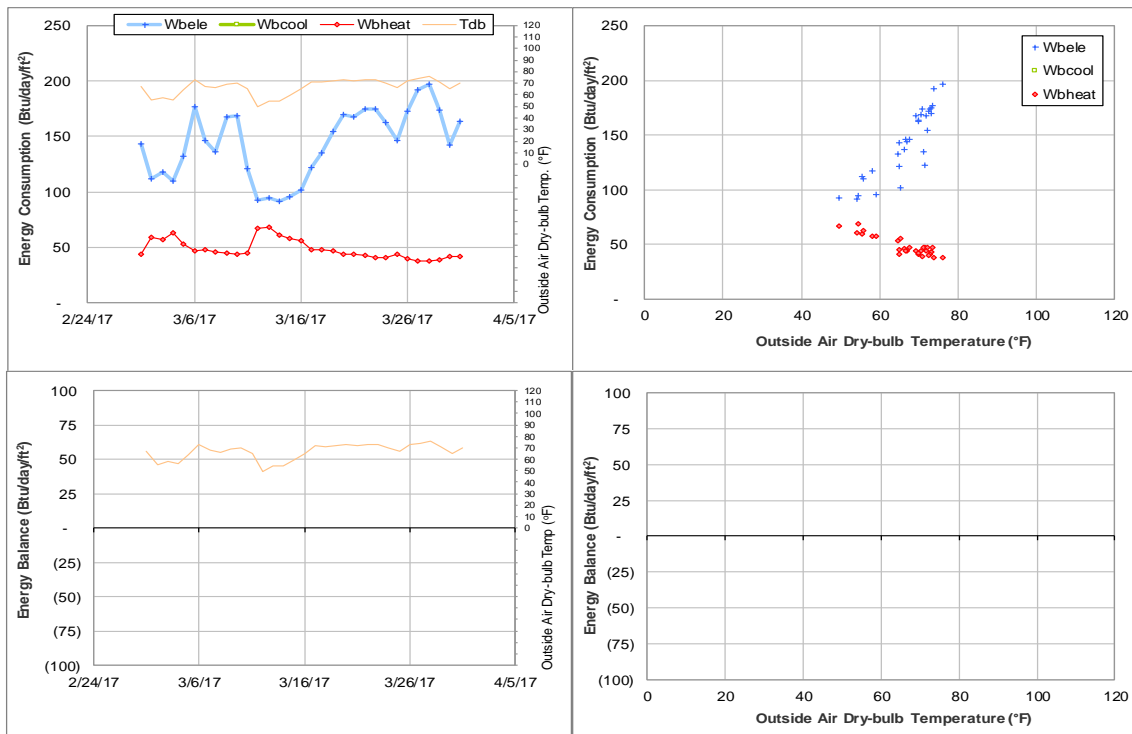


Figure IV-40 Walton Residence Hall TAMU BLDG # 422 Energy Balance Plot during March 2017

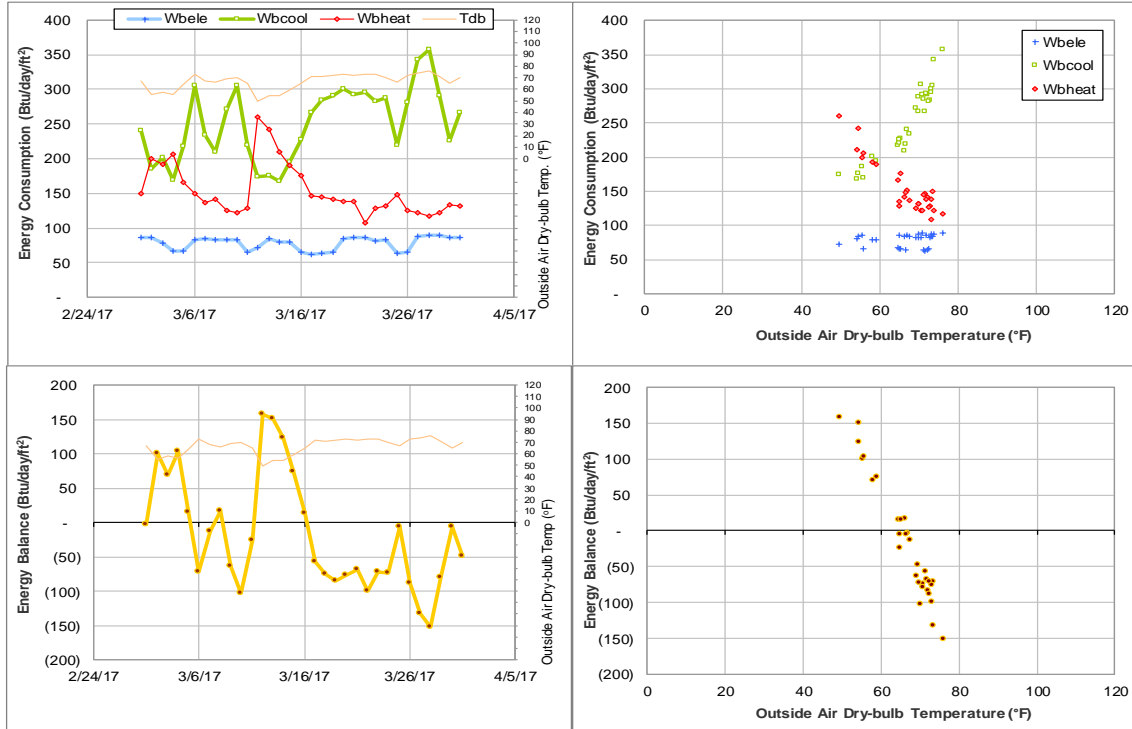


Figure IV-41 Hotard Hall TAMU BLDG # 424 Energy Balance Plot during March 2017

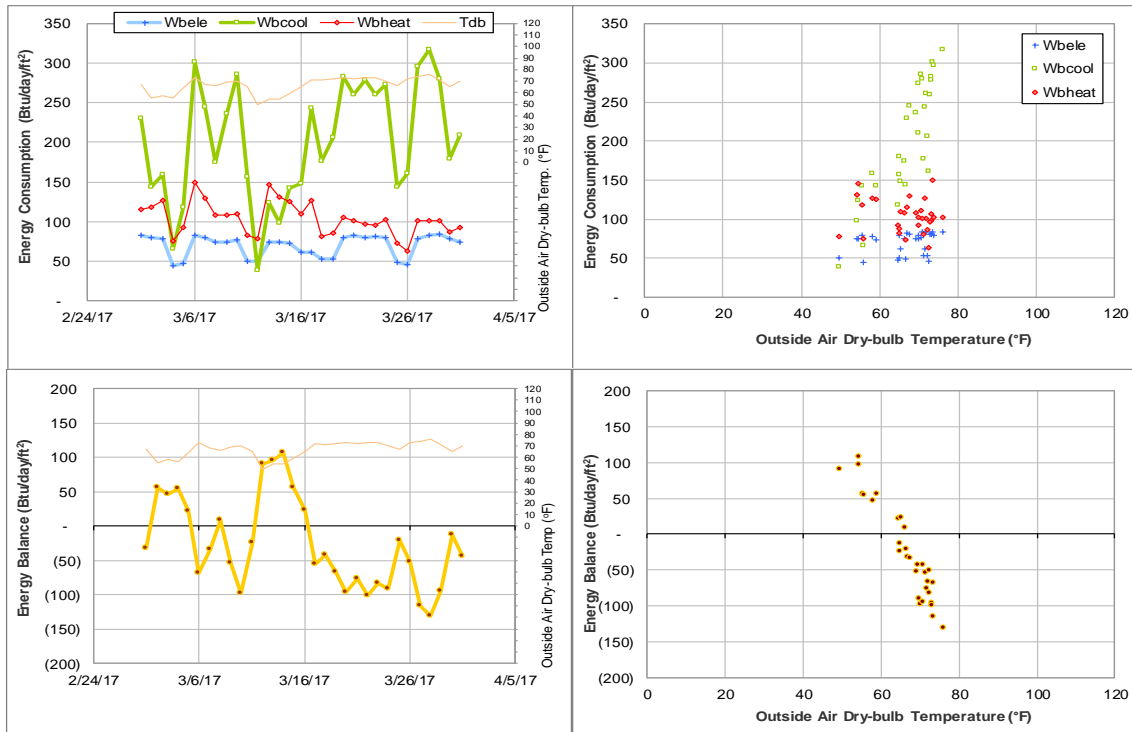


Figure IV-42 Henderson Hall TAMU BLDG # 425 Energy Balance Plot during March 2017

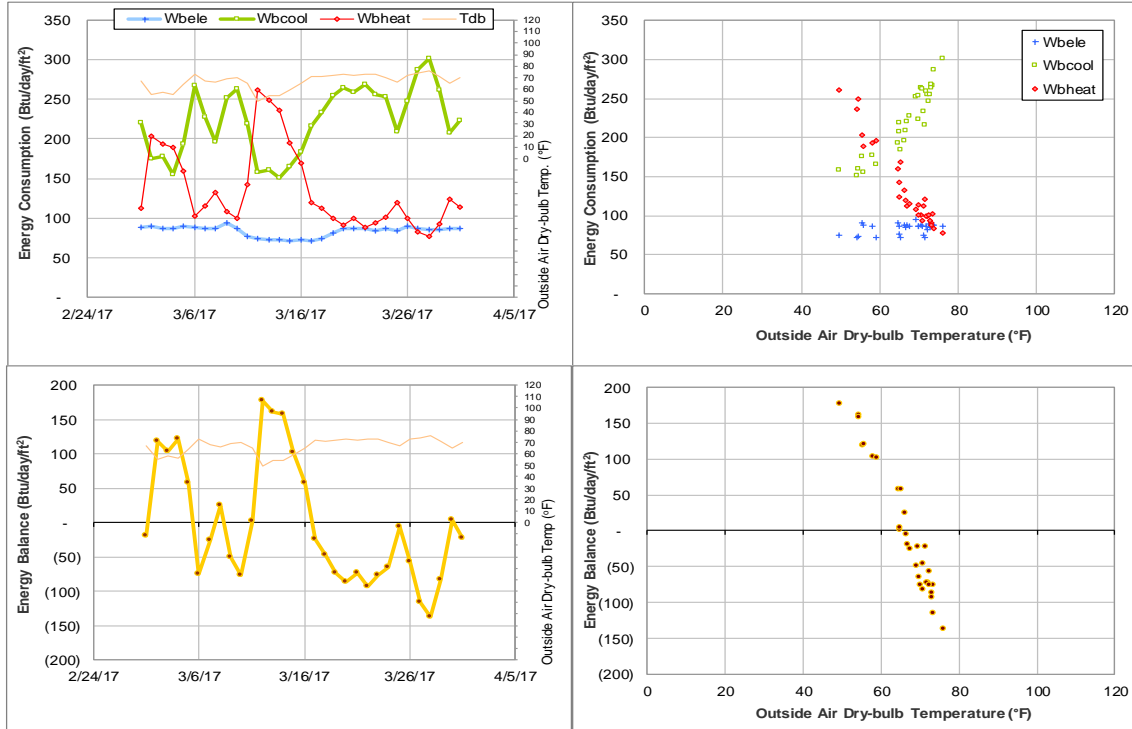


Figure IV-43 FHK Complex TAMU BLDG # 426 Energy Balance Plot during March 2017

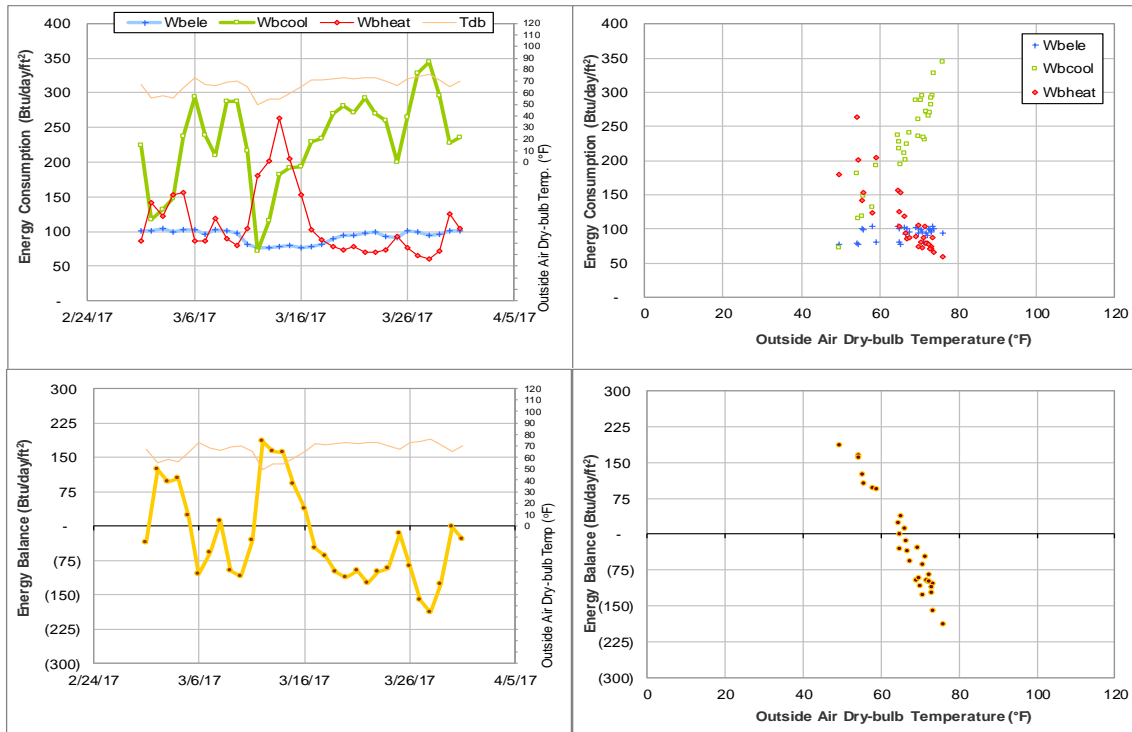


Figure IV-44 Schumacher Residence Hall TAMU BLDG # 430 Energy Balance Plot during March 2017

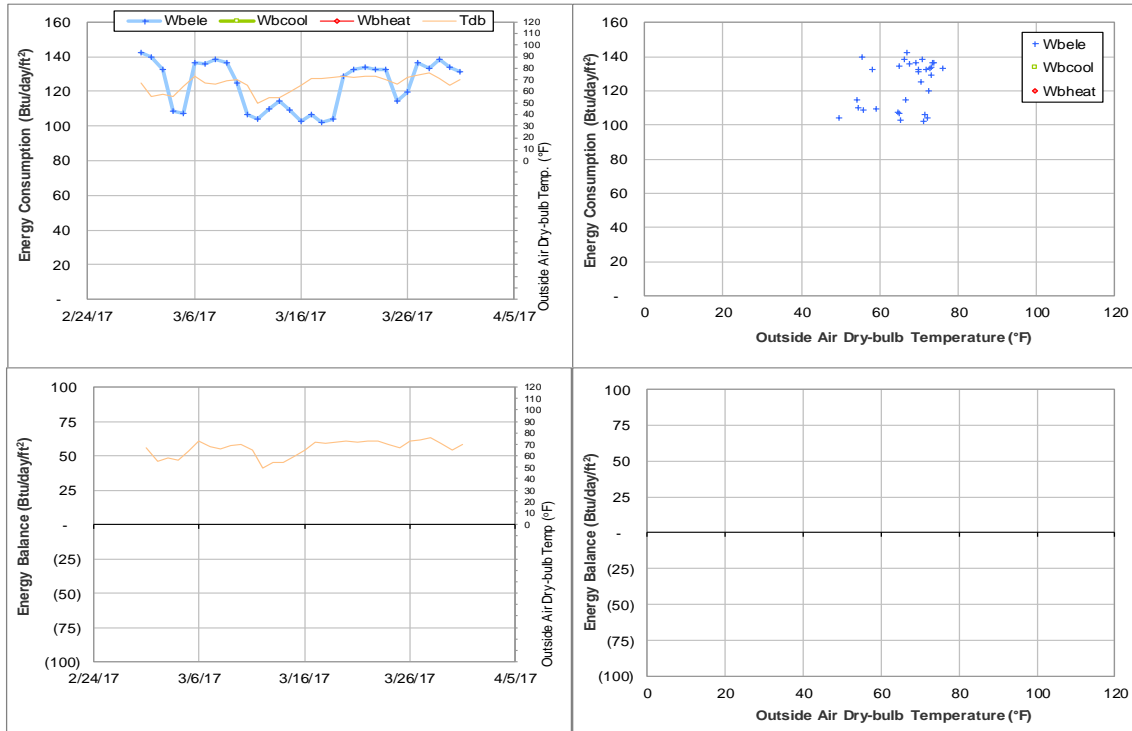


Figure IV-45 Architecture Building C TAMU BLDG # 432 Energy Balance Plot during March 2017

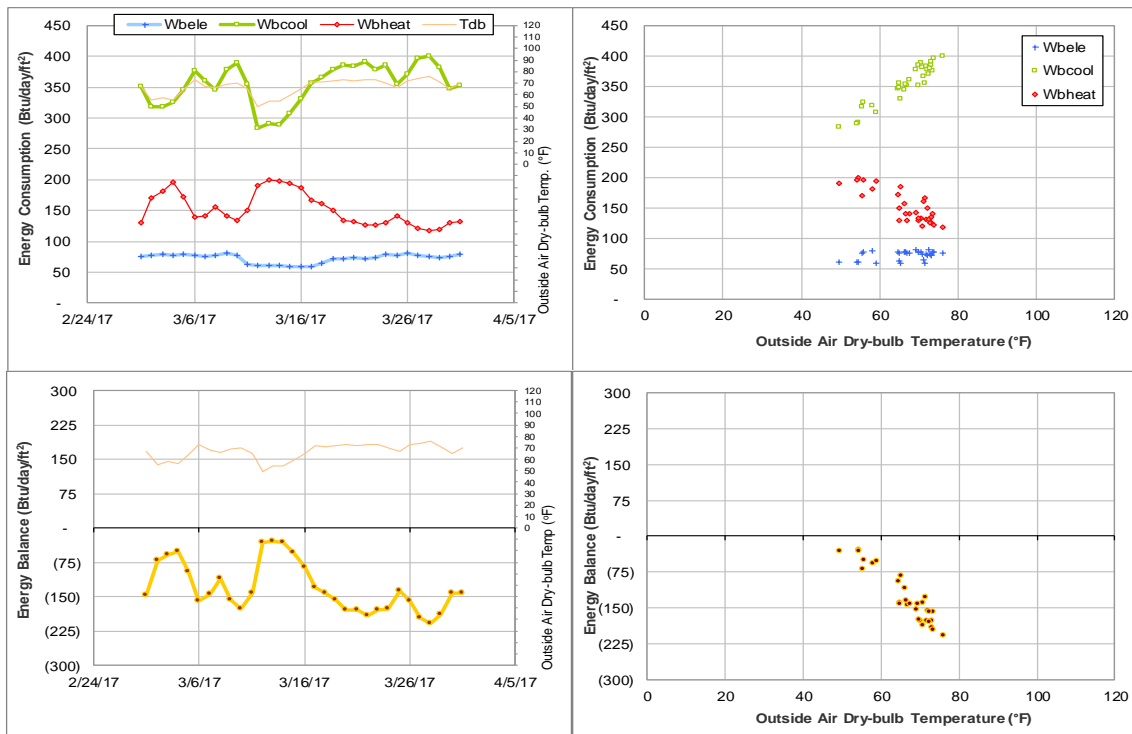


Figure IV-46 Mosher Residence Hall TAMU BLDG # 433 Energy Balance Plot during March 2017

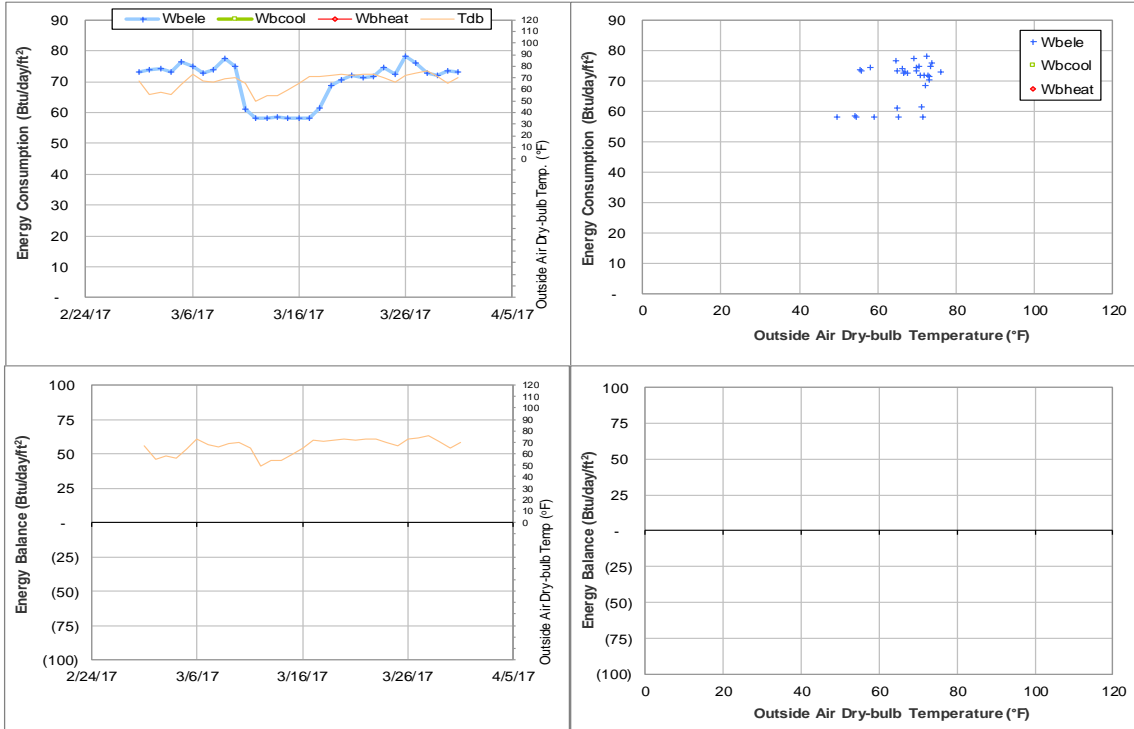


Figure IV-47 Mosher Commons Krueger Dunn Aston TAMU BLDG # 433 Energy Balance Plot during March 2017

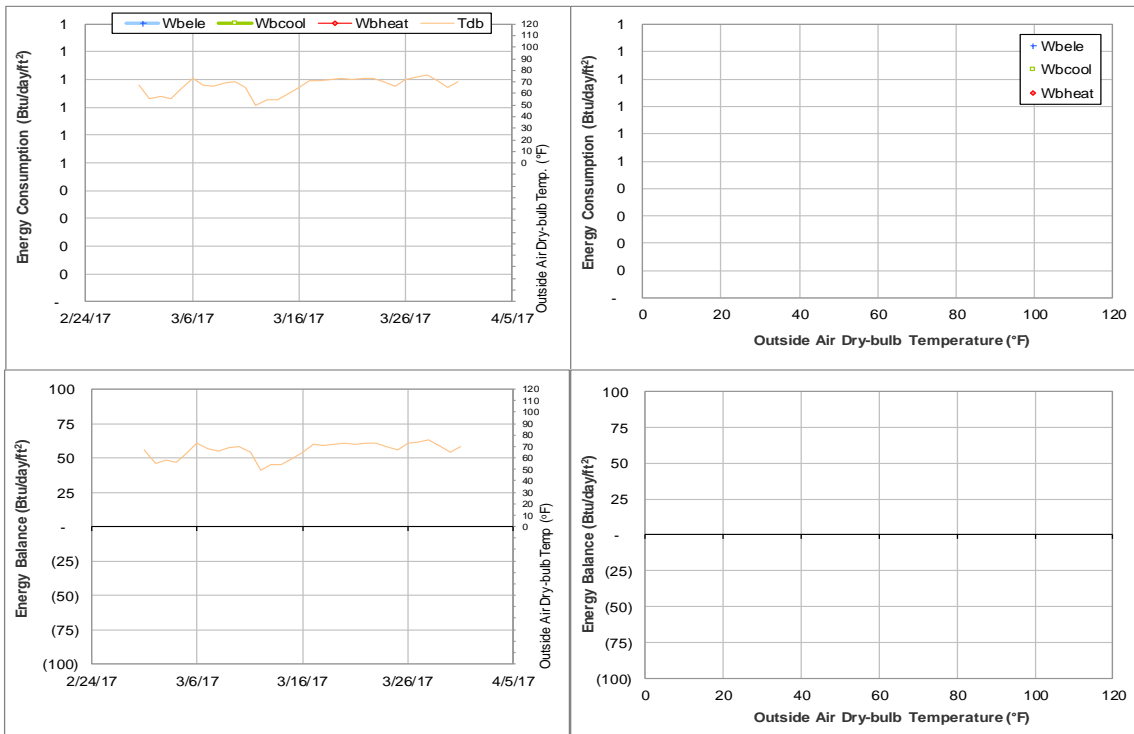


Figure IV-48 Luedcke Building (Cyclotron) TAMU BLDG # 434 Energy Balance Plot during March 2017

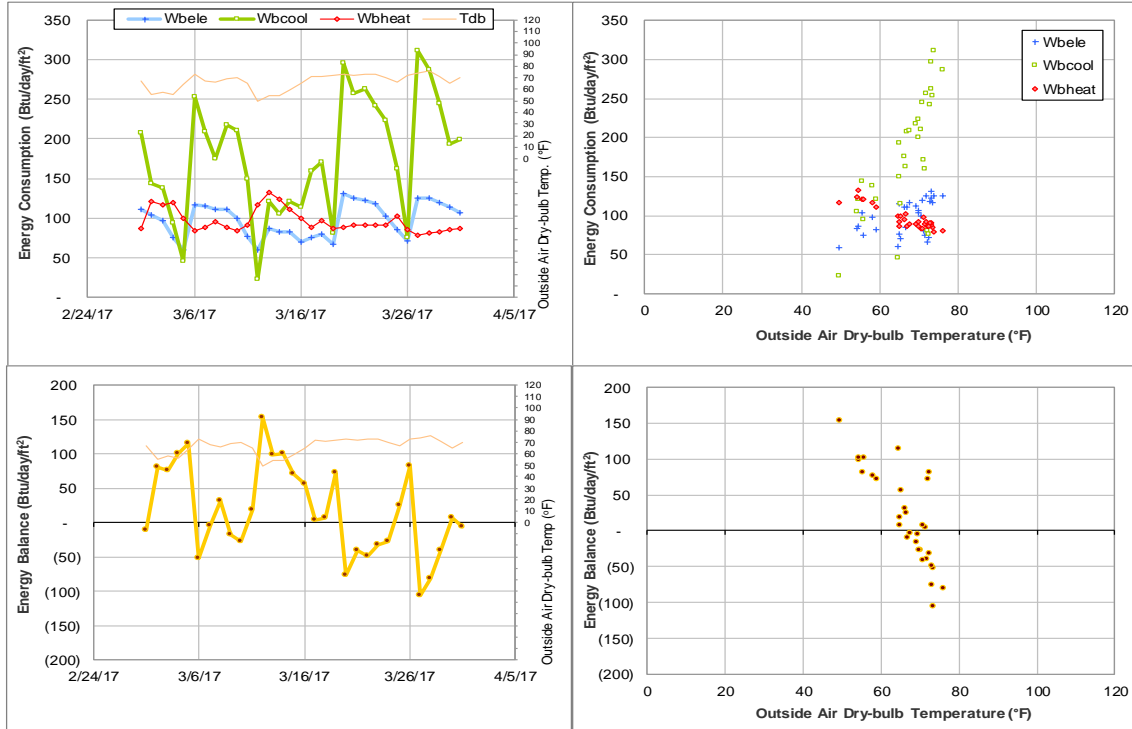


Figure IV-49 Harrington Education Center Office Tower TAMU BLDG # 435 Energy Balance Plot during March 2017

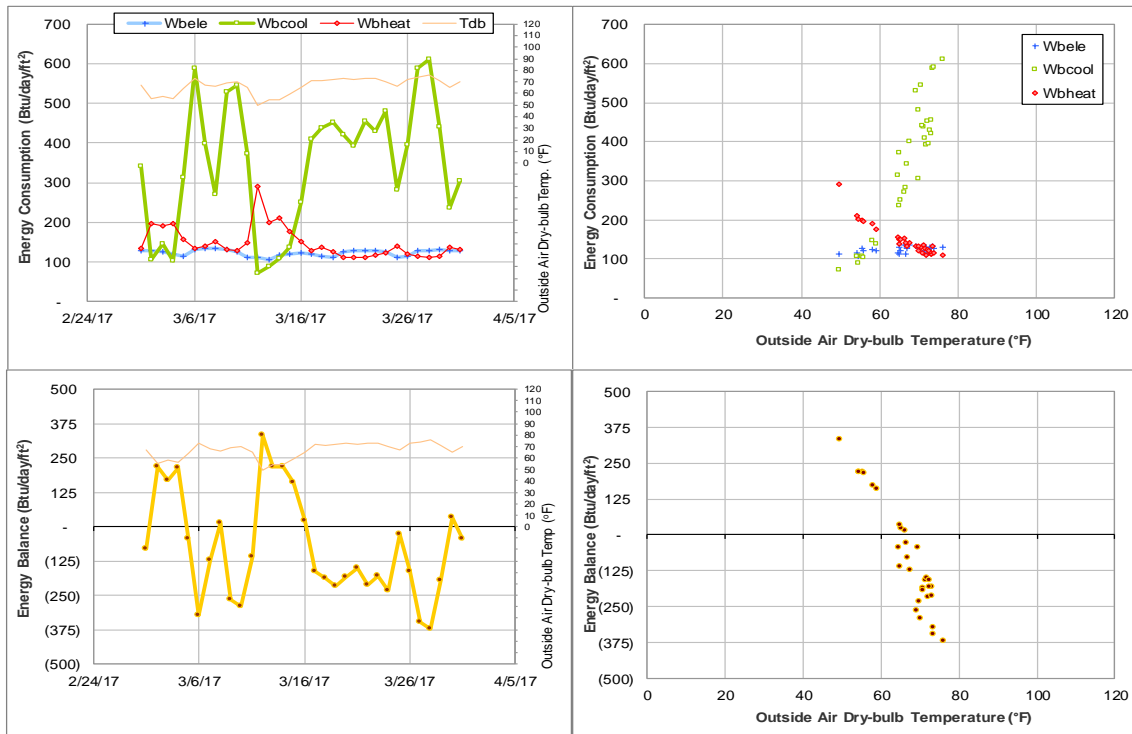


Figure IV-50 Reed-McDonald Building TAMU BLDG # 436 Energy Balance Plot during March 2017

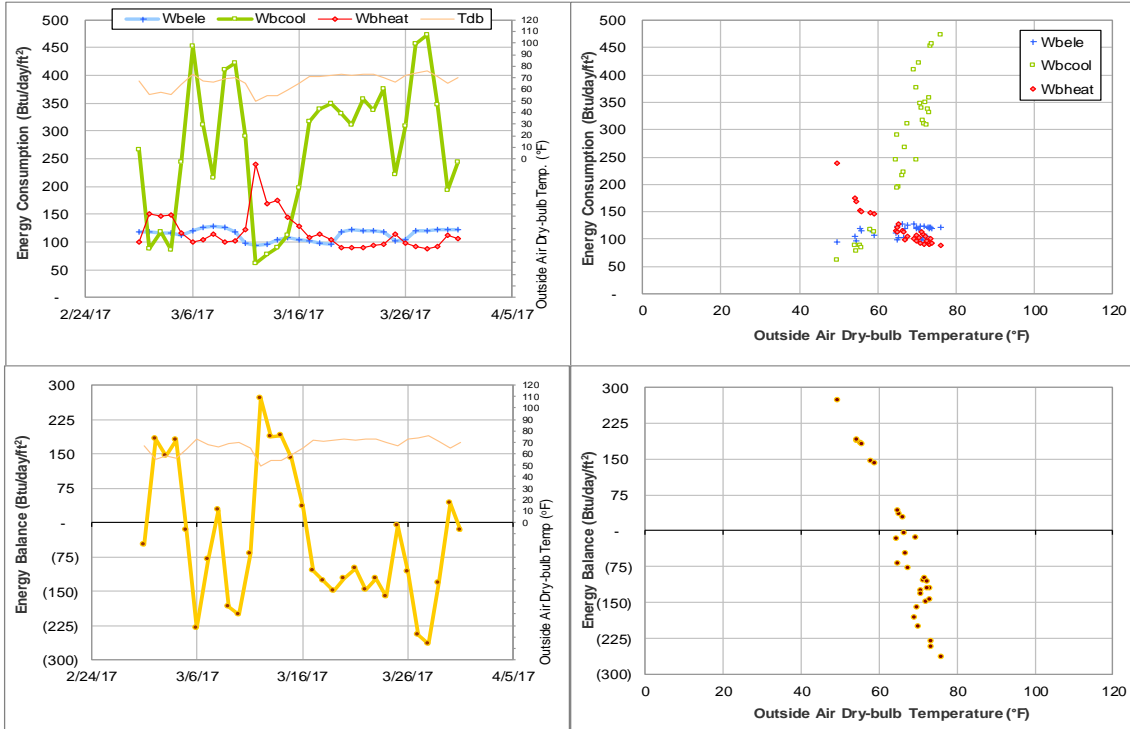


Figure IV-51 Reed-McDonald and Engineering Innovation Center TAMU BLDG # 436 Energy Balance Plot during March 2017

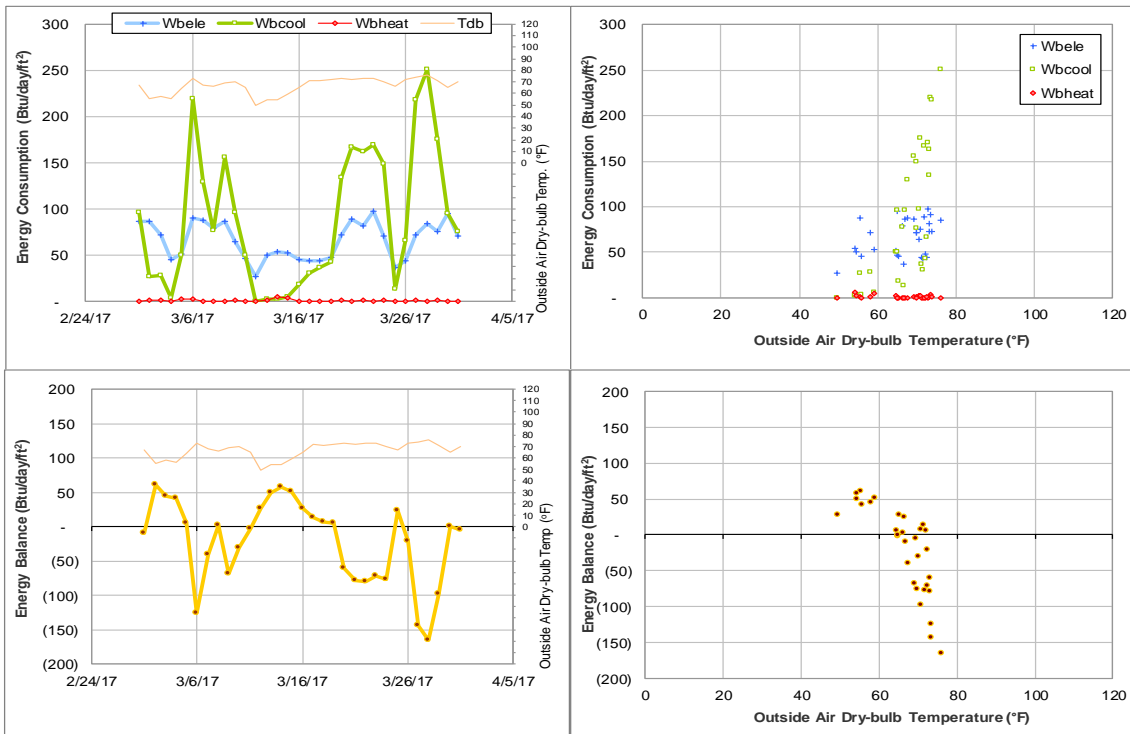


Figure IV-52 Harrington Education Center Classroom Building TAMU BLDG # 438 Energy Balance Plot during March 2017

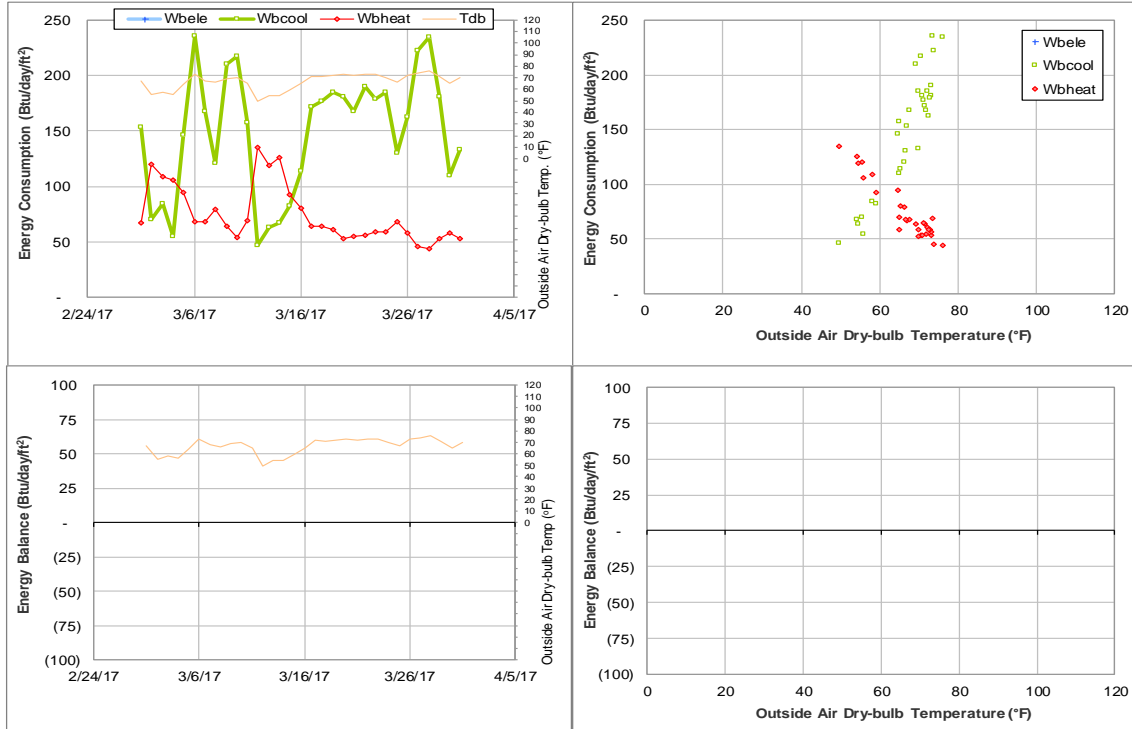


Figure IV-53 Commons Hall TAMU BLDG # 440 Energy Balance Plot during March 2017

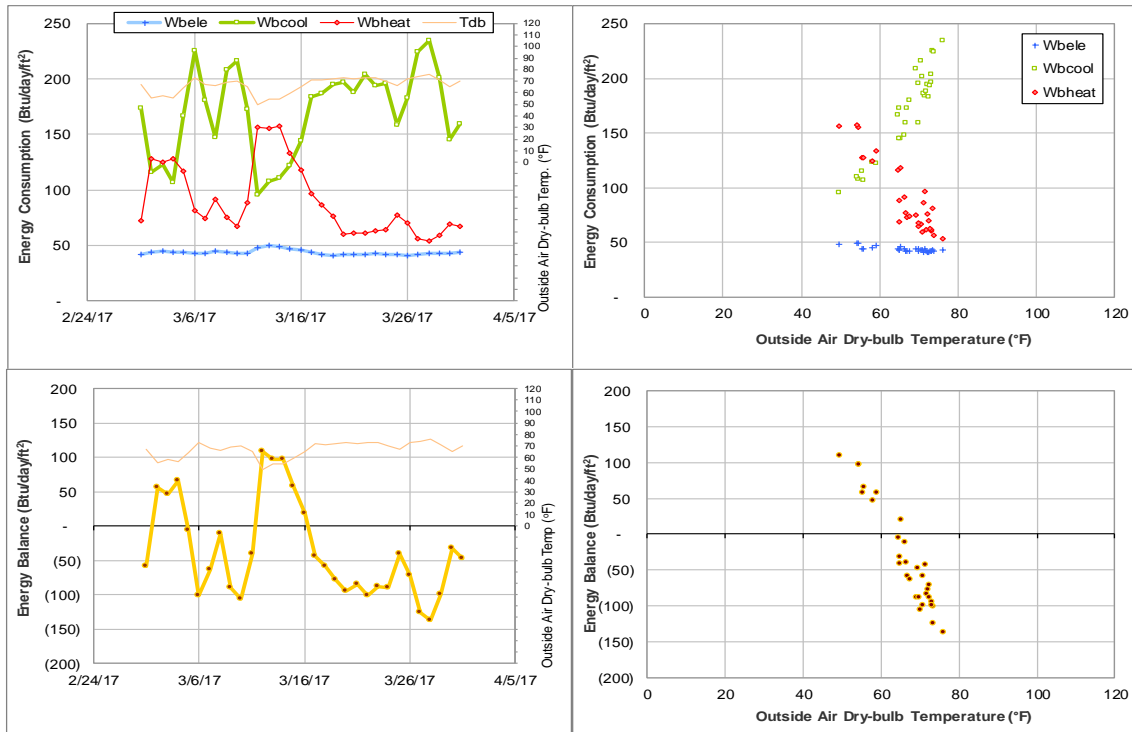


Figure IV-54 Commons Krueger TAMU BLDG # 440 Energy Balance Plot during March 2017

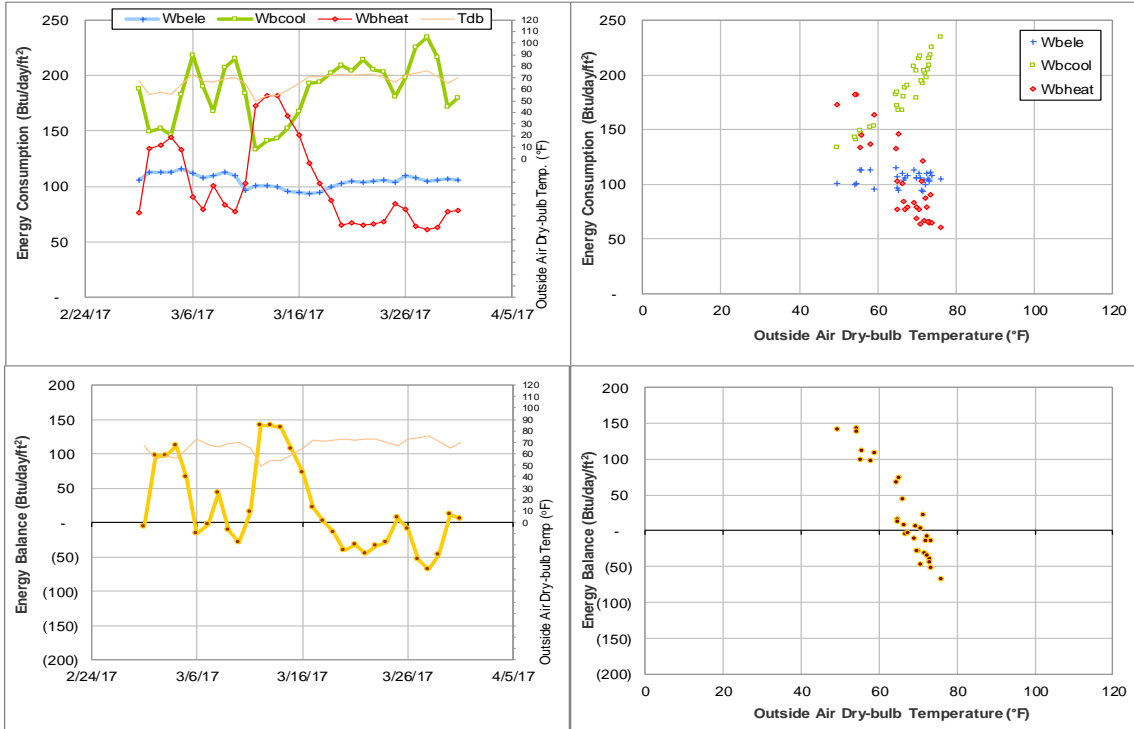


Figure IV-55 Krueger Residence Hall TAMU BLDG # 441 Energy Balance Plot during March 2017

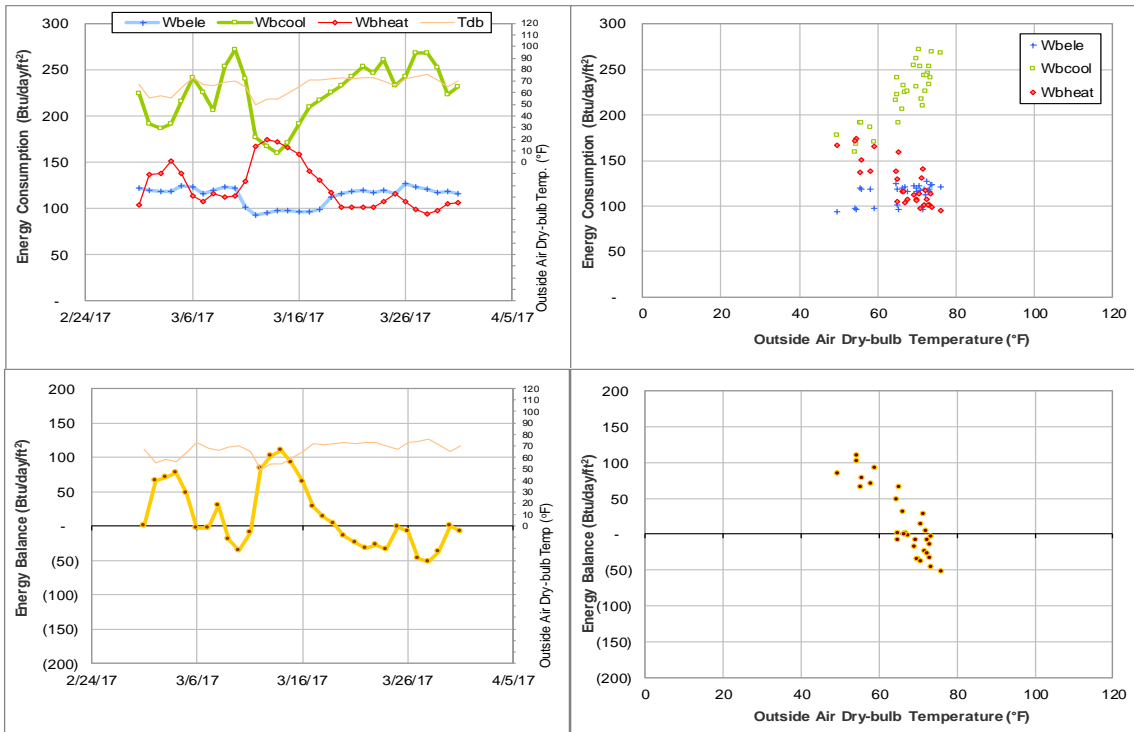


Figure IV-56 Dunn Residence Hall TAMU BLDG # 442 Energy Balance Plot during March 2017

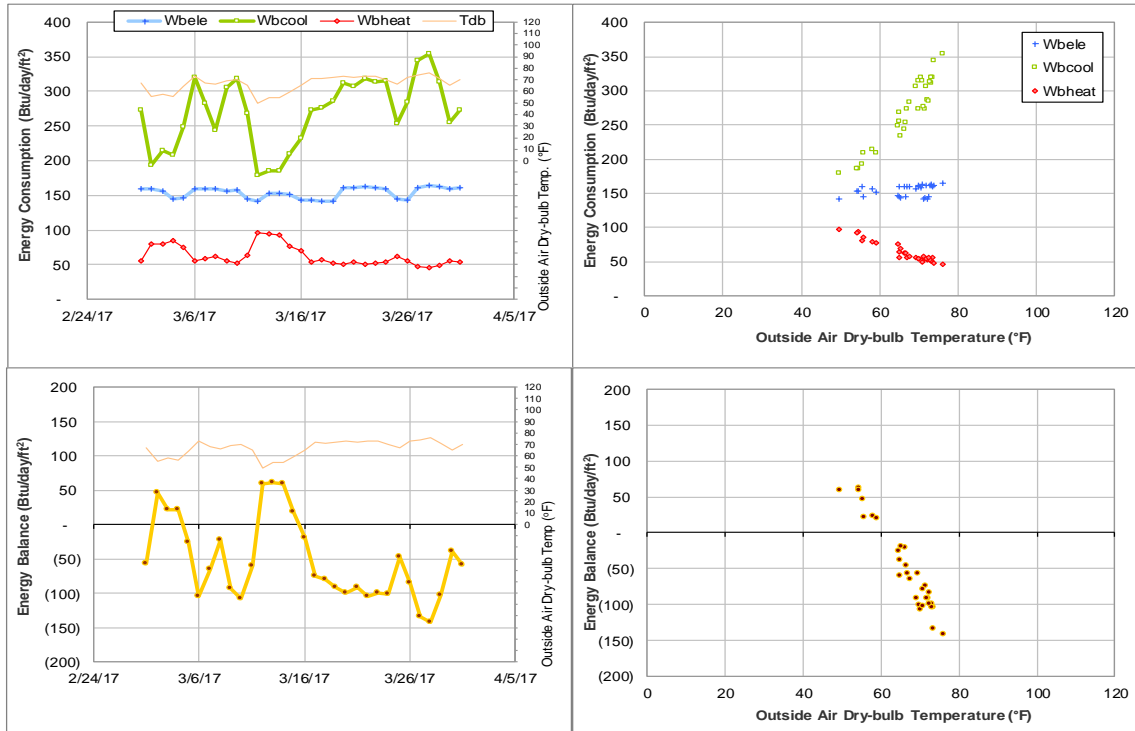


Figure IV-57 Oceanography & Meteorology Building TAMU BLDG # 443 Energy Balance Plot during March 2017

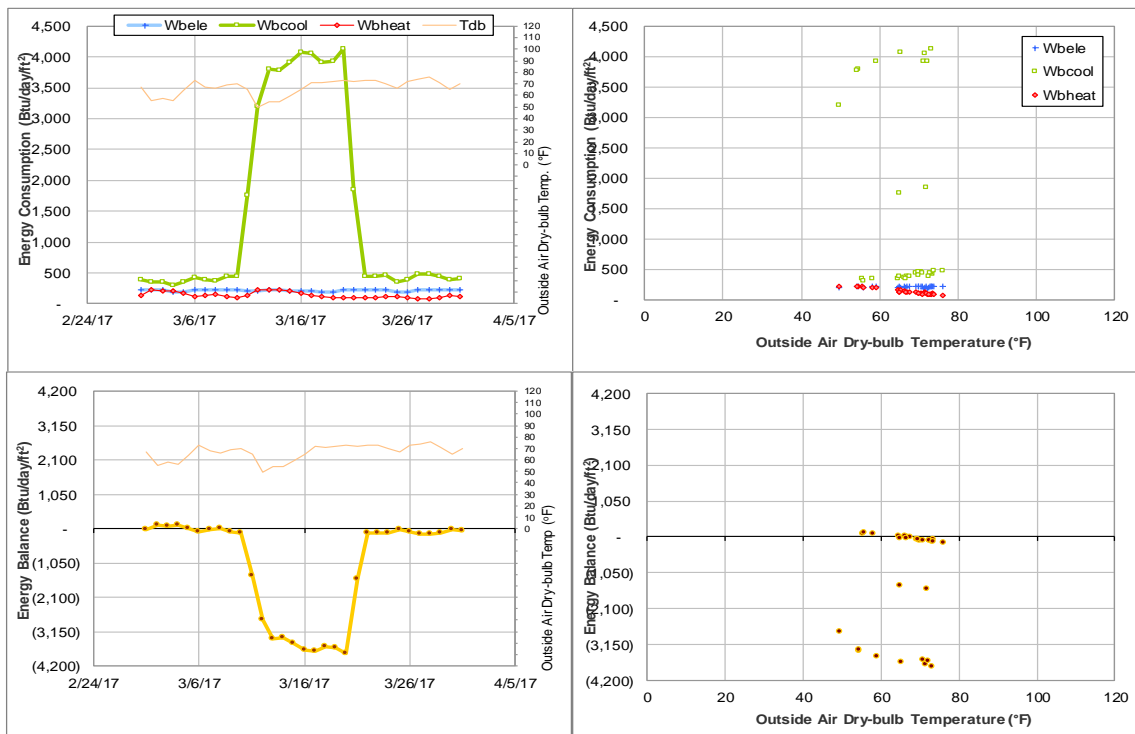


Figure IV-58 Peterson Building TAMU BLDG # 444 Energy Balance Plot during March 2017

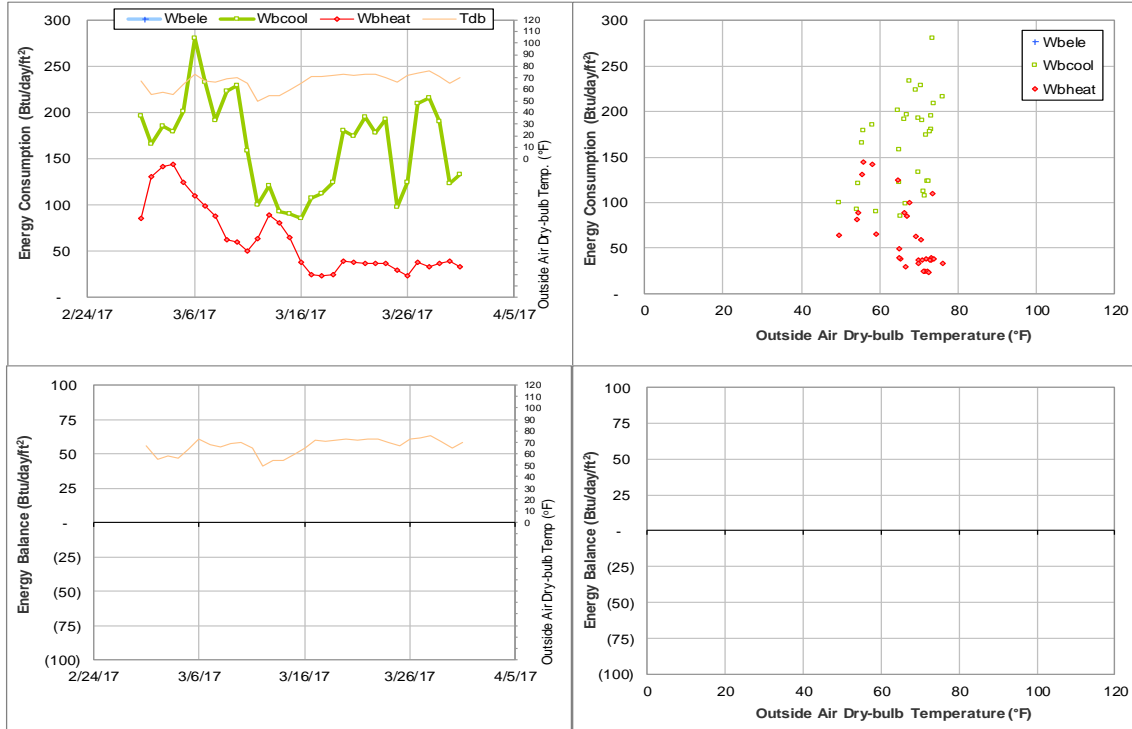


Figure IV-59 Teague Research Center TAMU BLDG # 445 Energy Balance Plot during March 2017

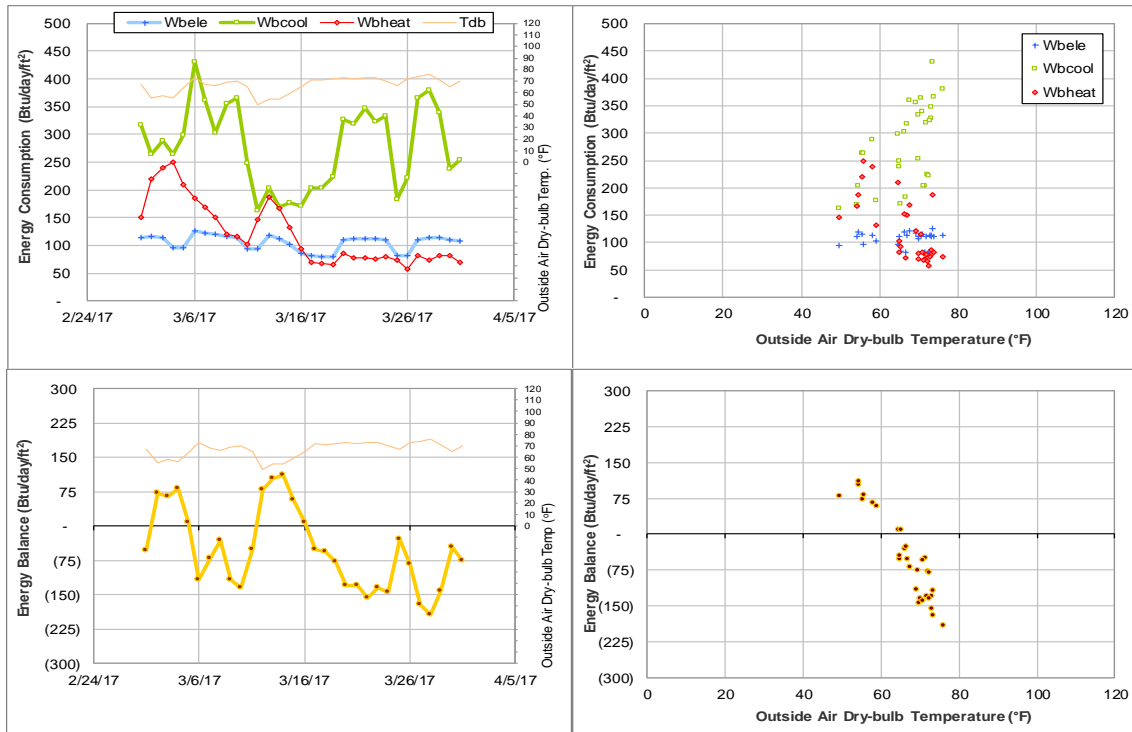


Figure IV-60 Teague Research Center and DPC Annex TAMU BLDG # 445 Energy Balance Plot during March 2017

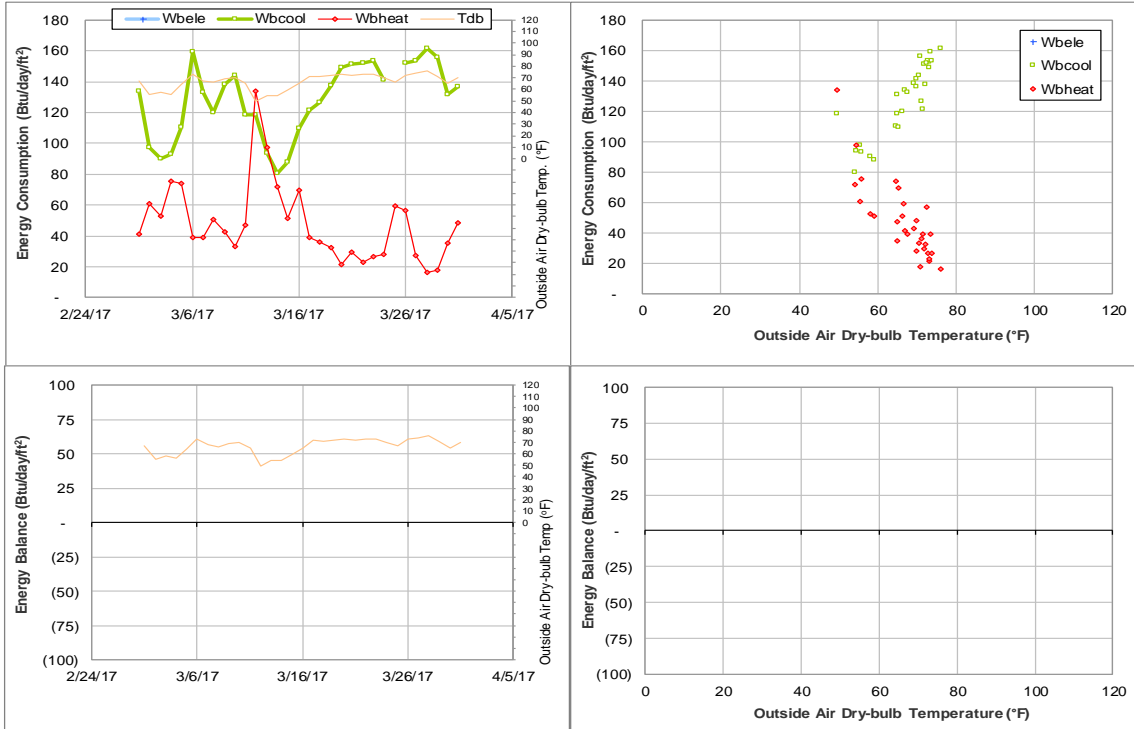


Figure IV-61 Rudder Tower and Theatre Complex TAMU BLDG # 446 Energy Balance Plot during March 2017

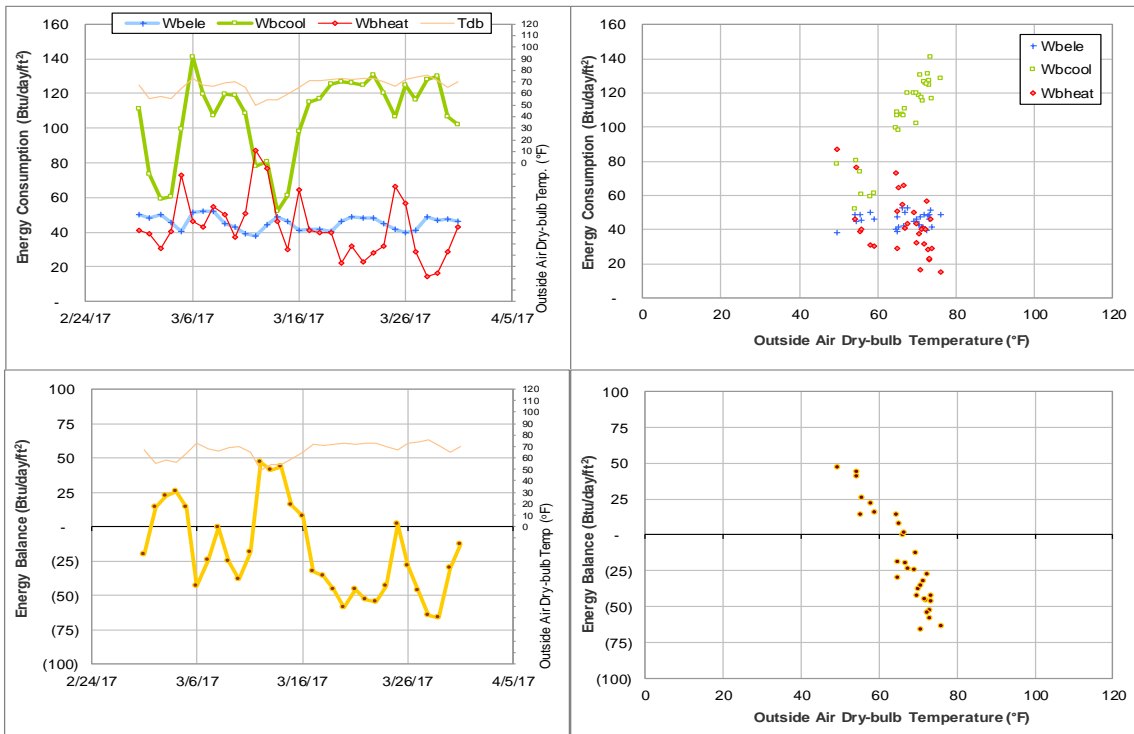


Figure IV-62 Rudder Theatre Complex TAMU BLDG # 446 Energy Balance Plot during March 2017

