

TAMU Project

**Energy Consumption Data Quality Assurance/Quality
Control Assessment Report for the
Month of June 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 June 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 | 178,923 | kWh | |
| 0270 | Emerging Technologies Building | 305,316 | 007470 | ELE | 45,715 | kWh | |
| 0270 | Emerging Technologies Building | 305,316 | 007471 | CHW | 3,325,597 | mBtu | |
| 0270 | Emerging Technologies Building | 305,316 | 007475 | HHW | 266,326 | mBtu | |
| 0275 | Liberal Arts and Arts & Humanities Building | 107,500 | 007715 | ELE | 45,911 | kWh | |
| 0275 | Liberal Arts and Arts & Humanities Building | 107,500 | 007716 | CHW | 487,853 | mBtu | |
| 0275 | Liberal Arts and Arts & Humanities Building | 107,500 | 007717 | HHW | 45,989 | mBtu | #, (1) |
| 0290 | Wells Residence Hall | 67,283 | 006870 | ELE | 33,287 | kWh | |
| 0290 | Wells Residence Hall | 67,283 | 001984 | CHW | 869,908 | mBtu | (2) |
| 0290 | Wells Residence Hall | 67,283 | 001988 | HHW | 312,675 | mBtu | (2) |
| 0291 | Rudder Residence Hall | 67,283 | 000351 | ELE | 12,804 | kWh | *, (2) |
| 0291 | Rudder Residence Hall | 67,283 | 002132 | CHW | 0 | mBtu | *, (3) |
| 0291 | Rudder Residence Hall | 67,283 | 002136 | HHW | 0 | mBtu | *, (3) |
| 0292 | Eppright Residence Hall | 67,283 | 000002 | ELE | 38,997 | kWh | * |
| 0292 | Eppright Residence Hall | 67,283 | 002262 | CHW | 569,079 | mBtu | * |
| 0292 | Eppright Residence Hall | 67,283 | 002266 | HHW | 135,747 | mBtu | *, (2) |
| 0293 | Appelt Residence Hall | 82,767 | 000003 | ELE | 42,831 | kWh | |
| 0293 | Appelt Residence Hall | 82,767 | 002062 | CHW | 832,196 | mBtu | #, (1), (2) |
| 0293 | Appelt Residence Hall | 82,767 | 002066 | HHW | 230,641 | mBtu | #, (1), (2) |
| 0294 | Lechner Residence Hall | 59,541 | 000004 | ELE | 36,380 | kWh | |
| 0294 | Lechner Residence Hall | 59,541 | 002285 | CHW | 679,573 | mBtu | #, (1) |
| 0294 | Lechner Residence Hall | 59,541 | 002289 | HHW | 416,935 | mBtu | #, (1) |
| 0296-0297 | Mitchell Inst. For Fundamental Phys & Astronomy | 189,617 | 006536 | ELE | 119,610 | kWh | |
| 0296-0297 | Mitchell Inst. For Fundamental Phys & Astronomy | 189,617 | 006537 | ELE | 102,963 | kWh | |
| 0296-0297 | Mitchell Inst. For Fundamental Phys & Astronomy | 189,617 | 006534 | CHW | 1,512,886 | mBtu | |
| 0296-0297 | Mitchell Inst. For Fundamental Phys & Astronomy | 189,617 | 006535 | HHW | 198,710 | mBtu | |
| 0353 | Bright Aerospace Building | 148,837 | 001569 | ELE | 155,842 | kWh | |
| 0353 | Bright Aerospace Building | 148,837 | 002746 | CHW | 1,588,993 | mBtu | (2) |
| 0353 | Bright Aerospace Building | 148,837 | 002757 | HHW | 36,259 | mBtu | |
| 0358 | Davis Football Player Development Center | 20,026 | 007699 | ELE | 30,220 | kWh | |
| 0358 | Davis Football Player Development Center | 20,026 | 007701 | CHW | 291,462 | mBtu | |
| 0358 | Davis Football Player Development Center | 20,026 | 007702 | HHW | 1,777 | mBtu | |
| 0361 | Bright Football Complex | 124,971 | 008461 | ELE | 209,944 | kWh | |
| 0361 | Bright Football Complex | 124,971 | 002547 | CHW | 1,528,197 | mBtu | |
| 0361 | Bright Football Complex | 124,971 | 002551 | HHW | 98,287 | mBtu | |
| 0367 | Kyle Field | 489,000 | 000336 | ELE | 150,997 | kWh | |
| 0367 | Kyle Field | 489,000 | 008861 | ELE | 83,509 | kWh | |
| 0367 | Kyle Field | 489,000 | 008862 | ELE | 107,833 | kWh | |
| 0367 | Kyle Field | 489,000 | 008863 | ELE | 164,708 | kWh | |
| 0367 | Kyle Field | 489,000 | 008864 | ELE | 159,325 | kWh | |
| 0367 | Kyle Field | 489,000 | 008865 | ELE | 58,766 | kWh | |
| 0367 | Kyle Field | 489,000 | 008866 | ELE | 126,308 | kWh | |
| 0367 | Kyle Field | 489,000 | 008867 | ELE | 189,269 | kWh | |
| 0367 | Kyle Field | 489,000 | 008868 | ELE | 97,381 | kWh | |
| 0367 | Kyle Field | 489,000 | 008852 | CHW | 2,089,770 | mBtu | |
| 0367 | Kyle Field | 489,000 | 008026 | CHW | 4,879,729 | mBtu | |
| 0367 | Kyle Field | 489,000 | 008856 | HHW | 20,250 | mBtu | |
| 0367 | Kyle Field | 489,000 | 008027 | HHW | 778,742 | mBtu | |
| 0376 | Chemistry Building Addition | 115,797 | 006229 | ELE | 182,011 | kWh | |
| 0376 | Chemistry Building Addition | 115,797 | 006230 | ELE | 107,935 | kWh | |
| 0376 | Chemistry Building Addition | 115,797 | 007115 | CHW | 4,333,758 | mBtu | |
| 0376 | Chemistry Building Addition | 115,797 | 007119 | HHW | 493,209 | mBtu | |
| 0383 | Koldus Building | 110,272 | 001488 | ELE | 159,368 | kWh | |
| 0383 | Koldus Building | 110,272 | 002863 | CHW | 794,289 | mBtu | |
| 0383 | Koldus Building | 110,272 | 002874 | HHW | 135,518 | mBtu | #, (1) |
| 0384 | Sanders Corps of Cadets Center | 19,363 | 001554 | ELE | 23,924 | kWh | |
| 0384 | Sanders Corps of Cadets Center | 19,363 | 002583 | CHW | 245,015 | mBtu | |
| 0384 | Sanders Corps of Cadets Center | 19,363 | 002587 | HHW | 70,322 | mBtu | |
| 0325-0385 | CE TTI Office & Lab Building | 157,844 | 009122 | ELE | 154,196 | kWh | |
| 0325-0385 | CE TTI Office & Lab Building | 157,844 | 009123 | CHW | 1,408,198 | mBtu | #, (1) |
| 0325-0385 | CE TTI Office & Lab Building | 157,844 | 009124 | HHW | 79,753 | mBtu | |
| 0386 | Jack E. Brown Chemical Engineering Building | 205,000 | 001428 | ELE | 150,477 | kWh | |
| 0386 | Jack E. Brown Chemical Engineering Building | 205,000 | 001429 | ELE | 342,723 | kWh | |
| 0386 | Jack E. Brown Chemical Engineering Building | 205,000 | 002250 | CHW | 4,763,210 | mBtu | |
| 0386 | Jack E. Brown Chemical Engineering Building | 205,000 | 006871 | CHW | 108,462 | mBtu | |
| 0386 | Jack E. Brown Chemical Engineering Building | 205,000 | 002254 | HHW | 471,327 | mBtu | |
| 0387 | Richardson Petroleum Engineering Building | 113,700 | 005870 | ELE | 79,961 | kWh | |
| 0387 | Richardson Petroleum Engineering Building | 113,700 | 005872 | ELE | 99,335 | kWh | |
| 0387 | Richardson Petroleum Engineering Building | 113,700 | 005805 | CHW | 1,769,933 | mBtu | |
| 0387 | Richardson Petroleum Engineering Building | 113,700 | 005809 | HHW | 189,198 | mBtu | |
| 0391-0392 | James J. Cain'51 and Mechanical Engineering Office Building | 173,481 | 001573 | ELE | 209,829 | kWh | |
| 0391-0392 | James J. Cain'51 and Mechanical Engineering Office Building | 173,481 | 002906 | CHW | 1,843,435 | mBtu | |
| 0391-0392 | James J. Cain'51 and Mechanical Engineering Office Building | 173,481 | 002910 | HHW | 218,810 | mBtu | |

Table I-1 June 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 | 49,330 | kWh | |
| 0394 | Underwood Residence Hall | 81,730 | 002117 | CHW | 658,785 | mBtu | #, (1), (2) |
| 0394 | Underwood Residence Hall | 81,730 | 002121 | HHW | 107,678 | mBtu | #, (1), (2) |
| 0398 | Langford Architecture Center Building A | 116,619 | 003806 | ELE | 87,052 | kWh | |
| 0398 | Langford Architecture Center Building A | 116,619 | 003951 | CHW | 1,062,289 | mBtu | (2) |
| 0398 | Langford Architecture Center Building A | 116,619 | 003955 | HHW | 203,257 | mBtu | (2) |
| 0400-0402-1405 | Spence Hall, Briggs Hall, and Ash II LLC | 108,555 | 009386 | ELE | 66,720 | kWh | |
| 0400 | Spence Hall Dorm 1 | 38,907 | 009290 | ELE | 11,085 | kWh | |
| 0400 | Spence Hall Dorm 1 | 38,907 | 009291 | ELE | 11,024 | kWh | |
| 0400-1405 | Spence Hall and Ash II LLC | 72,038 | 009292 | CHW | 687,896 | mBtu | |
| 0400-1405 | Spence Hall and Ash II LLC | 72,038 | 009296 | HHW | 127,375 | mBtu | (2) |
| 1405 | Ash II LLC | 33,131 | 009387 | CHW | 322,425 | mBtu | |
| 1405 | Ash II LLC | 33,131 | 009391 | HHW | 66,054 | mBtu | |
| 0402 | Briggs Hall Dorm 3 | 36,517 | 009322 | ELE | 13,336 | kWh | |
| 0402 | Briggs Hall Dorm 3 | 36,517 | 009323 | ELE | 6,989 | kWh | |
| 0402 | Briggs Hall Dorm 3 | 36,517 | 009324 | CHW | 412,035 | mBtu | |
| 0402 | Briggs Hall Dorm 3 | 36,517 | 009328 | HHW | 60,241 | mBtu | |
| 0401-0403-1404 | Kiest Hall, Fountain Hall, and Plank LLC | 108,752 | 009370 | ELE | 64,705 | kWh | |
| 0401 | Kiest Hall Dorm 2 | 38,815 | 009306 | ELE | 11,165 | kWh | |
| 0401 | Kiest Hall Dorm 2 | 38,815 | 009307 | ELE | 9,060 | kWh | |
| 0401-1404 | Kiest Hall, and Plank LLC | 72,052 | 009308 | CHW | 866,938 | mBtu | |
| 0401-1404 | Kiest Hall, and Plank LLC | 72,052 | 009312 | HHW | 249,220 | mBtu | |
| 1404 | Plank LLC | 33,237 | 009372 | CHW | 488,258 | mBtu | |
| 1404 | Plank LLC | 33,237 | 009376 | HHW | 183,774 | mBtu | |
| 0403 | Fountain Hall Dorm 4 | 36,700 | 009338 | ELE | 11,934 | kWh | |
| 0403 | Fountain Hall Dorm 4 | 36,700 | 009339 | ELE | 7,495 | kWh | |
| 0403 | Fountain Hall Dorm 4 | 36,700 | 009340 | CHW | 366,513 | mBtu | |
| 0403 | Fountain Hall Dorm 5 | 36,700 | 009344 | HHW | 68,662 | mBtu | |
| 0404-0406-1403 | Gainer Hall, Leonard Hall and Ash LLC | 90,072 | 009401 | ELE | 55,988 | kWh | |
| 0406-1403 | Leonard Hall - Dorm 7 and Ash LLC | 53,508 | 007982 | CHW | 640,420 | mBtu | |
| 0406-1403 | Leonard Hall - Dorm 7 and Ash LLC | 53,508 | 007983 | HHW | 56,834 | mBtu | |
| 0406 | Leonard Hall - Dorm 7 | 36,222 | 008011 | ELE | 11,128 | kWh | |
| 0406 | Leonard Hall - Dorm 7 | 36,222 | 008012 | ELE | 9,979 | kWh | |
| 1403 | H. Grady Ash, Jr. '58 Leadership Learning Center | 17,286 | 008005 | CHW | 223,417 | mBtu | |
| 1403 | H. Grady Ash, Jr. '58 Leadership Learning Center | 17,286 | 008006 | HHW | 3,409 | mBtu | |
| 0404 | Gainer Hall Dorm 5 | 36,564 | 009354 | ELE | 11,061 | kWh | |
| 0404 | Gainer Hall Dorm 5 | 36,564 | 009355 | ELE | 7,522 | kWh | |
| 0404 | Gainer Hall Dorm 5 | 36,564 | 009356 | CHW | 399,996 | mBtu | |
| 0404 | Gainer Hall Dorm 5 | 36,564 | 009360 | HHW | 47,952 | mBtu | #, (1) |
| 0405-0407-1402 | Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center | 91,310 | 007721 | ELE | 56,046 | kWh | |
| 0407-1402 | Harrell Hall - Dorm 8 and Buzbee LLC | 54,443 | 007722 | CHW | 675,865 | mBtu | |
| 0407-1402 | Harrell Hall - Dorm 8 and Buzbee LLC | 54,443 | 007723 | HHW | 44,018 | mBtu | #, (1) |
| 0405 | Lacy Hall - Dorm 6 | 36,867 | 007922 | ELE | 19,688 | kWh | |
| 0405 | Lacy Hall - Dorm 6 | 36,867 | 007918 | CHW | 383,186 | mBtu | |
| 0405 | Lacy Hall - Dorm 6 | 36,867 | 007919 | HHW | 69,807 | mBtu | #, (1) |
| 0407 | Harrell Hall - Dorm 8 | 36,943 | 007729 | ELE | 19,209 | kWh | |
| 1402 | Buzbee Leadership Learning Center | 17,500 | 007725 | CHW | 395,062 | mBtu | |
| 1402 | Buzbee Leadership Learning Center | 17,500 | 007726 | HHW | 4,976 | mBtu | |
| 0408 | Whitely Hall - Dorm 9 | 36,893 | 000024 | ELE | 23,201 | kWh | |
| 0408 | Whitely Hall - Dorm 9 | 36,893 | 002079 | CHW | 423,172 | mBtu | *, (2) |
| 0408 | Whitely Hall - Dorm 9 | 36,893 | 002083 | HHW | 49,764 | mBtu | *, (2) |
| 0409 | White Hall - Dorm 10 | 36,893 | 000025 | ELE | 25,776 | kWh | |
| 0409 | White Hall - Dorm 10 | 36,893 | 002094 | CHW | 543,616 | mBtu | *, #, (1), (2) |
| 0409 | White Hall - Dorm 10 | 36,893 | 002098 | HHW | 104,857 | mBtu | *, #, (1), (2) |
| 0410 | Harrington Hall - Dorm 11 | 36,893 | 000327 | ELE | 25,211 | kWh | |
| 0410 | Harrington Hall - Dorm 11 | 36,893 | 002349 | CHW | 415,417 | mBtu | *, (2) |
| 0410 | Harrington Hall - Dorm 11 | 36,893 | 002353 | HHW | 28,022 | mBtu | *, (2) |
| 0411 | Utay Hall - Dorm 12 | 36,943 | 000026 | ELE | 19,155 | kWh | |
| 0411 | Utay Hall - Dorm 12 | 36,943 | 002102 | CHW | 382,054 | mBtu | *, #, (1), (2) |
| 0411 | Utay Hall - Dorm 12 | 36,943 | 002106 | HHW | 68,748 | mBtu | *, #, (1), (2) |
| 0412 | Moses Residence Hall | 40,828 | 000027 | ELE | 29,703 | kWh | |
| 0412 | Moses Residence Hall | 40,828 | 002384 | CHW | 652,523 | mBtu | |
| 0412 | Moses Residence Hall | 40,828 | 002395 | HHW | 152,023 | mBtu | |
| 0415 | Davis-Gary Residence Hall | 40,828 | 000030 | ELE | 31,624 | kWh | |
| 0415 | Davis-Gary Residence Hall | 40,828 | 002532 | CHW | 586,898 | mBtu | |
| 0415 | Davis-Gary Residence Hall | 40,828 | 002543 | HHW | 196,740 | mBtu | |
| 0419 | Leggett Residence Hall | 45,134 | 000031 | ELE | 11,629 | kWh | (2) |
| 0419 | Leggett Residence Hall | 45,134 | 002218 | CHW | 383,338 | mBtu | (2) |
| 0419 | Leggett Residence Hall | 45,134 | 002222 | HHW | 76,809 | mBtu | #, (1), (2) |
| 0420 | Milner Hall | 48,268 | 009144 | ELE | 25,056 | kWh | |
| 0420 | Milner Hall | 48,268 | 009145 | CHW | 320,172 | mBtu | |
| 0420 | Milner Hall | 48,268 | 009146 | HHW | 34,890 | mBtu | |
| 0422 | Walton Residence Hall | 51,494 | 000378 | ELE | 86,140 | kWh | |
| 0422 | Walton Residence Hall | 51,494 | 002364 | HHW | 48,469 | mBtu | |

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

| TAMU# | Building Name | Area (ft ²) | MeterID | Type | Monthly Consumption | Units | Comments |
|--------------------------|--|-------------------------|---------|------|---------------------|-------|----------|
| 0424 | Hotard Hall | 18,500 | 000032 | ELE | 14,338 | kWh | |
| 0424 | Hotard Hall | 18,500 | 002657 | CHW | 222,119 | mBtu | |
| 0424 | Hotard Hall | 18,500 | 002668 | HHW | 61,572 | mBtu | |
| 0425 | Henderson Hall | 22,185 | 001553 | ELE | 16,456 | kWh | |
| 0425 | Henderson Hall | 22,185 | 002607 | CHW | 278,031 | mBtu | |
| 0425 | Henderson Hall | 22,185 | 002611 | HHW | 70,392 | mBtu | |
| 0426-0427-0428 | FHK Complex | 154,349 | 000331 | ELE | 86,568 | kWh | |
| 0426-0427-0428 | FHK Complex | 154,349 | 002848 | CHW | 1,449,085 | mBtu | |
| 0426-0427-0428 | FHK Complex | 154,349 | 002859 | HHW | 245,428 | mBtu | |
| 0430 | Schumacher Residence Hall | 38,957 | 000034 | ELE | 27,546 | kWh | |
| 0430 | Schumacher Residence Hall | 38,957 | 002015 | CHW | 421,781 | mBtu | |
| 0430 | Schumacher Residence Hall | 38,957 | 002030 | HHW | 30,832 | mBtu | |
| 0359 | Architecture Building B | 28,545 | 005518 | ELE | 20,616 | kWh | * |
| 0432 | Architecture Building C | 73,020 | 005584 | ELE | 75,419 | kWh | * |
| 0359-0432 | Architecture Building B&C | 101,565 | 006419 | CHW | 767,644 | mBtu | *(1) |
| 0359-0432 | Architecture Building B&C | 101,565 | 006423 | HHW | 187,814 | mBtu | * |
| 0434 | Luedecke Building (Cyclotron) | 80,646 | 005555 | ELE | 112,220 | kWh | |
| 0434 | Luedecke Building (Cyclotron) | 80,646 | 005558 | ELE | 1,117,999 | kWh | |
| 0434 | Luedecke Building (Cyclotron) | 80,646 | 006664 | CHW | 2,453,477 | mBtu | |
| 0434 | Luedecke Building (Cyclotron) | 80,646 | 006668 | HHW | 95,268 | mBtu | |
| 0435 | Harrington Education Center Office Tower | 130,844 | 001546 | ELE | 122,021 | kWh | |
| 0435 | Harrington Education Center Office Tower | 130,844 | 002792 | CHW | 1,161,623 | mBtu | |
| 0435 | Harrington Education Center Office Tower | 130,844 | 002796 | HHW | 308,632 | mBtu | |
| 0436 | Reed-McDonald Building | 77,435 | 006868 | ELE | 87,855 | kWh | |
| 0436 | Reed-McDonald Building | 77,435 | 002419 | CHW | 2,094,852 | mBtu | |
| 0436 | Reed-McDonald Building | 77,435 | 002423 | HHW | 272,207 | mBtu | |
| 0438 | Harrington Education Center Classroom Building | 61,860 | 003630 | ELE | 36,124 | kWh | |
| 0438 | Harrington Education Center Classroom Building | 61,860 | 002784 | CHW | 316,604 | mBtu | |
| 0438 | Harrington Education Center Classroom Building | 61,860 | 002788 | HHW | 143 | mBtu | |
| 0433-0440-0441-0442-0447 | Mosher Commons Krueger Dunn Aston | 577,584 | 009099 | ELE | 199,067 | kWh | |
| 0433 | Mosher Residence Hall | 155,430 | 009083 | ELE | 36,920 | kWh | (2) |
| 0433 | Mosher Residence Hall | 155,430 | 002485 | CHW | NA | mBtu | *(2) |
| 0433 | Mosher Residence Hall | 155,430 | 002489 | HHW | NA | mBtu | *(2) |
| 0440-0441 | Commons Krueger | 196,633 | 009833 | ELE | 93,981 | kWh | |
| 0440 | Commons Hall | 84,500 | 009237 | CHW | 835,123 | mBtu | |
| 0440 | Commons Hall | 84,500 | 009238 | HHW | 100,439 | mBtu | (1) |
| 0441 | Krueger Residence Hall | 112,133 | 009091 | ELE | 19,040 | kWh | |
| 0441 | Krueger Residence Hall | 112,133 | 009828 | ELE | 27,590 | kWh | |
| 0441 | Krueger Residence Hall | 112,133 | 002504 | CHW | 98,708 | mBtu | *(2) |
| 0441 | Krueger Residence Hall | 112,133 | 002500 | HHW | 0 | mBtu | *(2) |
| 0442 | Dunn Residence Hall | 112,133 | 009095 | ELE | 90,827 | kWh | |
| 0442 | Dunn Residence Hall | 112,133 | 002519 | CHW | 851,769 | mBtu | |
| 0442 | Dunn Residence Hall | 112,133 | 002515 | HHW | 201,333 | mBtu | (1) |
| 0447 | Aston Residence Hall | 113,388 | 009087 | ELE | 52,229 | kWh | |
| 0447 | Aston Residence Hall | 113,388 | 002474 | CHW | 1,218,094 | mBtu | (1) |
| 0447 | Aston Residence Hall | 113,388 | 002470 | HHW | 374,536 | mBtu | (1) |
| 0443 | Oceanography & Meteorology Building | 180,316 | 005322 | ELE | 181,081 | kWh | * |
| 0443 | Oceanography & Meteorology Building | 180,316 | 005323 | ELE | 65,087 | kWh | |
| 0443 | Oceanography & Meteorology Building | 180,316 | 006388 | CHW | 1,614,723 | mBtu | (1) (2) |
| 0443 | Oceanography & Meteorology Building | 180,316 | 006392 | HHW | 239,380 | mBtu | (2) |
| 0444 | Peterson Building | 84,831 | 004714 | ELE | 157,498 | kWh | |
| 0444 | Peterson Building | 84,831 | 002922 | CHW | 1,353,091 | mBtu | |
| 0444 | Peterson Building | 84,831 | 006435 | HHW | 126,738 | mBtu | |
| 0445-0517 | Teague Research Center and DPC Annex | 89,735 | 003948 | ELE | 24,934 | kWh | |
| 0445-0517 | Teague Research Center and DPC Annex | 89,735 | 004719 | ELE | 52,171 | kWh | |
| 0445 | Teague Research Center | 63,515 | 006411 | CHW | 468,288 | mBtu | |
| 0445 | Teague Research Center | 63,515 | 006415 | HHW | 30,123 | mBtu | |
| 0517 | DPC Annex | 26,220 | 006563 | CHW | 683,283 | mBtu | |
| 0517 | DPC Annex | 26,220 | 006567 | HHW | 103,167 | mBtu | (2) |
| 0446 | Rudder Theatre Complex | 209,293 | 002977 | ELE | 99,924 | kWh | (1) |
| 0446 | Rudder Theatre Complex | 209,293 | 002980 | ELE | 32,053 | kWh | (1) |
| 0446 | Rudder Theatre Complex | 209,293 | 004297 | CHW | 1,922,718 | mBtu | (1) |
| 0446 | Rudder Theatre Complex | 209,293 | 004309 | HHW | 804,260 | mBtu | (1) |
| 0446 | Rudder Tower | 92,947 | 001550 | ELE | 37,332 | kWh | |
| 0446 | Rudder Tower | 92,947 | 001551 | ELE | 56,717 | kWh | * |
| 0446 | Rudder Tower | 92,947 | 002455 | CHW | 811,999 | mBtu | |
| 0446 | Rudder Tower | 92,947 | 002459 | HHW | 56,059 | mBtu | |
| 0448 | Adams Band Hall | 55,248 | 000978 | ELE | 51,761 | kWh | |
| 0448 | Adams Band Hall | 55,248 | 002555 | CHW | 506,959 | mBtu | (1) |
| 0448 | Adams Band Hall | 55,248 | 002566 | HHW | 269,460 | mBtu | (1) |
| 0449 | Biological Sciences Building - West | 96,038 | 003978 | ELE | 186,247 | kWh | |
| 0449 | Biological Sciences Building - West | 96,038 | 003981 | CHW | 1,682,541 | mBtu | |
| 0449 | Biological Sciences Building - West | 96,038 | 003985 | HHW | 209,413 | mBtu | |

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

| TAMU# | Building Name | Area (ft ²) | MeterID | Type | Monthly Consumption | Units | Comments |
|-------|-------------------------------------|-------------------------|---------|------|---------------------|-------|----------|
| 0450 | Duncan Dining Hall | 128,482 | 000300 | ELE | 59,852 | kWh | |
| 0450 | Duncan Dining Hall | 128,482 | 002998 | CHW | 643,922 | mBtu | |
| 0450 | Duncan Dining Hall | 128,482 | 003009 | HHW | 1,796 | mBtu | |
| 0454 | MSC (East Main) | 392,000 | 007600 | ELE | 270,938 | kWh | |
| 0454 | MSC (West Main) | 392,000 | 007601 | ELE | 188,563 | kWh | |
| 0454 | MSC BOR | 392,000 | 008047 | ELE | 20,844 | kWh | |
| 0454 | MSC | 392,000 | 007584 | CHW | 3,323,650 | mBtu | |
| 0454 | MSC BOR | 392,000 | 004184 | CHW | 572,414 | mBtu | |
| 0454 | MSC | 392,000 | 007585 | HHW | 204,325 | mBtu | |
| 0454 | MSC BOR | 392,000 | 004196 | HHW | 214,187 | mBtu | |
| 0456 | Military Sciences Building | 43,808 | 006939 | CHW | 562,672 | mBtu | * |
| 0456 | Military Sciences Building | 43,808 | 006943 | HHW | 169,003 | mBtu | * |
| 0457 | TAES Annex Building | 16,364 | 005863 | ELE | 13,582 | kWh | |
| 0457 | TAES Annex Building | 16,364 | 005913 | CHW | 110,619 | mBtu | |
| 0457 | TAES Annex Building | 16,364 | 005917 | HHW | 28,196 | mBtu | |
| 0461 | Coke Building | 24,466 | 004008 | ELE | 26,239 | kWh | |
| 0461 | Coke Building | 24,466 | 005307 | CHW | 150,322 | mBtu | |
| 0461 | Coke Building | 24,466 | 004023 | HHW | 4,464 | mBtu | |
| 0462 | Academic Building | 82,555 | 005861 | ELE | 16,627 | kWh | |
| 0462 | Academic Building | 82,555 | 005903 | ELE | 40,977 | kWh | |
| 0462 | Academic Building | 82,555 | 005905 | CHW | 666,950 | mBtu | |
| 0462 | Academic Building | 82,555 | 005909 | HHW | 192,370 | mBtu | |
| 0463 | Psychology Building | 48,215 | 001575 | ELE | 43,335 | kWh | (2) |
| 0463 | Psychology Building | 48,215 | 002941 | CHW | 507,708 | mBtu | (1) (2) |
| 0463 | Psychology Building | 48,215 | 002945 | HHW | 30,792 | mBtu | (2) |
| 0464 | State Chemist Building | 20,027 | 005839 | ELE | 13,127 | kWh | |
| 0464 | State Chemist Building | 20,027 | 005837 | ELE | 8,404 | mBtu | (1) |
| 0464 | State Chemist Building | 20,027 | 005841 | HHW | 18,644 | mBtu | |
| 0465 | Butler Hall | 29,699 | 003997 | ELE | 33,477 | kWh | |
| 0465 | Butler Hall | 29,699 | 004000 | CHW | 407,360 | mBtu | |
| 0465 | Butler Hall | 29,699 | 004004 | HHW | 73,526 | mBtu | |
| 0467 | Biological Sciences Building - East | 62,273 | 001543 | ELE | 177,679 | kWh | |
| 0467 | Biological Sciences Building - East | 62,273 | 003851 | CHW | 1,059,756 | mBtu | (1) |
| 0467 | Biological Sciences Building - East | 62,273 | 003862 | HHW | 68,064 | mBtu | |
| 0468 | Evans Library | 712,093 | 000304 | ELE | 230,514 | kWh | |
| 0468 | Evans Library | 712,093 | 000318 | ELE | 138,387 | kWh | |
| 0468 | Evans Library | 712,093 | 000319 | ELE | 96,148 | kWh | * |
| 0468 | Evans Library | 712,093 | 000320 | ELE | 80,353 | kWh | * |
| 0468 | Evans Library | 712,093 | 006429 | ELE | 87,751 | kWh | |
| 0468 | Evans Library | 712,093 | 003701 | CHW | 1,634,381 | mBtu | |
| 0468 | Evans Library | 712,093 | 003895 | CHW | 1,747,148 | mBtu | |
| 0468 | Evans Library | 712,093 | 003903 | CHW | 489,651 | mBtu | |
| 0468 | Evans Library | 712,093 | 003911 | CHW | 1,212,128 | mBtu | |
| 0468 | Evans Library | 712,093 | 003712 | HHW | 110,209 | mBtu | |
| 0468 | Evans Library | 712,093 | 003899 | HHW | 148,231 | mBtu | |
| 0468 | Evans Library | 712,093 | 003907 | HHW | 34,827 | mBtu | |
| 0468 | Evans Library | 712,093 | 003922 | HHW | 123,859 | mBtu | |
| 0468 | Evans Library | 712,093 | 005303 | HHW | 23,696 | mBtu | |
| 0469 | Central Campus Parking Garage | 251,304 | 000306 | ELE | 45,014 | kWh | * |
| 0469 | Central Campus Parking Garage | 2,844 | 003716 | CHW | 62,273 | mBtu | |
| 0469 | Central Campus Parking Garage | 2,844 | 003720 | HHW | 5,081 | mBtu | |
| 0470 | Glasscock History Bldg | 39,887 | 006407 | ELE | 18,561 | kWh | |
| 0470 | Glasscock History Bldg | 39,887 | 006638 | CHW | 269,289 | mBtu | |
| 0470 | Glasscock History Bldg | 39,887 | 006642 | HHW | 3,491 | mBtu | |
| 0471 | Pavilion | 40,062 | 001455 | ELE | 34,462 | kWh | |
| 0471 | Pavilion | 40,062 | 002769 | CHW | 311,525 | mBtu | |
| 0471 | Pavilion | 40,062 | 002780 | HHW | 3,351 | mBtu | |
| 0472 | Animal Industries | 44,856 | 009042 | ELE | 52,418 | kWh | |
| 0472 | Animal Industries | 44,856 | 009109 | CHW | 619,913 | mBtu | |
| 0472 | Animal Industries | 44,856 | 009113 | HHW | 32,735 | mBtu | |
| 0473 | Williams Administration Building | 69,898 | 007945 | ELE | 47,560 | kWh | |
| 0473 | Williams Administration Building | 69,898 | 007946 | CHW | 541,376 | mBtu | |
| 0473 | Williams Administration Building | 69,898 | 007947 | HHW | 36,744 | mBtu | |
| 0474 | YMCA Building | 36,035 | 007524 | ELE | 22,672 | kWh | |
| 0474 | YMCA Building | 36,035 | 007525 | CHW | 202,448 | mBtu | |
| 0474 | YMCA Building | 36,035 | 007526 | HHW | 9,938 | mBtu | (1) |
| 0476 | Francis Hall | 36,850 | 008015 | ELE | 32,206 | kWh | |
| 0476 | Francis Hall | 36,850 | 008033 | CHW | 496,395 | mBtu | |
| 0476 | Francis Hall | 36,850 | 008034 | HHW | 200 | mBtu | |
| 0477 | Anthropology Building | 51,592 | 001558 | ELE | 33,516 | kWh | |
| 0477 | Anthropology Building | 51,592 | 003664 | CHW | 516,828 | mBtu | |
| 0477 | Anthropology Building | 51,592 | 003668 | HHW | 21,463 | mBtu | |

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

| TAMU# | Building Name | Area (ft ²) | MeterID | Type | Monthly Consumption | Units | Comments |
|-----------|---|-------------------------|---------|------|---------------------|-------|----------|
| 0478 | Scoates Hall | 62,228 | 007961 | ELE | 52,532 | kWh | |
| 0478 | Scoates Hall | 62,228 | 007968 | CHW | 523,521 | mBtu | (1) |
| 0478 | Scoates Hall | 62,228 | 007969 | HHW | 54,693 | mBtu | (1) |
| 0480 | Bolton Hall | 39,686 | 006845 | ELE | 30,993 | kWh | * |
| 0480 | Bolton Hall | 39,686 | 007012 | CHW | 209,108 | mBtu | |
| 0480 | Bolton Hall | 39,686 | 007016 | HHW | 42,604 | mBtu | (1) |
| 0481 | Heaton Hall | 13,640 | 005712 | ELE | NA | kWh | * |
| 0481 | Heaton Hall | 13,640 | 007531 | CHW | 126,864 | mBtu | (2) |
| 0481 | Heaton Hall | 13,640 | 007535 | HHW | 36,973 | mBtu | (2) |
| 0482 | Fermier Hall | 19,074 | 005779 | ELE | 19,859 | kWh | |
| 0482 | Fermier Hall | 19,074 | 005878 | CHW | 153,500 | mBtu | (2) |
| 0482 | Fermier Hall | 19,074 | 005881 | HHW | 3,718 | mBtu | (2) |
| 0483 | Thompson Hall | 81,404 | 003688 | ELE | 67,085 | kWh | |
| 0483 | Thompson Hall | 81,404 | 003887 | CHW | 455,889 | mBtu | |
| 0483 | Thompson Hall | 81,404 | 003891 | HHW | 17,046 | mBtu | |
| 0484 | Chemistry Building | 205,393 | 007152 | ELE | 97,402 | kWh | *(1) |
| 0484 | Chemistry Building | 205,393 | 007556 | ELE | 11,386 | kWh | |
| 0484 | Chemistry Building | 205,393 | 007557 | ELE | 19,174 | kWh | (2) |
| 0484 | Chemistry Building | 205,393 | 007559 | ELE | 172,859 | kWh | |
| 0484 | Chemistry Building | 205,393 | 007028 | CHW | 2,170,573 | mBtu | * |
| 0484 | Chemistry Building | 205,393 | 007223 | CHW | 5,091,958 | mBtu | |
| 0484 | Chemistry Building | 205,393 | 007032 | HHW | 214,649 | mBtu | * |
| 0484 | Chemistry Building | 205,393 | 007227 | HHW | 727,149 | mBtu | |
| 0490 | Halbouty Geosciences Building | 120,874 | 006691 | ELE | 59,591 | kWh | (1) |
| 0490 | Halbouty Geosciences Building | 120,874 | 006695 | ELE | 91,674 | kWh | |
| 0490 | Halbouty Geosciences Building | 120,874 | 006896 | CHW | 1,601,138 | mBtu | |
| 0490 | Halbouty Geosciences Building | 120,874 | 006913 | CHW | 640,739 | mBtu | (1) |
| 0490 | Halbouty Geosciences Building | 120,874 | 006900 | HHW | 297,072 | mBtu | (1) |
| 0490 | Halbouty Geosciences Building | 120,874 | 006917 | HHW | 170,737 | mBtu | (1) |
| 0492 | Civil Engineering Building | 56,537 | 005783 | ELE | 49,346 | kWh | |
| 0492 | Civil Engineering Building | 56,537 | 005950 | CHW | 331,064 | mBtu | (2) |
| 0492 | Civil Engineering Building | 56,537 | 005954 | HHW | 66,487 | mBtu | (2) |
| 0495 | Sbisa Dining Hall | 94,233 | 000352 | ELE | 109,735 | kWh | |
| 0495 | Sbisa Dining Hall | 94,233 | 000353 | ELE | 83,899 | kWh | |
| 0495 | Sbisa Dining Hall | 94,233 | 001951 | CHW | 1,380,477 | mBtu | |
| 0495 | Sbisa Dining Hall | 94,233 | 001957 | HHW | 88,317 | mBtu | |
| 0496 | Utilities & Energy Services Central Office | 46,110 | 007706 | ELE | 12,443 | kWh | *, (2) |
| 0496 | Utilities & Energy Services Central Office | 46,110 | 006929 | CHW | 188,115 | mBtu | (2) |
| 0496 | Utilities & Energy Services Central Office | 46,110 | 006933 | HHW | 15,974 | mBtu | (2) |
| 0499 | Engineering Innovation Center | 28,339 | 001561 | ELE | 20,228 | kWh | |
| 0499 | Engineering Innovation Center | 28,339 | 002672 | CHW | 96,826 | mBtu | (2) |
| 0499 | Engineering Innovation Center | 28,339 | 002683 | HHW | 32,990 | mBtu | (1) |
| 0501 | Concrete Materials Laboratory | 9,600 | 005791 | ELE | 10,101 | kWh | |
| 0506 | Nagle Hall | 32,306 | 001484 | ELE | 8,885 | kWh | (2) |
| 0506 | Nagle Hall | 32,306 | 003619 | CHW | 411,427 | mBtu | |
| 0506 | Nagle Hall | 32,306 | 003623 | HHW | 9,856 | mBtu | |
| 0507 | Veterinary Medical Science Building | 69,367 | 003013 | ELE | 77,792 | kWh | |
| 0507 | Veterinary Medical Science Building | 69,367 | 003640 | CHW | 1,524,951 | mBtu | |
| 0507 | Veterinary Medical Science Building | 69,367 | 003644 | HHW | 384,400 | mBtu | (1) |
| 0508 | Veterinary Teaching Hospital | 96,416 | 003022 | ELE | 104,055 | kWh | |
| 0508-1026 | Veterinary Teaching Hospital and Veterinary Medicine Administration | 191,096 | 004166 | CHW | 2,223,859 | mBtu | |
| 0508-1026 | Veterinary Teaching Hospital and Veterinary Medicine Administration | 191,096 | 009694 | HHW | 341,543 | mBtu | |
| 0511 | Heep Laboratory Building | 40,476 | 005787 | ELE | 51,133 | kWh | |
| 0511 | Heep Laboratory Building | 40,476 | 005821 | CHW | 699,864 | mBtu | #, (1) |
| 0511 | Heep Laboratory Building | 40,476 | 005825 | HHW | 165,047 | mBtu | (1) |
| 0512 | All Faiths Chapel | 8,999 | 004340 | ELE | 6,764 | kWh | |
| 0512 | All Faiths Chapel | 8,999 | 004288 | CHW | 105,594 | mBtu | (1) |
| 0512 | All Faiths Chapel | 8,999 | 004293 | HHW | 23,913 | mBtu | (1) |
| 0513 | Doherty Building | 42,336 | 000299 | ELE | 51,916 | kWh | * |
| 0513 | Doherty Building | 42,336 | 002898 | CHW | 932,731 | mBtu | * |
| 0513 | Doherty Building | 42,336 | 002902 | HHW | 291,584 | mBtu | * |
| 0514 | Munnerlyn Astronomy & Space Sciences Engineering | 22,134 | 007558 | ELE | 13,212 | kWh | |
| 0514 | Munnerlyn Astronomy & Space Sciences Engineering | 22,134 | 007487 | CHW | 113,989 | mBtu | |
| 0514 | Munnerlyn Astronomy & Space Sciences Engineering | 22,134 | 007491 | HHW | 2,107 | mBtu | |
| 0516 | Computing Services Center | 30,014 | 005259 | ELE | 506,766 | kWh | |
| 0516 | Computing Services Center | 30,014 | 003959 | CHW | 1,675,860 | mBtu | (1) |
| 0516 | Computing Services Center | 30,014 | 003963 | HHW | 0 | mBtu | |
| 0518 | Zachry Engineering Education Complex | 464,400 | 009874 | ELE | NA | kWh | * |
| 0518 | Zachry Engineering Education Complex | 464,400 | 009875 | ELE | NA | kWh | * |
| 0518 | Zachry Engineering Education Complex | 464,400 | 009964 | CHW | 1,986,927 | mBtu | * |
| 0518 | Zachry Engineering Education Complex | 464,400 | 009965 | HHW | 277,888 | mBtu | * |
| 0520 | Beutel Health Center | 63,318 | 003785 | ELE | 68,425 | kWh | |
| 0520 | Beutel Health Center | 63,318 | 003933 | CHW | 528,752 | mBtu | (1) |
| 0520 | Beutel Health Center | 63,318 | 003944 | HHW | 51,317 | mBtu | |

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

| TAMU# | Building Name | Area (ft ²) | MeterID | Type | Monthly Consumption | Units | Comments |
|-------|--|-------------------------|---------|------|---------------------|-------|----------|
| 0521 | Heldenfels Hall | 104,949 | 001547 | ELE | 87,439 | kWh | |
| 0521 | Heldenfels Hall | 104,949 | 002962 | CHW | 1,279,189 | mBtu | |
| 0521 | Heldenfels Hall | 104,949 | 002973 | HHW | 66,746 | mBtu | |
| 0524 | Blocker Building | 257,953 | 001545 | ELE | 187,705 | kWh | |
| 0524 | Blocker Building | 257,953 | 002914 | CHW | 1,259,791 | mBtu | (2) |
| 0524 | Blocker Building | 257,953 | 002918 | HHW | 142 | mBtu | (2) |
| 0548 | Clements Residence Hall | 62,156 | 000048 | ELE | 35,488 | kWh | |
| 0548 | Clements Residence Hall | 62,156 | 002729 | CHW | 1,296,553 | mBtu | |
| 0548 | Clements Residence Hall | 62,156 | 002740 | HHW | 461,746 | mBtu | |
| 0549 | Haas Residence Hall | 69,668 | 001398 | ELE | 42,000 | kWh | *, (2) |
| 0549 | Haas Residence Hall | 69,668 | 002983 | CHW | 1,011,957 | mBtu | *, (2) |
| 0549 | Haas Residence Hall | 69,668 | 002994 | HHW | 545,305 | mBtu | *, (2) |
| 0550 | McFadden Residence Hall | 62,156 | 000339 | ELE | 35,203 | kWh | * |
| 0550 | McFadden Residence Hall | 62,156 | 002188 | CHW | 940,499 | mBtu | * |
| 0550 | McFadden Residence Hall | 62,156 | 002192 | HHW | 424,620 | mBtu | * |
| 0652 | Neeley Residence Hall | 69,668 | 000056 | ELE | 30,400 | kWh | |
| 0652 | Neeley Residence Hall | 69,668 | 002147 | CHW | 664,294 | mBtu | |
| 0652 | Neeley Residence Hall | 69,668 | 002151 | HHW | 238,262 | mBtu | |
| 0653 | Hobby Residence Hall | 62,156 | 000057 | ELE | 40,801 | kWh | |
| 0653 | Hobby Residence Hall | 62,156 | 002401 | CHW | 806,243 | mBtu | |
| 0653 | Hobby Residence Hall | 62,156 | 002405 | HHW | 315,923 | mBtu | |
| 0682 | Wisnabaker Engineering Research Center | 177,704 | 005246 | ELE | 218,253 | kWh | |
| 0682 | Wisnabaker Engineering Research Center | 177,704 | 003879 | CHW | 2,139,722 | mBtu | |
| 0682 | Wisnabaker Engineering Research Center | 177,704 | 003883 | HHW | 146,655 | mBtu | |
| 0740 | McNew Laboratory | 20,904 | 005874 | ELE | 54,958 | kWh | (2) |
| 0740 | McNew Laboratory | 20,904 | 005974 | CHW | 523,737 | mBtu | (2) |
| 0740 | McNew Laboratory | 20,904 | 005968 | HHW | 3,009 | mBtu | #, (2) |
| 0806 | Soil Testing Labs | 5,544 | 006875 | ELE | 21,487 | kWh | |
| 0815 | Entomology Research Lab | 17,618 | 005799 | ELE | 26,406 | kWh | |
| 0815 | Entomology Research Lab | 17,618 | 006043 | CHW | 157,407 | mBtu | |
| 0880 | TVMC-Small Animal Building | 3,260 | 005958 | CHW | 34,765 | mBtu | |
| 0880 | TVMC-Small Animal Building | 3,260 | 005962 | HHW | 94 | mBtu | (2) |
| 0972 | Laboratory Animal Care Building | 52,178 | 007063 | ELE | 137,588 | kWh | * |
| 0972 | Laboratory Animal Care Building | 52,178 | 007067 | ELE | 49,926 | kWh | |
| 0972 | Laboratory Animal Care Building | 52,178 | 007071 | CHW | 3,461,067 | mBtu | |
| 0972 | Laboratory Animal Care Building | 52,178 | 006991 | HHW | 217,185 | mBtu | |
| 1020 | Vivarium III | 12,234 | 005857 | ELE | 25,335 | kWh | |
| 1020 | Vivarium III | 12,234 | 005997 | CHW | 321,603 | mBtu | |
| 1020 | Vivarium III | 12,234 | 006001 | HHW | 37,224 | mBtu | |
| 1026 | Veterinary Medicine Administration | 94,680 | 006072 | ELE | 126,954 | kWh | |
| 1026 | Veterinary Medicine Administration | 94,680 | 006049 | CHW | 1,353,465 | mBtu | |
| 1026 | Veterinary Medicine Administration | 98,680 | 006053 | HHW | 421,977 | mBtu | * |
| 1041 | Texas Vet Med Diagnostic Lab | 55,169 | 001466 | ELE | 69,576 | kWh | (2) |
| 1041 | Texas Vet Med Diagnostic Lab | 55,169 | 001539 | ELE | 31,685 | kWh | (2) |
| 1041 | Texas Vet Med Diagnostic Lab | 55,169 | 003817 | CHW | 704,688 | mBtu | *, (2) |
| 1041 | Texas Vet Med Diagnostic Lab | 55,169 | 004137 | CHW | 1,194,832 | mBtu | *, (2) |
| 1041 | Texas Vet Med Diagnostic Lab | 55,169 | 003821 | HHW | 53,109 | mBtu | *, (2) |
| 1041 | Texas Vet Med Diagnostic Lab | 55,169 | 004130 | HHW | 122,819 | mBtu | *, (2) |
| 1042 | Forest Science Laboratory Building | 9,632 | 006036 | ELE | 34,737 | kWh | * |
| 1085 | Veterinary Small Animal Hospital | 103,440 | 004136 | ELE | 233,915 | kWh | |
| 1085 | Veterinary Small Animal Hospital | 103,440 | 003656 | CHW | 2,417,400 | mBtu | |
| 1085 | Veterinary Small Animal Hospital | 103,440 | 003660 | HHW | 290,068 | mBtu | |
| 1089 | Utilities Energy Office Annex | 2,937 | 006964 | ELE | 8,263 | kWh | |
| 1146 | Biological Control Facility | 13,492 | 005795 | ELE | 35,945 | kWh | |
| 1146 | Biological Control Facility | 13,492 | 005887 | CHW | 172,845 | mBtu | |
| 1146 | Biological Control Facility | 13,492 | 005891 | HHW | 30,448 | mBtu | |
| 1156 | Physical Plant Administration & Shops | 101,704 | 007483 | ELE | 139,354 | kWh | |
| 1156 | Physical Plant Administration & Shops | 101,704 | 007679 | CHW | 481,973 | mBtu | (2) |
| 1156 | Physical Plant Administration & Shops | 101,704 | 007683 | HHW | 63,336 | mBtu | |
| 1184 | Veterinary Anatomic Pathology | 17,223 | 001445 | ELE | 51,745 | kWh | |
| 1184 | Veterinary Anatomic Pathology | 17,223 | 006995 | CHW | 698,242 | mBtu | |
| 1184 | Veterinary Anatomic Pathology | 17,223 | 006999 | HHW | 88,564 | mBtu | (1) |
| 1194 | Veterinary Large Animal Hospital | 140,865 | 005256 | ELE | 106,641 | kWh | |
| 1194 | Veterinary Large Animal Hospital | 140,865 | 003016 | ELE | 68,028 | kWh | |
| 1194 | Veterinary Large Animal Hospital | 140,865 | 007455 | ELE | 40,399 | kWh | |
| 1194 | Veterinary Large Animal Hospital | 140,865 | 003648 | CHW | 2,889,503 | mBtu | |
| 1194 | Veterinary Large Animal Hospital | 140,865 | 007456 | CHW | 304,767 | mBtu | |
| 1194 | Veterinary Large Animal Hospital | 140,865 | 003652 | HHW | 480,823 | mBtu | |
| 1194 | Veterinary Large Animal Hospital | 140,865 | 007457 | HHW | 41,620 | mBtu | |
| 1197 | Veterinary Research Building | 114,666 | 006355 | ELE | 71,324 | kWh | (2) |
| 1197 | Veterinary Research Building | 114,666 | 006359 | ELE | 33,713 | kWh | (2) |
| 1197 | Veterinary Research Building | 114,666 | 006062 | CHW | 3,460,021 | mBtu | |
| 1197 | Veterinary Research Building | 114,666 | 006066 | HHW | 258,431 | mBtu | |