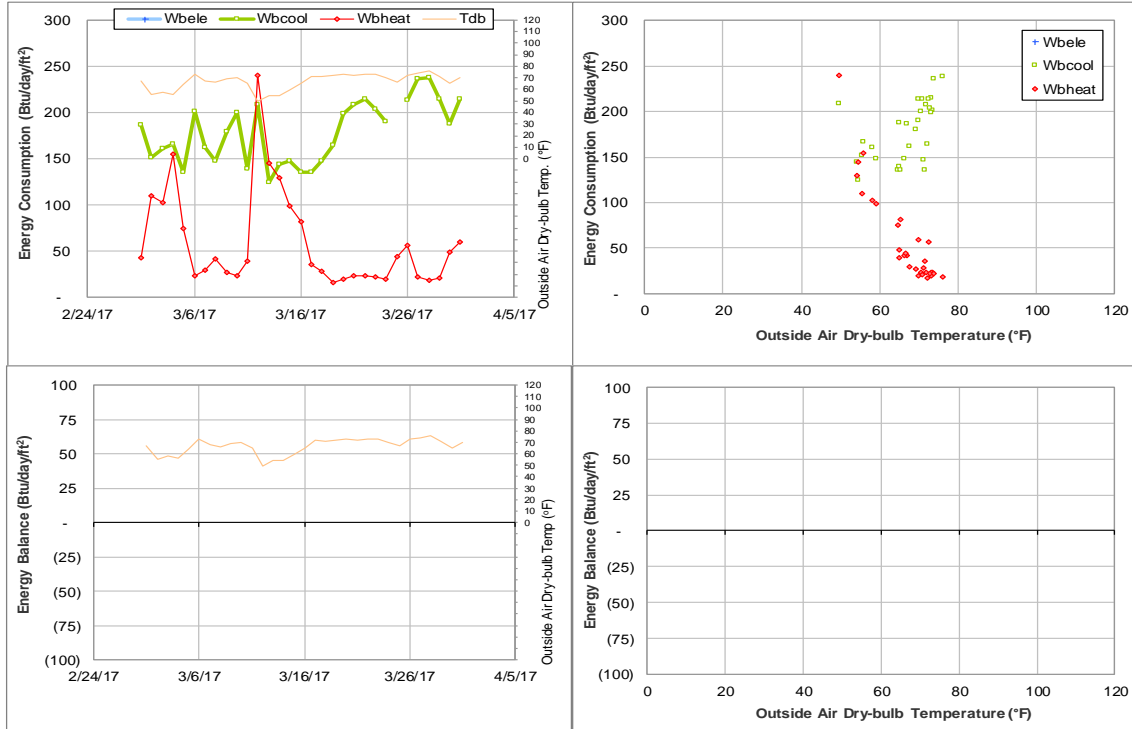


Figure IV-63 Rudder Tower TAMU BLDG # 446 Energy Balance Plot during March 2017

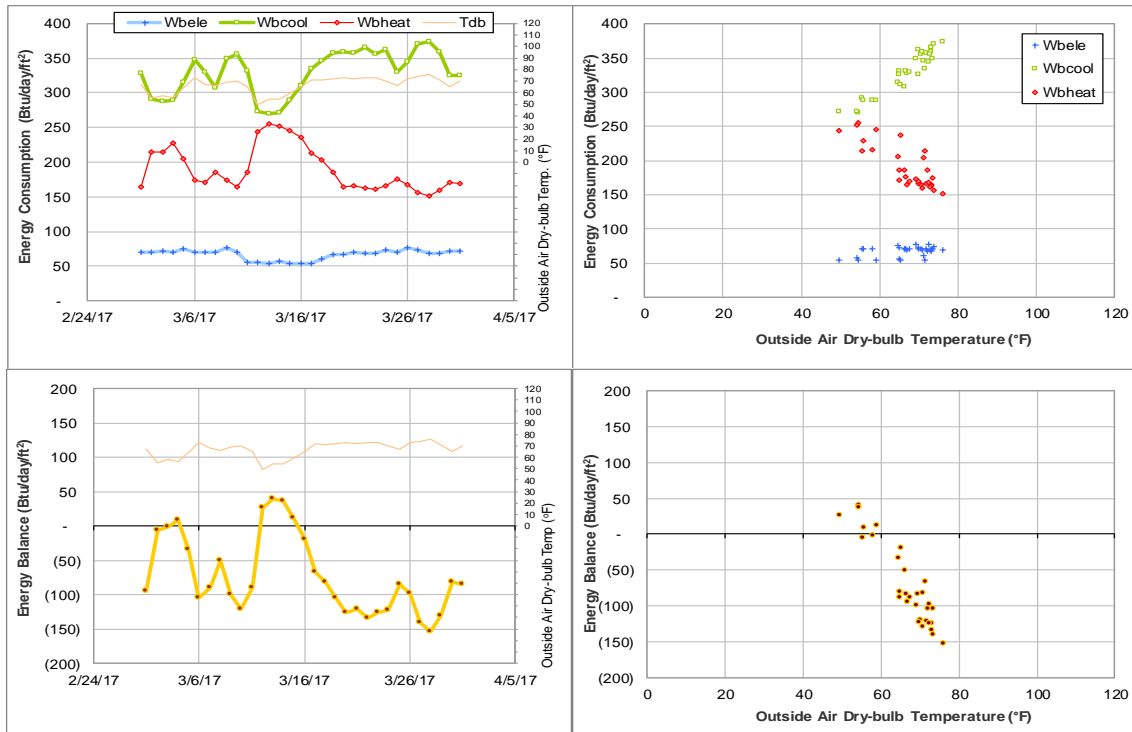


Figure IV-64 Aston Residence Hall TAMU BLDG # 447 Energy Balance Plot during March 2017

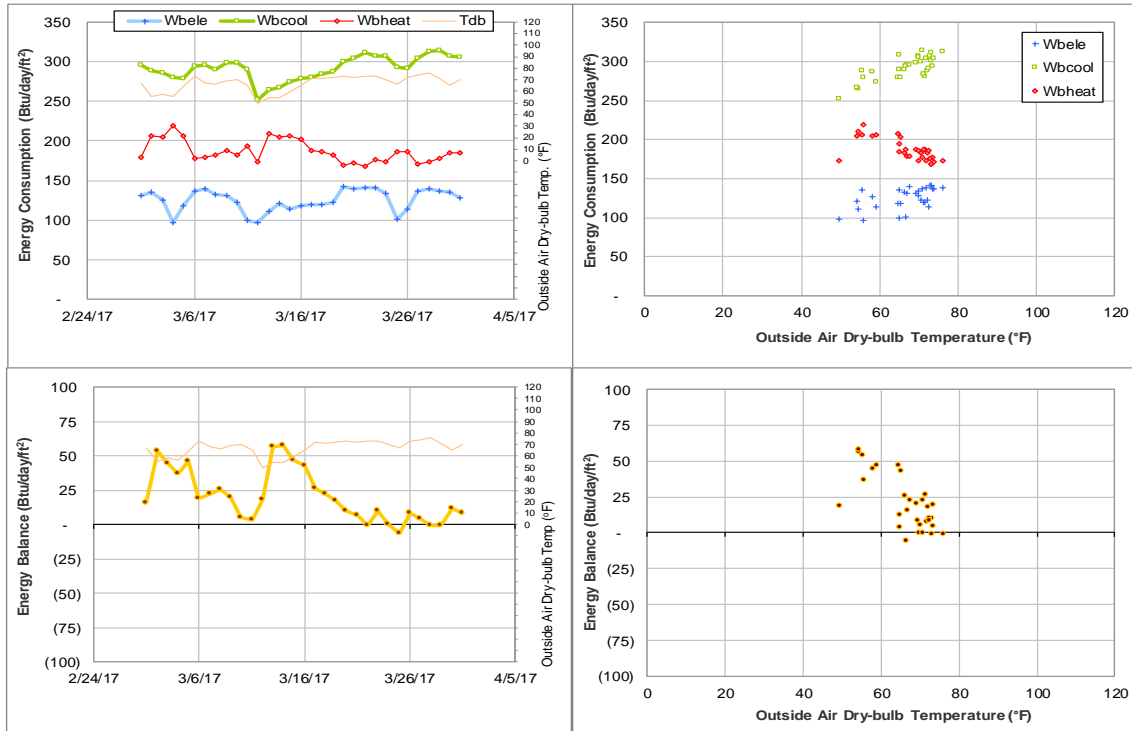


Figure IV-65 Adams Band Hall TAMU BLDG # 448 Energy Balance Plot during March 2017

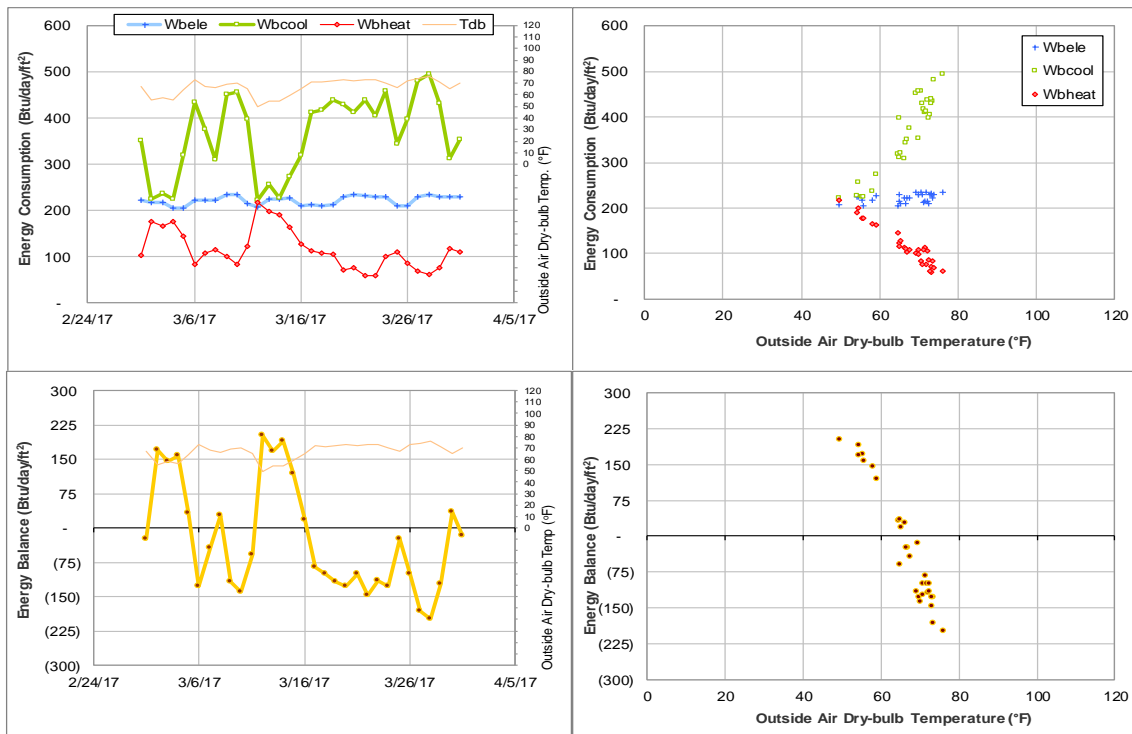


Figure IV-66 Biological Sciences Building - West TAMU BLDG # 449 Energy Balance Plot during March 2017

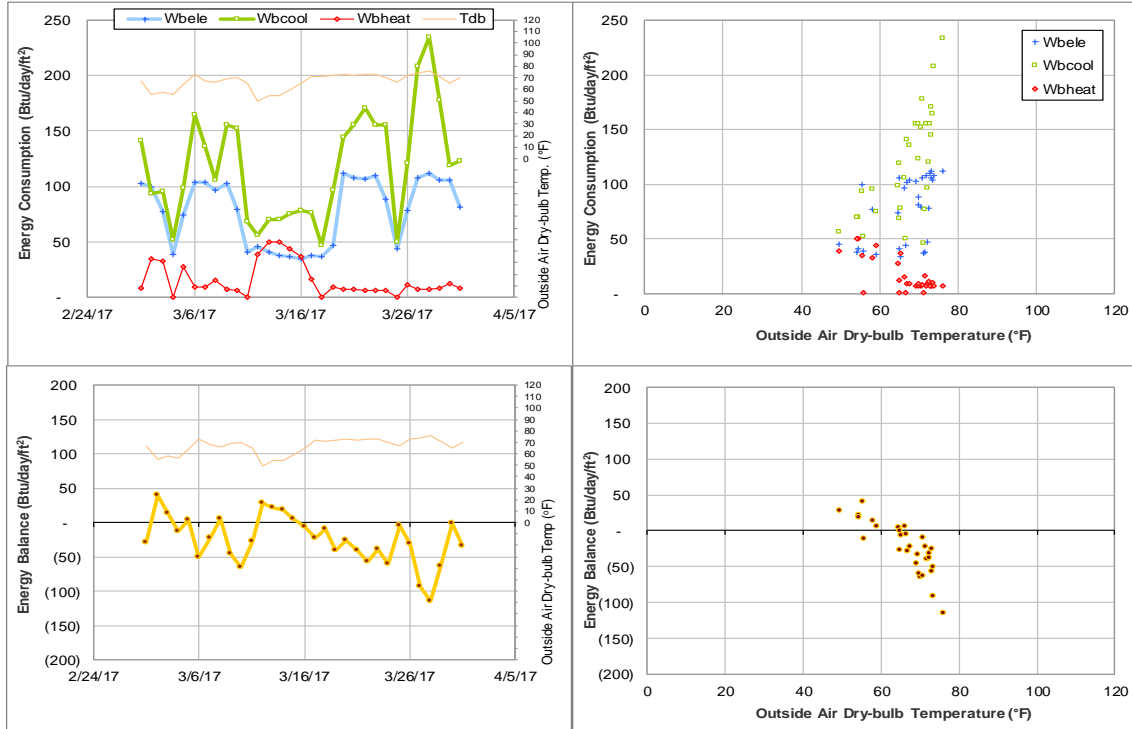


Figure IV-67 Duncan Dining Hall TAMU BLDG # 450 Energy Balance Plot during March 2017

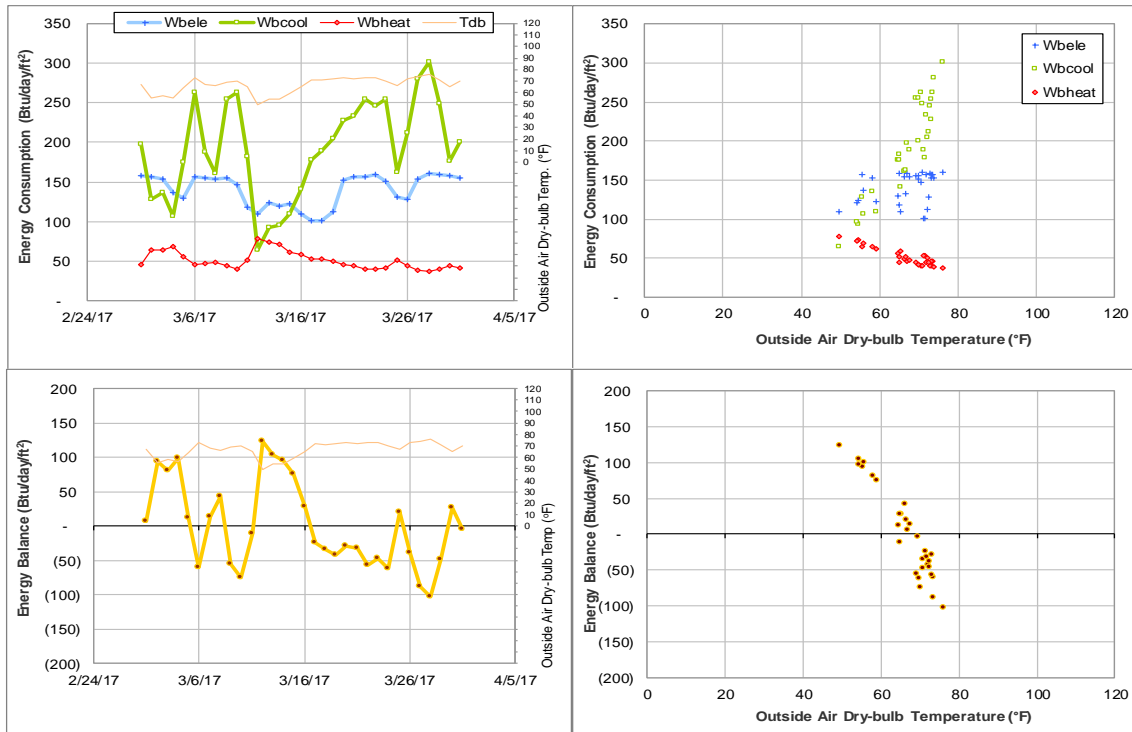


Figure IV-68 MSC TAMU BLDG # 454 Energy Balance Plot during March 2017

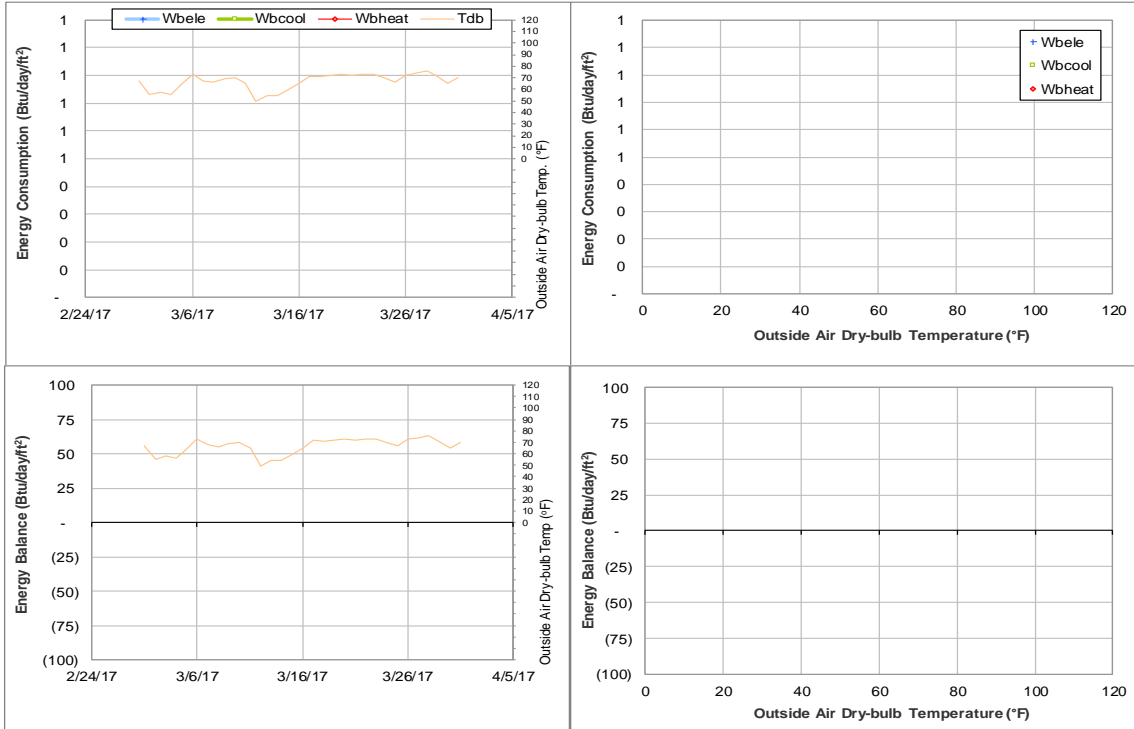


Figure IV-69 Military Sciences Building TAMU BLDG # 456 Energy Balance Plot during March 2017

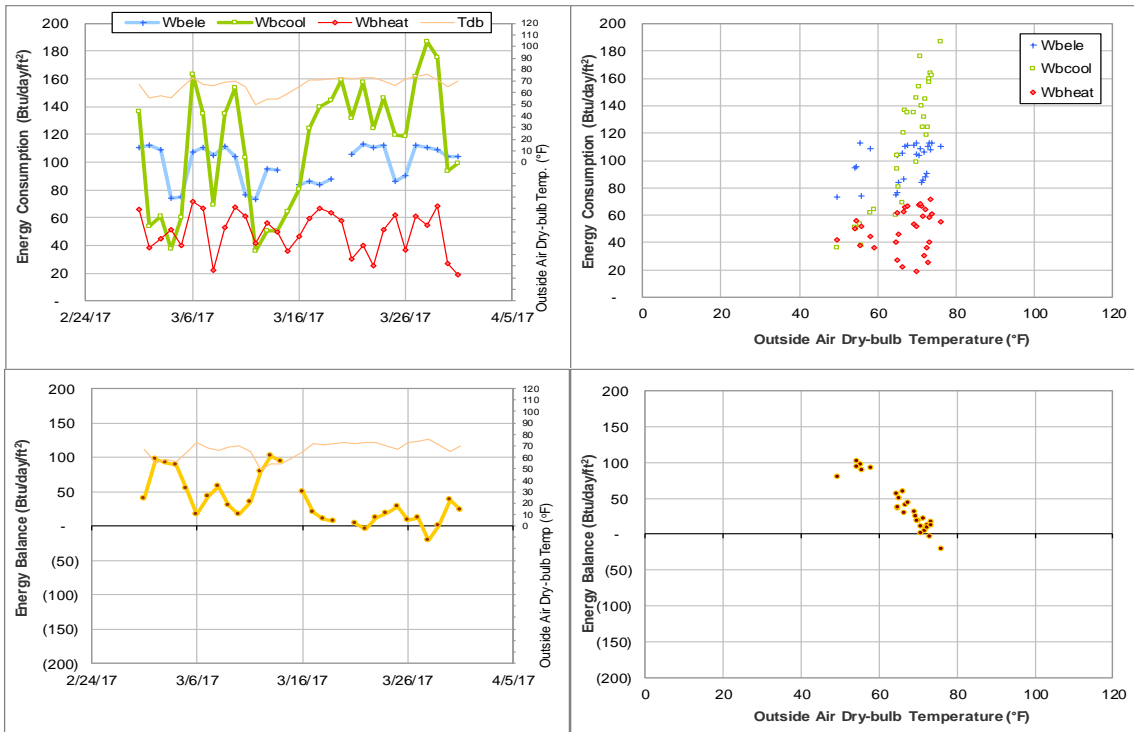


Figure IV-70 TAES Annex Building TAMU BLDG # 457 Energy Balance Plot during March 2017

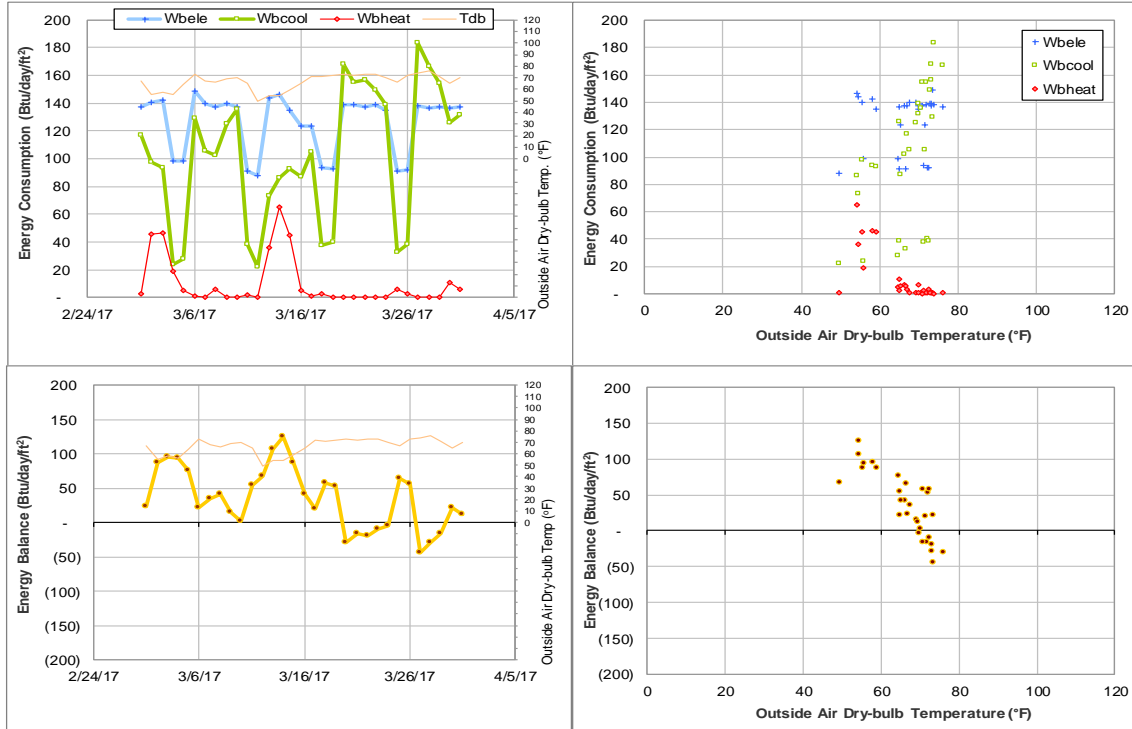


Figure IV-71 Coke Building TAMU BLDG # 461 Energy Balance Plot during March 2017

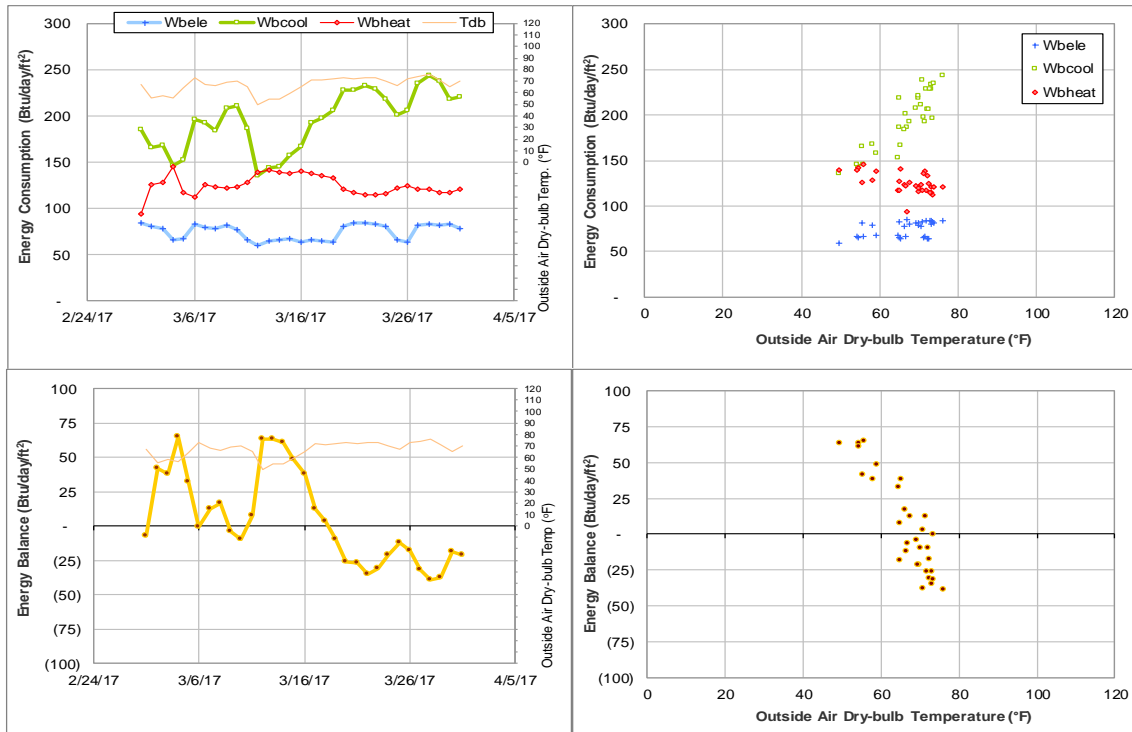


Figure IV-72 Academic Building TAMU BLDG # 462 Energy Balance Plot during March 2017

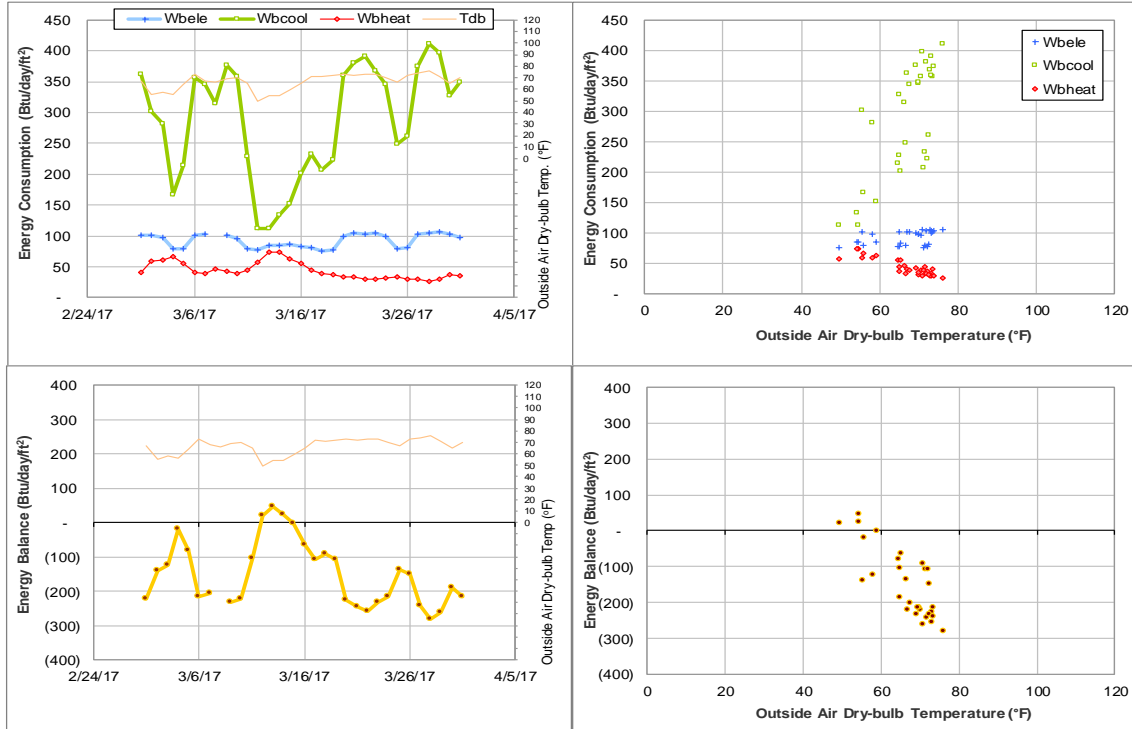


Figure IV-73 Psychology Building TAMU BLDG # 463 Energy Balance Plot during March 2017

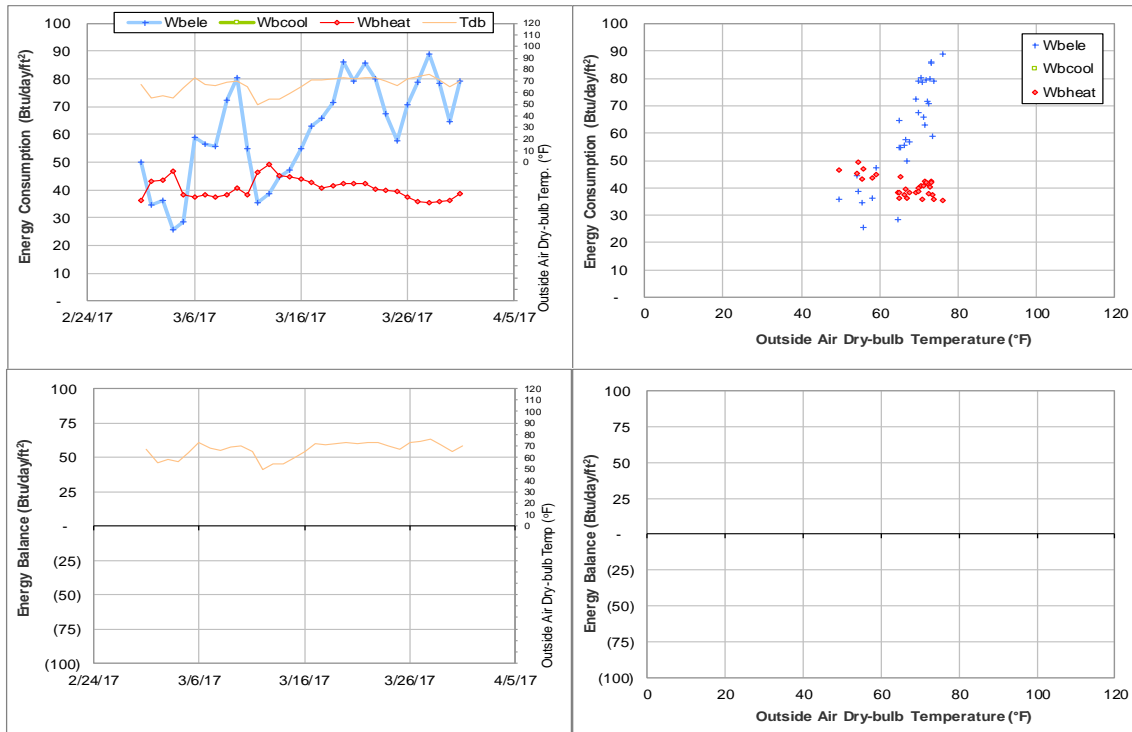


Figure IV-74 State Chemist Building TAMU BLDG # 464 Energy Balance Plot during March 2017

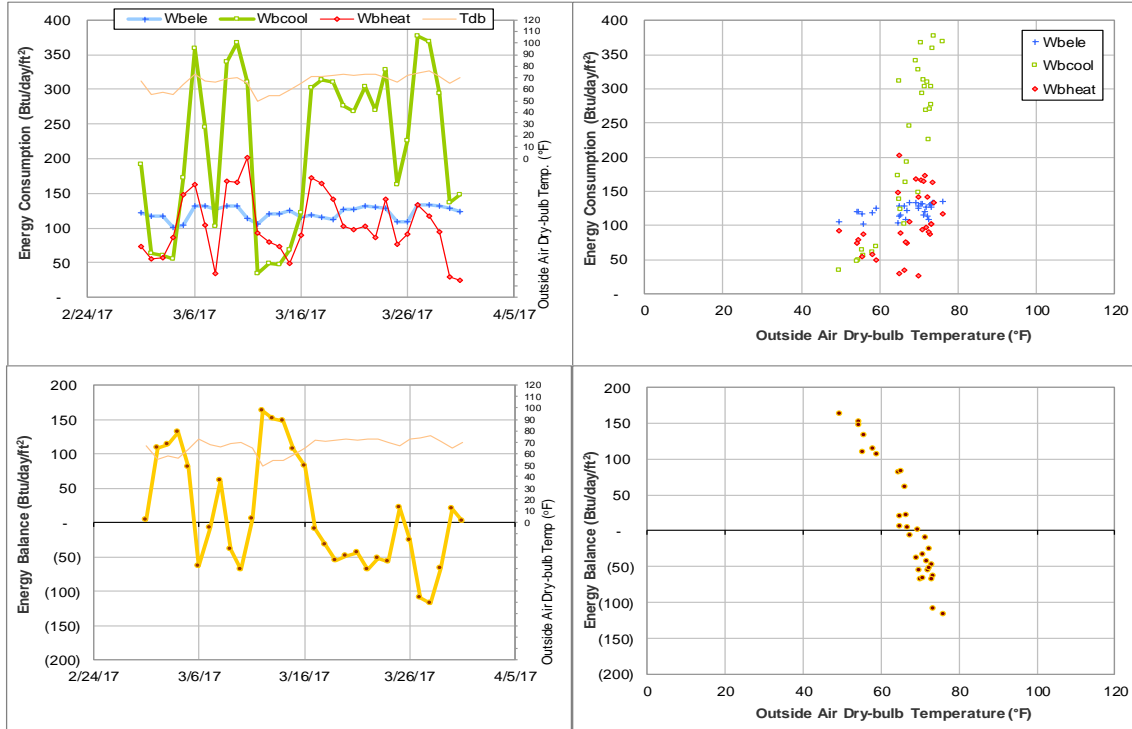


Figure IV-75 Butler Hall TAMU BLDG # 465 Energy Balance Plot during March 2017

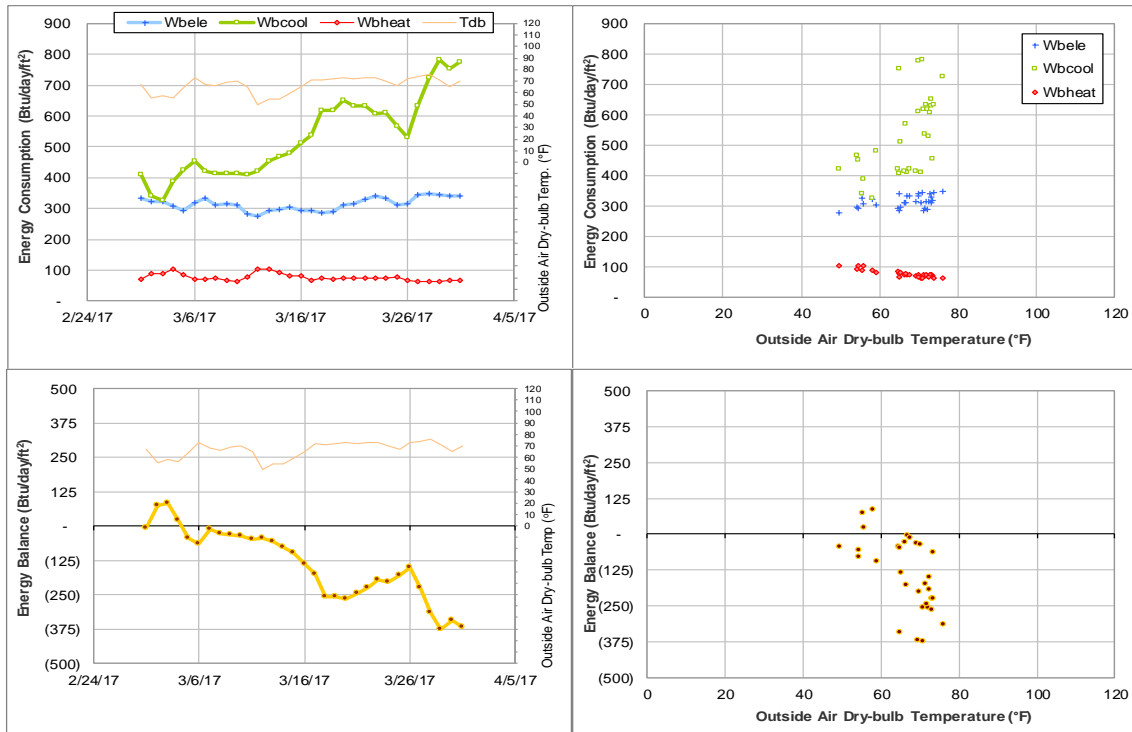


Figure IV-76 Biological Sciences Building - East TAMU BLDG # 467 Energy Balance Plot during March 2017

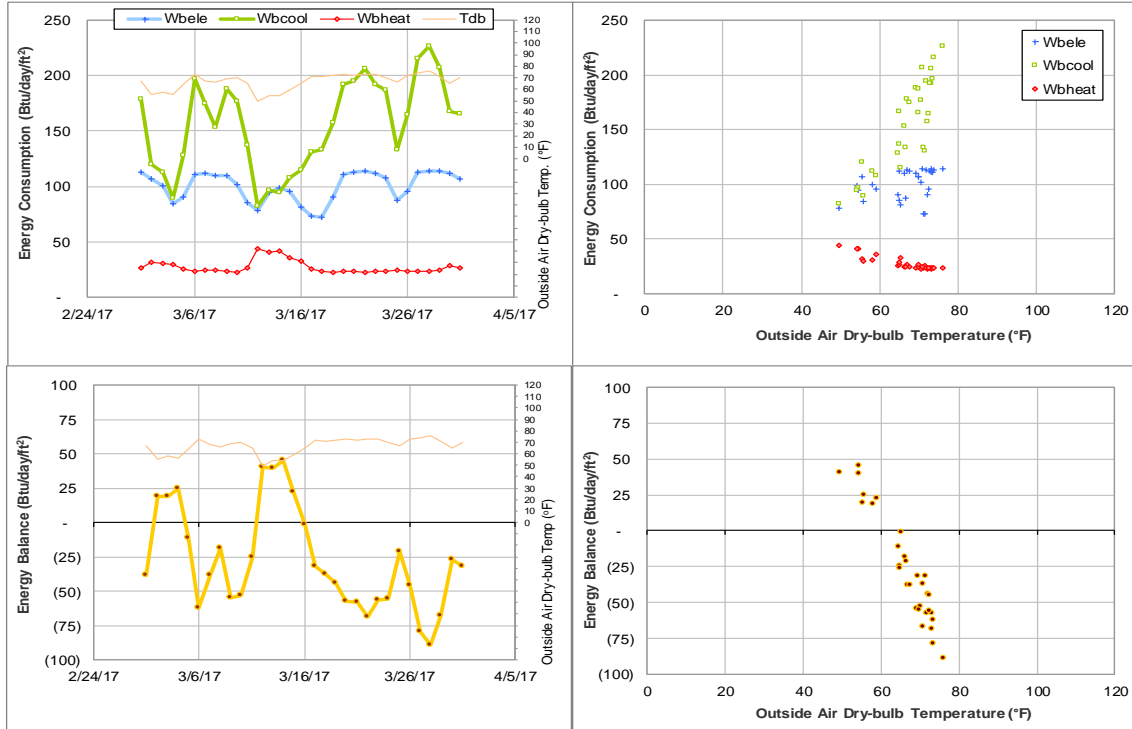


Figure IV-77 Evans Library TAMU BLDG # 468 Energy Balance Plot during March 2017

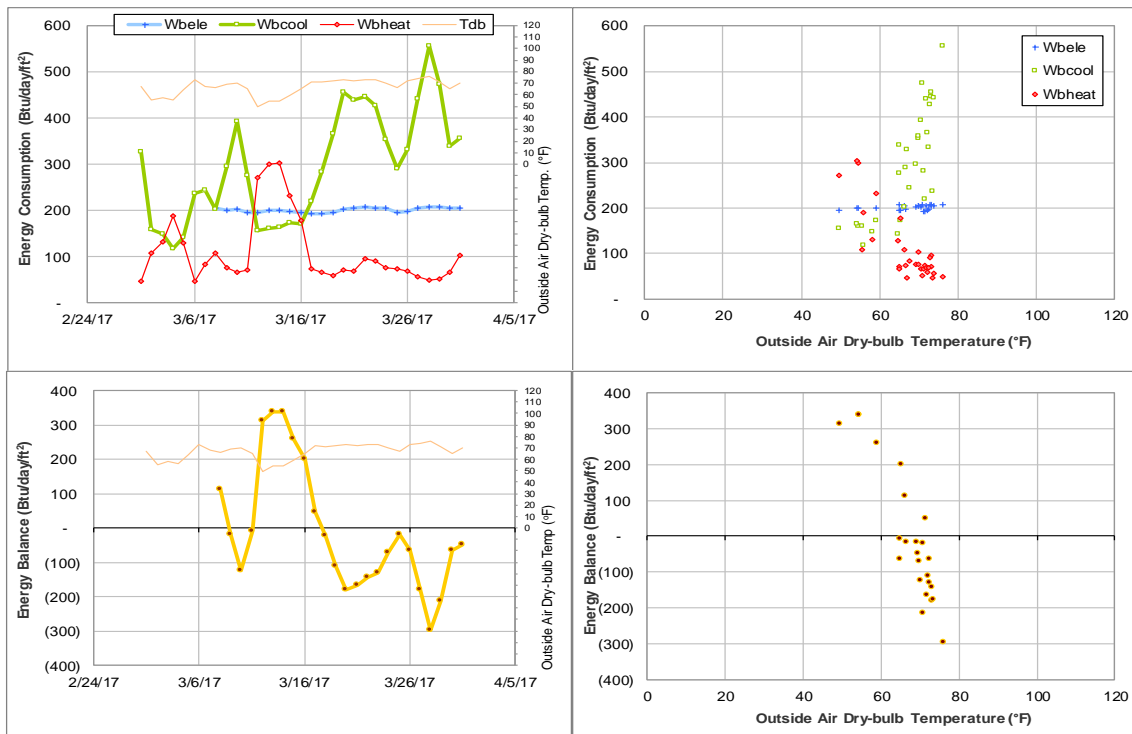


Figure IV-78 Central Campus Parking Garage TAMU BLDG # 469 Energy Balance Plot during March 2017

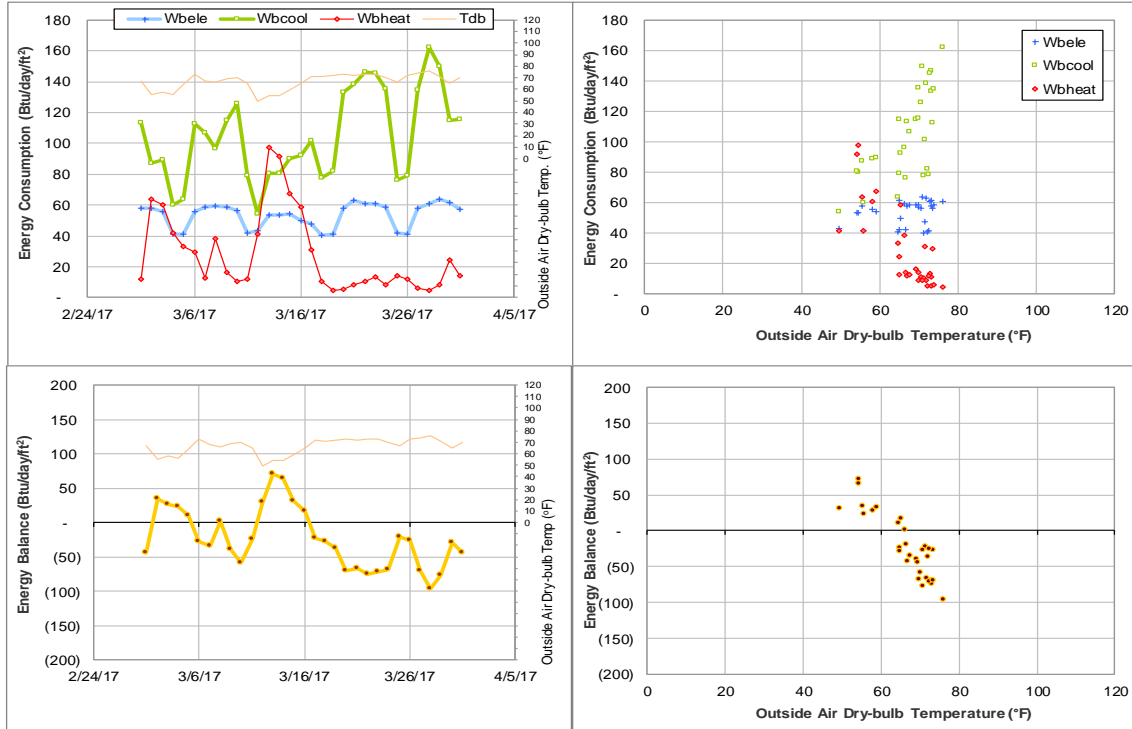


Figure IV-79 Glasscock History Bldg TAMU BLDG # 470 Energy Balance Plot during March 2017

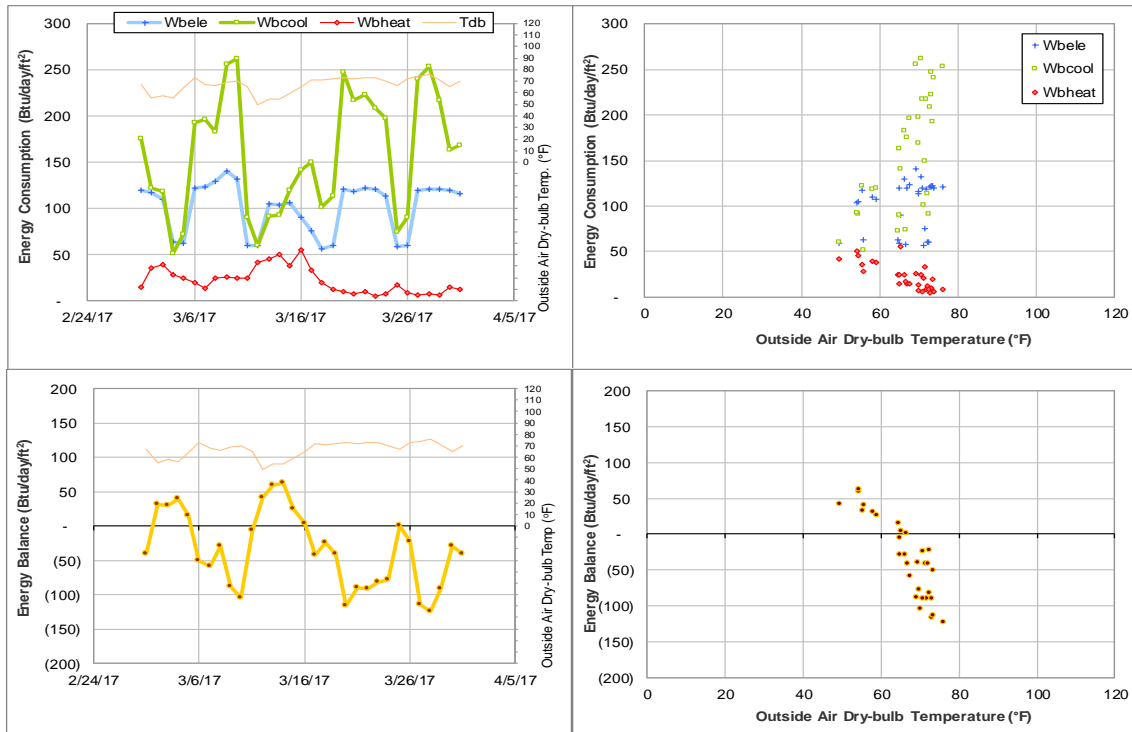


Figure IV-80 Pavilion TAMU BLDG # 471 Energy Balance Plot during March 2017

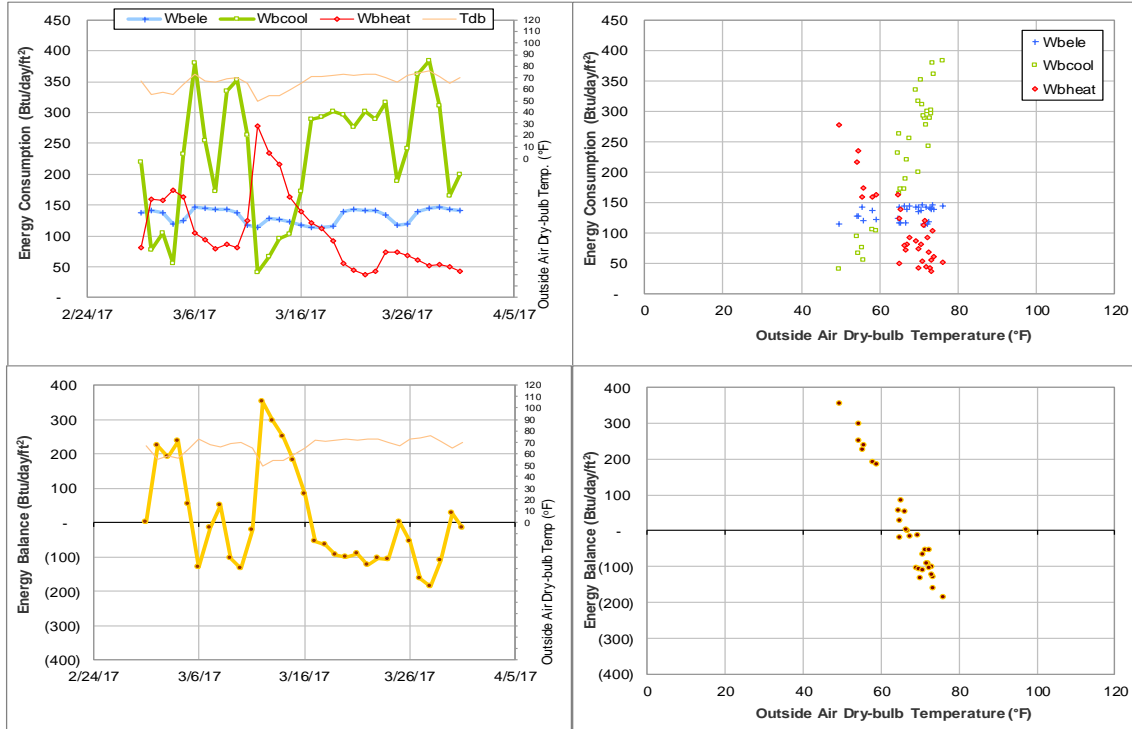


Figure IV-81 Animal Industries TAMU BLDG # 472 Energy Balance Plot during March 2017

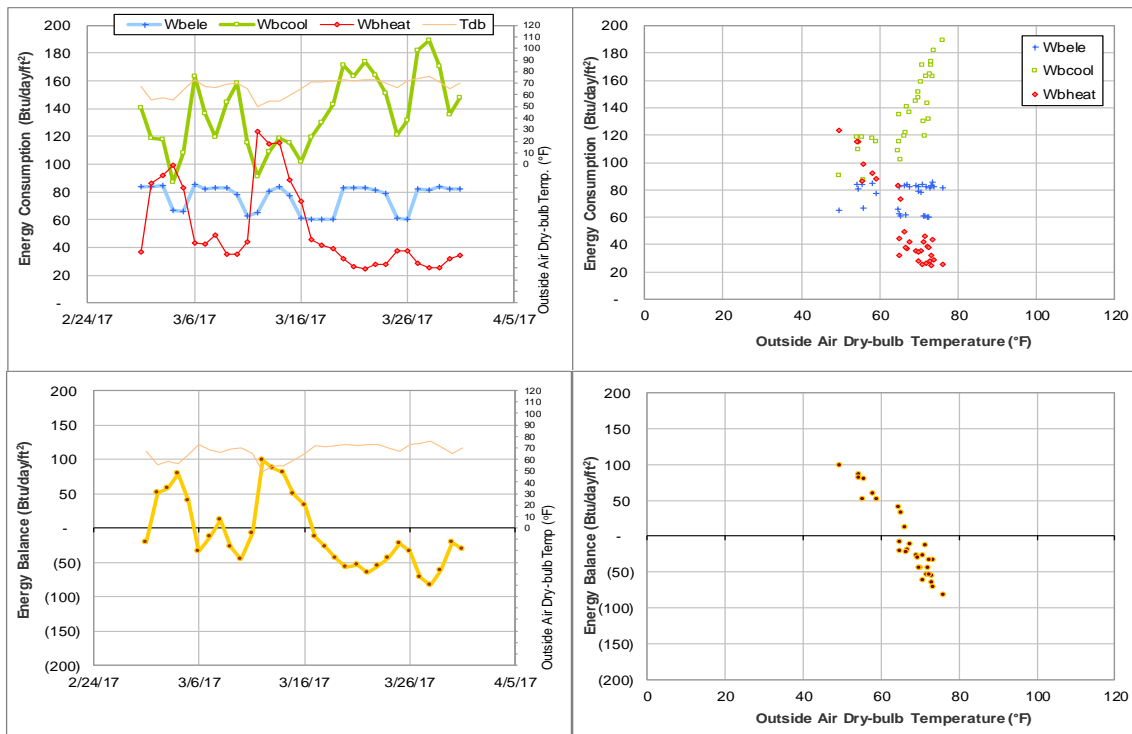


Figure IV-82 Williams Administration Building TAMU BLDG # 473 Energy Balance Plot during March 2017

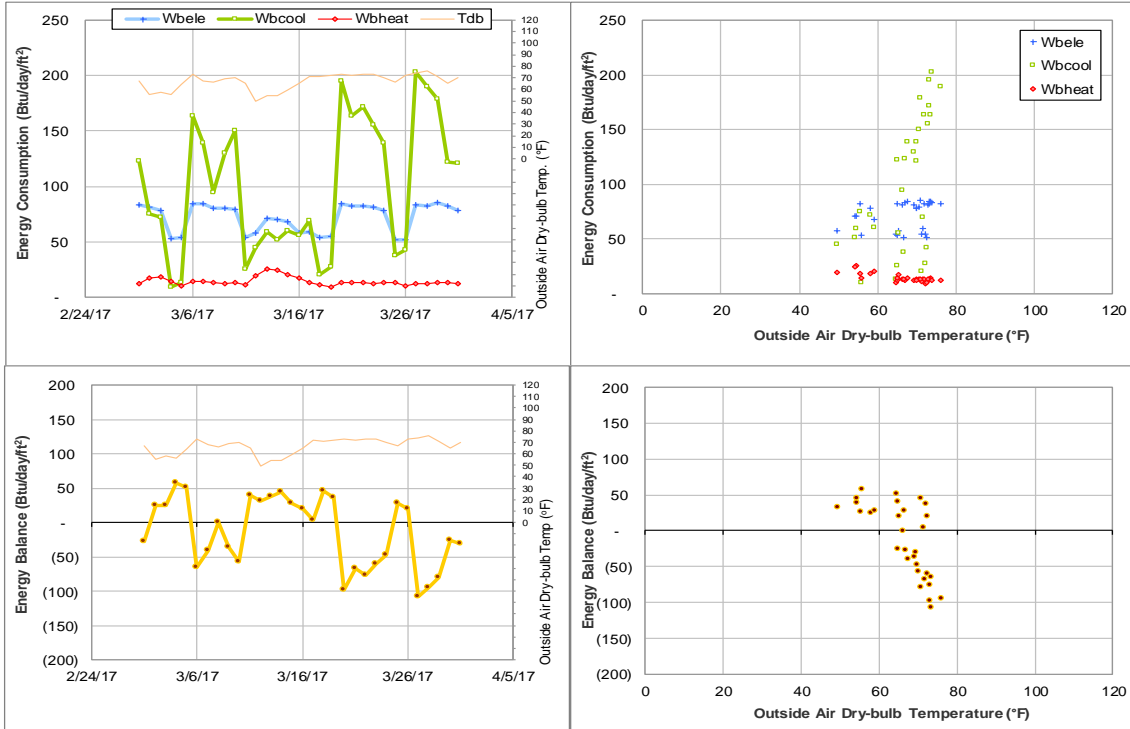


Figure IV-83 YMCA Building TAMU BLDG # 474 Energy Balance Plot during March 2017

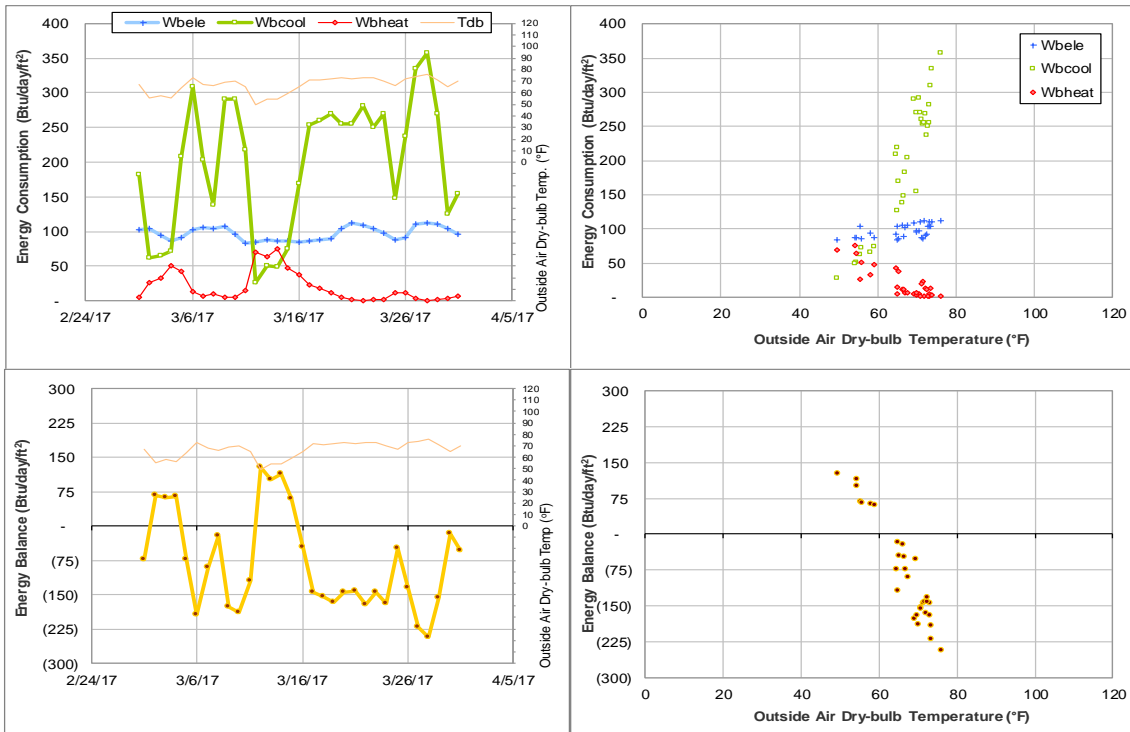


Figure IV-84 Francis Hall TAMU BLDG # 476 Energy Balance Plot during March 2017

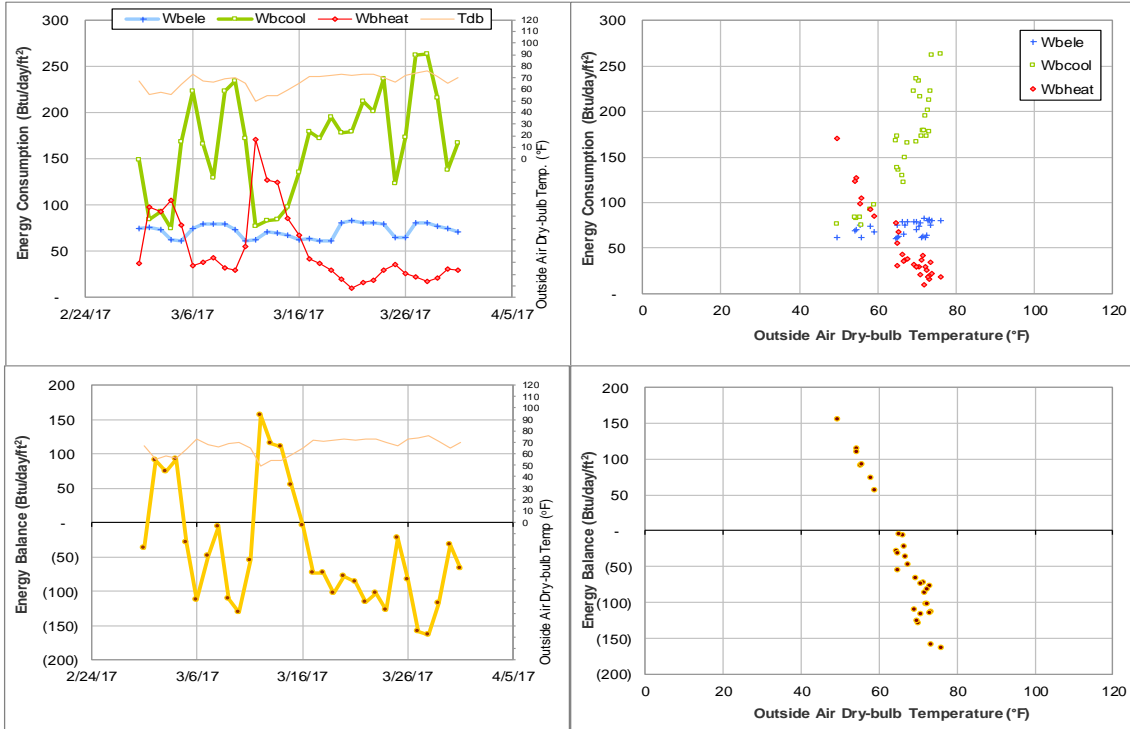


Figure IV-85 Anthropology Building TAMU BLDG # 477 Energy Balance Plot during March 2017

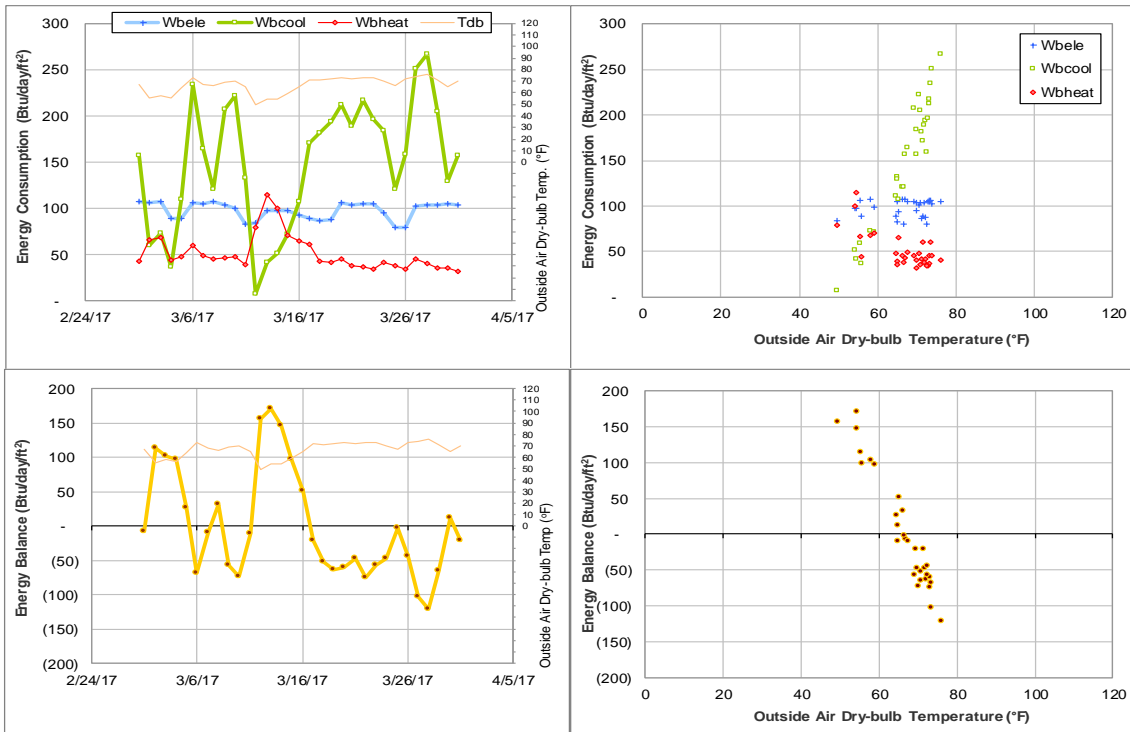


Figure IV-86 Scoates Hall TAMU BLDG # 478 Energy Balance Plot during March 2017

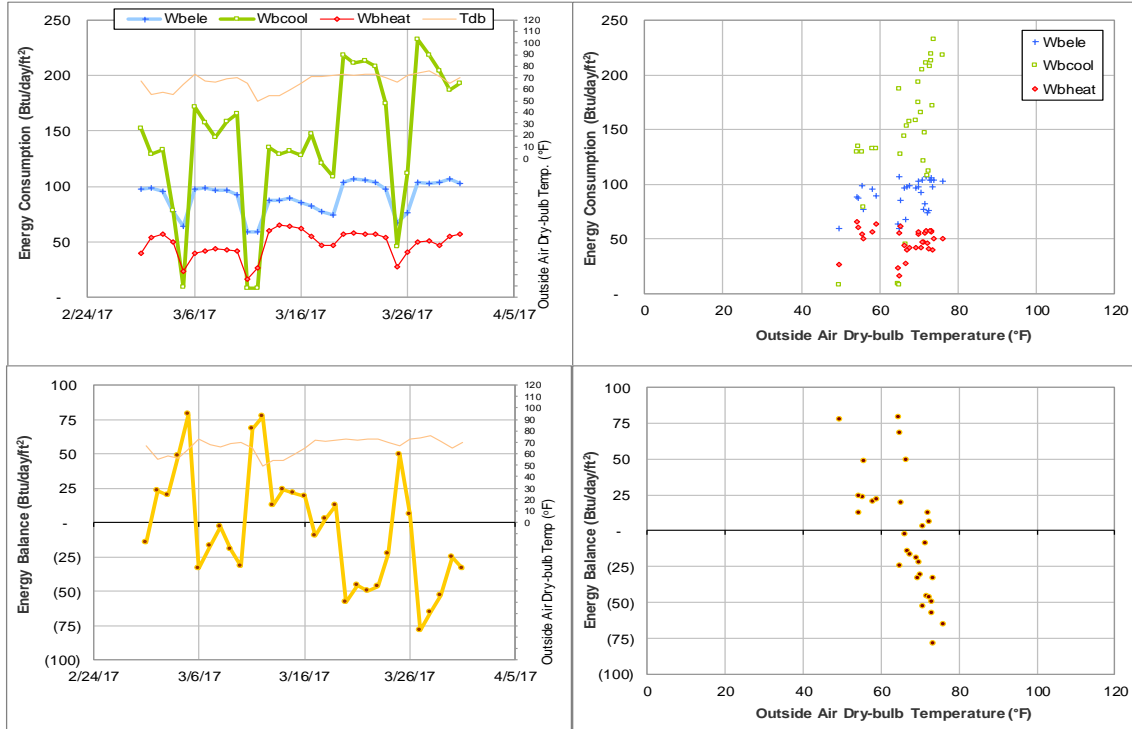


Figure IV-87 Bolton Hall TAMU BLDG # 480 Energy Balance Plot during March 2017

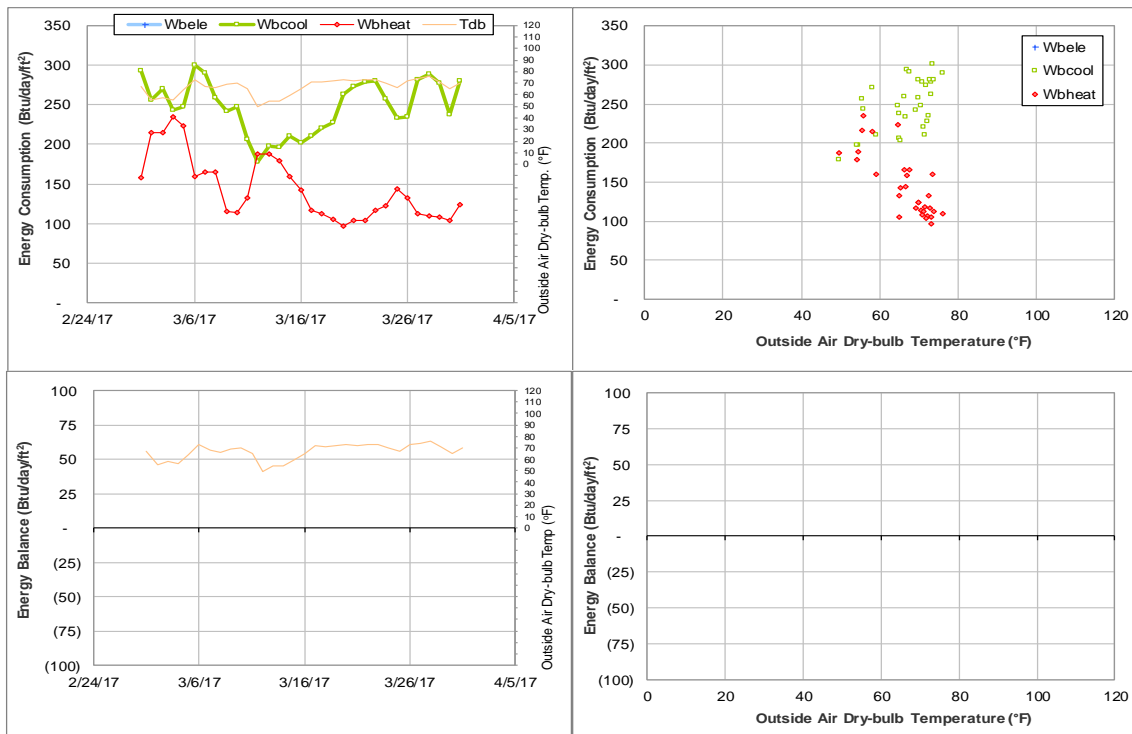


Figure IV-88 Heaton Hall TAMU BLDG # 481 Energy Balance Plot during March 2017

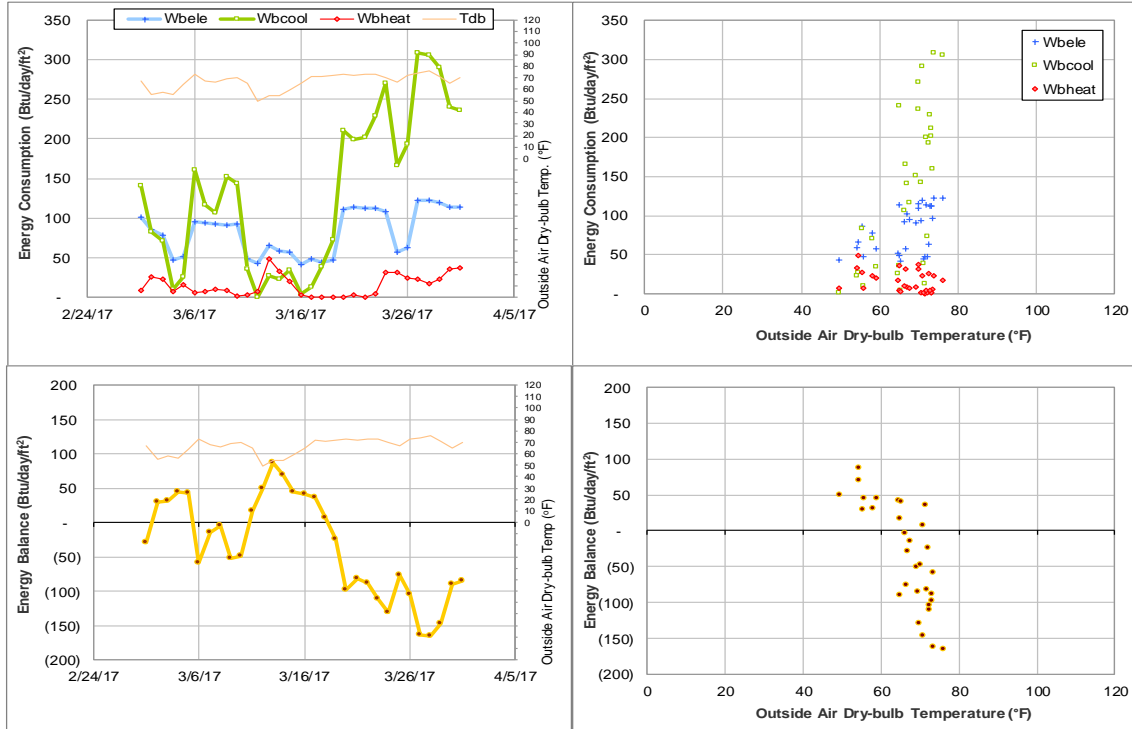


Figure IV-89 Fermier Hall TAMU BLDG # 482 Energy Balance Plot during March 2017

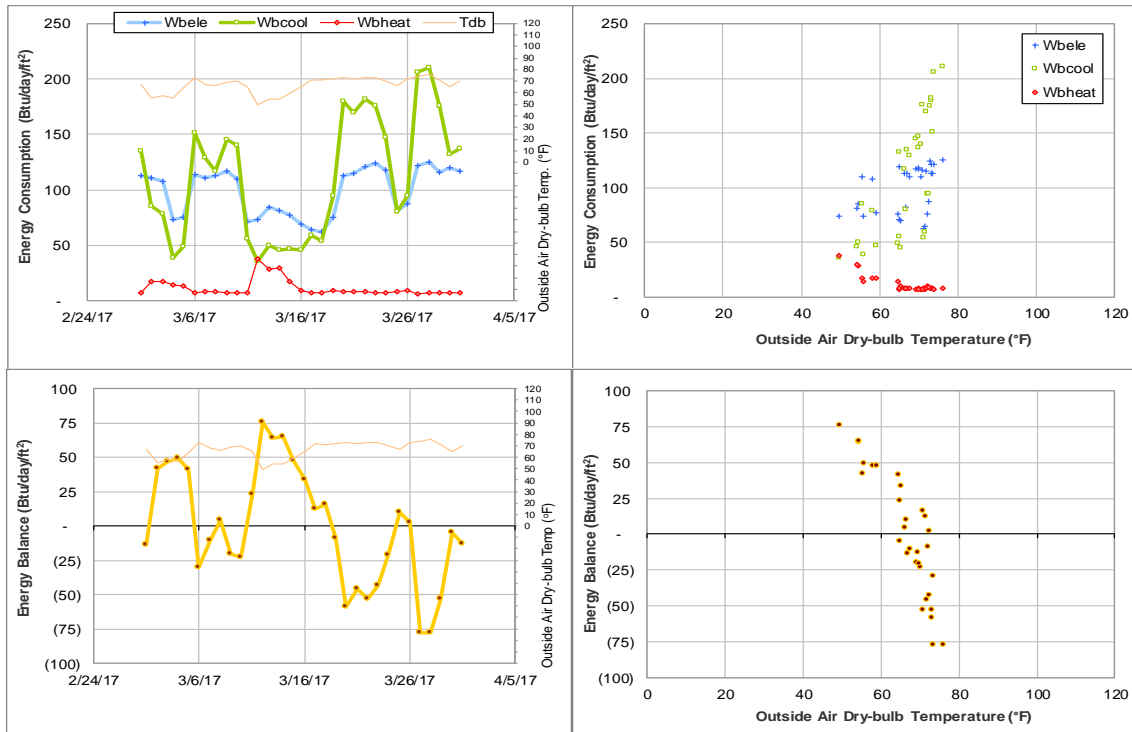


Figure IV-90 Thompson Hall TAMU BLDG # 483 Energy Balance Plot during March 2017

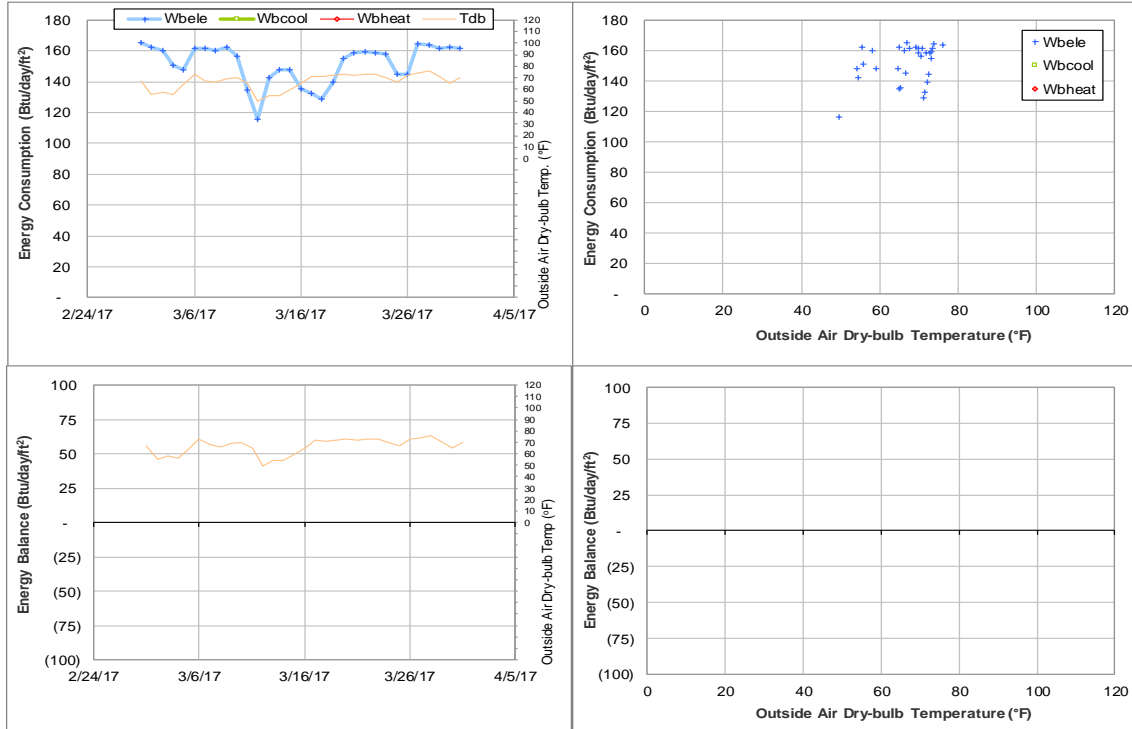


Figure IV-91 Chemistry Building TAMU BLDG # 484 Energy Balance Plot during March 2017

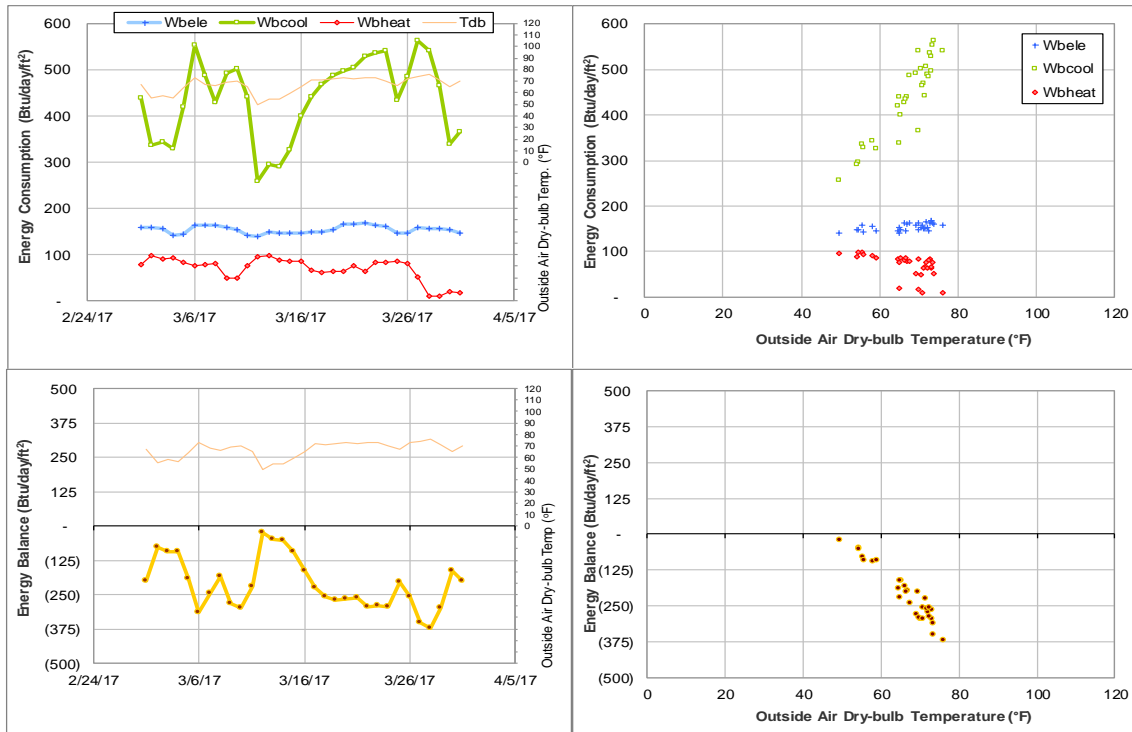


Figure IV-92 Halbouty Geosciences Building TAMU BLDG # 490 Energy Balance Plot during March 2017

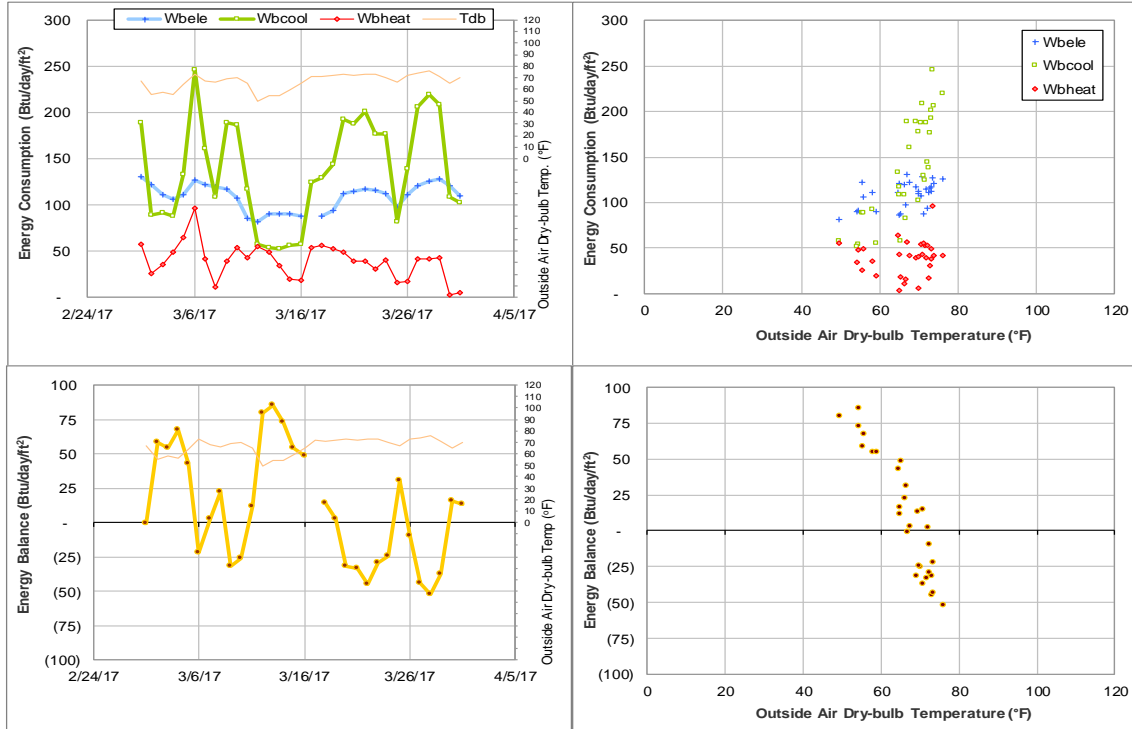


Figure IV-93 Civil Engineering Building TAMU BLDG # 492 Energy Balance Plot during March 2017

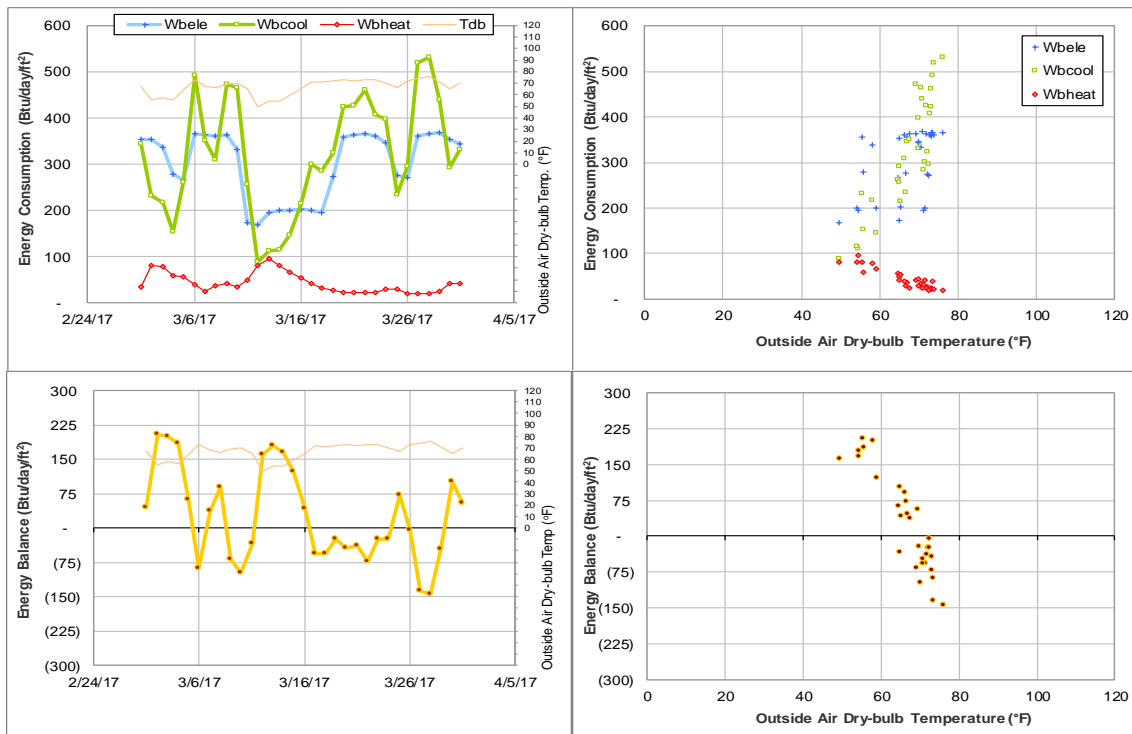


Figure IV-94 Sbsa Dining Hall TAMU BLDG # 495 Energy Balance Plot during March 2017

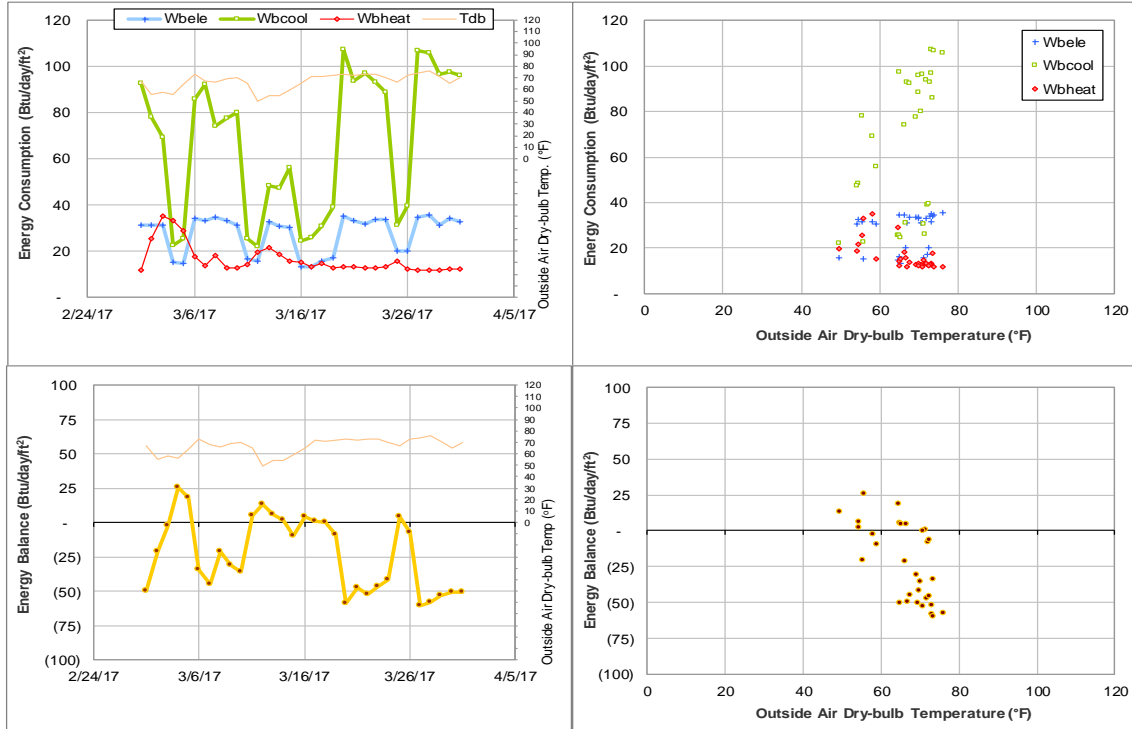


Figure IV-95 Utilities & Energy Services Central Office TAMU BLDG # 496 Energy Balance Plot during March 2017

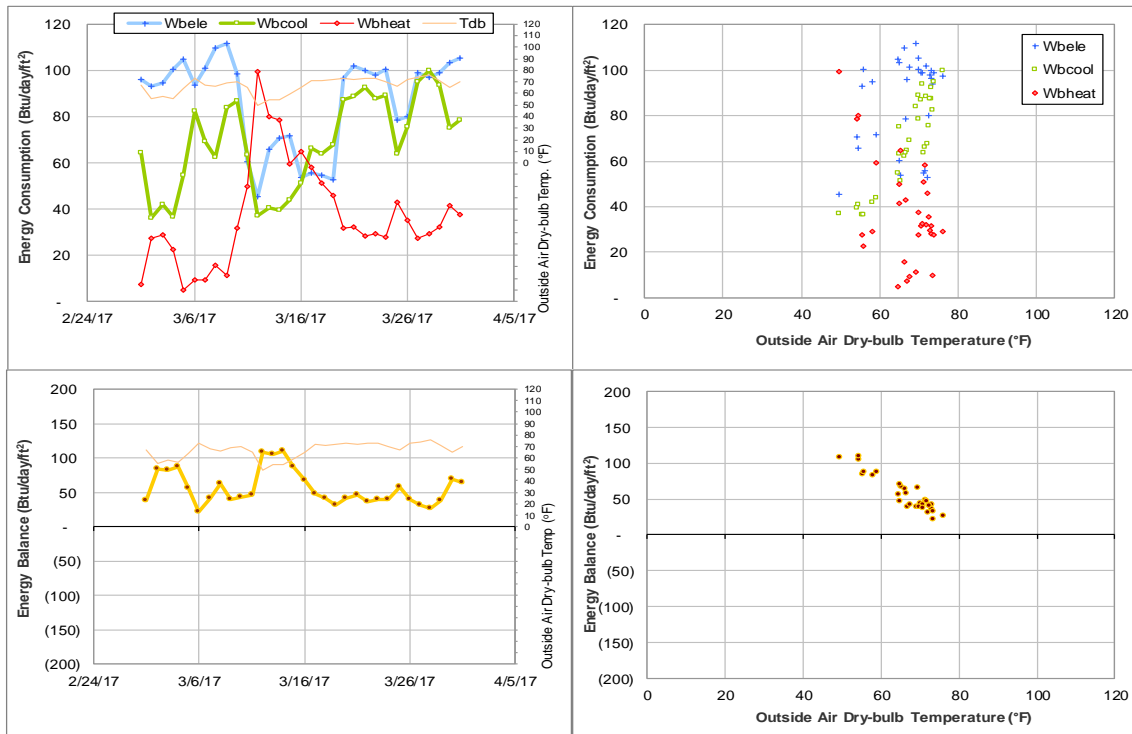


Figure IV-96 Engineering Innovation Center TAMU BLDG # 499 Energy Balance Plot during March 2017

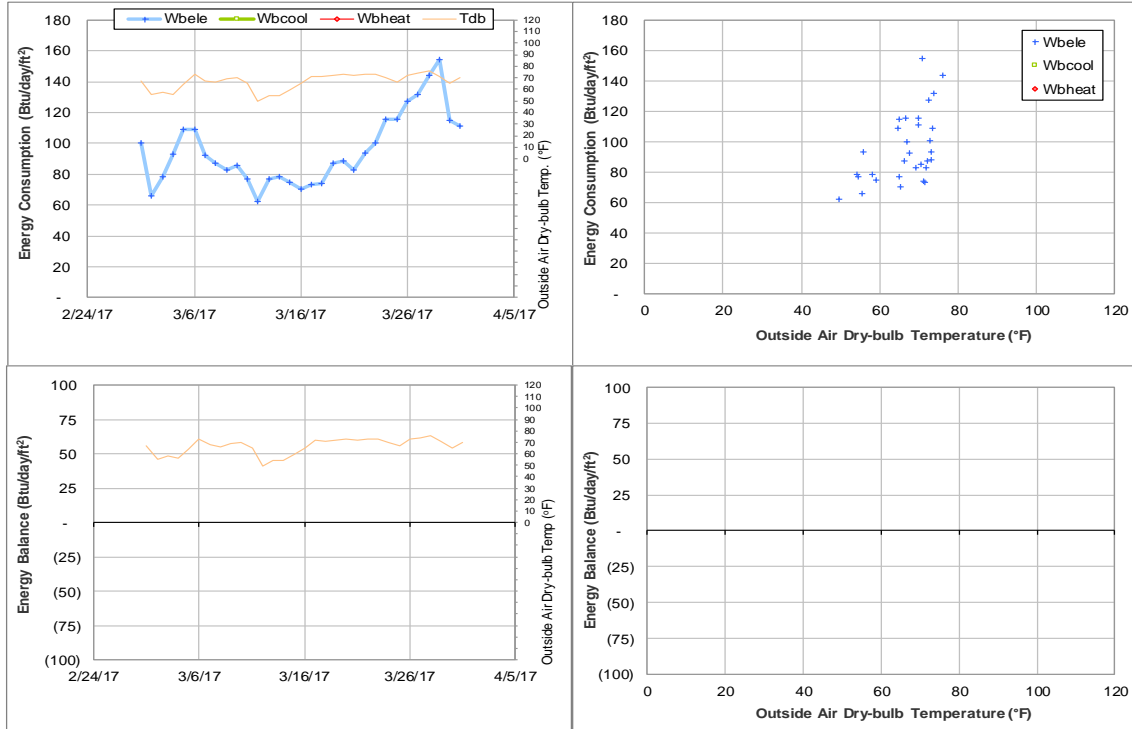


Figure IV-97 Concrete Materials Laboratory TAMU BLDG # 501 Energy Balance Plot during March 2017

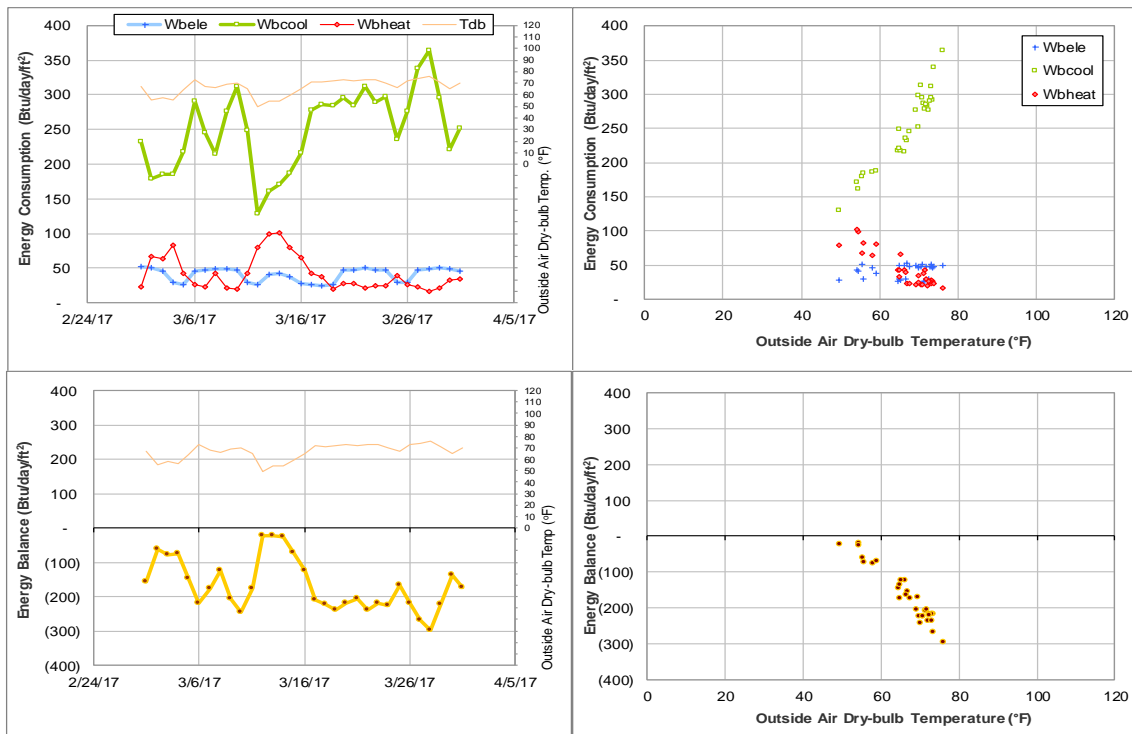


Figure IV-98 Nagle Hall TAMU BLDG # 506 Energy Balance Plot during March 2017

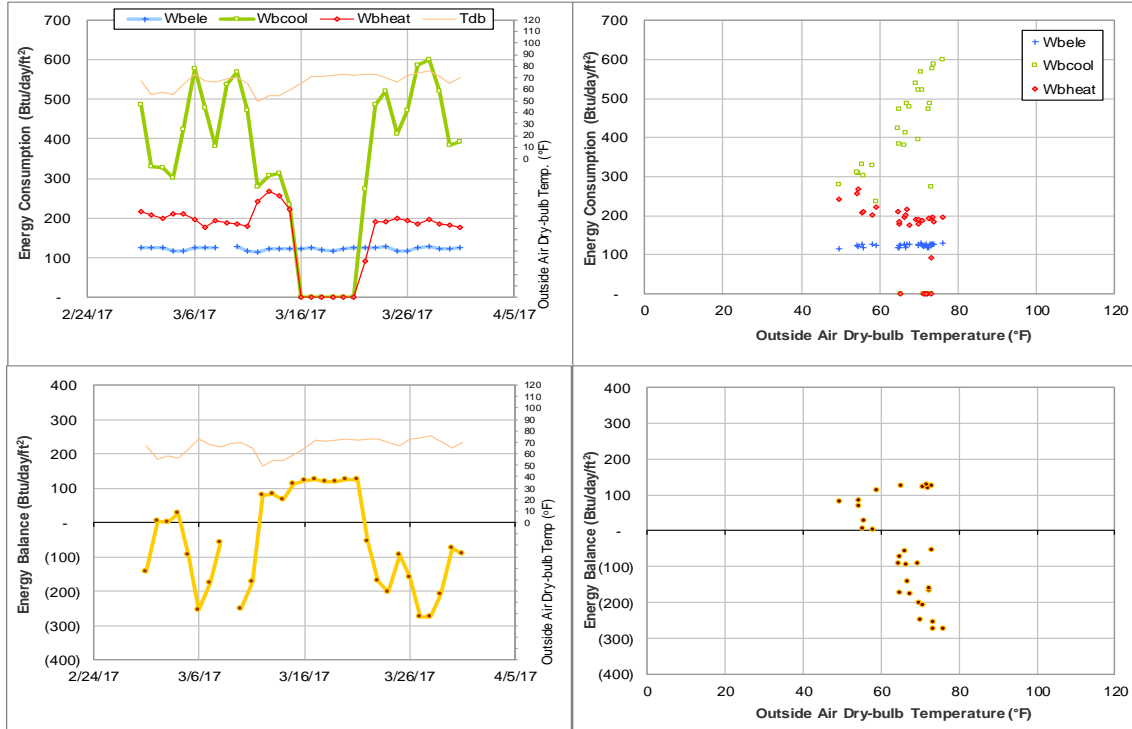


Figure IV-99 Veterinary Medical Science Building TAMU BLDG # 507 Energy Balance Plot during March 2017

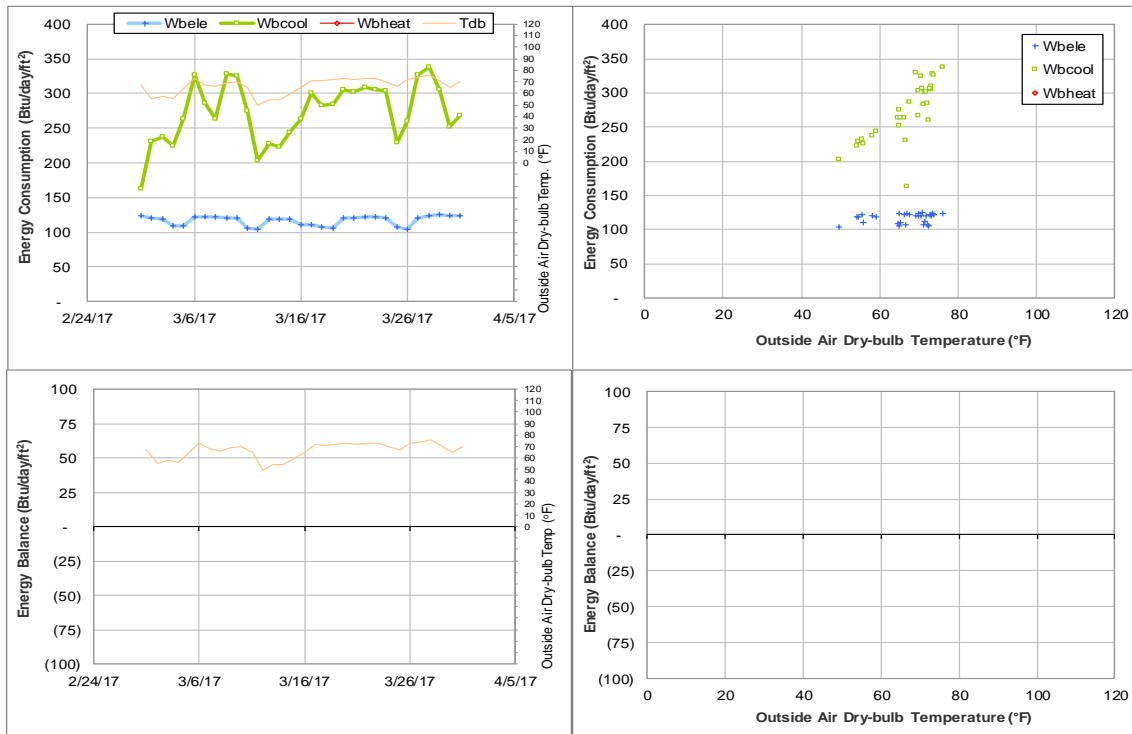


Figure IV-100 Veterinary Teaching Hospital and Med Adm TAMU BLDG # 508 Energy Balance Plot during March 2017

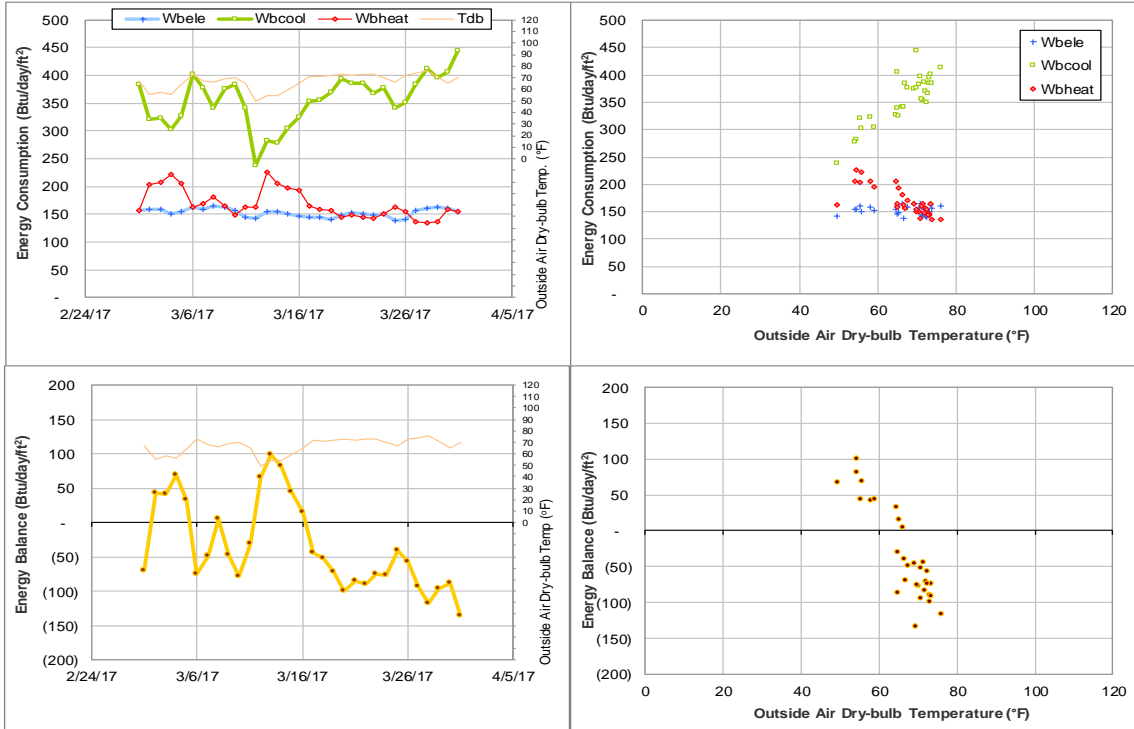


Figure IV-101 Heep Laboratory Building TAMU BLDG # 511 Energy Balance Plot during March 2017

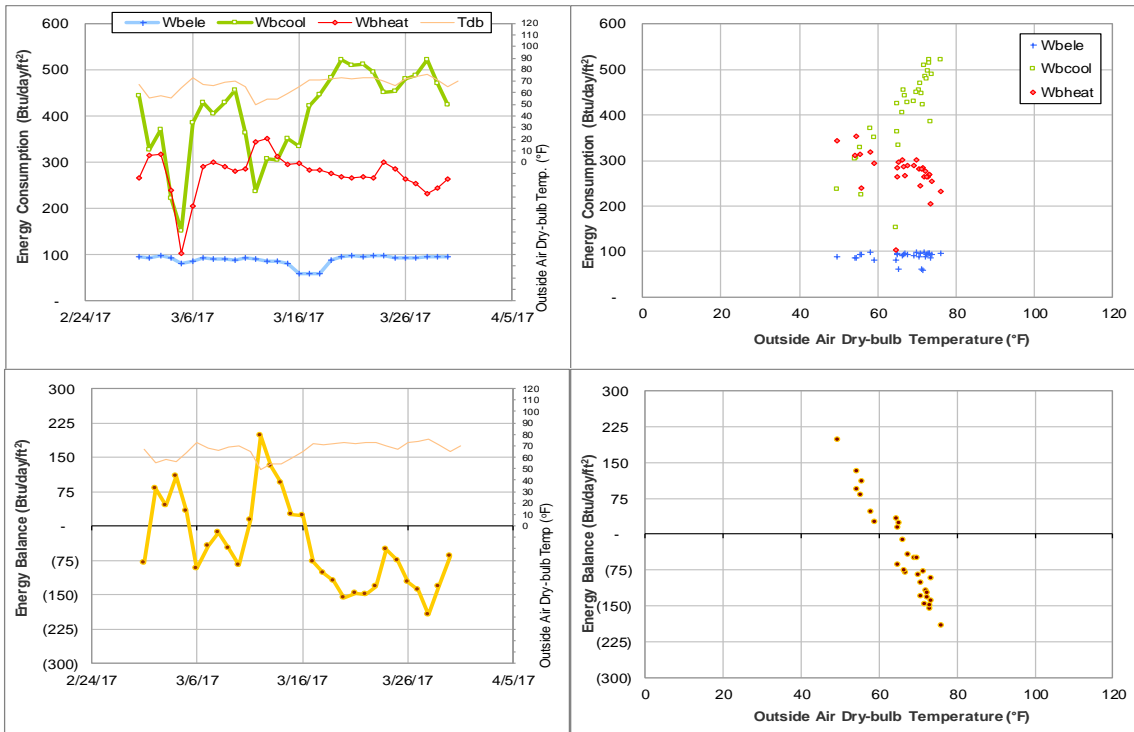


Figure IV-102 All Faiths Chapel TAMU BLDG # 512 Energy Balance Plot during March 2017

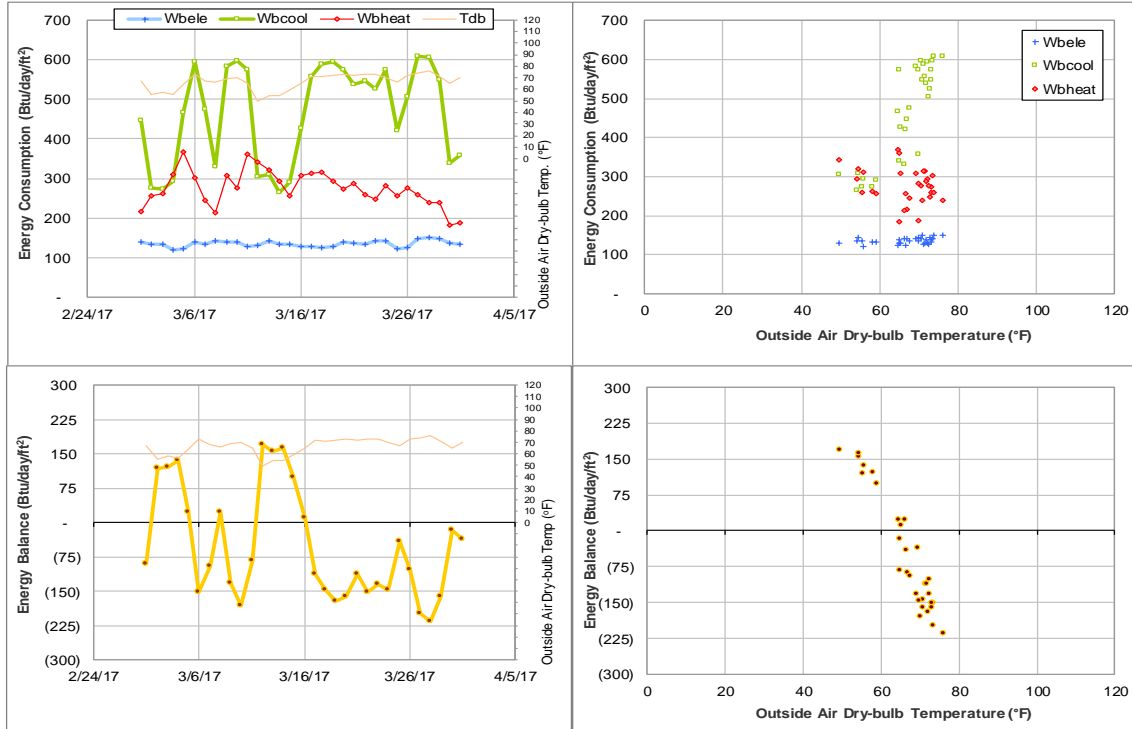


Figure IV-103 Doherty Building TAMU BLDG # 513 Energy Balance Plot during March 2017

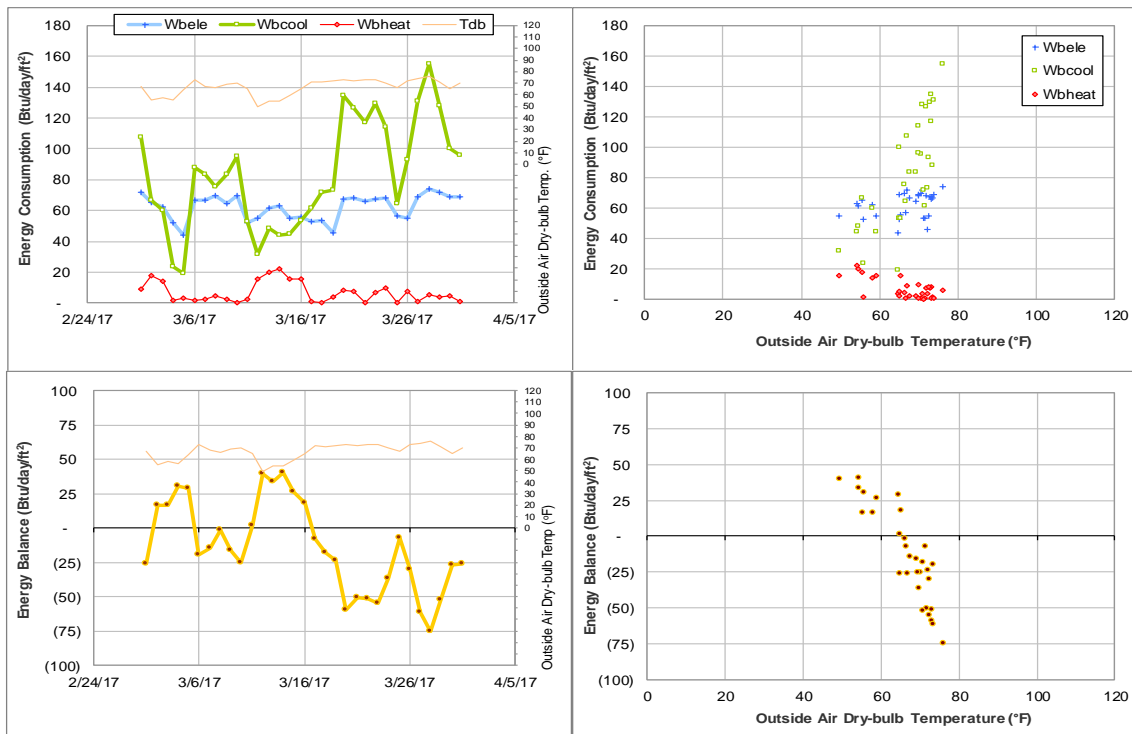


Figure IV-104 Munnerlyn Astronomy & Space Sciences Engineering TAMU BLDG # 514 Energy Balance Plot during March 2017

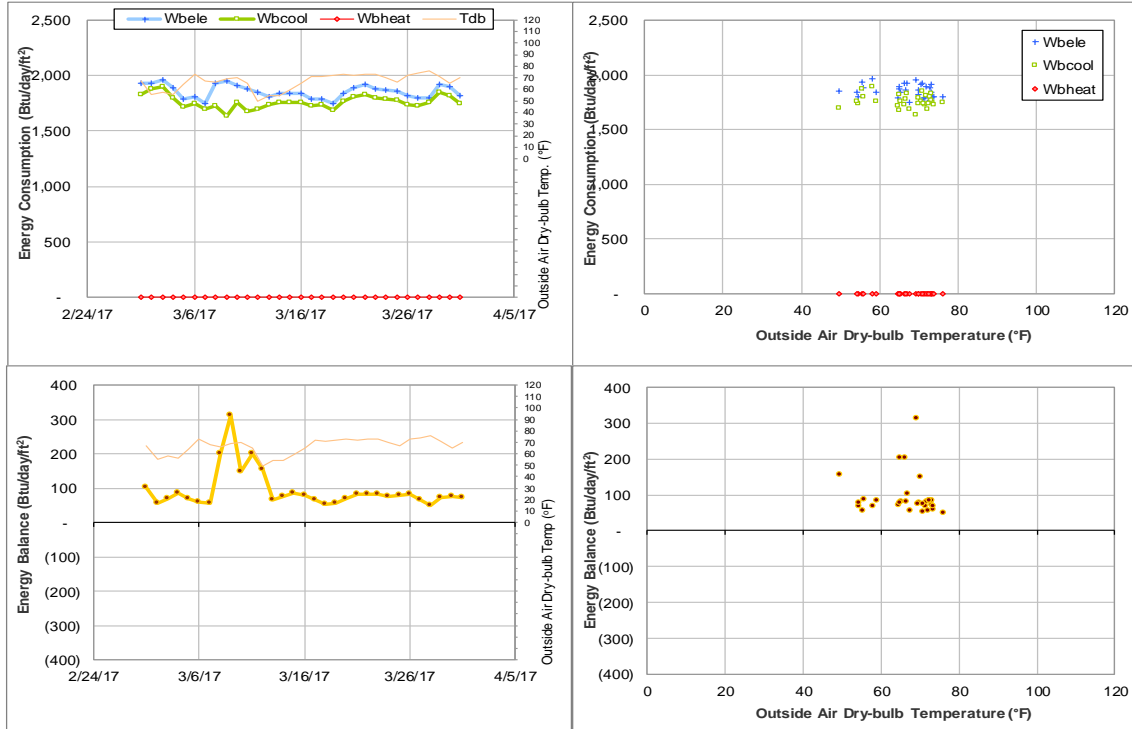


Figure IV-105 Computing Services Center TAMU BLDG # 516 Energy Balance Plot during March 2017

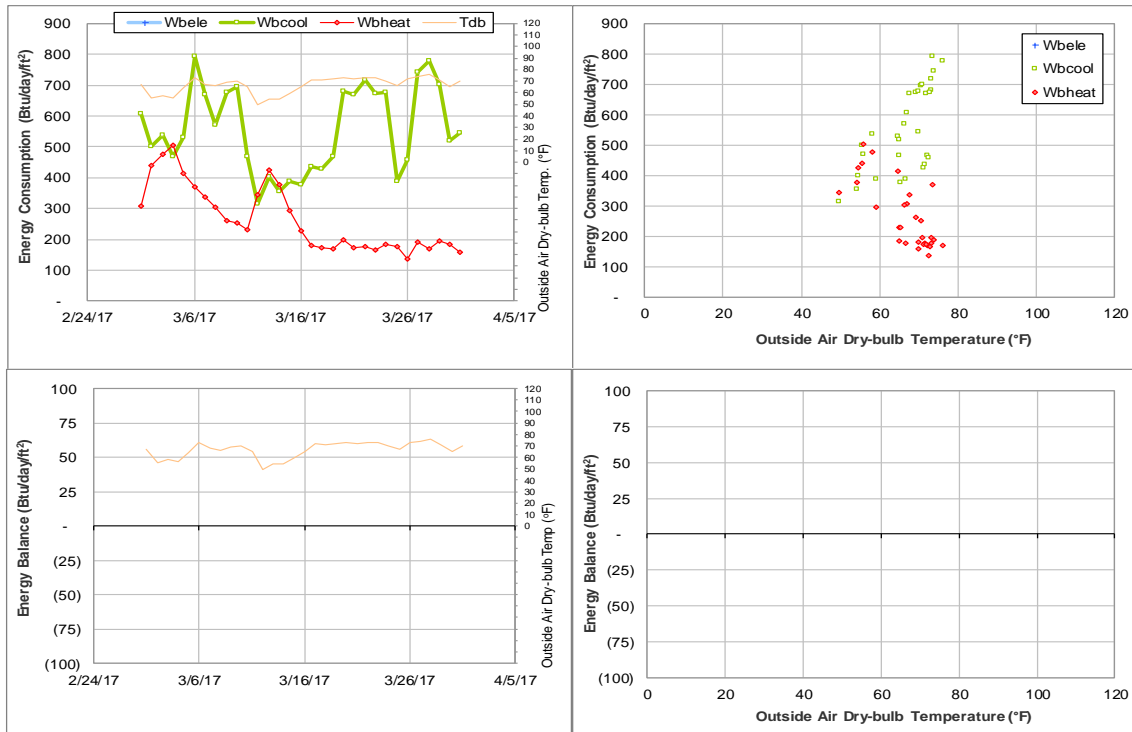


Figure IV-106 DPC Annex TAMU BLDG # 517 Energy Balance Plot during March 2017

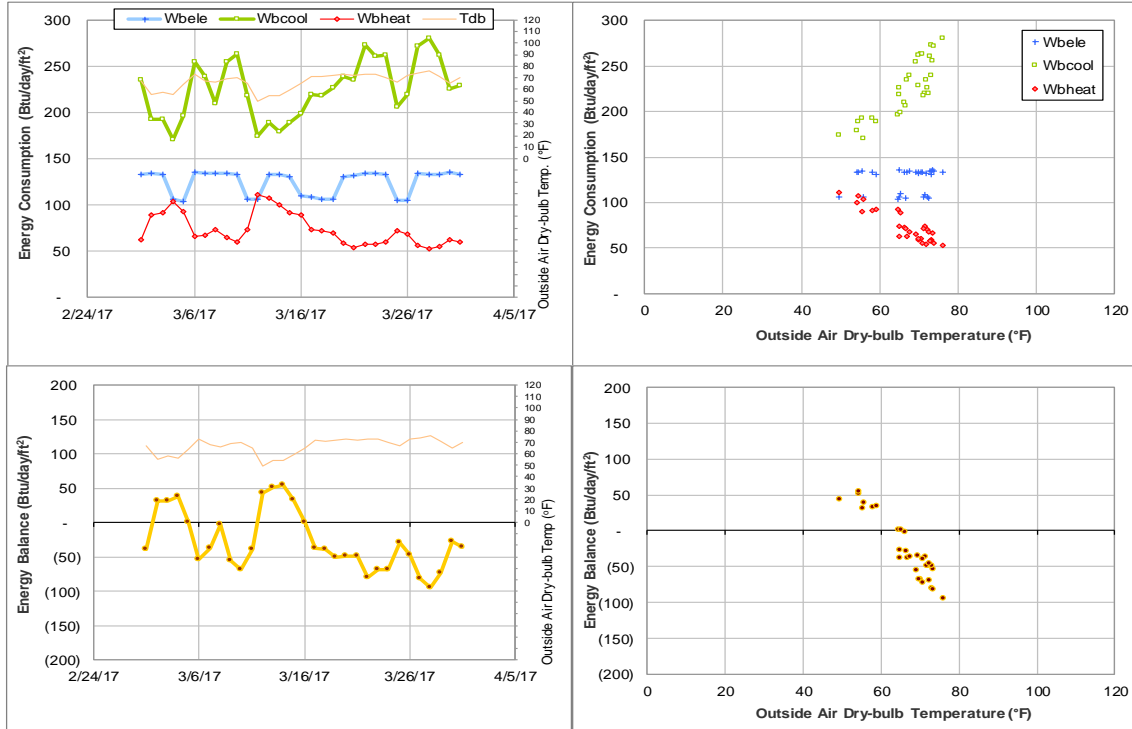


Figure IV-107 Beutel Health Center TAMU BLDG # 520 Energy Balance Plot during March 2017