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

| TAMU# | Building Name | Area (ft ²) | MeterID | Type | Monthly Consumption | Units | Comments |
|----------------|--|-------------------------|---------|------|---------------------|-------|----------|
| 1416 | Hullabaloo Residence Hall | 253,452 | 007845 | ELE | 151,219 | kWh | |
| 1416 | Hullabaloo Residence Hall | 253,452 | 007846 | CHW | 1,346,202 | mBtu | |
| 1416 | Hullabaloo Residence Hall | 253,452 | 007847 | HHW | 118,100 | mBtu | |
| 1450 | University Apartments - Laundry at the Gardens | 1,428 | 006885 | ELE | 4,970 | kWh | |
| 1451 | University Apartments - The Gardens J | 33,535 | 006981 | ELE | 18,274 | kWh | |
| 1452 | University Apartments - The Gardens K | 33,535 | 006979 | ELE | 18,835 | kWh | |
| 1453 | University Apartments - The Gardens L | 33,535 | 006884 | ELE | 18,507 | kWh | |
| 1454 | University Apartments - The Gardens F | 33,535 | 006980 | ELE | 18,843 | kWh | * |
| 1455 | University Apartments - The Gardens G | 33,535 | 006882 | ELE | 19,799 | kWh | * |
| 1456 | University Apartments - The Gardens H | 33,535 | 007962 | ELE | 19,484 | kWh | |
| 1457 | University Apartments - The Gardens M | 33,535 | 007503 | ELE | 20,136 | kWh | |
| 1458 | University Apartments - The Gardens N | 33,535 | 007504 | ELE | 17,168 | kWh | |
| 1459 | University Apartments - The Gardens P | 33,535 | 007505 | ELE | 21,831 | kWh | |
| 1460 | University Apartments - The Gardens Q | 33,535 | 007506 | ELE | 19,482 | kWh | |
| 1497 | Utilities & Energy Services Business Office | 3,480 | 007082 | ELE | 4,783 | kWh | |
| 1497 | Utilities & Energy Services Business Office | 3,480 | 006341 | CHW | 51,267 | mBtu | |
| 1497 | Utilities & Energy Services Business Office | 3,480 | 006345 | HHW | 223 | mBtu | |
| 1501 | Kleberg Center | 165,031 | 007449 | ELE | 265,192 | kWh | |
| 1501 | Kleberg Center | 165,031 | 002624 | CHW | 2,208,263 | mBtu | |
| 1501 | Kleberg Center | 165,031 | 002628 | HHW | 444,288 | mBtu | |
| 1502 | Heep Center | 158,979 | 001556 | ELE | 261,314 | kWh | |
| 1502 | Heep Center | 158,979 | 002599 | CHW | 3,096,929 | mBtu | |
| 1502 | Heep Center | 158,979 | 002603 | HHW | 228,945 | mBtu | |
| 1503 | Cater-Mattil Hall | 27,958 | 007977 | ELE | 78,964 | kWh | |
| 1503 | Cater-Mattil Hall | 27,958 | 008001 | CHW | 739,007 | mBtu | |
| 1504 | Reynolds Medical Sciences Building | 169,859 | 003975 | ELE | 303,552 | kWh | |
| 1504 | Reynolds Medical Sciences Building | 169,859 | 003989 | CHW | 3,171,929 | mBtu | |
| 1504 | Reynolds Medical Sciences Building | 169,859 | 003993 | HHW | 548,723 | mBtu | |
| 1505 | Rosenthal Meat Science & Technology Center | 30,889 | 003627 | ELE | 142,071 | kWh | (1) |
| 1505 | Rosenthal Meat Science & Technology Center | 30,889 | 002573 | CHW | 277,001 | mBtu | |
| 1505 | Rosenthal Meat Science & Technology Center | 30,889 | 002577 | HHW | 65,407 | mBtu | (1) |
| 1506 | Horticulture-Forest Science Building | 118,648 | 001544 | ELE | 172,511 | kWh | |
| 1506 | Horticulture-Forest Science Building | 118,648 | 003967 | CHW | 1,110,456 | mBtu | |
| 1506 | Horticulture-Forest Science Building | 118,648 | 003971 | HHW | 88,725 | mBtu | |
| 1507 | Biochemistry-Biophysics Building | 166,079 | 001459 | ELE | 176,041 | kWh | |
| 1507 | Biochemistry-Biophysics Building | 166,079 | 001460 | ELE | 159,804 | kWh | |
| 1507 | Biochemistry-Biophysics Building | 166,079 | 003025 | CHW | 3,170,424 | mBtu | |
| 1507 | Biochemistry-Biophysics Building | 166,079 | 003029 | HHW | 781,686 | mBtu | |
| 1508 | Price Hobgood Ag. Engineering Research Lab | 27,666 | 005638 | ELE | 25,533 | kWh | * |
| 1508 | Price Hobgood Ag. Engineering Research Lab | 27,666 | 006005 | CHW | 235,279 | mBtu | |
| 1508 | Price Hobgood Ag. Engineering Research Lab | 27,666 | 006009 | HHW | 4,078 | mBtu | |
| 1509 | Medical Sciences Library | 84,183 | 000350 | ELE | 82,024 | kWh | |
| 1509 | Medical Sciences Library | 84,183 | 003777 | CHW | 600,326 | mBtu | (2) |
| 1509 | Medical Sciences Library | 84,183 | 003781 | HHW | 64,302 | mBtu | |
| 1510 | Wehner Building | 259,681 | 006849 | ELE | 185,093 | kWh | |
| 1510 | Wehner Building | 259,681 | 006685 | ELE | 257,282 | kWh | |
| 1510 | Wehner Building | 259,681 | 002687 | CHW | 2,278,574 | mBtu | |
| 1510 | Wehner Building | 259,681 | 002691 | HHW | 338,786 | mBtu | |
| 1511 | West Campus Library Facility | 68,125 | 004342 | ELE | 91,041 | kWh | |
| 1511 | West Campus Library Facility | 68,125 | 004313 | CHW | 742,455 | mBtu | |
| 1511 | West Campus Library Facility | 68,125 | 004318 | HHW | 67,396 | mBtu | |
| 1512 | Southern Crop Improvement Greenhouse | 48,154 | 005931 | ELE | 104,871 | kWh | #, (1) |
| 1513 | Borlaug Center for Southern Crop Improvement | 68,739 | 005802 | ELE | 290,432 | kWh | |
| 1513 | Borlaug Center for Southern Crop Improvement | 68,739 | 005936 | CHW | 1,635,758 | mBtu | |
| 1513 | Borlaug Center for southern Crop Improvement | 68,739 | 005895 | HHW | 120,726 | mBtu | |
| 1518 | TX School of Rural Public Health A | 69,079 | 005273 | ELE | 73,933 | kWh | |
| 1519 | TX School of Rural Public Health B | 24,761 | 005274 | ELE | 51,003 | kWh | #, (1) |
| 1520 | TX School of Rural Public Health C | 13,264 | 005275 | ELE | 107,660 | kWh | #, (1) |
| 1518-1519-1520 | TX School of Rural Public Health A,B,C | 107,104 | 005294 | CHW | 2,039,782 | mBtu | |
| 1518-1519-1520 | TX School of Rural Public Health A,B,C | 107,104 | 005298 | HHW | 193,136 | mBtu | |
| 1525 | Nuclear Magnetic Resonance Facility | 37,282 | 006718 | ELE | 87,067 | kWh | |
| 1525 | Nuclear Magnetic Resonance Facility | 37,282 | 006715 | CHW | 1,223,393 | mBtu | |
| 1525 | Nuclear Magnetic Resonance Facility | 37,282 | 006716 | HHW | 380,134 | mBtu | |
| 1530 | Interdisciplinary Life Sciences Building | 218,540 | 006286 | ELE | 418,652 | kWh | |
| 1530 | Interdisciplinary Life Sciences Building | 218,540 | 006288 | ELE | 215,418 | kWh | |
| 1530 | Interdisciplinary Life Sciences Building | 218,540 | 006290 | CHW | 5,269,627 | mBtu | |
| 1530 | Interdisciplinary Life Sciences Building | 218,540 | 006294 | HHW | 786,246 | mBtu | |
| 1535 | Agriculture and Life Sciences Building | 168,353 | 007205 | ELE | 111,799 | kWh | |
| 1535 | Agriculture and Life Sciences Building | 168,353 | 007206 | CHW | 832,449 | mBtu | |
| 1535 | Agriculture and Life Sciences Building | 168,353 | 007207 | HHW | 20,984 | mBtu | |
| 1536 | AgriLife Services Building | 80,907 | 007571 | ELE | 47,287 | kWh | |
| 1536 | AgriLife Services Building | 80,907 | 007572 | CHW | 329,665 | mBtu | |
| 1536 | AgriLife Services Building | 80,907 | 007573 | HHW | 14,249 | mBtu | |

Table I-1 June 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 | 51,403 | kWh | * |
| 1537 | Agriculture Public Building | 78,480 | 009621 | ELE | 70,952 | kWh | |
| 1537 | Agriculture Public Building | 78,480 | 009622 | CHW | 1,677,842 | mBtu | |
| 1537 | Agriculture Public Building | 78,480 | 009623 | HHW | 275,771 | mBtu | |
| 1538 | Agriculture Program Visitors Center | 12,923 | 007209 | ELE | 14,368 | kWh | |
| 1538 | Agriculture Program Visitors Center | 12,923 | 007210 | CHW | 106,371 | mBtu | |
| 1538 | Agriculture Program Visitors Center | 12,923 | 007211 | HHW | 6,191 | mBtu | |
| 1540 | Physical Education Activity Program Building | 116,900 | 007881 | ELE | 66,056 | kWh | |
| 1540 | Physical Education Activity Program Building | 116,900 | 007878 | CHW | 639,652 | mBtu | |
| 1540 | Physical Education Activity Program Building | 116,900 | 007879 | HHW | 57,995 | mBtu | |
| 1542 | Human Clinical Research Building | 22,052 | 009693 | ELE | 53,507 | kWh | |
| 1542 | Human Clinical Research Building | 22,052 | 009683 | CHW | 698,559 | mBtu | |
| 1542 | Human Clinical Research Building | 22,052 | 009687 | HHW | 68,604 | mBtu | |
| 1544 | Cain Garage | 498,425 | 009824 | ELE | 43,815 | kWh | (2) |
| 1550 | Olsen Field at Bluebell Park | 60,537 | 007560 | ELE | 124,297 | kWh | |
| 1554 | Reed Arena | 230,000 | 007582 | ELE | 166,436 | kWh | |
| 1554 | Reed Arena | 230,000 | 006243 | ELE | 858 | kWh | * |
| 1554 | Reed Arena | 230,000 | 006244 | ELE | 83,037 | kWh | * |
| 1554-1558 | Reed Arena and Cox-McFerrin Center | 328,185 | 007576 | CHW | 2,711,594 | mBtu | |
| 1554-1558 | Reed Arena and Cox-McFerrin Center | 328,185 | 007578 | HHW | 498,871 | mBtu | |
| 1558 | Cox-McFerrin Center for Aggie Basketball | 98,185 | 007581 | ELE | 91,406 | kWh | |
| 1558 | Cox-McFerrin Center for Aggie Basketball | 98,185 | 007575 | CHW | 650,772 | mBtu | |
| 1558 | Cox-McFerrin Center for Aggie Basketball | 98,185 | 007577 | HHW | 102,101 | mBtu | (2) |
| 1559 | West Campus Parking Garage | 1,541,457 | 001453 | ELE | 154,148 | kWh | |
| 1559 | West Campus Parking Garage | 13,000 | 004322 | CHW | 89,750 | mBtu | #, (1) |
| 1559 | West Campus Parking Garage | 13,000 | 004327 | HHW | 4,325 | mBtu | |
| 1560 | Student Recreation Center | 334,642 | 000363 | ELE | 356,914 | kWh | |
| 1560 | Student Recreation Center | 334,642 | 000366 | ELE | 425,437 | kWh | |
| 1560 | Student Recreation Center | 334,642 | 002933 | CHW | 6,155,535 | mBtu | |
| 1560 | Student Recreation Center | 334,642 | 002937 | HHW | 891,041 | mBtu | |
| 1589-1590 | White Creek Apartment 1 and White Creek Apts Activity Center | 176,454 | 009197 | ELE | 68,381 | kWh | |
| 1589-1590 | White Creek Apartment 1 and White Creek Apts Activity Center | 176,454 | 009198 | CHW | 615,032 | mBtu | |
| 1589-1590 | White Creek Apartment 1 and White Creek Apts Activity Center | 176,454 | 009199 | HHW | 49,822 | mBtu | |
| 1591 | White Creek Apartment 2 | 179,467 | 008528 | ELE | 76,074 | kWh | |
| 1591 | White Creek Apartment 2 | 179,467 | 008529 | CHW | 530,952 | mBtu | |
| 1591 | White Creek Apartment 2 | 179,467 | 008533 | HHW | 55,358 | mBtu | |
| 1592 | White Creek Apartment 3 | 179,467 | 008538 | ELE | 74,690 | kWh | |
| 1592 | White Creek Apartment 3 | 179,467 | 008539 | CHW | 618,414 | mBtu | |
| 1592 | White Creek Apartment 3 | 179,467 | 008543 | HHW | 47,858 | mBtu | |
| 1600 | Gilchrist TTI Building | 67,143 | 005286 | ELE | 51,942 | kWh | * |
| 1600 | Gilchrist TTI Building | 67,143 | 002649 | CHW | 477,528 | mBtu | |
| 1600 | Gilchrist TTI Building | 67,143 | 002653 | HHW | 23,054 | mBtu | |
| 1601 | International Ocean Discovery Building | 86,576 | 006351 | ELE | 120,376 | kWh | (2) |
| 1601 | International Ocean Discovery Building | 86,576 | 006382 | CHW | 294,785 | mBtu | (2) |
| 1601 | International Ocean Discovery Building | 86,576 | 008144 | CHW | 74,406 | mBtu | (2) |
| 1601 | International Ocean Discovery Building | 86,576 | 008145 | HHW | 10,137 | mBtu | (2) |
| 1601 | International Ocean Discovery Building | 86,576 | 009829 | HHW | 32,367 | mBtu | (2) |
| 1604 | Offshore Technology Research Center | 40,014 | 006659 | ELE | 92,168 | kWh | |
| 1604 | Offshore Technology Research Center | 40,014 | 006660 | ELE | 0 | kWh | (2) |
| 1604 | Offshore Technology Research Center | 40,014 | 008142 | CHW | 612,773 | mBtu | |
| 1604 | Offshore Technology Research Center | 40,014 | 008143 | HHW | 99,975 | mBtu | |
| 1606 | George Bush Presidential Library & Museum | 121,678 | 000244 | ELE | 114,808 | kWh | |
| 1606 | George Bush Presidential Library & Museum | 121,678 | 002808 | CHW | 1,576,254 | mBtu | |
| 1606 | George Bush Presidential Library & Museum | 121,678 | 002812 | HHW | 323,812 | mBtu | #, (1) |
| 1607 | Allen Building | 133,327 | 000243 | ELE | 88,228 | kWh | |
| 1607 | Allen Building | 133,327 | 002800 | CHW | 715,003 | mBtu | |
| 1607 | Allen Building | 133,327 | 002804 | HHW | 27,465 | mBtu | |
| 1608 | Annenberg Presidential Conference Center | 65,688 | 000245 | ELE | 65,897 | kWh | #, (1) |
| 1608 | Annenberg Presidential Conference Center | 65,688 | 002761 | CHW | 886,911 | mBtu | |
| 1608 | Annenberg Presidential Conference Center | 65,688 | 002765 | HHW | 196,605 | mBtu | |
| 1609 | TTI Headquarters | 66,707 | 006495 | ELE | 50,891 | kWh | |
| 1609 | TTI Headquarters | 66,707 | 006496 | CHW | 438,347 | mBtu | |
| 1609 | TTI Headquarters | 66,707 | 006497 | HHW | 16,413 | mBtu | |
| 1611 | Engineering Research Building | 68,807 | 008462 | ELE | 156,984 | kWh | |
| 1611 | Engineering Research Building | 68,807 | 008463 | CHW | 2,021,900 | mBtu | |
| 1611 | Engineering Research Building | 68,807 | 008467 | HHW | 309,621 | mBtu | |
| 1800 | General Services Complex | 203,369 | 005441 | ELE | 180,882 | kWh | |
| 1800 | General Services Complex | 203,369 | 005468 | CHW | 1,116,219 | mBtu | |
| 1800 | General Services Complex | 203,369 | 005472 | HHW | 39,008 | 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 | 4,273,347 | mBtu | |
| 1810 | Office of the State Chemist Building | 31,735 | 009073 | ELE | 64,249 | kWh | |
| 1810 | Office of the State Chemist Building | 31,735 | 005460 | CHW | 729,259 | mBtu | |
| 1810 | Office of the State Chemist Building | 31,735 | 005464 | HHW | 70,298 | mBtu | |

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

| TAMU# | Building Name | Area (ft ²) | MeterID | Type | Monthly Consumption | Units | Comments |
|----------------|--|-------------------------|---------|------|---------------------|-------|----------|
| 1811 | Vet Med Research Bldg Addition | 52,993 | 006705 | ELE | 228,857 | kWh | |
| 1811 | Vet Med Research Bldg Addition | 52,993 | 006706 | CHW | 1,962,480 | mBtu | * |
| 1811 | Vet Med Research Bldg Addition | 52,993 | 006707 | HHW | 321,519 | mBtu | |
| 1812-1813 | Veterinary Medicine Building 1 and 2 | 254,952 | 009404 | ELE | 172,234 | kWh | |
| 1813 | Veterinary Medicine Building 2 | 116,492 | 009418 | ELE | 2,122 | kWh | * |
| 1814 | Veterinary Medicine Building 3 | 135,470 | 009405 | ELE | 282,778 | kWh | |
| 1812-1813-1814 | Veterinary Medicine Building 1, 2 and 3 | 390,422 | 009676 | CHW | 5,627,992 | mBtu | |
| 1812-1813-1814 | Veterinary Medicine Building 1, 2 and 3 | 390,422 | 009410 | HHW | 550,109 | mBtu | |
| 1900 | Texas Institute for Genomic Medicine | 34,120 | 005548 | ELE | 85,096 | kWh | |
| 1900 | Texas Institute for Genomic Medicine | 34,120 | 005545 | CHW | 2,037,270 | mBtu | |
| 1900 | Texas Institute for Genomic Medicine | 34,120 | 005546 | HHW | 294,264 | mBtu | |
| 1904 | Texas A&M Institute for Preclinical Studies A | 113,559 | 006364 | ELE | 216,600 | kWh | |
| 1904 | Texas A&M Institute for Preclinical Studies A | 113,559 | 006365 | CHW | 2,533,842 | mBtu | |
| 1904 | Texas A&M Institute for Preclinical Studies A | 113,559 | 006366 | HHW | 325,710 | mBtu | |
| 1910 | National Center for Therapeutics Manufacturing | 149,924 | 007517 | ELE | 195,276 | kWh | |
| 1910 | National Center for Therapeutics Manufacturing | 149,924 | 007518 | ELE | 169,928 | kWh | |
| 1910 | National Center for Therapeutics Manufacturing | 149,924 | 007519 | CHW | 5,384,002 | mBtu | |
| 1910 | National Center for Therapeutics Manufacturing | 149,924 | 007520 | HHW | 859,693 | mBtu | |
| 1911 | Multi-Species Research Building | 21,000 | 009138 | ELE | 25,086 | kWh | |
| 1911 | Multi-Species Research Building | 21,000 | 009129 | CHW | 505,548 | mBtu | |
| 1911 | Multi-Species Research Building | 21,000 | 009133 | HHW | 161,768 | mBtu | |
| 10226 | NCTM Manufacturing Building | 113,397 | 007648 | CHW | 4,520,861 | mBtu | |
| 10226 | NCTM Manufacturing Building | 113,397 | 007649 | HHW | 619,498 | mBtu | |
| 10226 | NCTM Manufacturing Building | 113,397 | 008133 | HHW | 209,471 | mBtu | |

1 mBtu = 1 000 Btu

NA: Not available
 Monthly consumption in blue: modified 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

II-2 Meters with Estimated Consumption for Problematic Data

During the month of June 2017, 58 meters in 41 buildings have estimated daily consumption because the recorded consumption is found to be problematic or questionable. For each of these meters, alternative consumption has been estimated using the best possible method. Table II-2 lists these meters with indications of the days with estimated data. Detailed descriptions for individual cases follow.

Notes: The colored cells means the consumption for the day appears to be problematic. The letter in the colored cell indicates the method for estimation. M: model, F: multiplication factor, L: linear interpolation, A: average, and C: correction of the reset cumulative reading

Liberal Arts and Arts & Humanities Building (TAMU Bldg #275)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| HHW | 007717 | 30 | 6/1/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|---------------------|
| HHW | The consumption level is lower than the level during the past year. | 3/15/2017 – ongoing |

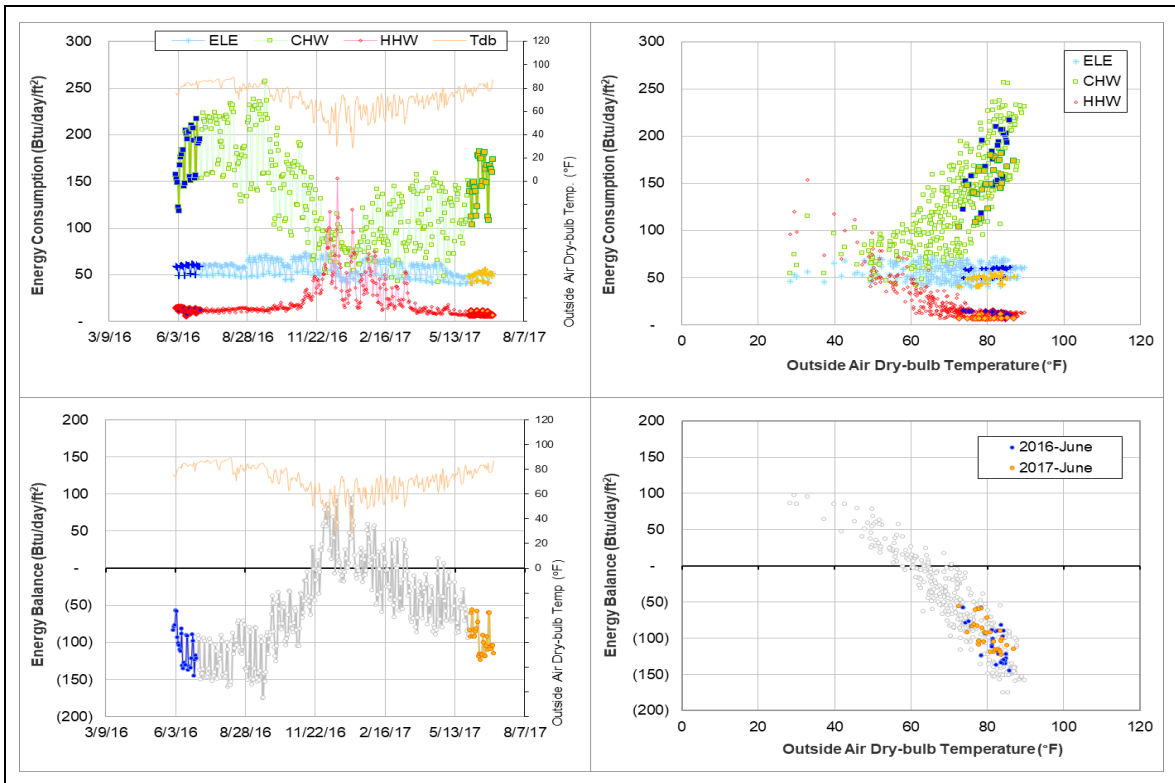
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|---------------------|-----------|-------------|
| HHW | 007717 | 3/15/2017 – ongoing | Flow rate | Decreased |

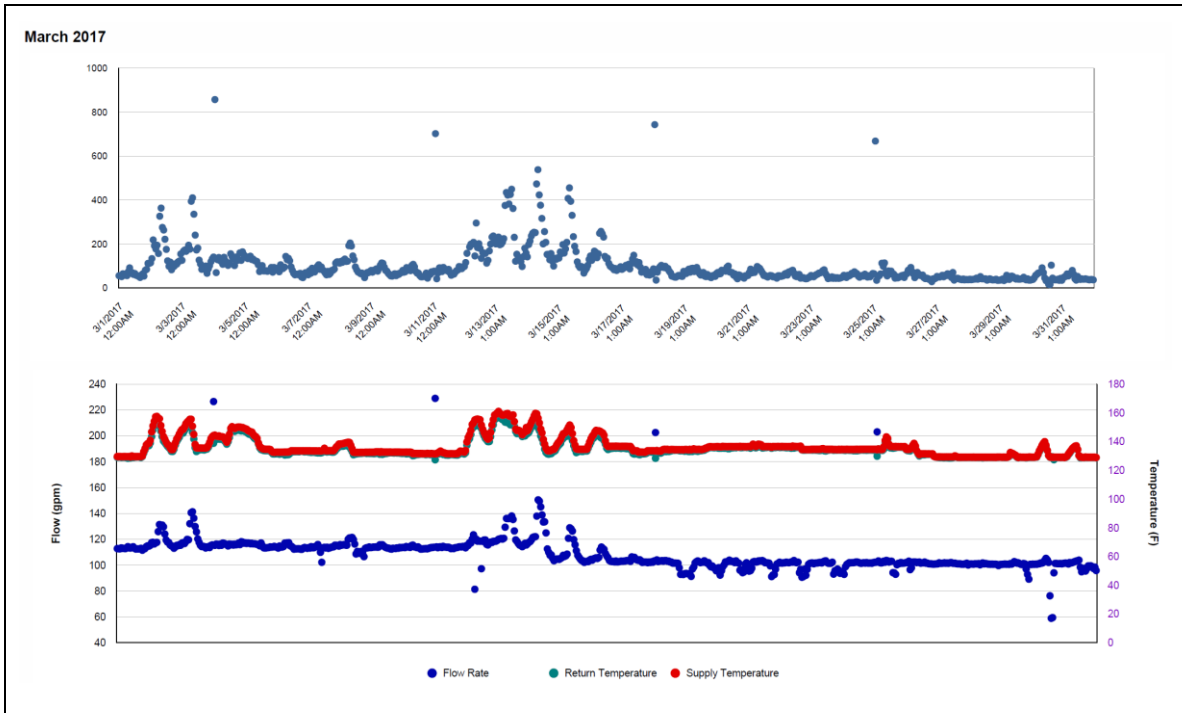
Quantitative descriptions and comments

The HHW flow rate was consistently around 120 gpm however on 3/15/2017 the flow rate decreased to about 100 gpm. The flow rate continued to gradually drop during April 2017 and May 2017 to less than 10 gpm. The HHW delta-T was low, around 1-2°F, since the data became available. It increased slightly in the middle of May 2017 when the flow rate decreased. The whole month is estimated using a model.

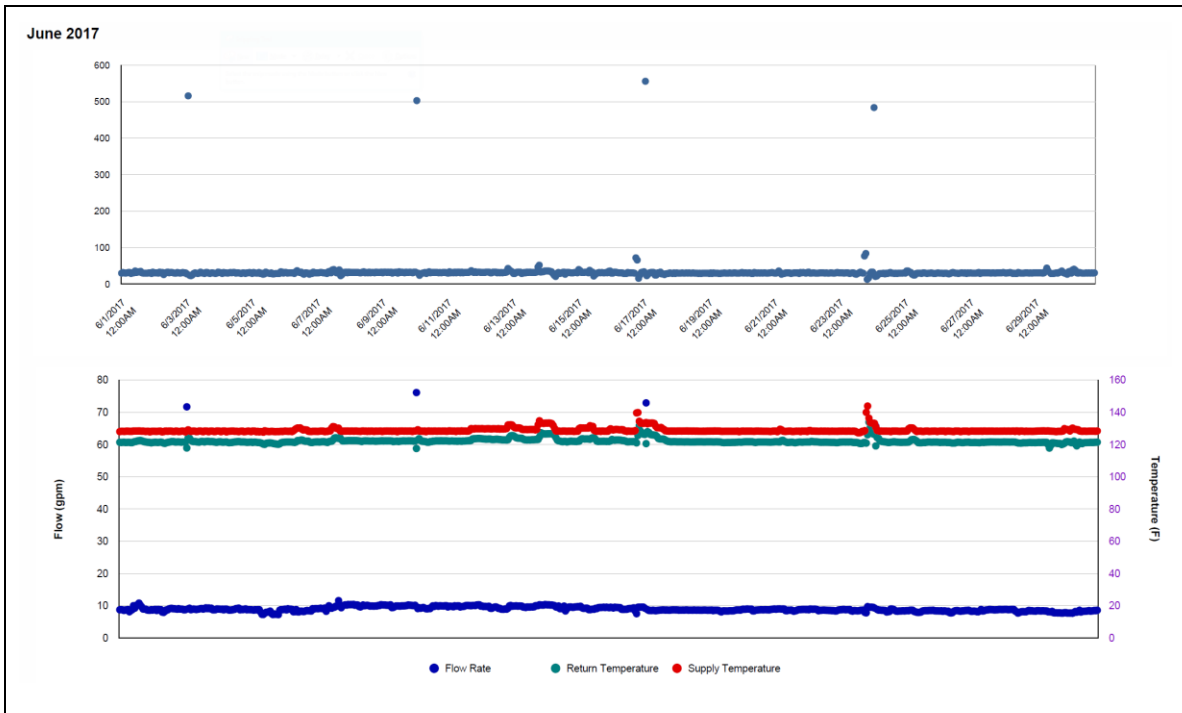
Explanatory Figure: 13 months energy balance plot with original data.



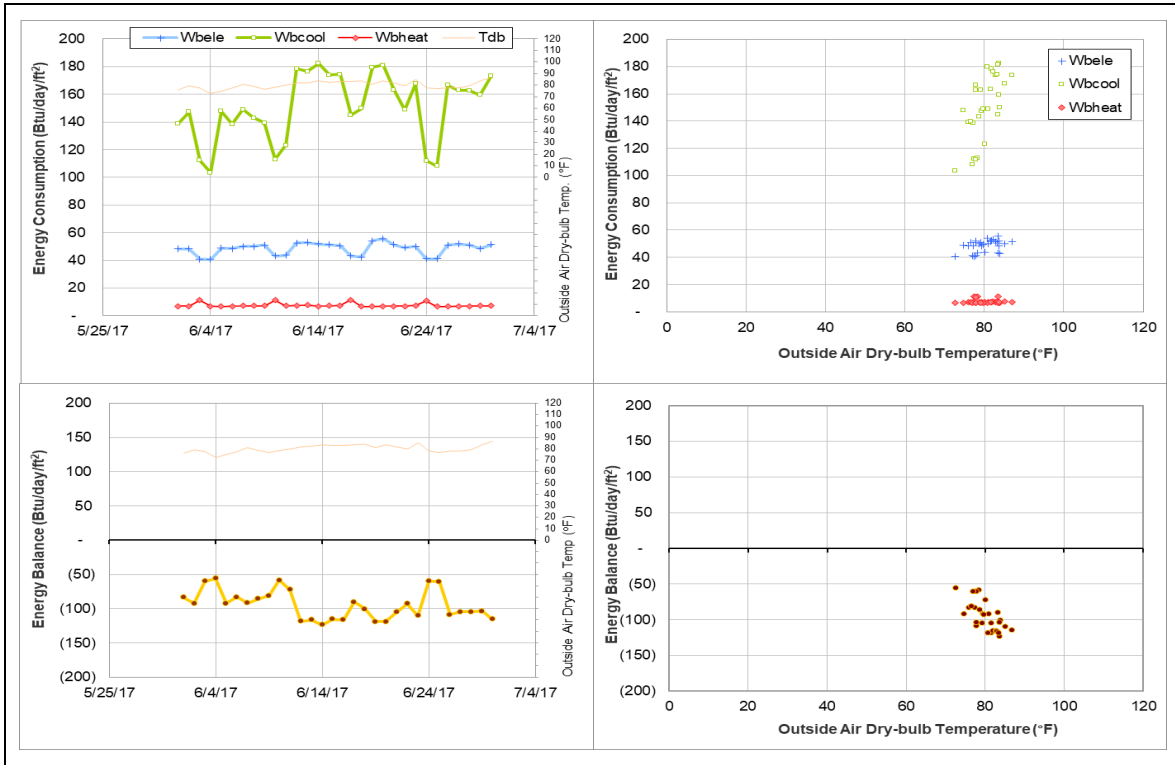
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during March 2017)



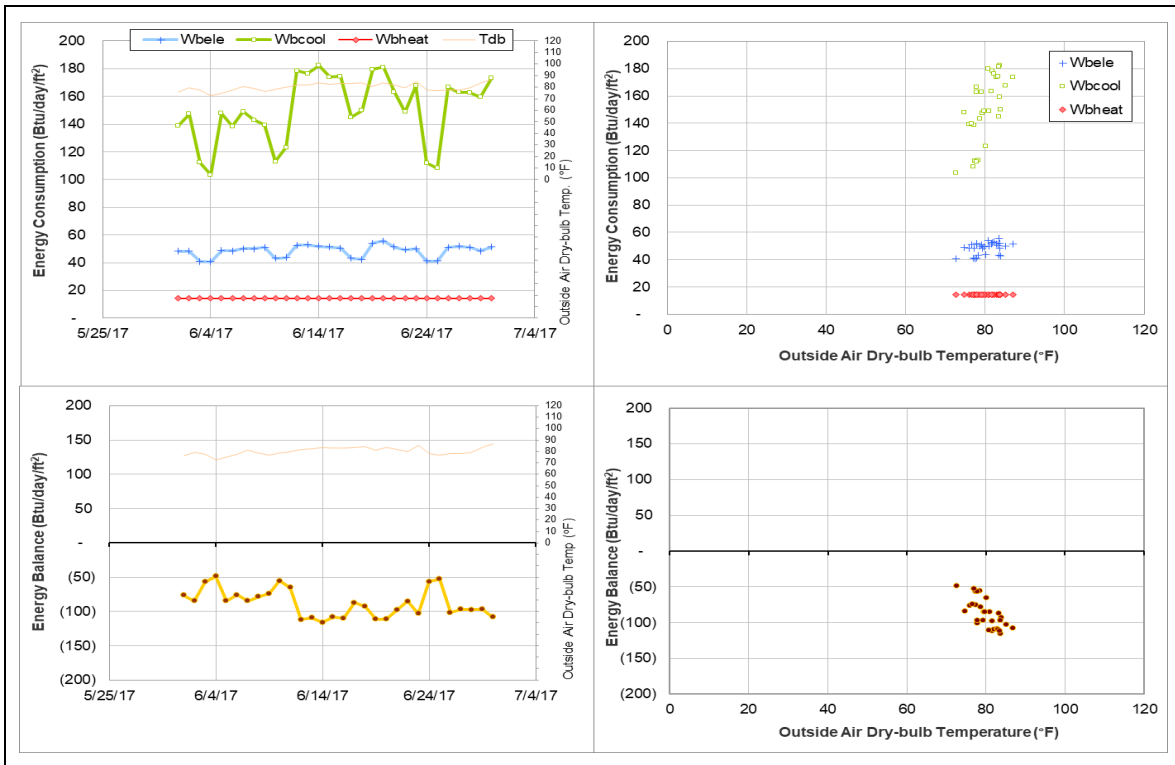
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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.



Appelt Residence Hall (TAMU Bldg #293)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|-----------------------|-------------------|
| CHW | 002062 | 5 | 6/26/2017 – 6/30/2017 | Model |
| HHW | 002066 | 5 | 6/26/2017 – 6/30/2017 | 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. | 6/26/2017 – 6/30/2017 |
| HHW | The consumption dropped for a short period. | 6/26/2017 – 6/30/2017 |

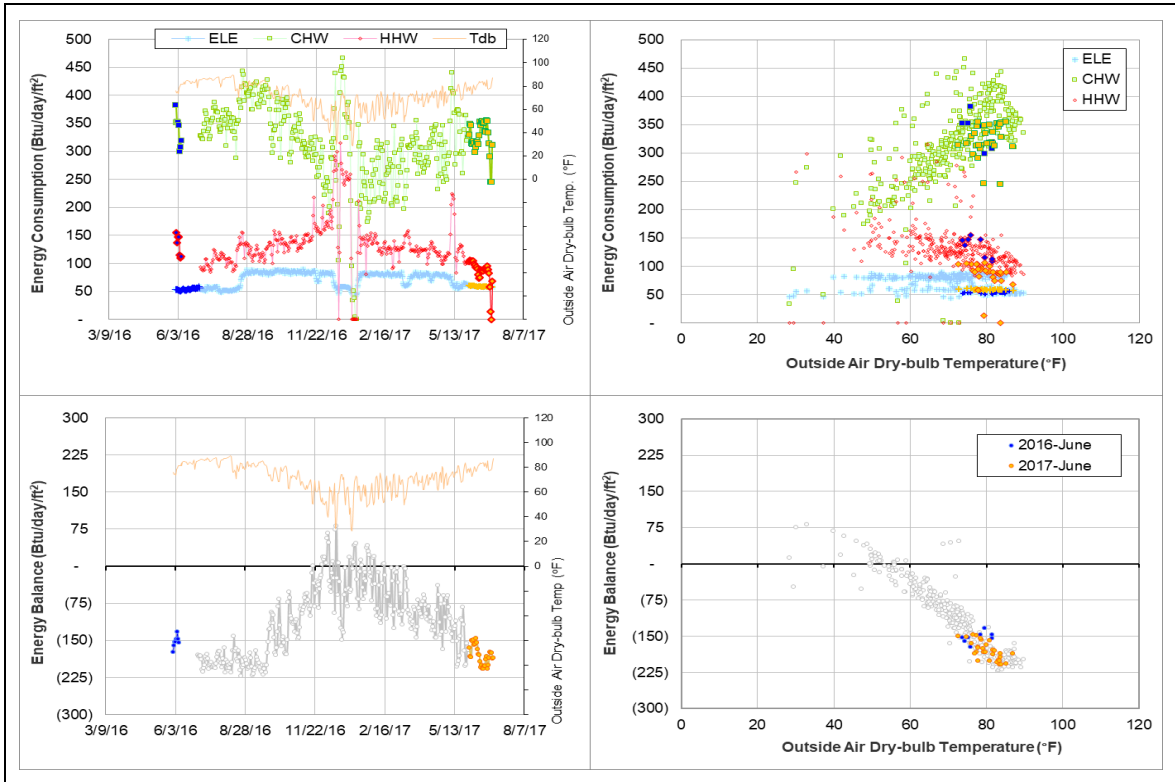
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|-------------|
| CHW | 002062 | 6/26/2017 – 6/30/2017 | Flow rate | Decreased |
| HHW | 002066 | 6/26/2017 – 6/30/2017 | Flow rate | Decreased |

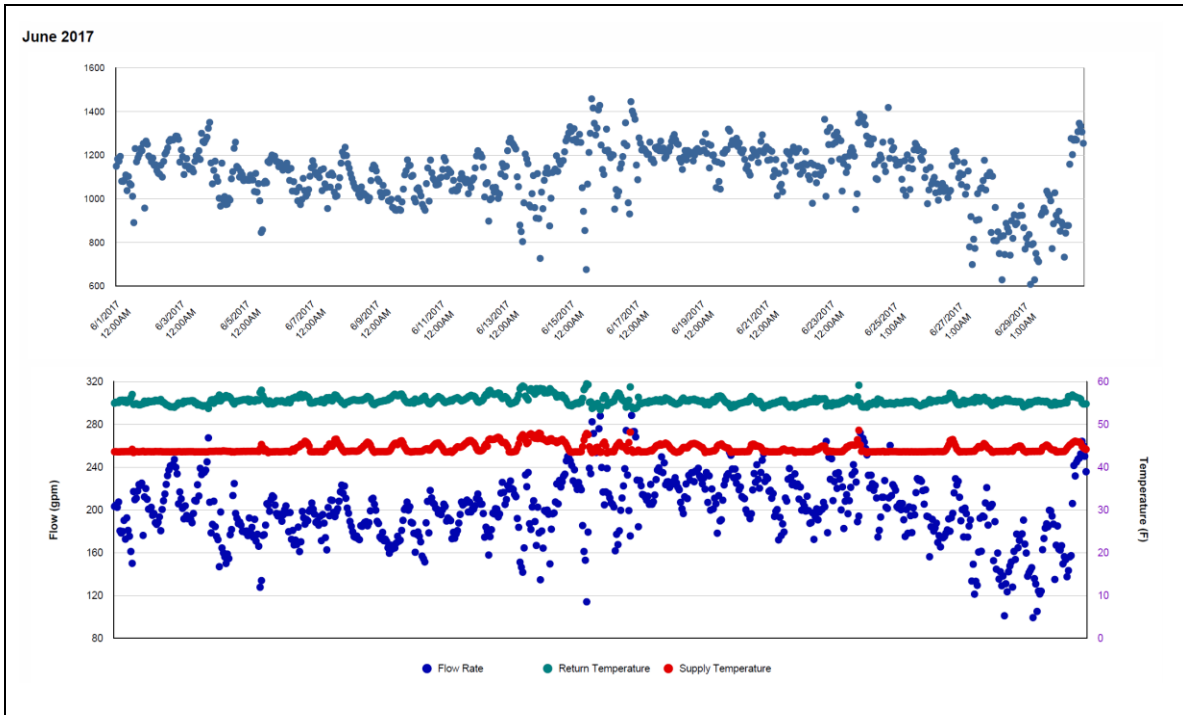
Quantitative descriptions and comments

The HHW flow rate decreased from 6/26/2017 – 6/30/2017 causing the consumption to decrease. The CHW consumption decreased from 6/26/2017 – 6/30/2017 due to a decrease in flow rate. Both CHW and HHW are estimated by model for the specified days. See also section II-3.

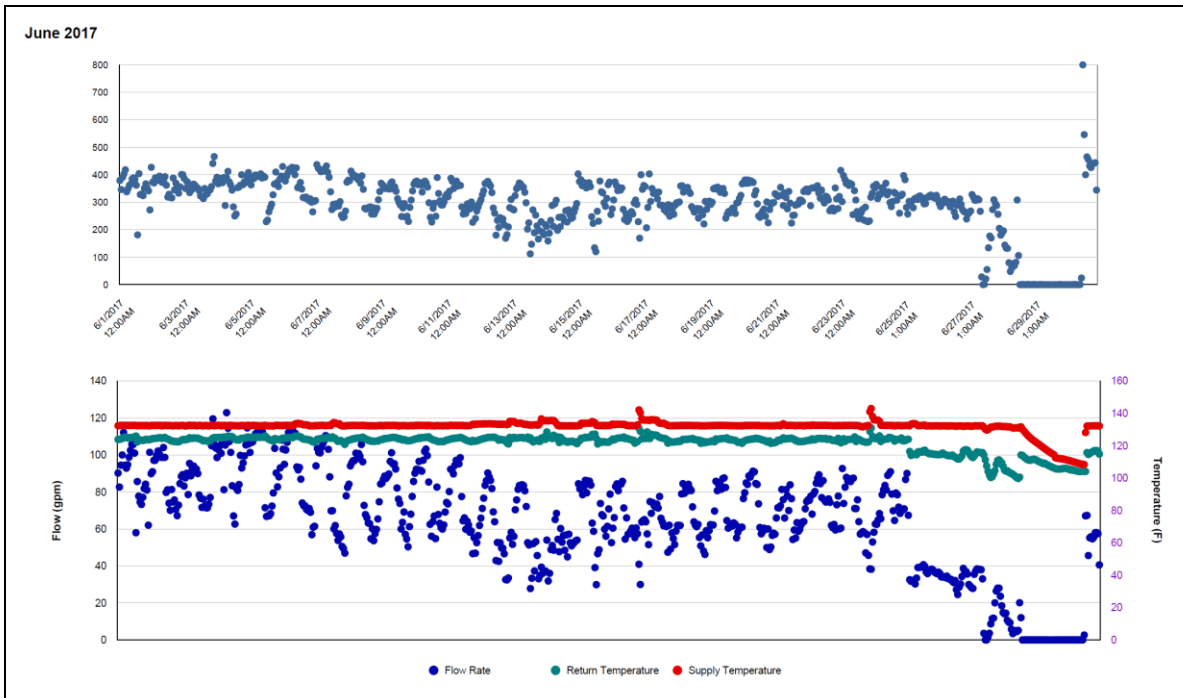
Explanatory Figure: 13 months energy balance plot with original data.