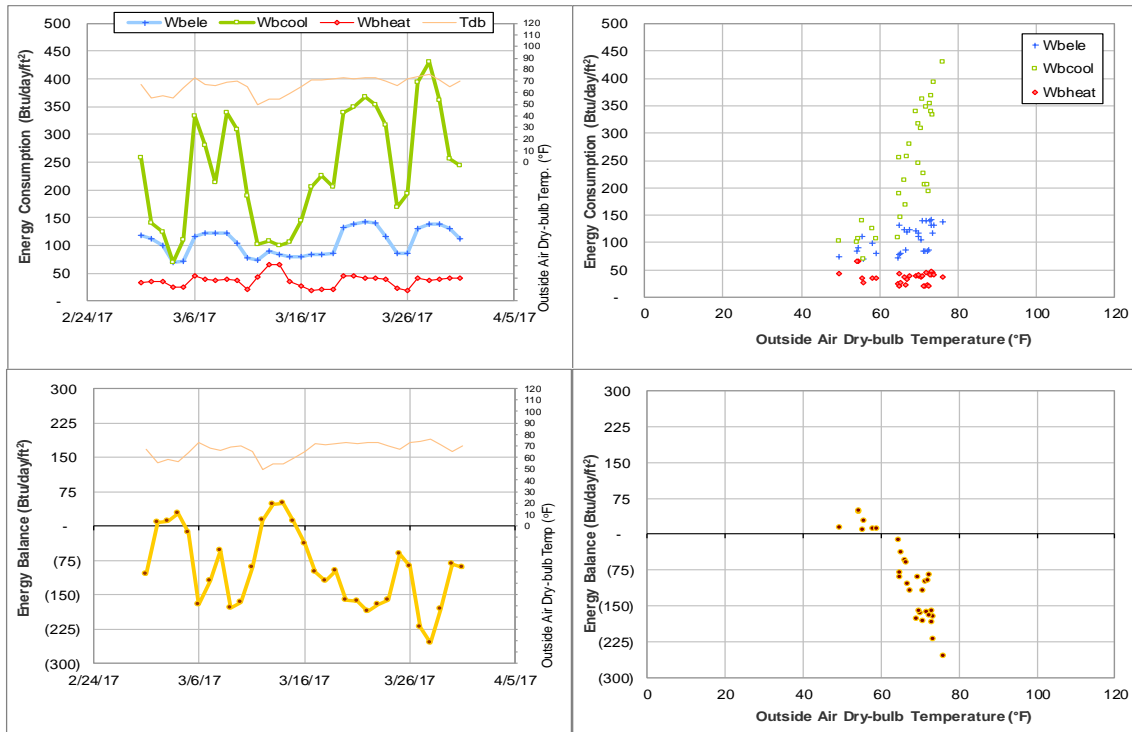


Figure IV-108 Heldenfels Hall TAMU BLDG # 521 Energy Balance Plot during March 2017

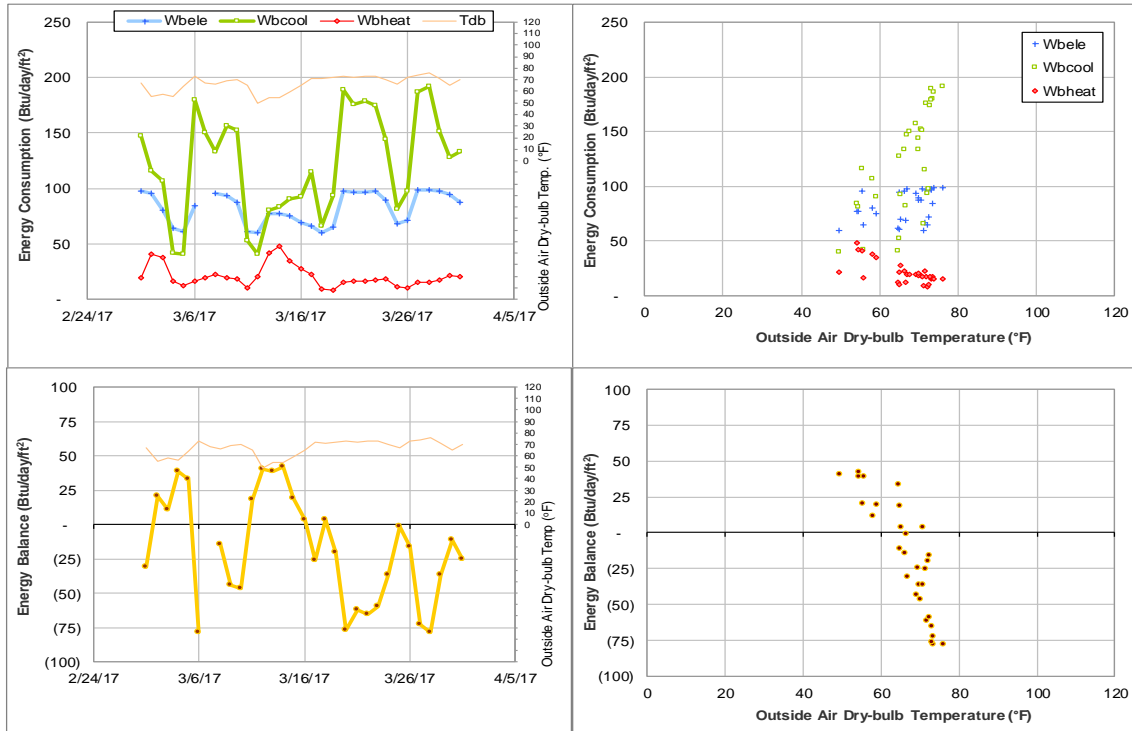


Figure IV-109 Blocker building TAMU BLDG # 524 Energy Balance Plot during March 2017

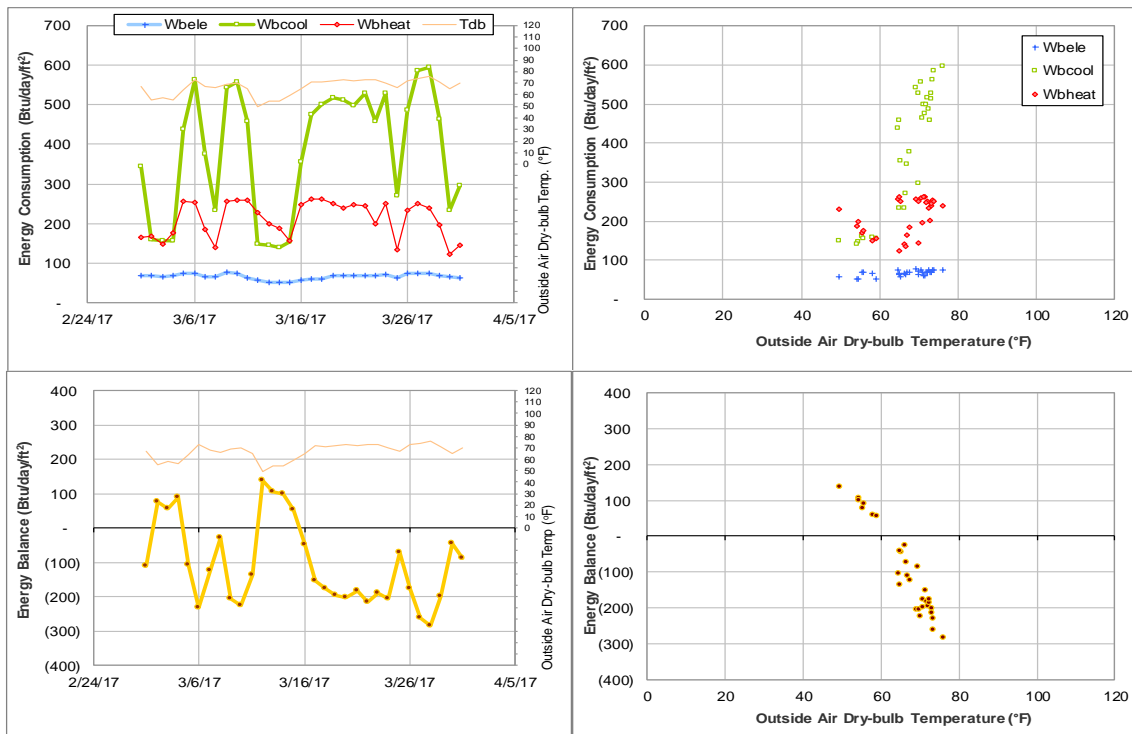


Figure IV-110 Clements Residence Hall TAMU BLDG # 548 Energy Balance Plot during March 2017

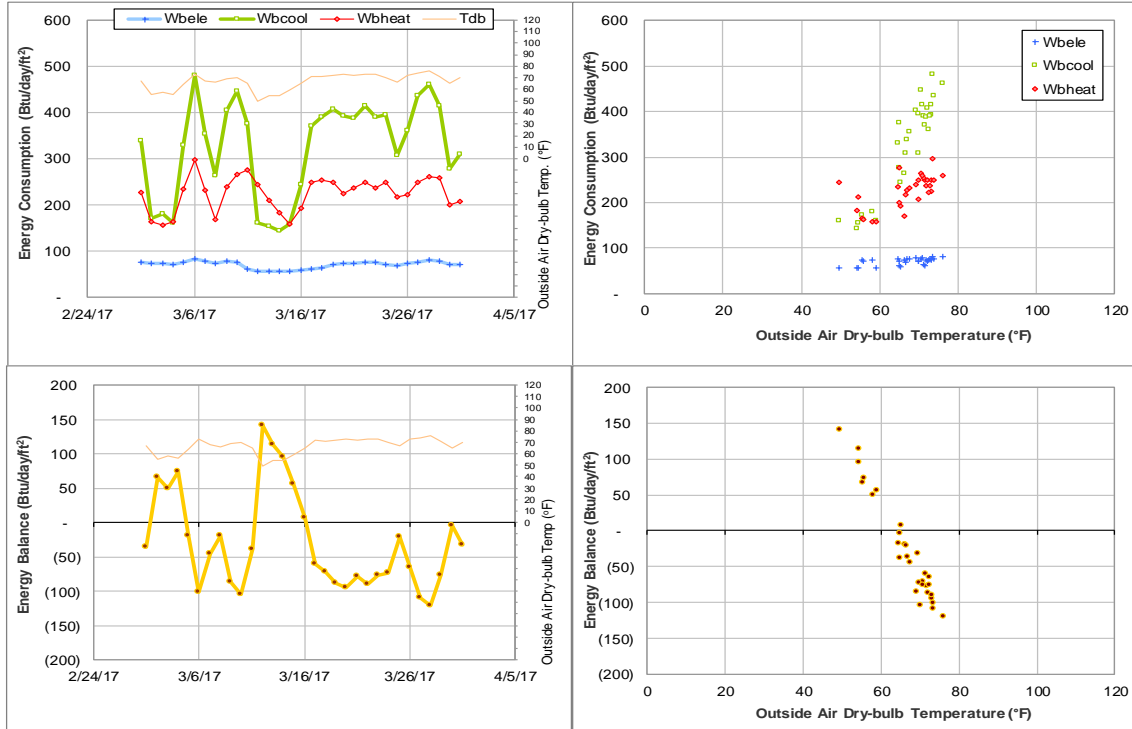


Figure IV-111 Haas Residence Hall TAMU BLDG # 549 Energy Balance Plot during March 2017

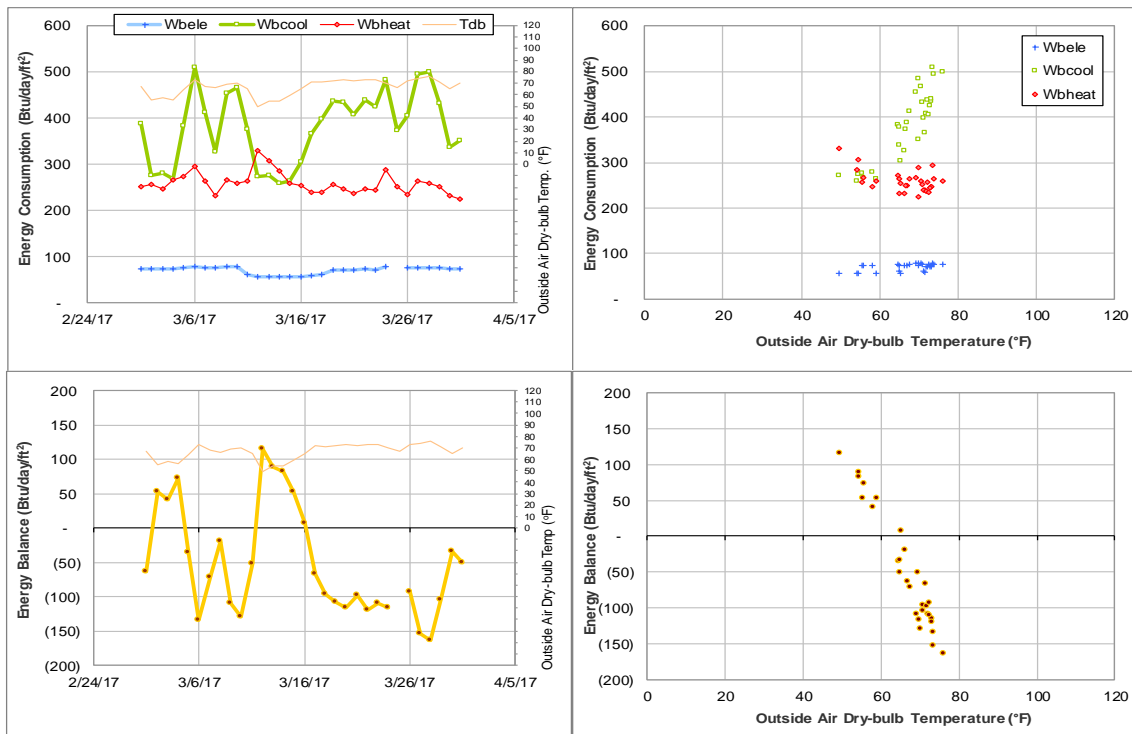


Figure IV-112 McFadden Residence Hall TAMU BLDG # 550 Energy Balance Plot during March 2017

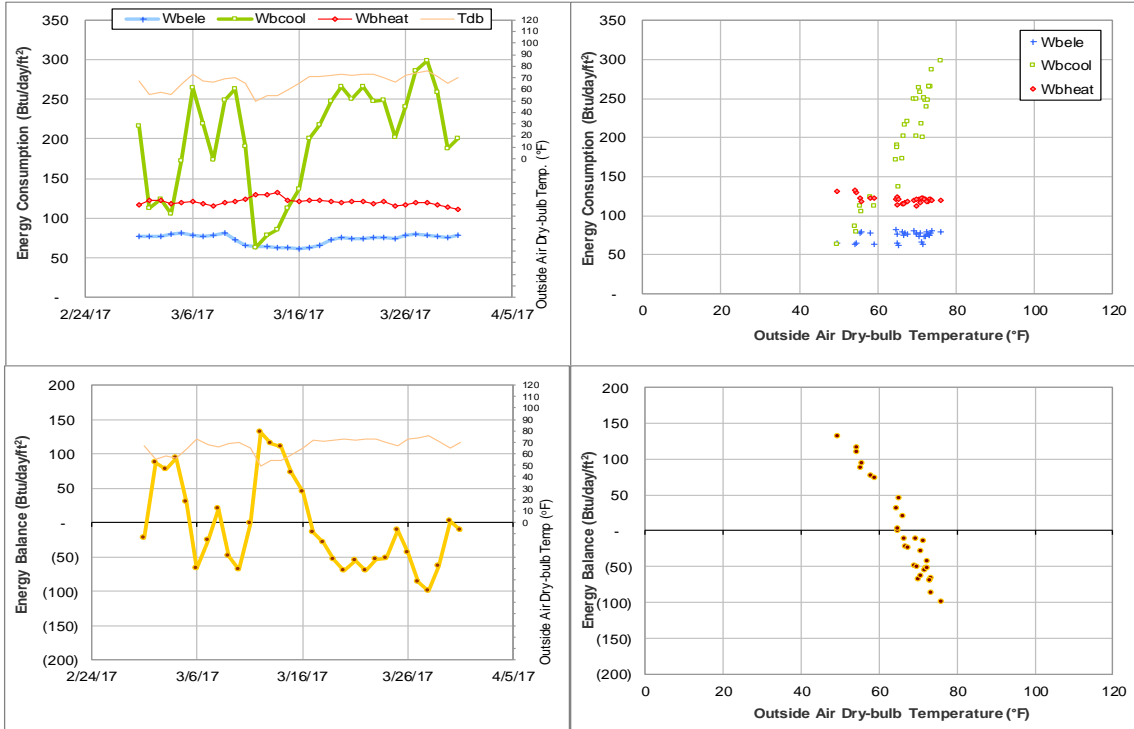


Figure IV-113 Neeley Residence Hall TAMU BLDG # 652 Energy Balance Plot during March 2017

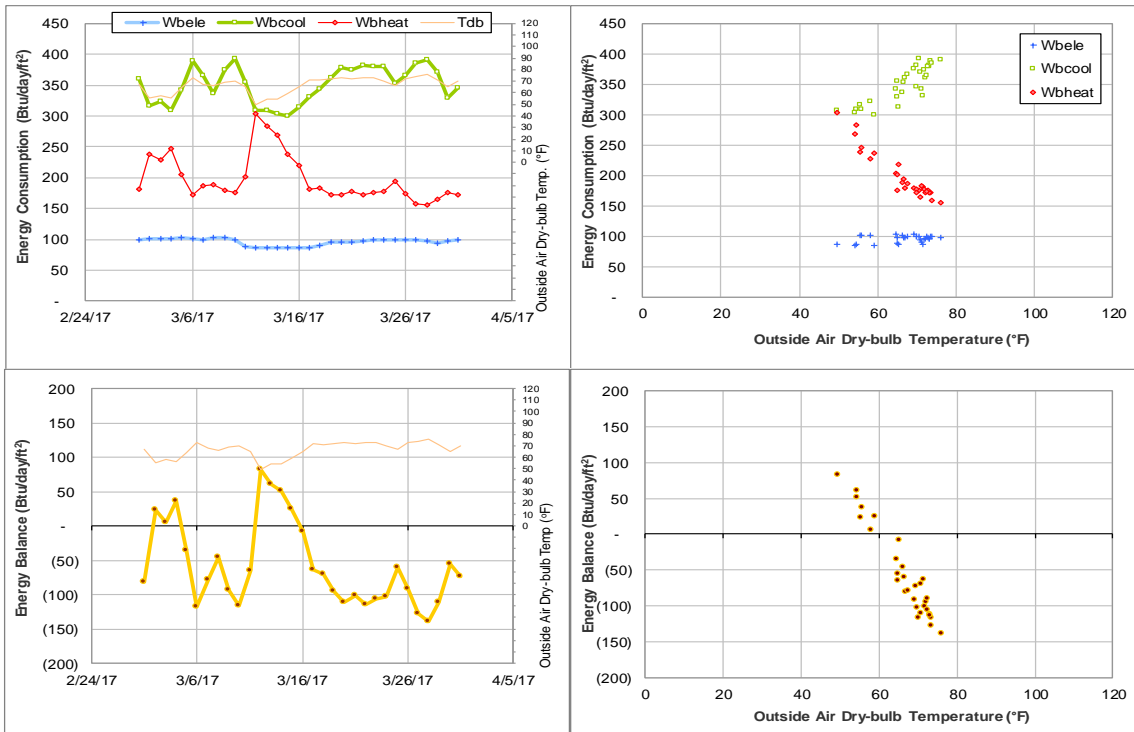


Figure IV-114 Hobby Residence Hall TAMU BLDG # 653 Energy Balance Plot during March 2017

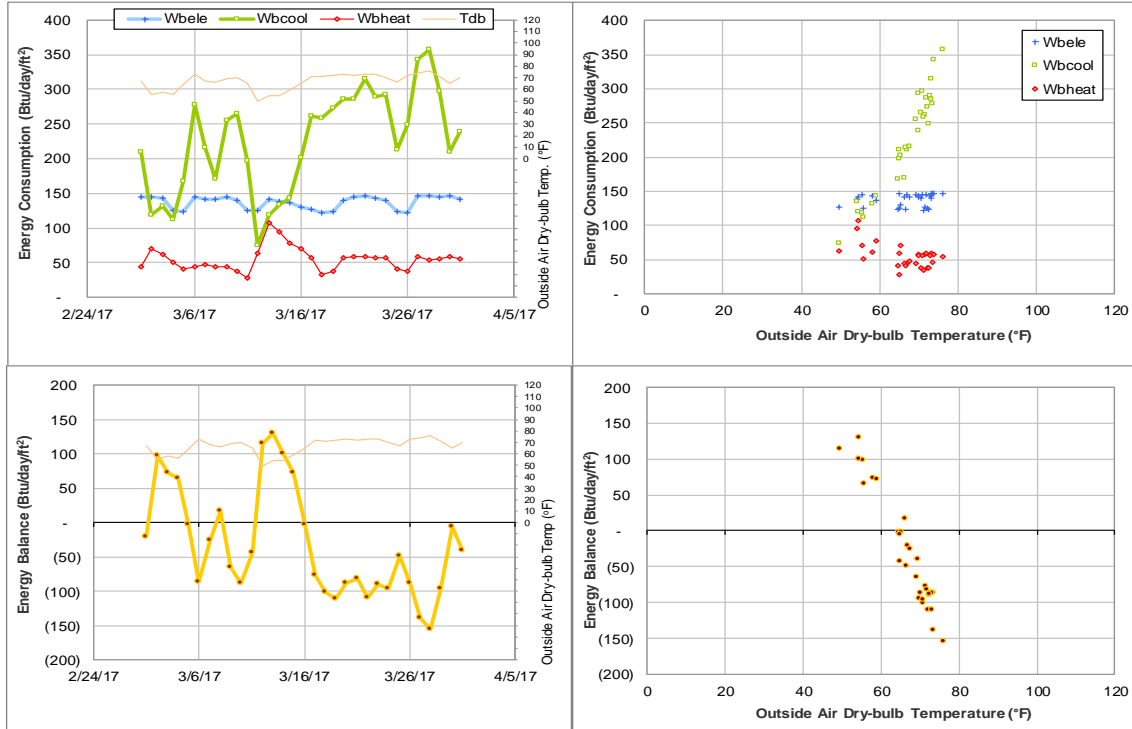


Figure IV-115 Wisnaker Engineering Research Center TAMU BLDG # 682 Energy Balance Plot during March 2017

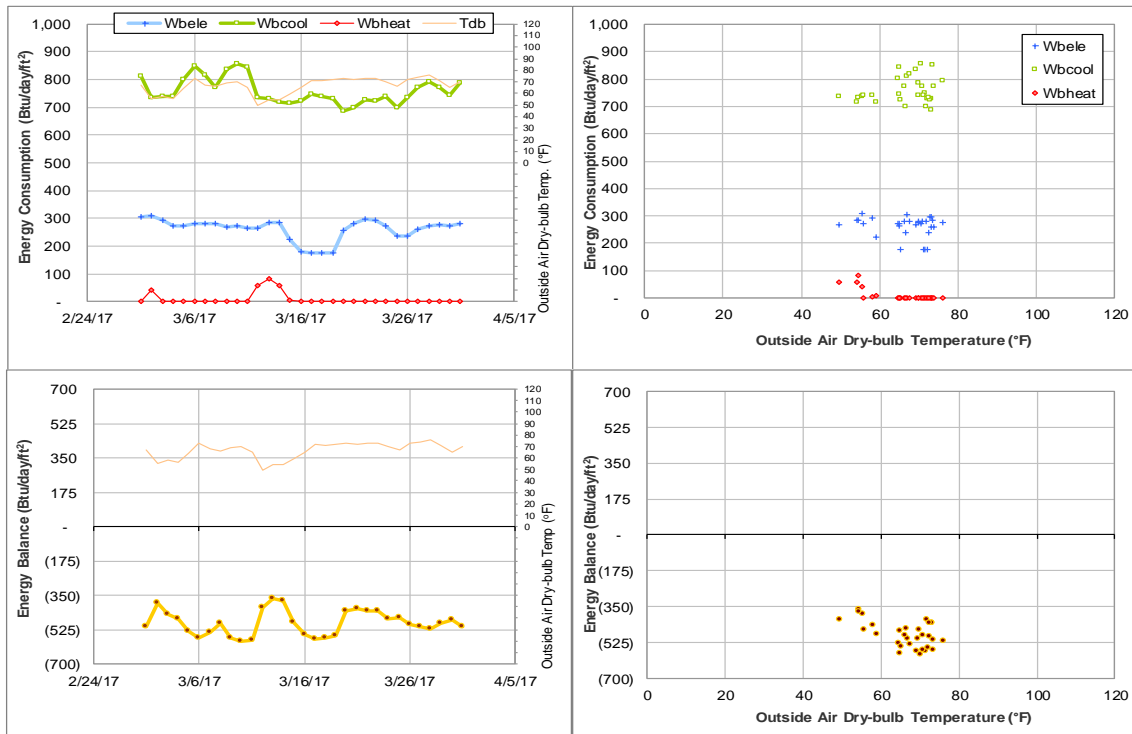


Figure IV-116 McNew Laboratory TAMU BLDG # 740 Energy Balance Plot during March 2017

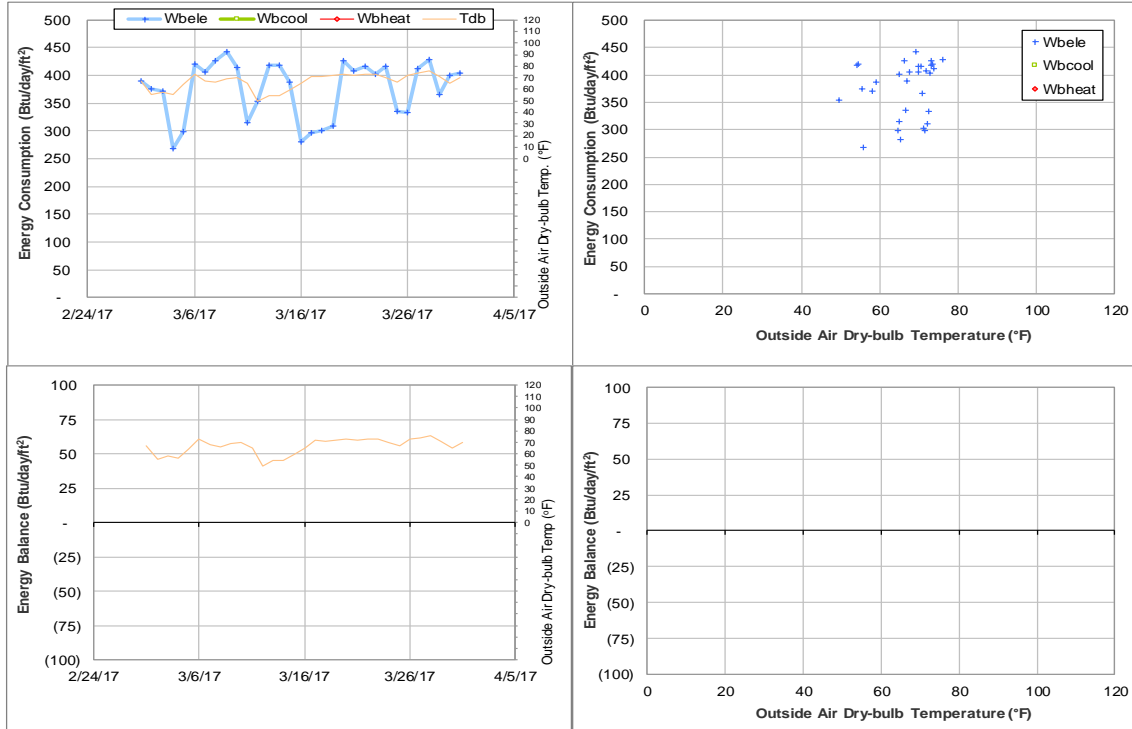


Figure IV-117 Soil Testing Labs TAMU BLDG # 806 Energy Balance Plot during March 2017

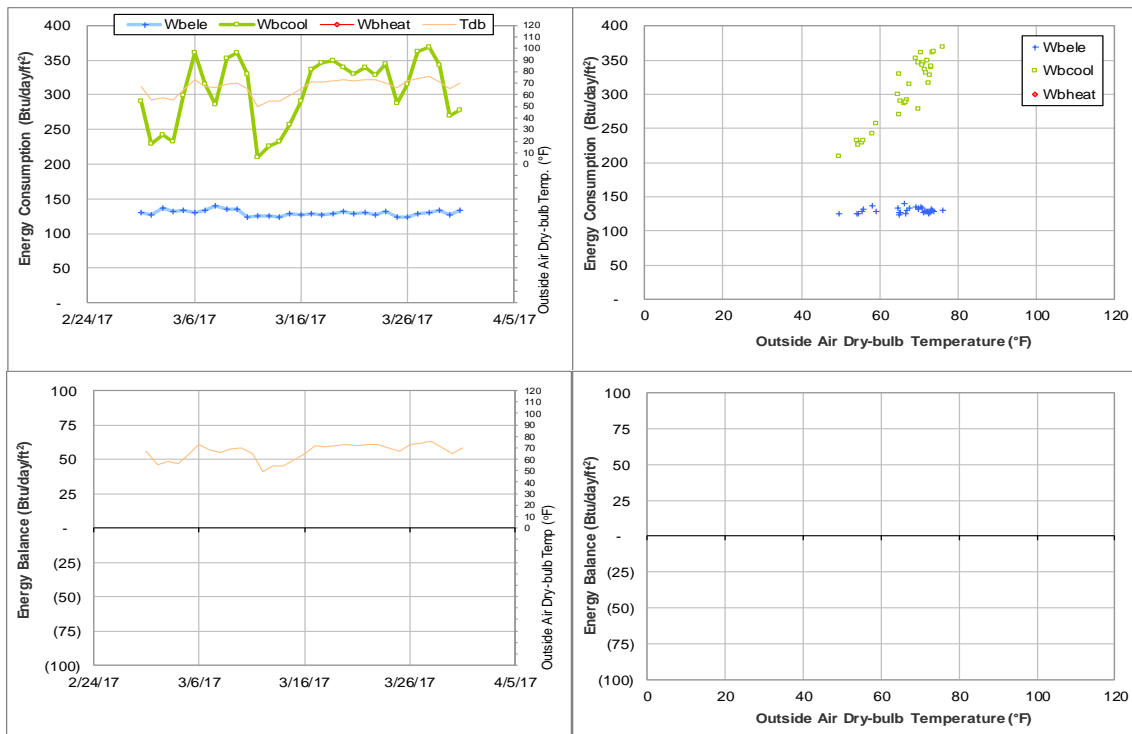


Figure IV-118 Entomology Research Lab TAMU BLDG # 815 Energy Balance Plot during March 2017

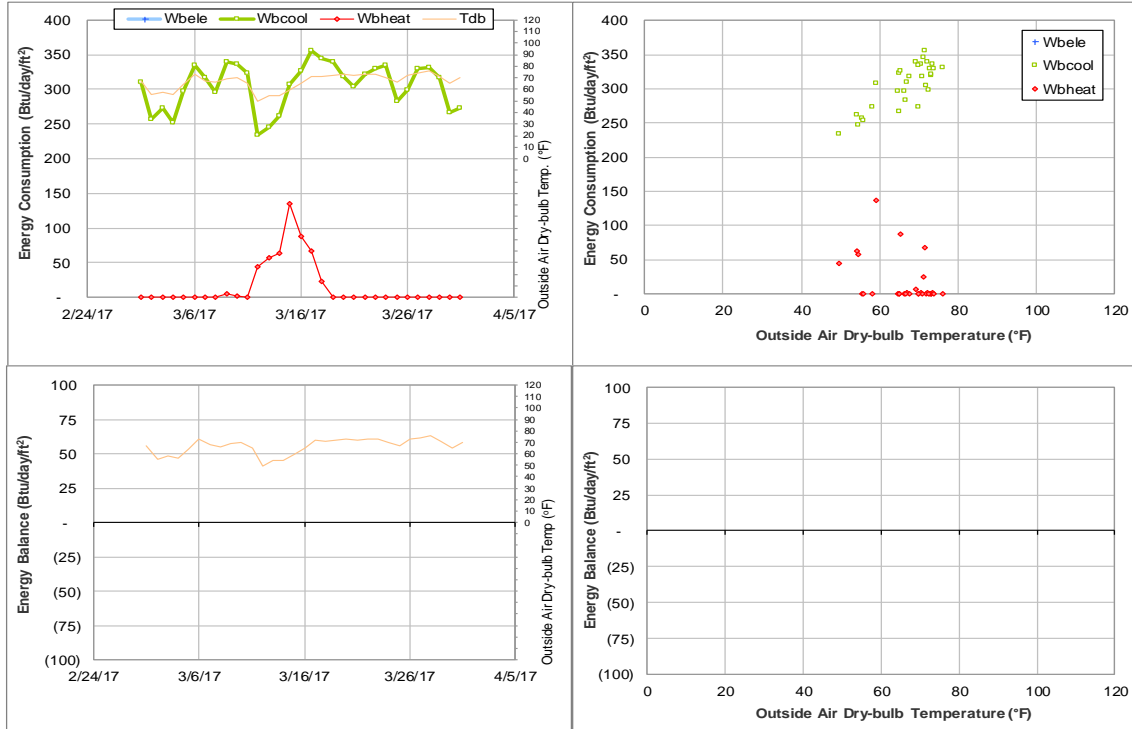


Figure IV-119 TVMC-Small Animal Building TAMU BLDG # 880 Energy Balance Plot during March 2017

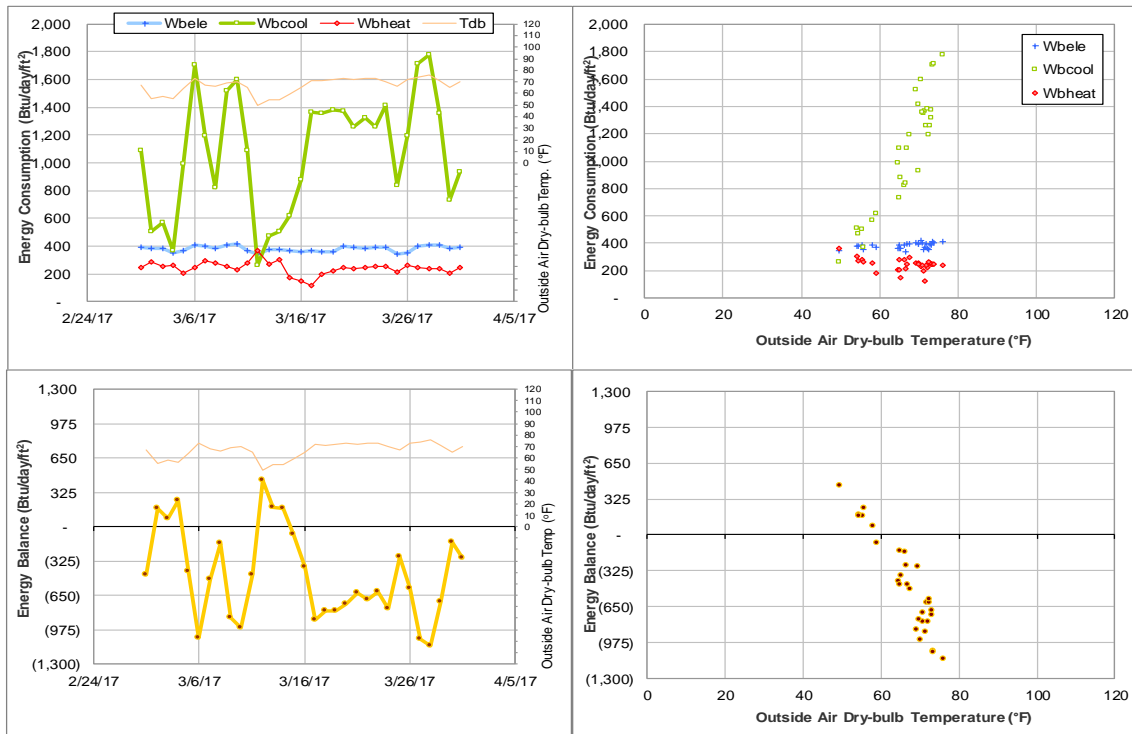


Figure IV-120 Laboratory Animal Care Building TAMU BLDG # 972 Energy Balance Plot during March 2017

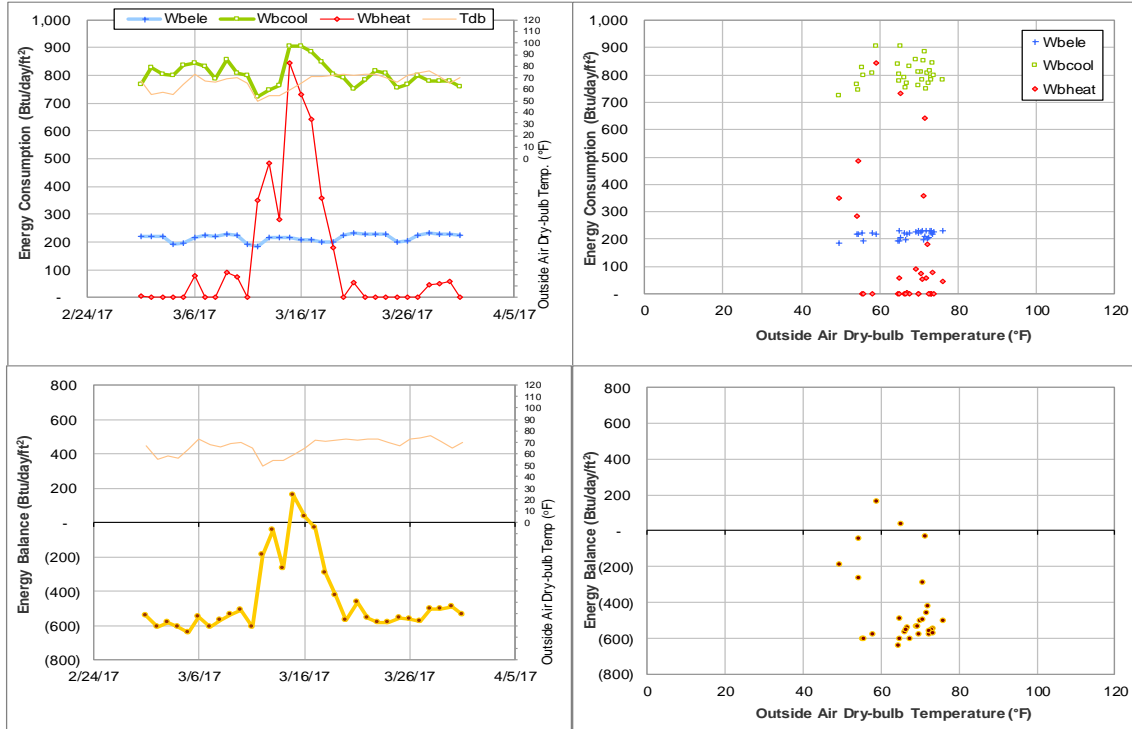


Figure IV-121 Vivarium III TAMU BLDG # 1020 Energy Balance Plot during March 2017

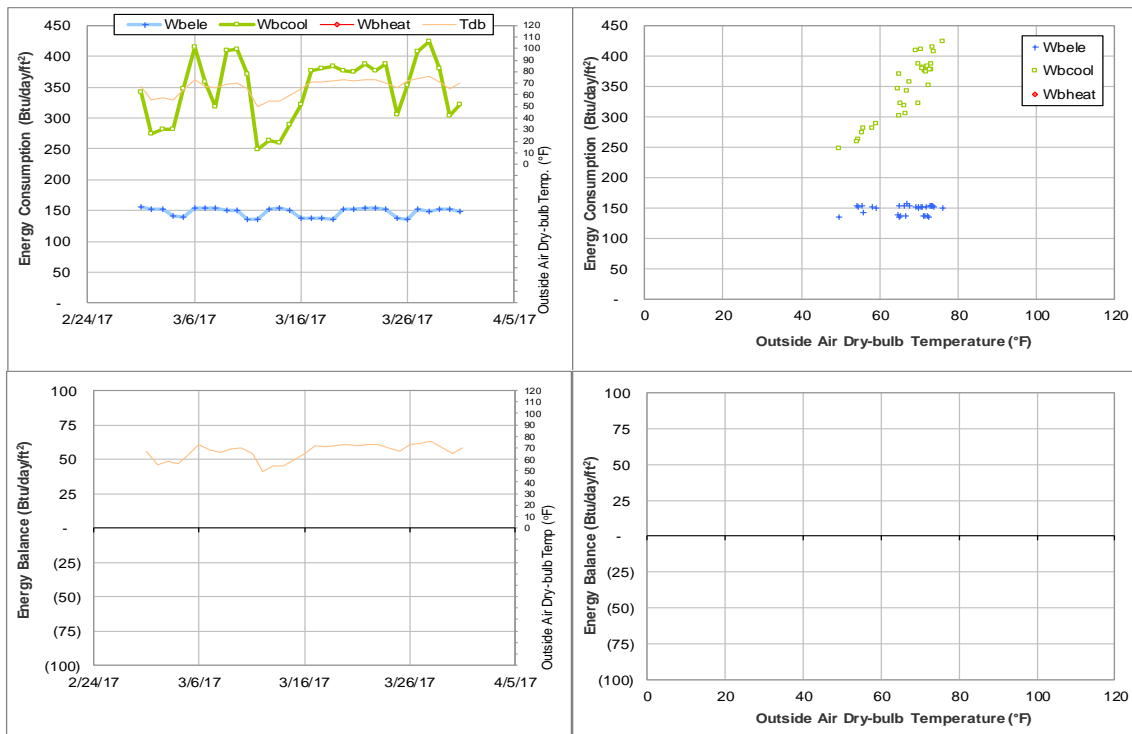


Figure IV-122 Veterinary Medicine Administration TAMU BLDG # 1026 Energy Balance Plot during March 2017

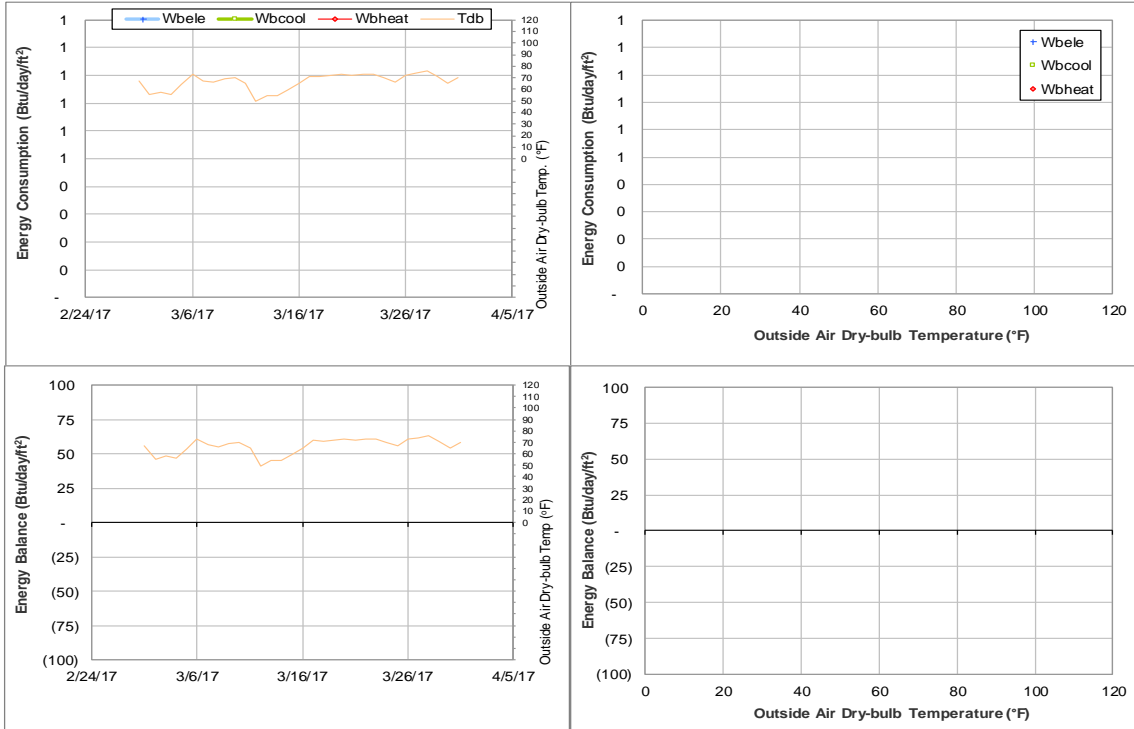


Figure IV-123 Texas Vet Med Diagnostic Lab TAMU BLDG # 1041 Energy Balance Plot during March 2017

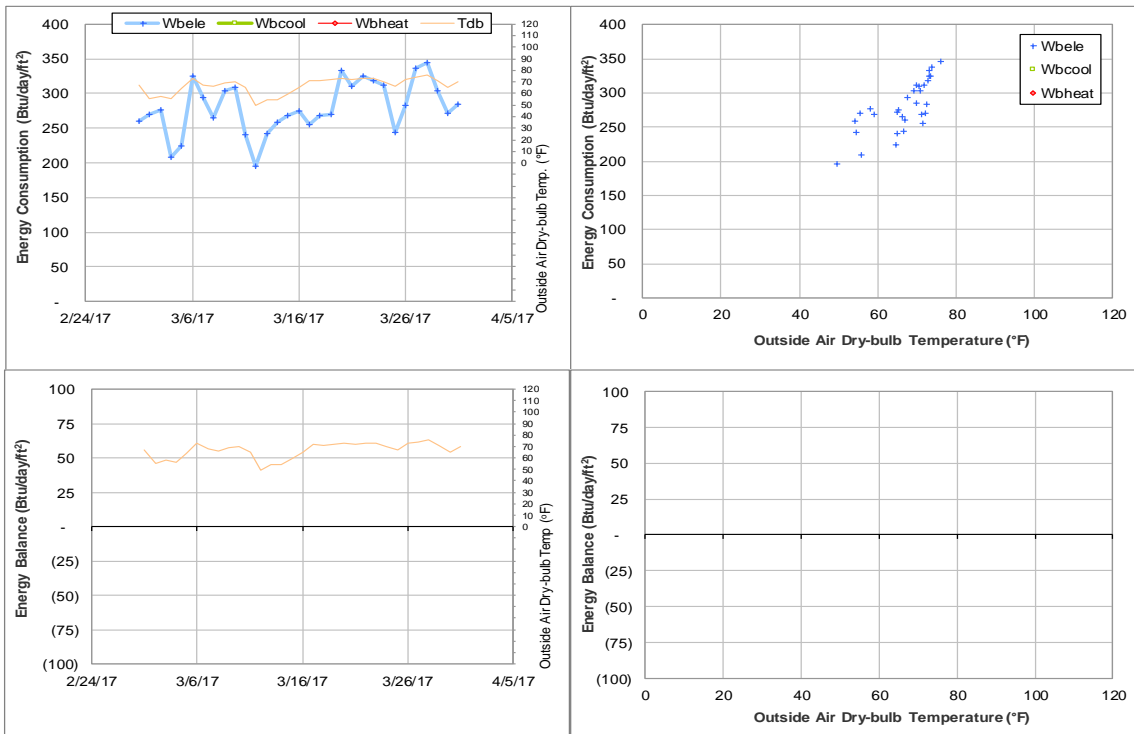


Figure IV-124 Forest Science Laboratory Building TAMU BLDG # 1042 Energy Balance Plot during March 2017

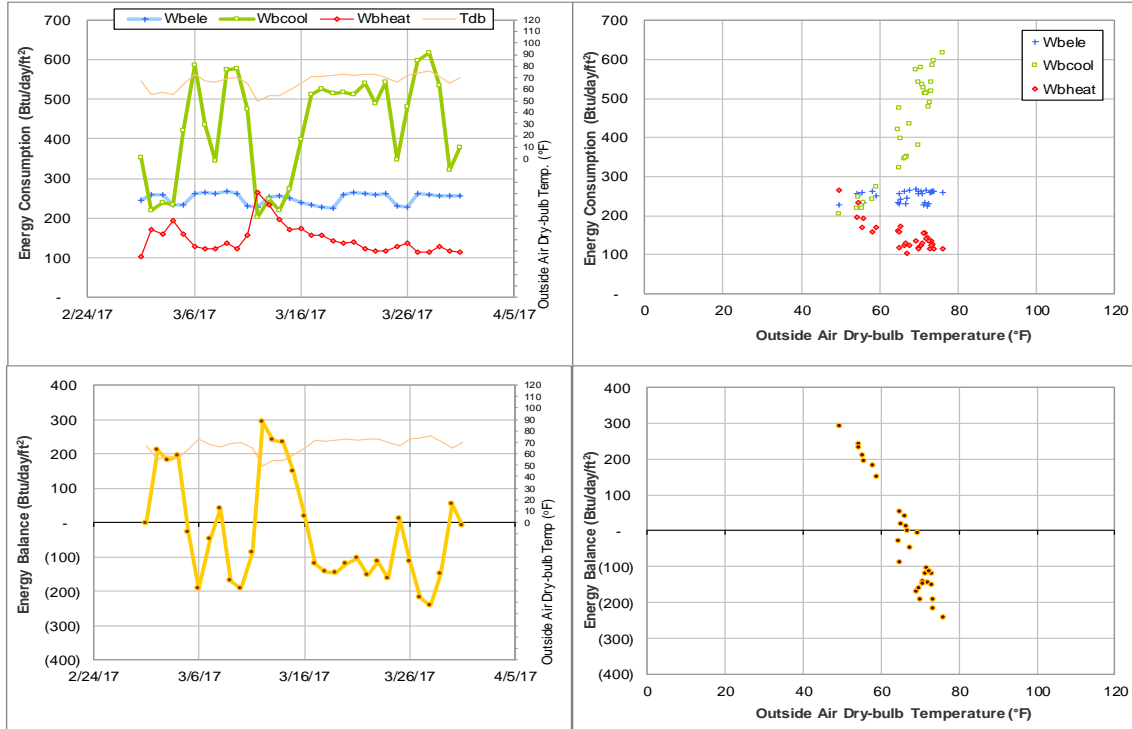


Figure IV-125 Veterinary Small Animal Hospital TAMU BLDG # 1085 Energy Balance Plot during March 2017

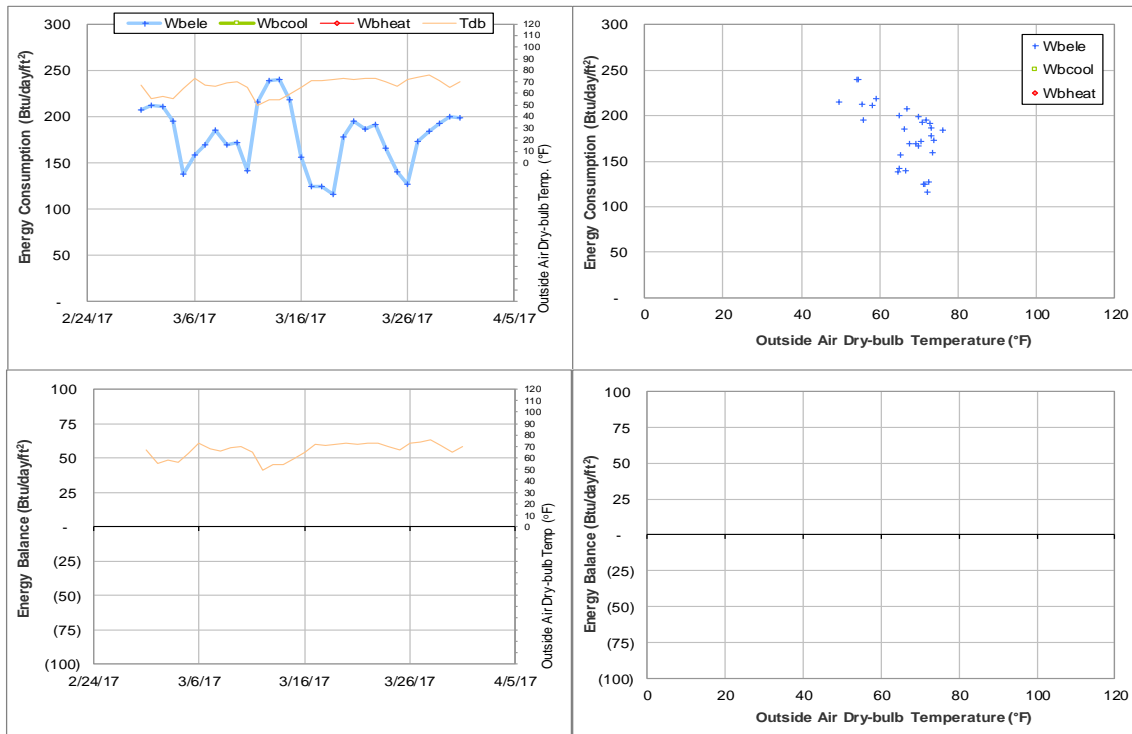


Figure IV-126 Utilities Energy Office Annex TAMU BLDG # 1089 Energy Balance Plot during March 2017

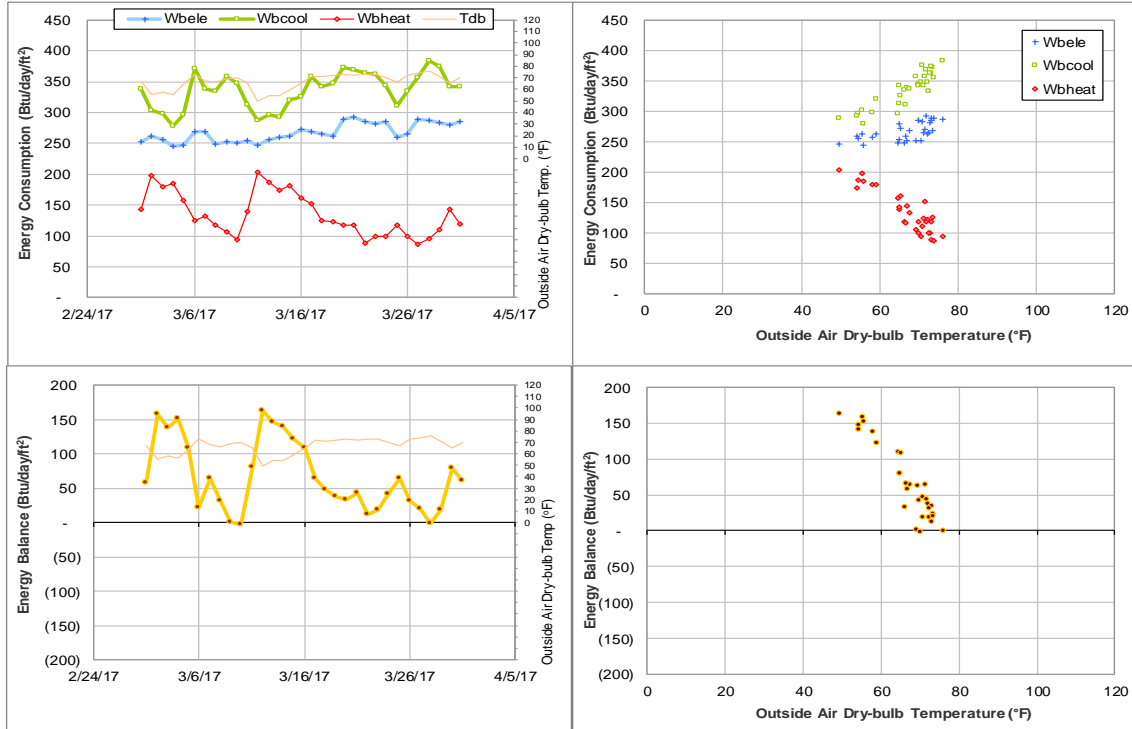


Figure IV-127 Biological Control Facility TAMU BLDG # 1146 Energy Balance Plot during March 2017

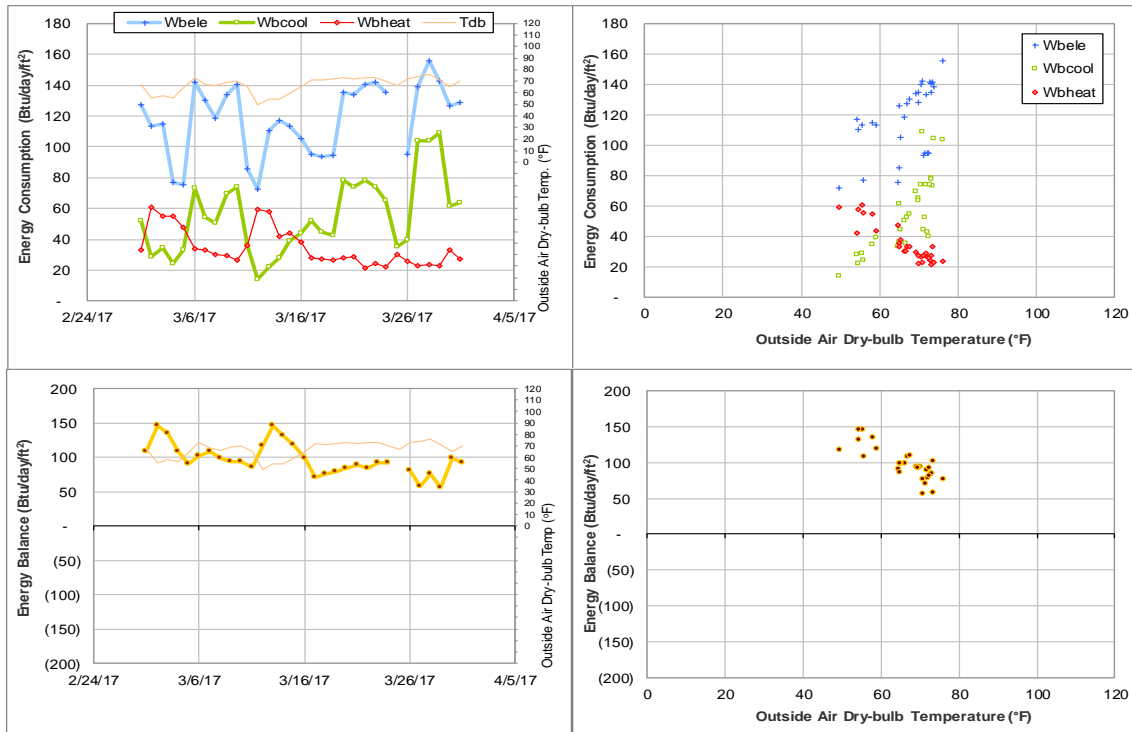


Figure IV-128 Physical Plant Administration & Shops TAMU BLDG # 1156 Energy Balance Plot during March 2017

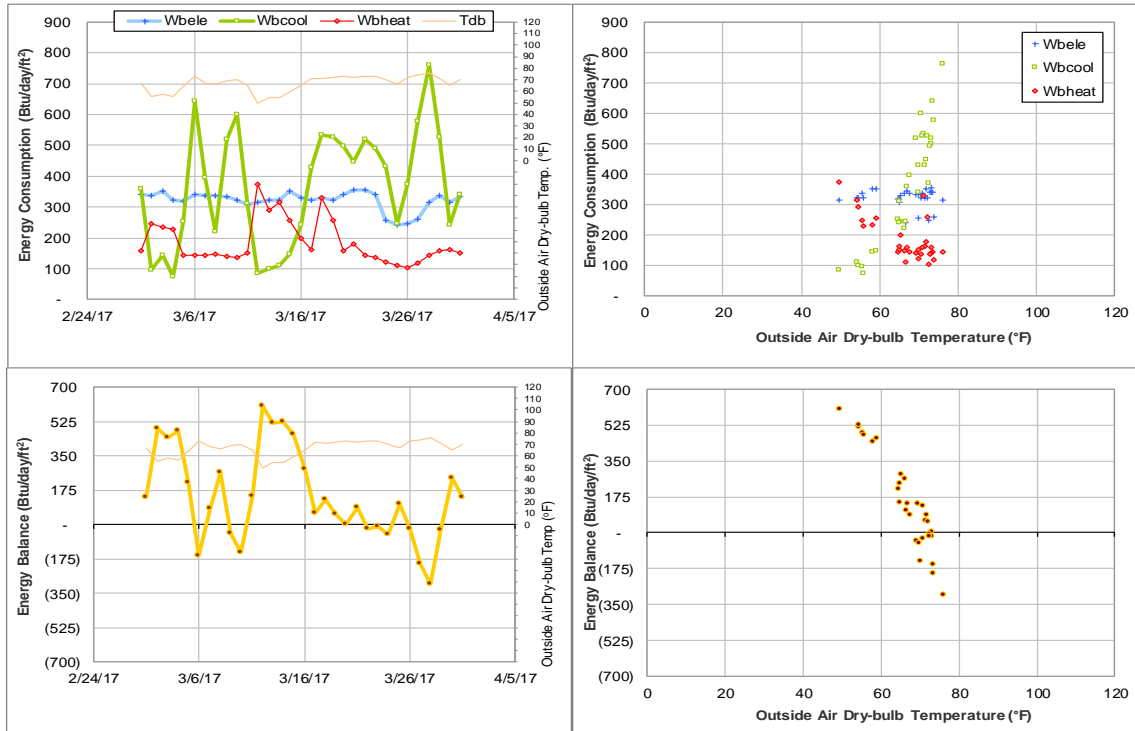


Figure IV-129 Veterinary Anatomic Pathology TAMU BLDG # 1184 Energy Balance Plot during March 2017

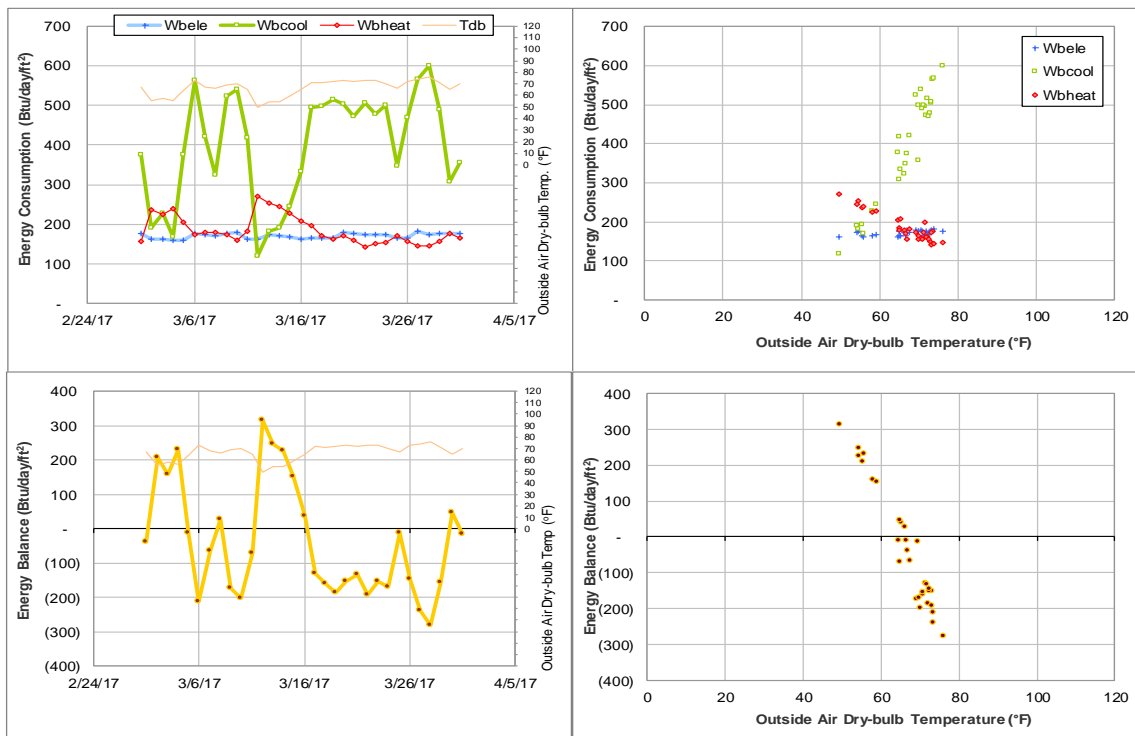


Figure IV-130 Veterinary Large Animal Hospital TAMU BLDG # 1194 Energy Balance Plot during March 2017

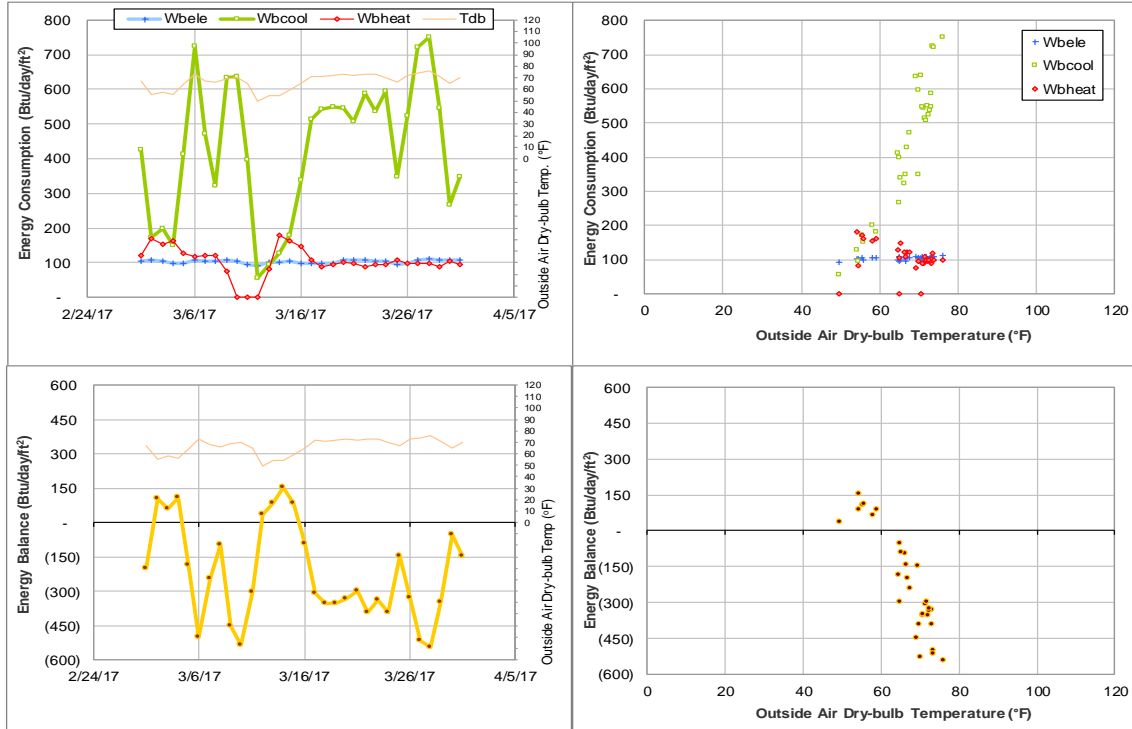


Figure IV-131 Veterinary Research Building TAMU BLDG # 1197 Energy Balance Plot during March 2017

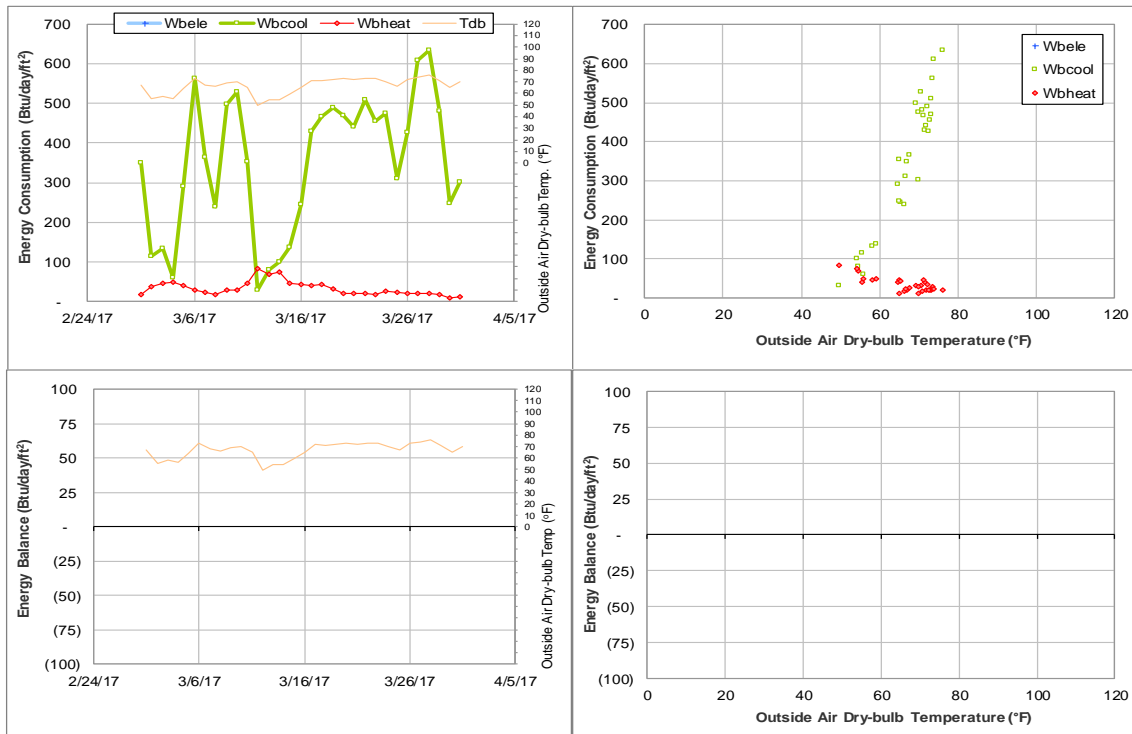


Figure IV-132 Buzbee Leadership Learning Center TAMU BLDG # 1402 Energy Balance Plot during March 2017

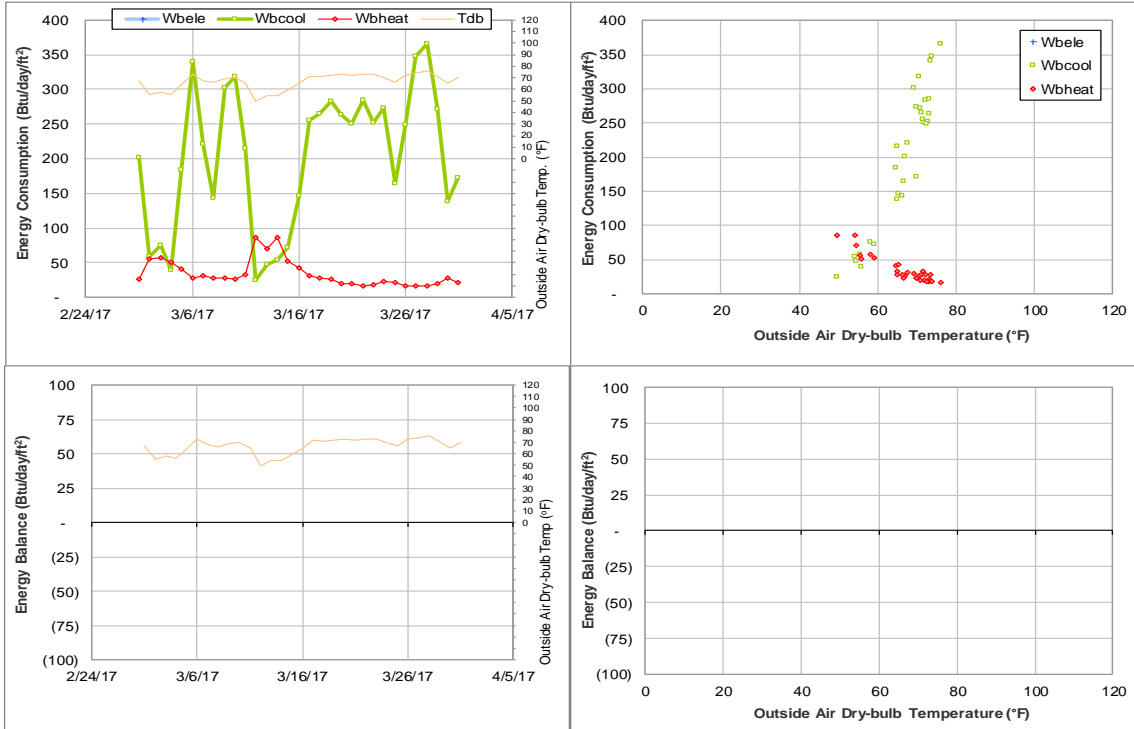


Figure IV-133 H. Grady Ash, Jr. '58 Leadership Learning Center TAMU BLDG # 1403 Energy Balance Plot during March 2017

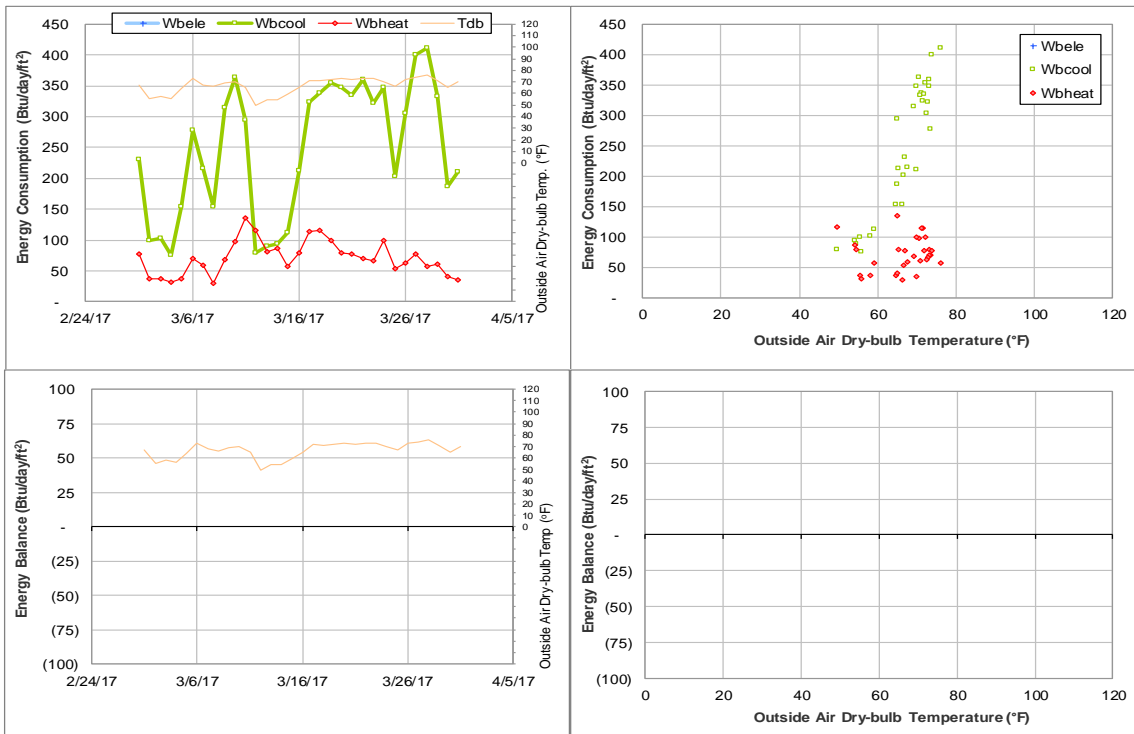


Figure IV-134 Plank LLC TAMU BLDG # 1404 Energy Balance Plot during March 2017

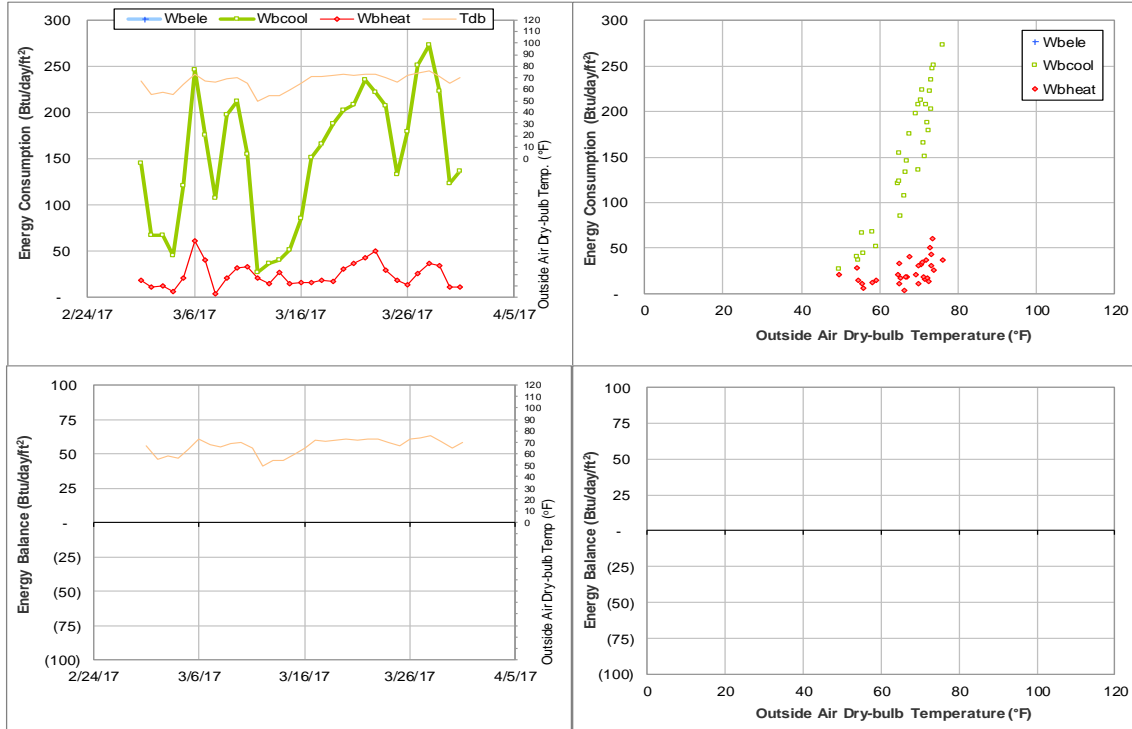


Figure IV-135 Ash II LLC TAMU BLDG # 1405 Energy Balance Plot during March 2017

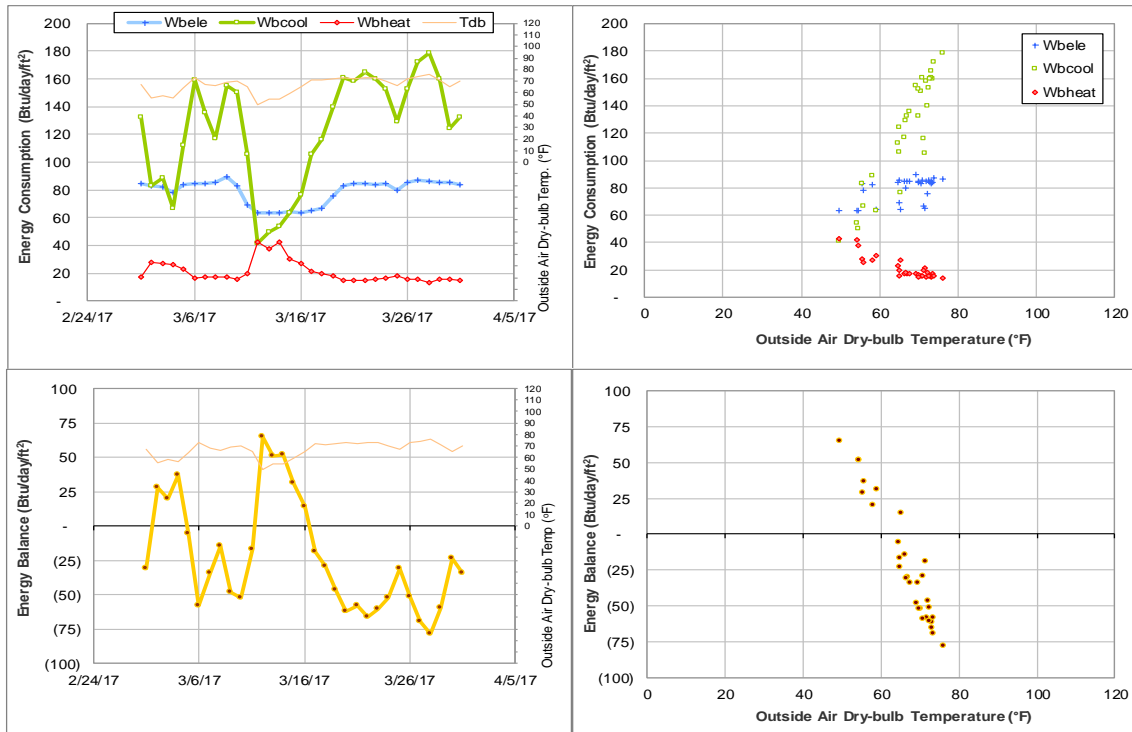


Figure IV-136 Hullabaloo Residence Hall TAMU BLDG # 1416 Energy Balance Plot during March 2017

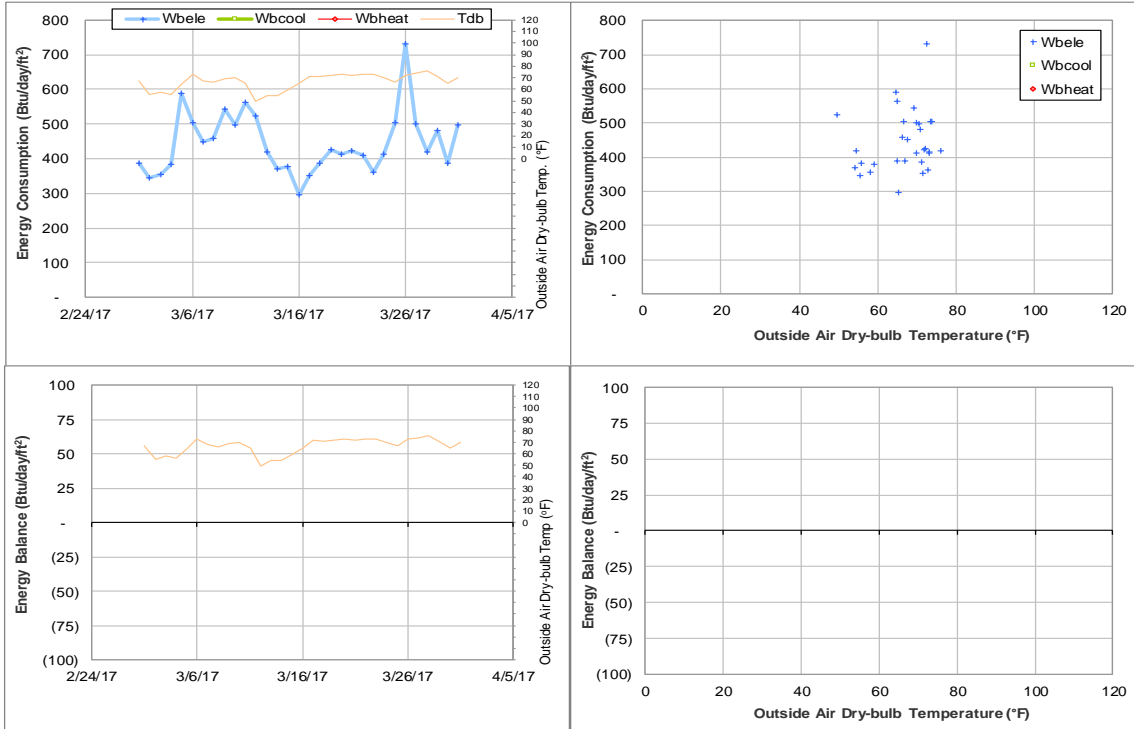


Figure IV-137 University Apartments - Laundry at the Gardens TAMU BLDG # 1450 Energy Balance Plot during March 2017

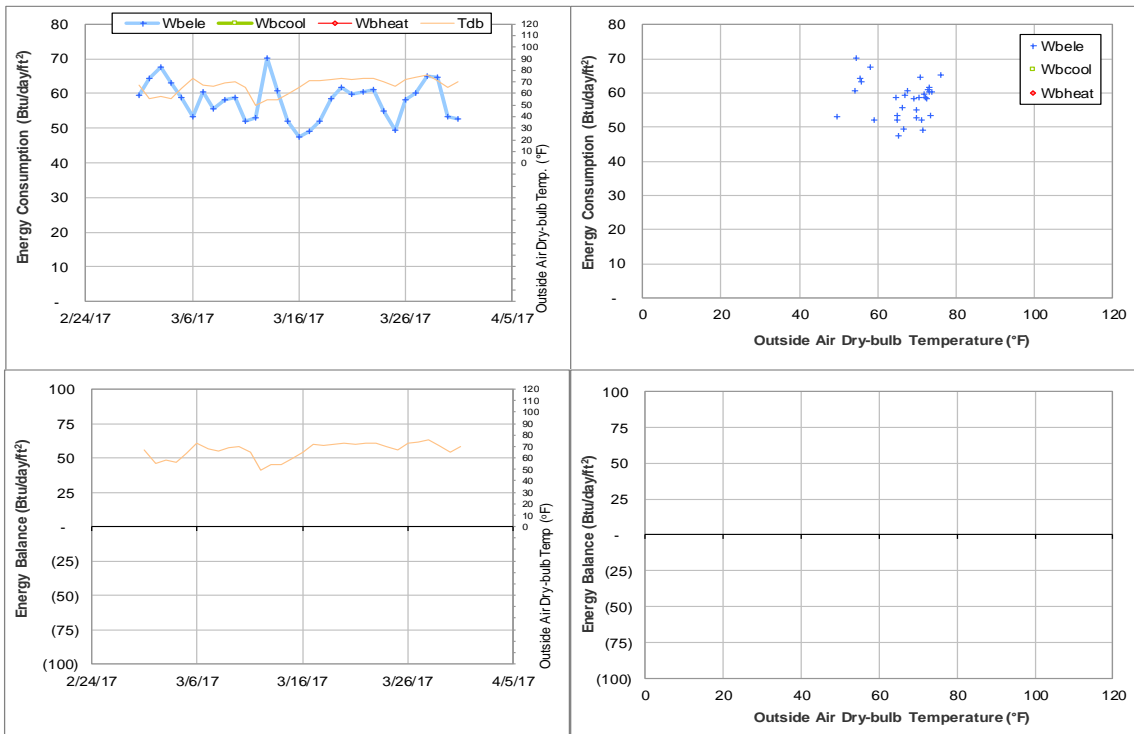


Figure IV-138 University Apartments - The Gardens J TAMU BLDG # 1451 Energy Balance Plot during March 2017

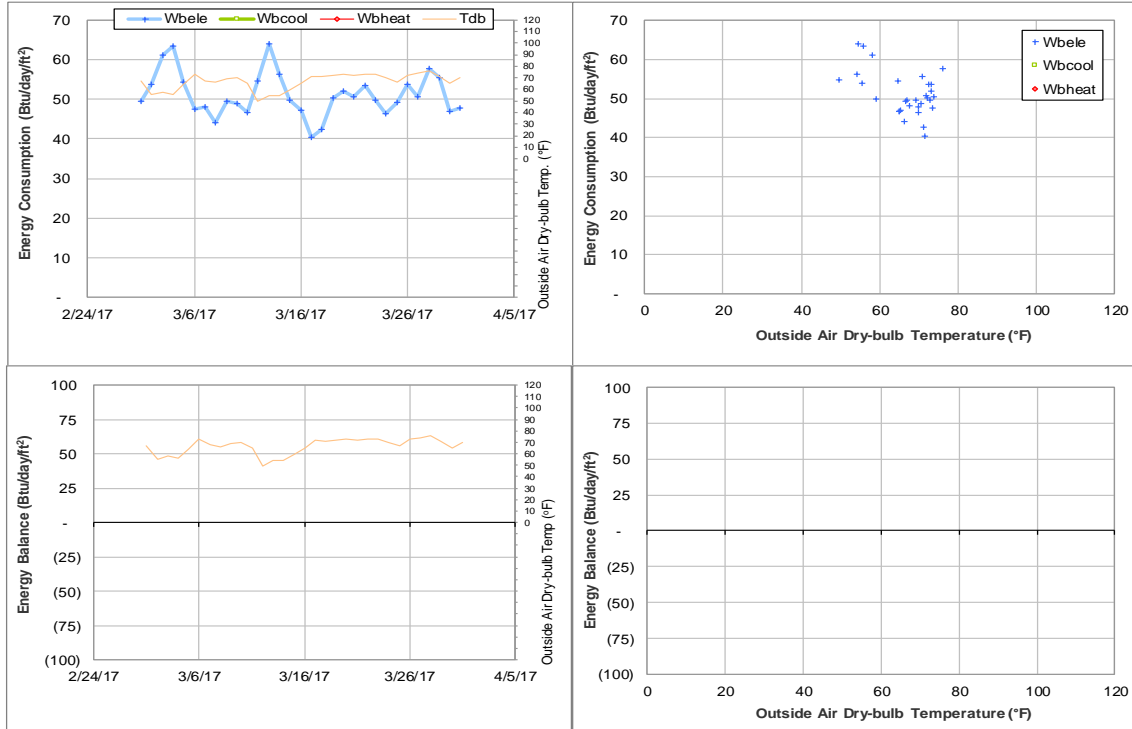


Figure IV-139 University Apartments - The Gardens K TAMU BLDG # 1452 Energy Balance Plot during March 2017

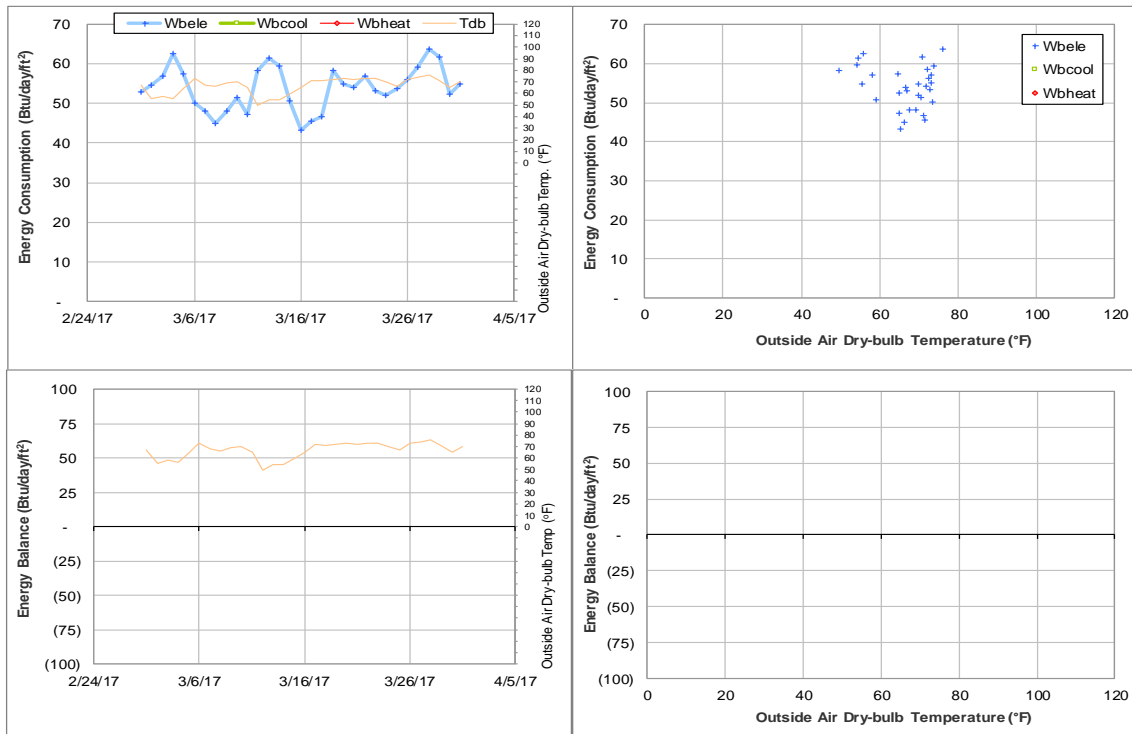


Figure IV-140 University Apartments - The Gardens L TAMU BLDG # 1453 Energy Balance Plot during March 2017

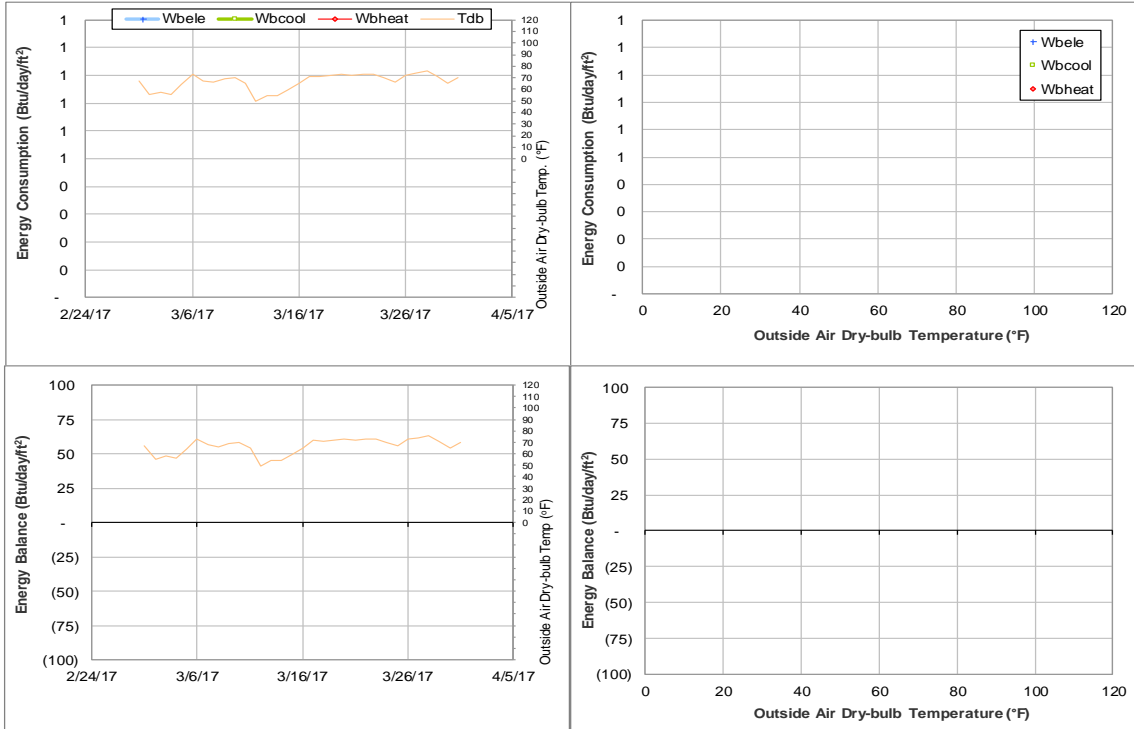


Figure IV-141 University Apartments - The Gardens F TAMU BLDG # 1454 Energy Balance Plot during March 2017

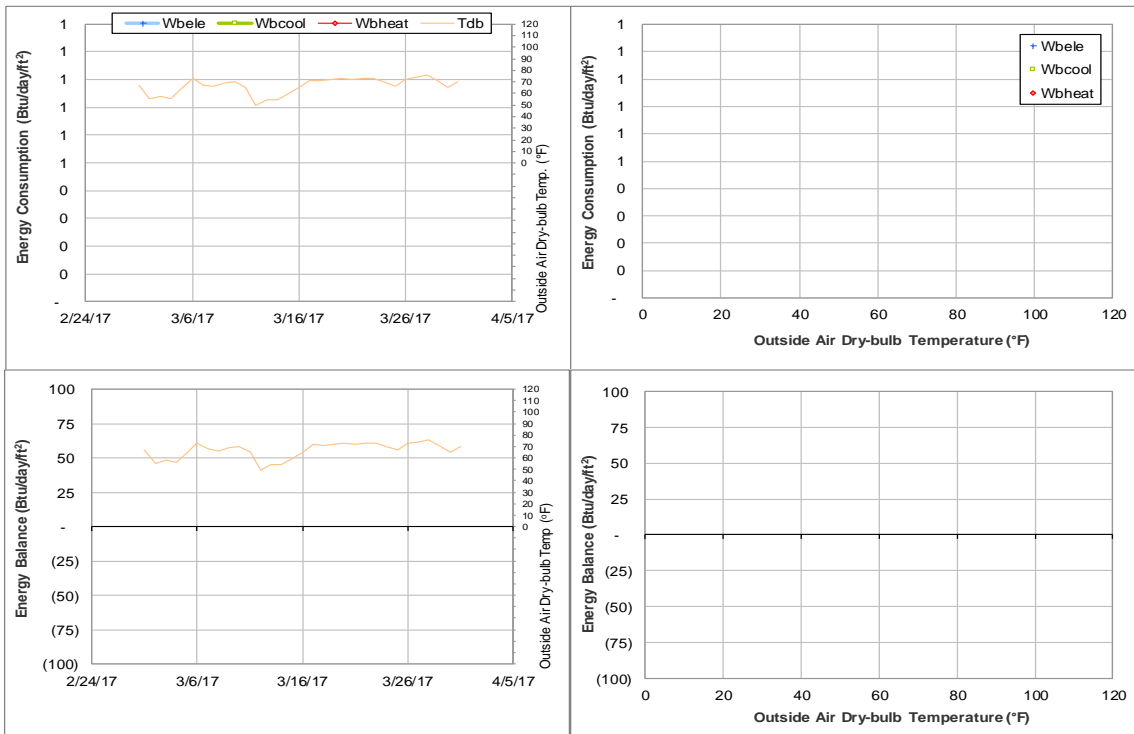


Figure IV-142 University Apartments - The Gardens G TAMU BLDG # 1455 Energy Balance Plot during March 2017

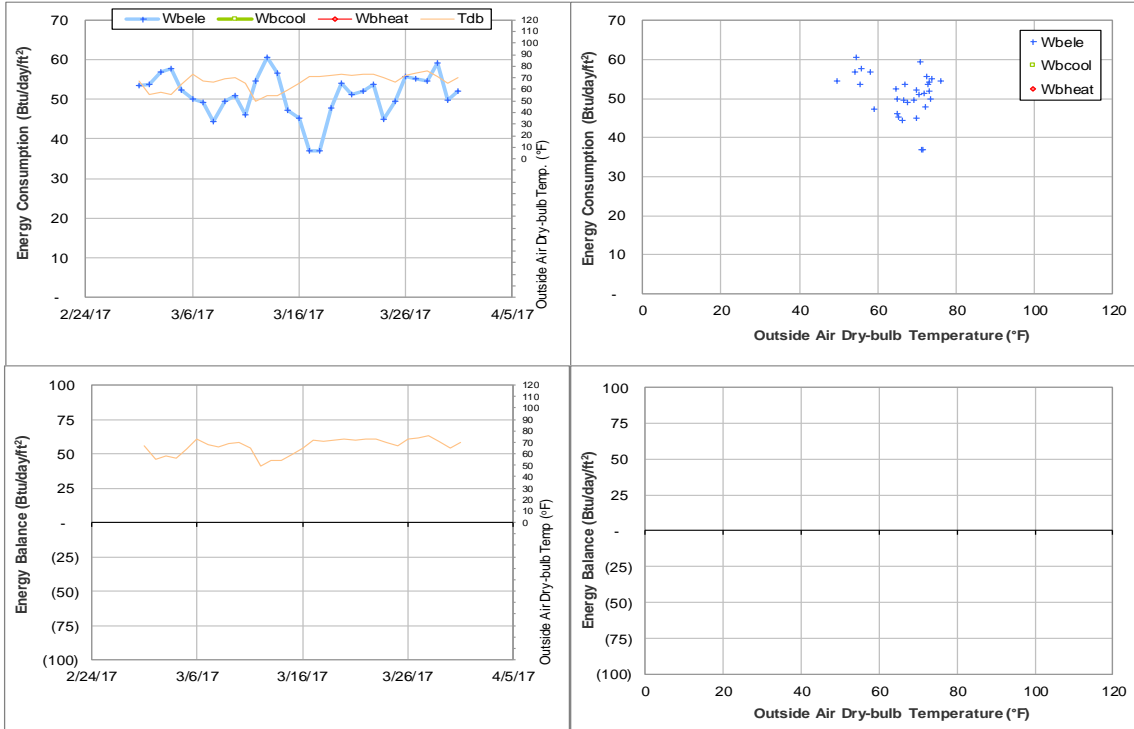


Figure IV-143 University Apartments - The Gardens H TAMU BLDG # 1456 Energy Balance Plot during March 2017

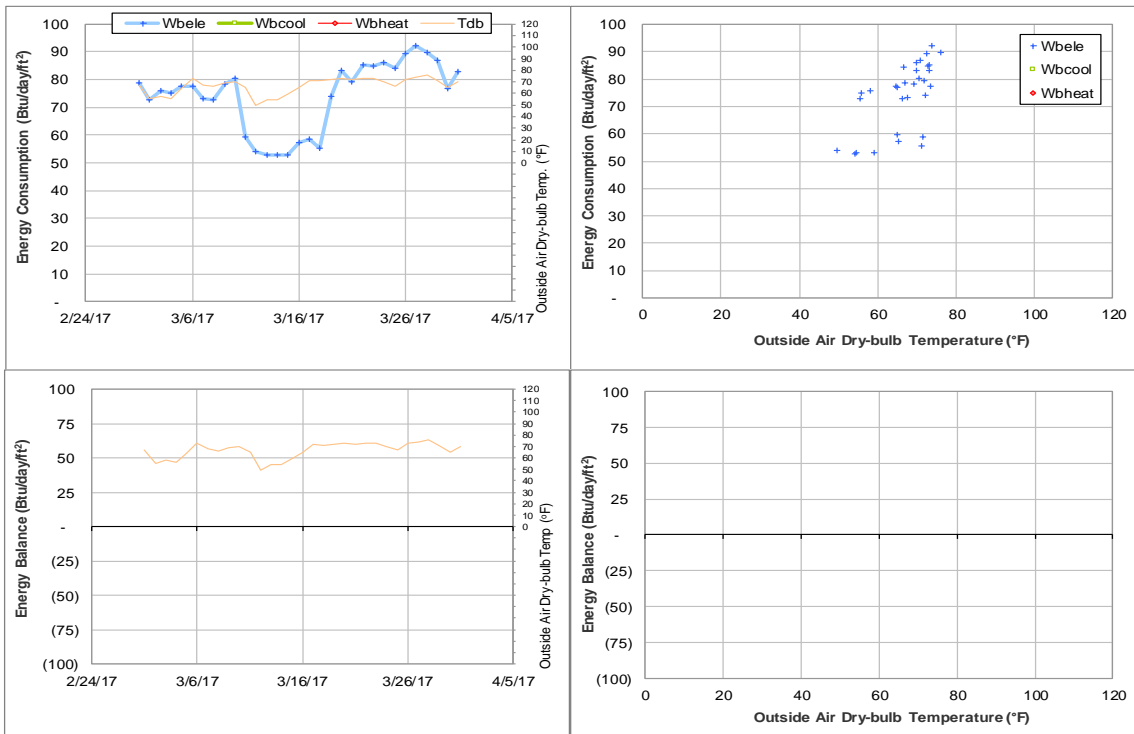


Figure IV-144 University Apartments - The Gardens M TAMU BLDG # 1457 Energy Balance Plot during March 2017

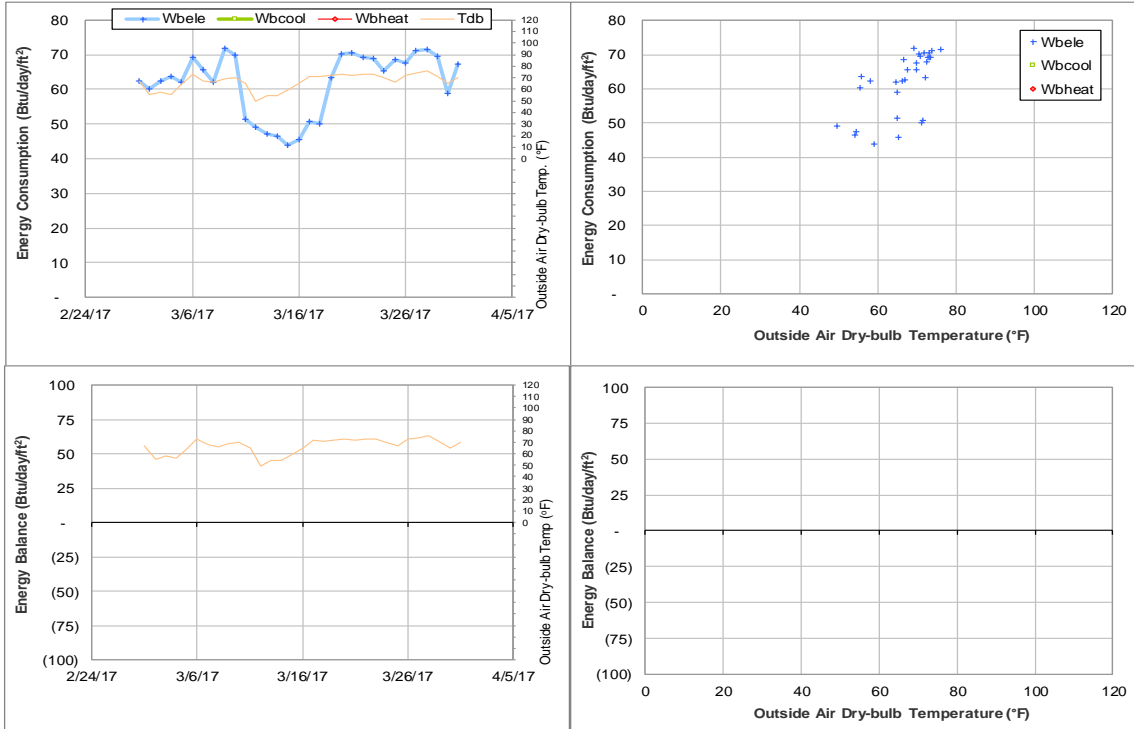


Figure IV-145 University Apartments - The Gardens N TAMU BLDG # 1458 Energy Balance Plot during March 2017

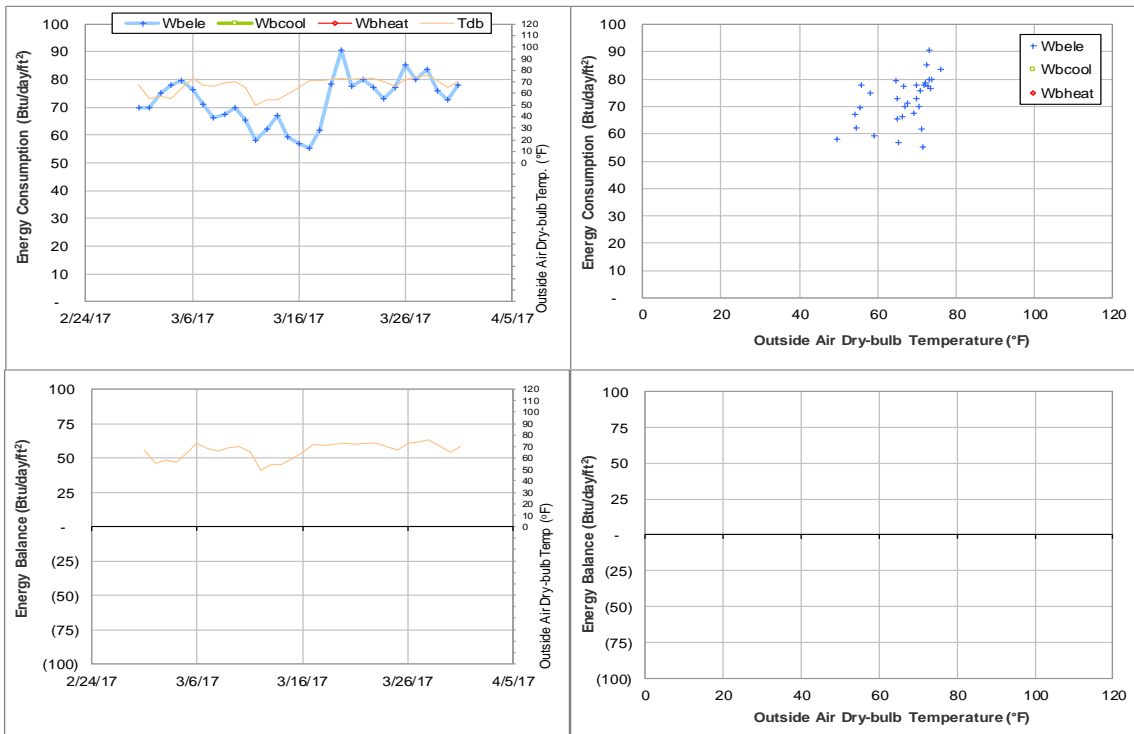


Figure IV-146 University Apartments - The Gardens P TAMU BLDG # 1459 Energy Balance Plot during March 2017

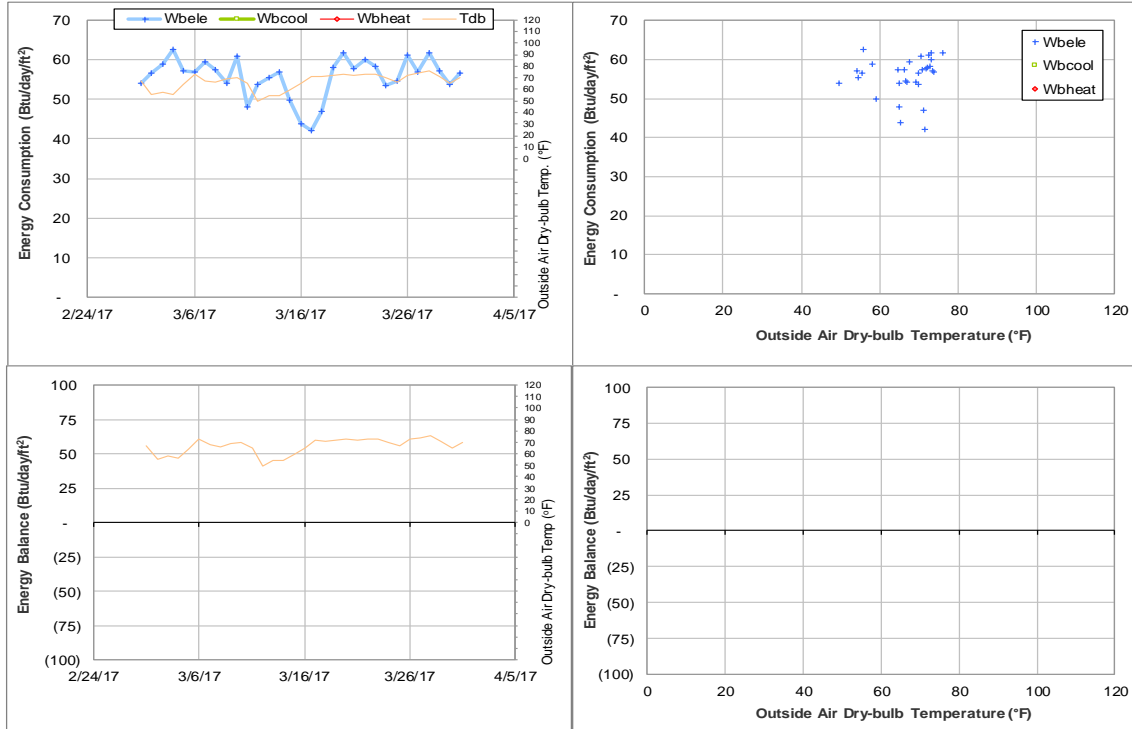


Figure IV-147 University Apartments - The Gardens Q TAMU BLDG # 1460 Energy Balance Plot during March 2017

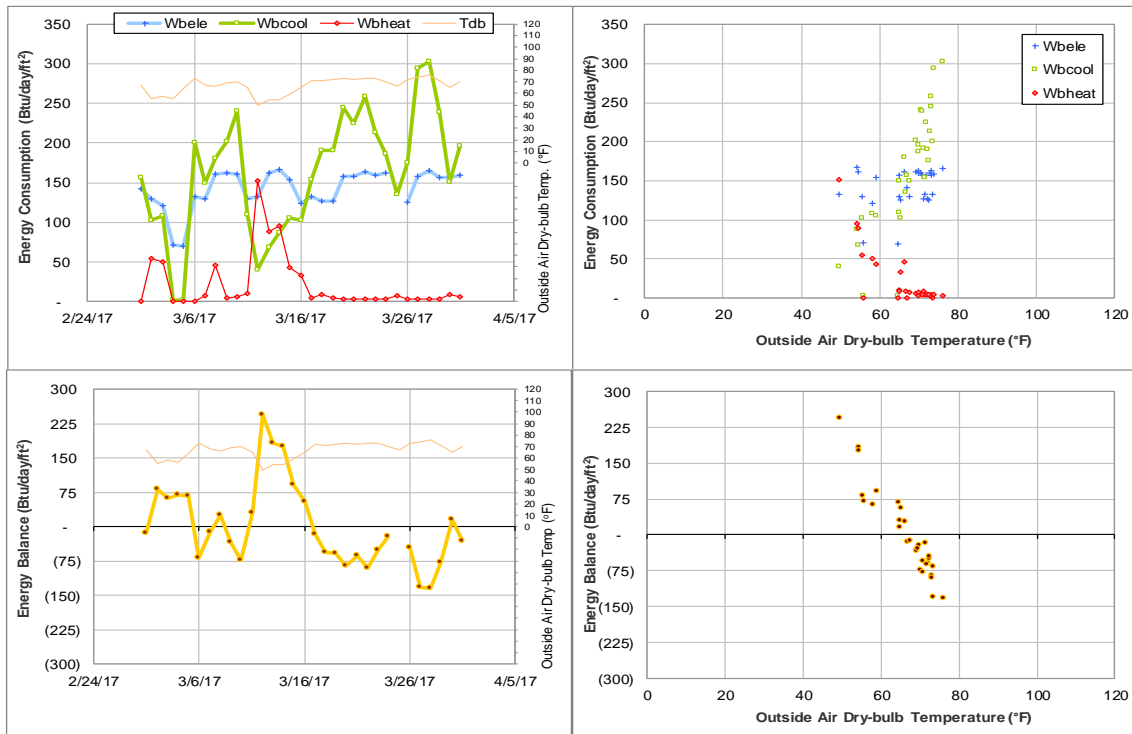


Figure IV-148 Utilities & Energy Services Business Office TAMU BLDG # 1497 Energy Balance Plot during March 2017

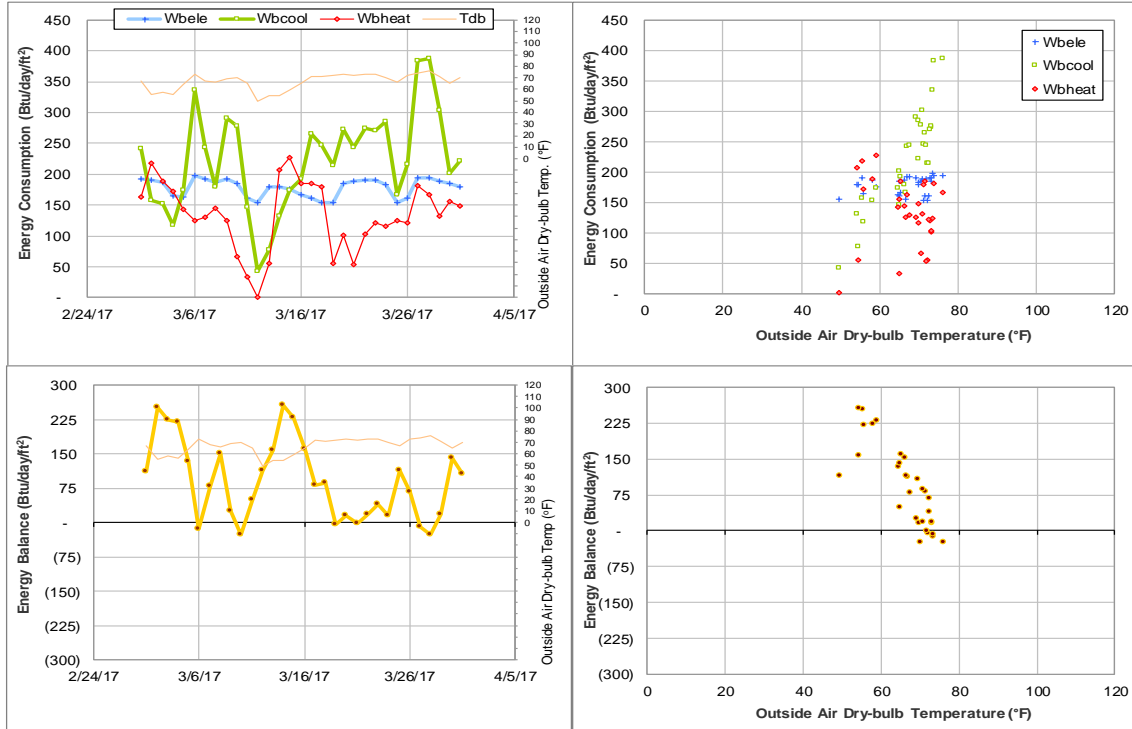


Figure IV-149 Kleberg Center TAMU BLDG # 1501 Energy Balance Plot during March 2017

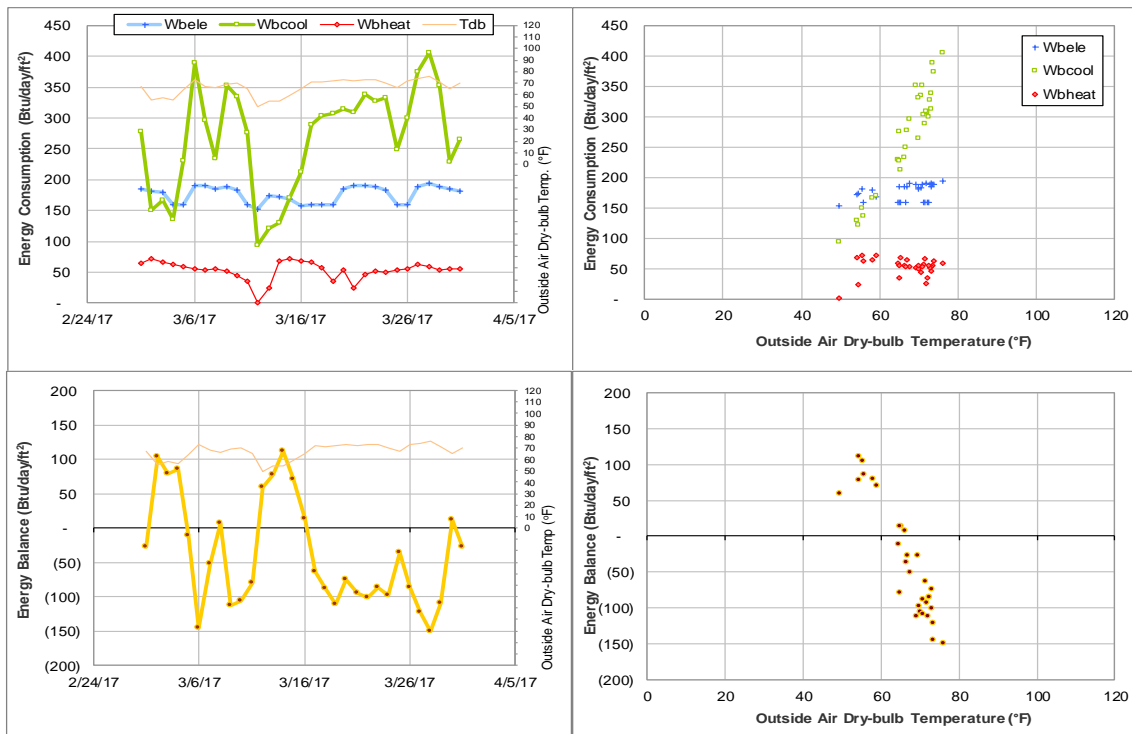


Figure IV-150 Heep Center TAMU BLDG # 1502 Energy Balance Plot during March 2017

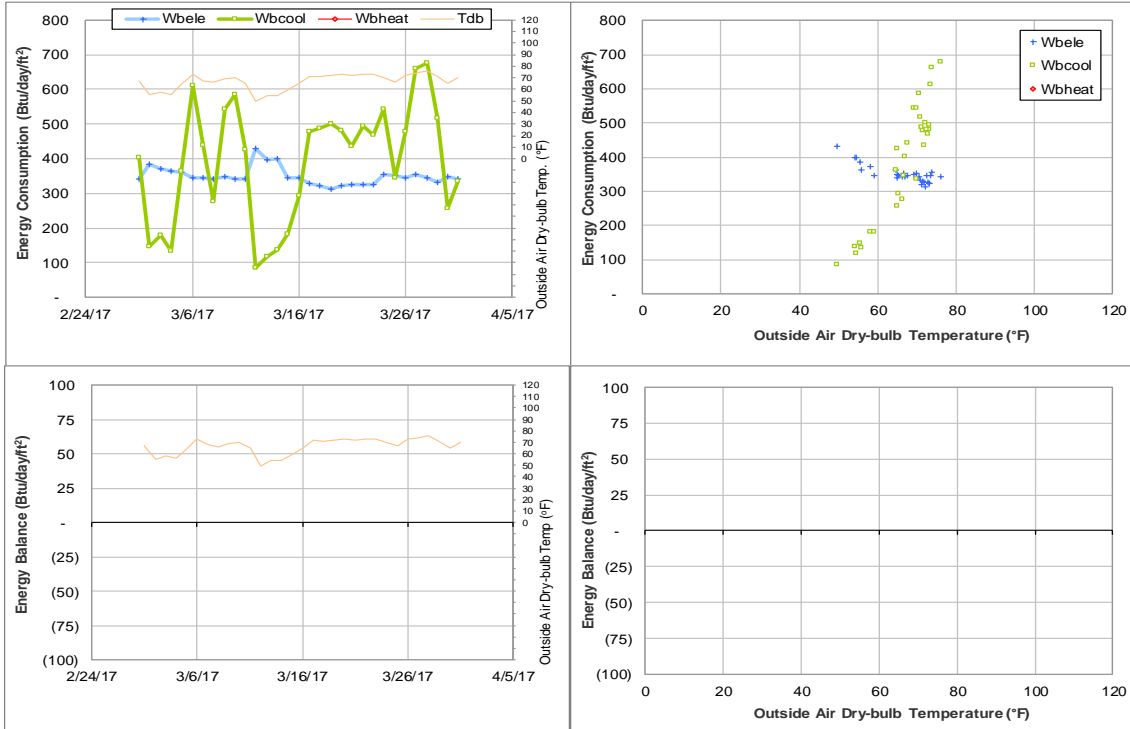


Figure IV-151 Cater-Mattil Hall TAMU BLDG # 1503 Energy Balance Plot during March 2017

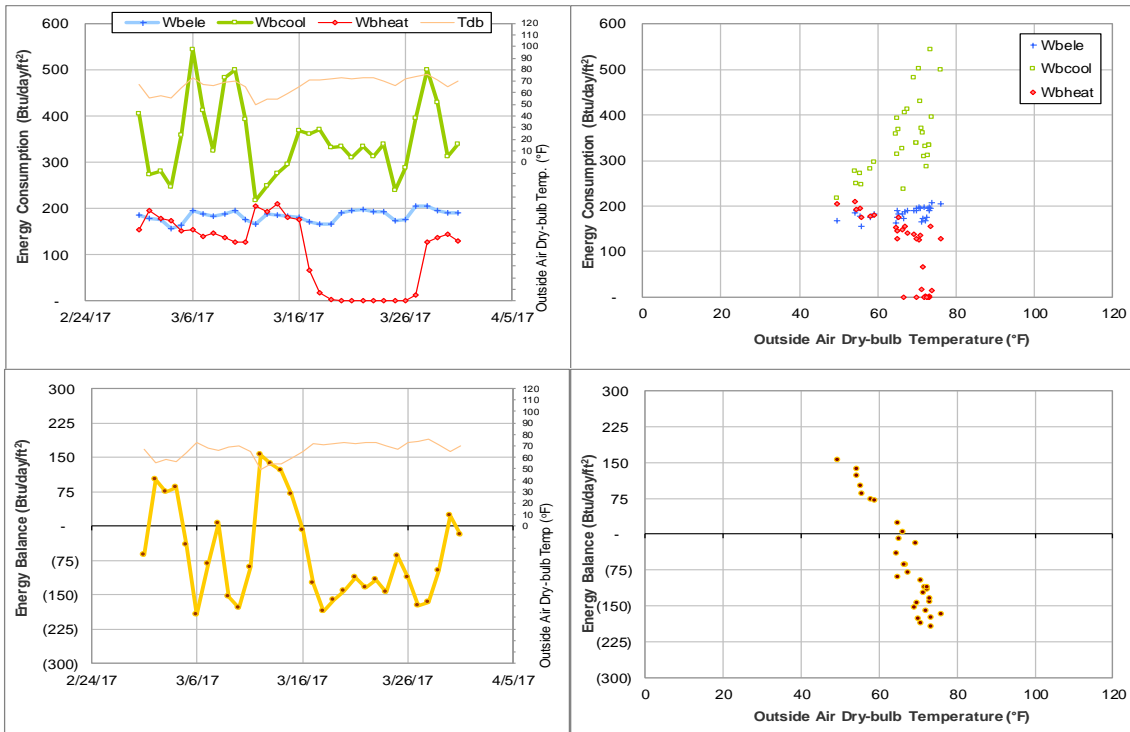


Figure IV-152 Reynolds Medical Sciences Building TAMU BLDG # 1504 Energy Balance Plot during March 2017