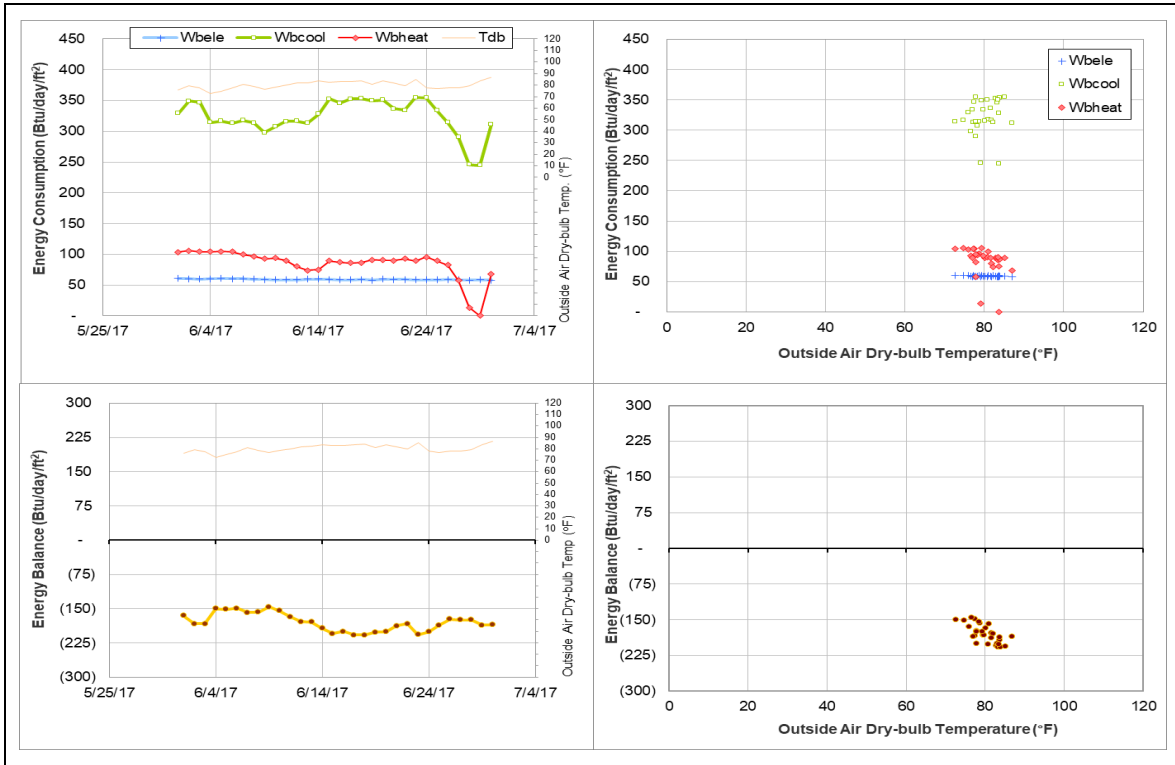
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during June 2017)



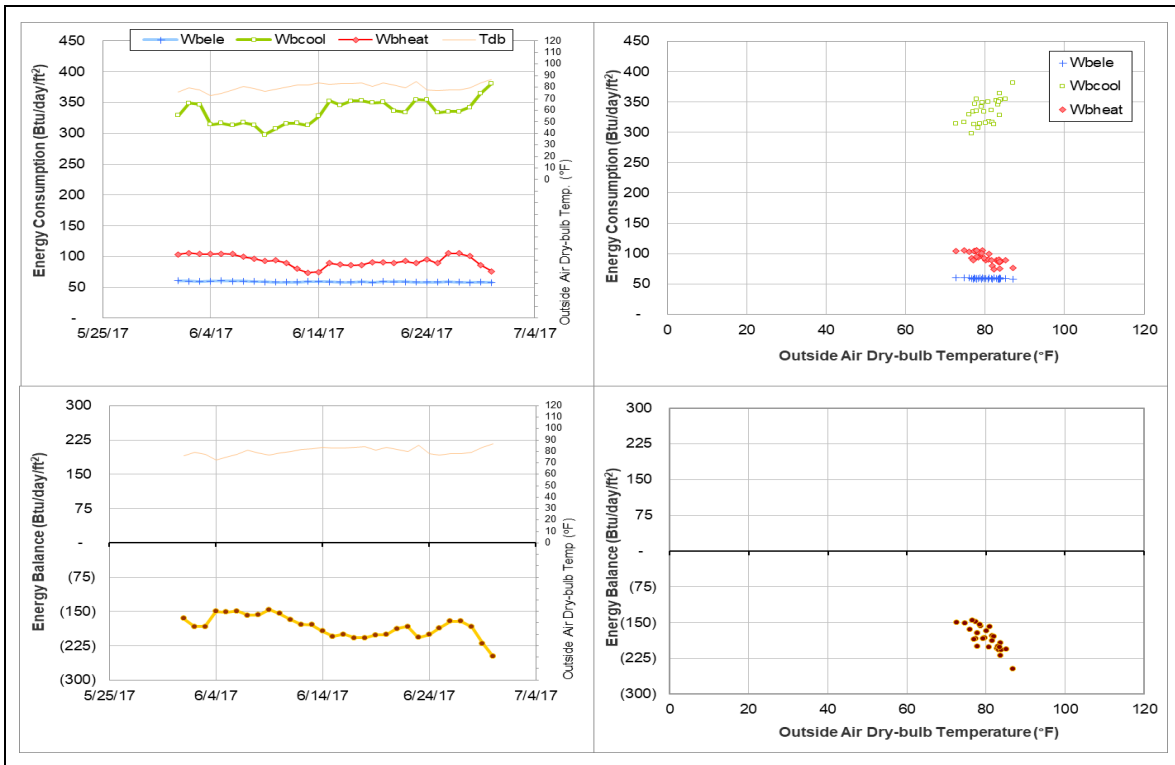
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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.



Lechner Residence Hall (TAMU Bldg #294)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| CHW | 002285 | 30 | 6/1/2017 – 6/30/2017 | Model |
| HHW | 002289 | 30 | 6/1/2017 – 6/30/2017 | Model |

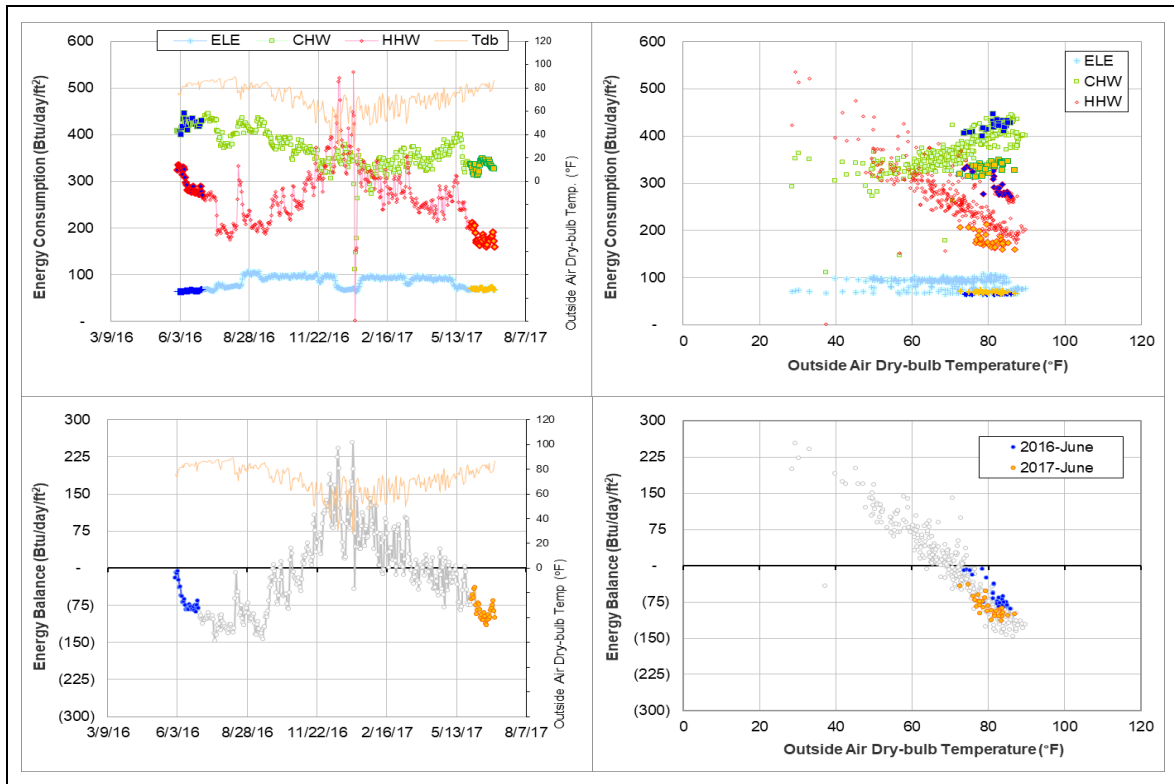
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-----------|---|-----------------------|
| CHW | The consumption level is lower than the level during the past year. | 5/21/2017 – 6/30/2017 |
| HHW | The consumption level is lower than the level during the past year. | 5/26/2017 – 6/30/2017 |

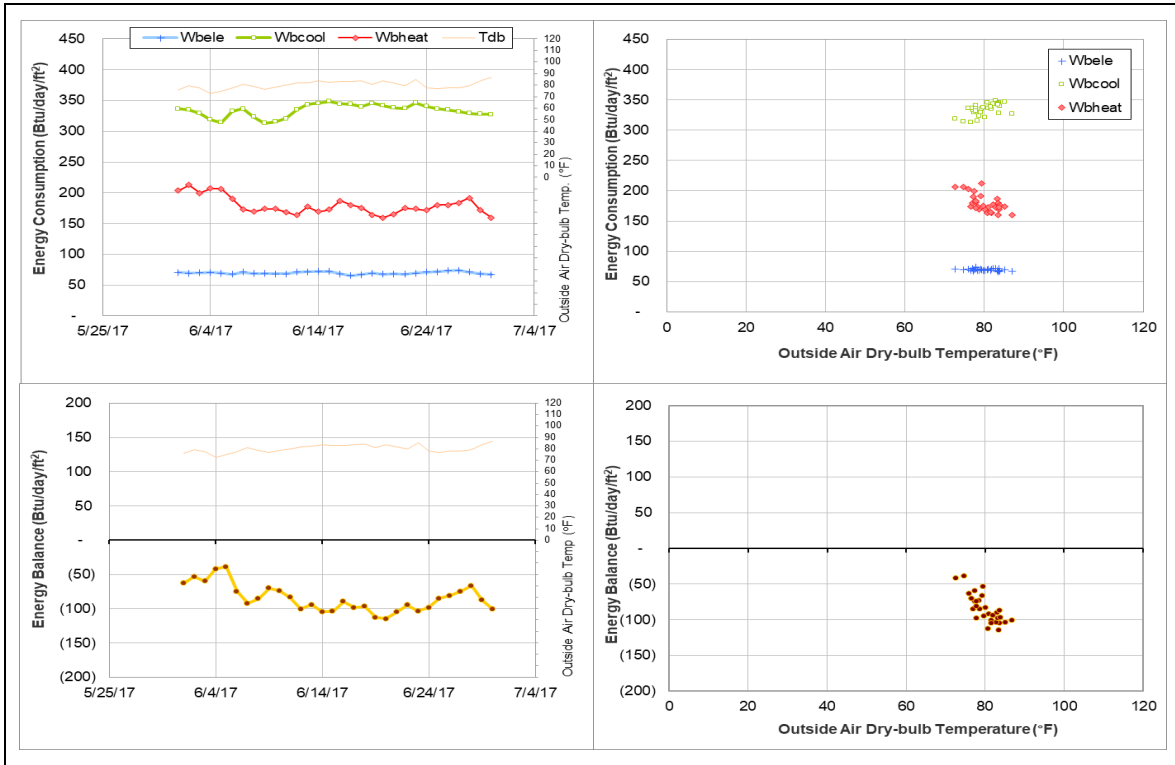
Quantitative descriptions and comments

The CHW consumption level is about 100 Btu/day/ft² lower than the previous year starting around 5/21/2017. The HHW consumption level is also about 100 Btu/day/ft² lower than the previous year starting around 5/26/2017. No obvious sensor reading behavior anomaly is observed. Both CHW and HHW are estimated by model for the whole month.

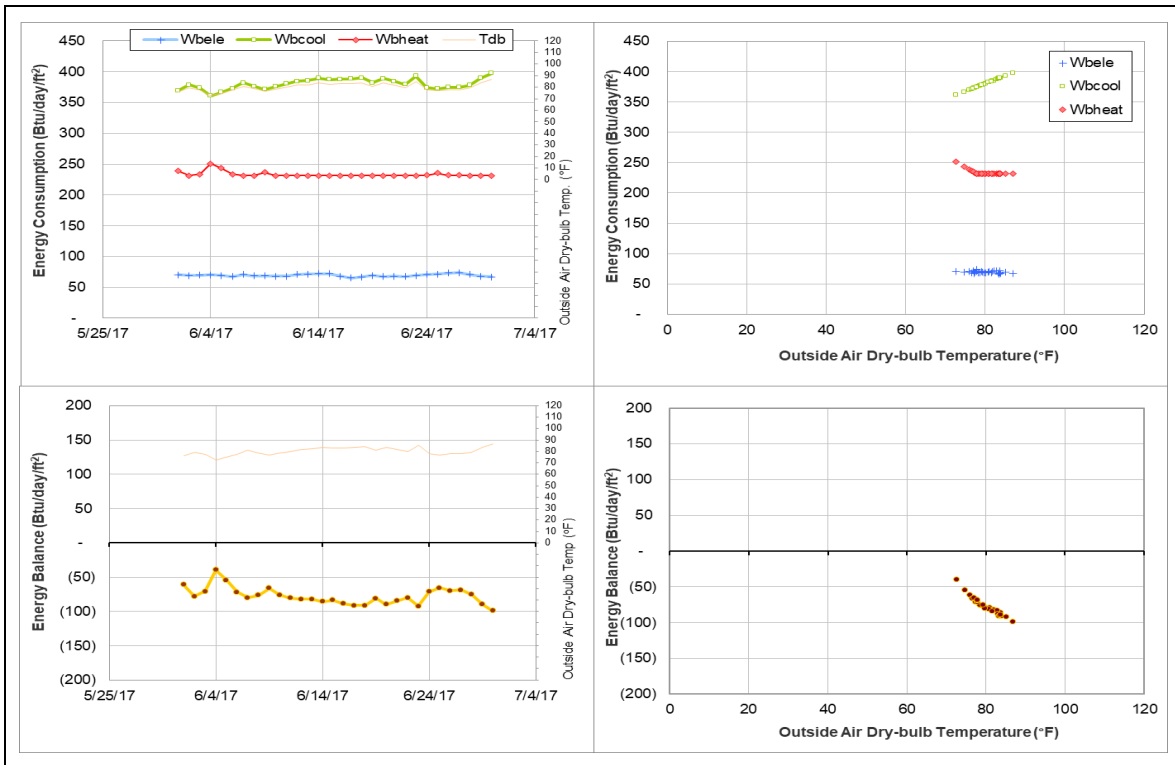
Explanatory Figure: 13 months energy balance plot with original data.



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.



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

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| CHW | 009123 | 30 | 6/1/2017 – 6/30/2017 | Model |

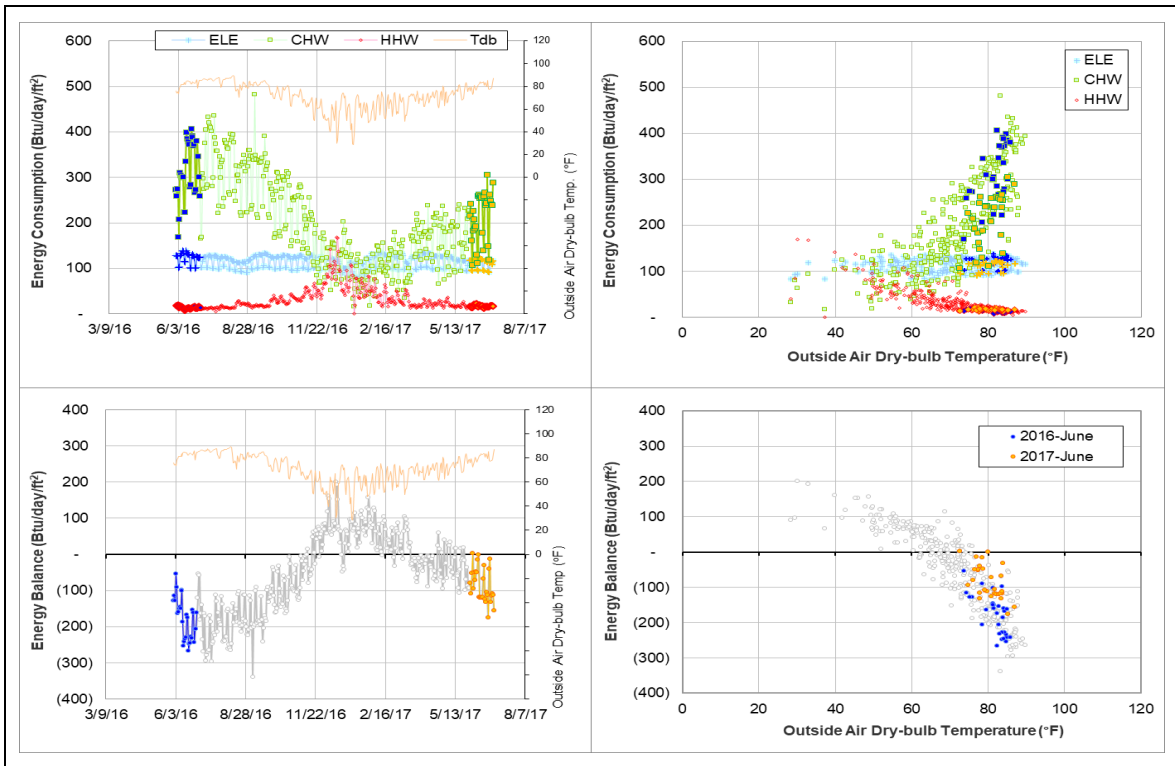
Detected issues in the energy balance and/or the consumption data

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

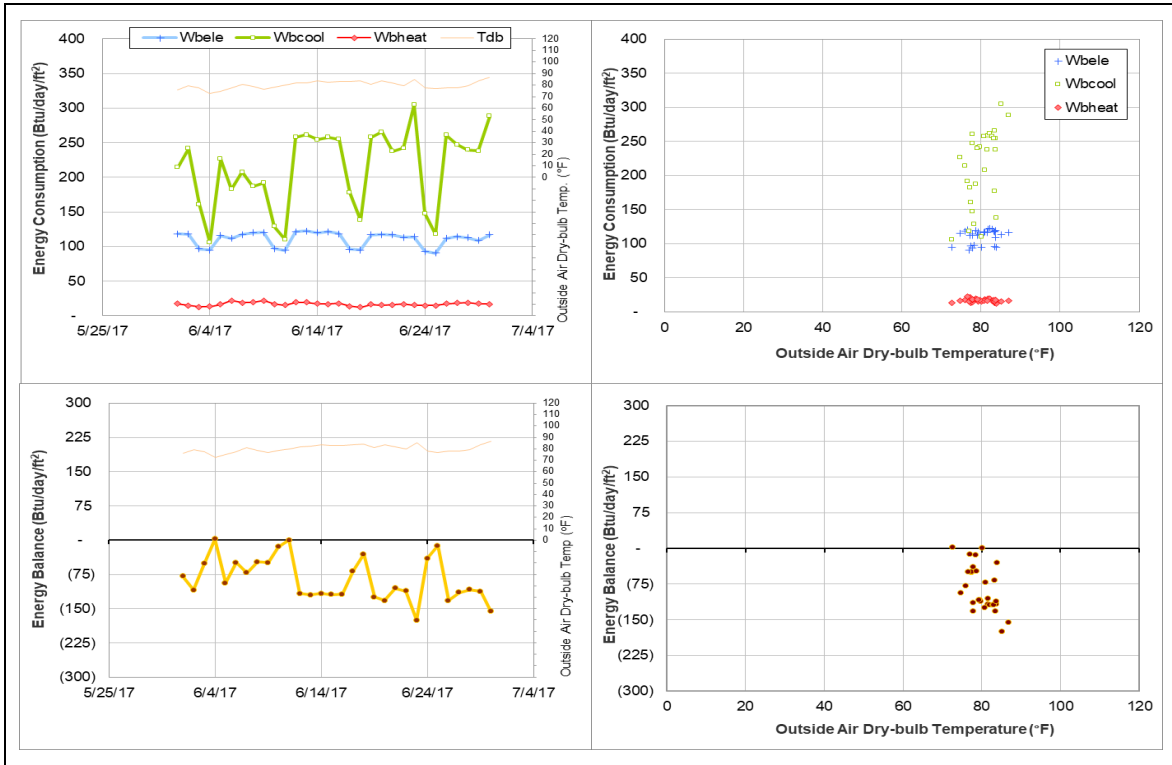
Quantitative descriptions and comments

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.

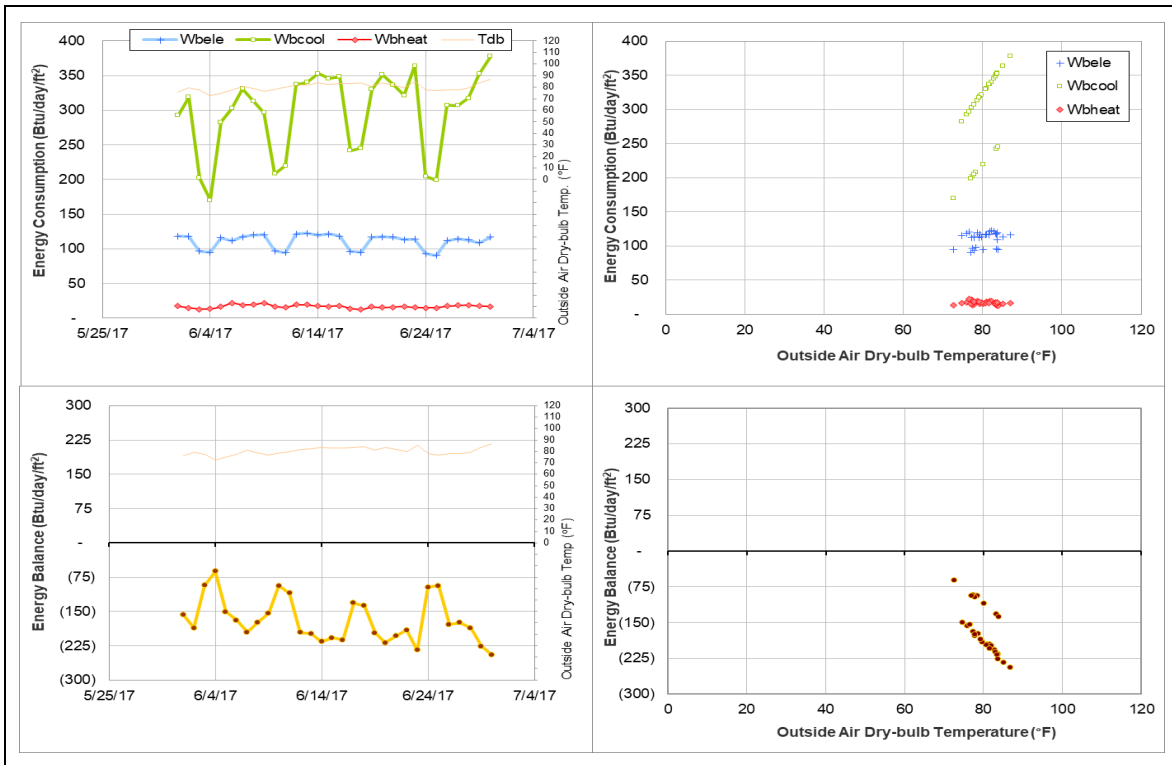
Explanatory Figure: 13 months energy balance plot with original data.



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 | 30 | 6/1/2017 – 6/30/2017 | 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 – ongoing |

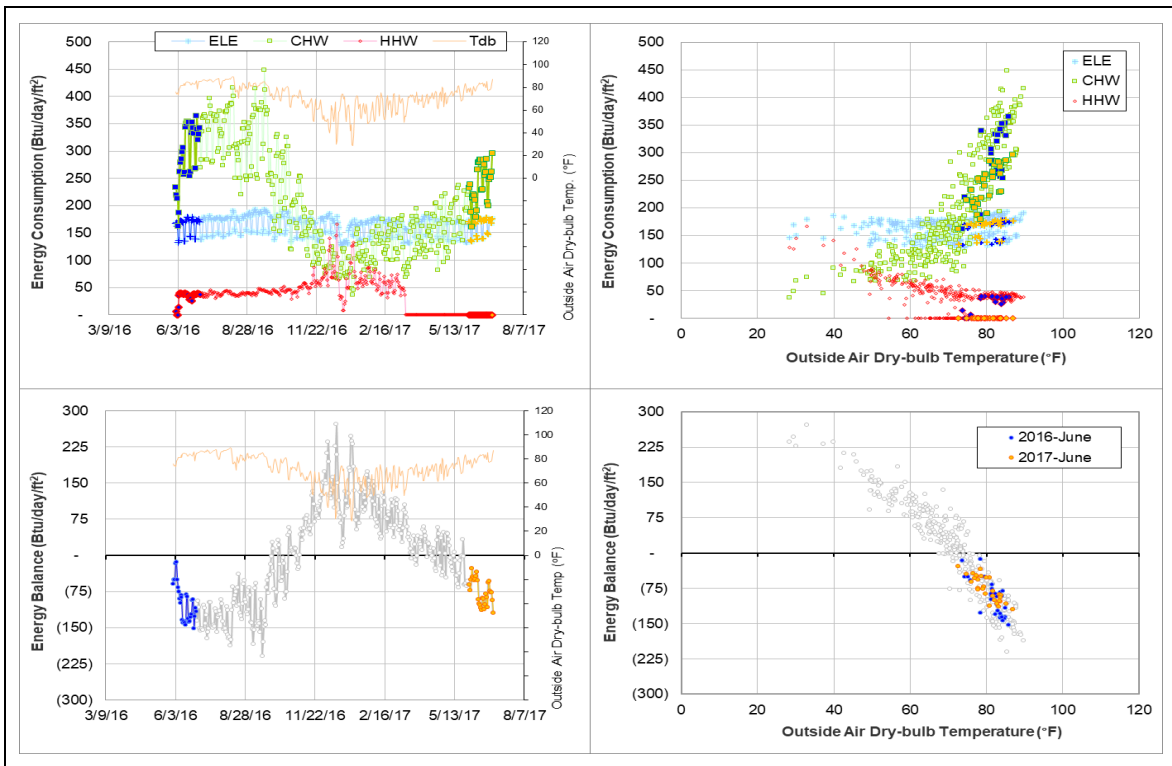
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|--|-----------|-------------|
| HHW | 002874 | 3/8/2017, 3/12/2017 – 6/30/2017 | Flow rate | Near zero |
| | | 3/14/2017 – 4/13/2017, 4/21/2017 – 4/30/2017 | Delta-T | Zero |

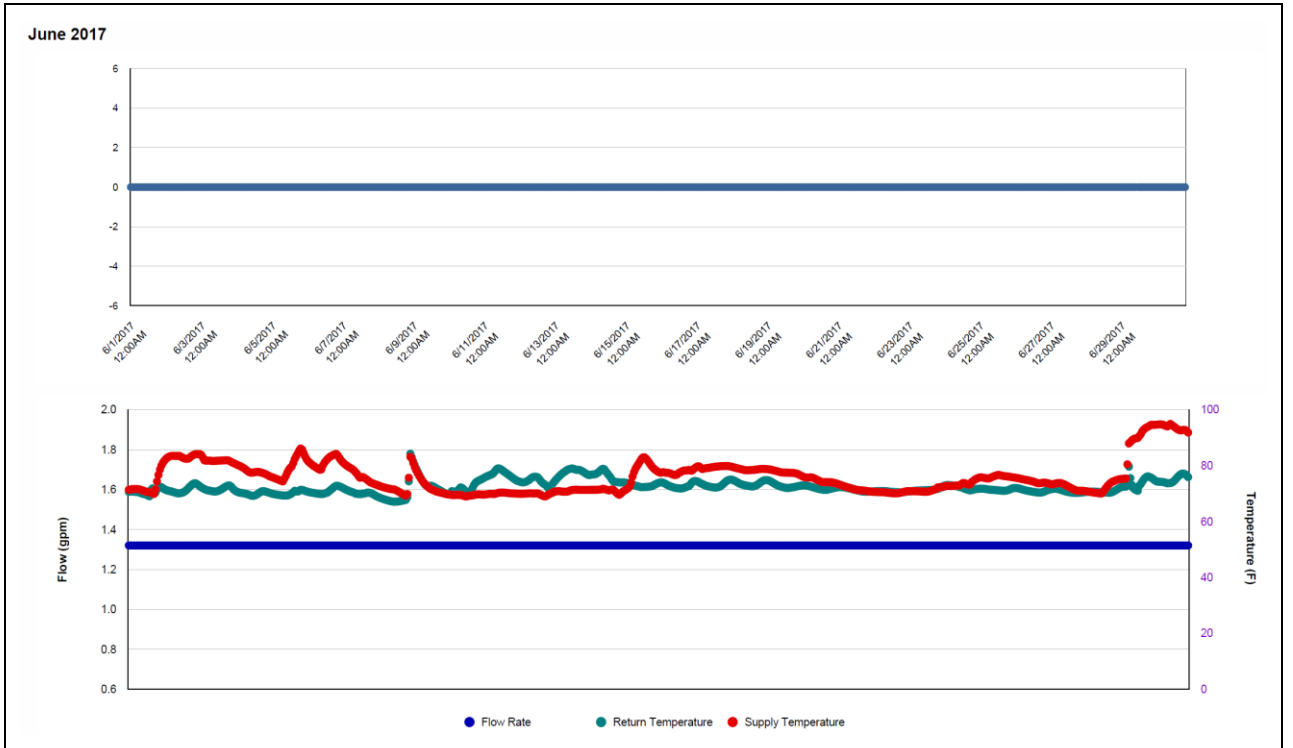
Quantitative descriptions and comments

The HHW consumption dropped to zero on part of 3/8/2017 as well as 3/12/2017 – 6/30/2017 due to a flow rate near zero. The delta T was zero from 3/14/2017 – 4/13/2017 and 4/21/2017 – 4/30/2017. The consumption was estimated by model for the whole month of June.

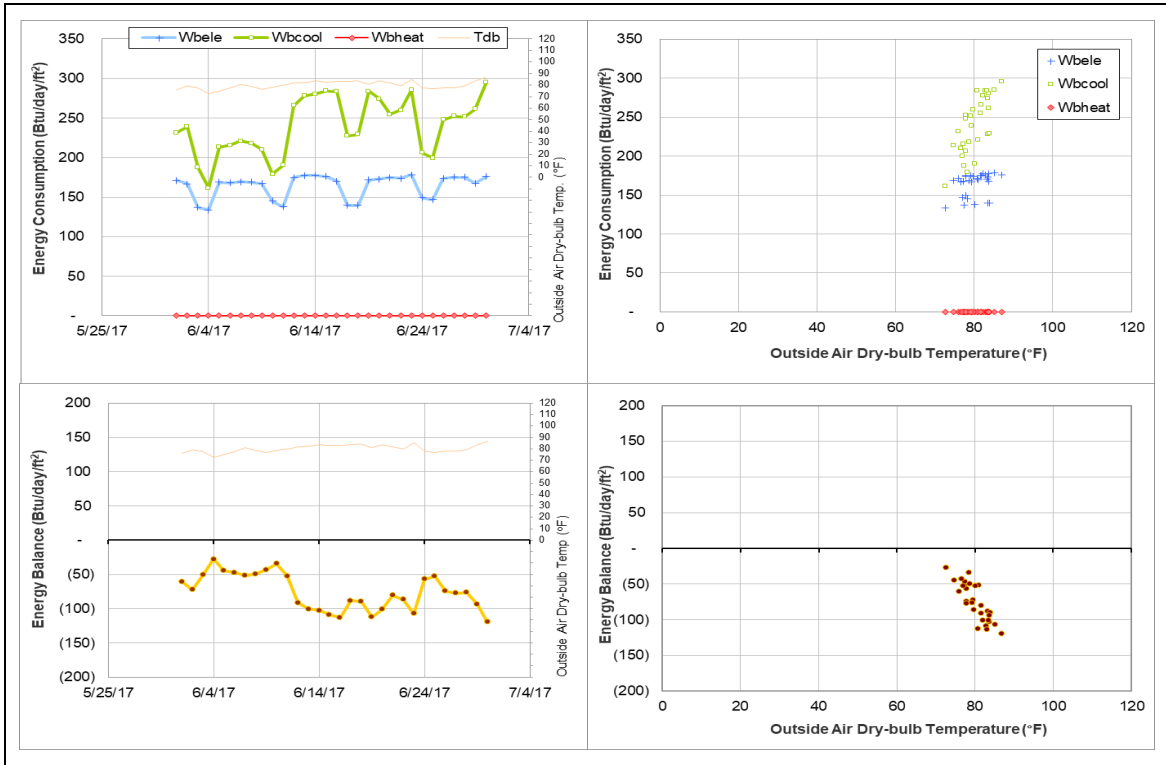
Explanatory Figure: 13 months energy balance plot with original data.



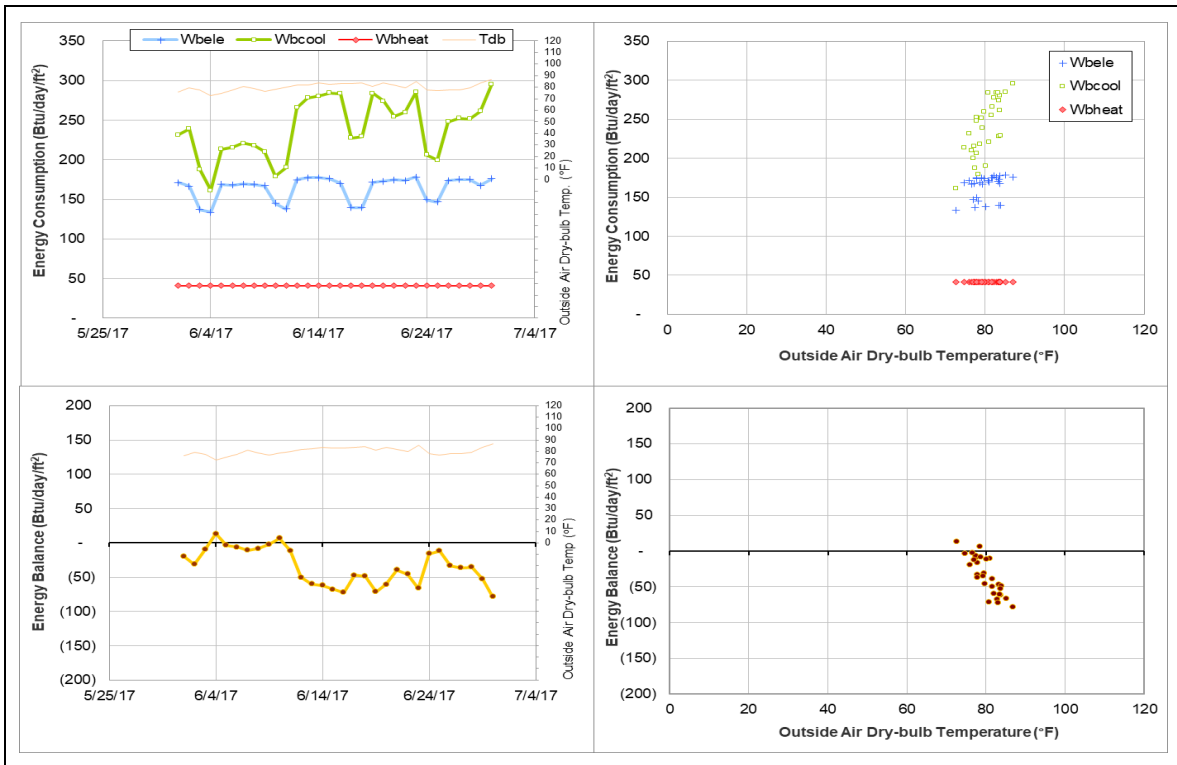
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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.



Underwood Residence Hall (TAMU Bldg #394)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|--|-------------------|
| CHW | 002117 | 6 | 6/16/2017 – 6/21/2017 | Model |
| HHW | 002121 | 9 | 6/17/2017 – 6/22/2017 6/28/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|-----------------------|
| CHW | Scattering data are observed. | 6/16/2017 – 6/21/2017 |
| HHW | Scattering data are observed. | 6/17/2017 – 6/22/2017 |
| | The consumption dropped for a short period. | 6/28/2017 – 6/30/2017 |

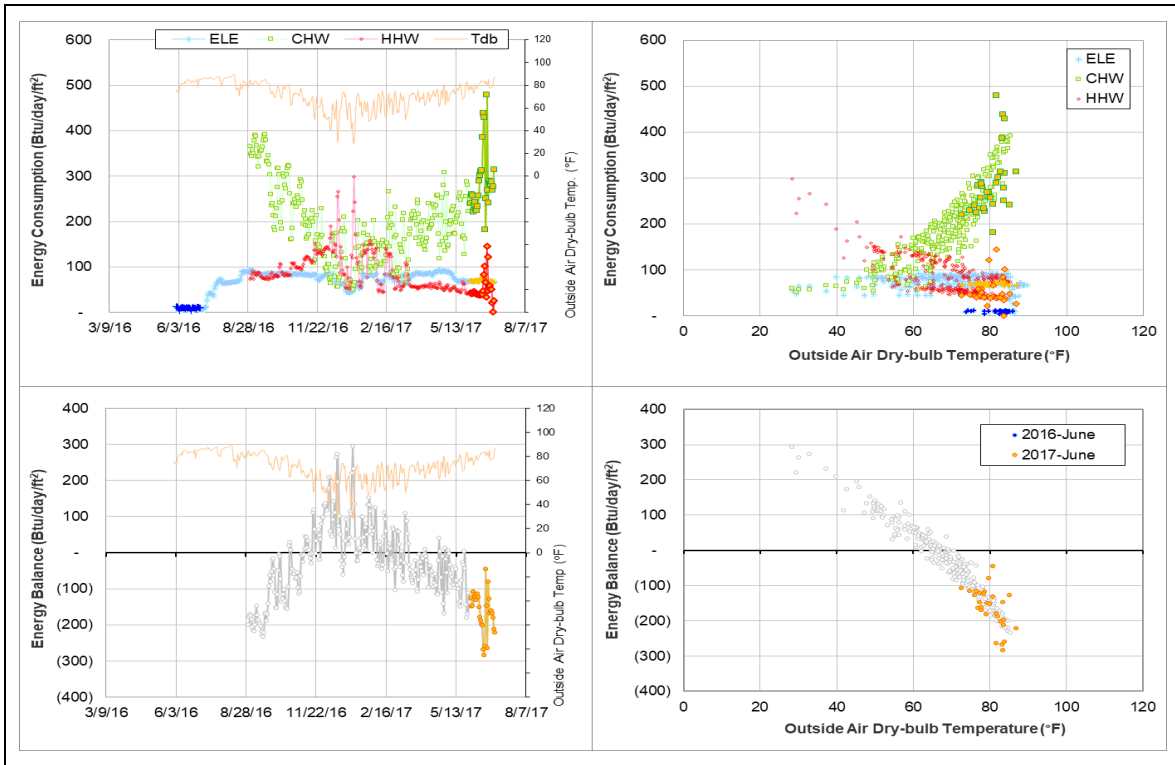
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|---|-----------|--------------------|
| CHW | 002117 | 6/16/2017 – 6/18/2017, 6/21/2017 | Flow rate | Increased |
| | | 6/19/2017 – 6/20/2017 | Flow rate | Near zero |
| HHW | 002117 | 6/17/2017 – 6/18/2017, 6/21/2017 – 6/22/2017 | Flow rate | Increased |
| | | 6/19/2017 – 6/20/2017, 6/28/2017 – 6/30/2017 | Flow rate | Near zero, Zero |

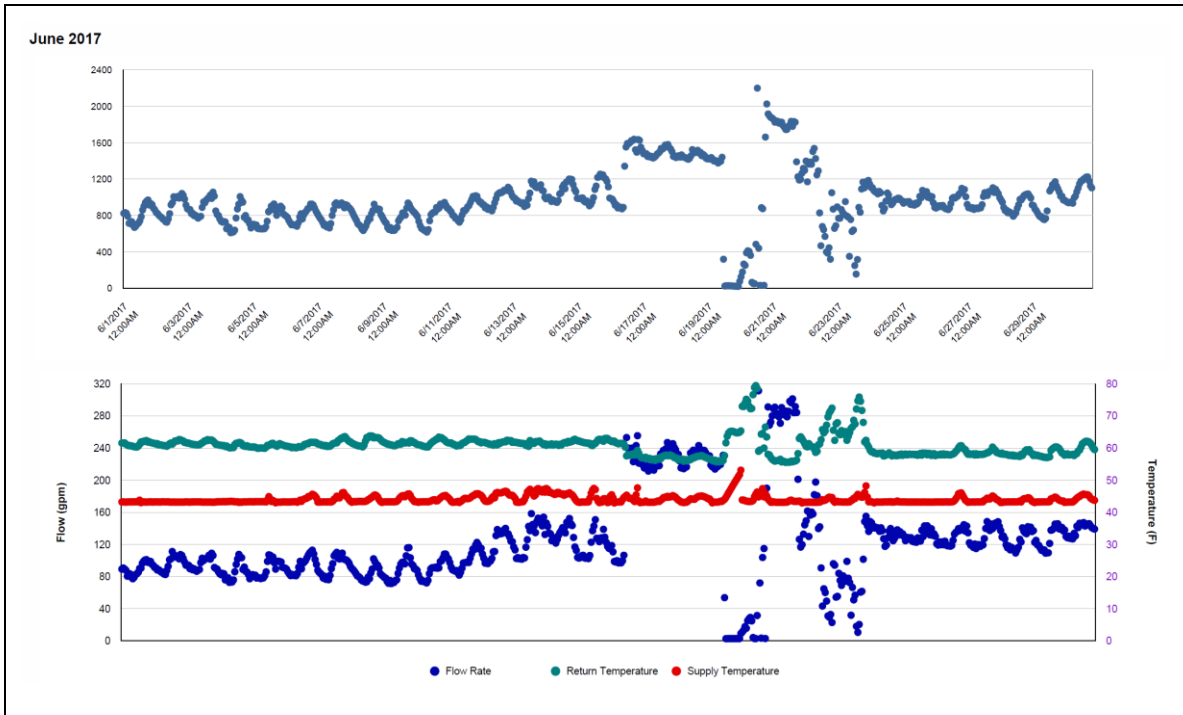
Quantitative descriptions and comments

| |
|--|
| <p>The CHW and HHW consumption is scattered during the period of 6/16/2017 – 6/21/2017 and 6/17/2017 – 6/22/2017, respectively, due to changes in the flow rate. The HHW consumption also dropped to zero from 6/28/2017 to 6/30/2017 due to a flow rate of zero, see also section II-3. Both CHW and HHW are estimated by model for the specified days.</p> |
|--|

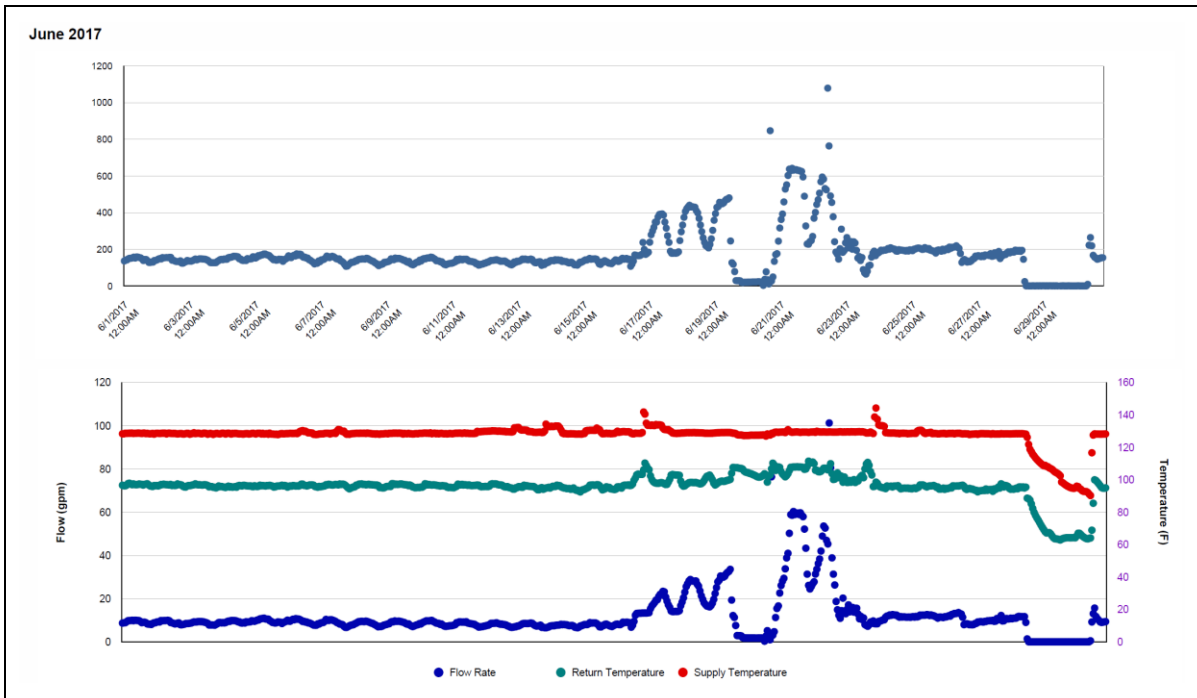
Explanatory Figure: 13 months energy balance plot with original data.



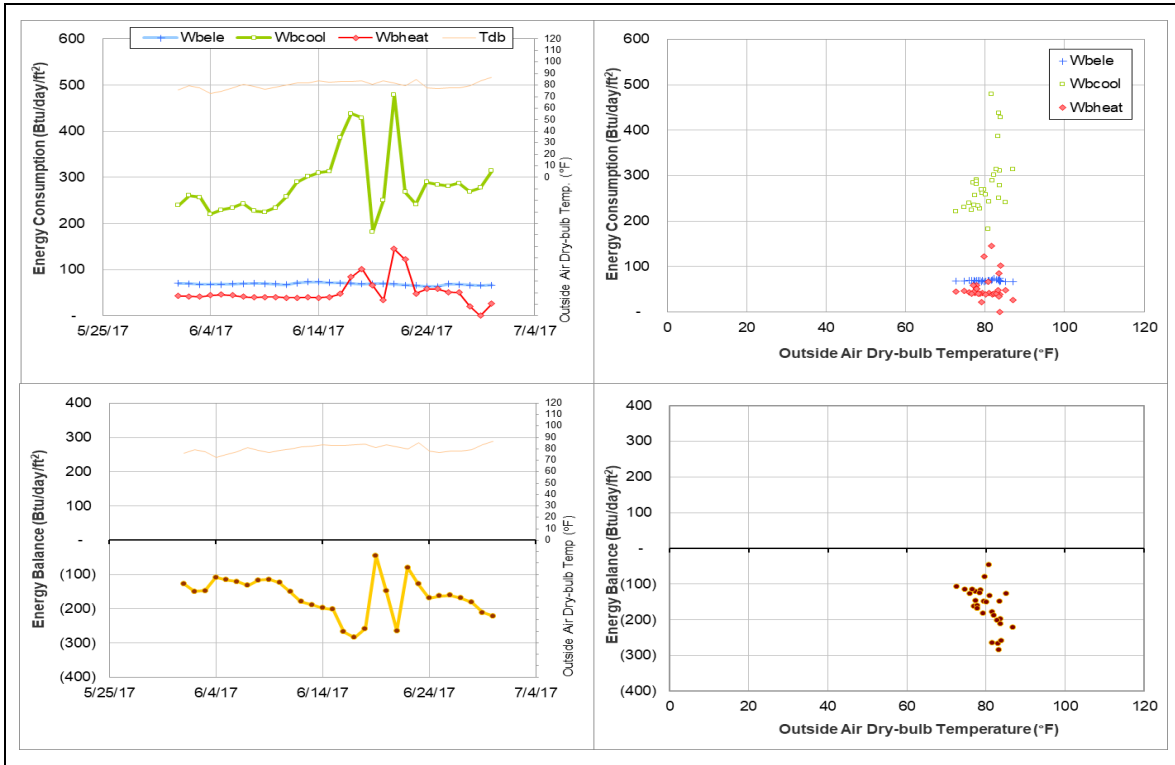
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during June 2017)



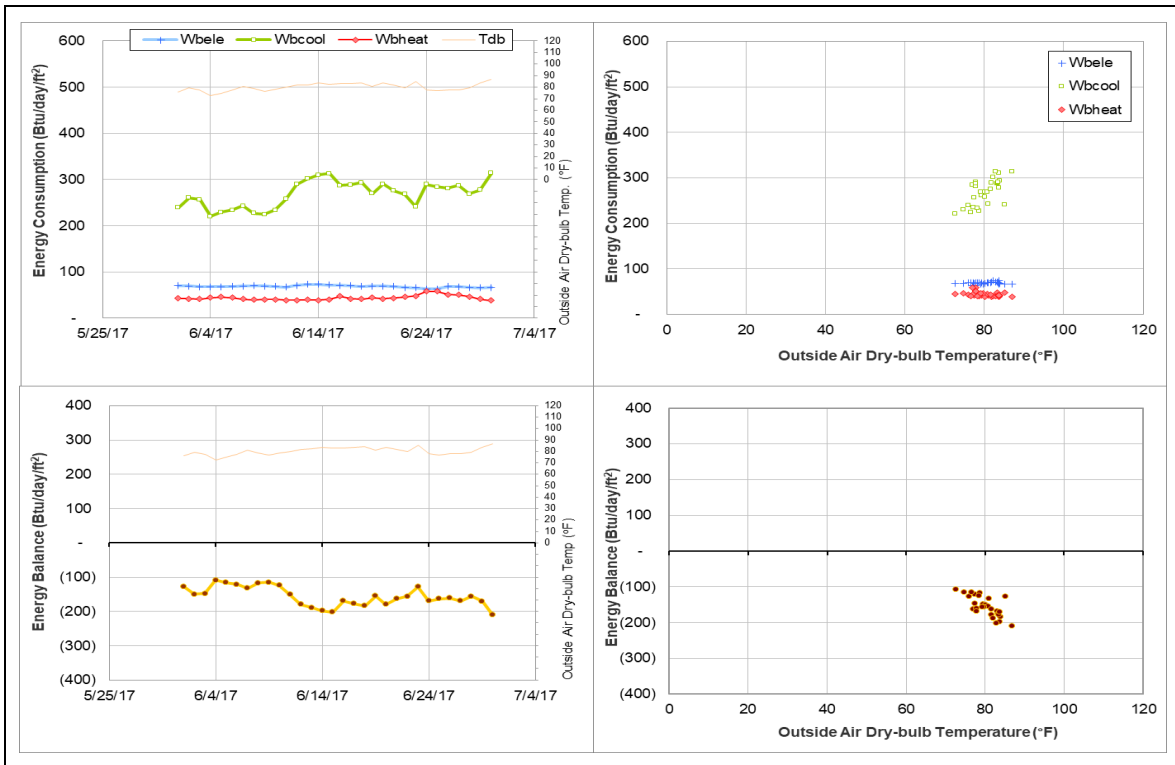
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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.



Gainer Hall Dorm 5 (TAMU Bldg #404)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|-----------------------|-------------------|
| HHW | 009360 | 2 | 6/29/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|-----------------------|
| HHW | The consumption increased for a short period. | 6/29/2017 – 6/30/2017 |

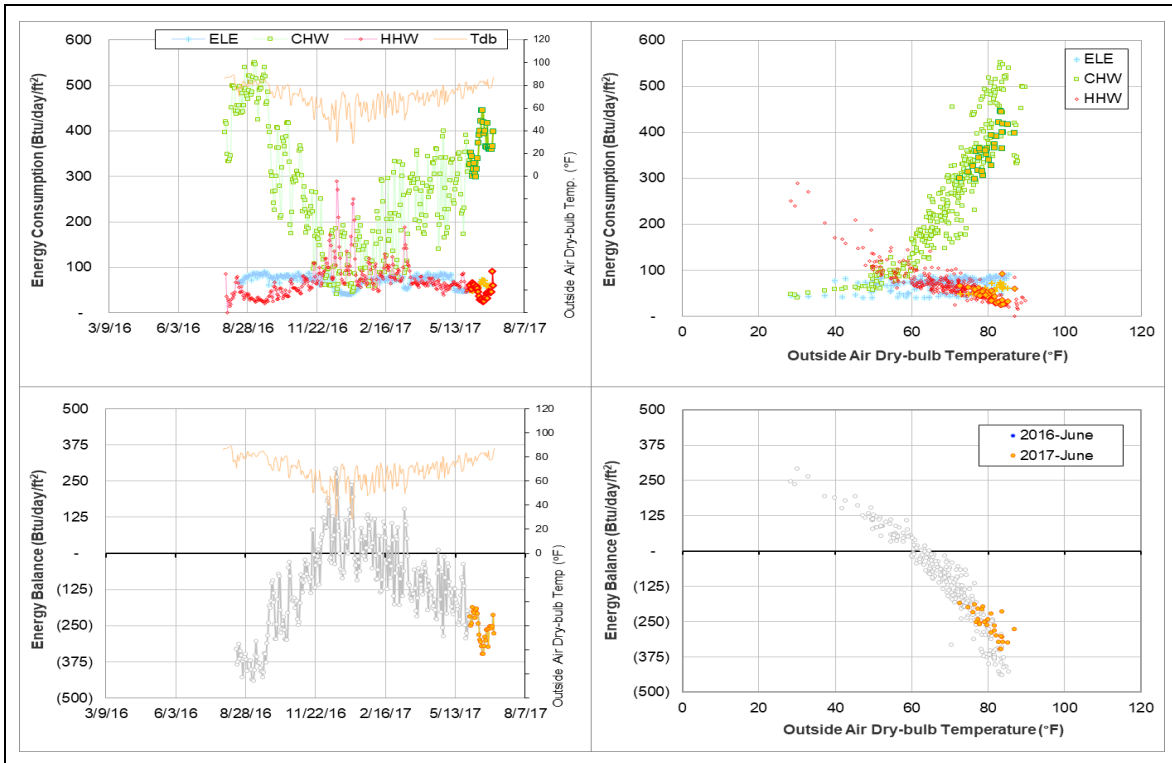
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|-------------|
| HHW | 009360 | 6/29/2017 – 6/30/2017 | Flow rate | Increased |

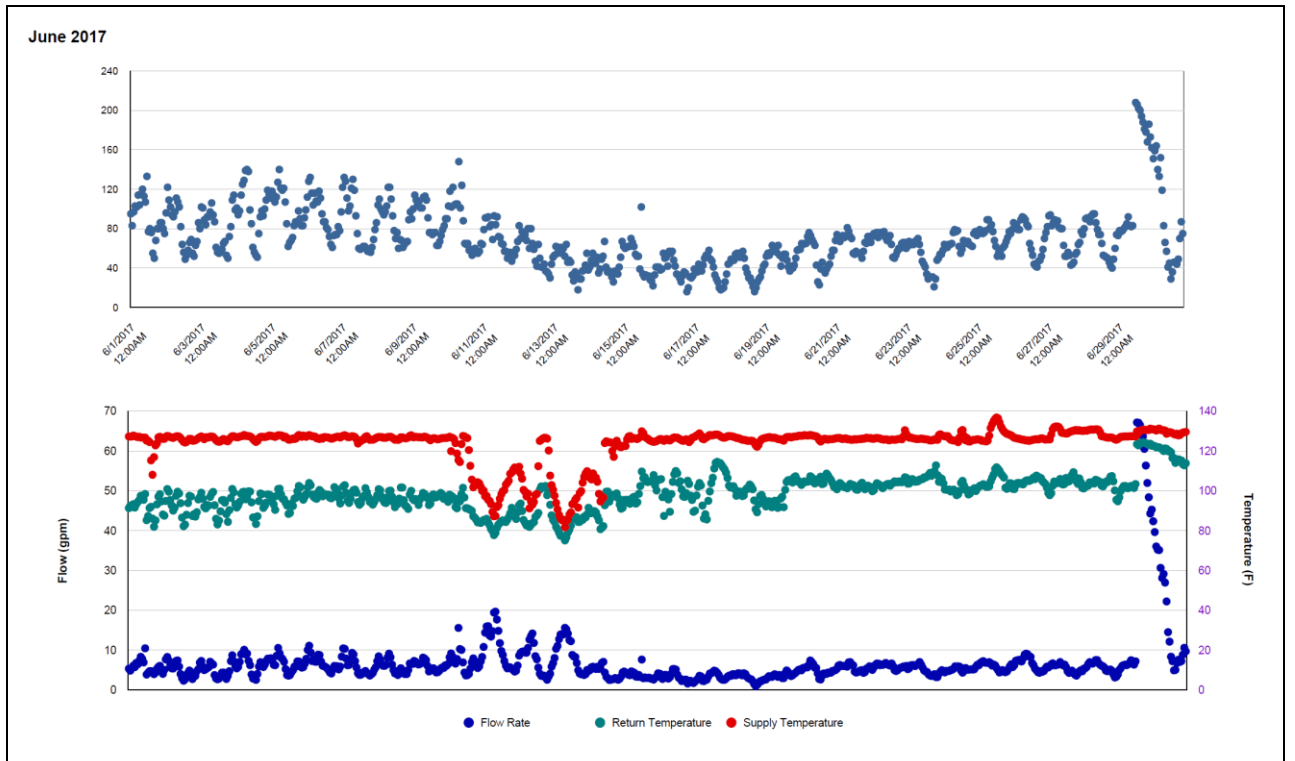
Quantitative descriptions and comments

The HHW consumption increased from 6/29/2017 to 6/30/2017 due to a spike in the flow rate. The specified days are estimated using a model.

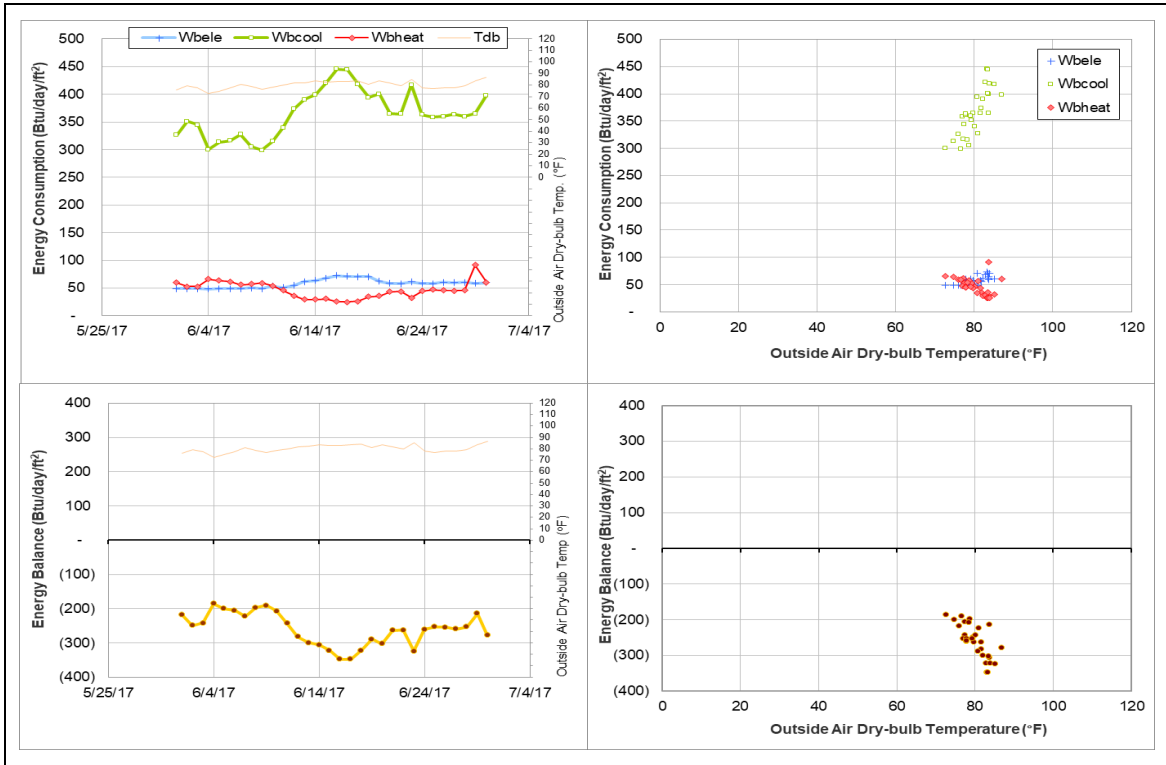
Explanatory Figure: 13 months energy balance plot with original data.



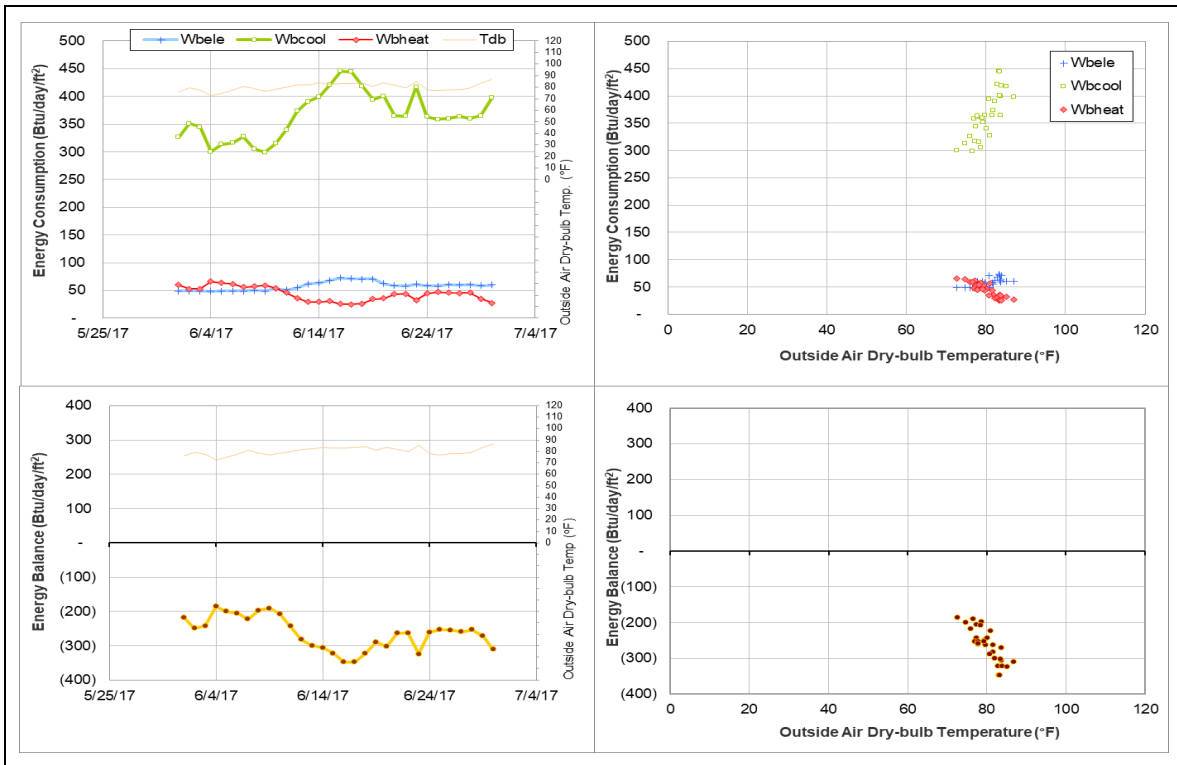
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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.



Lacy Hall - Dorm 6 (TAMU Bldg #405)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|--|-------------------|
| HHW | 007919 | 7 | 6/15/2017 – 6/18/2017, 6/28/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|--|
| HHW | The consumption increased for a short period. | 6/15/2017 – 6/18/2017, 6/28/2017 – 6/30/2017 |

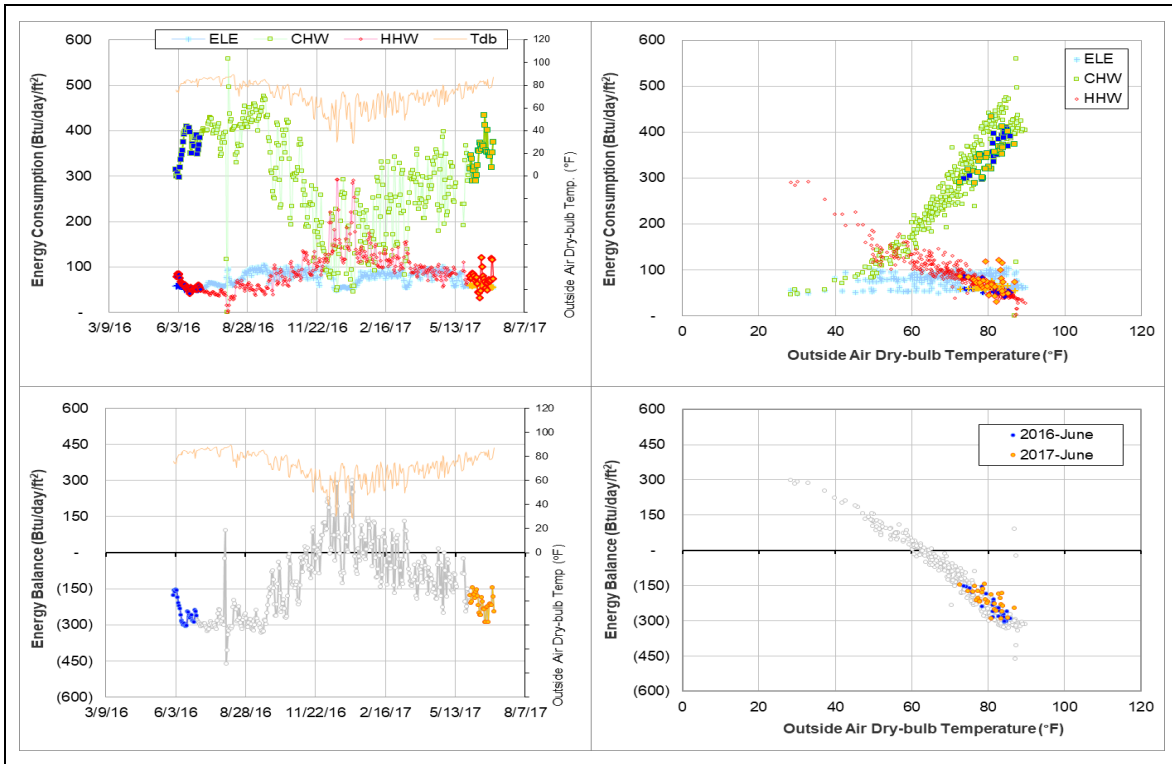
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|--|-----------|-------------|
| HHW | 007919 | 6/15/2017 – 6/18/2017, 6/28/2017 – 6/30/2017 | Flow rate | Increased |

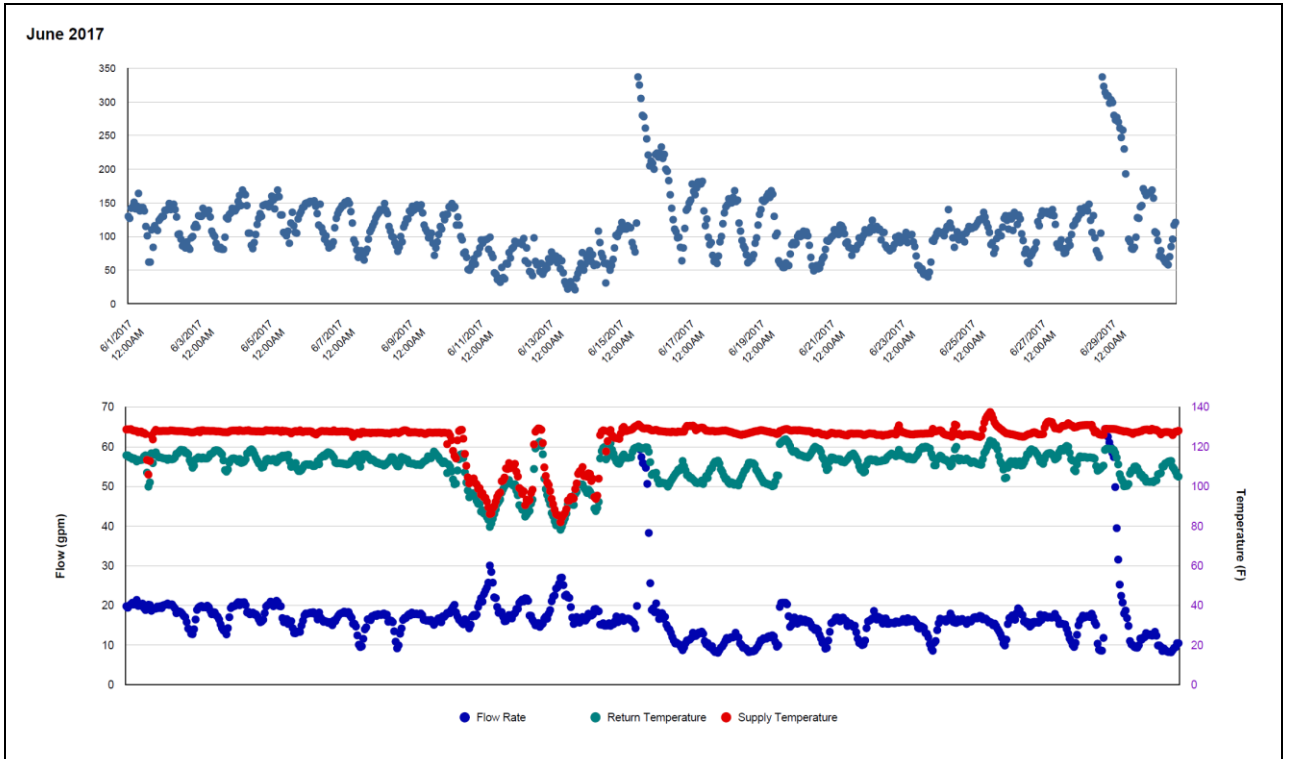
Quantitative descriptions and comments

The HHW consumption increased from 6/15/2017 to 6/18/2017 and 6/28/2017 to 6/30/2017 due to spikes in the flow rate. The specified days are estimated using a model.

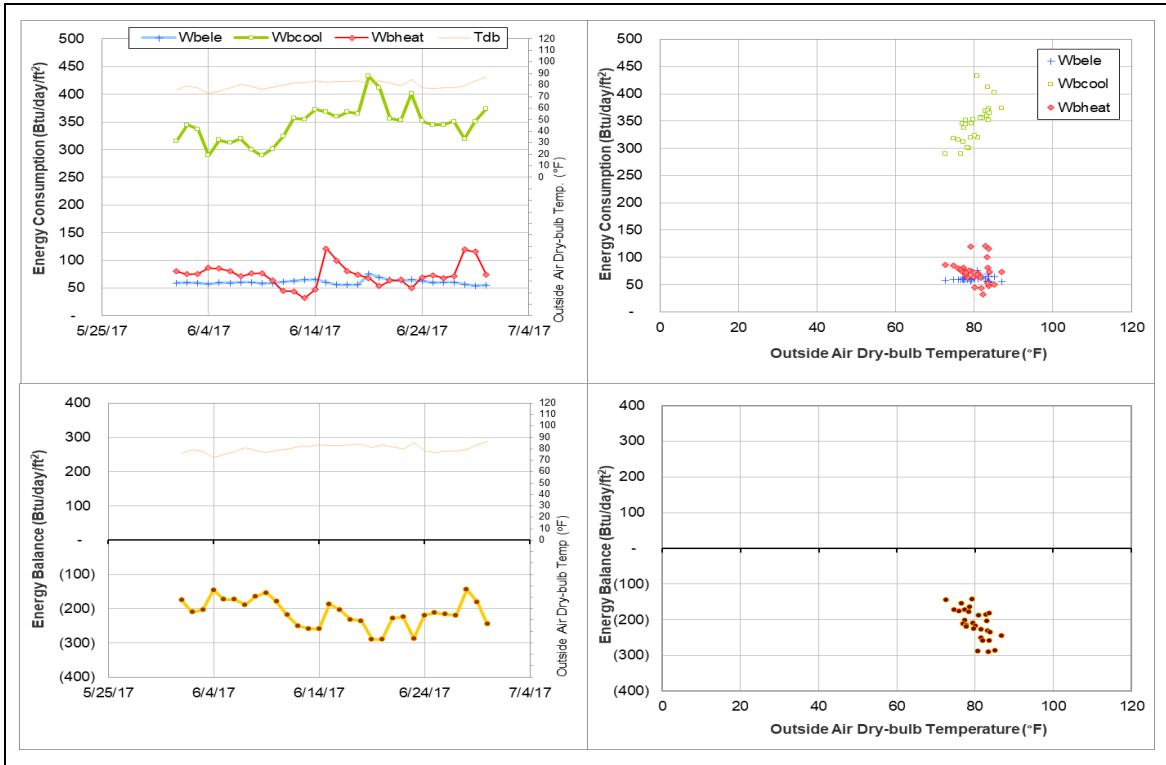
Explanatory Figure: 13 months energy balance plot with original data.



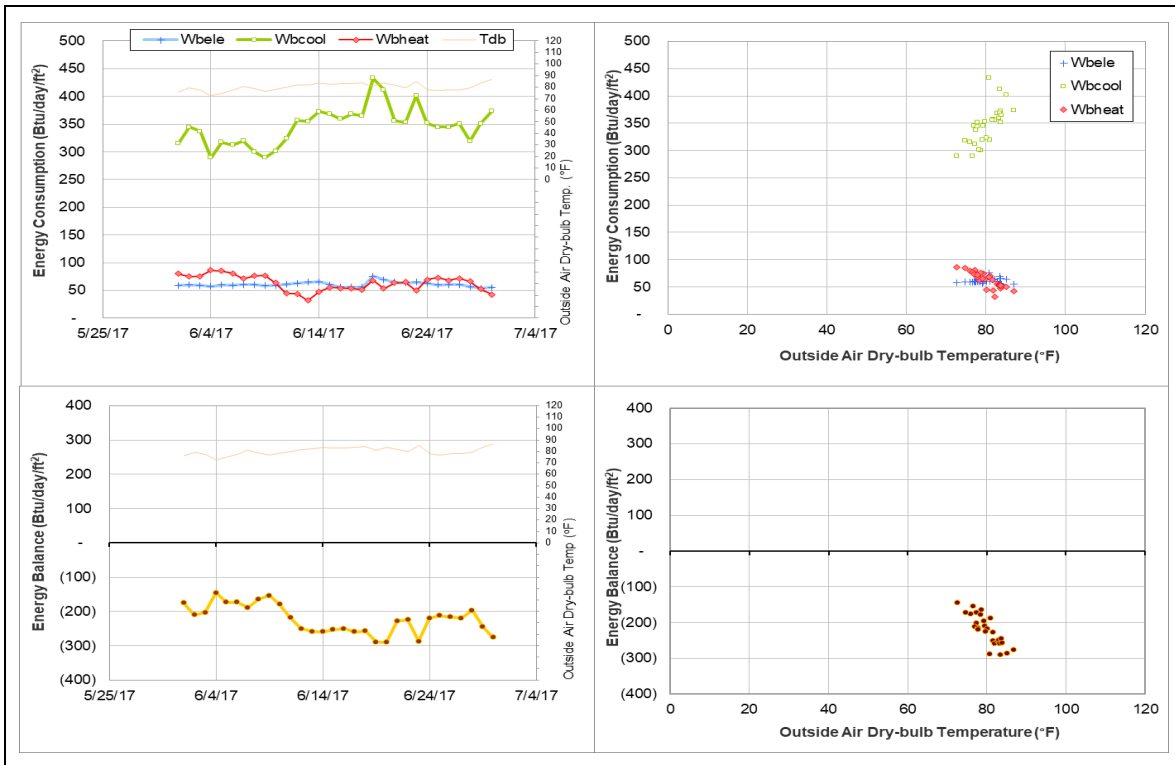
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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.



Harrell Hall - Dorm 8 and Buzbee LLC (TAMU Bldg #407-1402)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|---|-------------------|
| HHW | 007723 | 13 | 6/7/2017 – 6/16/2017, 6/28/2017 – 6/30/2017 | 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. | 6/7/2017 – 6/14/2017, 6/28/2017 – 6/30/2017 |
| | The consumption increased for a short period. | 6/15/2017 – 6/16/2017 |
| | The metered values appear to be faulty. | 6/10/2017 – 6/14/2017 |

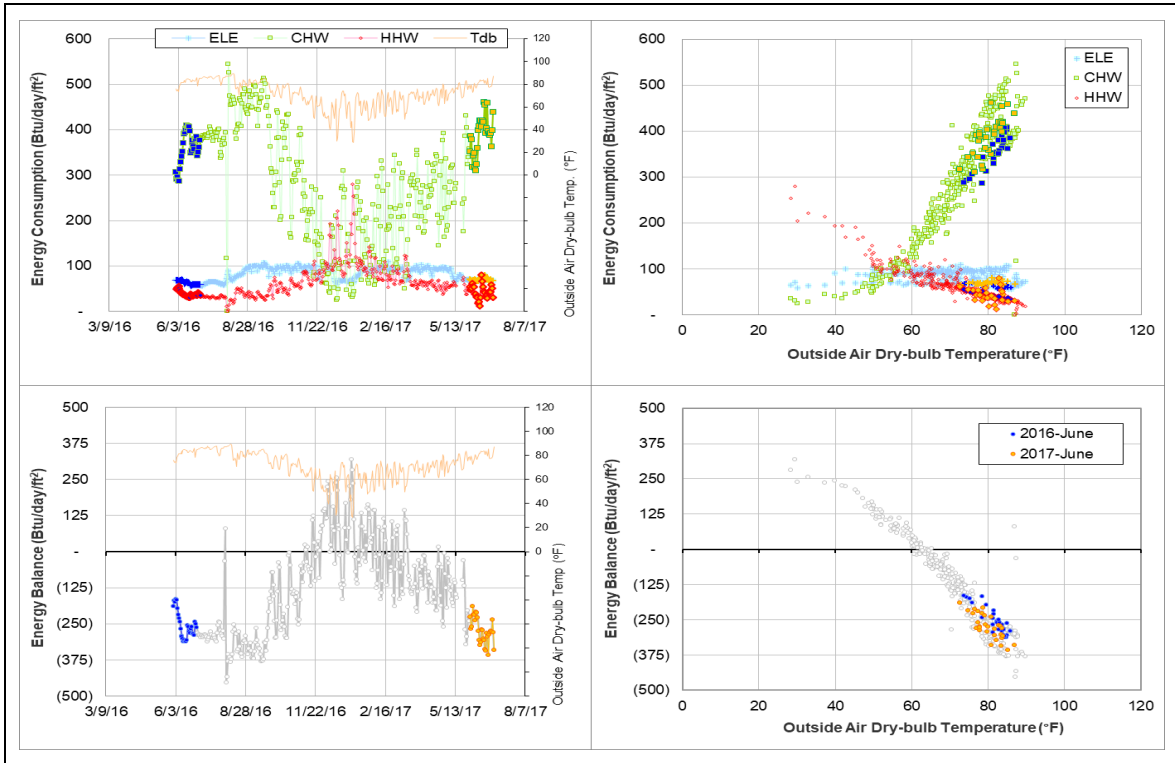
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|---|-----------|-------------|
| HHW | 007723 | 6/7/2017 – 6/14/2017, 6/28/2017 – 6/30/2017 | Flow rate | Zero |
| | | 6/15/2017 – 6/16/2017 | | Increased |
| | | 6/10/2017 – 6/14/2017 | Delta-T | Negative |

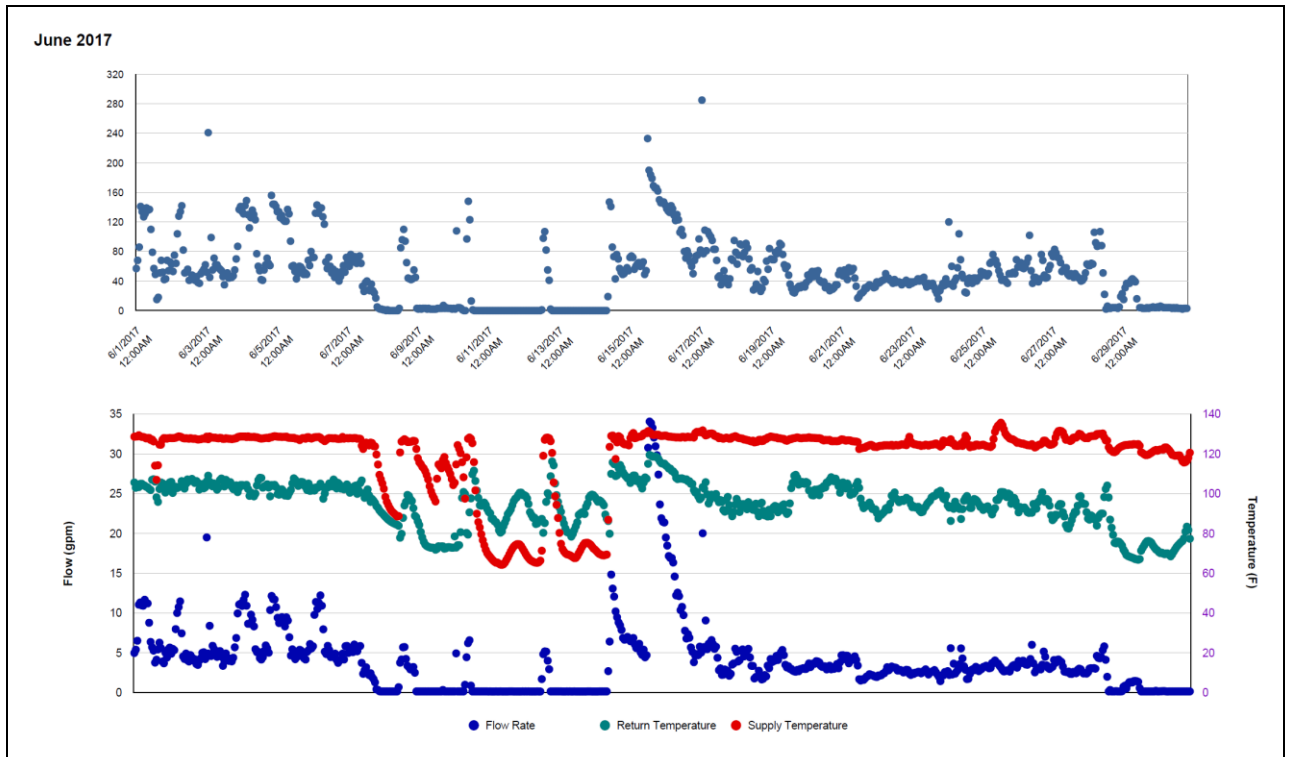
Quantitative descriptions and comments

The HHW consumption decreased to zero for extended periods during 6/7/2017 to 6/14/2017 and 6/28/2017 to 6/30/2017 due to a flow rate of zero. The HHW consumption increased from 6/15/2017 - 6/16/2017 due to a spike in the flow rate. A negative delta-T was also observed during the period of 6/10/2017 to 6/14/2017. The specified days are estimated using a model.

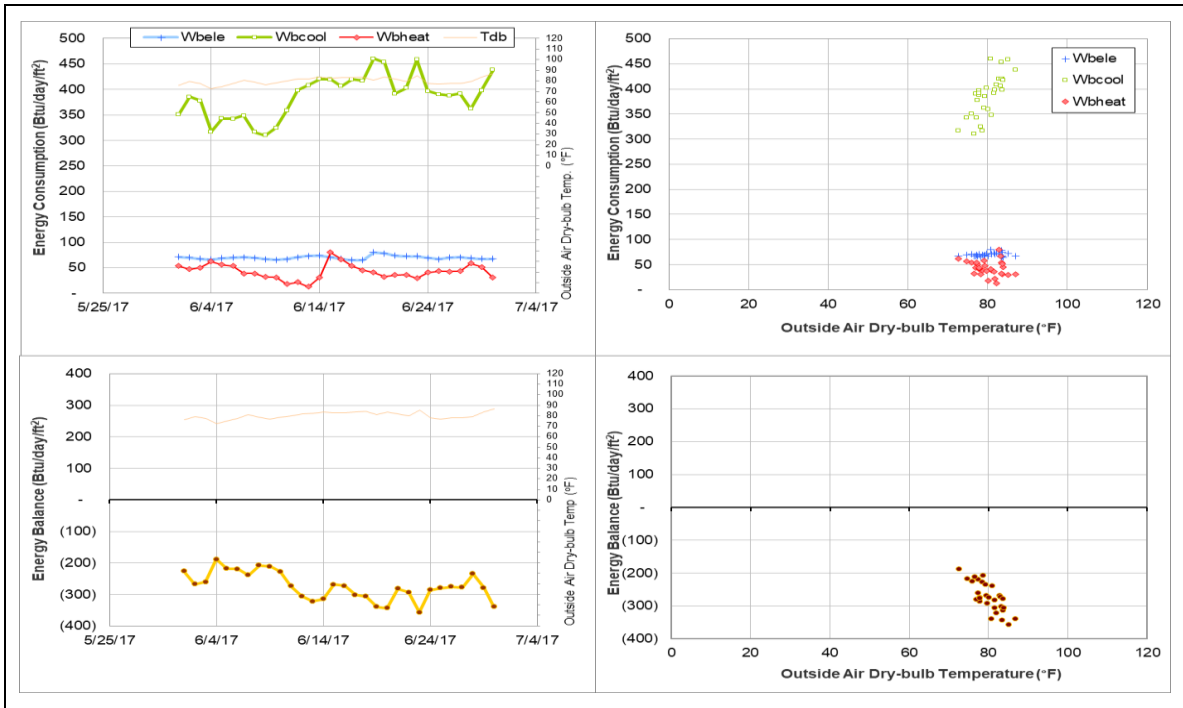
Explanatory Figure: 13 months energy balance plot with original data.(Lacy Hall – Dorm 6, Harrell Hall and Leadership Learning Center TAMU Bldg #405-407-1402)



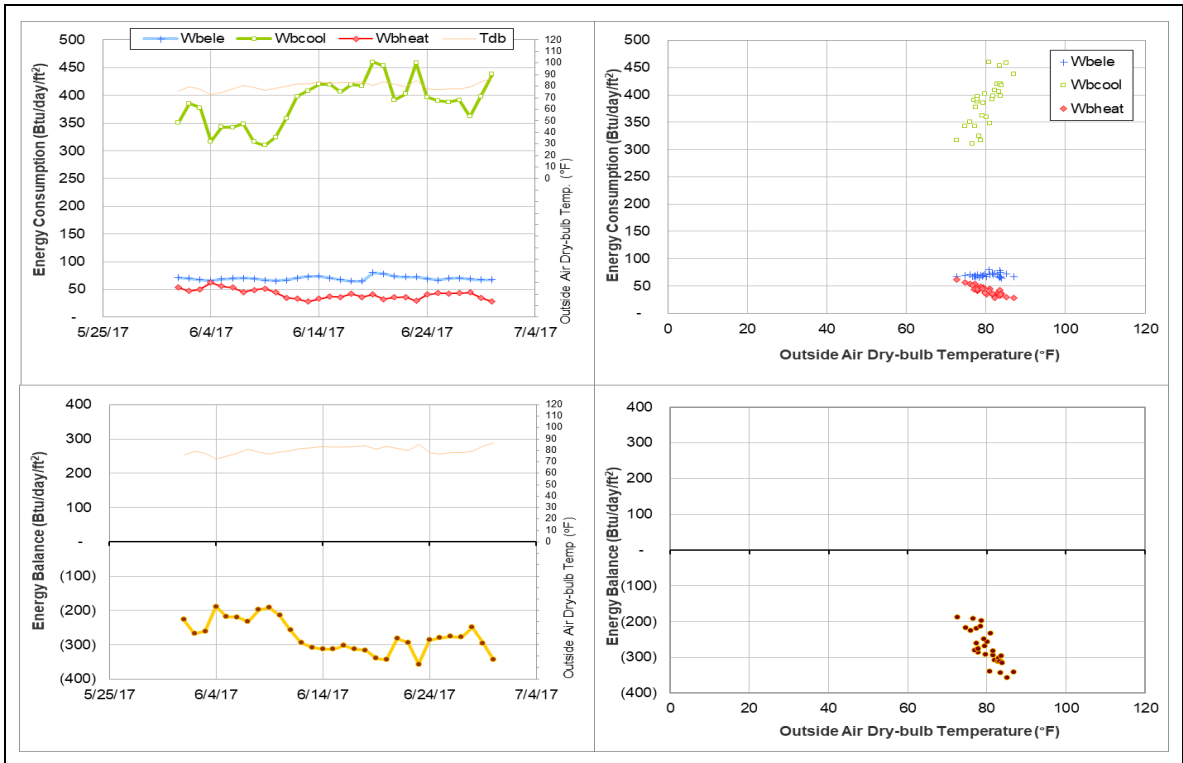
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



Energy balance plot using the original data for the month of analysis. (Lacy Hall – Dorm 6, Harrell Hall and Leadership Learning Center TAMU Bldg #405-407-1402)



Energy balance plot using the estimated data for the month of analysis. (Lacy Hall – Dorm 6, Harrell Hall and Leadership Learning Center TAMU Bldg #405-407-1402)



White Hall – Dorm 10 (TAMU Bldg #409)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|-----------------------|-------------------|
| CHW | 002094 | 7 | 6/20/2017 – 6/26/2017 | Model |
| HHW | 002098 | 7 | 6/20/2017 – 6/26/2017 | Average |

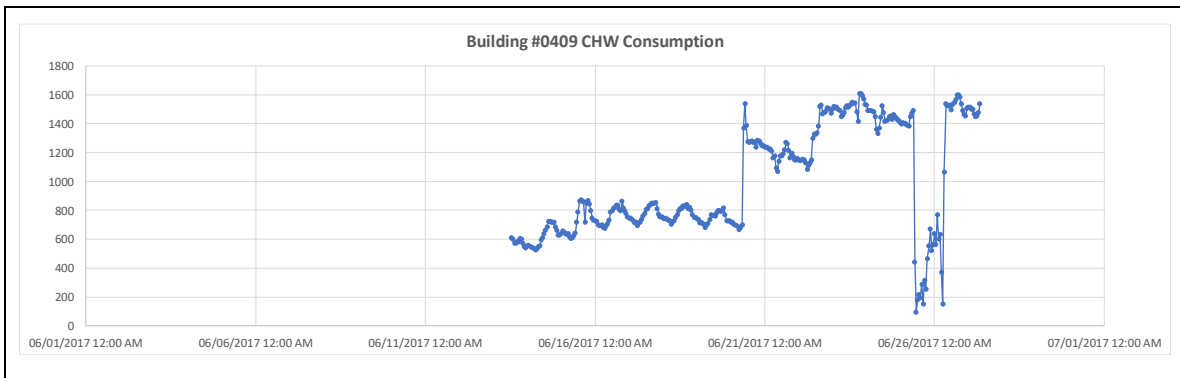
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-----------|---------------------------------|-----------------------|
| CHW | Abnormal patterns are observed. | 6/20/2017 – 6/26/2017 |
| HHW | Abnormal patterns are observed. | 6/20/2017 – 6/26/2017 |

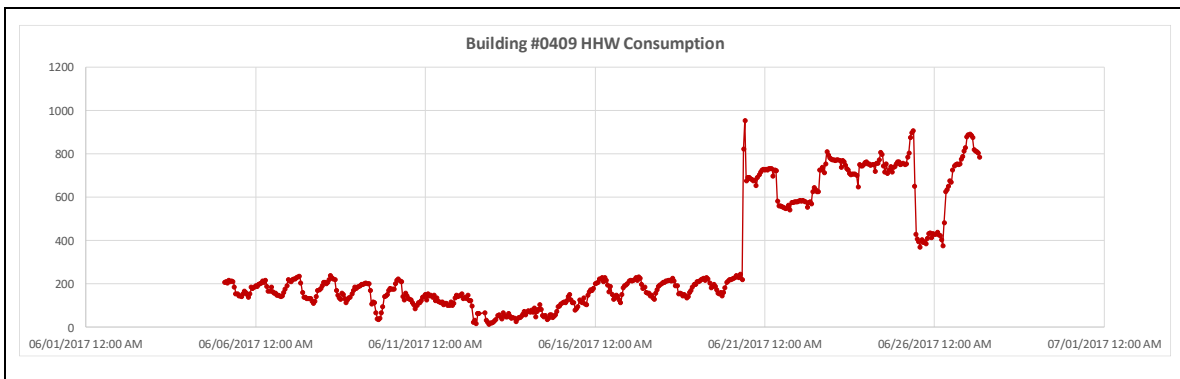
Quantitative descriptions and comments

The CHW and HHW consumption was abnormally high from 6/20/2017 – 6/26/2017. These days are estimated by a model for CHW and an average for HHW. See also section II-3.

Explanatory Figure: Time series plot for CHW consumption



Explanatory Figure: Time series plot for HHW consumption



Utay Hall – Dorm 12 (TAMU Bldg #411)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| CHW | 002102 | 8 | 6/5/2017 – 6/12/2017 | Model |
| HHW | 002106 | 8 | 6/5/2017 – 6/12/2017 | Average |

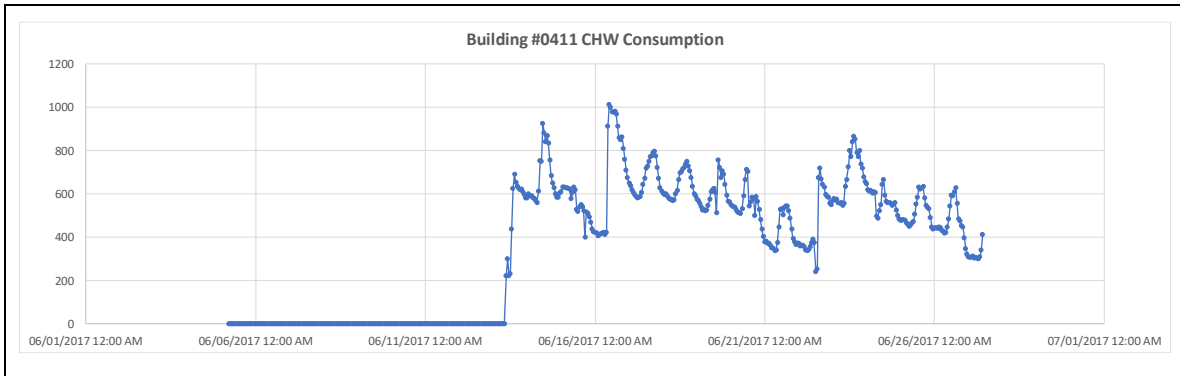
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-----------|---------------------------------|----------------------|
| CHW | Abnormal patterns are observed. | 6/5/2017 – 6/12/2017 |
| HHW | Abnormal patterns are observed. | 6/5/2017 – 6/12/2017 |

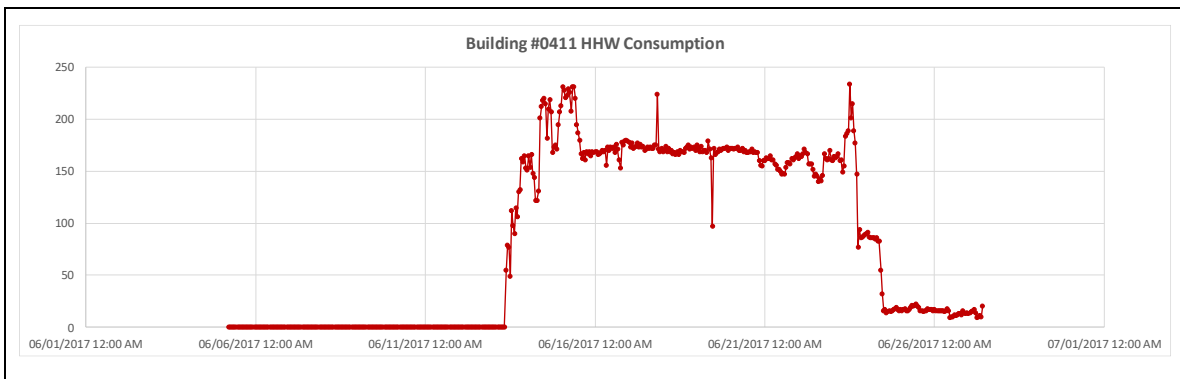
Quantitative descriptions and comments

The CHW and HHW consumption was zero from 6/5/2017 – 6/12/2017. These days are estimated by a model for CHW and an average for HHW. See also section II-3.