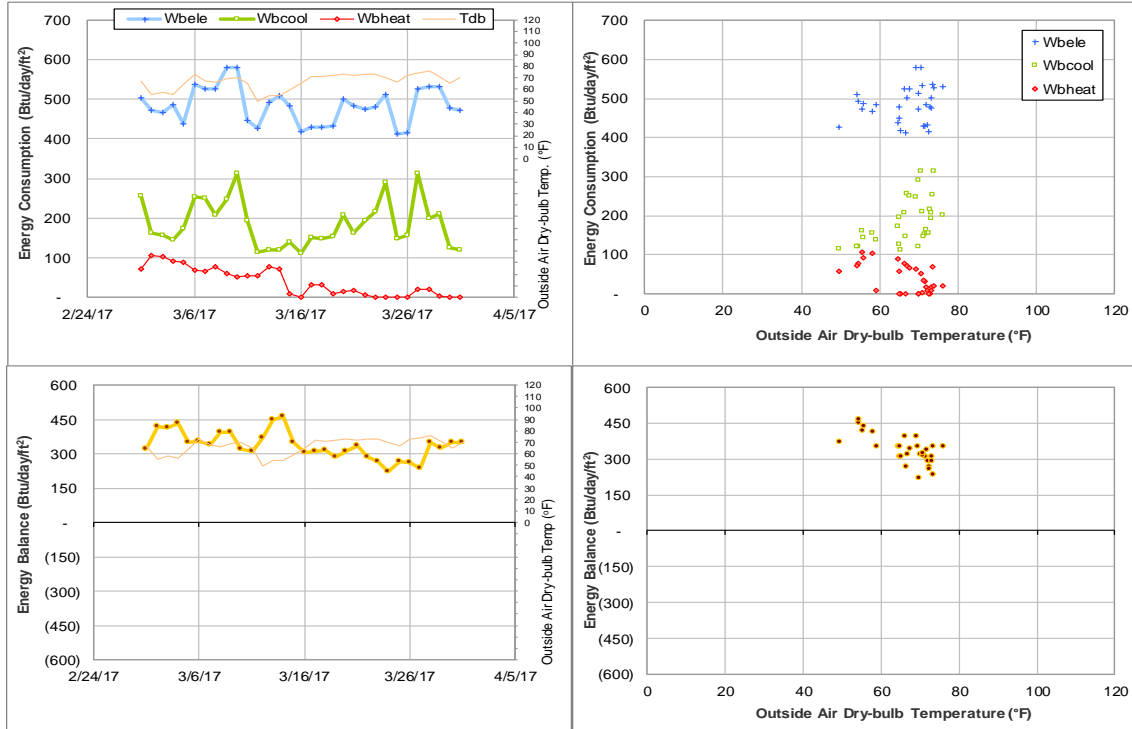


Figure IV-153 Rosenthal Meat Science & Technology Center TAMU BLDG # 1505 Energy Balance Plot during March 2017

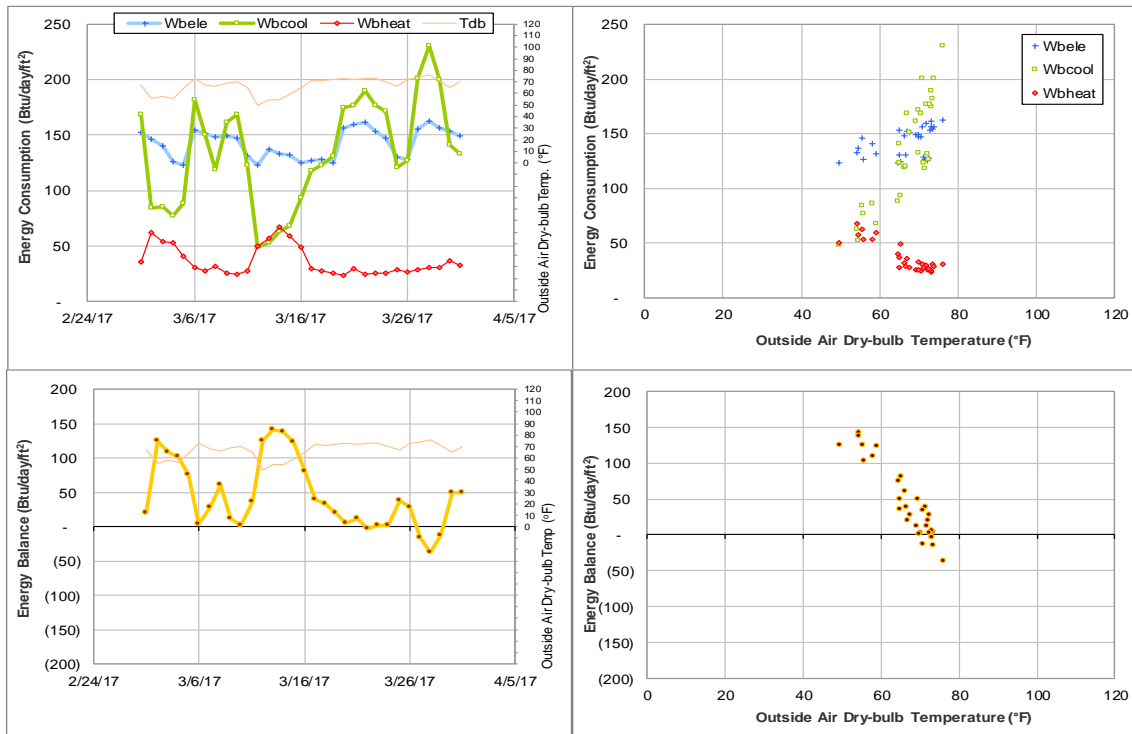


Figure IV-154 Horticulture-Forest Science Building TAMU BLDG # 1506 Energy Balance Plot during March 2017

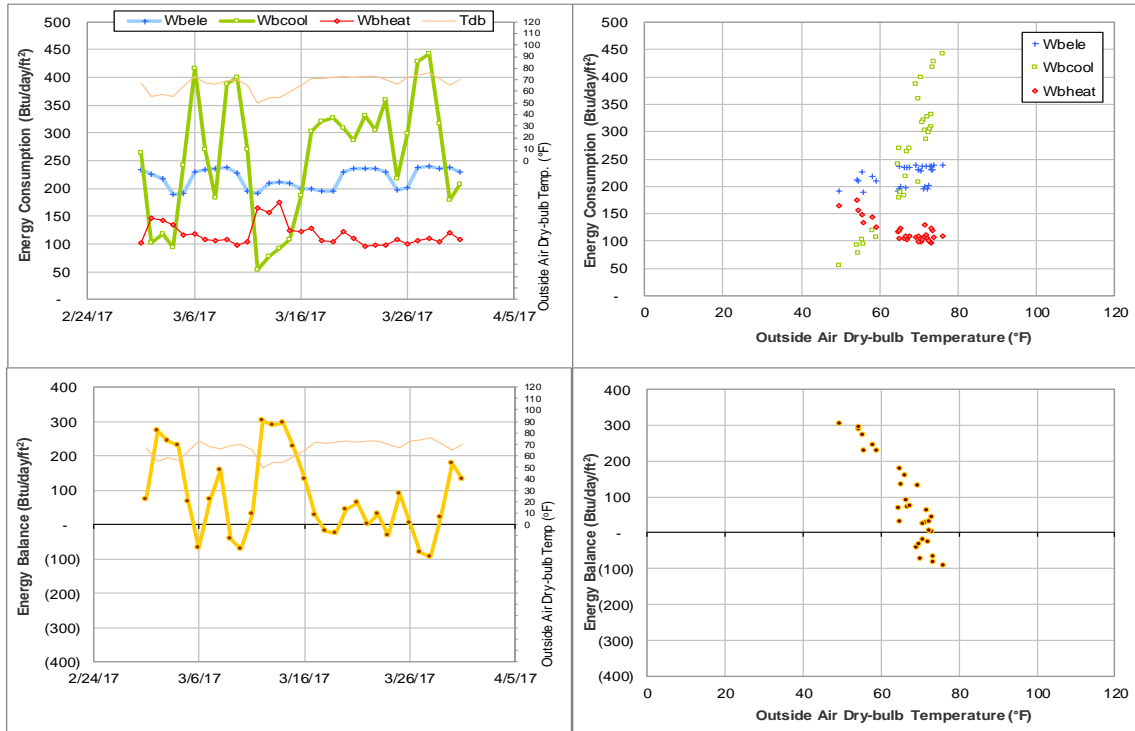


Figure IV-155 Biochemistry-Biophysics Building TAMU BLDG # 1507 Energy Balance Plot during March 2017

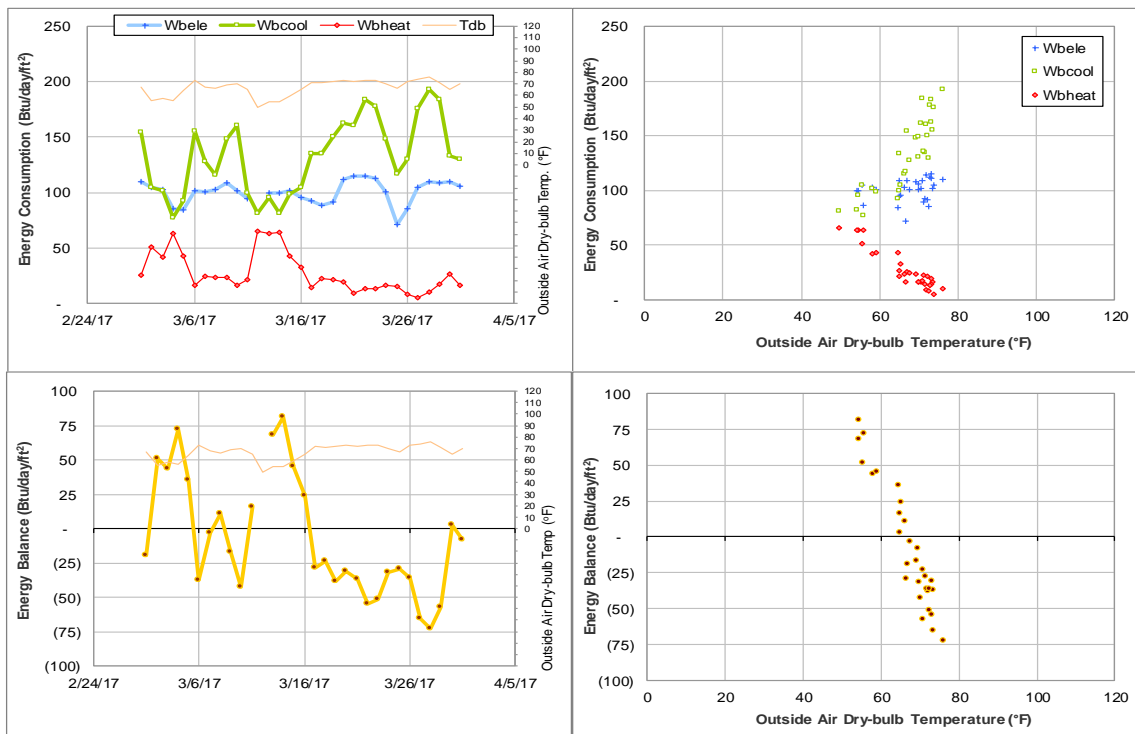


Figure IV-156 Price Hobgood Ag. Engineering Research Lab TAMU BLDG # 1508 Energy Balance Plot during March 2017

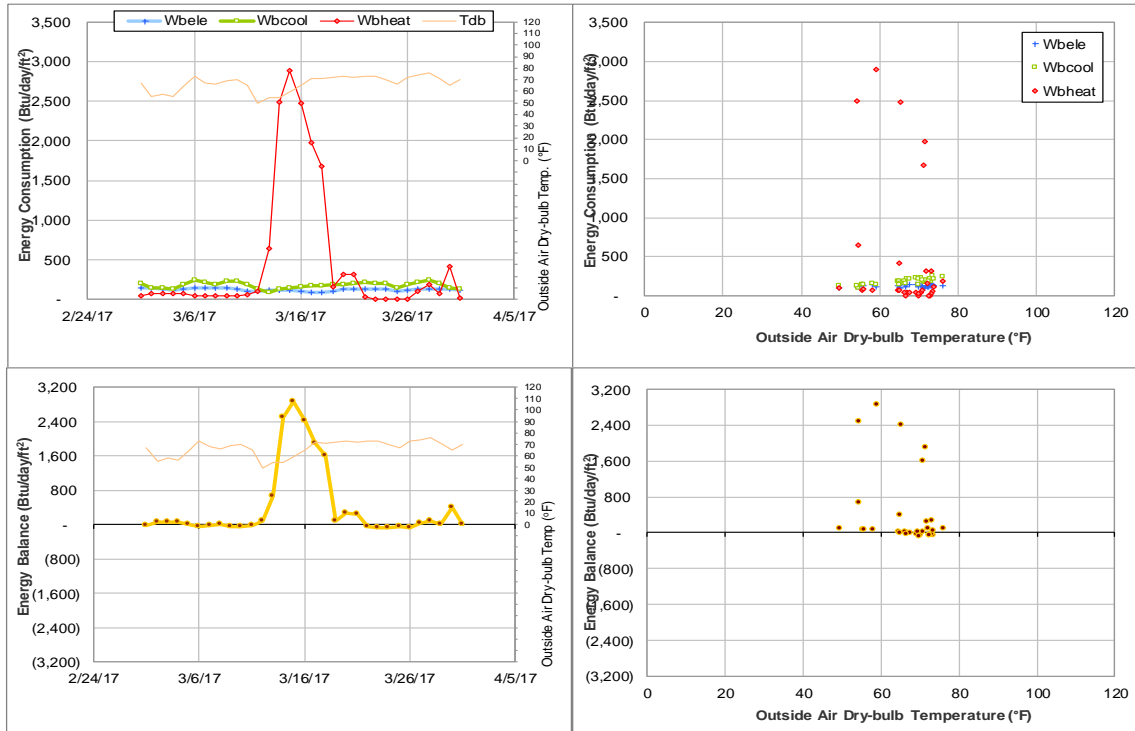


Figure IV-157 Medical Sciences Library TAMU BLDG # 1509 Energy Balance Plot during March 2017

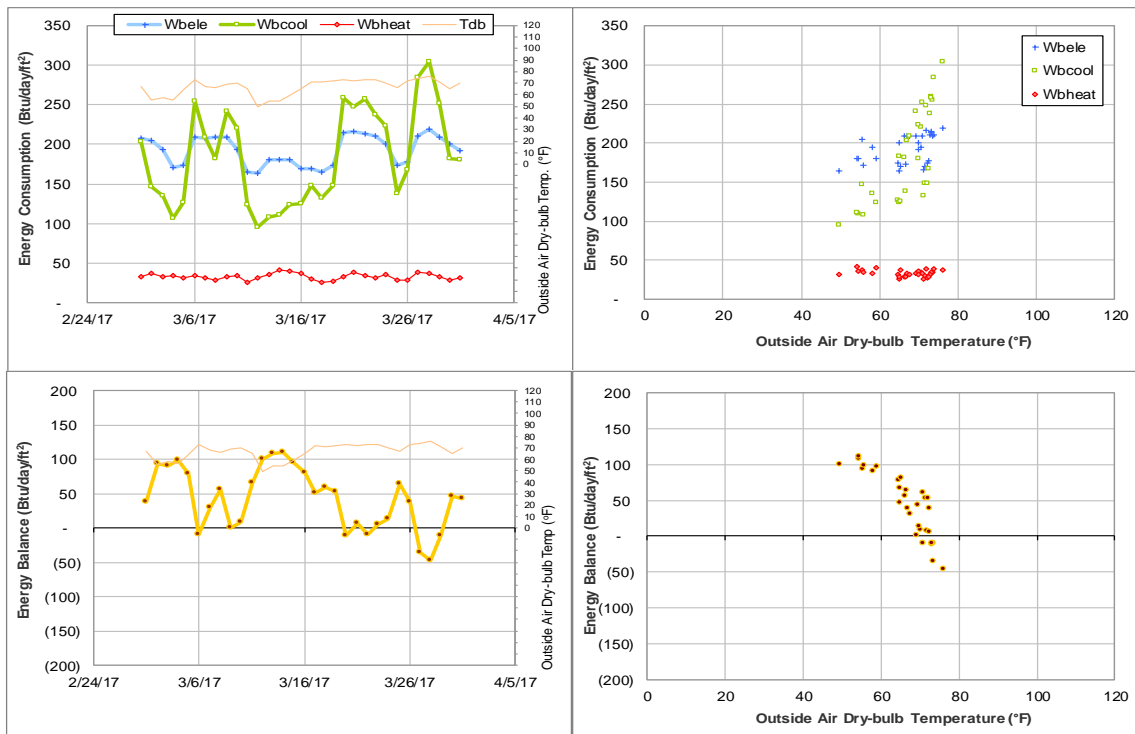


Figure IV-158 Wehner Building TAMU BLDG # 1510 Energy Balance Plot during March 2017

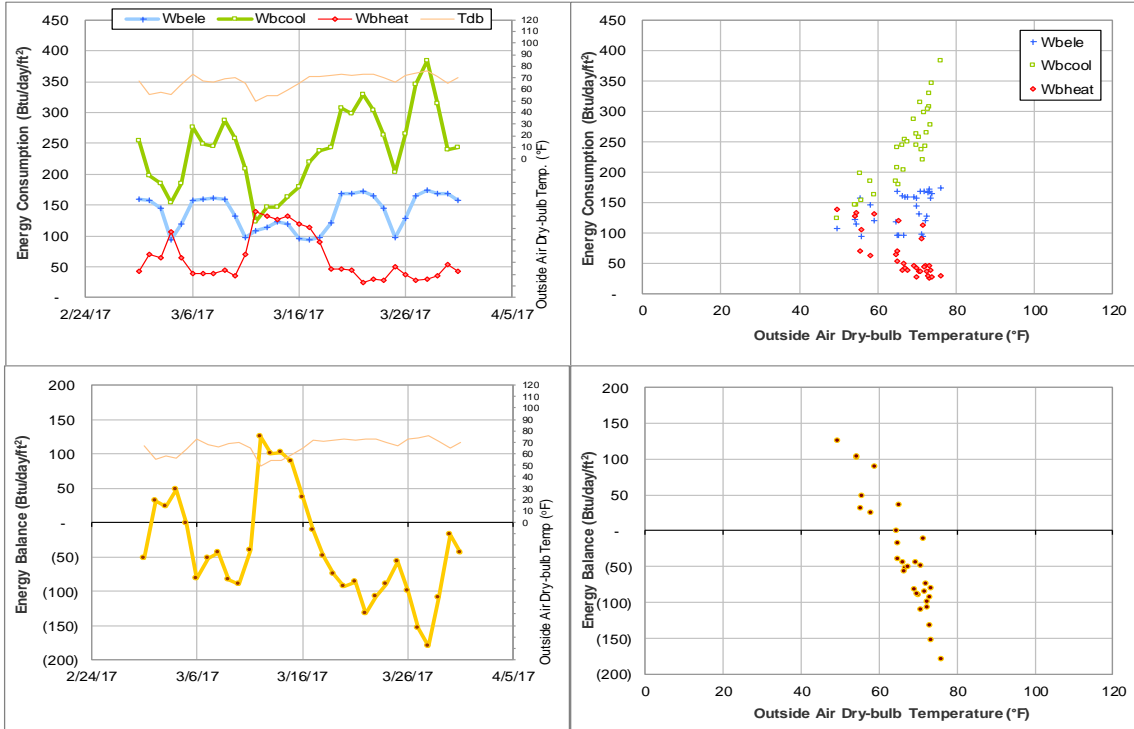


Figure IV-159 West Campus Library Facility TAMU BLDG # 1511 Energy Balance Plot during March 2017

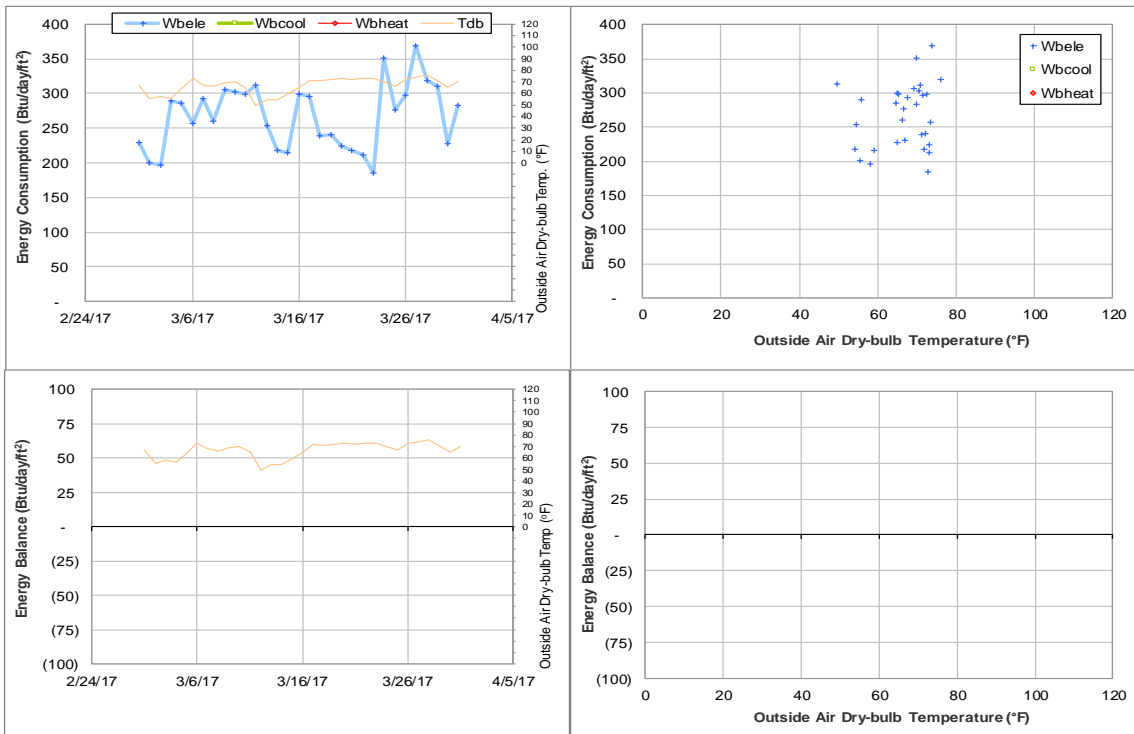


Figure IV-160 Southern Crop Improvement Greenhouse TAMU BLDG # 1512 Energy Balance Plot during March 2017

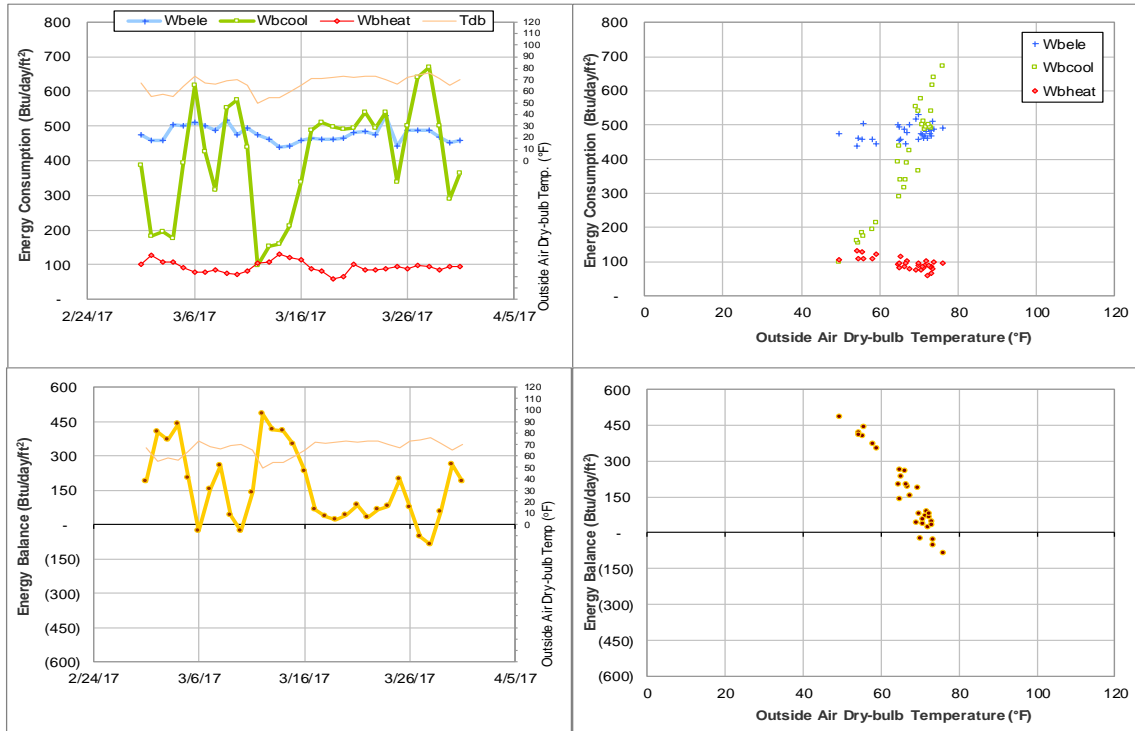


Figure IV-161 Borlaug Center for Southern Crop Improvement TAMU BLDG # 1513 Energy Balance Plot during March 2017

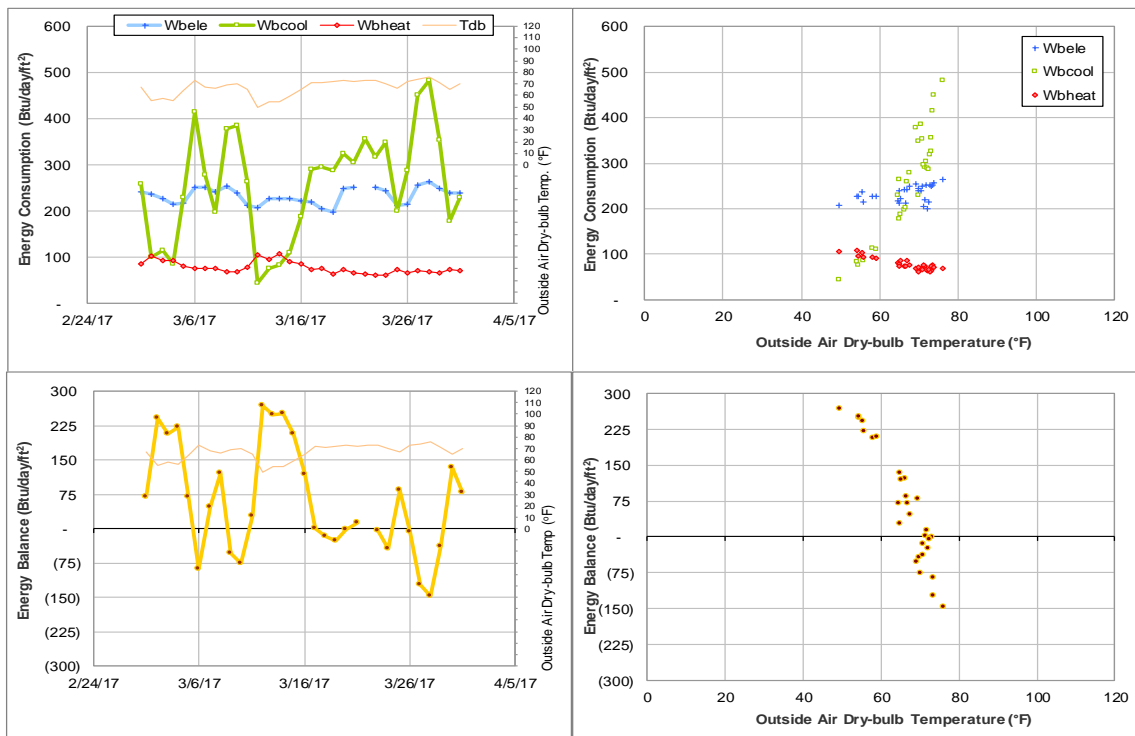


Figure IV-162 TX School of Rural Public Health TAMU BLDG # 1518 Energy Balance Plot during March 2017

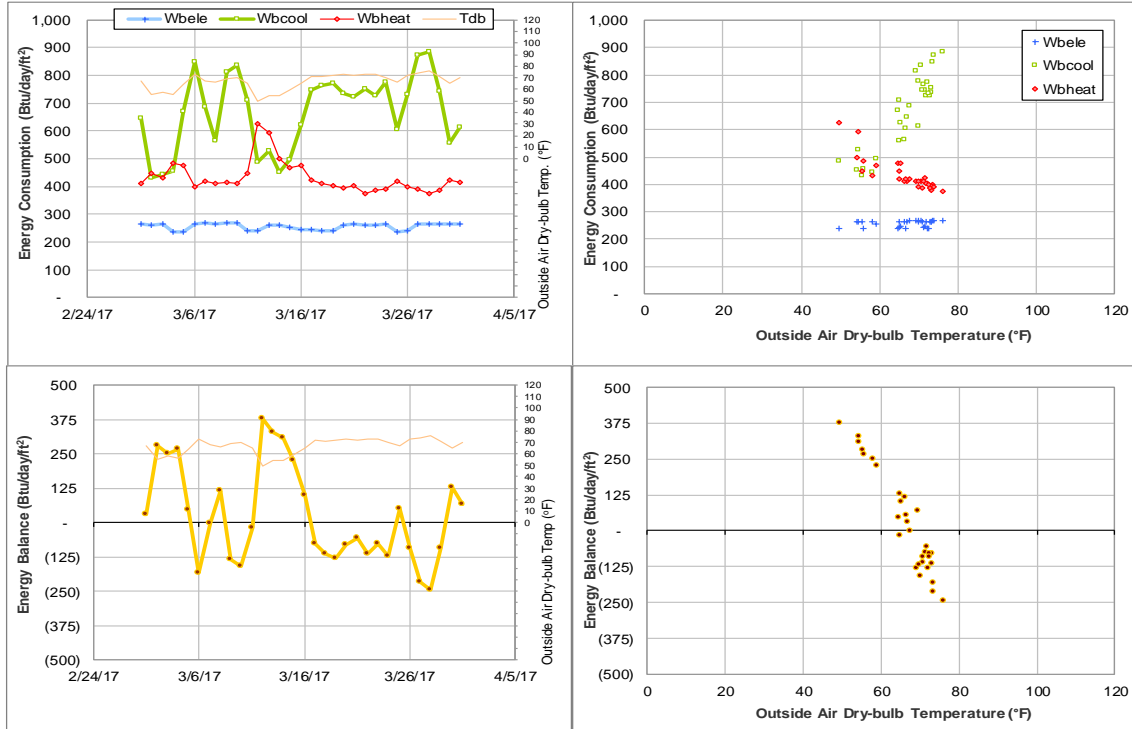


Figure IV-163 Nuclear Magnetic Resonance Facility TAMU BLDG # 1525 Energy Balance Plot during March 2017

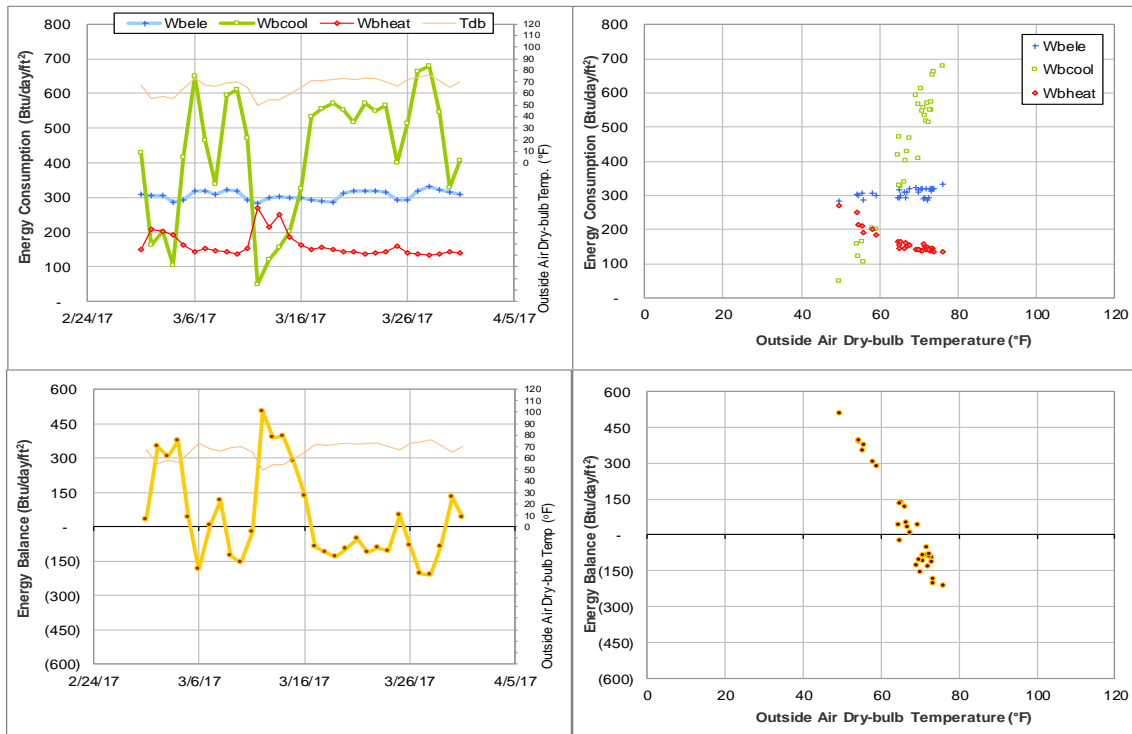


Figure IV-164 Interdisciplinary Life Sciences Building TAMU BLDG # 1530 Energy Balance Plot during March 2017

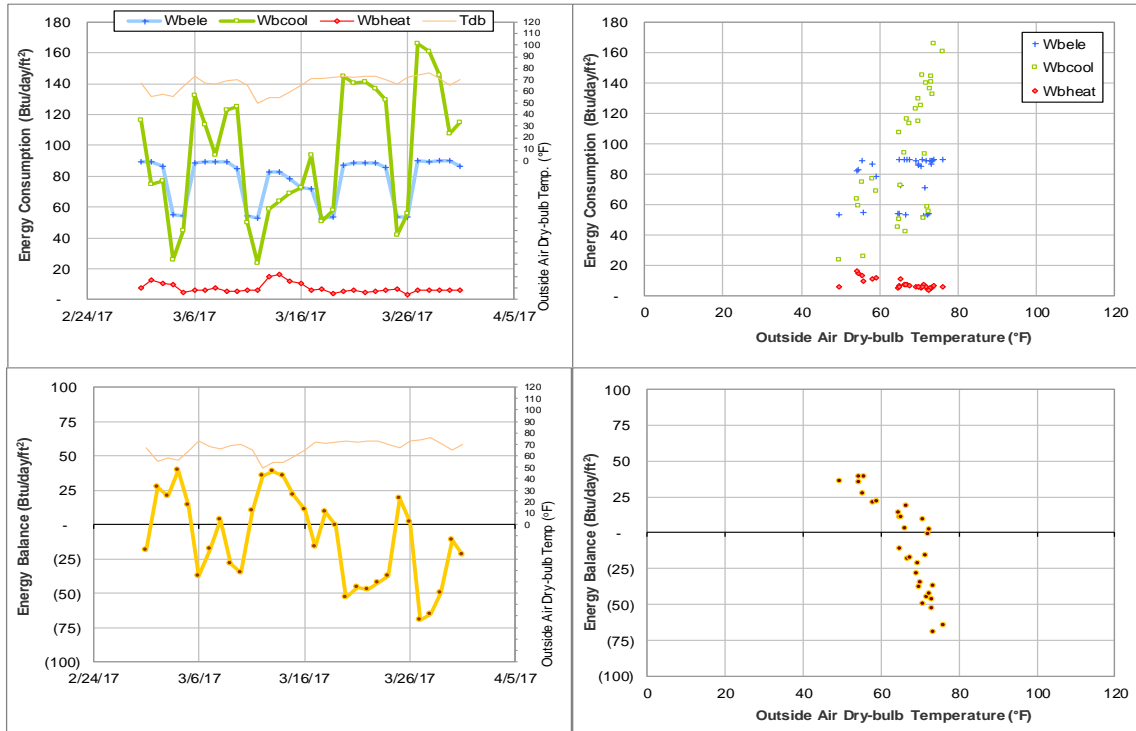


Figure IV-165 Agriculture and Life Sciences Building TAMU BLDG # 1535 Energy Balance Plot during March 2017

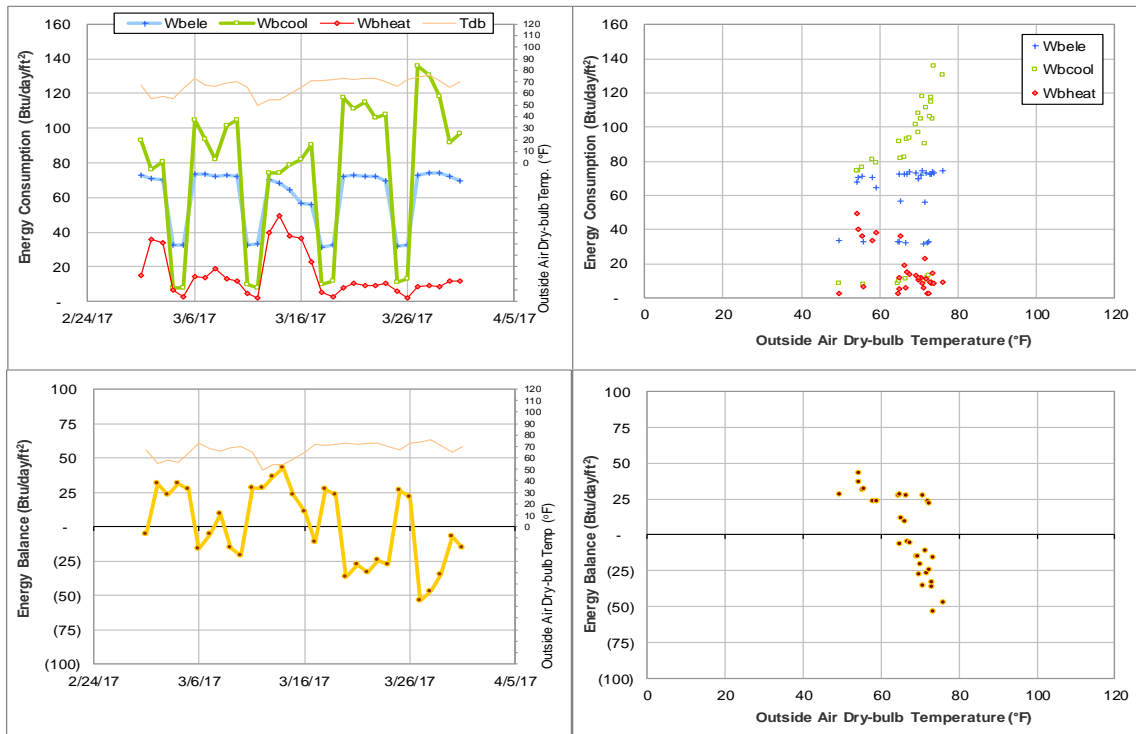


Figure IV-166 AgriLife Services Building TAMU BLDG # 1536 Energy Balance Plot during March 2017

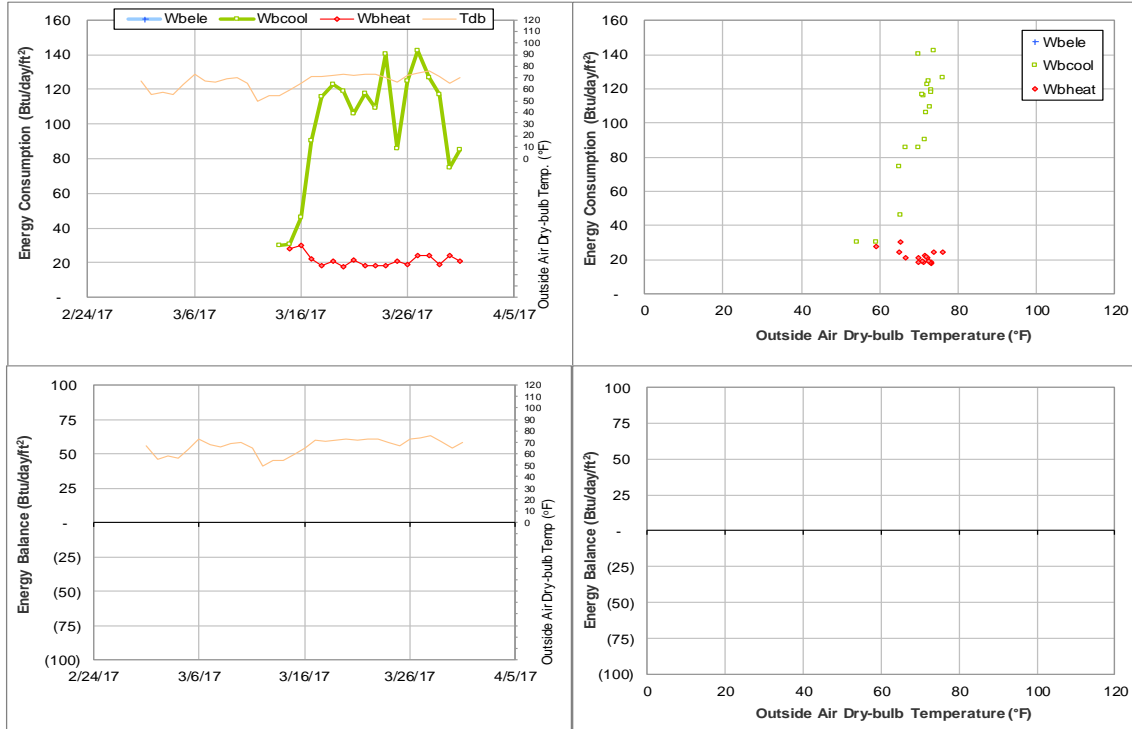


Figure IV-167 Agriculture Public Building TAMU BLDG # 1537 Energy Balance Plot during March 2017

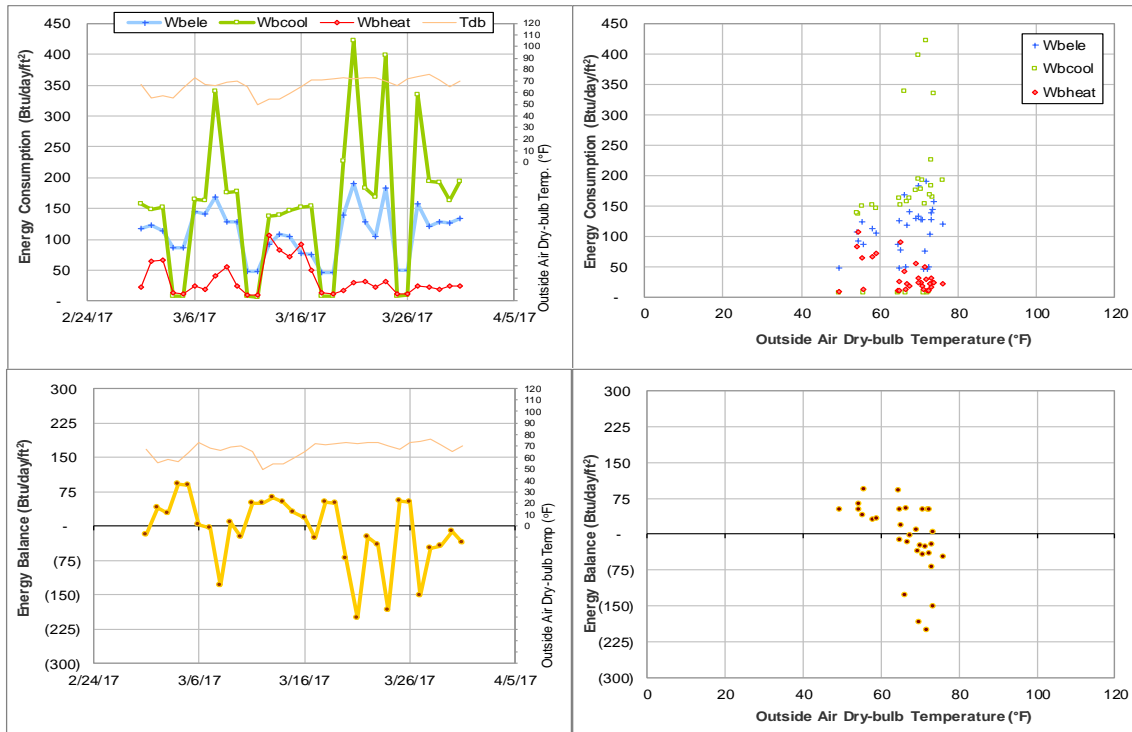


Figure IV-168 Agriculture Program Visitors Center TAMU BLDG # 1538 Energy Balance Plot during March 2017

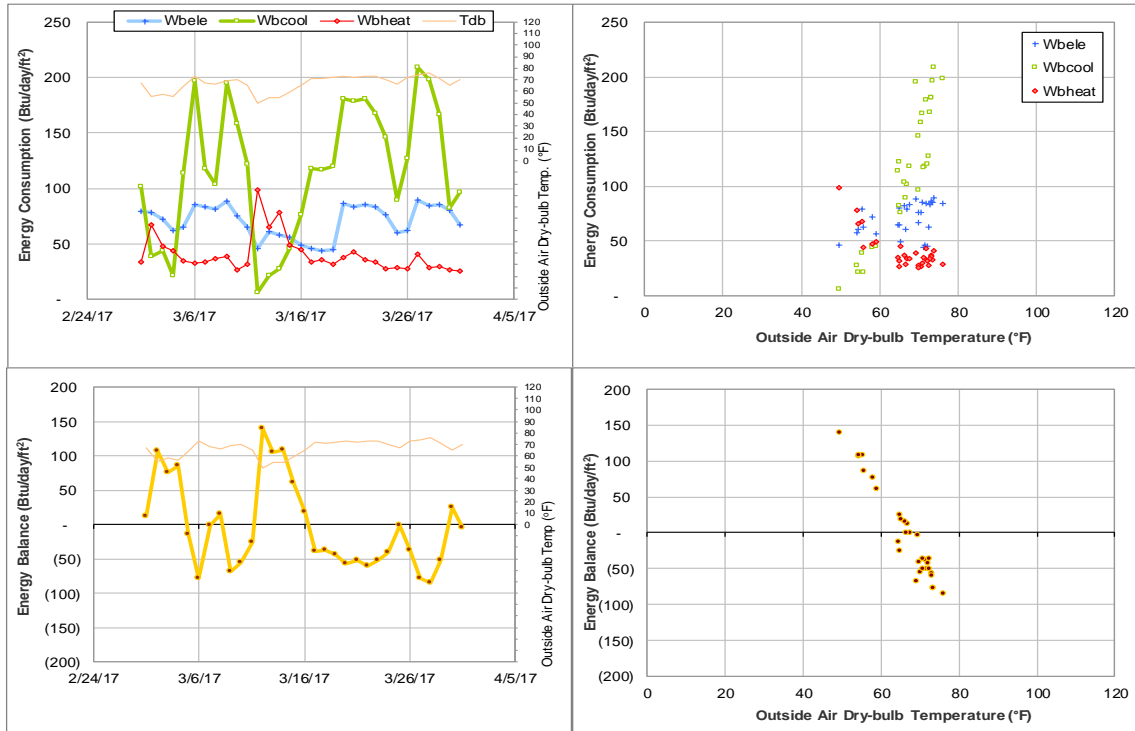


Figure IV-169 Physical Education Activity Program Building TAMU BLDG # 1540 Energy Balance Plot during March 2017

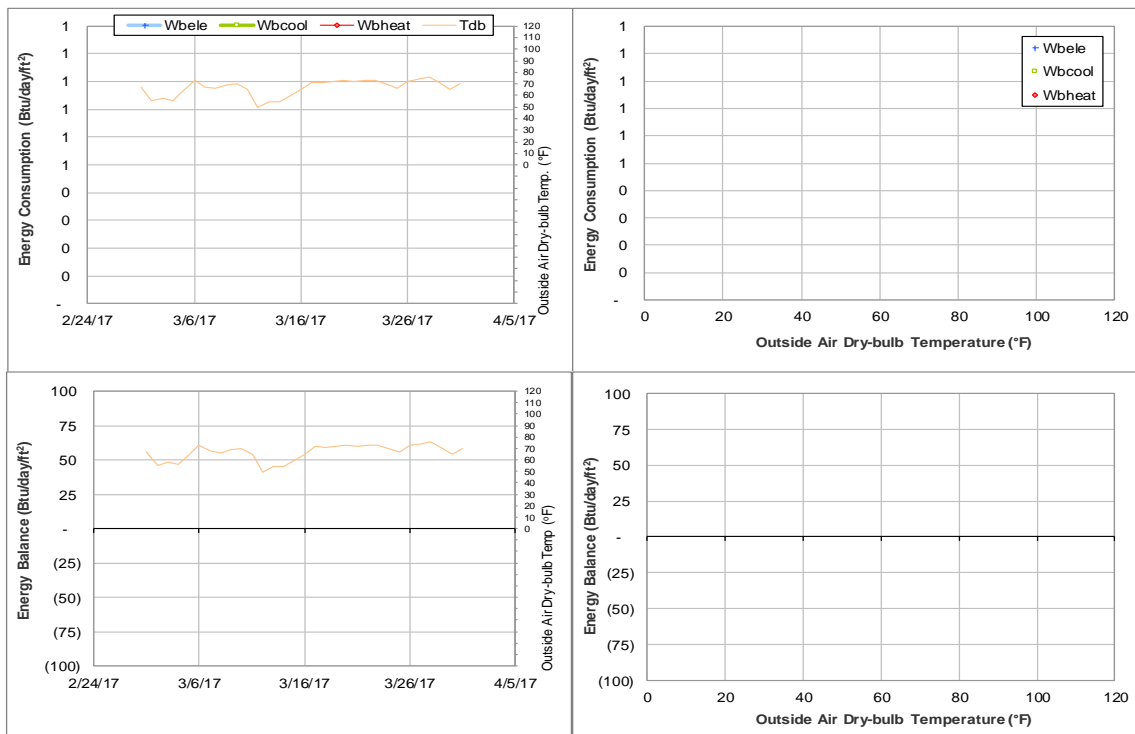


Figure IV-170 Human Clinical Research Building TAMU BLDG # 1542 Energy Balance Plot during March 2017

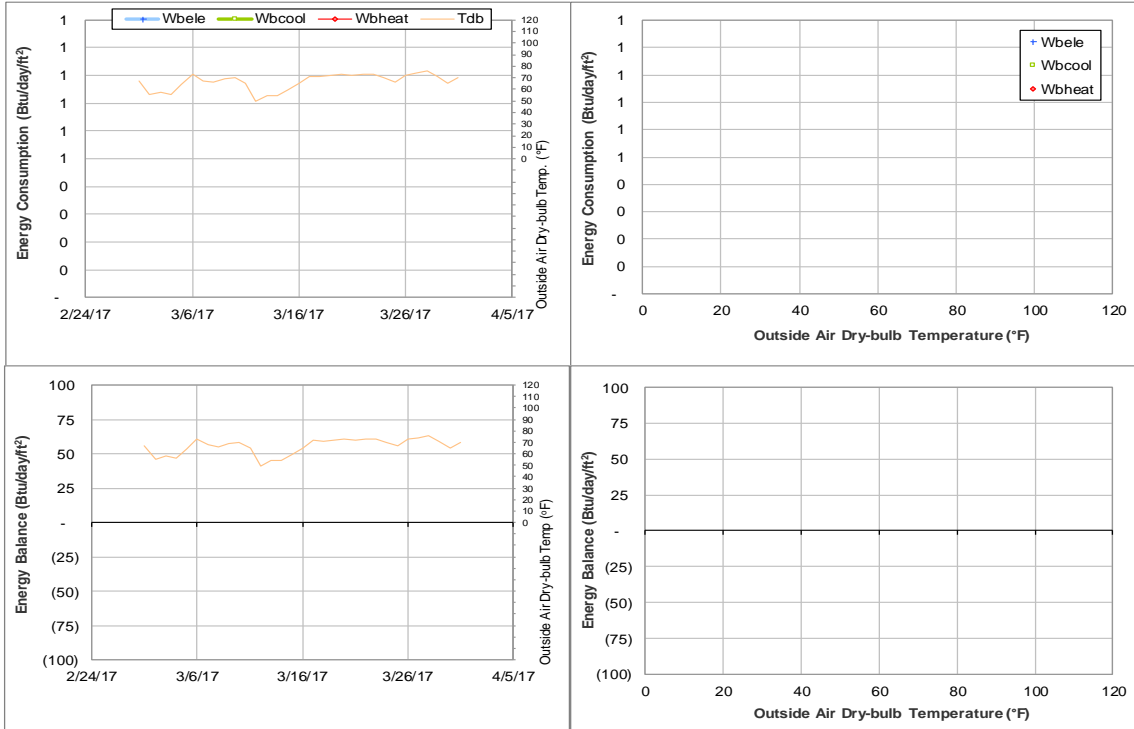


Figure IV-171 Cain Garage TAMU BLDG # 1544 Energy Balance Plot during March 2017

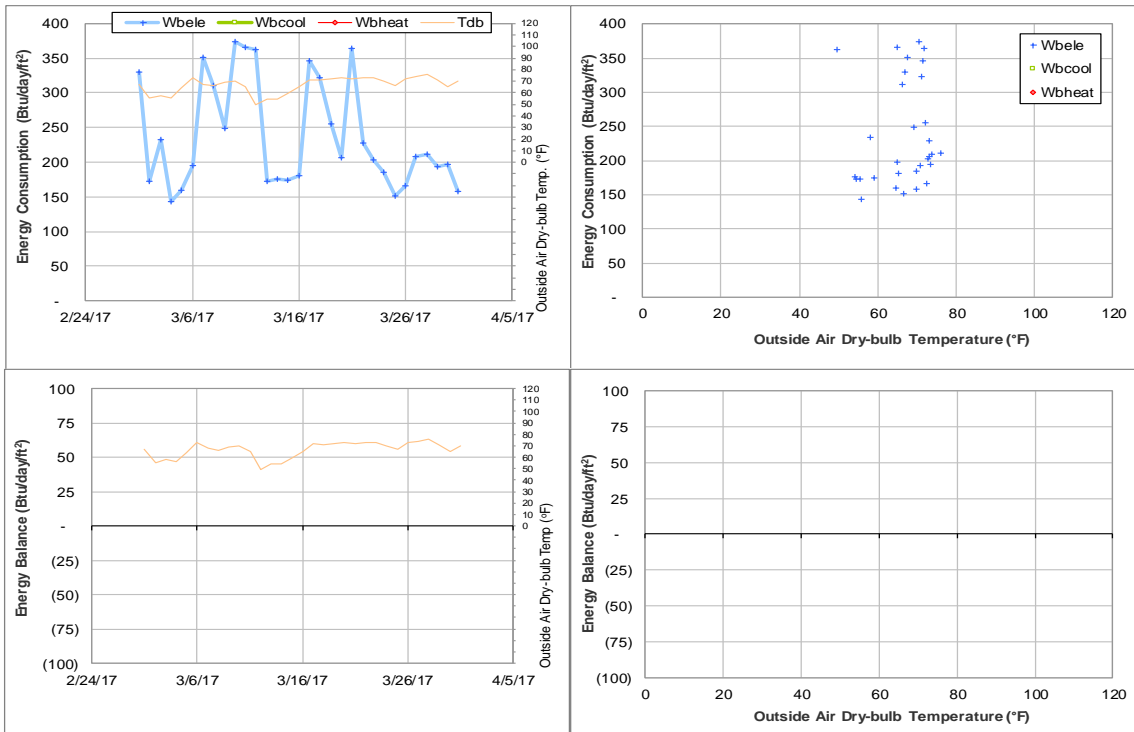


Figure IV-172 Olsen Field at Bluebell Park TAMU BLDG # 1550 Energy Balance Plot during March 2017

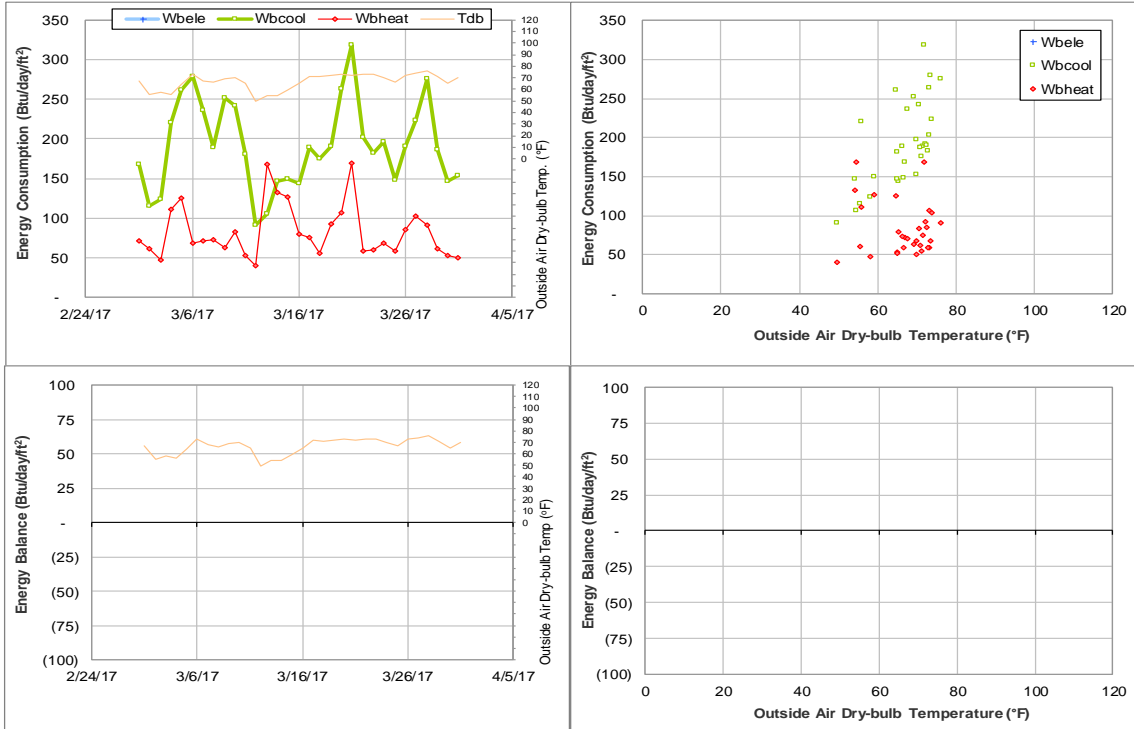


Figure IV-173 Reed Arena and Cox-McFerrin Center TAMU BLDG # 1554 Energy Balance Plot during March 2017

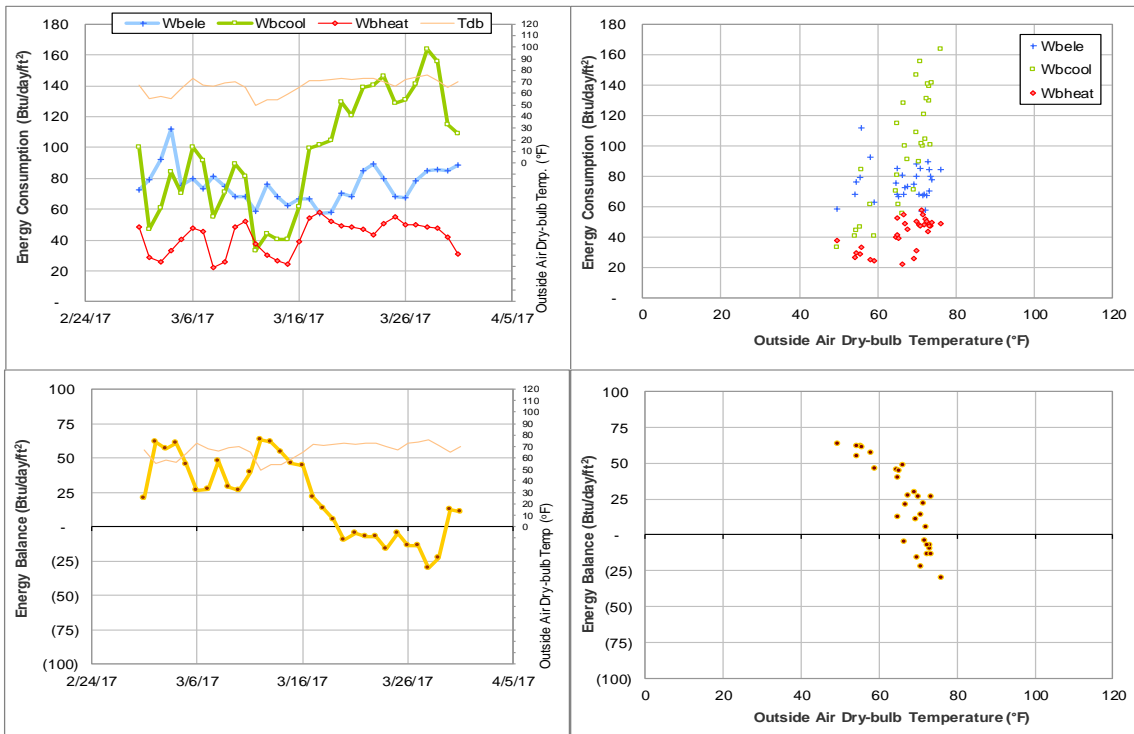


Figure IV-174 Cox-McFerrin Center for Aggie Basketball TAMU BLDG # 1558 Energy Balance Plot during March 2017