Explanatory Figure: Time series plot for CHW consumption



Explanatory Figure: Time series plot for HHW consumption



Legett Residence Hall (TAMU Bldg #419)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|--|-------------------|
| HHW | 002222 | 5 | 6/1/2017 – 6/2/2017, 6/6/2017 – 6/8/2017 | 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. | 6/1/2017 – 6/2/2017, 6/6/2017 – 6/8/2017 |

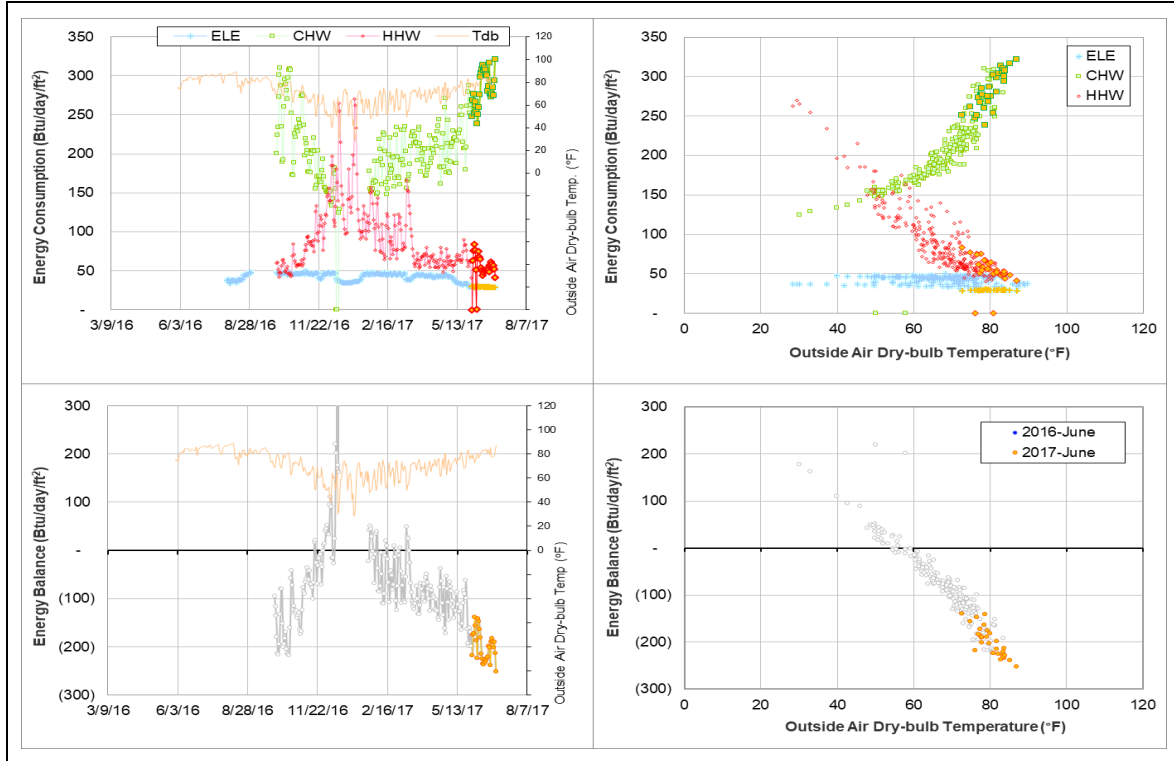
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|--|-----------|-------------|
| HHW | 002222 | 6/1/2017 – 6/2/2017, 6/6/2017 – 6/8/2017 | Flow rate | Zero |

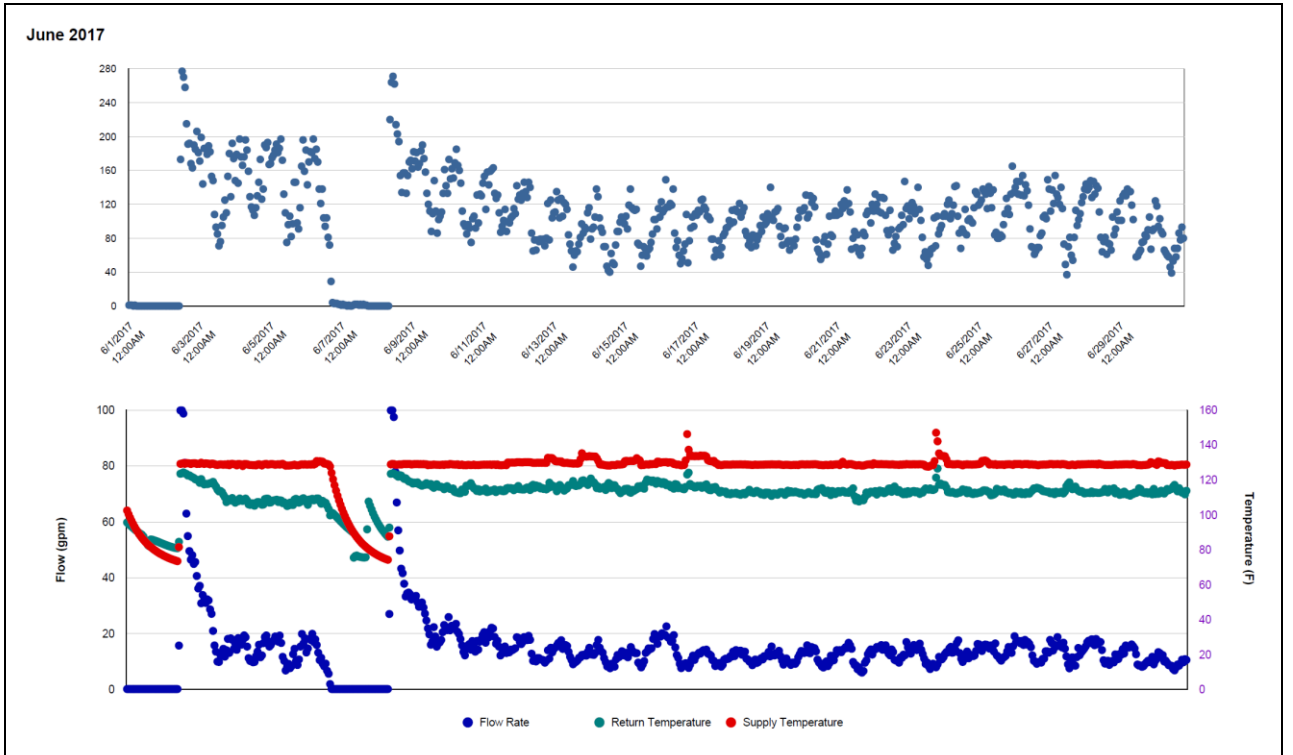
Quantitative descriptions and comments

The HHW consumption dropped to zero on 6/1/2017 – 6/2/2017 as well as 6/6/2017 – 6/8/2017 due to a flow rate of zero. The specified days are estimated using a model.

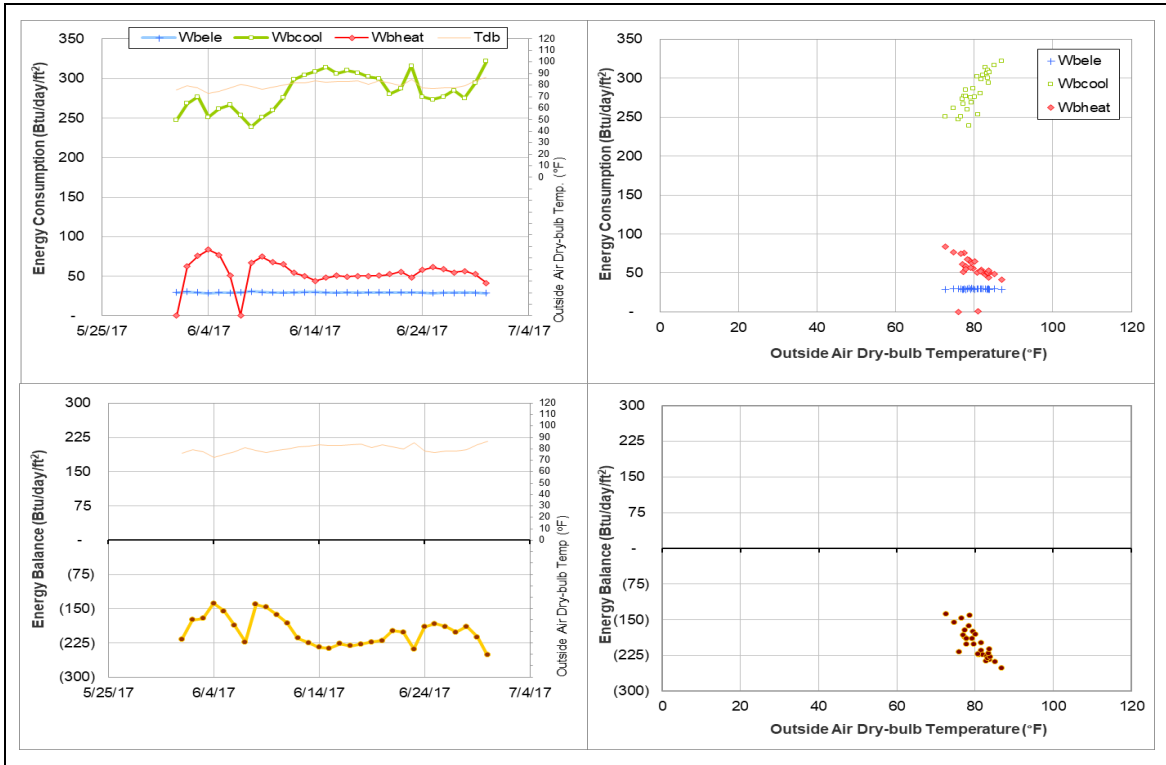
Explanatory Figure: 13 months energy balance plot with original data. (The plot is rescaled to remove the spikes.)



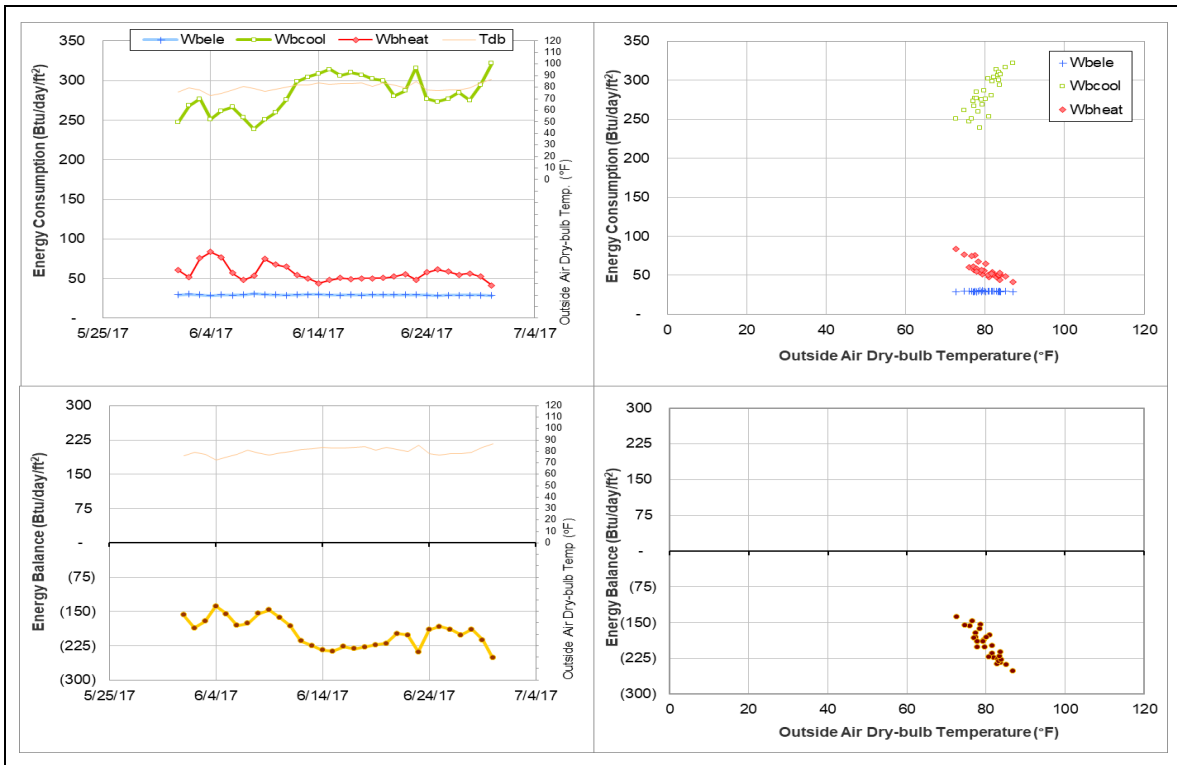
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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.



Architecture Building B&C (TAMU Bldg #359-432)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|-----------------------|-------------------|
| CHW | 006419 | 12 | 6/19/2017 – 6/30/2017 | 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. | 6/19/2017 – 6/30/2017 |

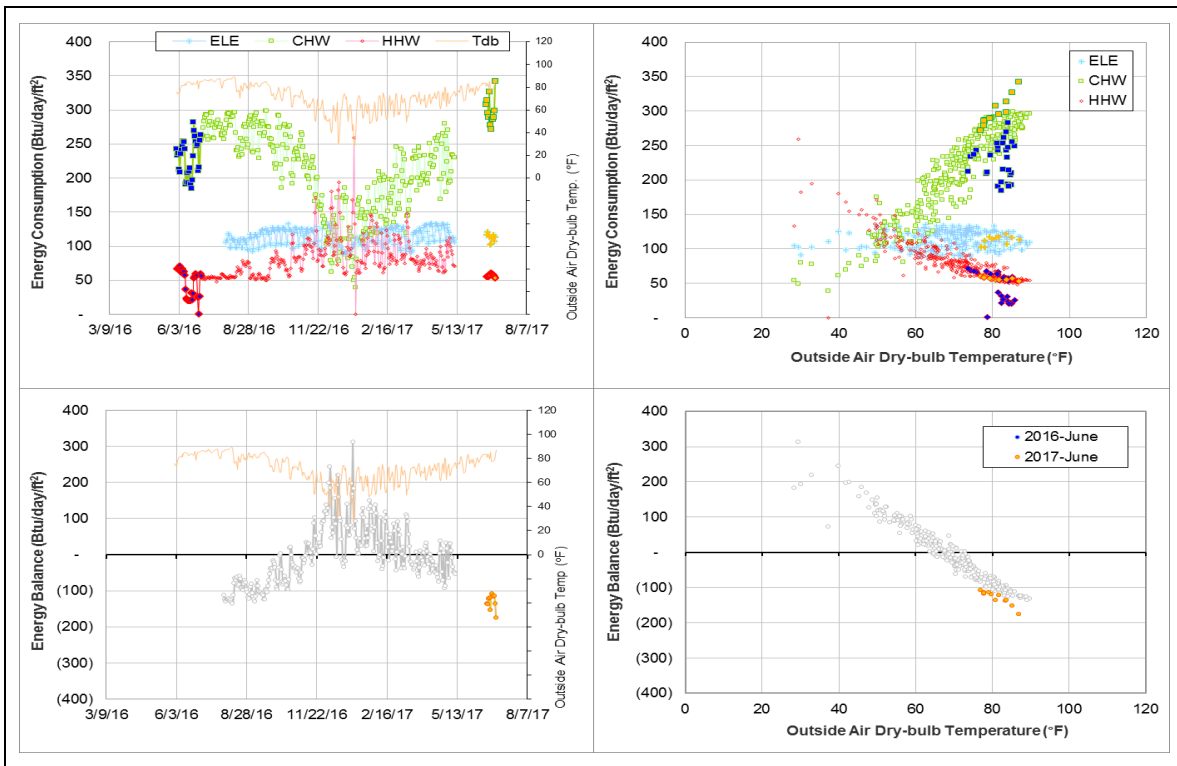
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|-------------|
| CHW | 006419 | 6/19/2017 – 6/30/2017 | Flow rate | Increased |

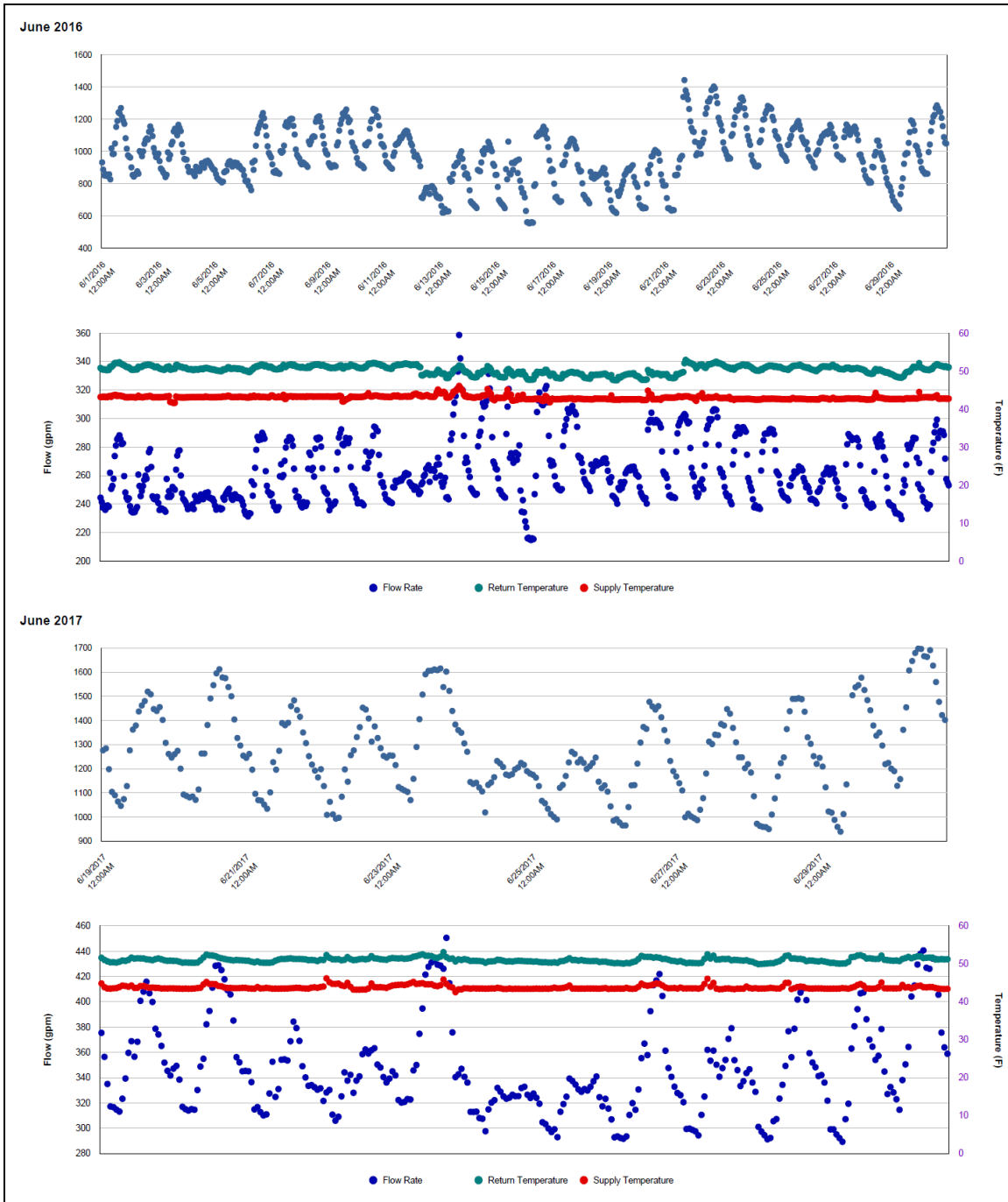
Quantitative descriptions and comments

The CHW consumption has been missing from 5/12/2017 – 6/18/2017 and returned on 6/19/2017. After returning, the consumption level has increased above the level of the past year. It seems that the flow rate has increased from 240 – 320 gpm range to 320 – 440 gpm. The CHW consumption has been estimated for this period by model.

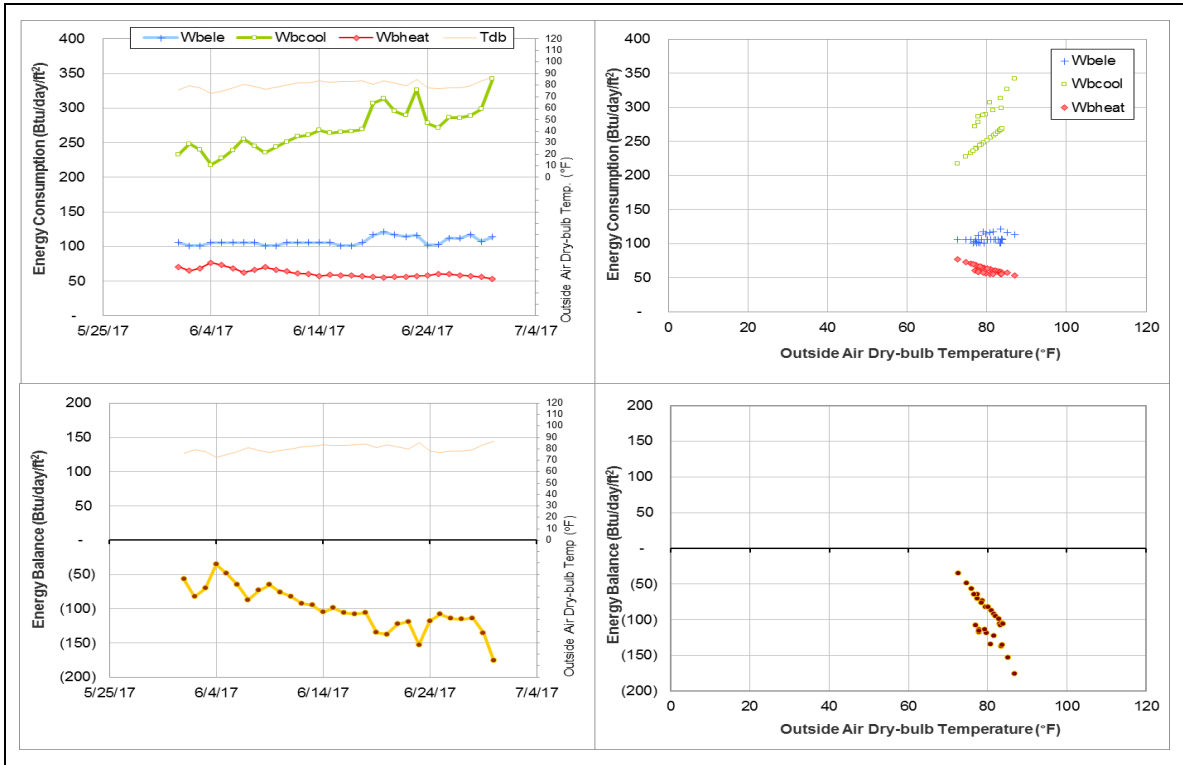
Explanatory Figure: 13 months energy balance plot with original data



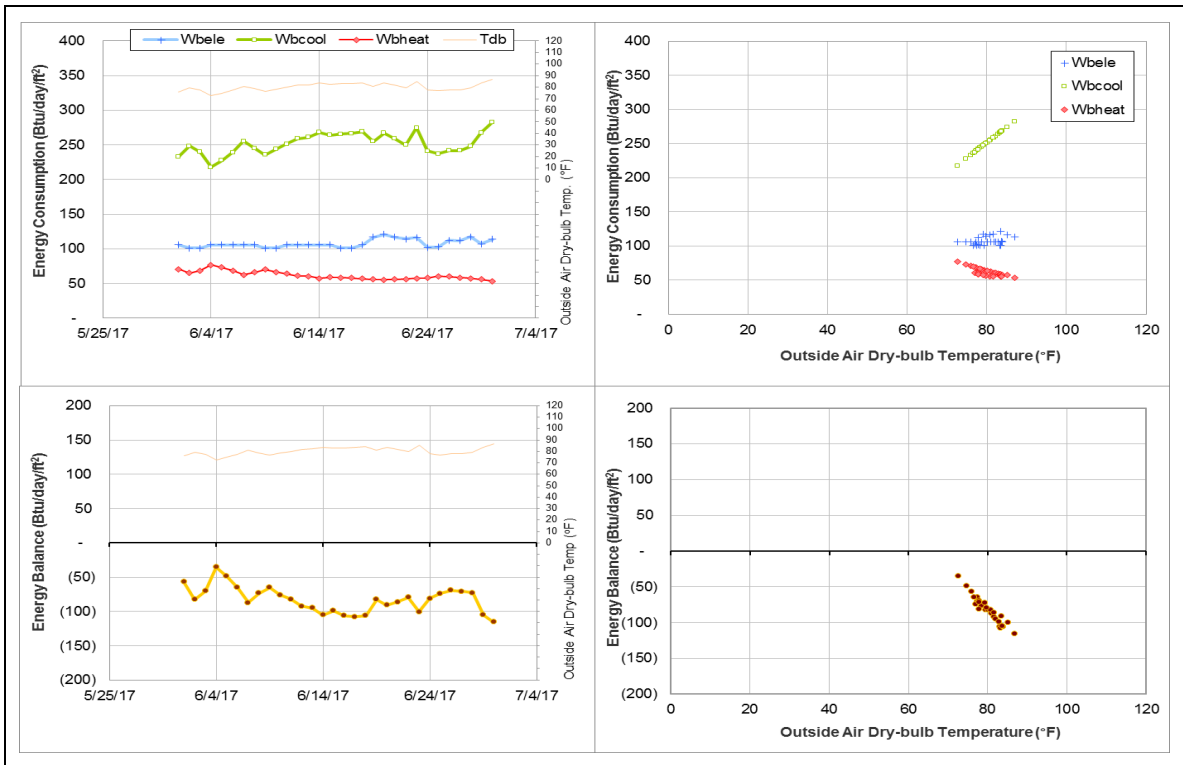
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during June 2016 (top) and June 2017(bottom))



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



Commons Hall (TAMU Bldg #440)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|-----------------------|-------------------|
| HHW | 009238 | 3 | 6/28/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|-----------------------|
| HHW | The consumption increased for a short period. | 6/28/2017 – 6/30/2017 |
| | The consumption level has increased suddenly. | 6/30/2017 – Ongoing |

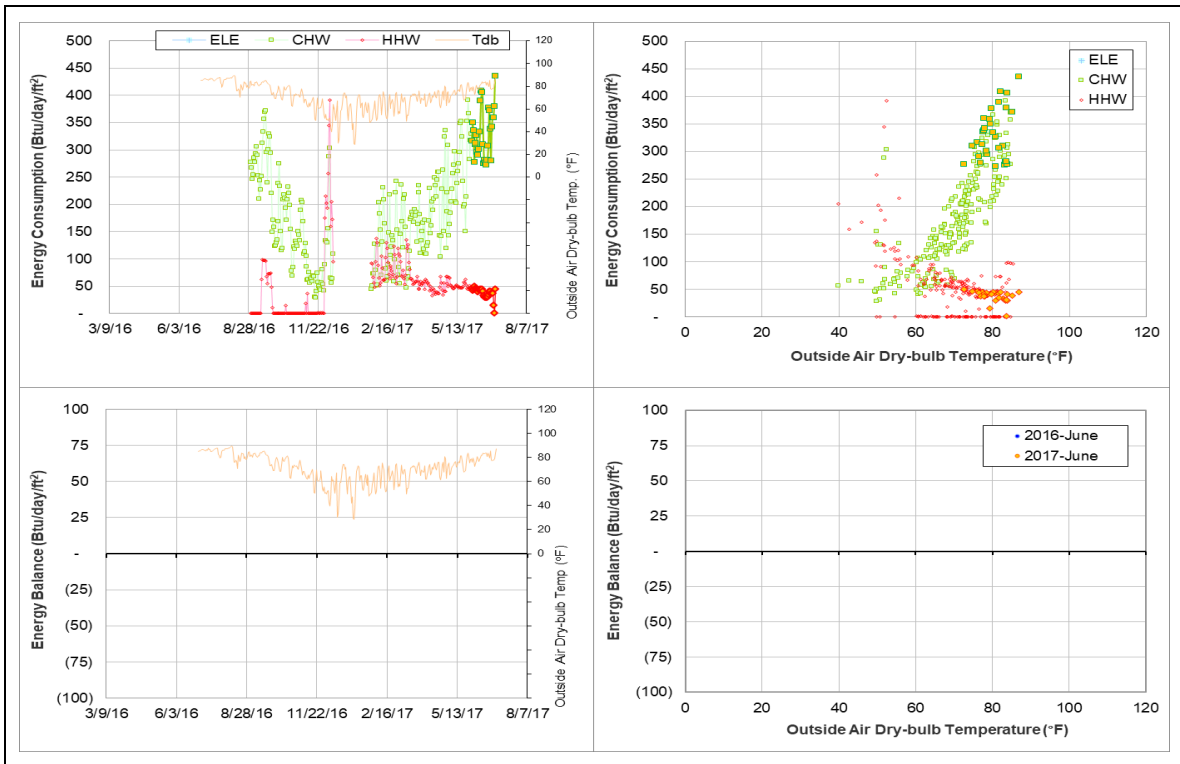
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|------------------------|
| HHW | 009238 | 6/28/2017 – 6/30/2017 | Flow rate | Decreased to near zero |
| | | 6/30/2017 – Ongoing | Delta-T | Increased |

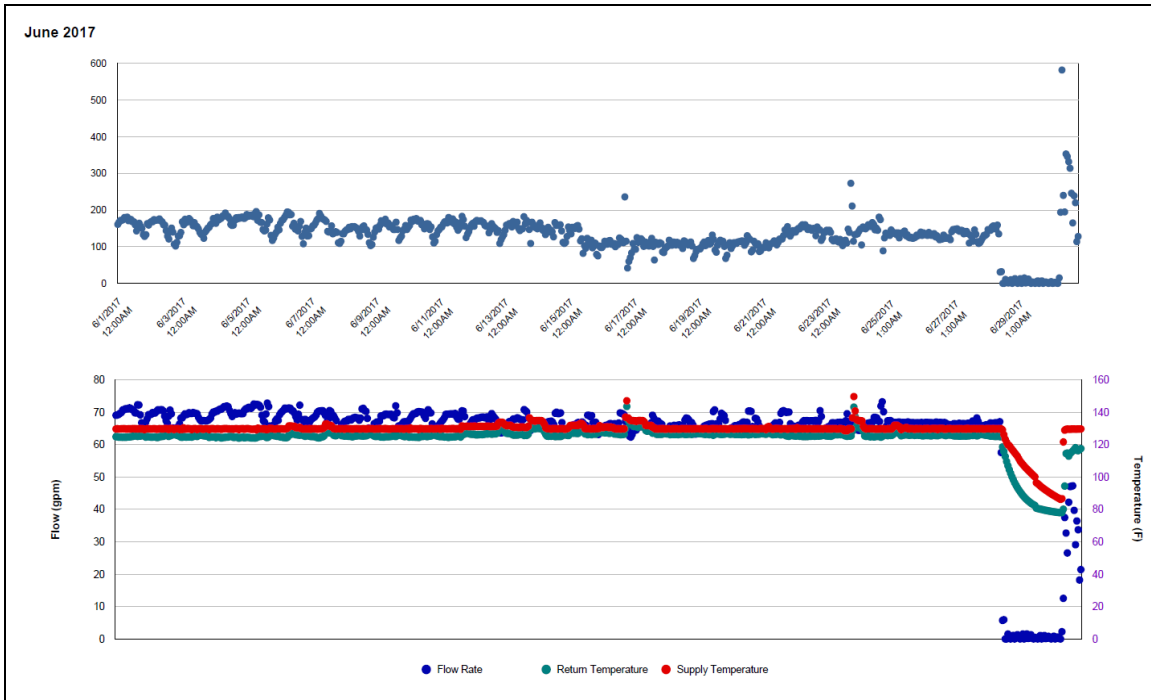
Quantitative descriptions and comments

The HHW flow rate decreased to near zero value from 6/28/2017 to 6/30/2017. On 6/30/2017, the flow rate returned, however, the Delta-T doubled to almost 12°F resulting in an increase in HHW consumption. The HHW consumption was estimated by model for these three days.

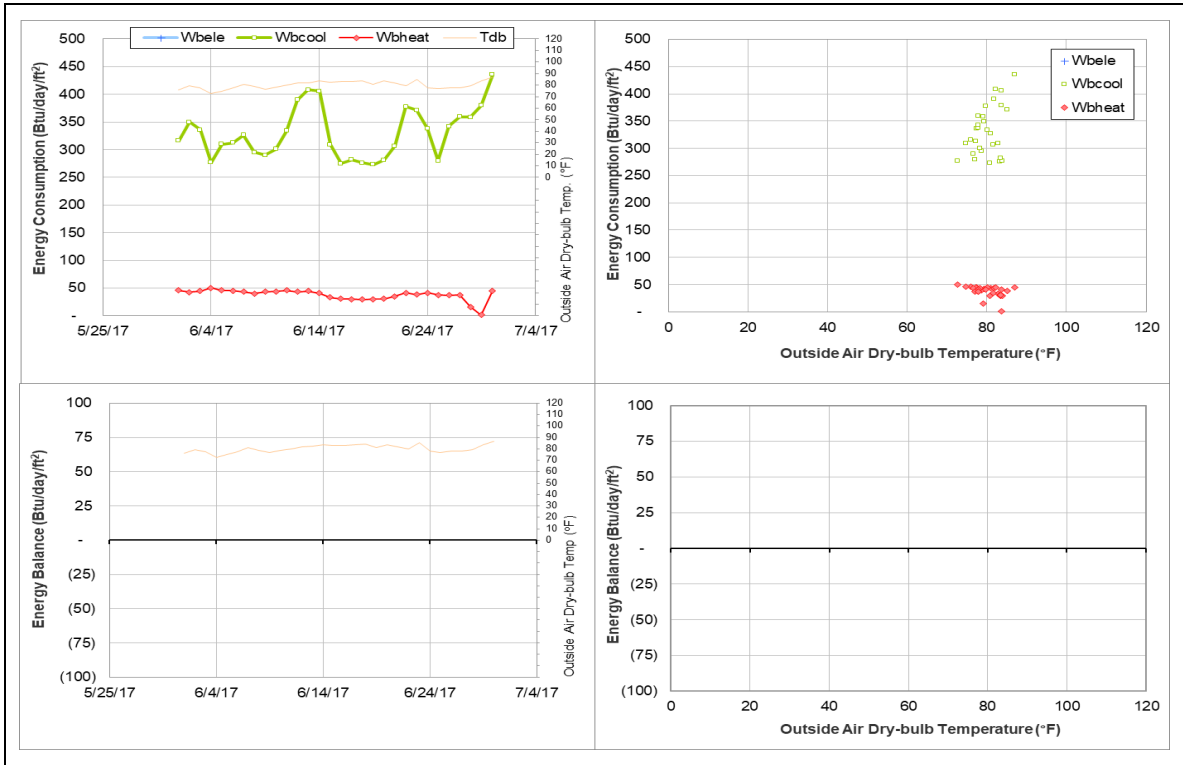
Explanatory Figure: 13 months energy balance plot with original data



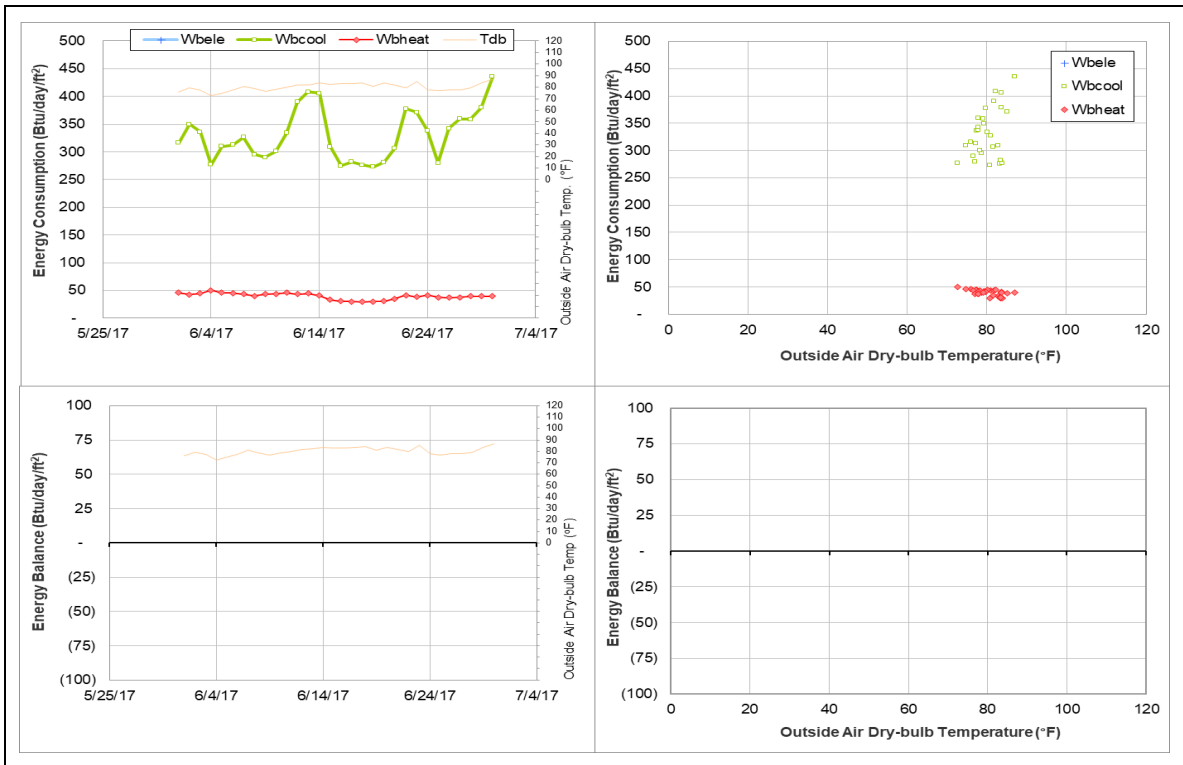
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during June 2017)



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



Dunn Residence Hall (TAMU Bldg #442)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|-----------------------|-------------------|
| HHW | 002515 | 3 | 6/28/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|-----------------------|
| HHW | The consumption increased for a short period. | 6/28/2017 – 6/30/2017 |
| | The consumption level has increased suddenly. | 6/30/2017 – Ongoing |

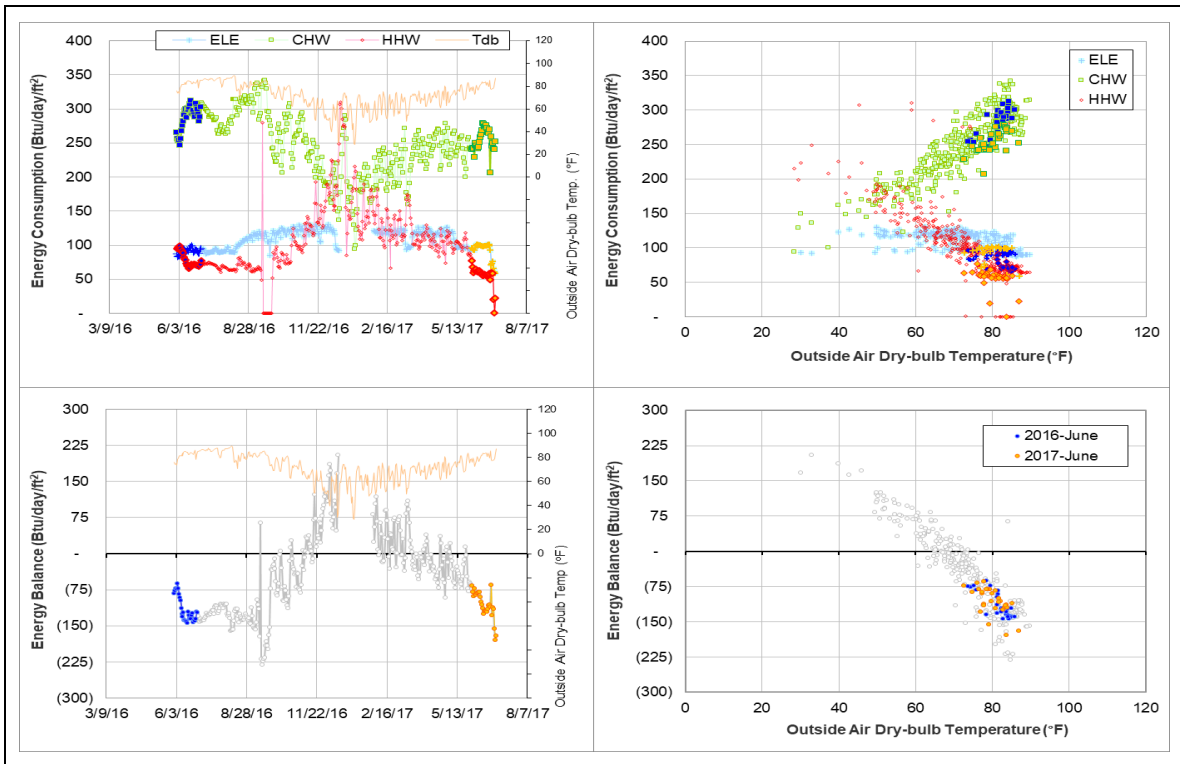
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|------------------------|
| HHW | 002515 | 6/28/2017 – 6/30/2017 | Flow rate | Decreased to near zero |
| | | 6/30/2017 – Ongoing | Delta-T | Increased |

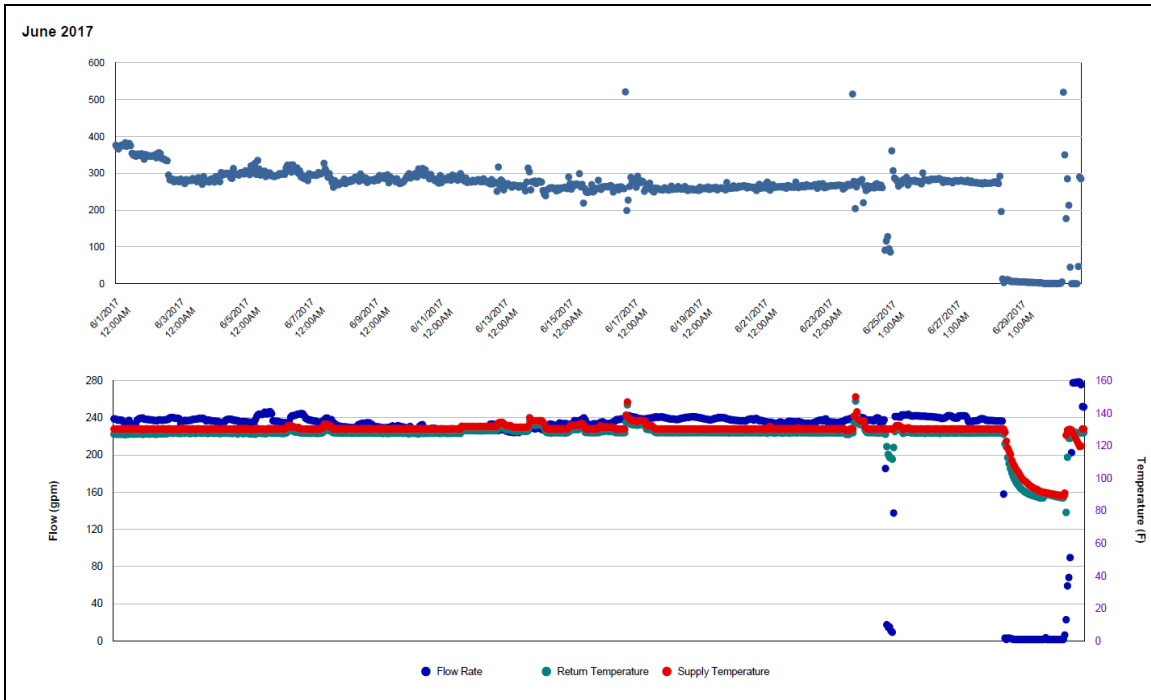
Quantitative descriptions and comments

The HHW flow rate decreased to near zero value from 6/28/2017 to 6/30/2017. On 6/30/2017, the flow rate returned, however, the Delta-T doubled to almost 12°F resulting in an increase in HHW consumption. The HHW consumption was estimated by model for these three days.

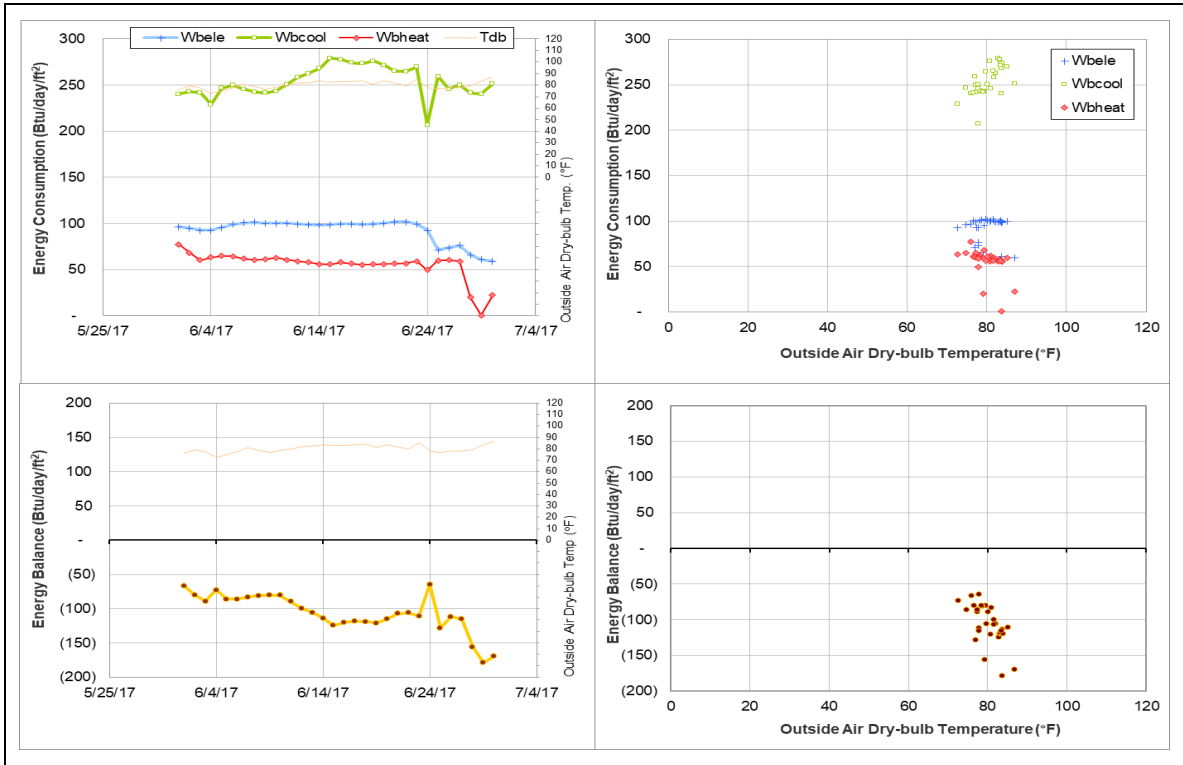
Explanatory Figure: 13 months energy balance plot with original data



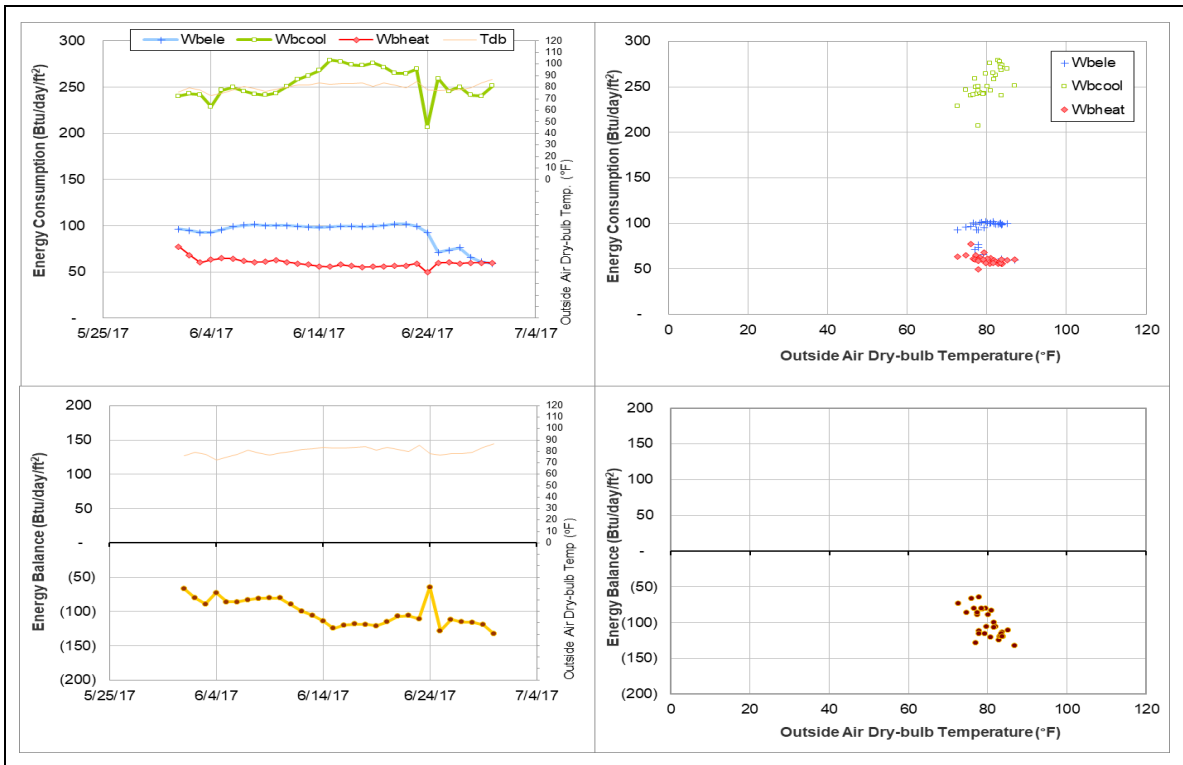
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during June 2017)



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 | 6 | 6/25/2017 – 6/30/2017 | Model |
| HHW | 002470 | 3 | 6/28/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|-----------------------|
| CHW | The consumption level has decreased suddenly. | 6/25/2017 – Ongoing |
| HHW | The consumption increased for a short period. | 6/28/2017 – 6/30/2017 |
| | The consumption level has increased suddenly. | 6/30/2017 – Ongoing |

Changes in sensor readings related to the detected issues

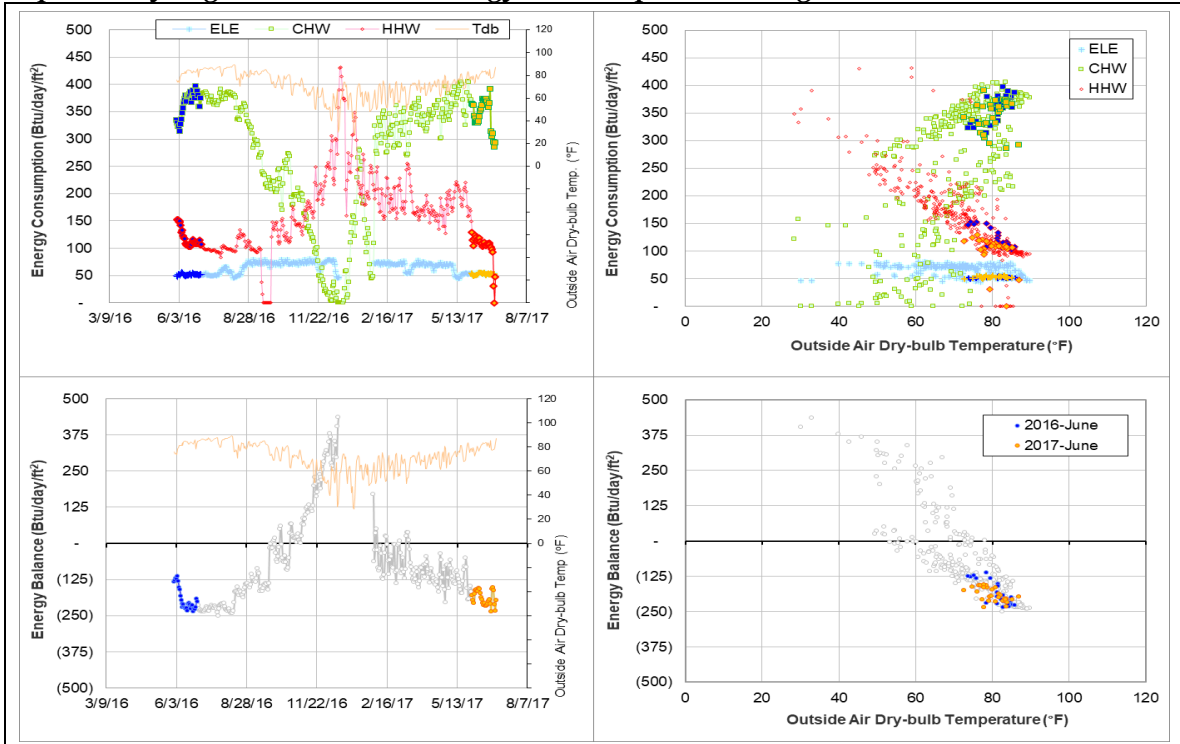
| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|------------------------|
| CHW | 002474 | 6/25/2017 – Ongoing | Flow rate | Decreased |
| | | | Delta-T | Increased |
| HHW | 002470 | 6/28/2017 – 6/30/2017 | Flow rate | Decreased to near zero |

Quantitative descriptions and comments

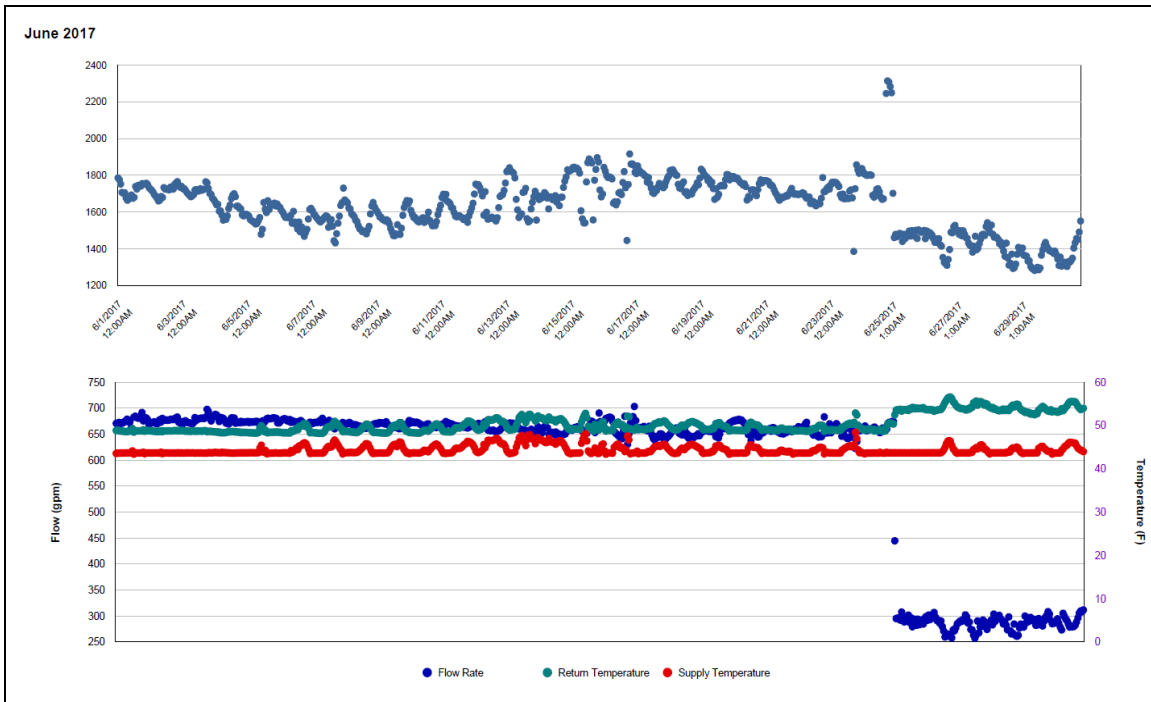
The CHW flow rate decreased by 50% starting on 6/25/2017. Although the Delta-T increased to almost 10°F, these changes resulted in an overall decrease in energy consumption. The CHW consumption for this period was estimated by model.

The HHW flow rate decreased to near zero value from 6/28/2017 to 6/30/2017. The HHW consumption was estimated by model for these three days.

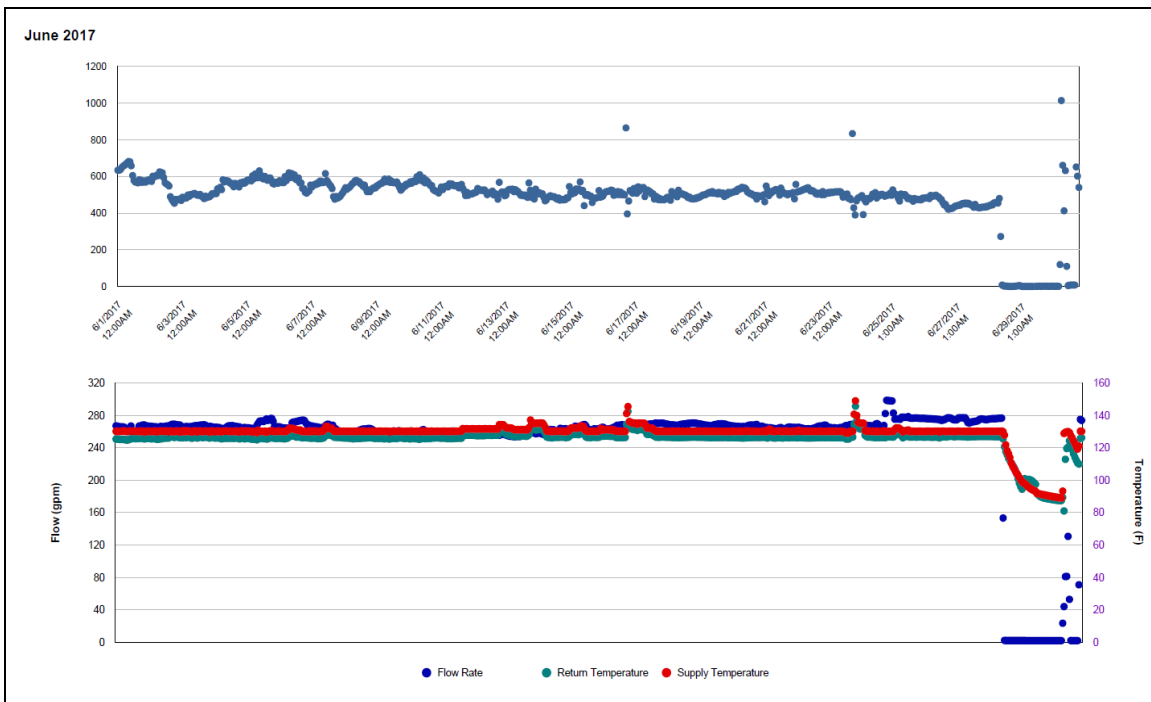
Explanatory Figure: 13 months energy balance plot with original data



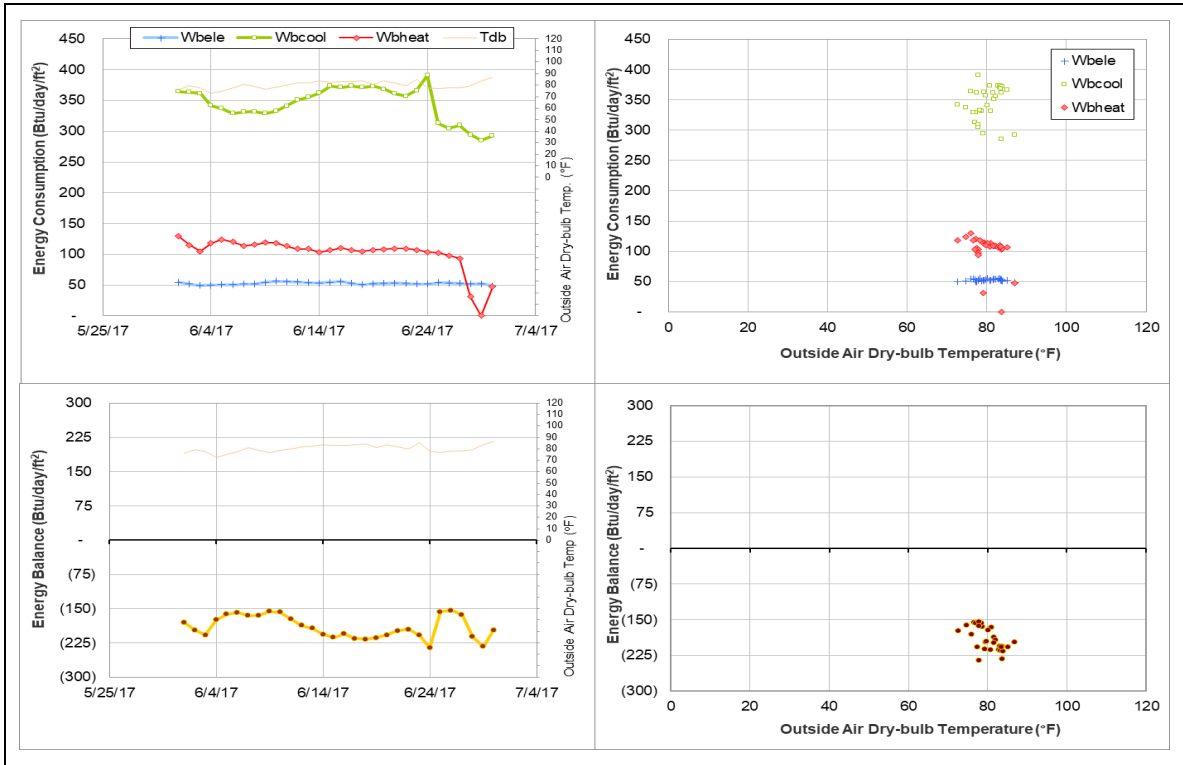
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during June 2017)



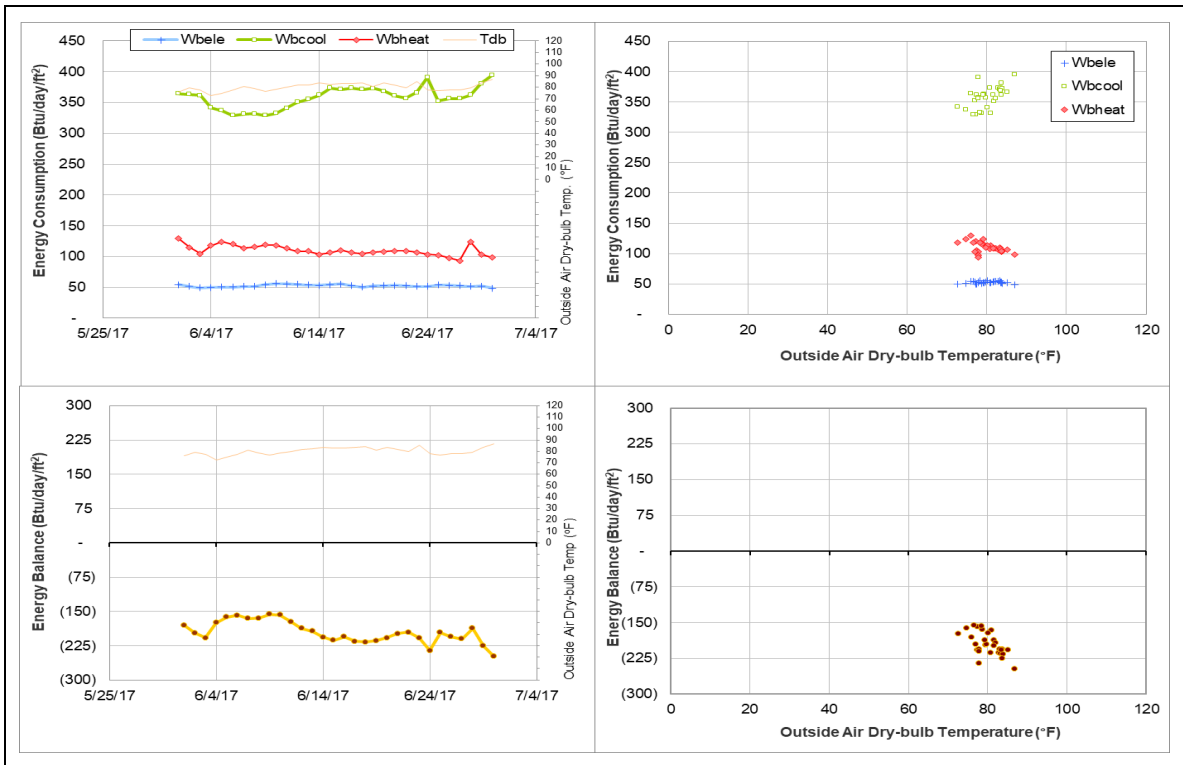
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during June 2017)



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 | 19 | 6/12/2017 – 6/30/2017 | 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. | 6/12/2017 – Ongoing |

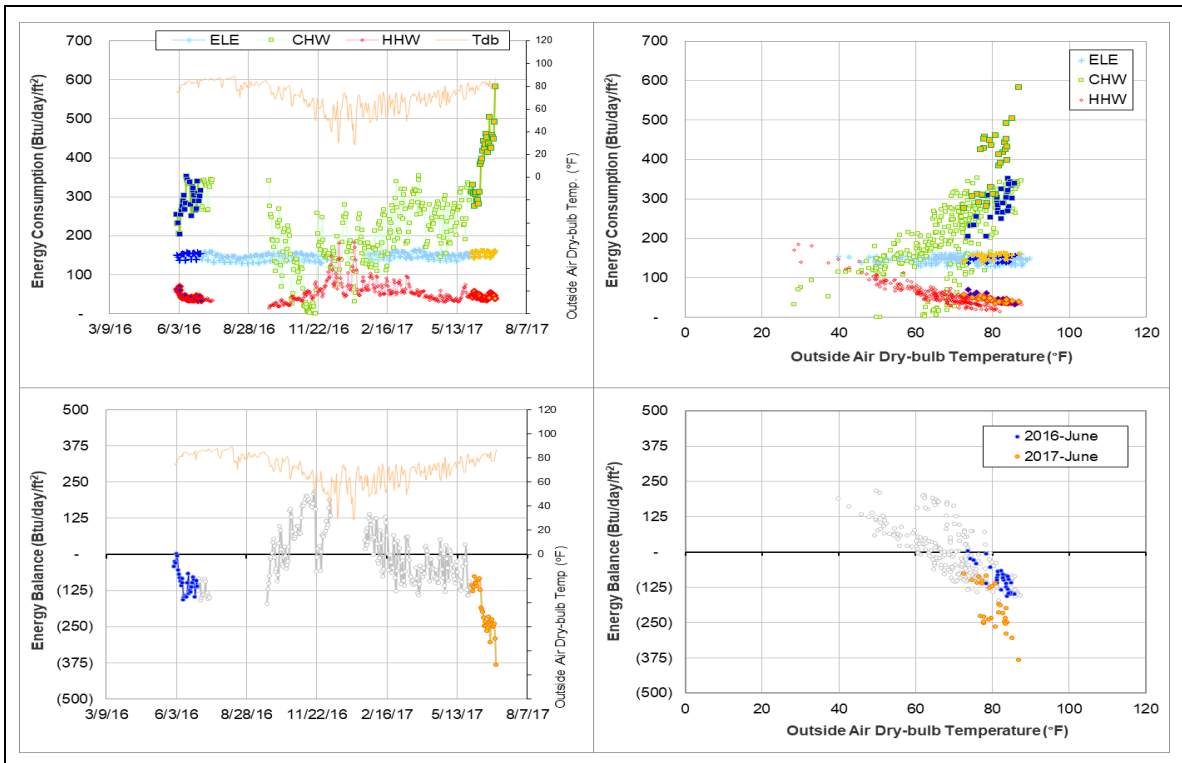
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|---------------------|-----------|-------------|
| CHW | 006388 | 6/12/2017 – Ongoing | Flow rate | Increased |

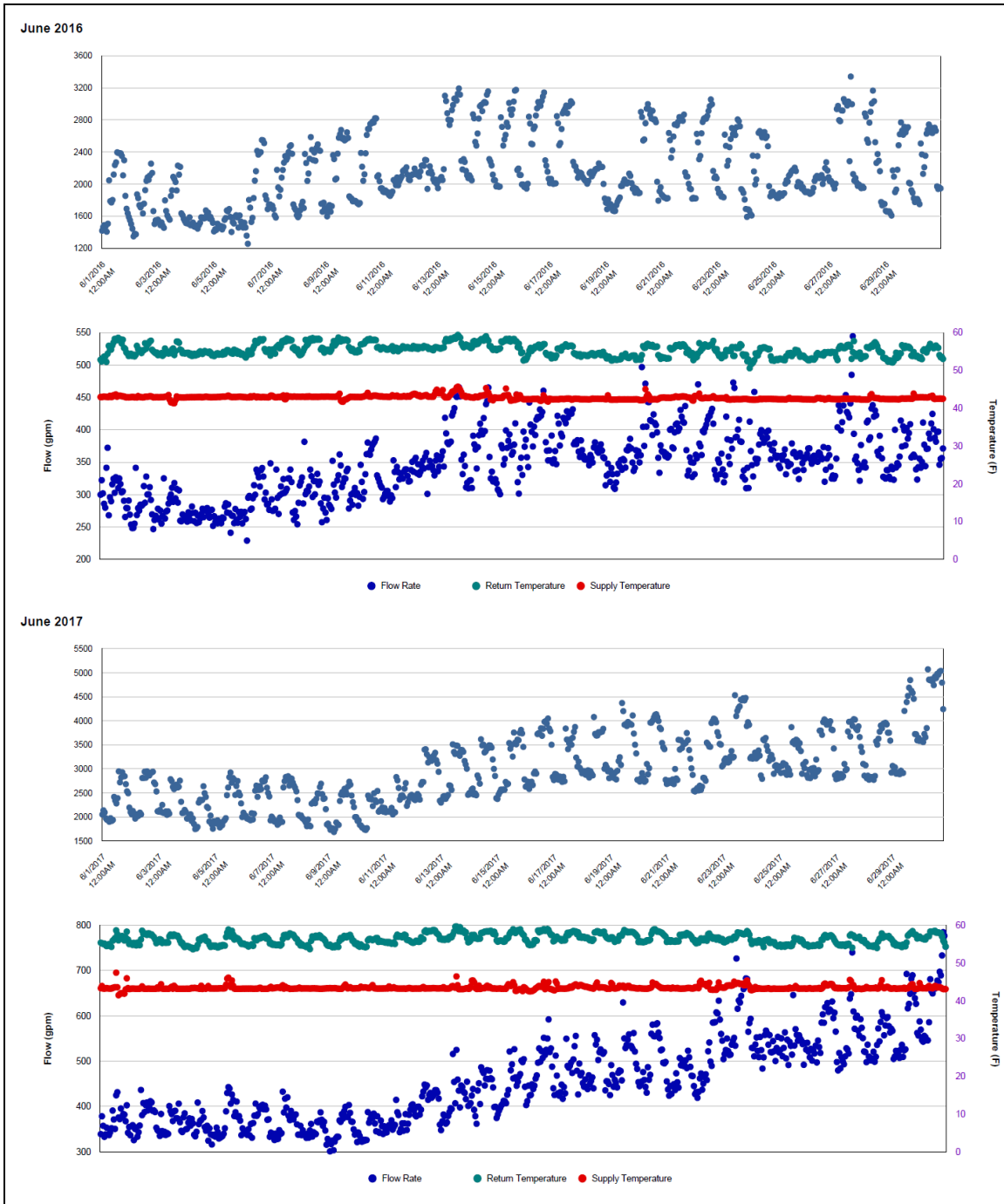
Quantitative descriptions and comments

Starting 6/12/2017, the CHW consumption pattern increased 100 - 200 Btu/day/ft². The flow rate appears to have gradually increased during June from around 350 gpm to 650 gpm. The CHW consumption was estimated by model for this period.

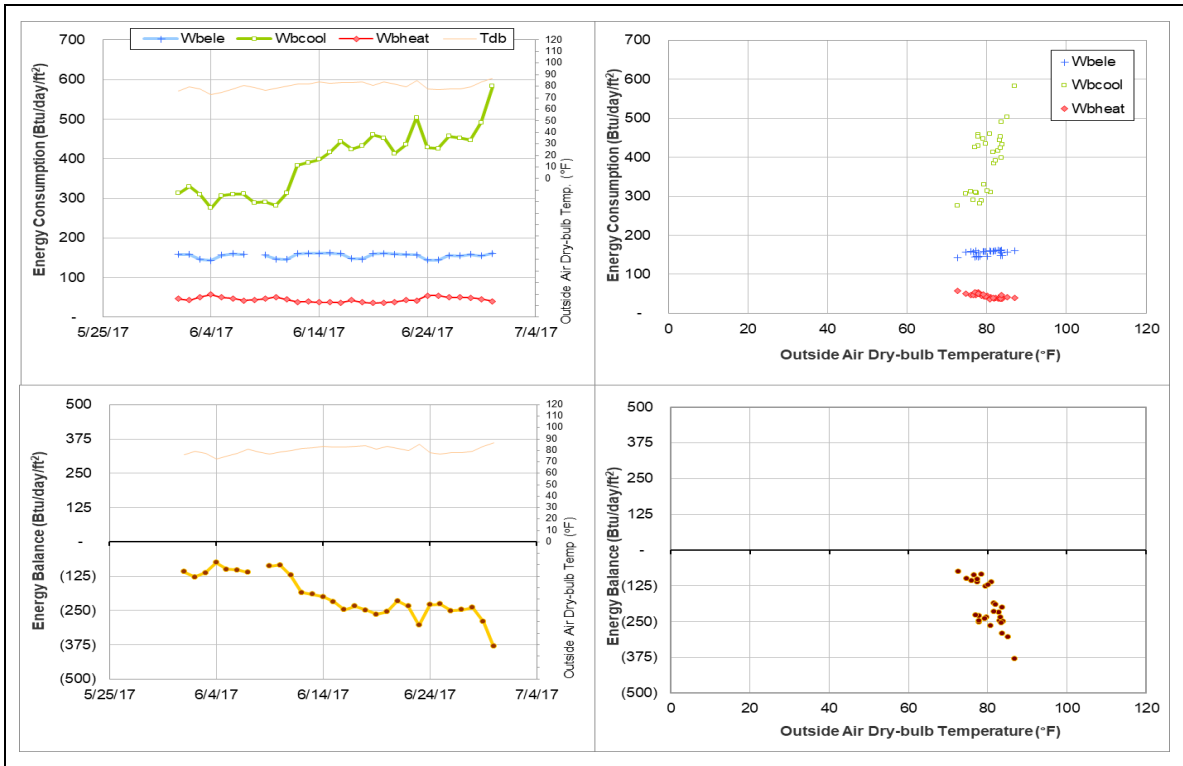
Explanatory Figure: 13 months energy balance plot with original data



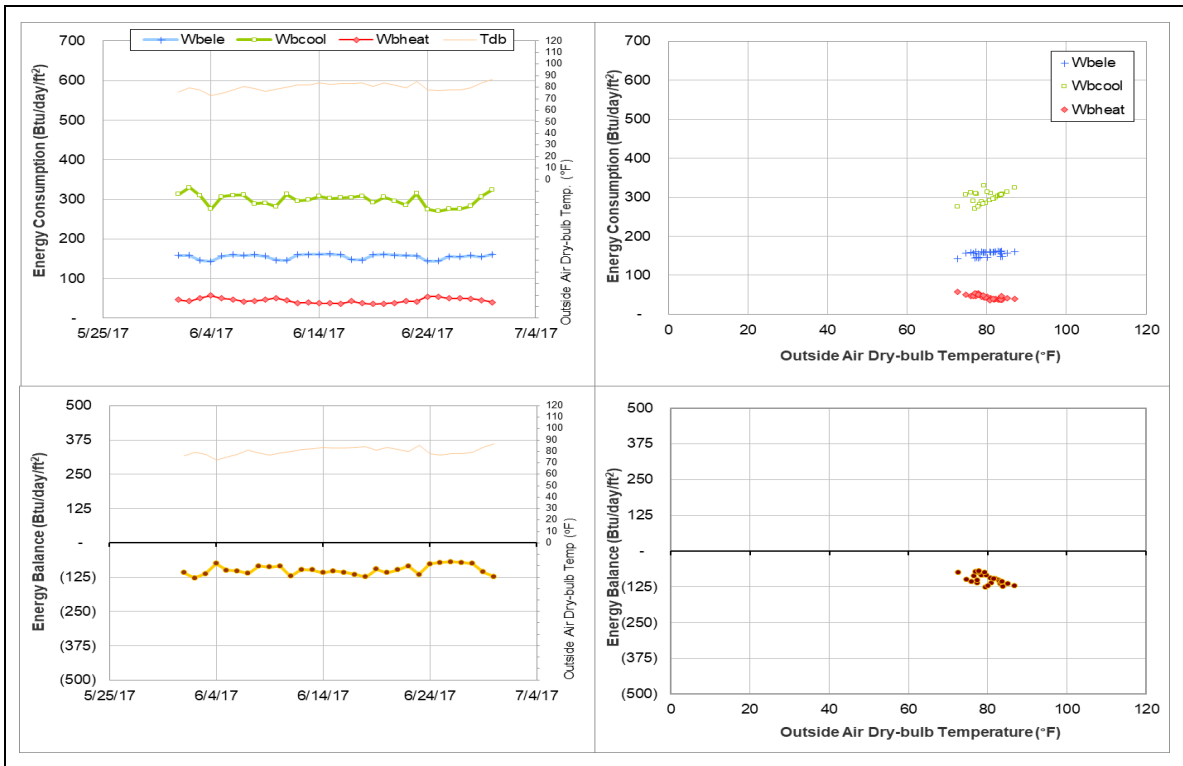
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during June 2016 (top) and June 2017(bottom))



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



Rudder Theatre Complex (TAMU Bldg # 446)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| ELE | 002977 | 30 | 6/1/2017 – 6/30/2017 | Model |
| ELE | 002980 | 30 | 6/1/2017 – 6/30/2017 | Model |
| CHW | 004297 | 30 | 6/1/2017 – 6/30/2017 | Model |
| HHW | 004309 | 30 | 6/1/2017 – 6/30/2017 | Model |

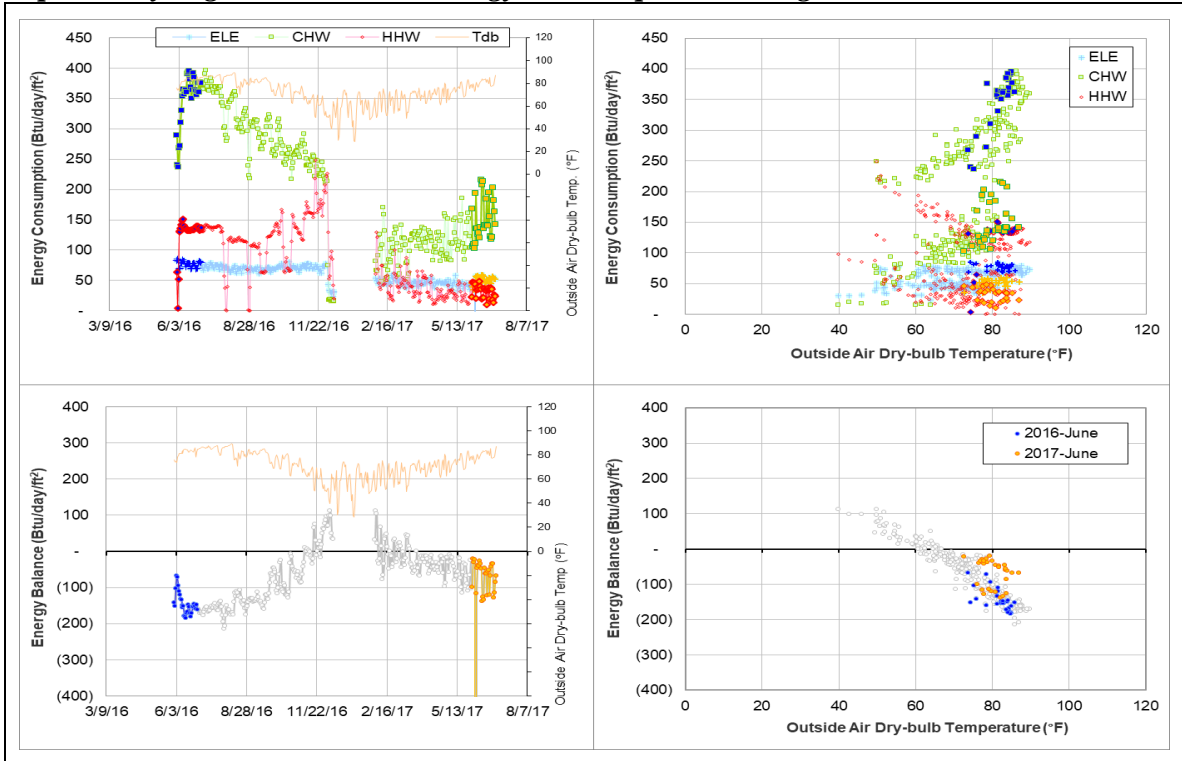
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-----------|---|--------------------|
| ELE | The consumption level has decreased suddenly. | 2/1/2017 – Ongoing |
| ELE | The consumption level has decreased suddenly. | 2/1/2017 – Ongoing |
| CHW | The consumption level has decreased suddenly. | 2/1/2017 – Ongoing |
| HHW | The consumption level has decreased suddenly. | 2/1/2017 – Ongoing |

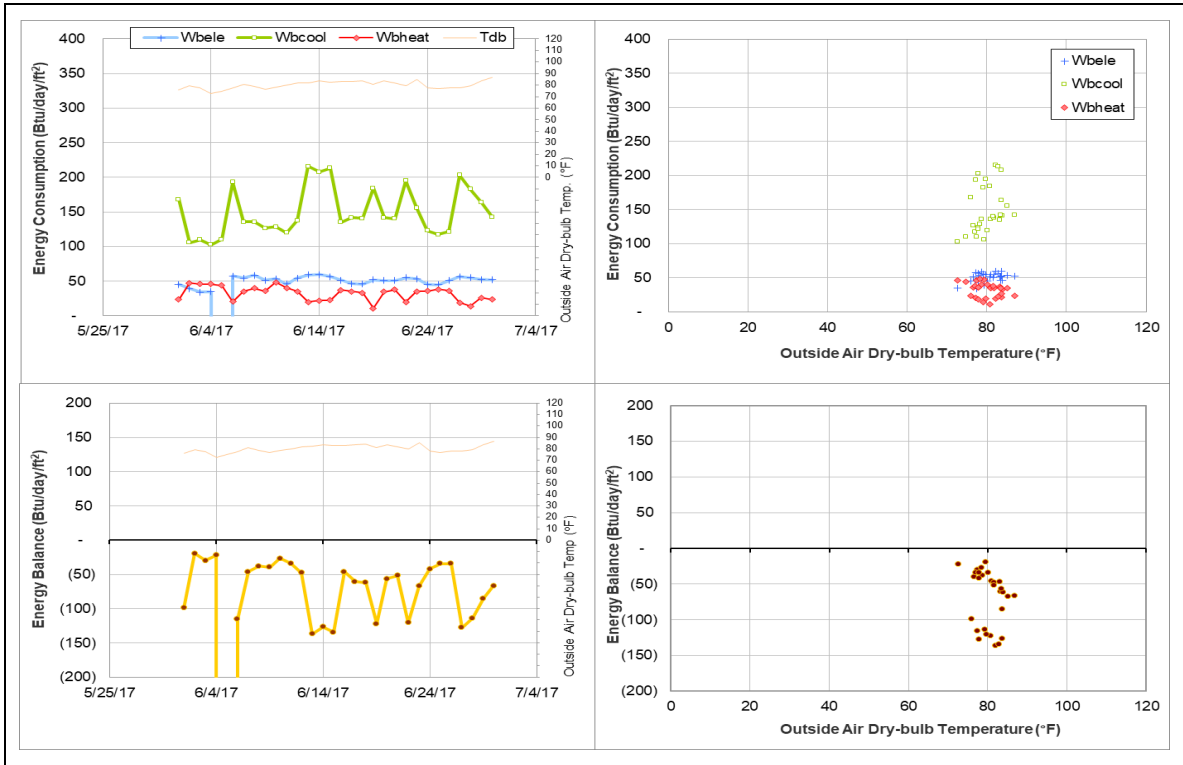
Quantitative descriptions and comments

ELE, CHW, and HHW consumption dropped during the winter break of last year (2016-2017) and again during the winter break in 2015-2016. This drop is not suspected to be a meter malfunction since a decrease would be expected during break periods and that the data from 2015-2016 winter suggests that the consumption went back to the normal level around 1/25/2016. However, the data following 2016-2017 winter has not yet returned to the normal level. The energy balance of this building does not show separate patterns for these two levels. The whole month is estimated using a model for ELE, CHW, and HHW.

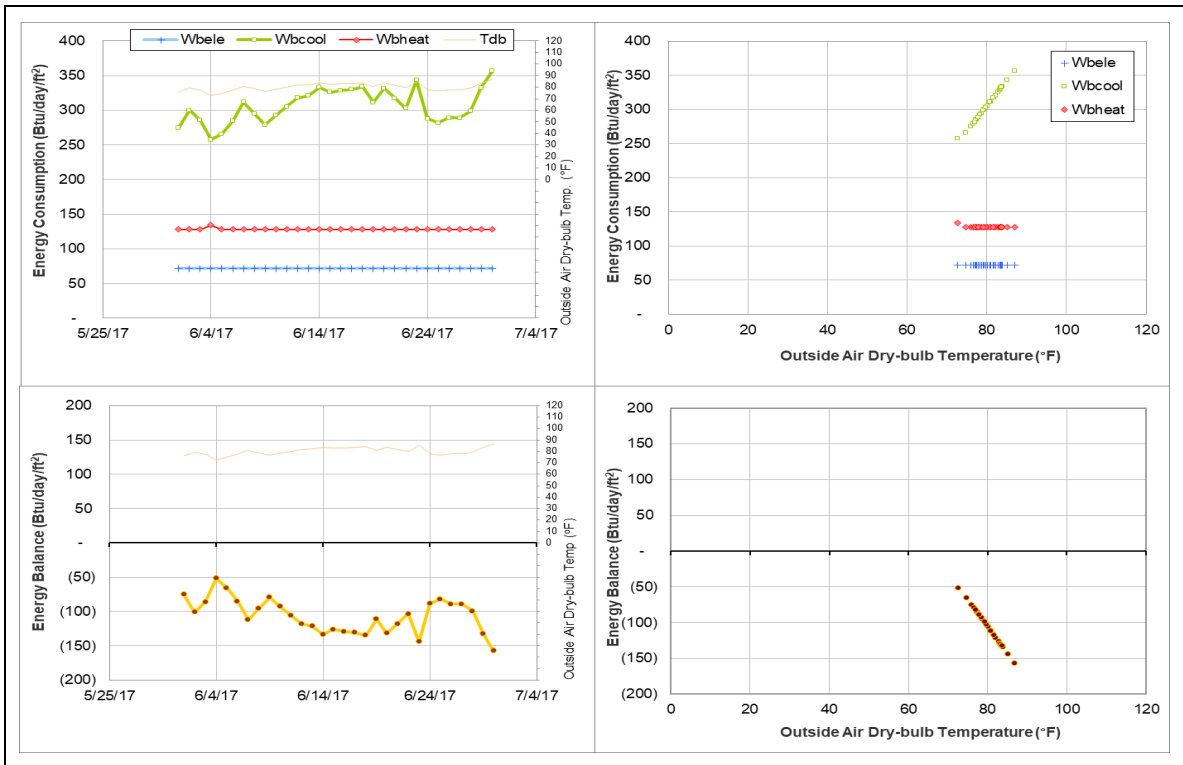
Explanatory Figure: 13 months energy balance plot with original data



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



Adams Band Hall (TAMU Bldg #448)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|-----------------------|-------------------|
| CHW | 002555 | 30 | 6/1/2017 – 6/30/2017 | Model |
| HHW | 002566 | 3 | 6/11/2017 – 6/13/2017 | 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. | 6/1/2017 – Ongoing |
| HHW | The consumption dropped for a short period. | 6/11/2017 – 6/13/2017 |

Changes in sensor readings related to the detected issues

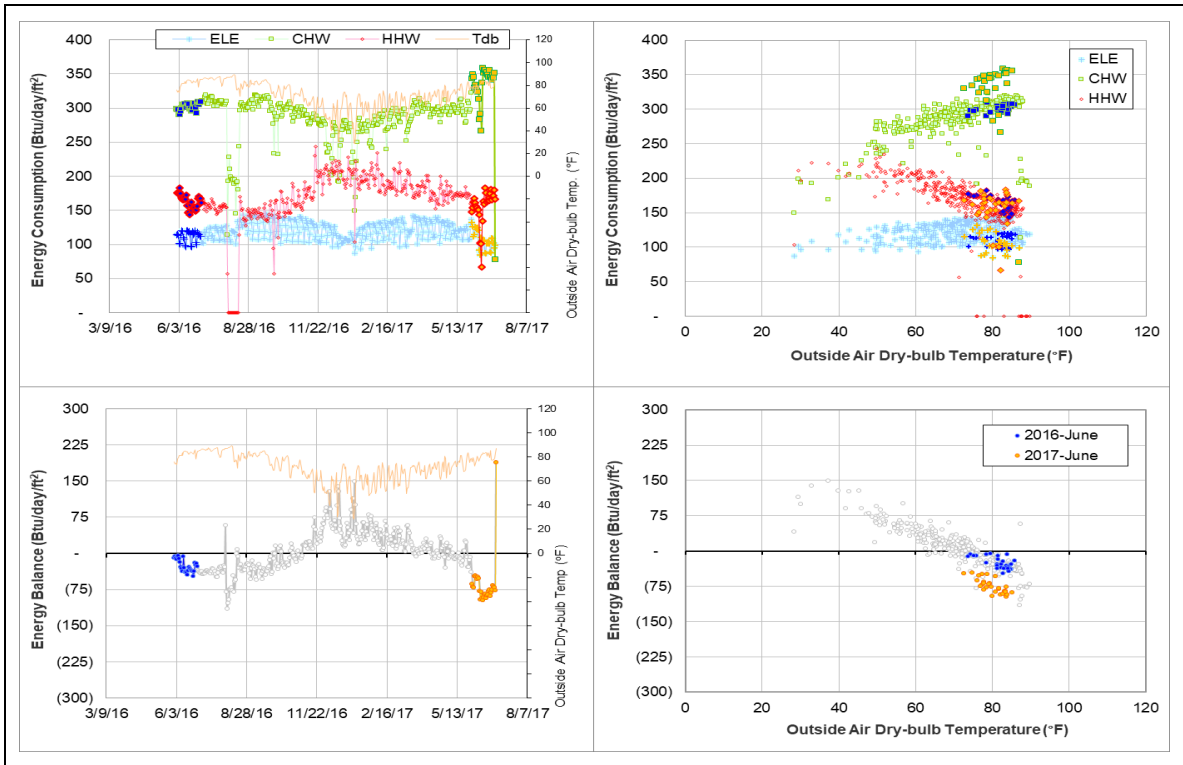
| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|-------------------|
| CHW | 002555 | 6/12/2017 – 6/30/2017 | Flow rate | Increased |
| | | 6/30/2017 – Ongoing | Flow rate | Decreased to zero |
| HHW | 002566 | 6/11/2017 – 6/13/2017 | Flow rate | Increased |
| | | | Delta-T | Decreased |

Quantitative descriptions and comments

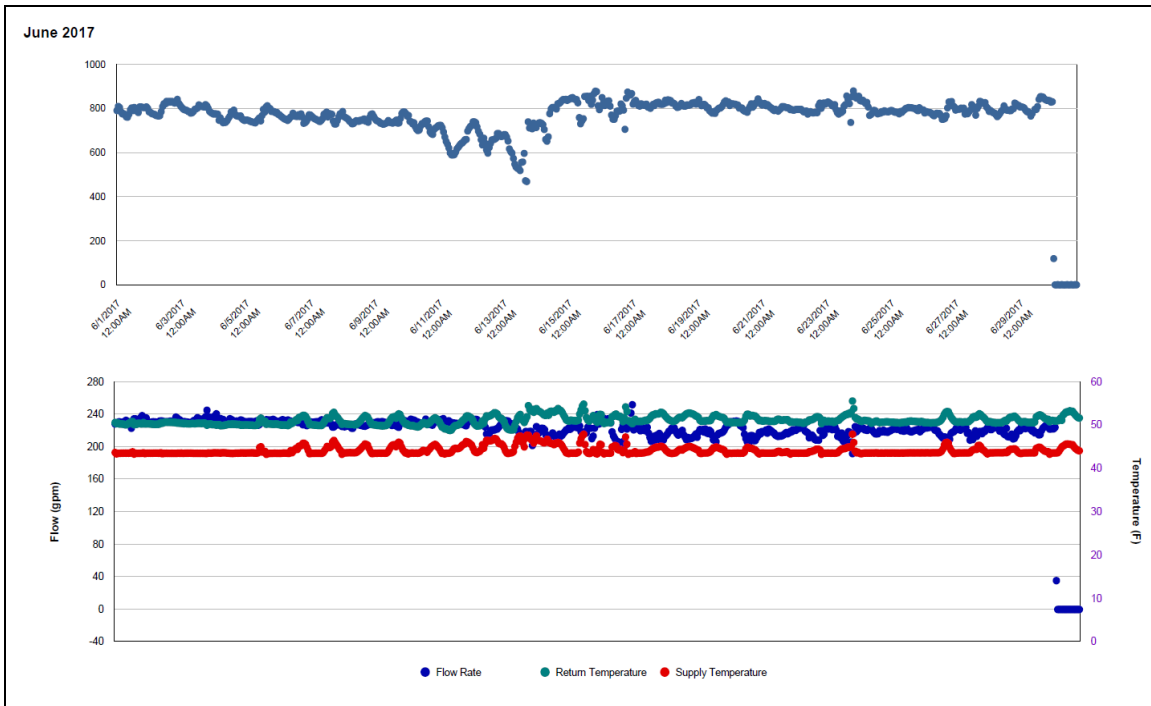
The CHW consumption pattern for June 2017 is 50 Btu/day/ft² higher than June 2016. The CHW flow rate appears to be at a consistent level in June 2017 where in the previous year, the flow rate varied throughout the day. Then on 6/30/2017, the flow rate decreased to near zero value. The CHW consumption was estimated for the month by model.