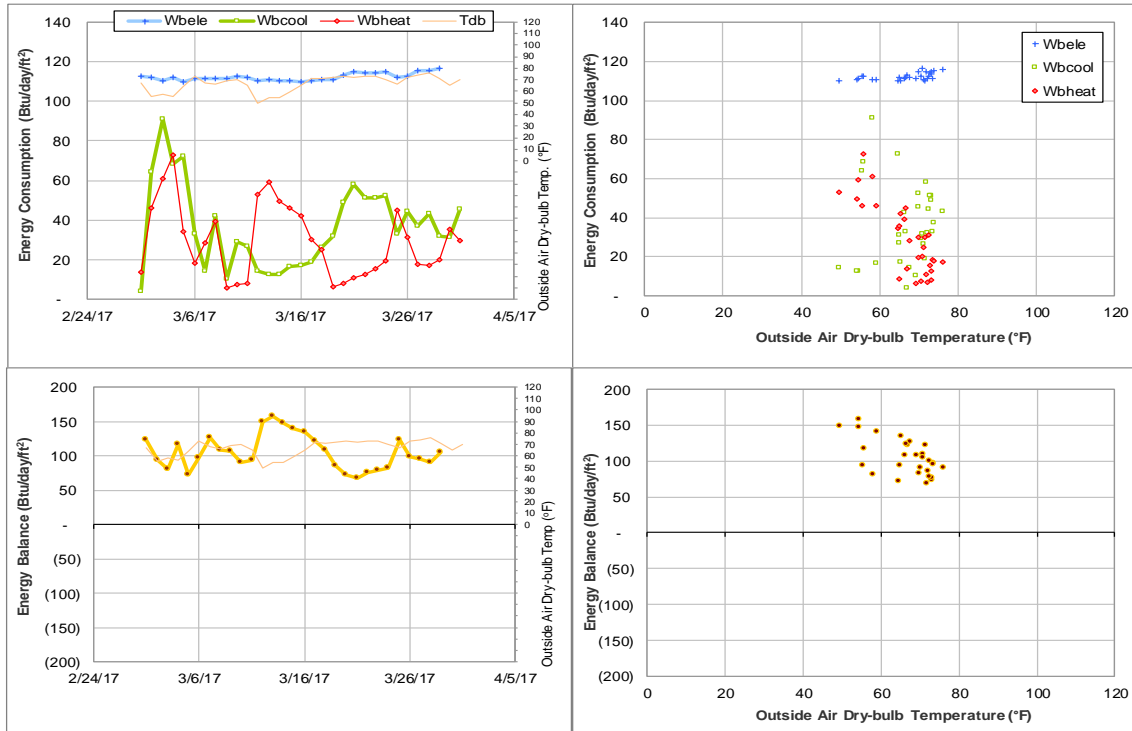


Figure IV-175 West Campus Parking Garage TAMU BLDG # 1559 Energy Balance Plot during March 2017

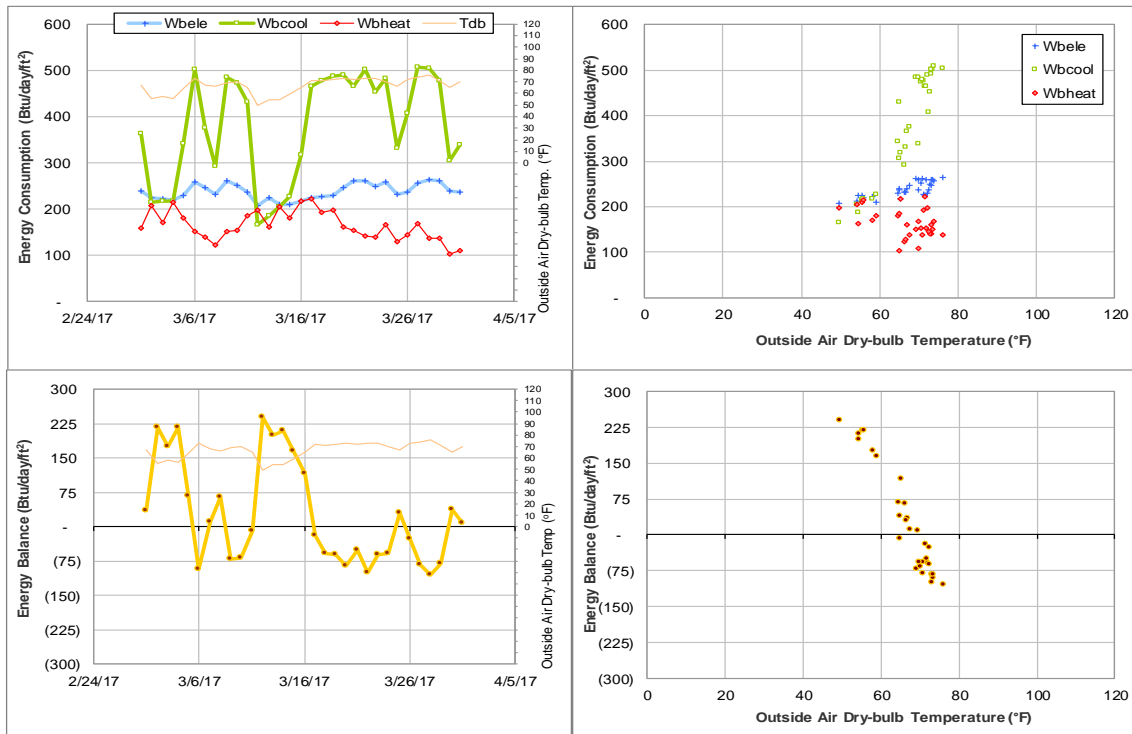


Figure IV-176 Student Recreation Center TAMU BLDG # 1560 Energy Balance Plot during March 2017

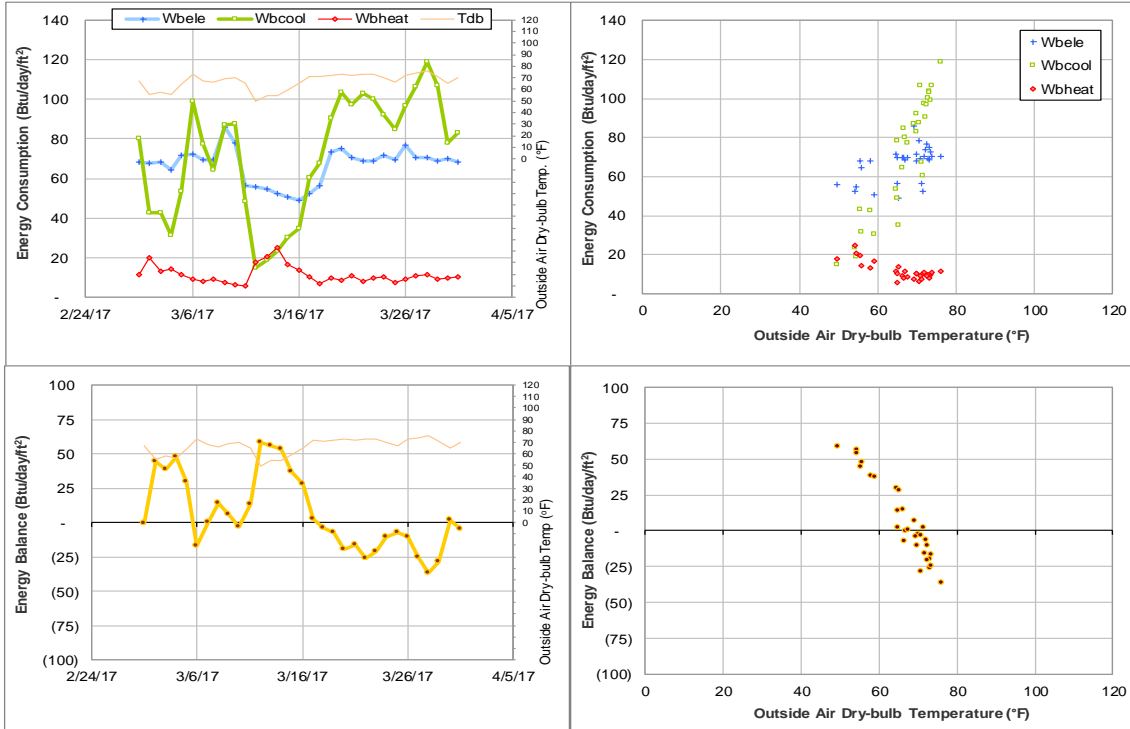


Figure IV-177 White Creek Apartment 1 and White Creek Apts Activity Center TAMU BLDG # 1589 Energy Balance Plot during March 2017

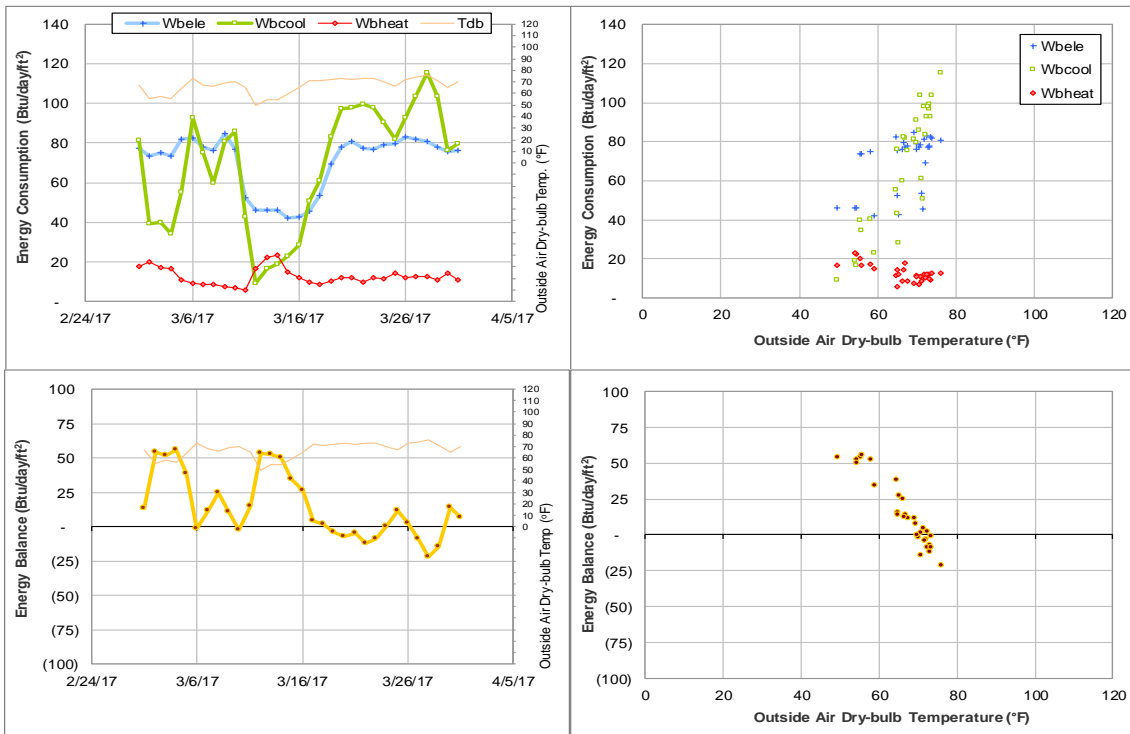


Figure IV-178 White Creek Apartment 2 TAMU BLDG # 1591 Energy Balance Plot during March 2017

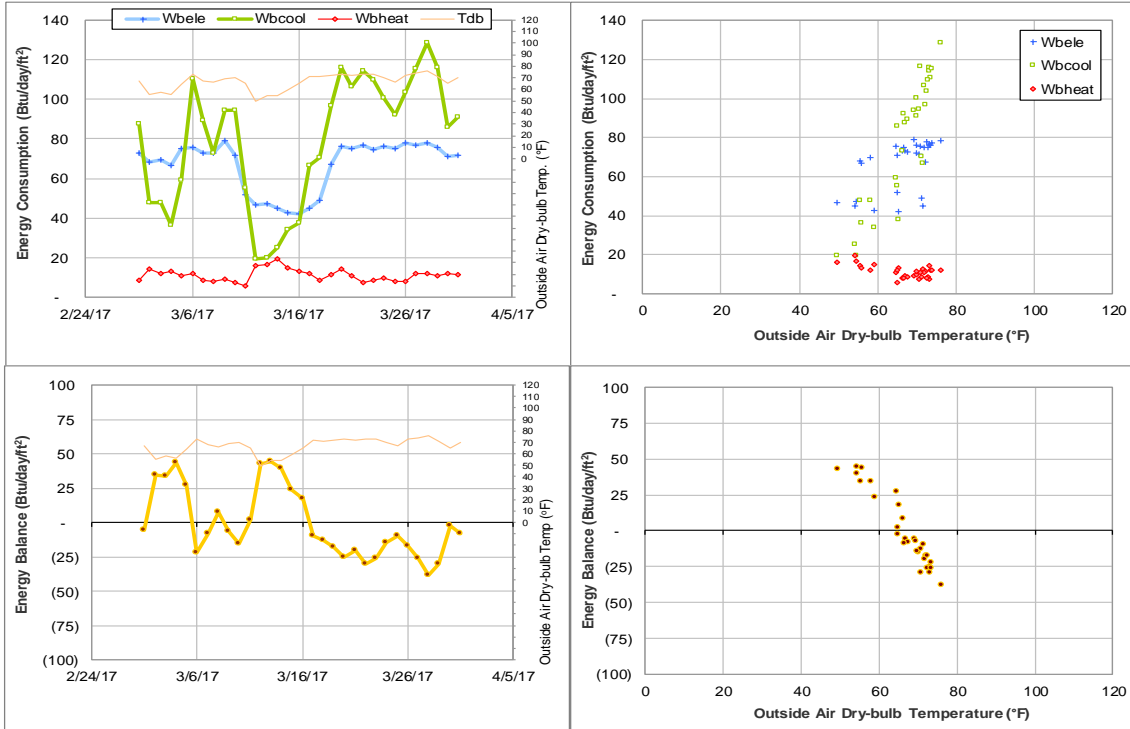


Figure IV-179 White Creek Apartment 3 TAMU BLDG # 1592 Energy Balance Plot during March 2017

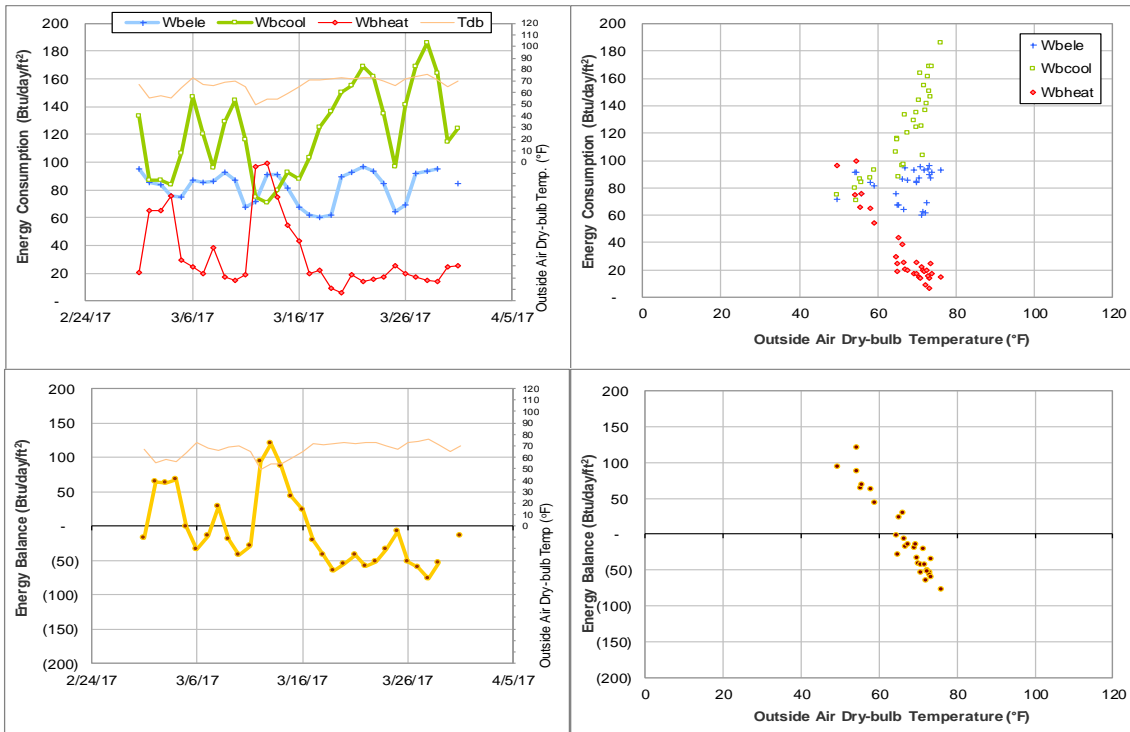


Figure IV-180 Gilchrist TTI Building TAMU BLDG # 1600 Energy Balance Plot during March 2017

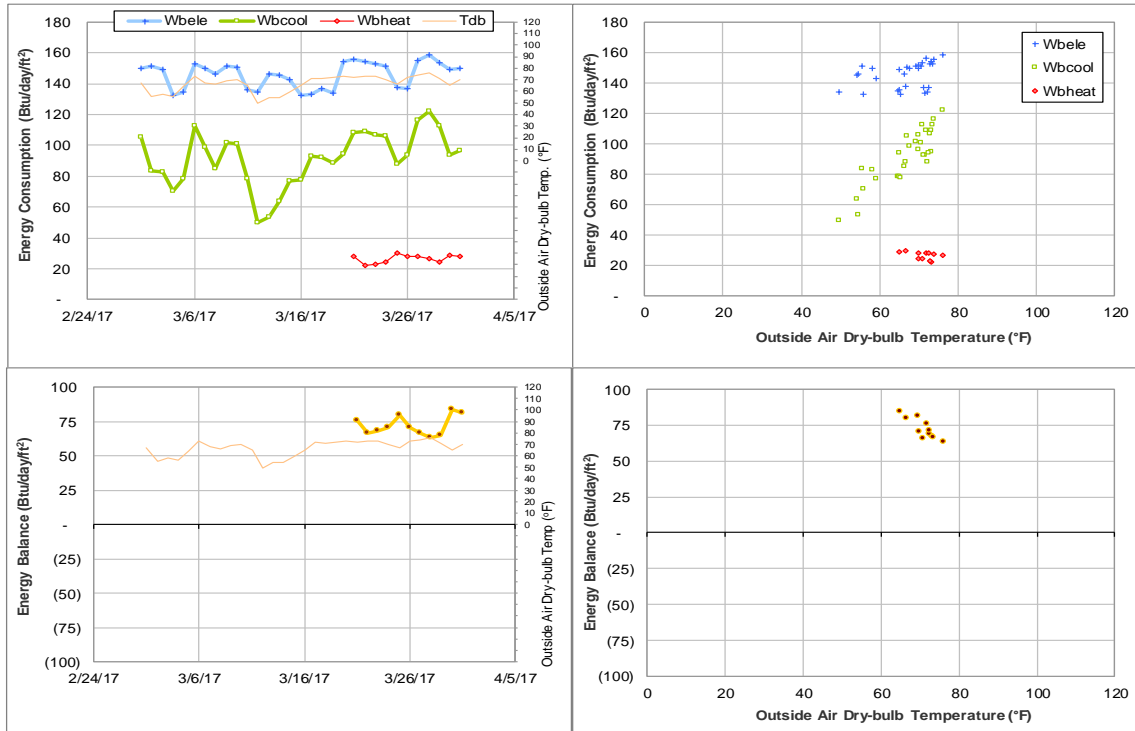


Figure IV-181 International Ocean Discovery Building TAMU BLDG # 1601 Energy Balance Plot during March 2017

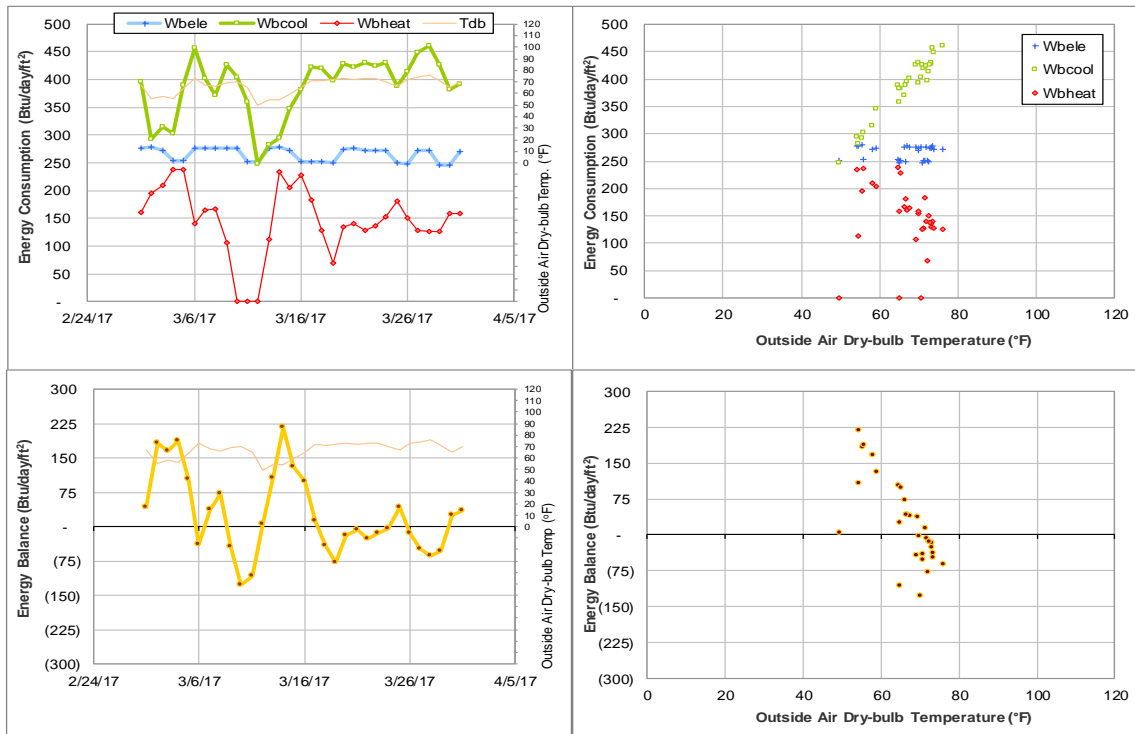


Figure IV-182 Offshore Technology Research Center TAMU BLDG # 1604 Energy Balance Plot during March 2017

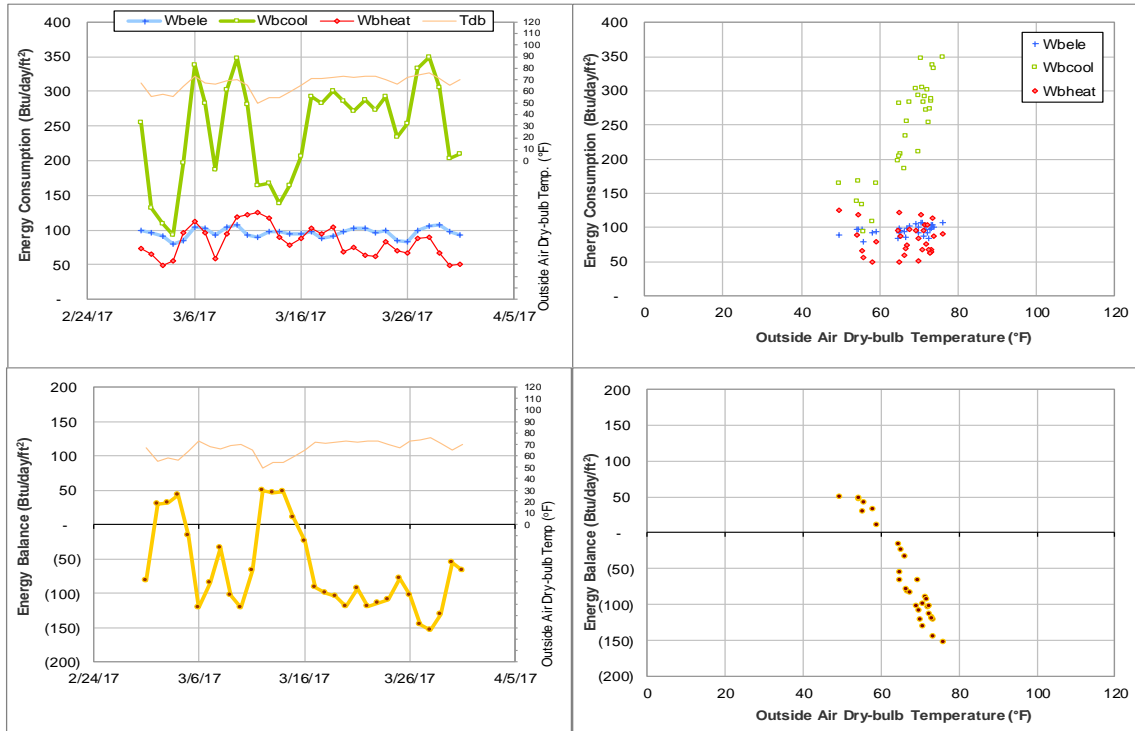


Figure IV-183 George Bush Presidential Library & Museum TAMU BLDG # 1606 Energy Balance Plot during March 2017

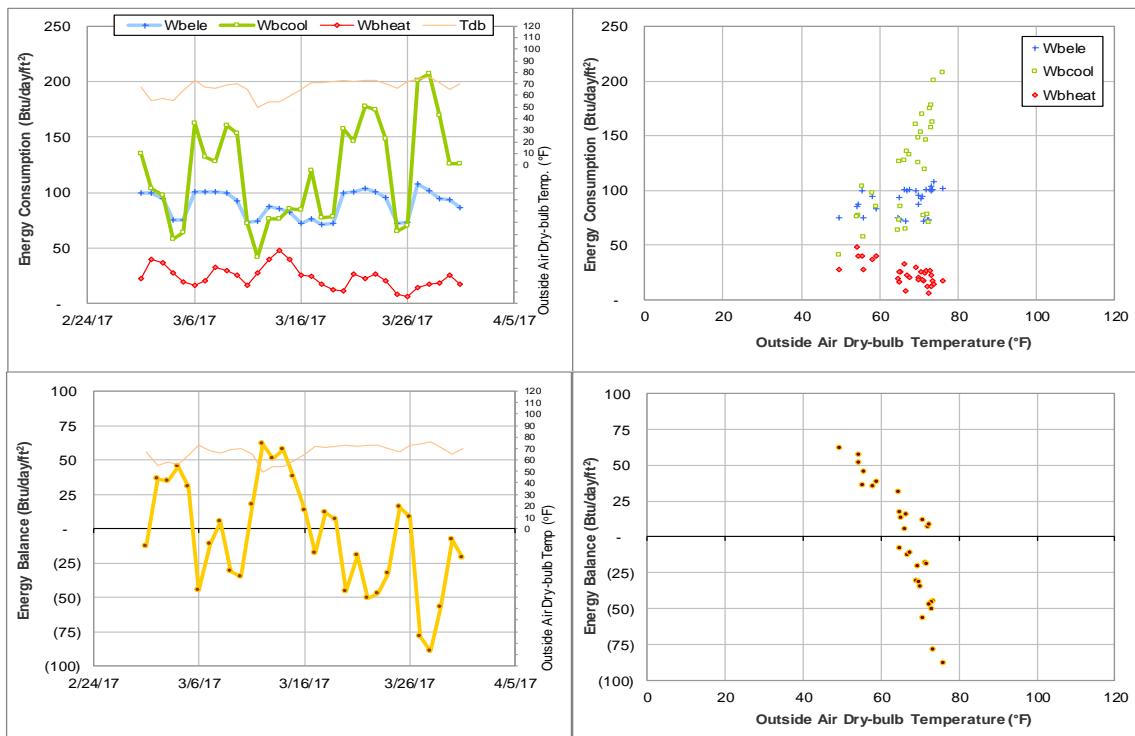


Figure IV-184 Allen Building TAMU BLDG # 1607 Energy Balance Plot during March 2017

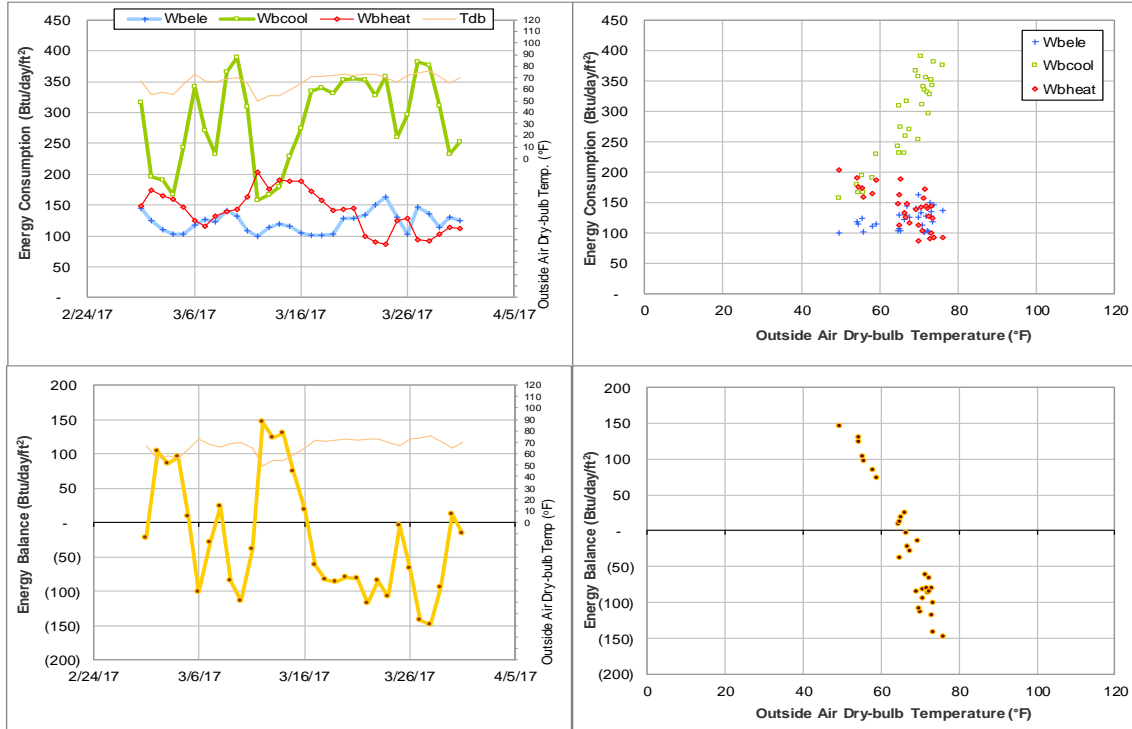


Figure IV-185 Annenberg Presidential Conference Center TAMU BLDG # 1608 Energy Balance Plot during March 2017

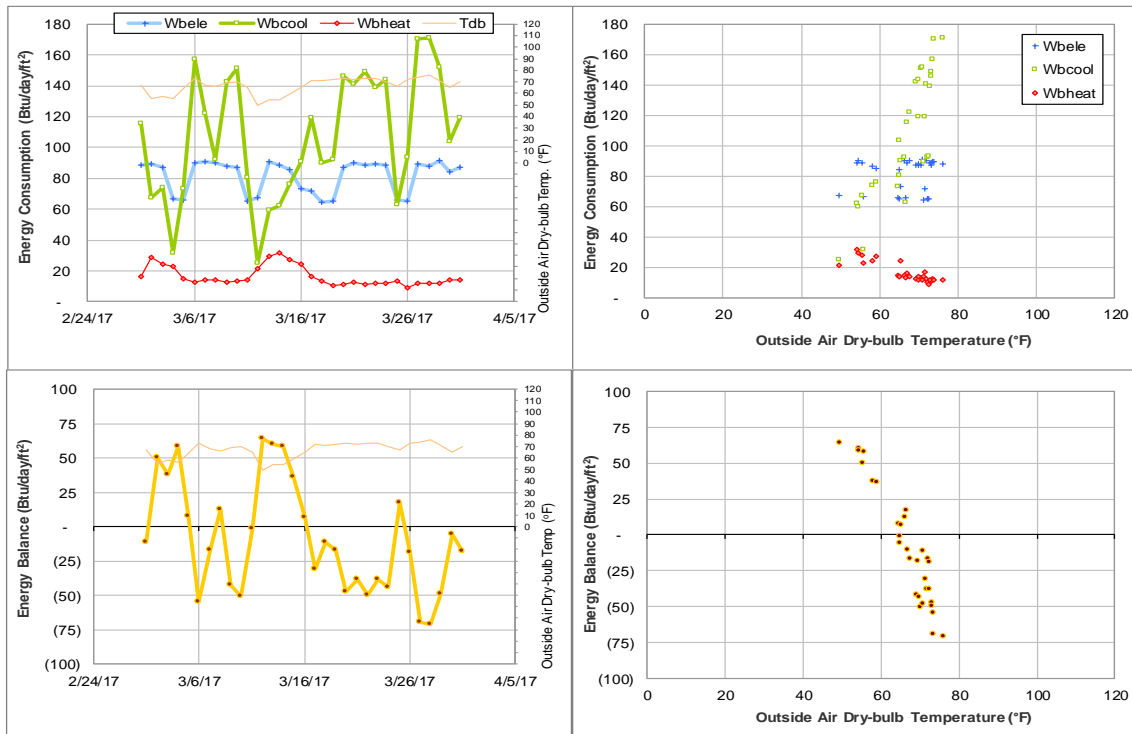


Figure IV-186 TTI Headquarters TAMU BLDG # 1609 Energy Balance Plot during March 2017

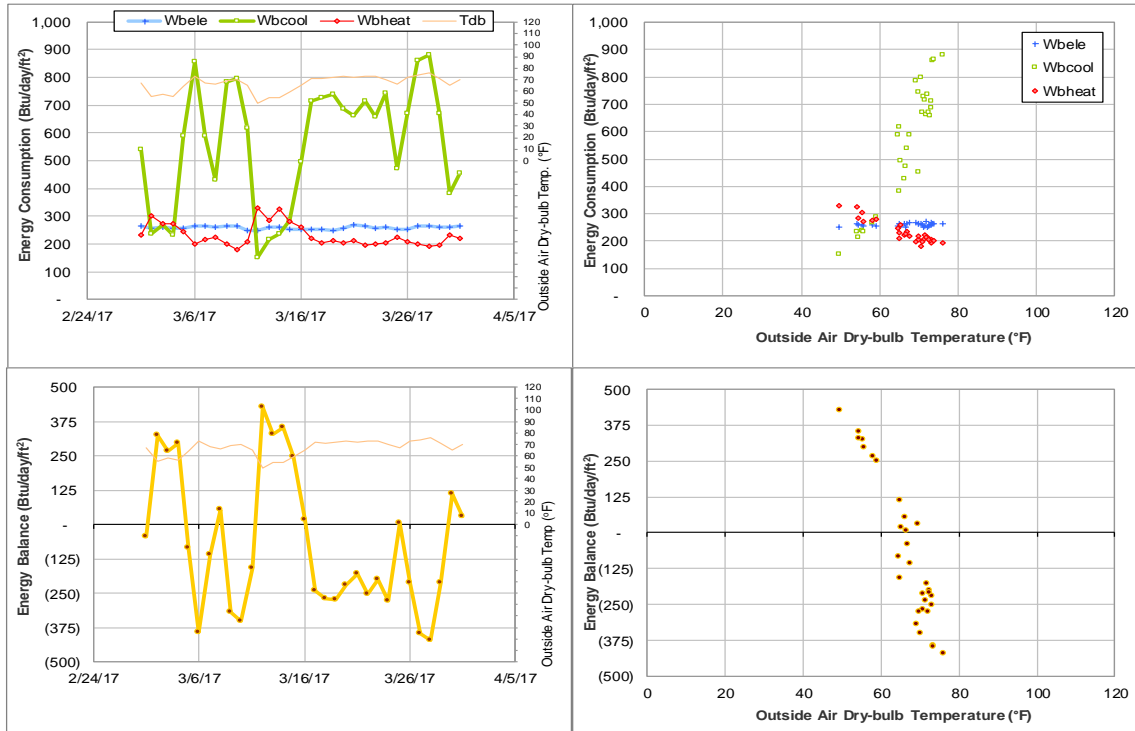


Figure IV-187 Engineering Research Building TAMU BLDG # 1611 Energy Balance Plot during March 2017

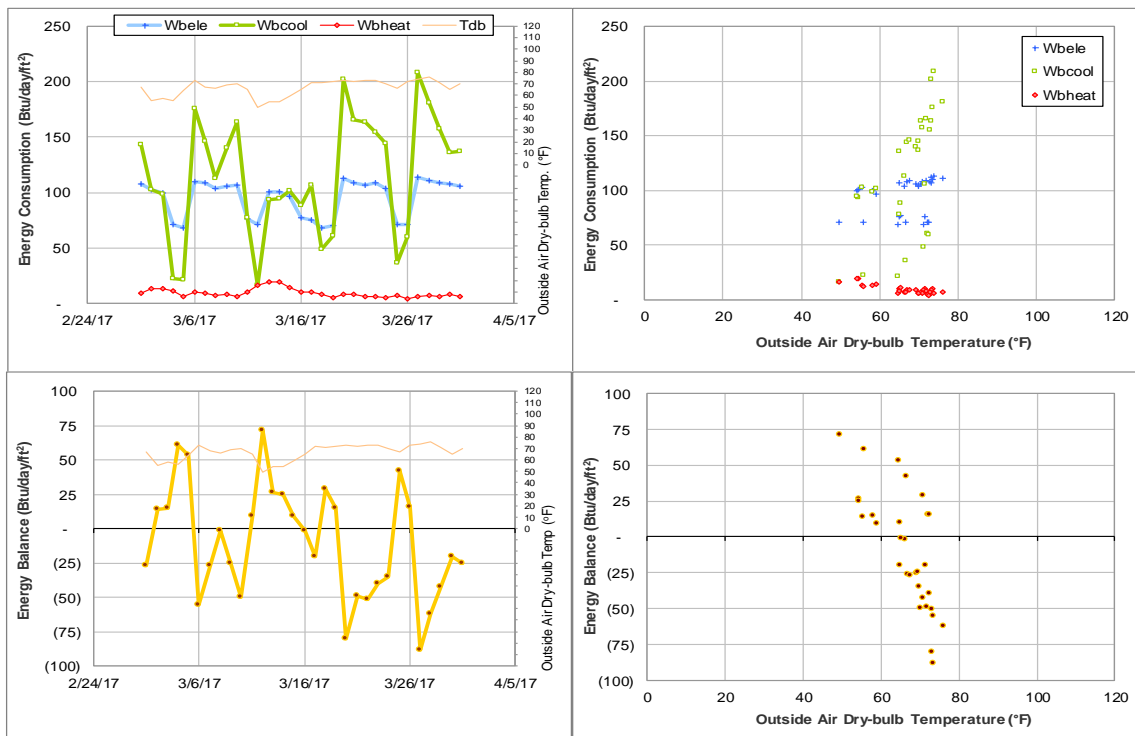


Figure IV-188 General Services Complex TAMU BLDG # 1800 Energy Balance Plot during March 2017

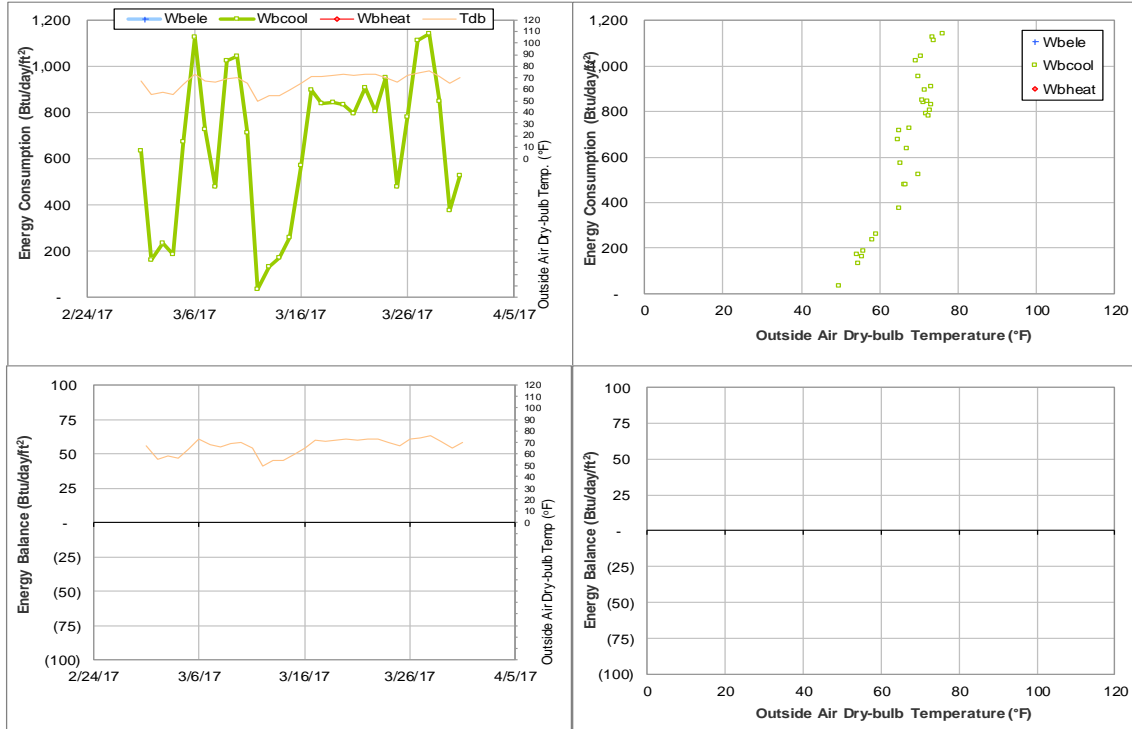


Figure IV-189 New TVMDL TAMU BLDG # 1809 Energy Balance Plot during March 2017

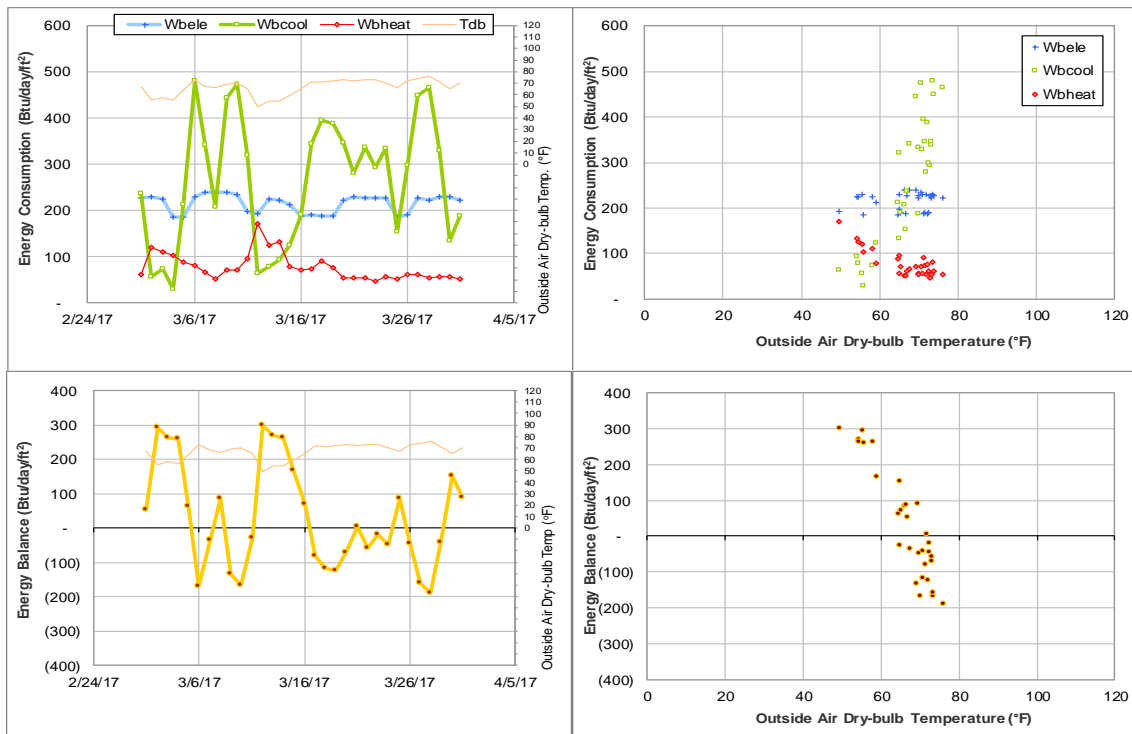


Figure IV-190 Office of the State Chemist Building TAMU BLDG # 1810 Energy Balance Plot during March 2017

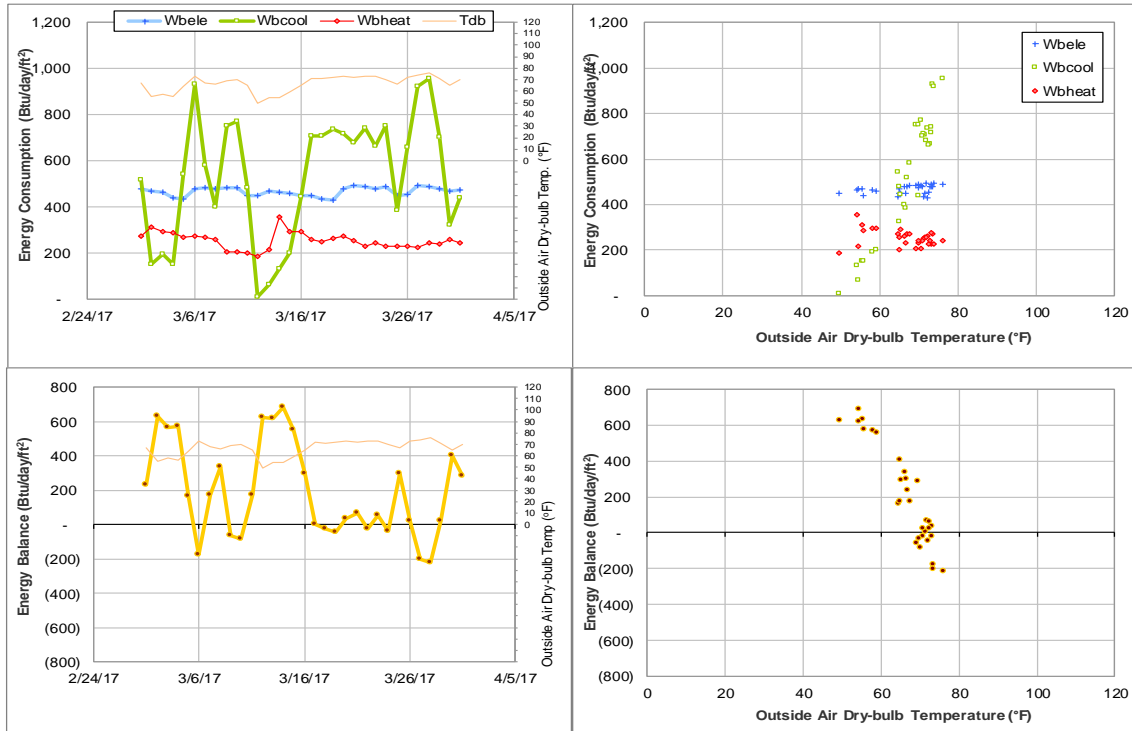


Figure IV-191 Vet Med Research Bldg Addition TAMU BLDG # 1811 Energy Balance Plot during March 2017

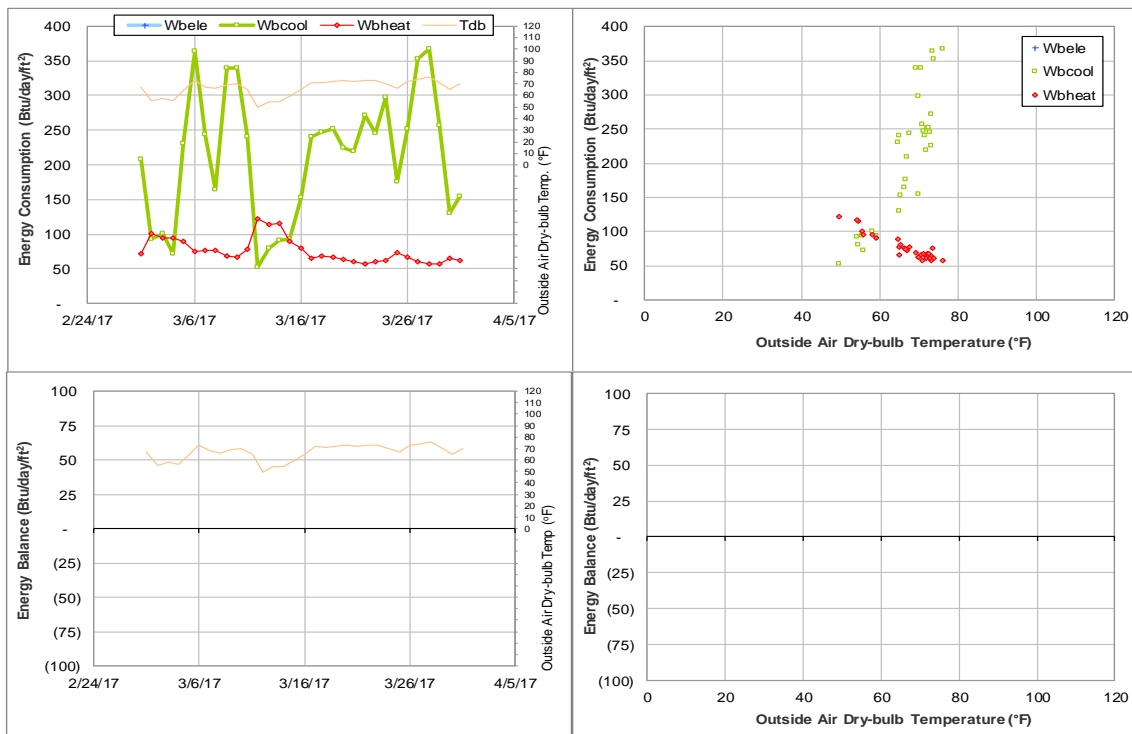


Figure IV-192 Veterinary Medicine Building 1, 2, and 3 TAMU BLDG # 1812 Energy Balance Plot during March 2017

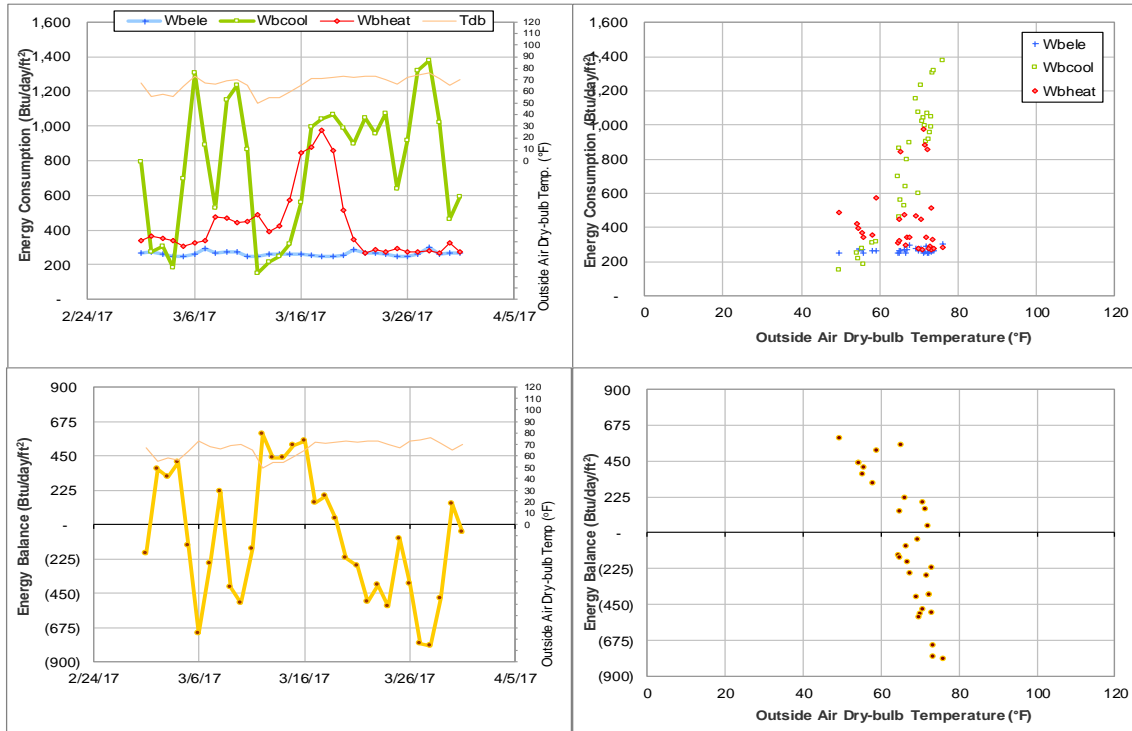


Figure IV-193 Texas Institute for Genomic Medicine TAMU BLDG # 1900 Energy Balance Plot during March 2017

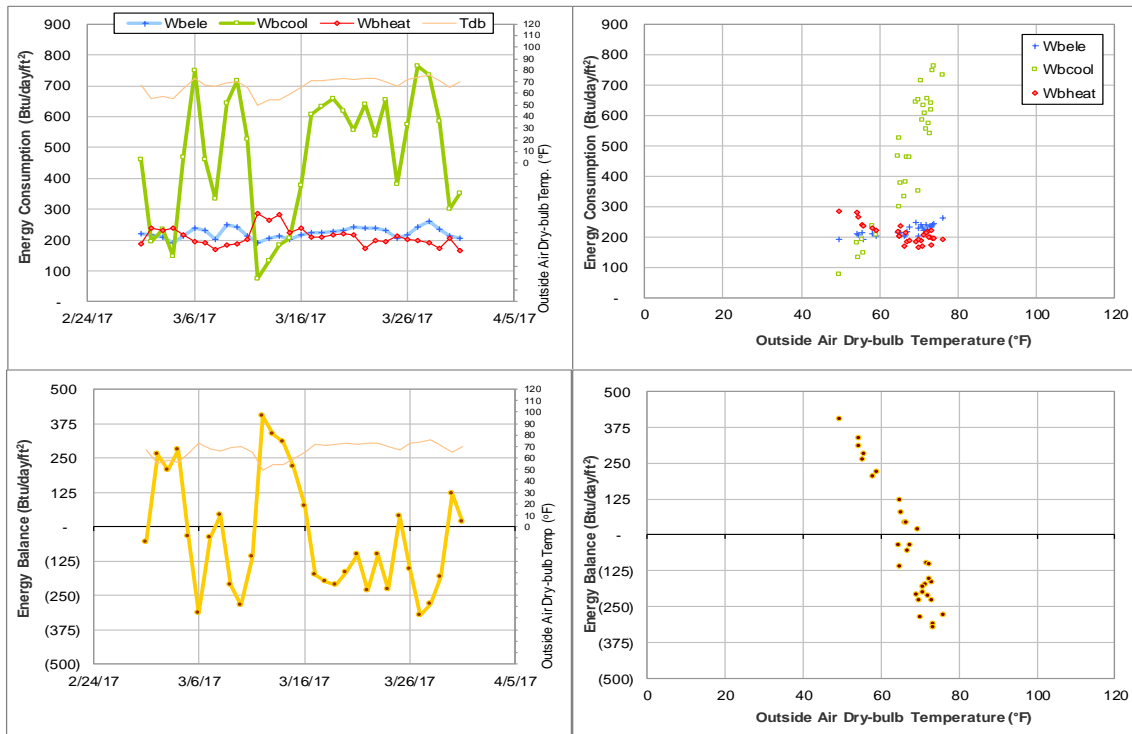


Figure IV-194 Texas A&M Institute for Preclinical Studies A TAMU BLDG # 1904 Energy Balance Plot during March 2017

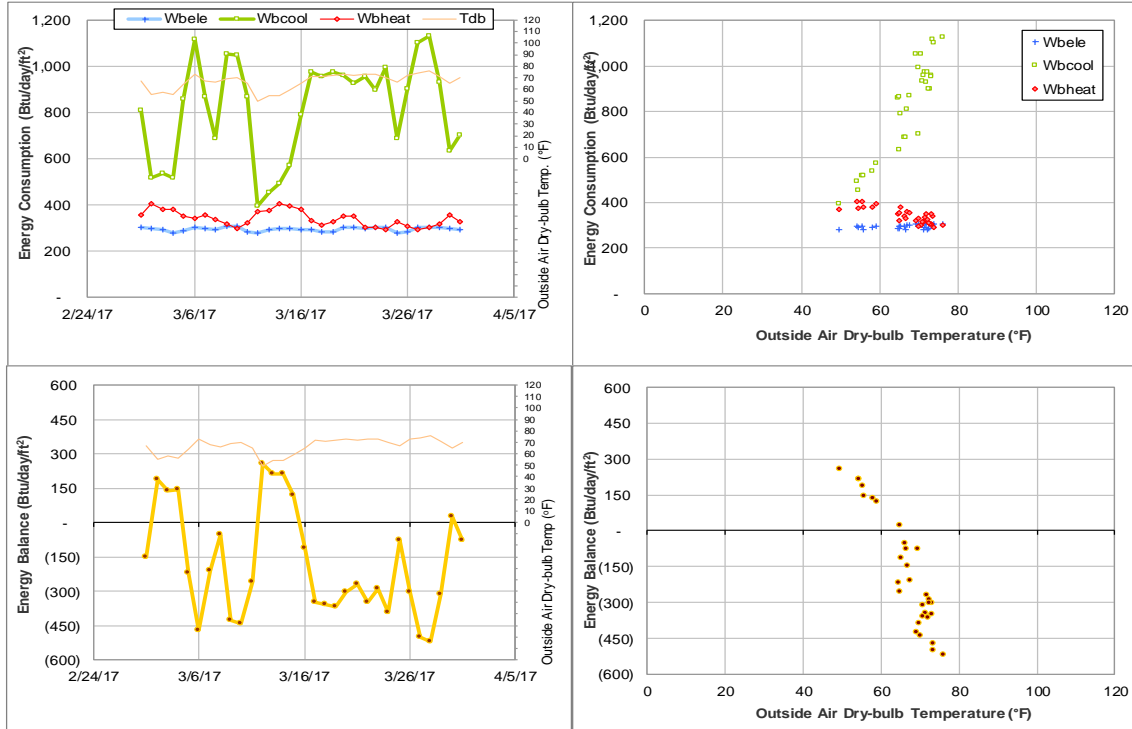


Figure IV-195 National Center for Therapeutics Manufacturing TAMU BLDG # 1910 Energy Balance Plot during March 2017

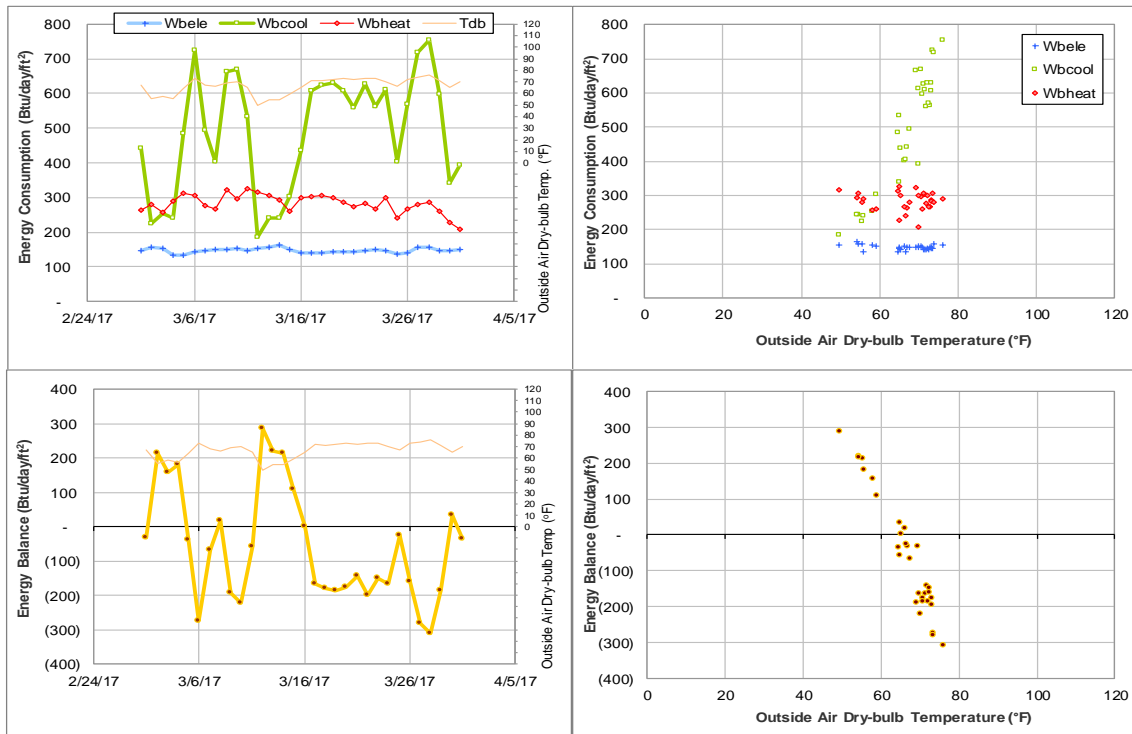


Figure IV-196 Multi-Species Research Building TAMU BLDG # 1911 Energy Balance Plot during March 2017

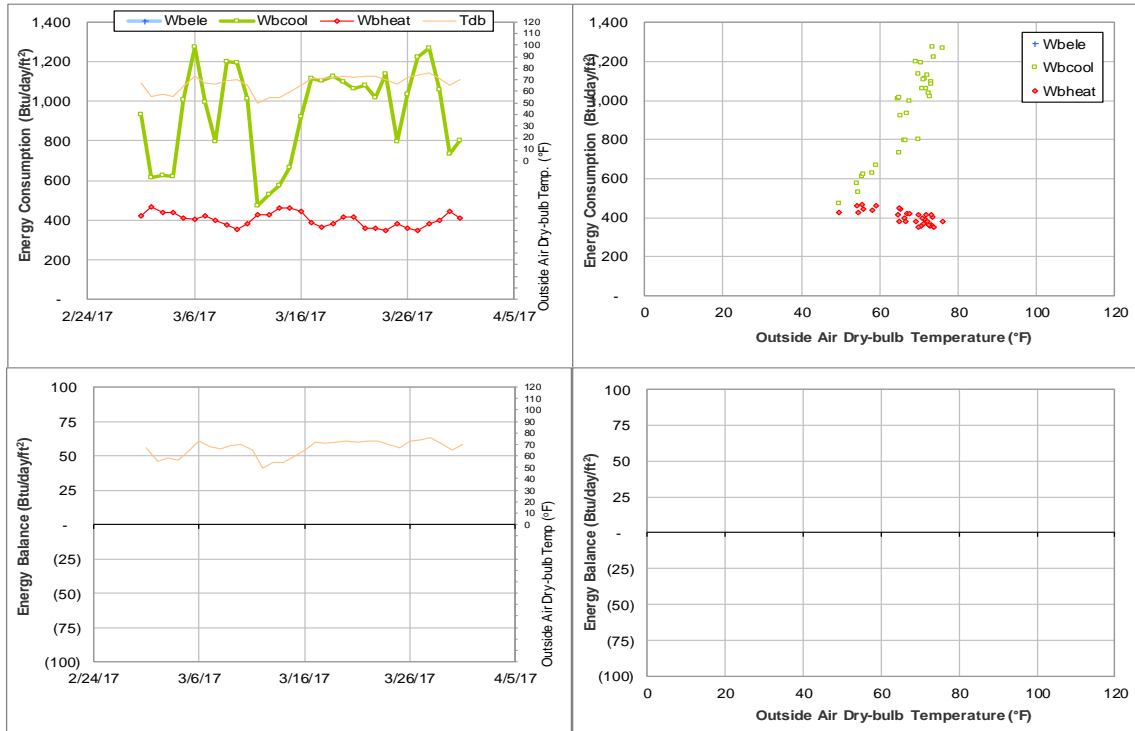


Figure IV-197 NCTM Manufacturing Building TAMU BLDG # 10226 Energy Balance Plot during March 2017