The HHW consumption decreased during 6/11/2017 – 6/13/2017. During this period the HHW flow rate appears to increase while the Delta-T decreases to near zero values. The HHW consumption was estimated by model for this period.

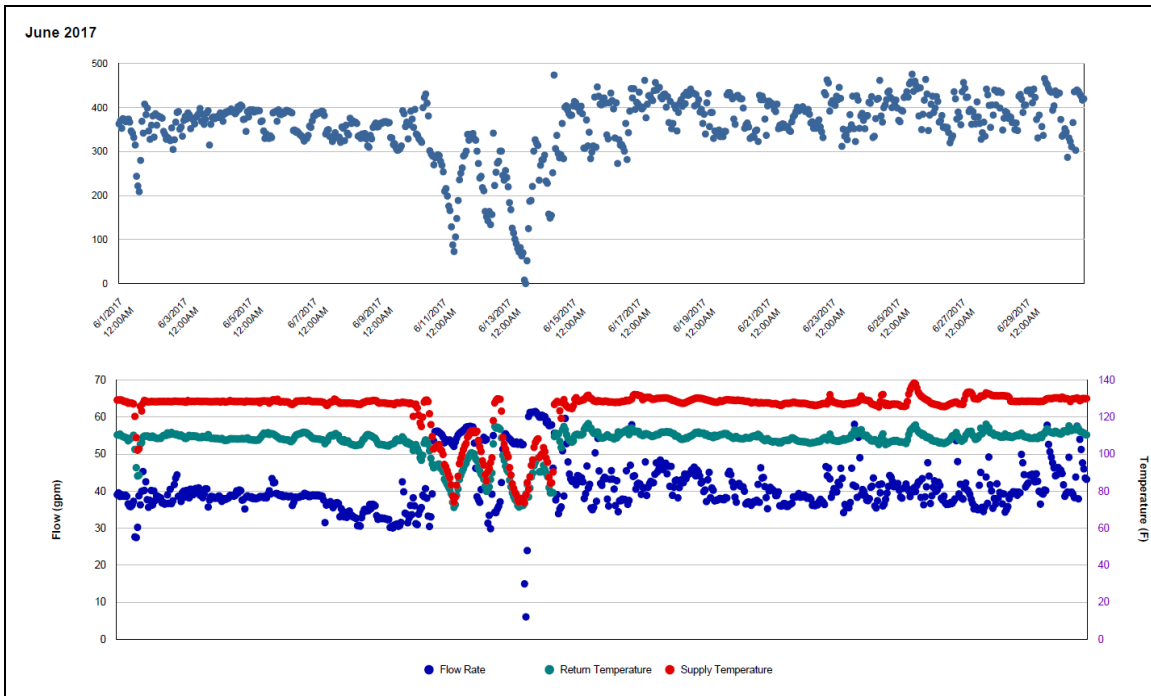
Explanatory Figure: 13 months energy balance plot with original data



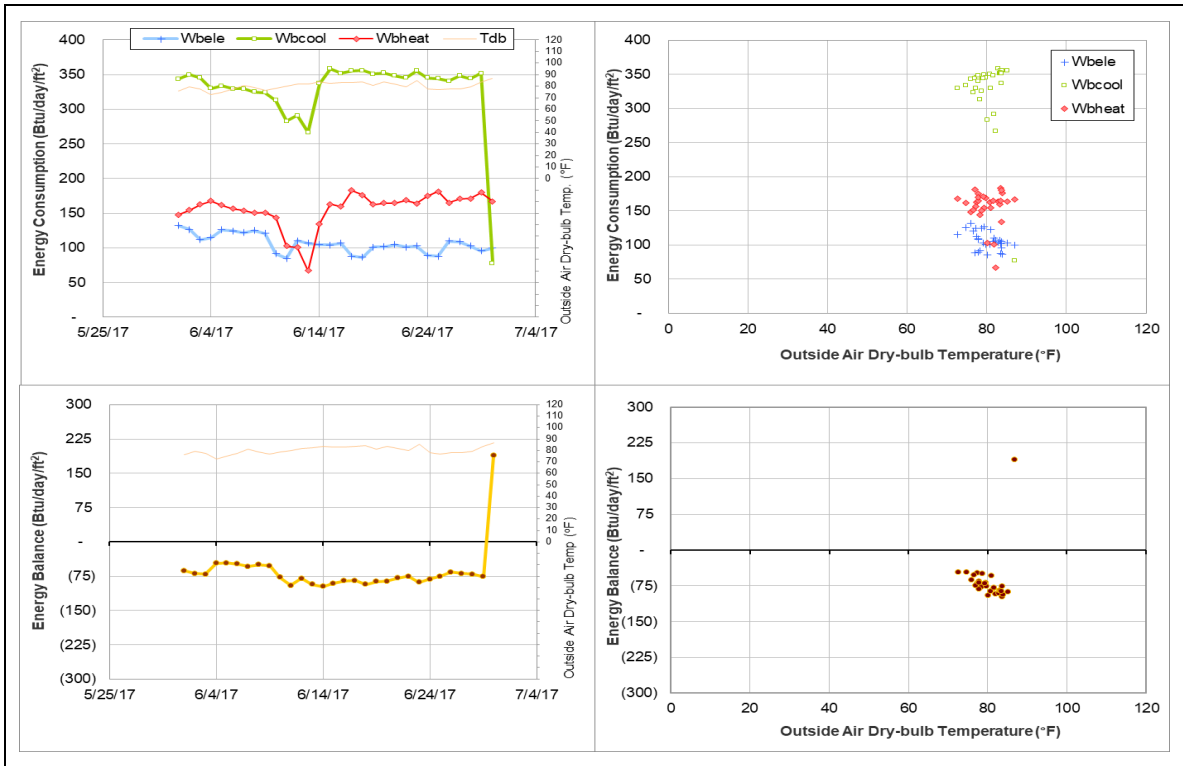
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during June 2017)



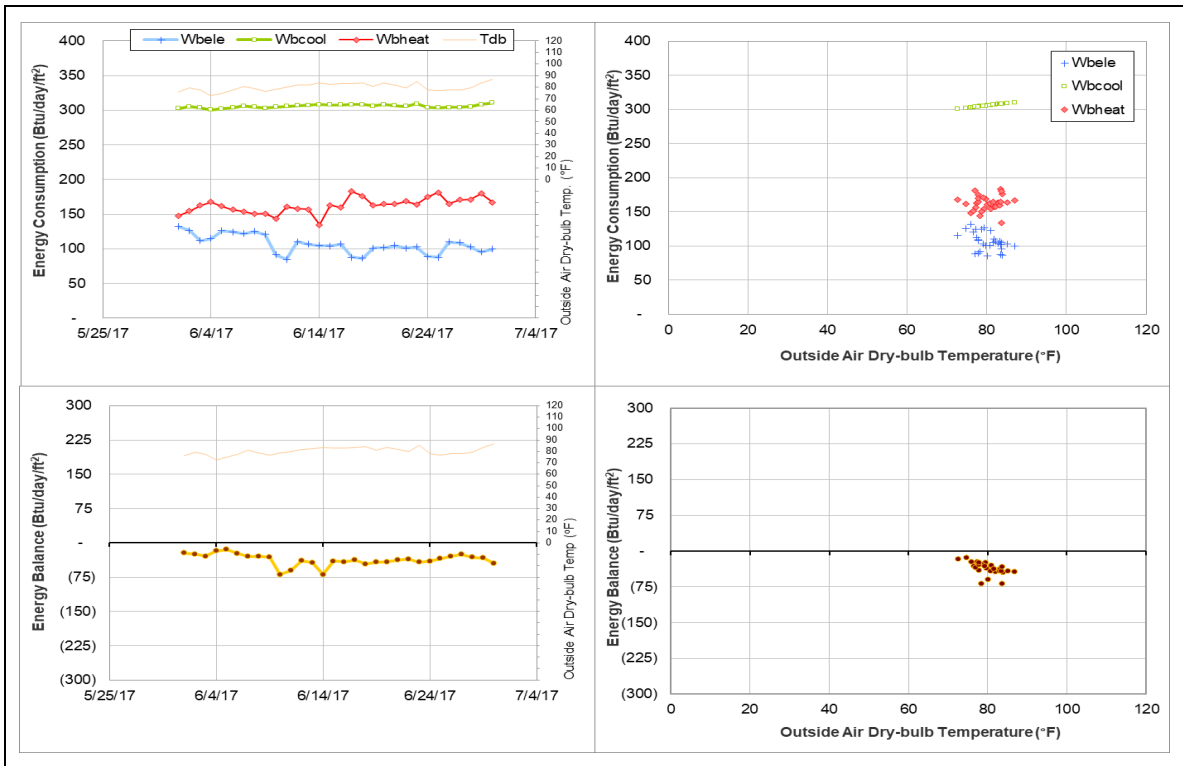
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during June 2017)



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



Psychology Building (TAMU Bldg #463)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| CHW | 002941 | 30 | 6/1/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|--|--------------------|
| CHW | The consumption level is increasing gradually. | 6/1/2017 – Ongoing |

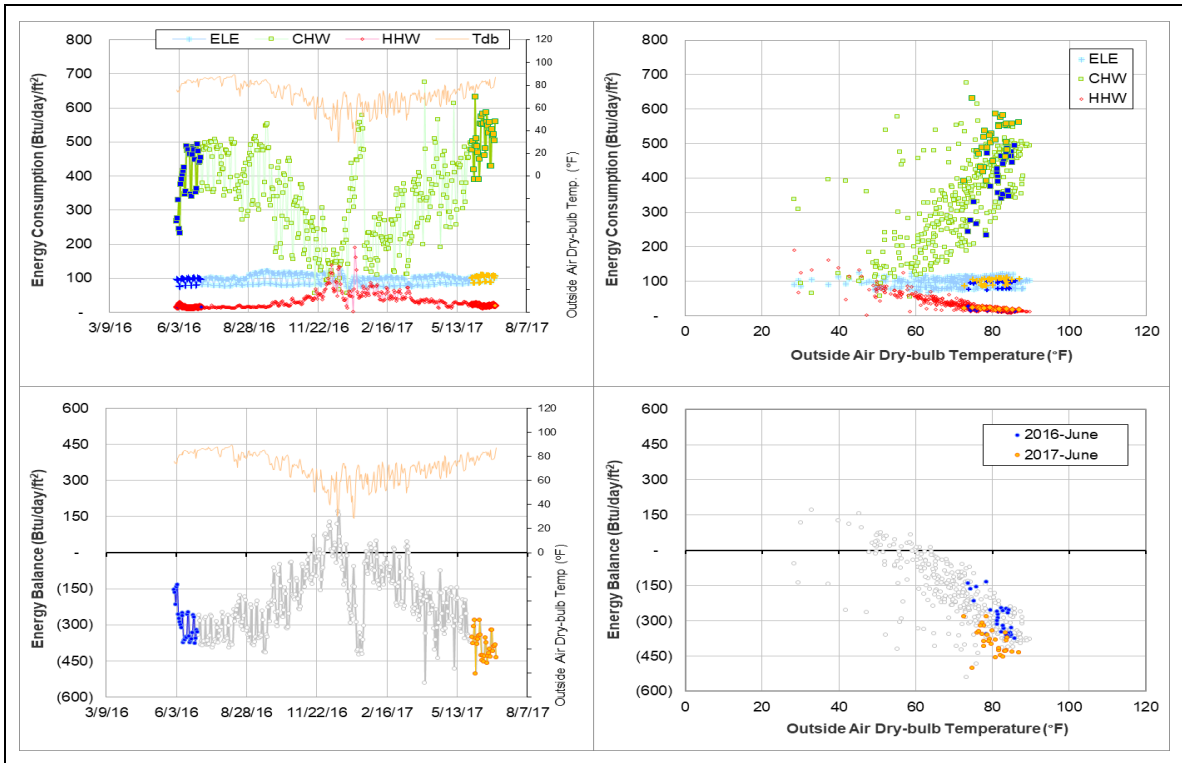
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|--------------------|-----------|-------------|
| CHW | 002941 | 6/1/2017 – Ongoing | Flow rate | Increased |

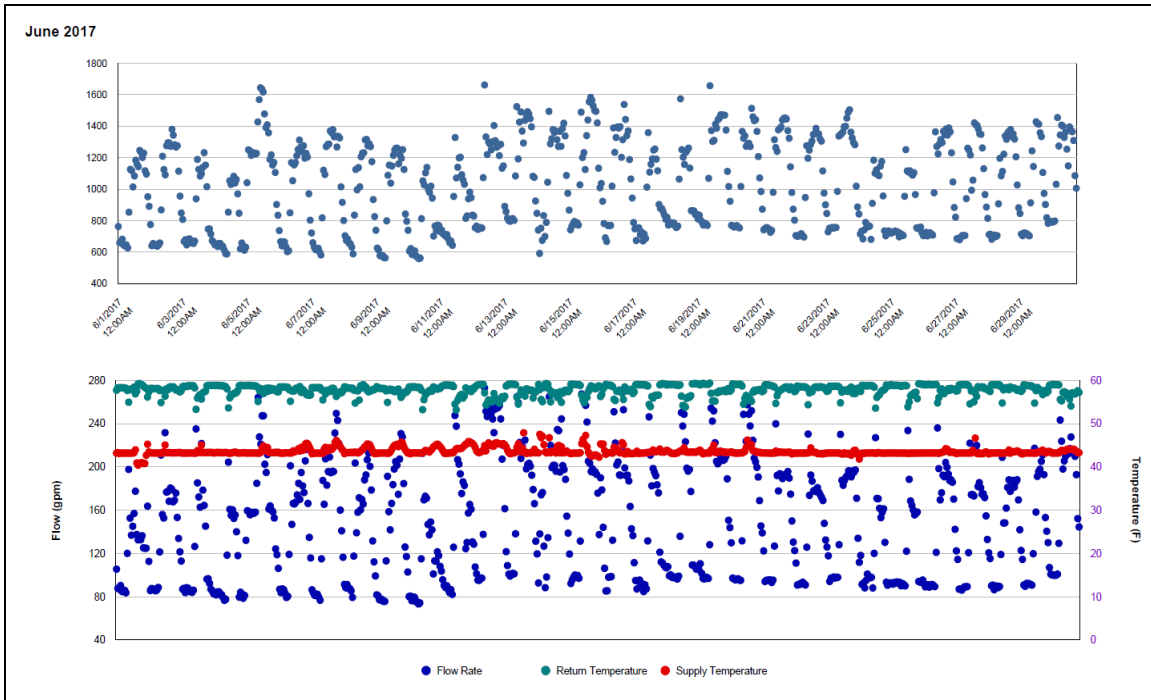
Quantitative descriptions and comments

The CHW consumption pattern appears to be at a higher level than that of June 2016. The CHW flow rate has gradually increased in June 2017, showing an increase in the base (lowest value) CHW flow rate from 80 gpm to a 90-100 gpm range. The CHW consumption was estimated for this period by model.

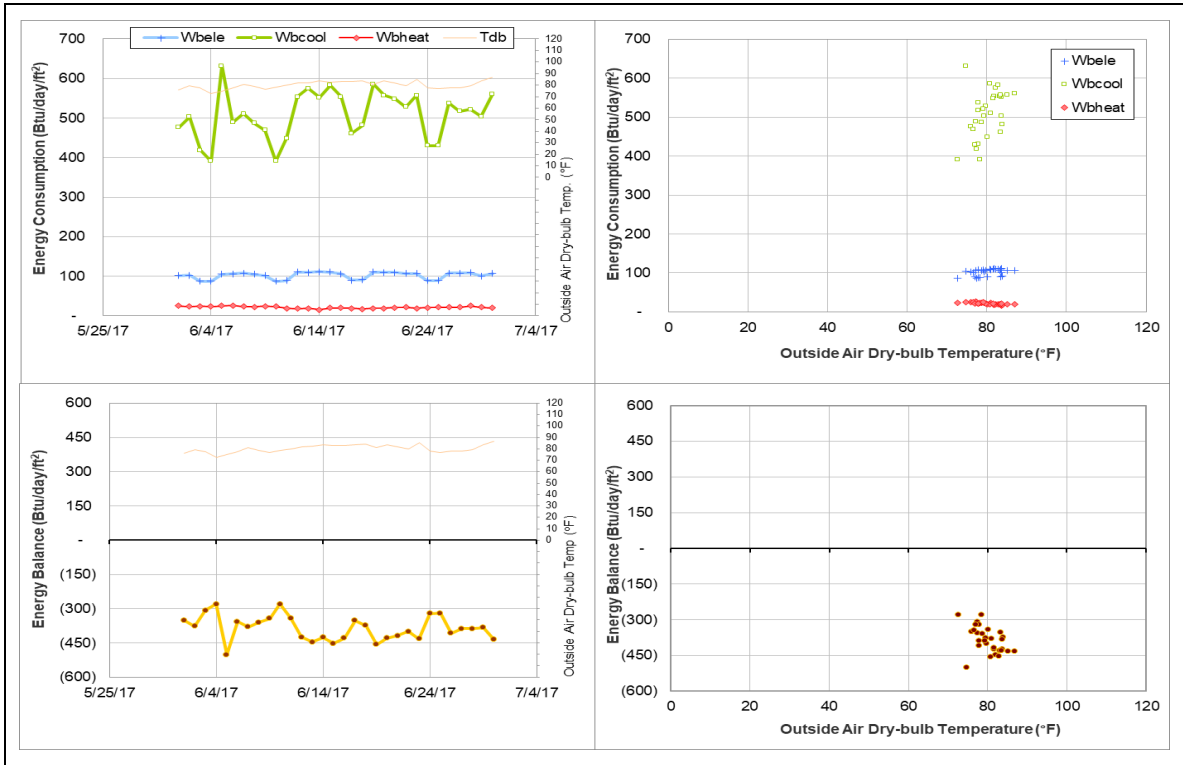
Explanatory Figure: 13 months energy balance plot with original data



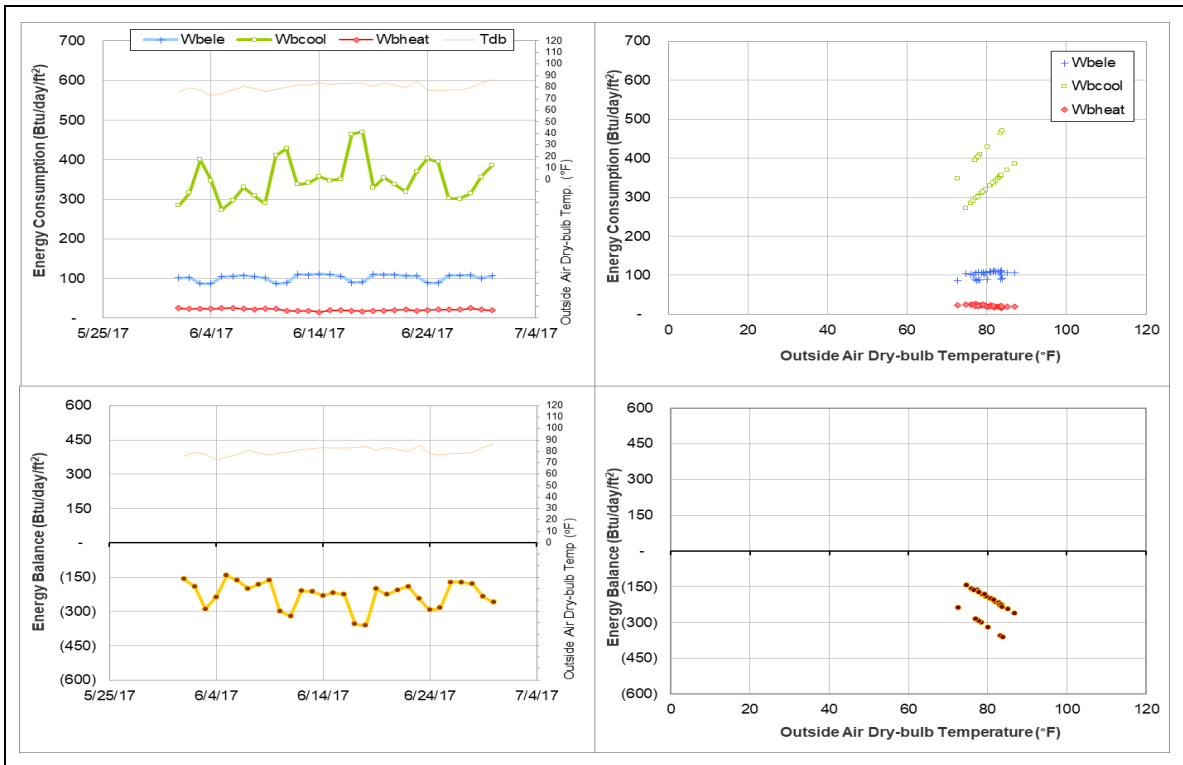
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during June 2017)



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



State Chemist Building (TAMU Bldg # 464)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|--------------------|-------------------|
| ELE | 005837 | 31 | 6/1/2017–6/30/2017 | Model |

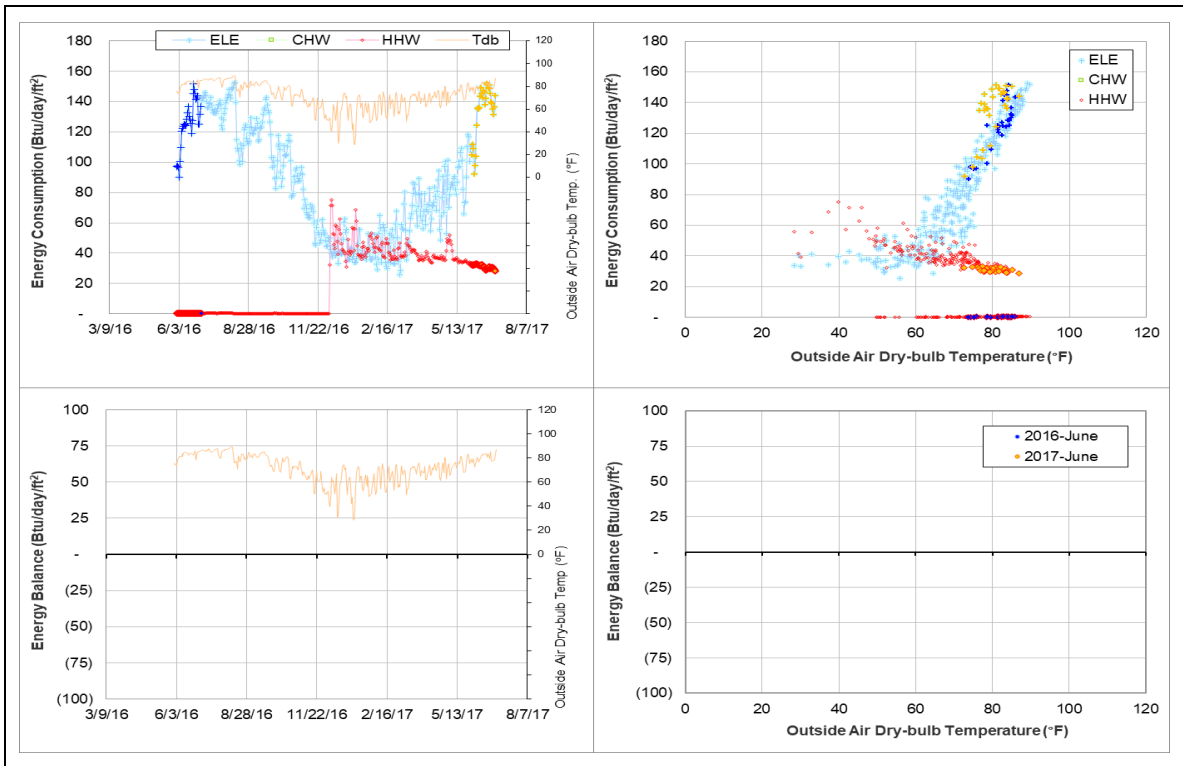
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-----------|--|-----------------------|
| ELE | The consumption level is lower than the level during the past year. | 11/20/2016 – 6/7/2017 |
| | The consumption level is higher than the level during the past year. | 6/7/2016 – Ongoing |

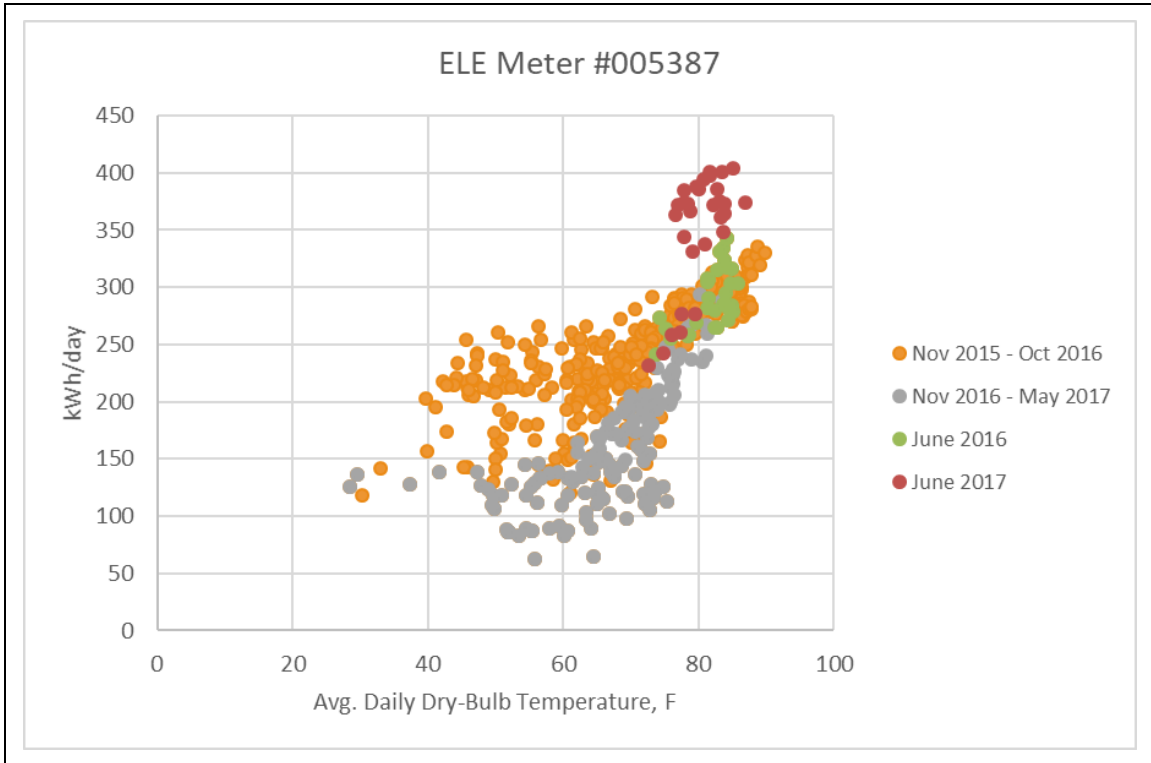
Quantitative descriptions and comments

There are two ELE meters (#005837 and #005839) for this building. Starting in November 2016, the level for meter #005837 has decreased and the data appears scattered. Compared to April 2016, the average daily kWh for April 2017 has decreased by ~60 kWh. The decrease in this meter can be masked in the 13-month plot that shows the total of the two ELE meters combined. Recently, starting 6/7/2017, the average daily kWh increased by ~100 kWh compared to the consumption pattern before November 2016. Explanatory figures showing the change before and after November 2016 are provided below. The ELE consumption for meter #005837 was estimated by model for the month.

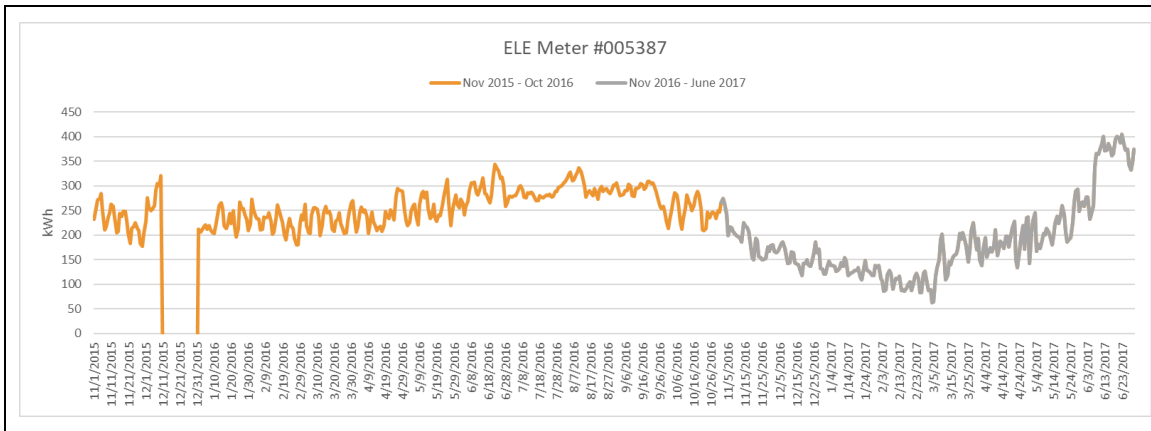
Explanatory Figure: 13 months energy balance plot with original data



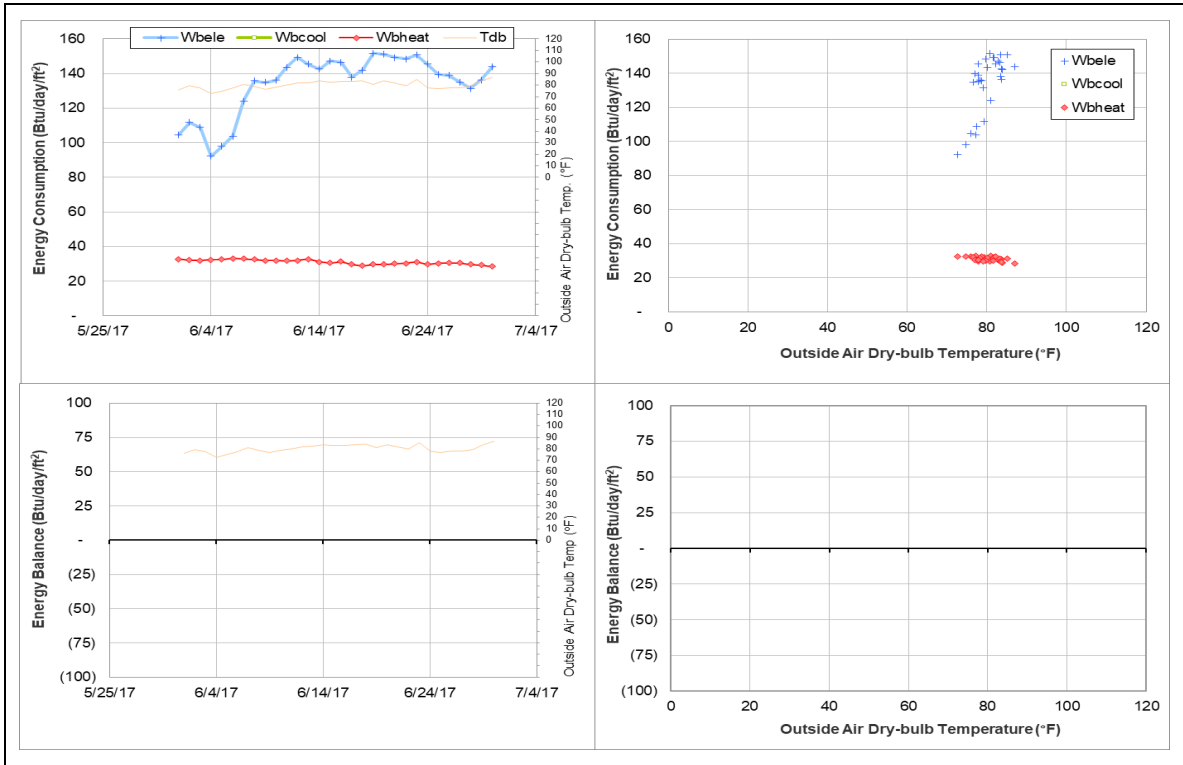
Explanatory Figure: Scatter plot of daily ELE energy consumption for meter #005837 versus outside dry-bulb temperature.



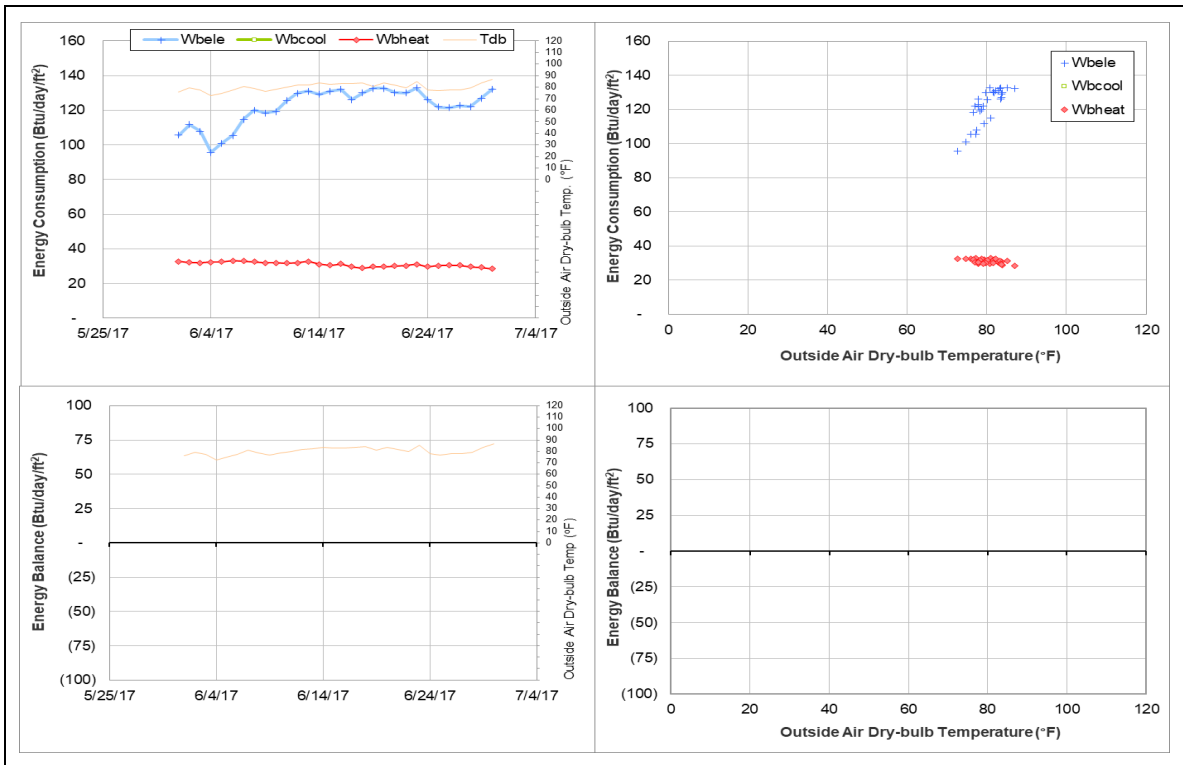
Explanatory Figure: Times series plot of hourly ELE energy consumption for meter #005837. The series in grey represents the recent data from November 2015 through June 2017.



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 | 30 | 6/1/2017 – 6/30/2017 | 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 |

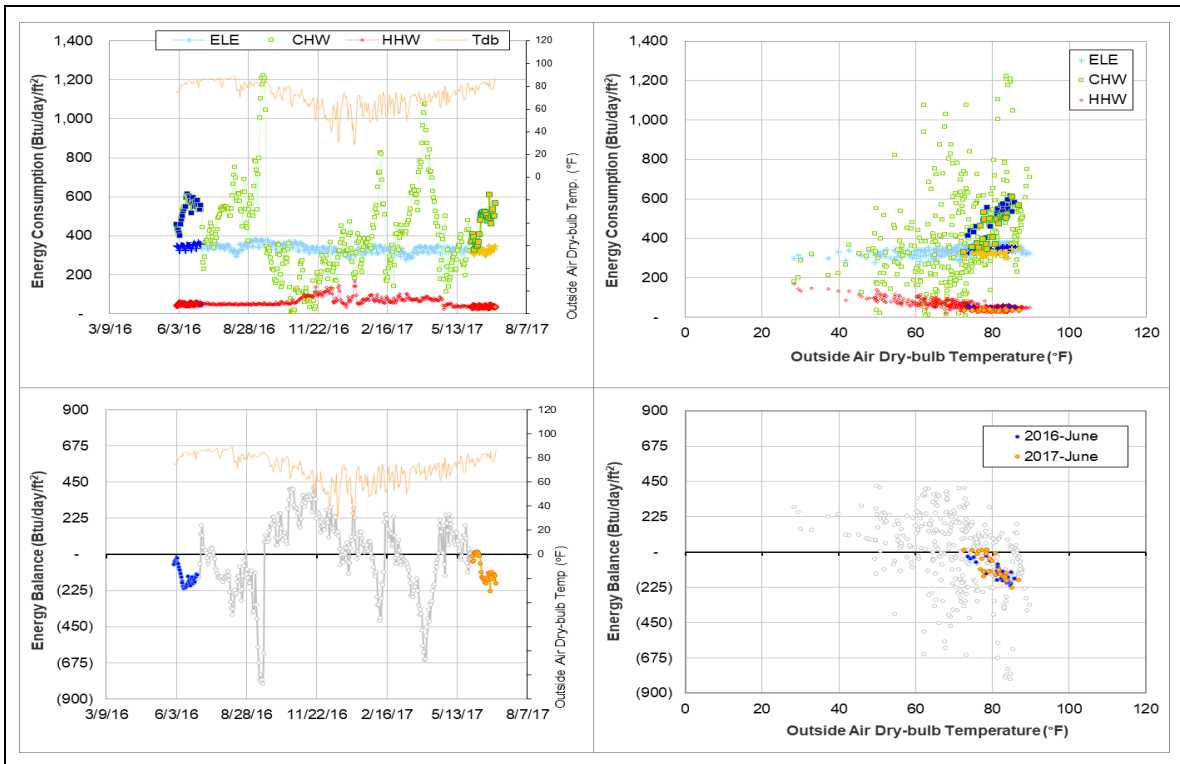
Changes in sensor readings related to the detected issues

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

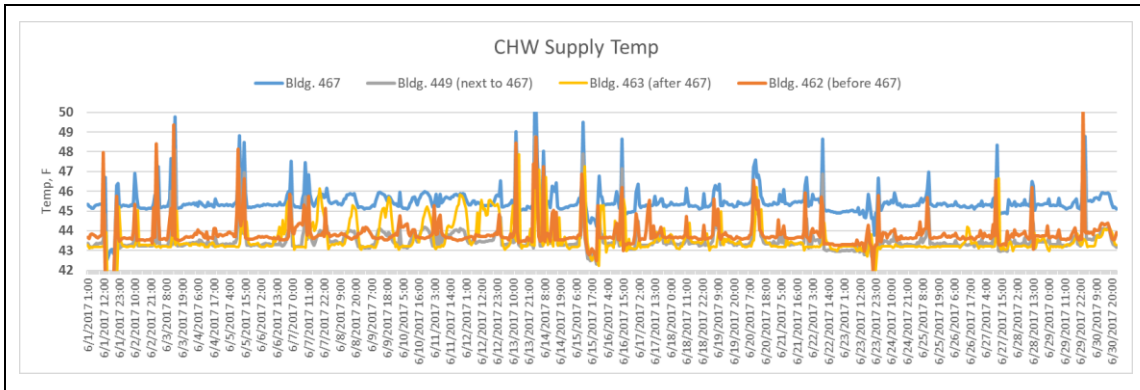
Quantitative descriptions and comments

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 range. 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 consumption was estimated for this period by model.

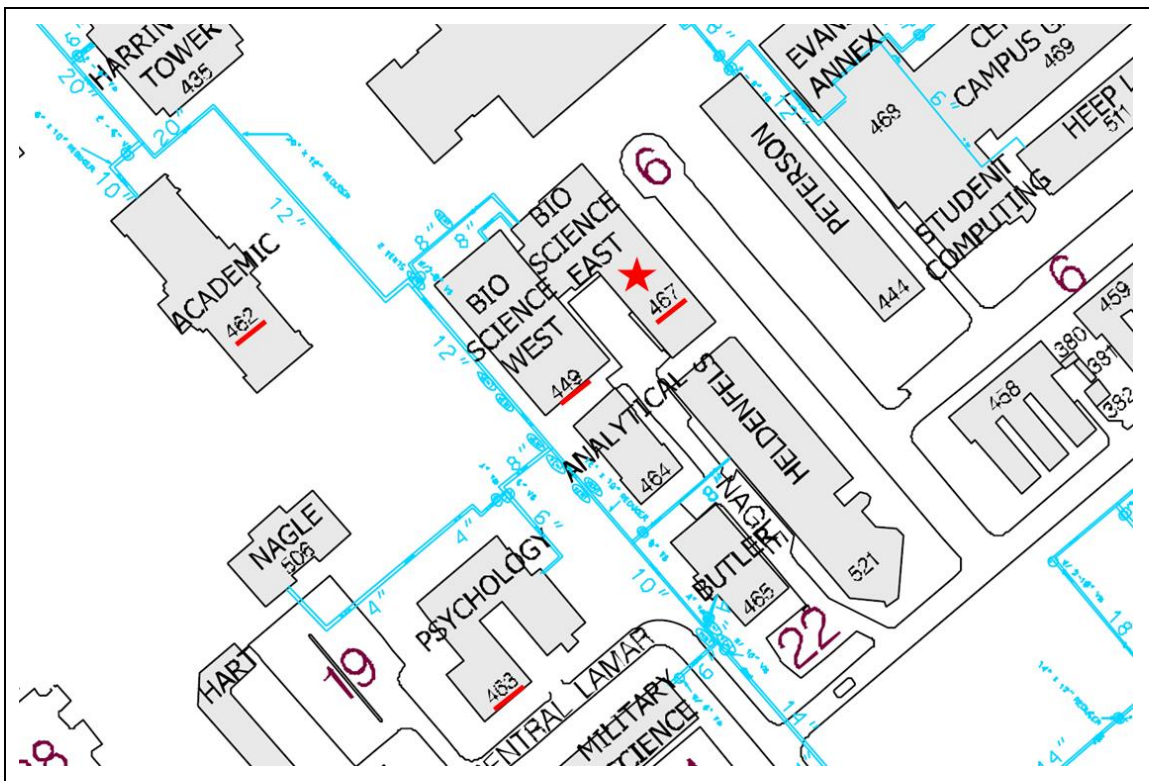
Explanatory Figure: 13 months energy balance plot with original data



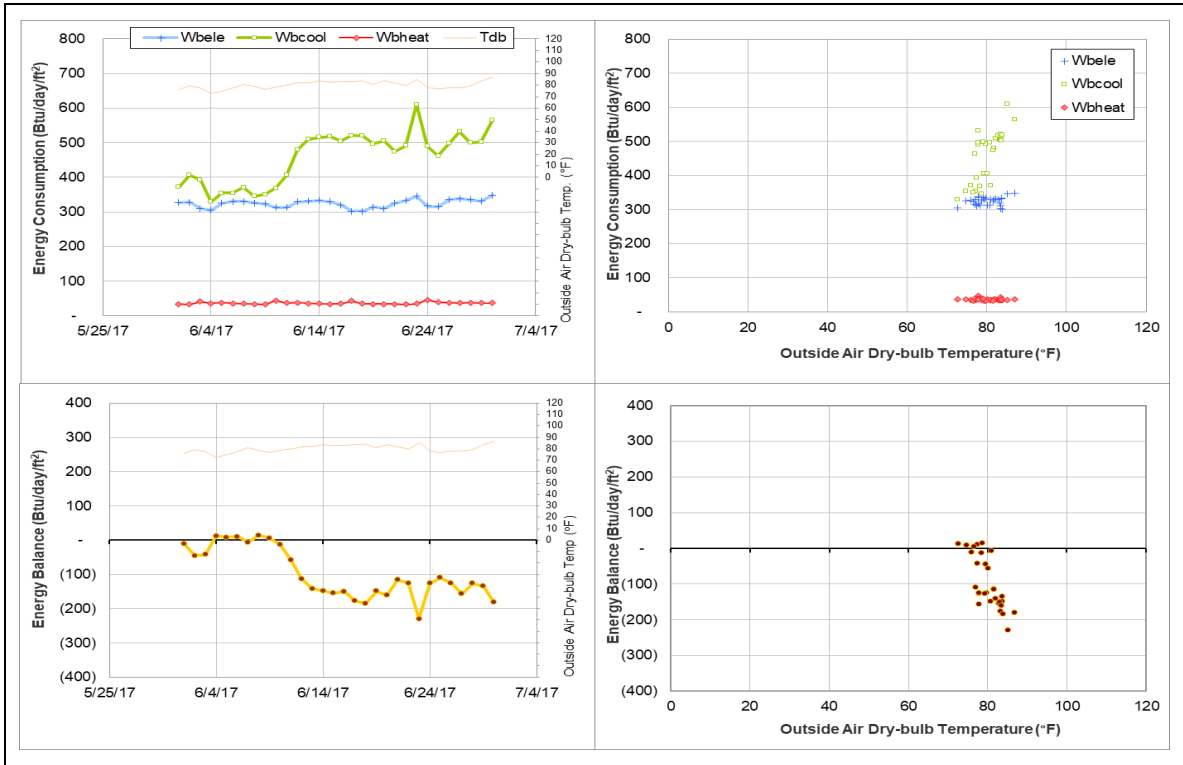
Explanatory Figure: Time series plot of hourly average CHW supply temperature for Bldgs. #467 Biological Sciences East, #462 Academic, #449 Biological Sciences West, and #463 Psychology. (June 2017)



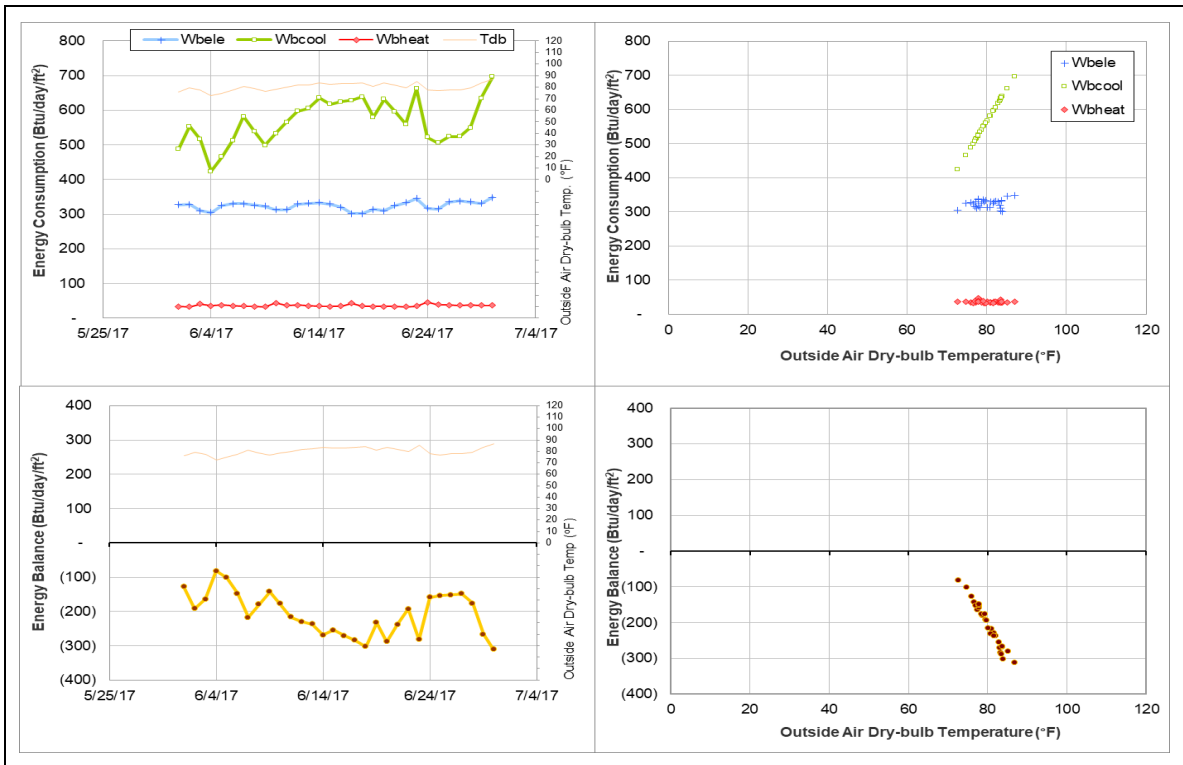
Explanatory Figure: CHW distribution with Bldgs. #467 Biological Sciences East, #462 Academic, #449 Biological Sciences West, and #463 Psychology highlighted.