**V. Energy Balance Plots with Filled-in data for
March 2017 Consumption**

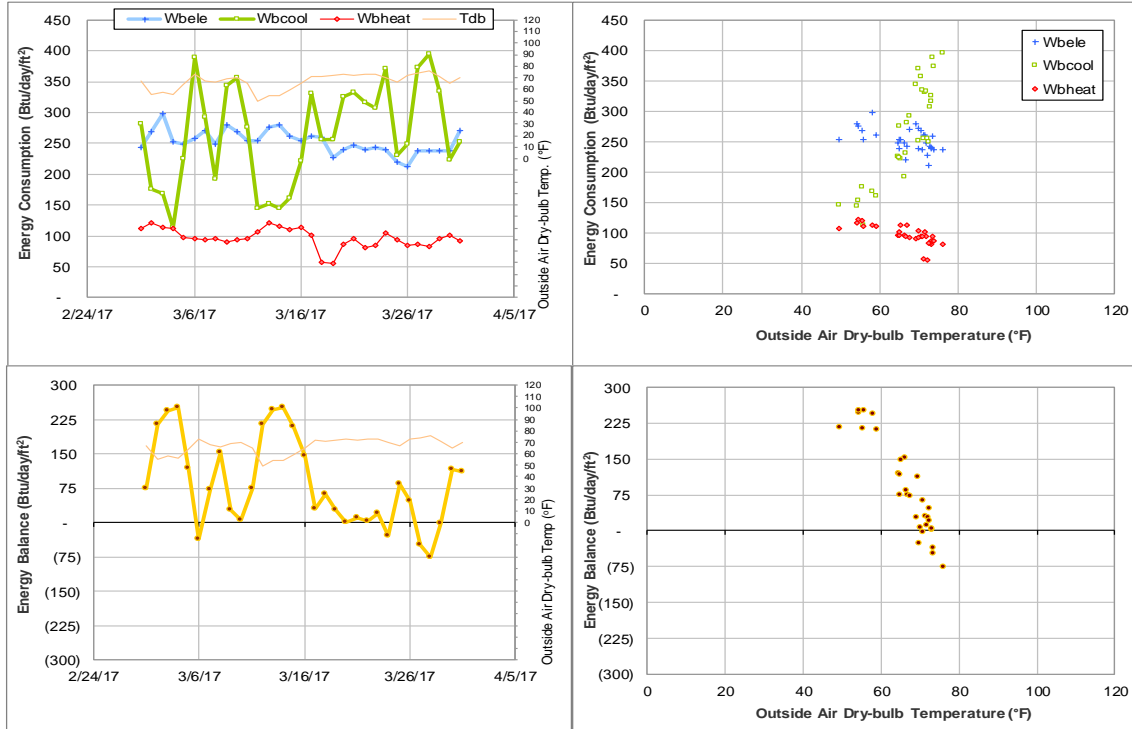


Figure V-1 Kyle Field TAMU BLDG # 367 Energy Balance Plot during March 2017

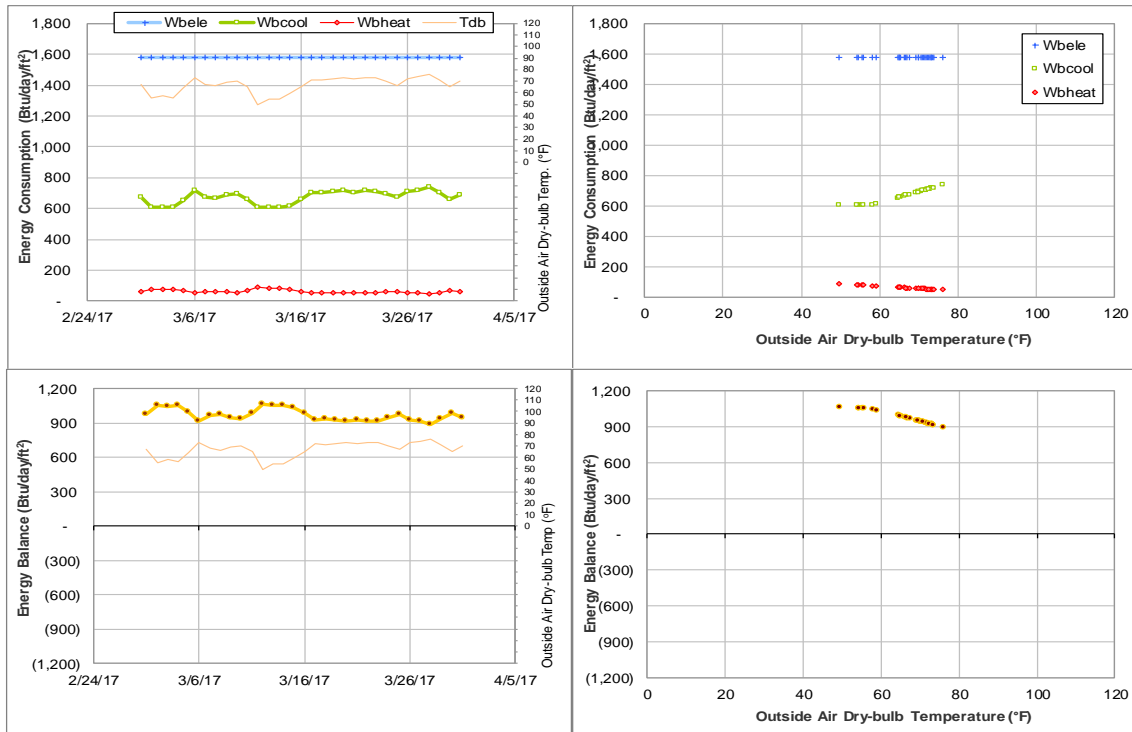


Figure V-2 Luedcke Building (Cyclotron) TAMU BLDG # 434 Energy Balance Plot during March 2017

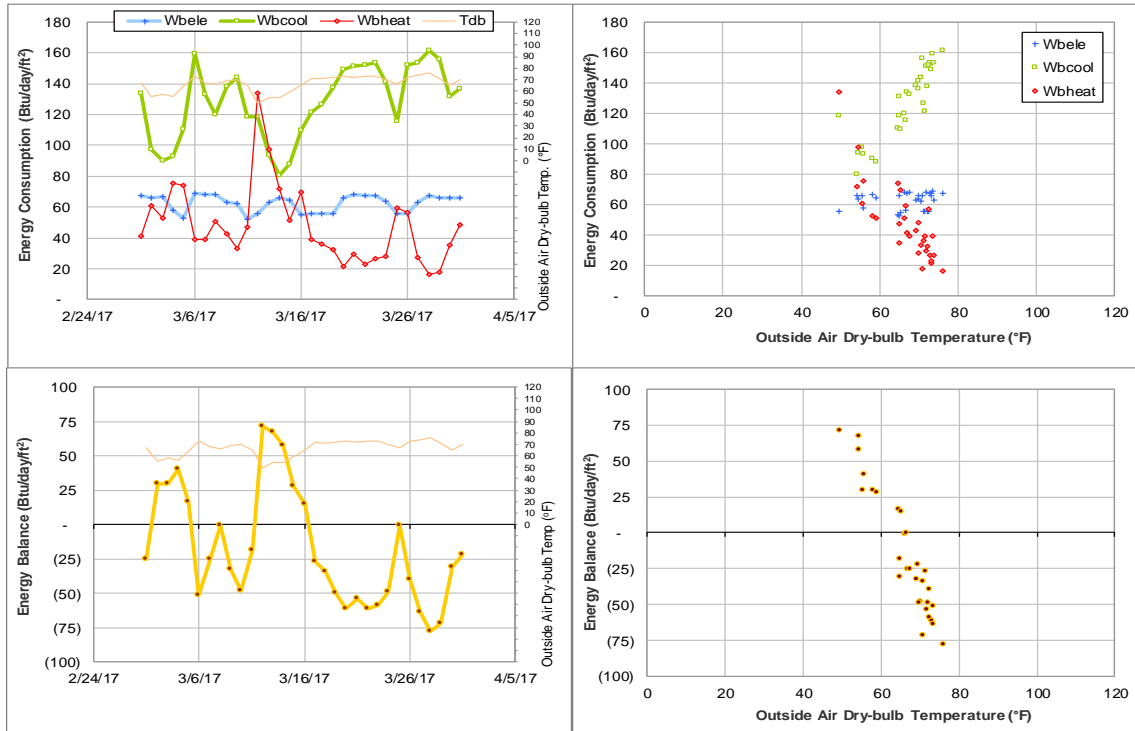


Figure V-3 Rudder Tower and Theatre Complex TAMU BLDG # 446 Energy Balance Plot during March 2017

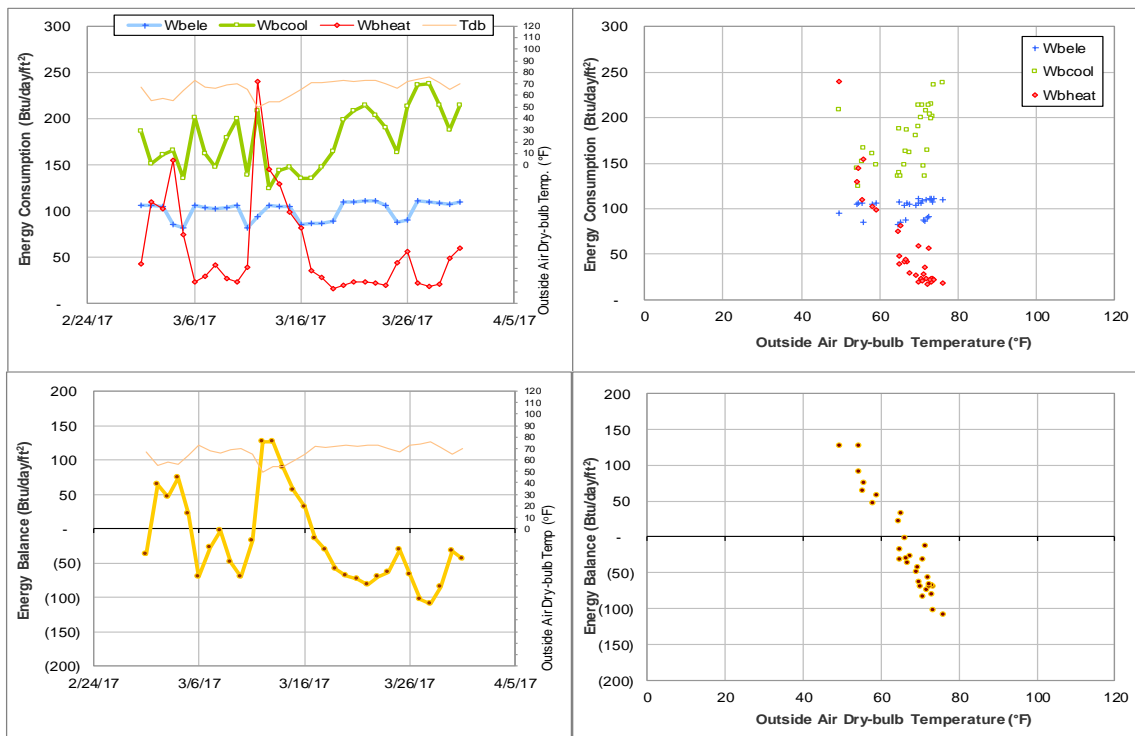


Figure V-4 Rudder Tower TAMU BLDG # 446 Energy Balance Plot during March 2017

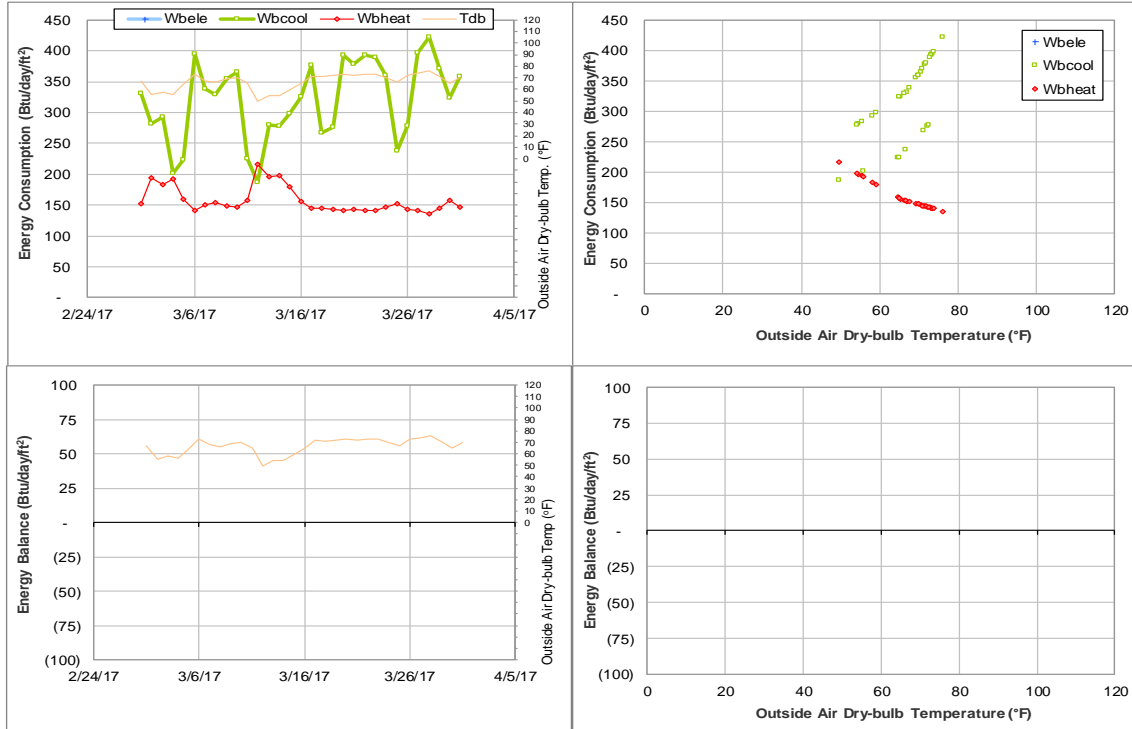


Figure V-5 Military Sciences Building TAMU BLDG # 456 Energy Balance Plot during March 2017

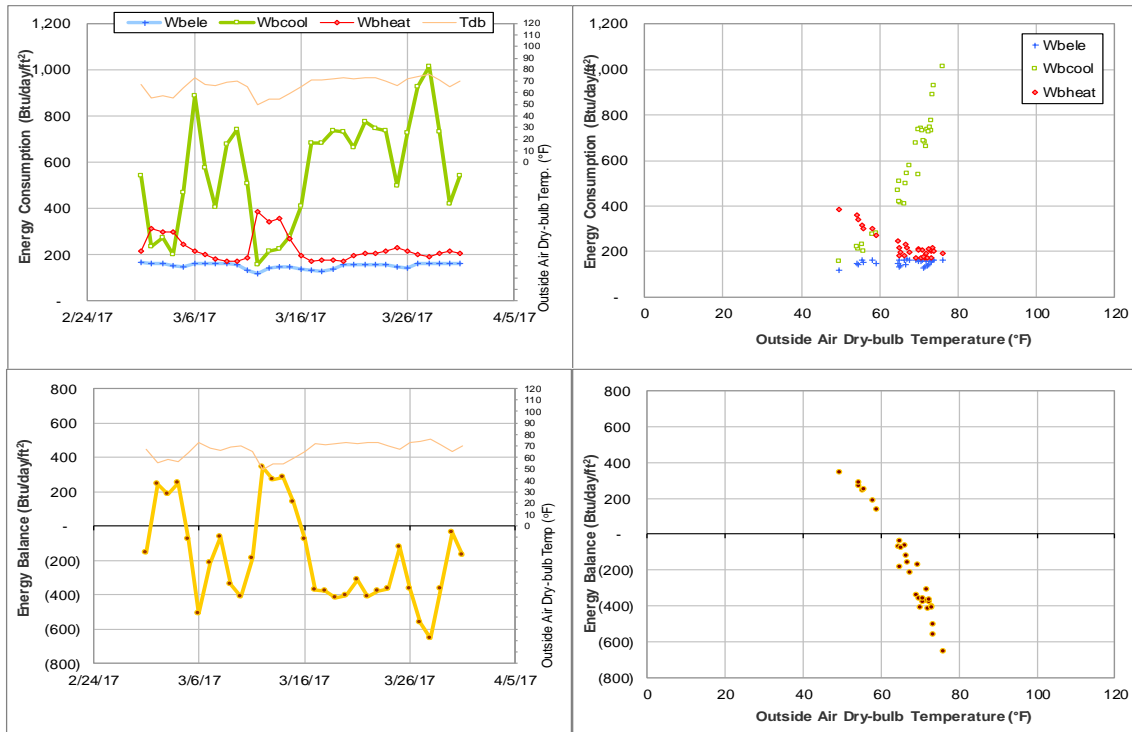


Figure V-6 Chemistry Building TAMU BLDG # 484 Energy Balance Plot during March 2017

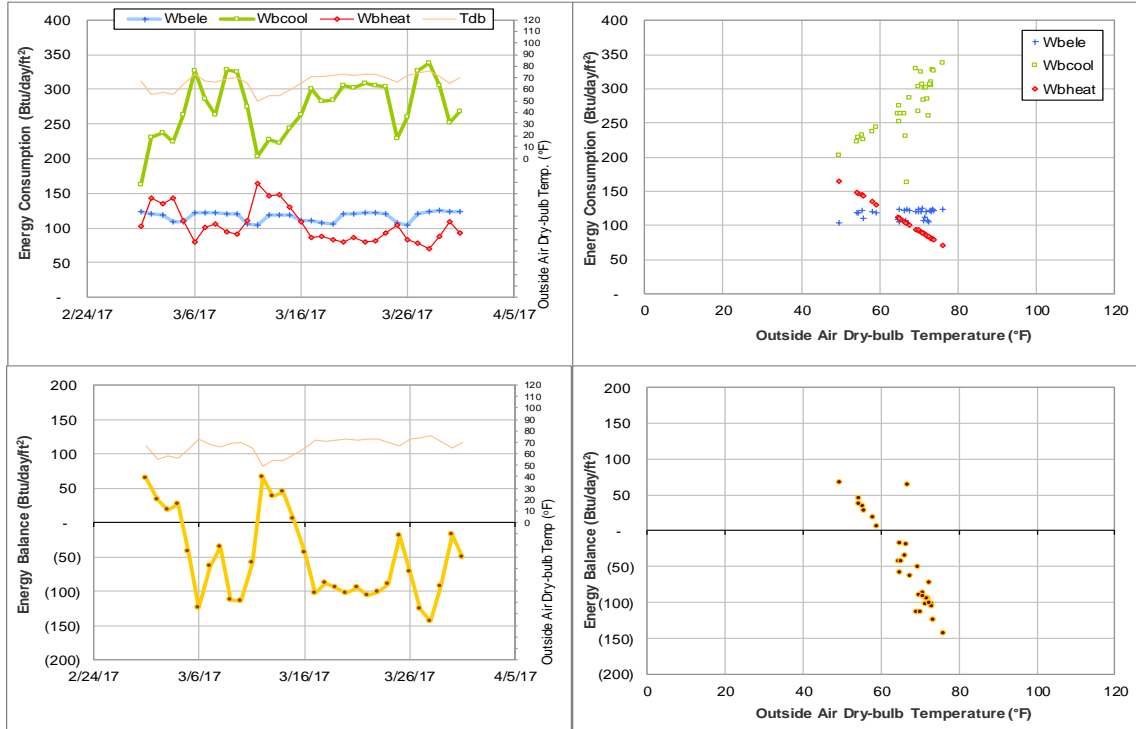


Figure V-7 Veterinary Teaching Hospital and Med Adm TAMU BLDG # 508 Energy Balance Plot during March 2017

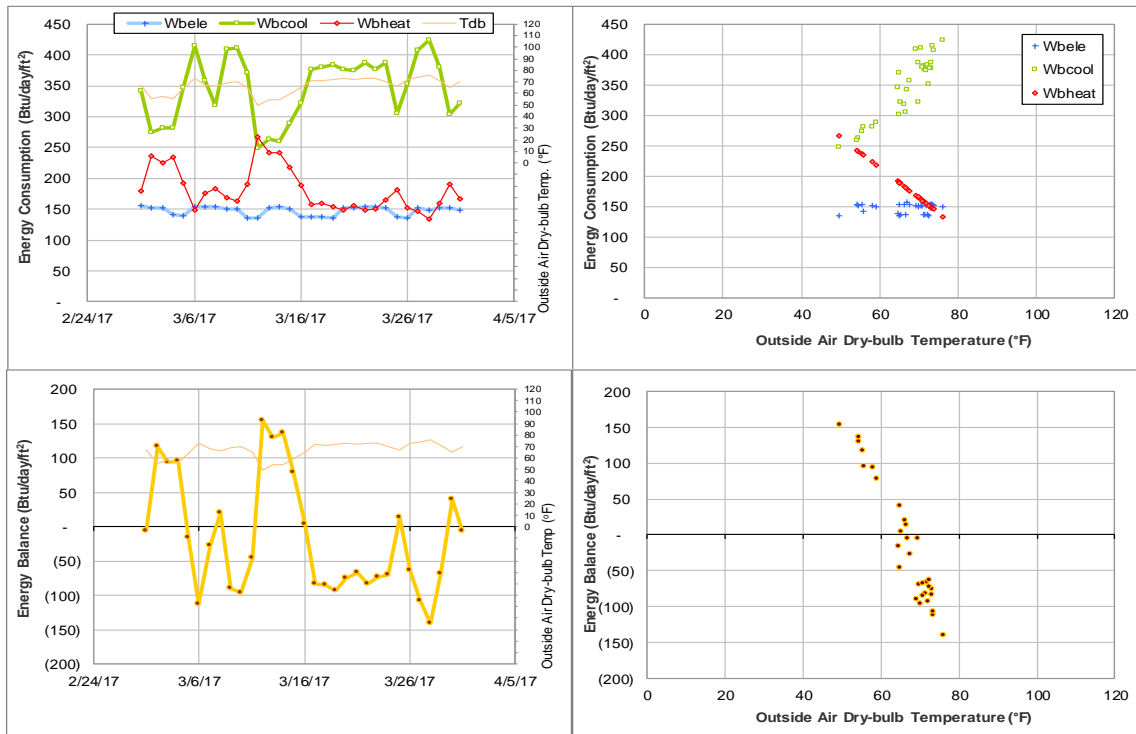


Figure V-8 Veterinary Medicine Administration TAMU BLDG # 1026 Energy Balance Plot during March 2017

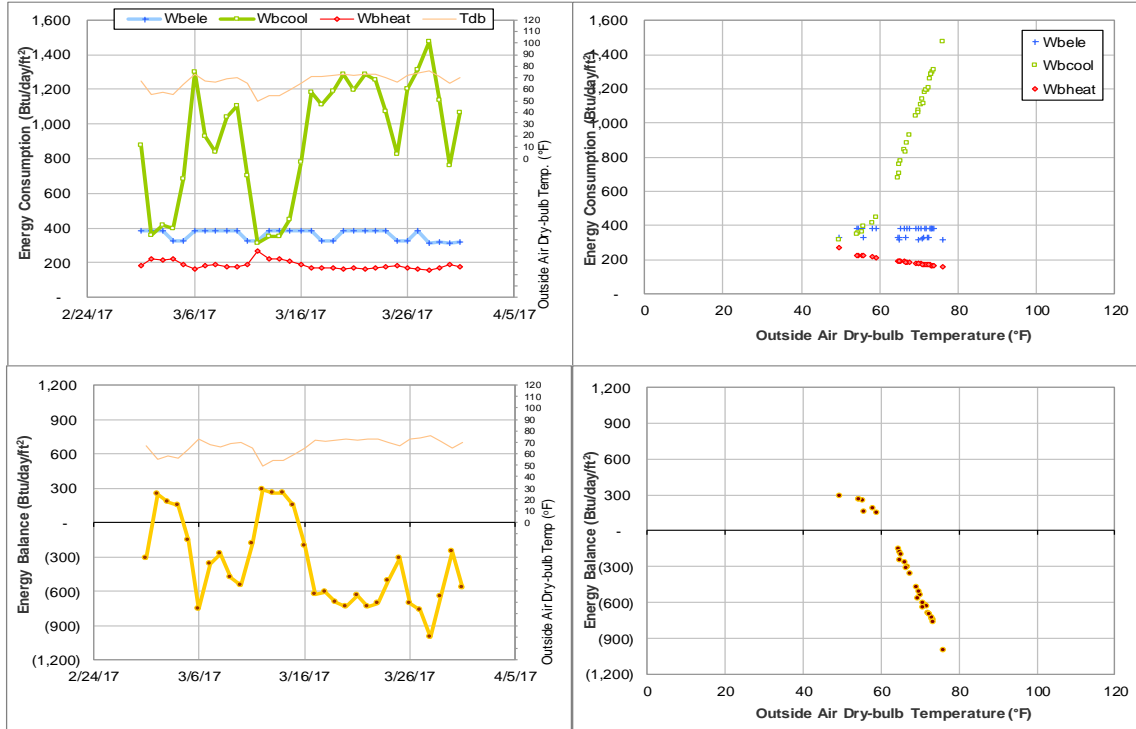


Figure V-9 Texas Vet Med Diagnostic Lab TAMU BLDG # 1041 Energy Balance Plot during March 2017

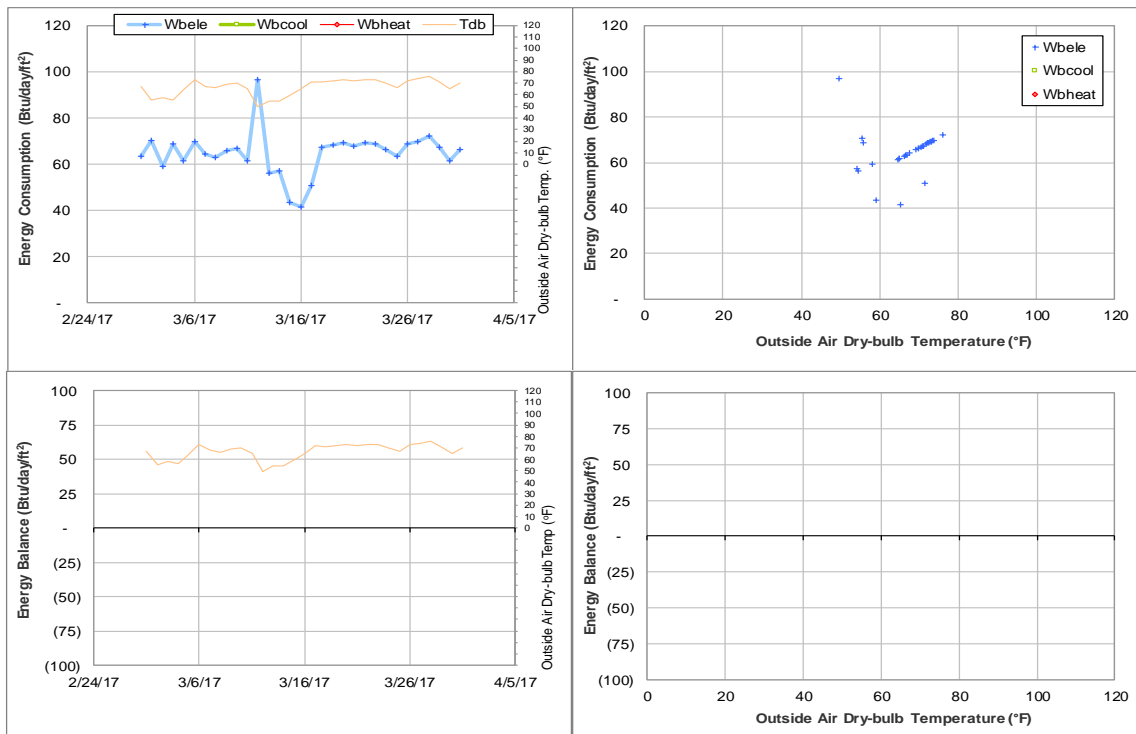


Figure V-10 University Apartments - The Gardens F TAMU BLDG # 1454 Energy Balance Plot during March 2017

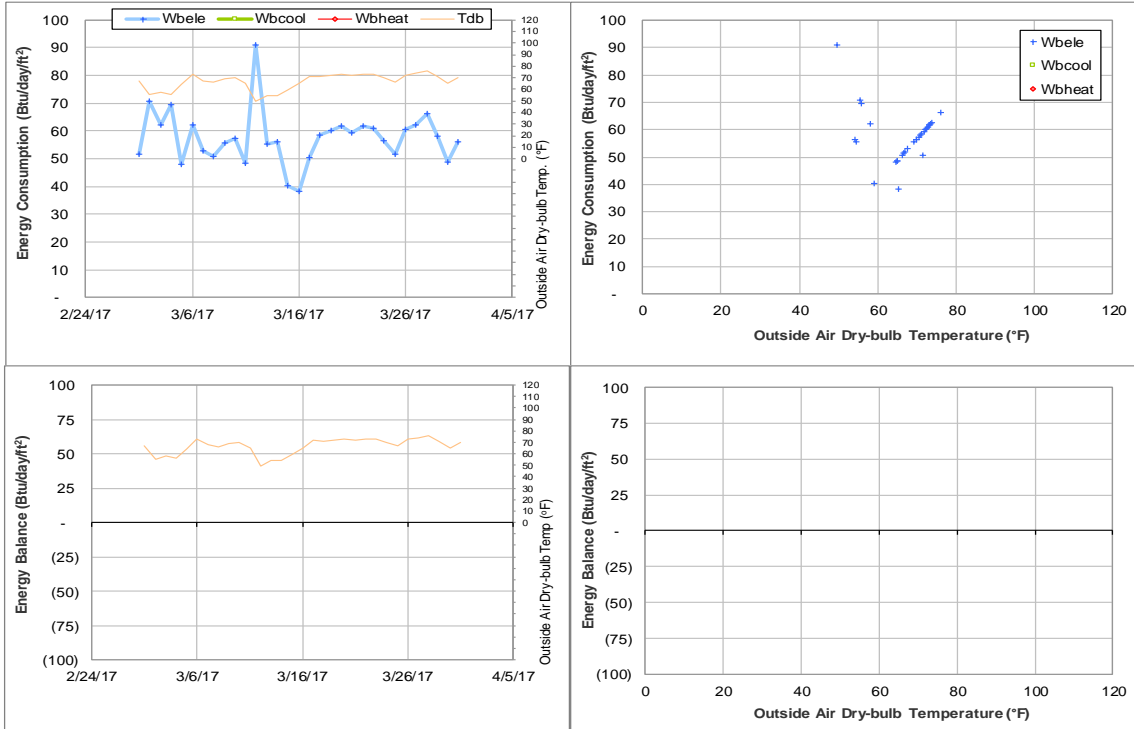


Figure V-11 University Apartments - The Gardens G TAMU BLDG # 1455 Energy Balance Plot during March 2017

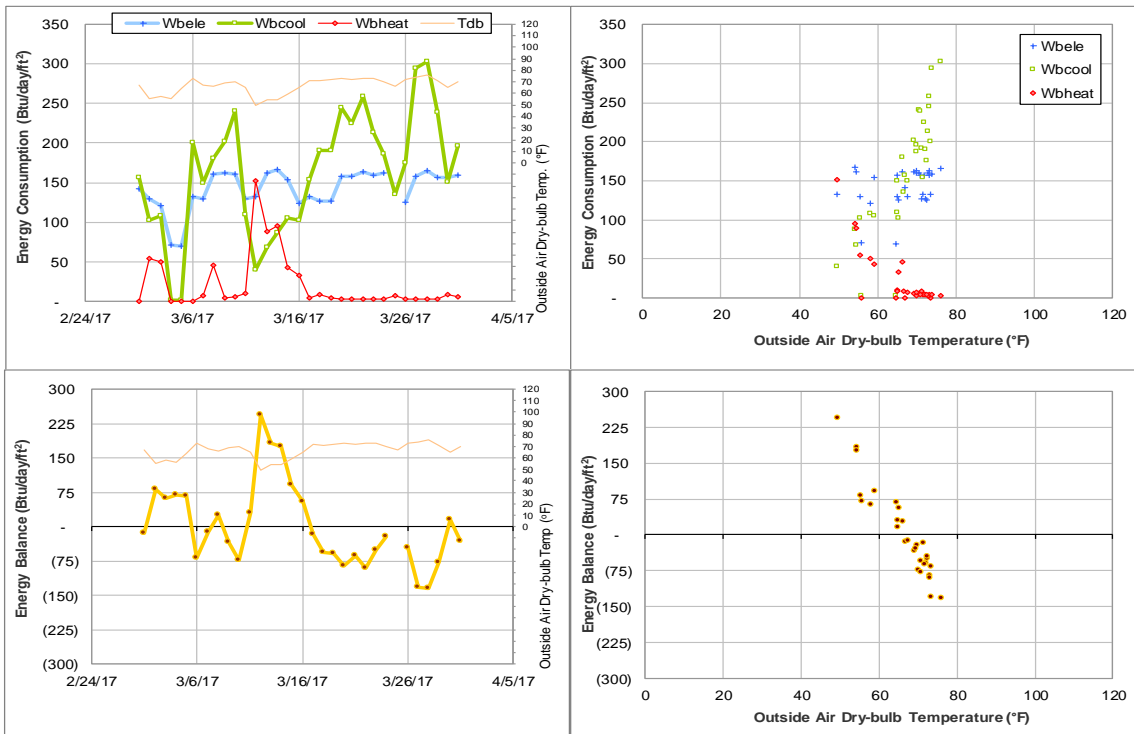


Figure V-12 Utilities & Energy Services Business Office TAMU BLDG # 1497 Energy Balance Plot during March 2017

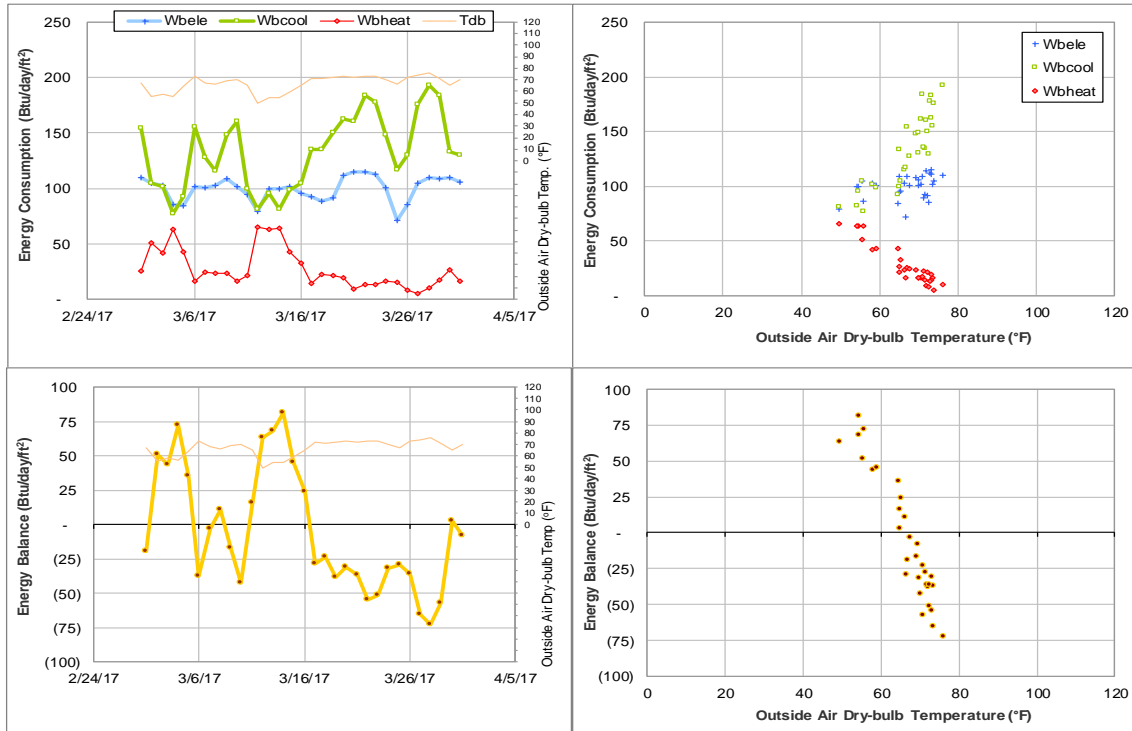


Figure V-13 Price Hobgood Ag. Engineering Research Lab TAMU BLDG # 1508 Energy Balance Plot during March 2017

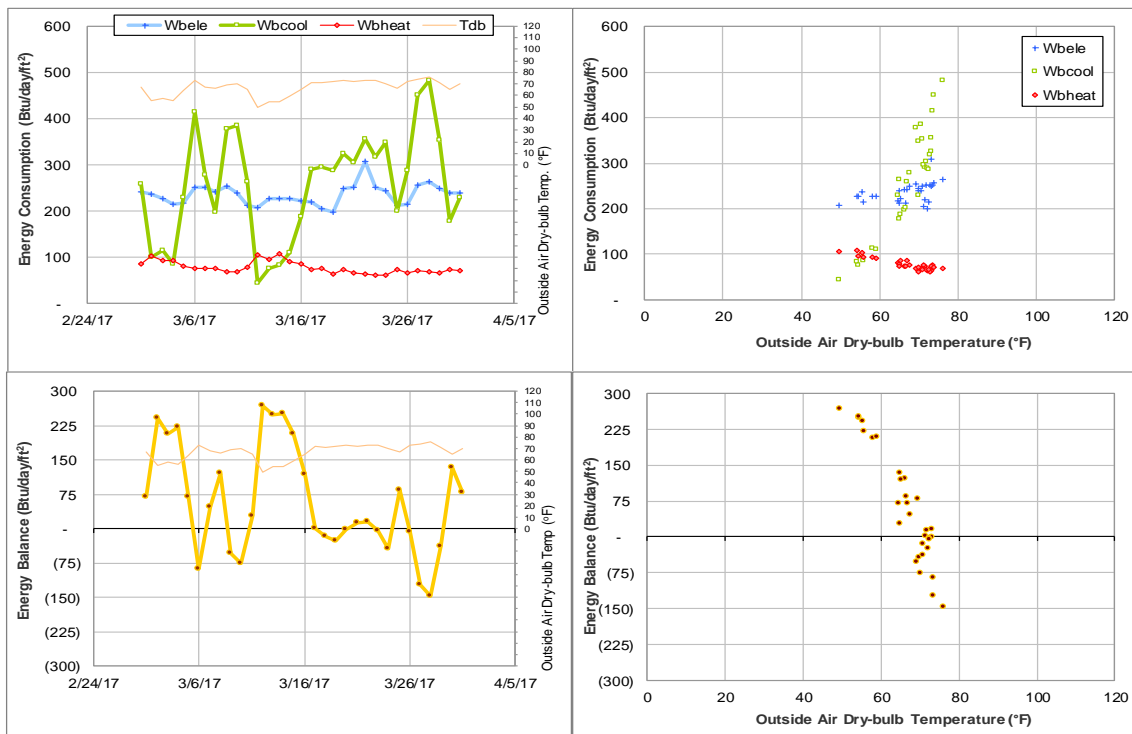


Figure V-14 TX School of Rural Public Health TAMU BLDG # 1518 Energy Balance Plot during March 2017

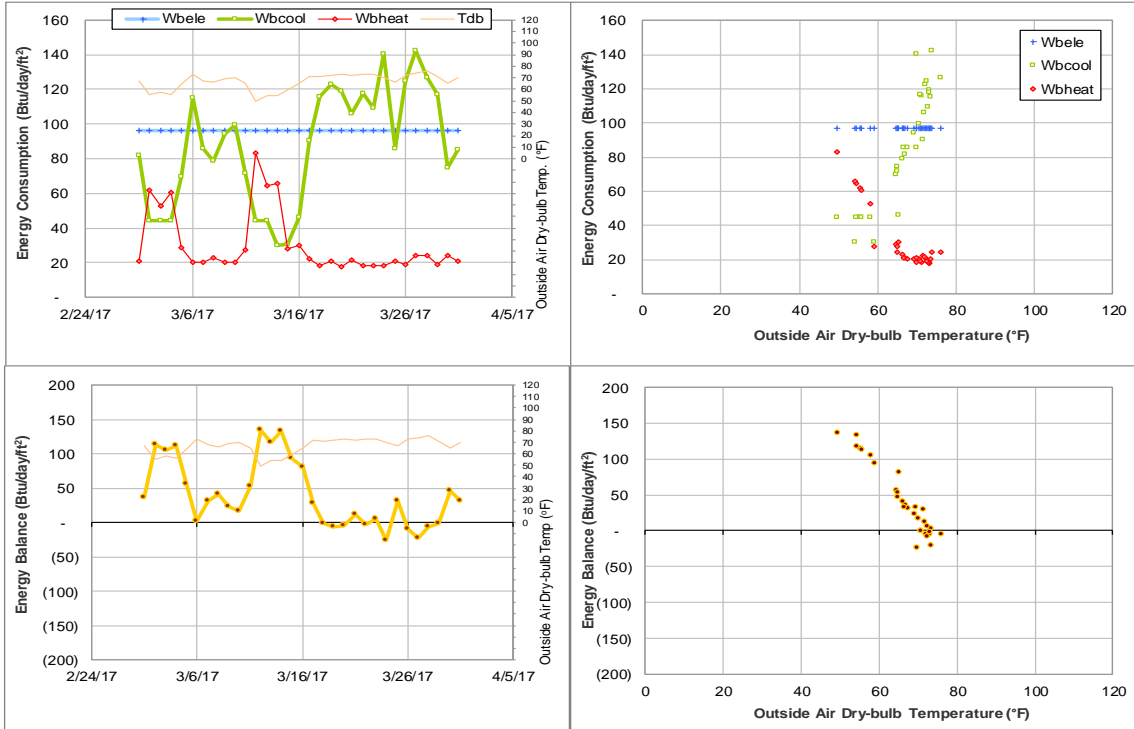


Figure V-15 Agriculture Public Building TAMU BLDG # 1537 Energy Balance Plot during March 2017

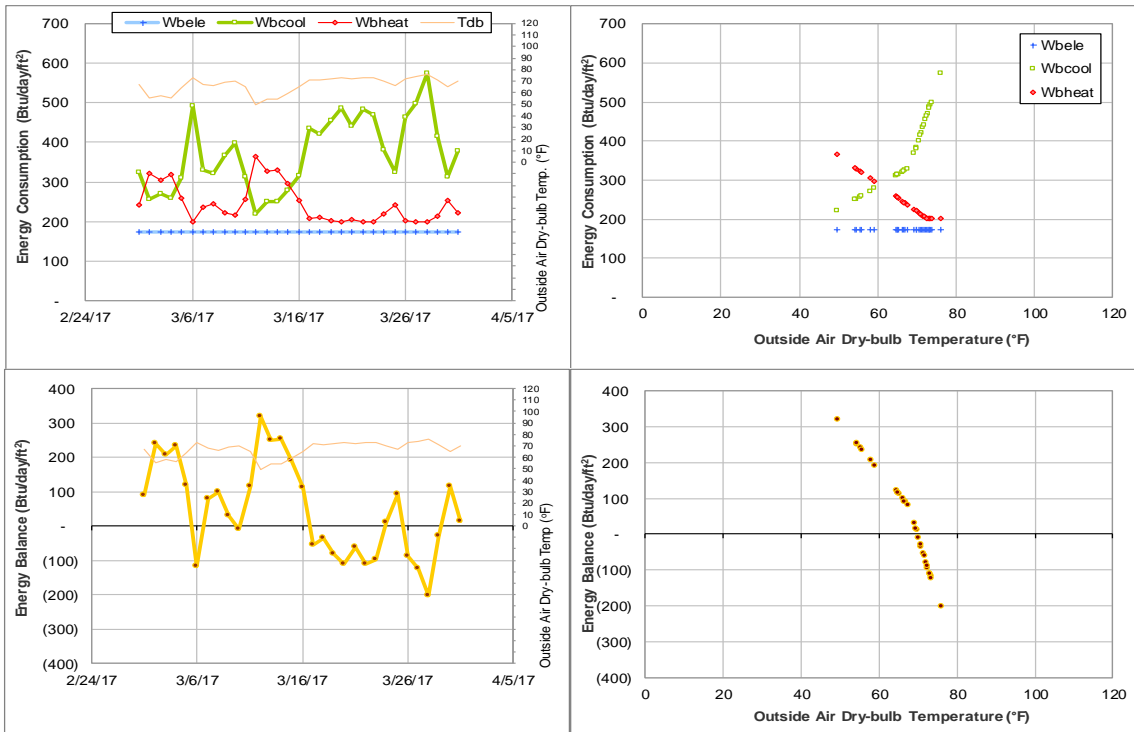


Figure V-16 Human Clinical Research Building TAMU BLDG # 1542 Energy Balance Plot during March 2017

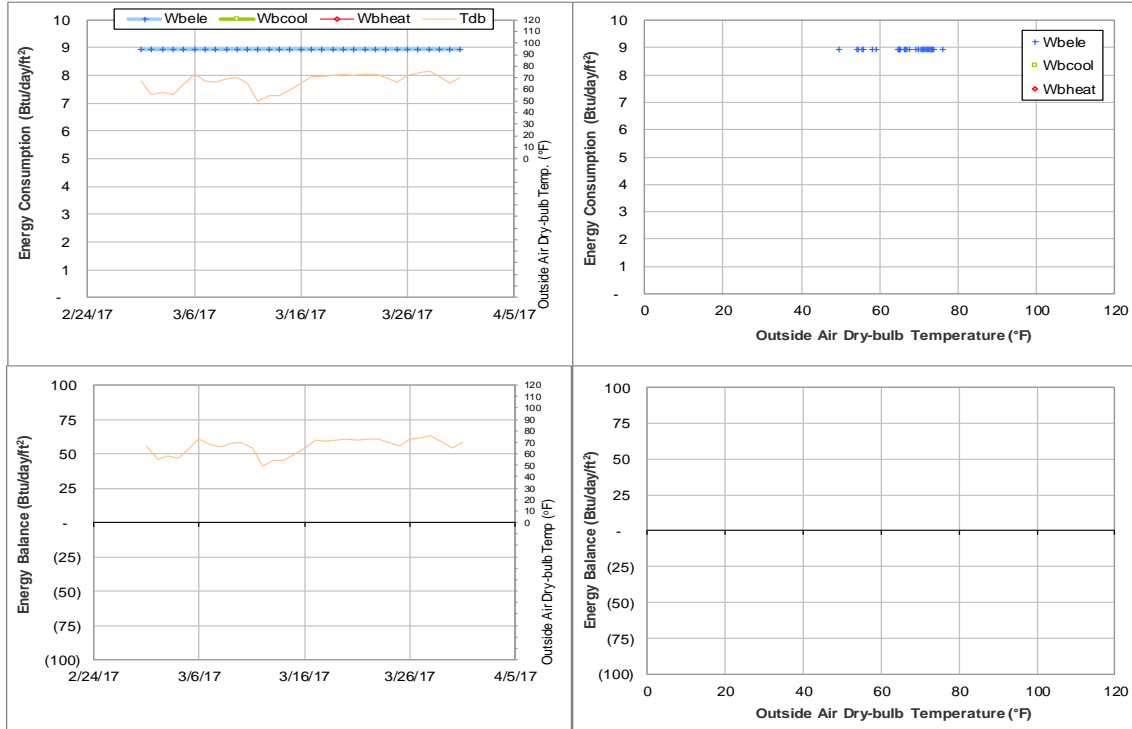


Figure V-17 Cain Garage TAMU BLDG # 1544 Energy Balance Plot during March 2017



Figure V-18 Reed Arena and Cox-McFerrin Center TAMU BLDG # 1544 Energy Balance Plot during March 2017

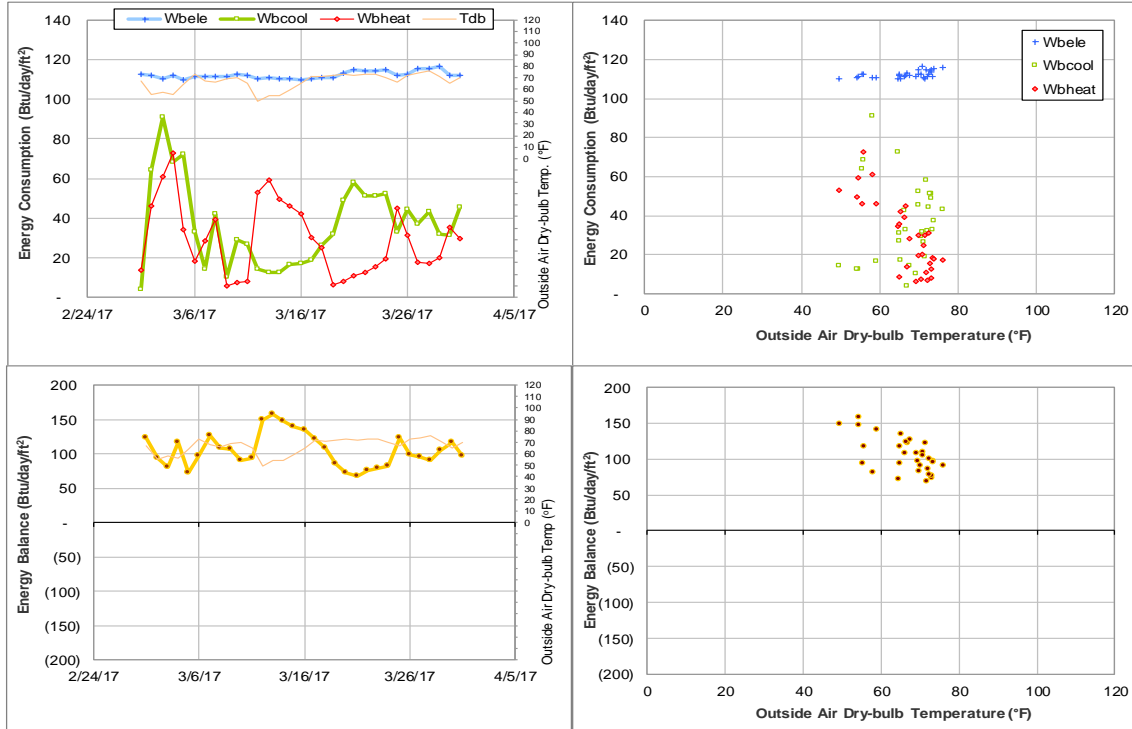


Figure V-19 West Campus Parking Garage TAMU BLDG # 1559 Energy Balance Plot during March 2017

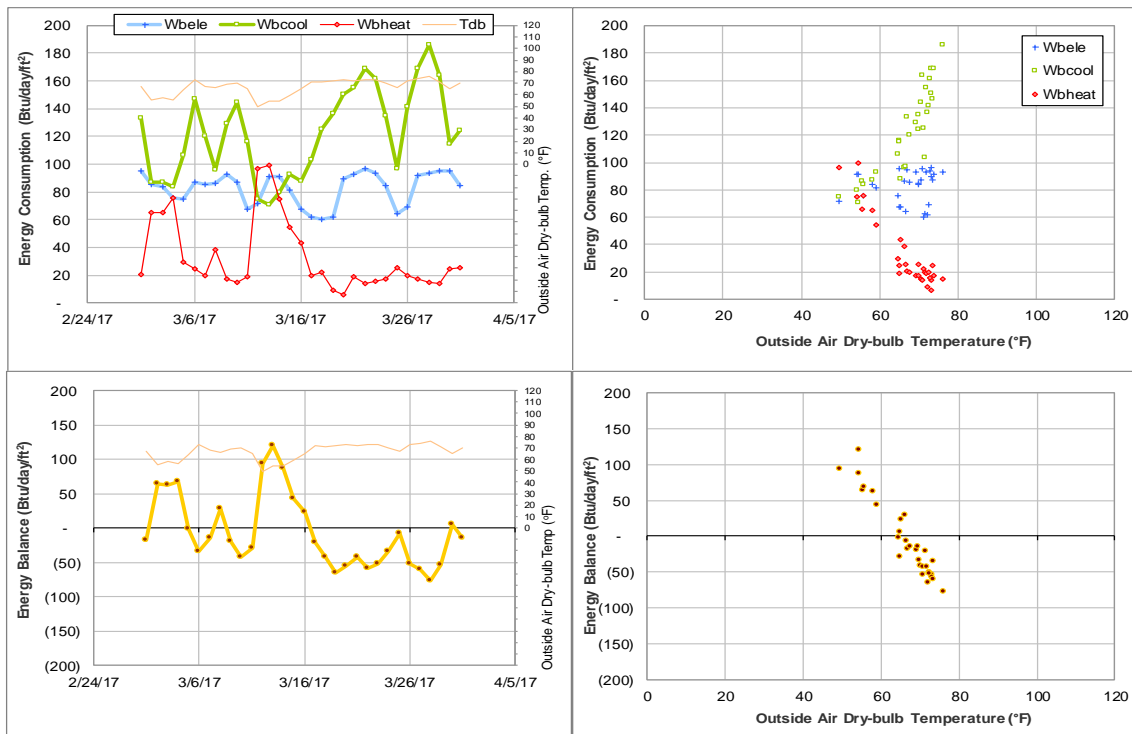


Figure V-20 Gilchrist TTI Building TAMU BLDG # 1600 Energy Balance Plot during March 2017

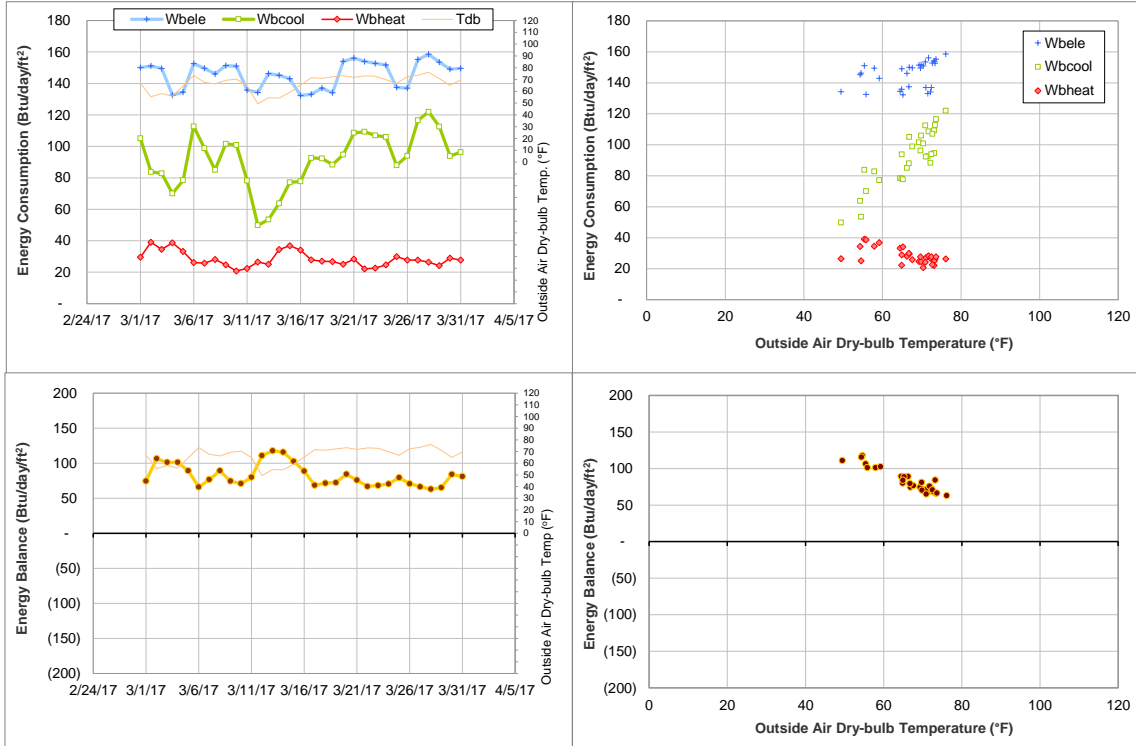


Figure V-21 International Ocean Discovery Building TAMU BLDG # 1601 Energy Balance Plot during March 2017

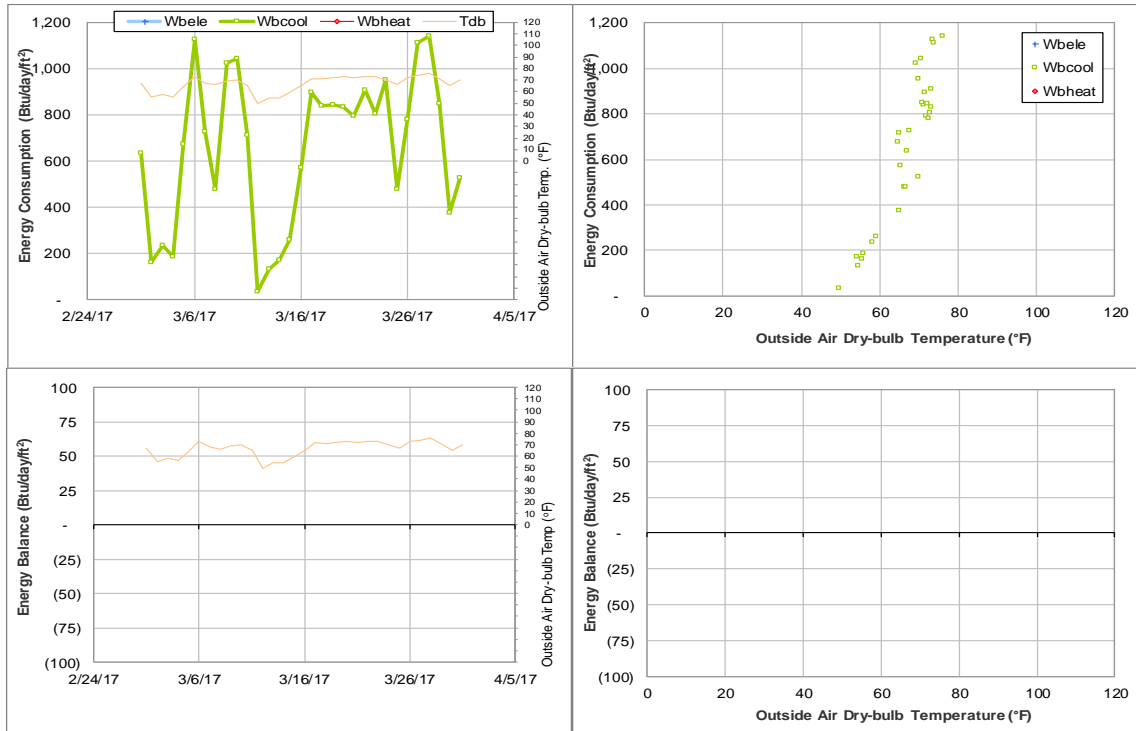


Figure V-22 New TVMDL TAMU BLDG # 1809 Energy Balance Plot during March 2017

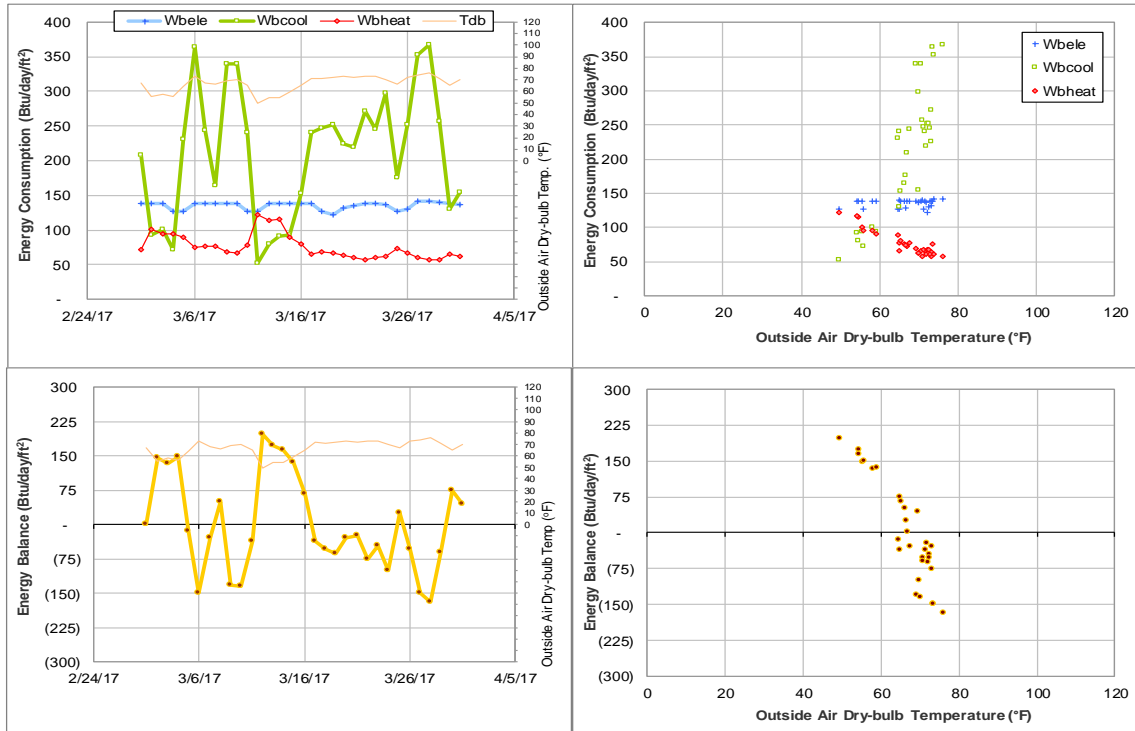


Figure V-23 Veterinary Medicine Building 1, 2, and 3 TAMU BLDG # 1812 Energy Balance Plot during March 2017

VI. Appendix

ENERGY ANALYSIS GROUP



ENERGY SYSTEMS LABORATORY
TEXAS A&M ENGINEERING EXPERIMENT STATION

Project: TAMU: Energy Analysis*

Report: Energy Consumption Data Quality Assurance/Quality Control
Assessment Report for the Month of March 2017

Prepared for:

Utility & Energy Services
Division of Administration
Texas A&M University

Authors: Xiaoli Li, Kimberly Jones, Hongxiang Fu, Alaina Ruffin
Dr. Juan-Carlos Baltazar, and Dr. David Claridge

Date: April 2017

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