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



YMCA Building (TAMU Bldg #474)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| HHW | 007526 | 6 | 6/7/2017 – 6/12/2017 | 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. | 6/7/2017 – 6/12/2017 |

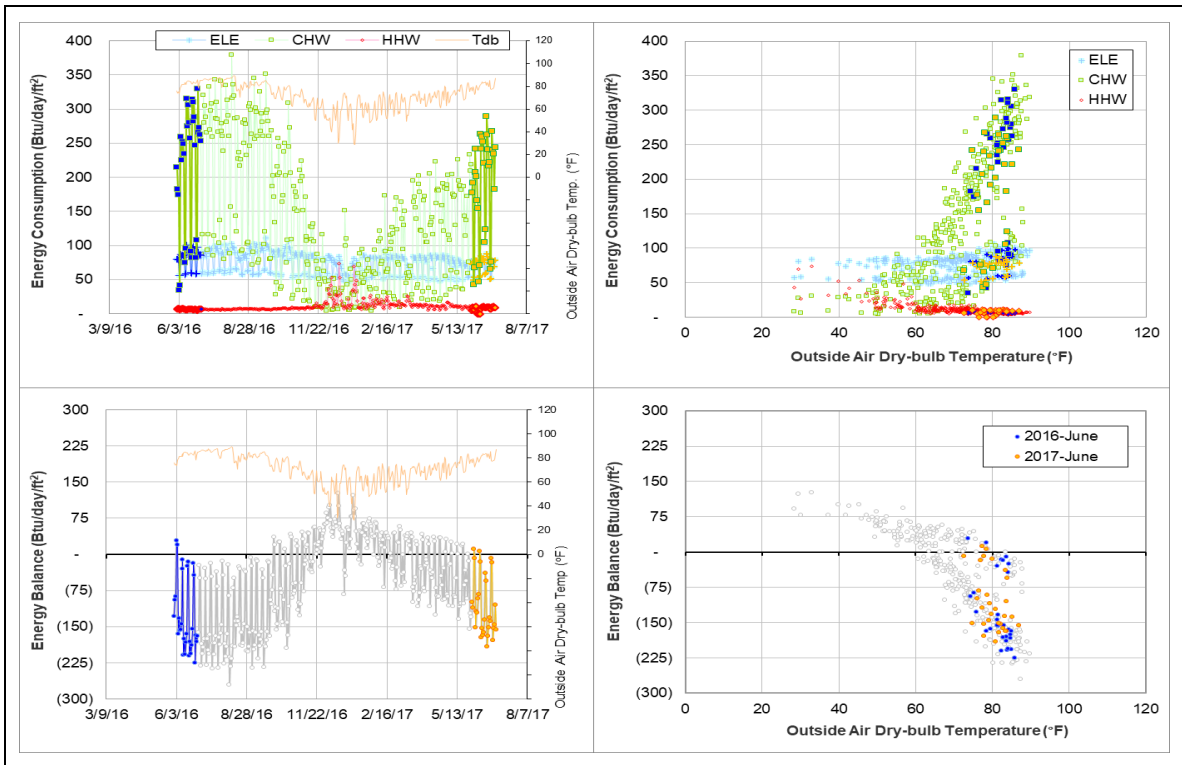
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|----------------------|-----------|-------------------|
| HHW | 007526 | 6/7/2017 – 6/12/2017 | Flow rate | Decreased to zero |

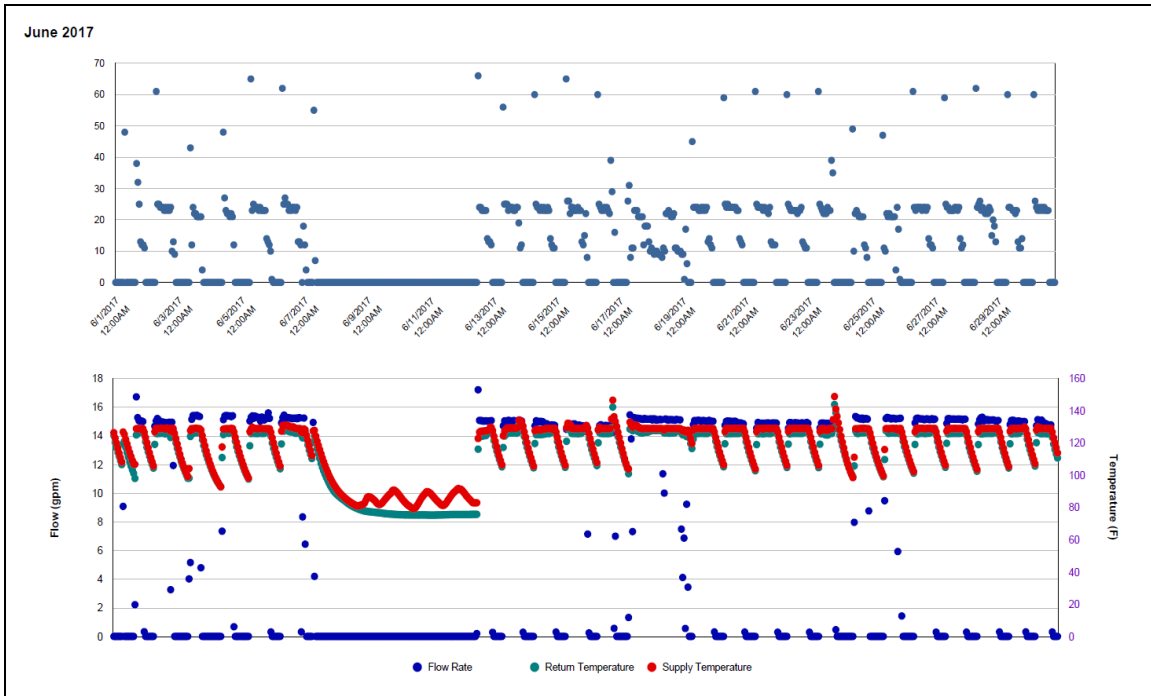
Quantitative descriptions and comments

The HHW flow rate decreased to zero value from 6/7/2017 to 6/12/2017. The HHW consumption was estimated by model for this period.

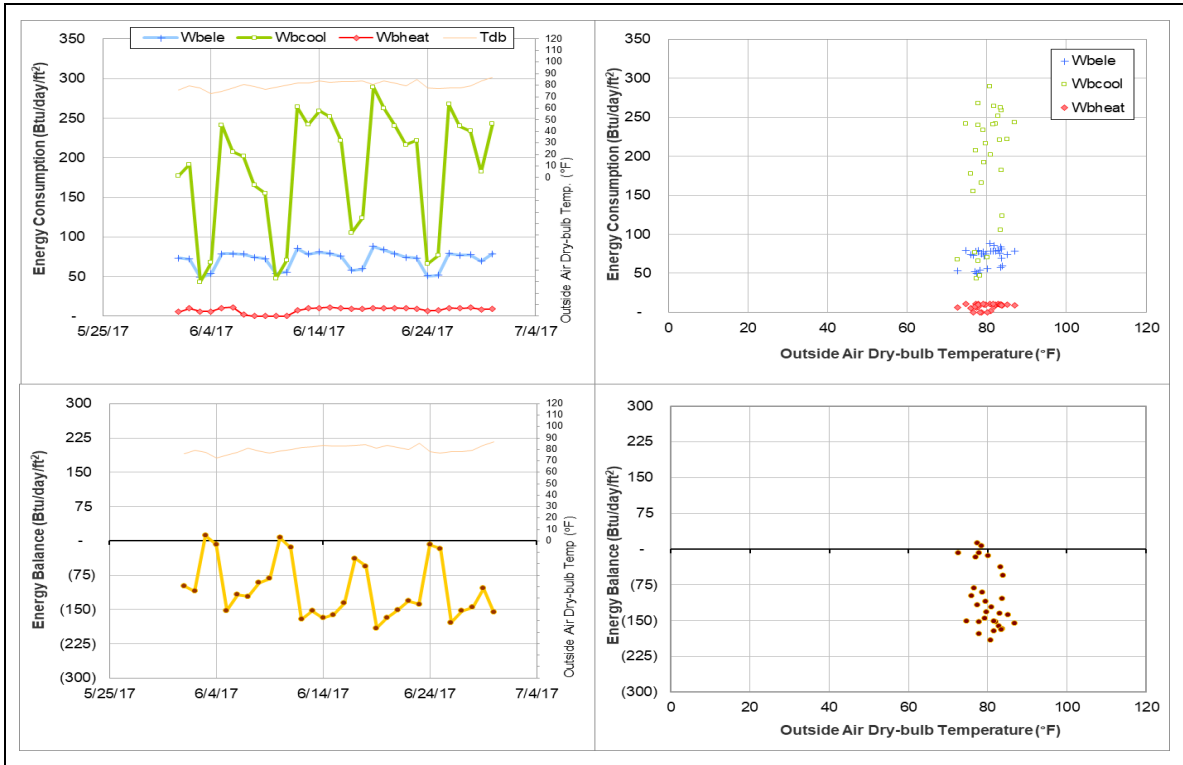
Explanatory Figure: 13 months energy balance plot with original data



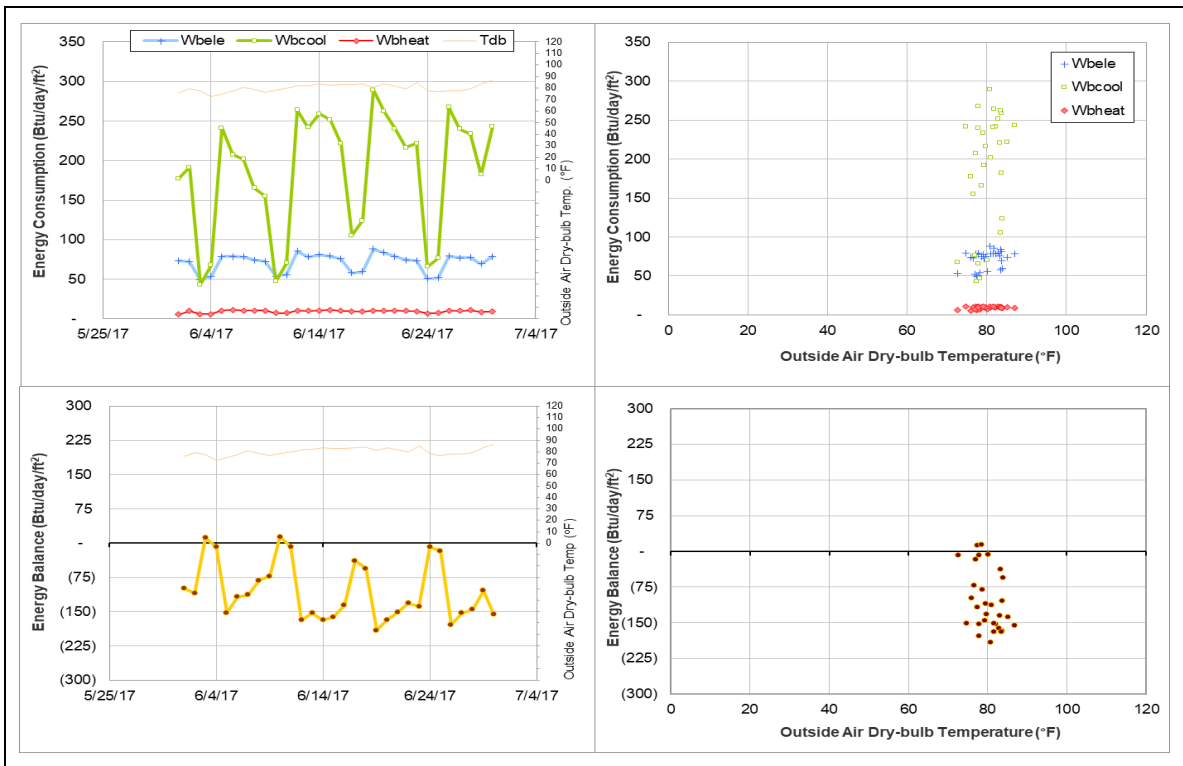
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during June 2017)



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



Scoates Hall (TAMU Bldg # 478)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| CHW | 007968 | 30 | 6/1/2017 – 6/30/2017 | Model |
| HHW | 007969 | 30 | 6/1/2017 – 6/30/2017 | 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. | 6/1/2017 – Ongoing |
| HHW | The consumption level is higher than the level during the past year. | 5/16/2017 – Ongoing |

Changes in sensor readings related to the detected issues

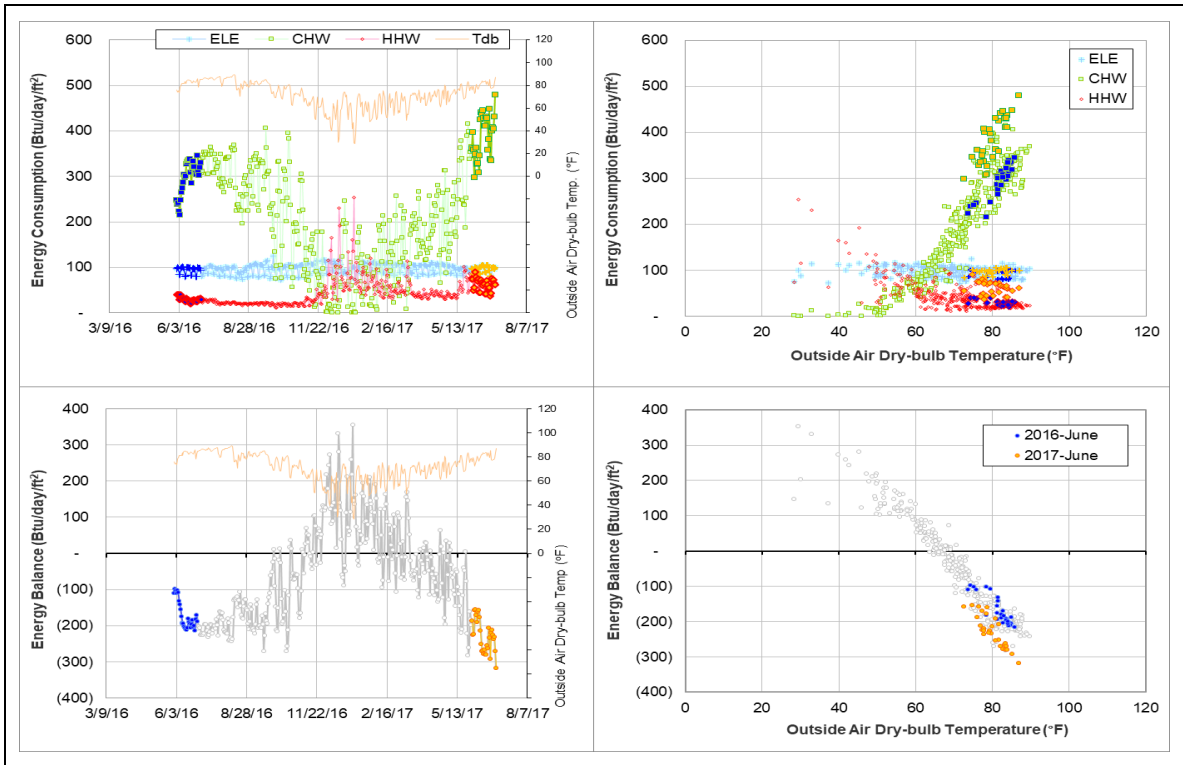
| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|---------------------|-----------|-------------|
| CHW | 007968 | 6/1/2017 – Ongoing | Flow rate | Increased |
| HHW | 007969 | 5/16/2017 – Ongoing | Flow rate | Increased |

Quantitative descriptions and comments

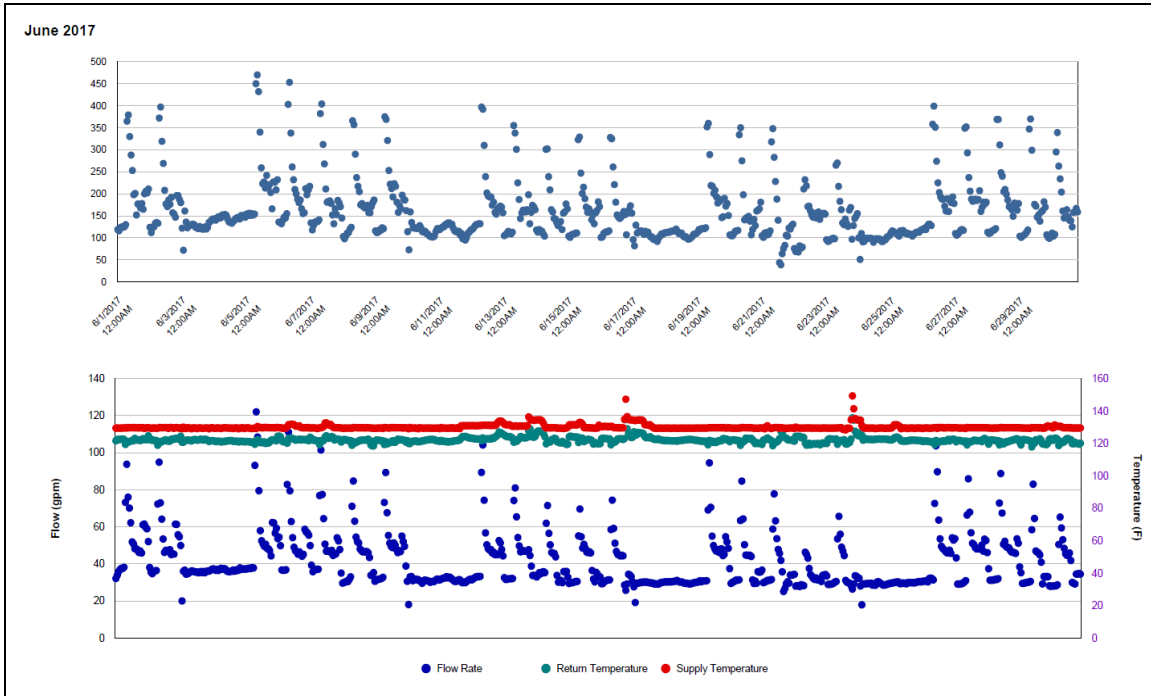
The CHW consumption increased above the past 13-month pattern by 125 Btu/day/ft². The Delta-T for this building is typically around 20°F. In June 2017, the return temperature gradually decreased about 5°F until 6/21/2017 and returned to its higher level. The flow rate also shows an increase in the daily variation when compared to June 2016. The CHW consumption was estimated by model for this period.

The HHW consumption increased above the past 13-month pattern starting 5/16/2017 by 20-50 Btu/day/ft². The flow rate appears to have started increasing around the same time. The HHW consumption was estimated by model for this period.

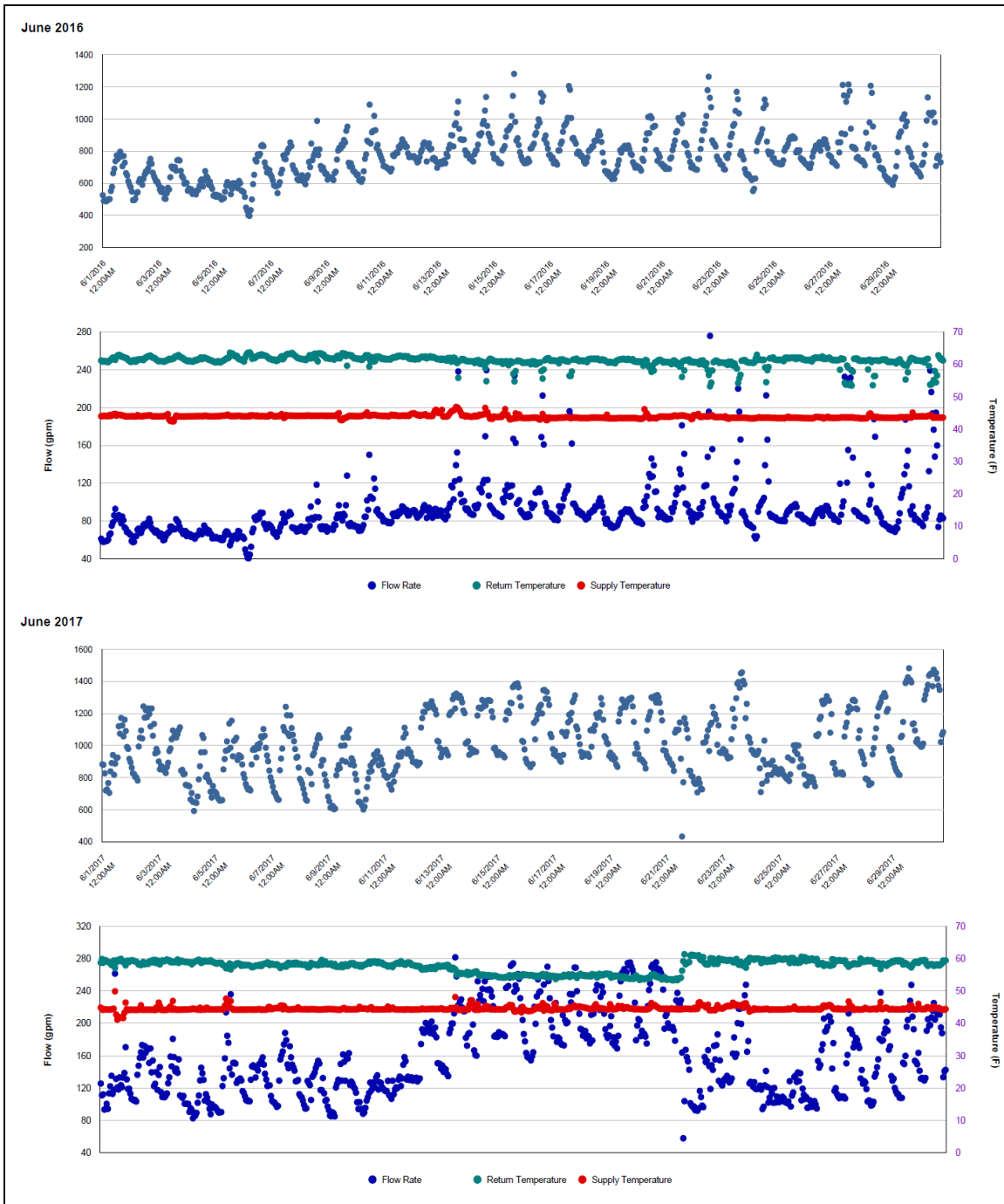
Explanatory Figure: 13 months energy balance plot with original data



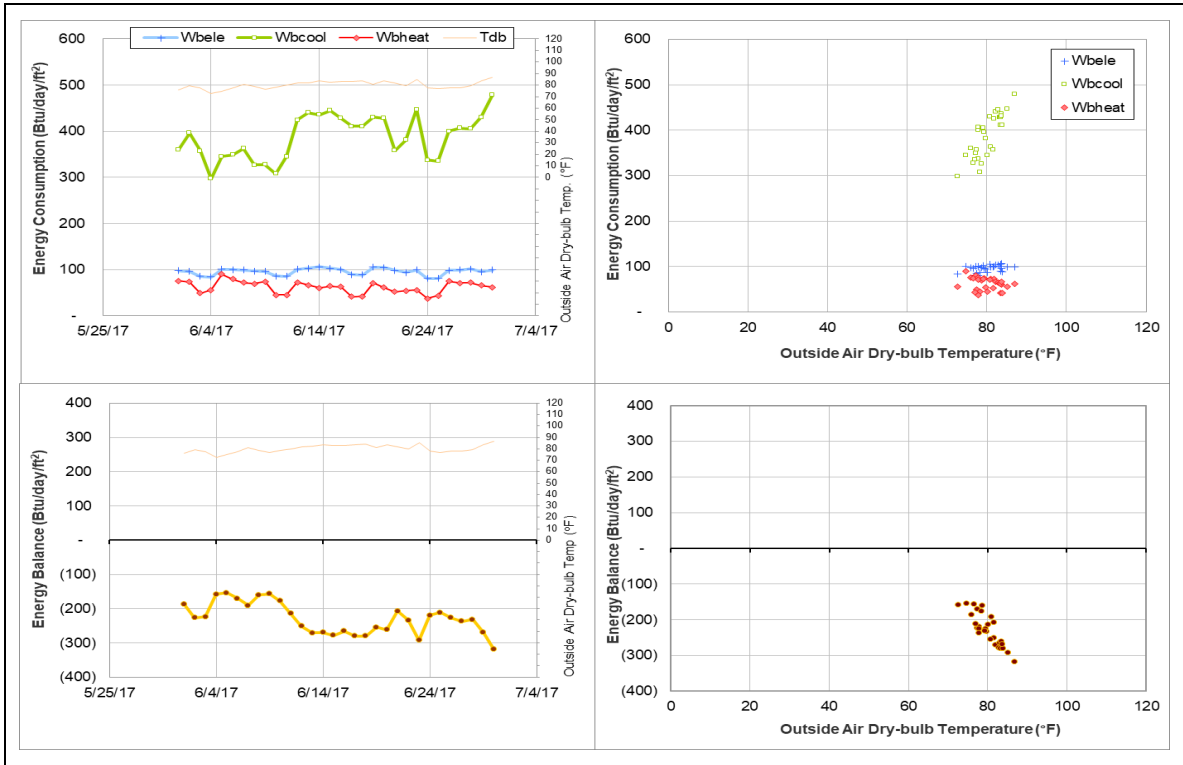
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during June 2017)



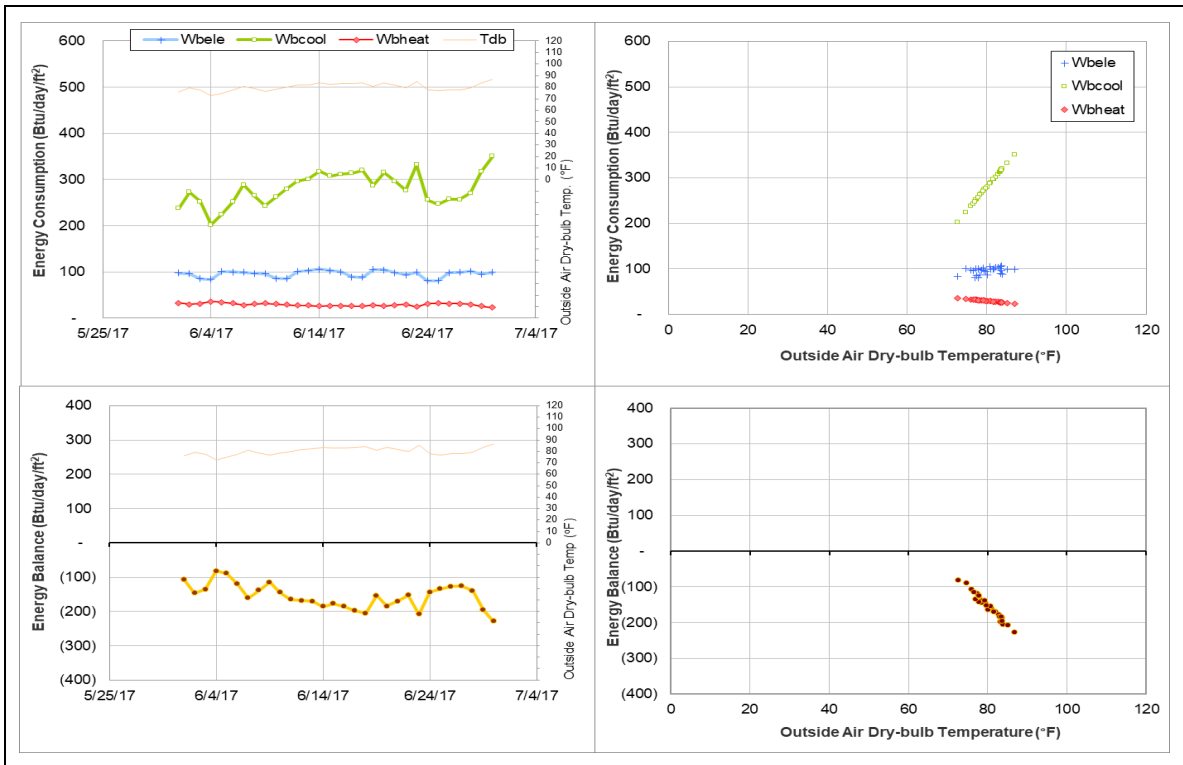
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter during June 2016 (top) and June 2017 (bottom))



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



Bolton Hall (TAMU Bldg #480)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| HHW | 007016 | 30 | 6/1/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|--------------------|
| HHW | The consumption level has decreased suddenly. | 6/1/2017 – Ongoing |

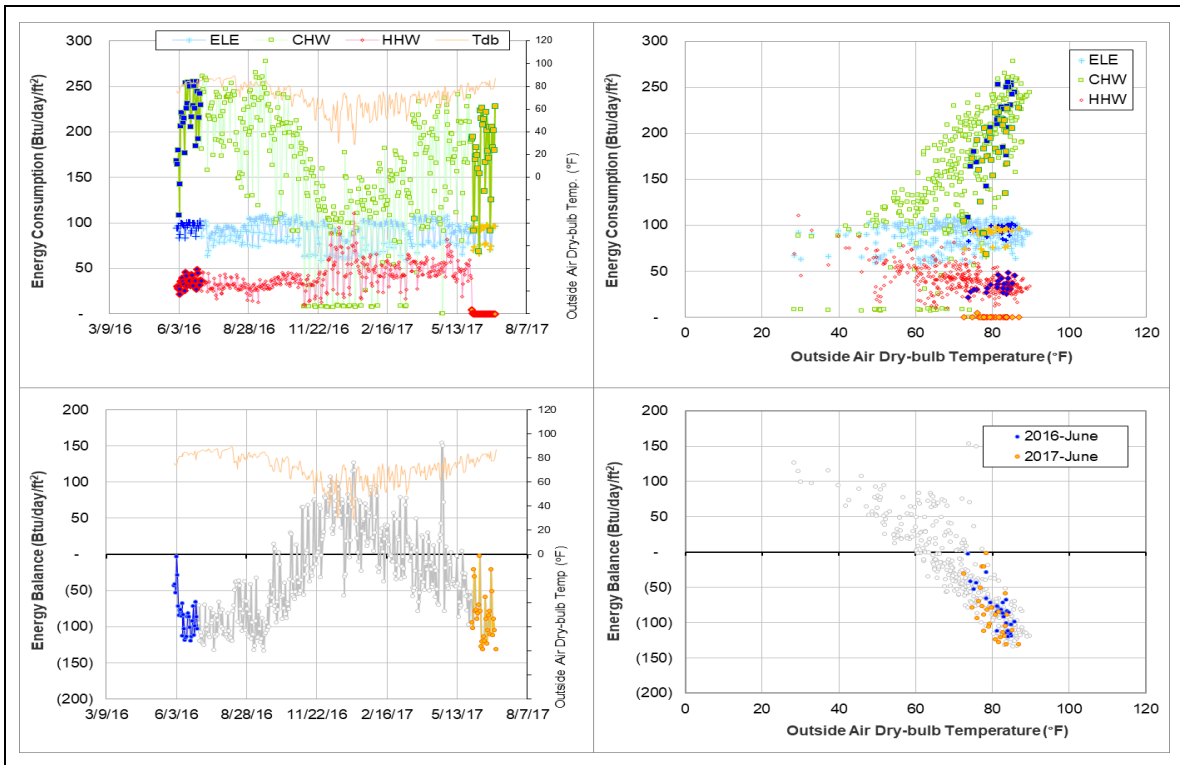
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|--------------------|-----------|------------------------|
| HHW | 007016 | 6/1/2017 – Ongoing | Flow rate | Decreased to near zero |

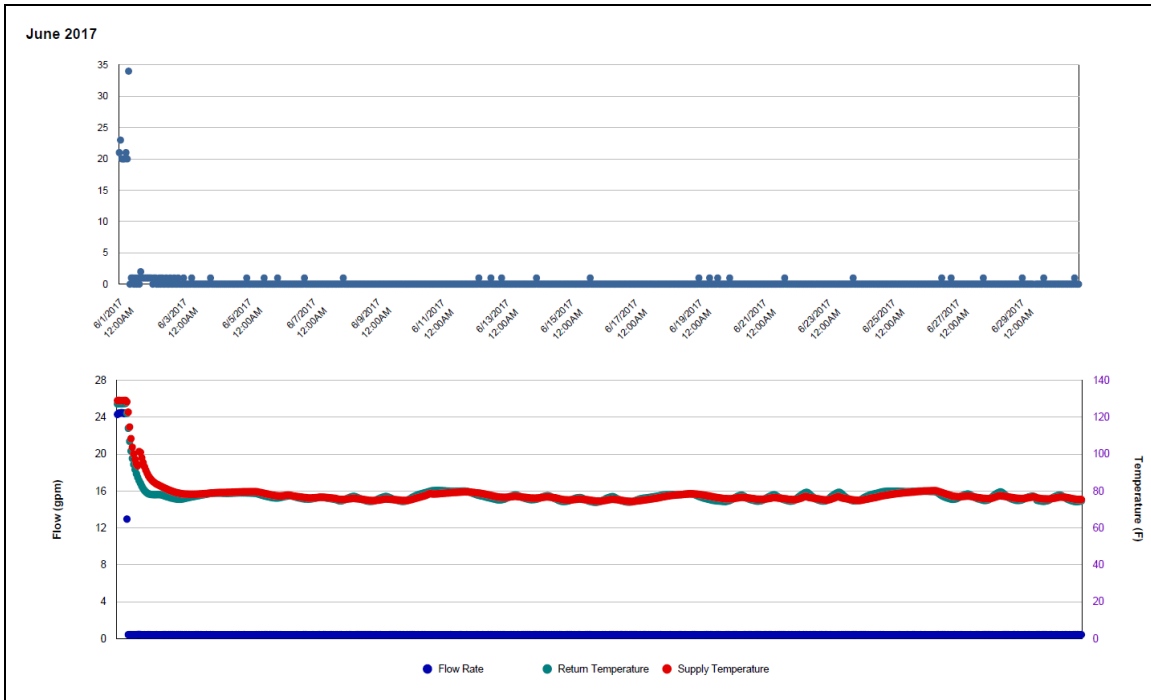
Quantitative descriptions and comments

The HHW flow rate and Delta-T decreased to near zero value on 6/1/2017 and has remained there for the rest of the month. The HHW consumption was estimated by model for the month.

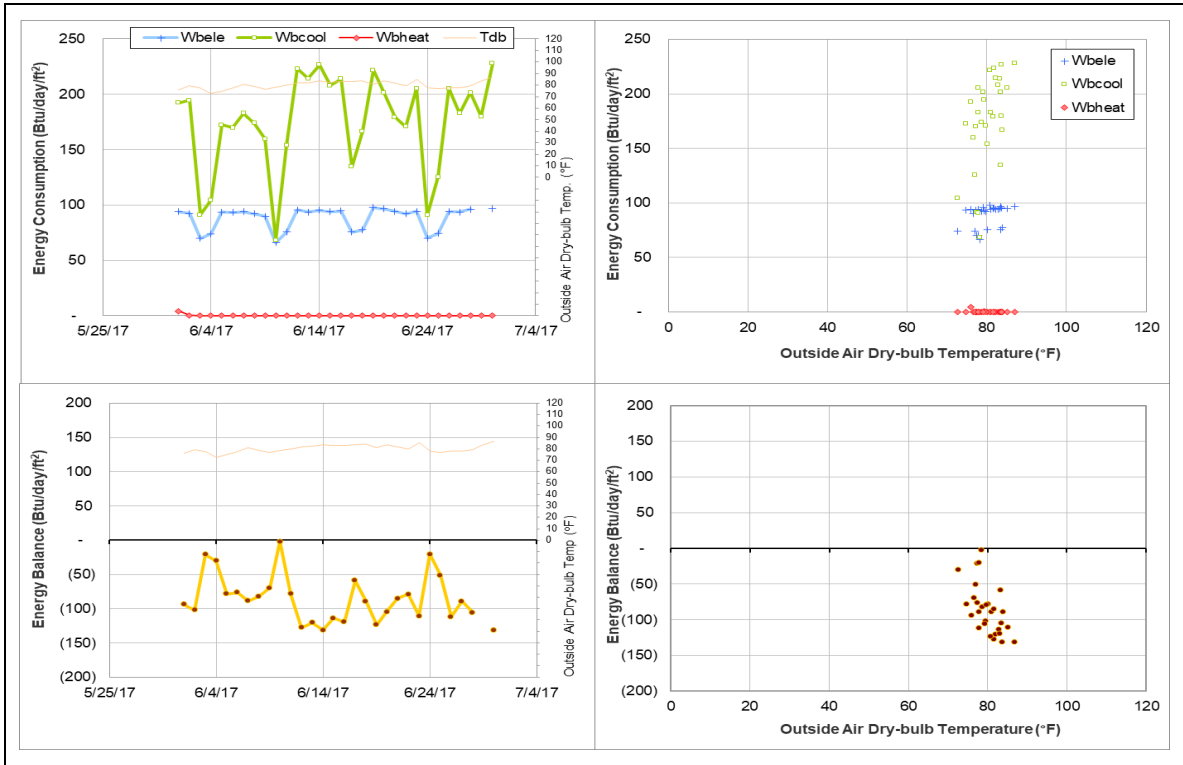
Explanatory Figure: 13 months energy balance plot with original data



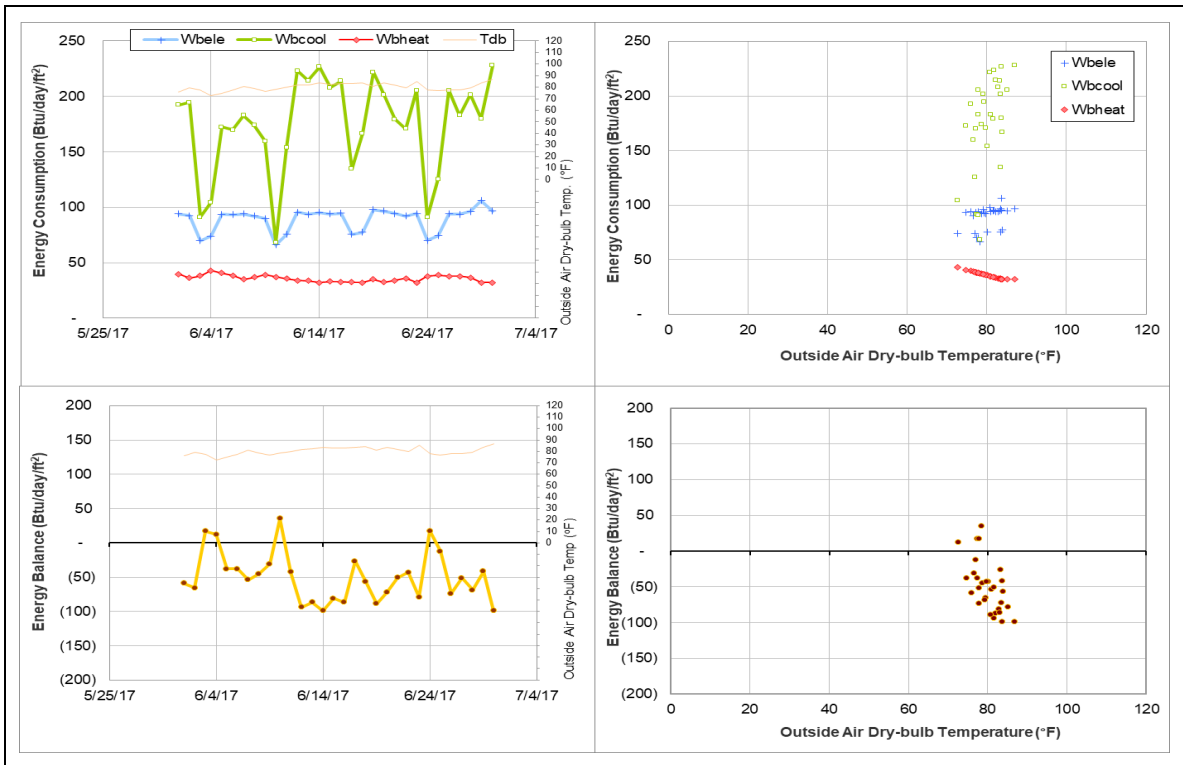
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HHW meter during June 2017)



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



Chemistry Building (TAMU Bldg # 484)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| ELE | 007152 | 28 | 6/3/2017 – 6/30/2017 | Model |

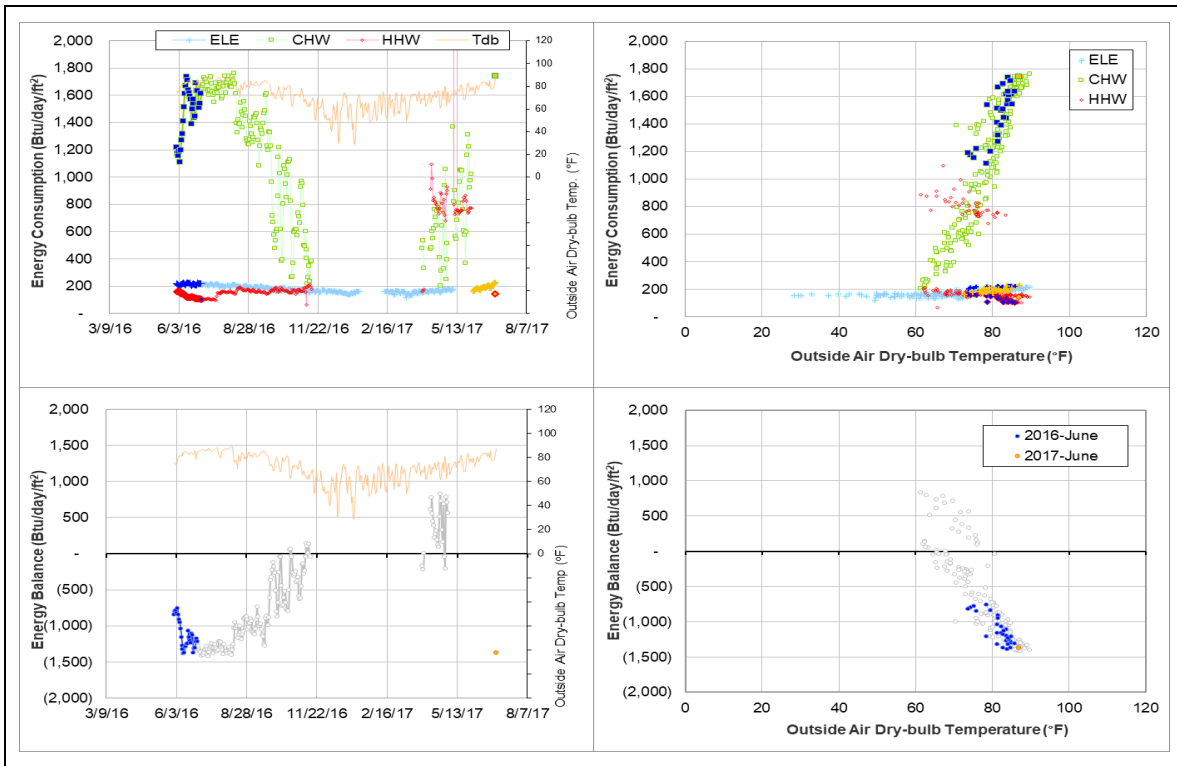
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-----------|---|--------------------|
| ELE | The consumption level has increased suddenly. | 6/3/2017 – Ongoing |

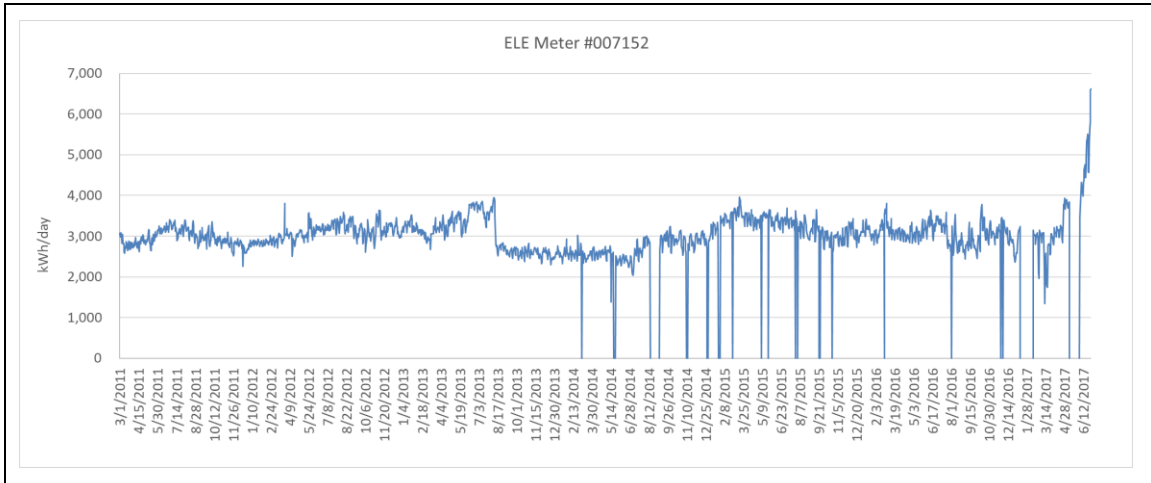
Quantitative descriptions and comments

This building has four electric meters. Data for ELE meter #007152 was missing for 6/1/2017-6/2/2017. When the data return on 6/3/2017 and through the rest of June, the electric consumption experienced a continual increase to well above its normal pattern. An explanatory figure is provided below. The electric consumption for this meter was estimated by model.

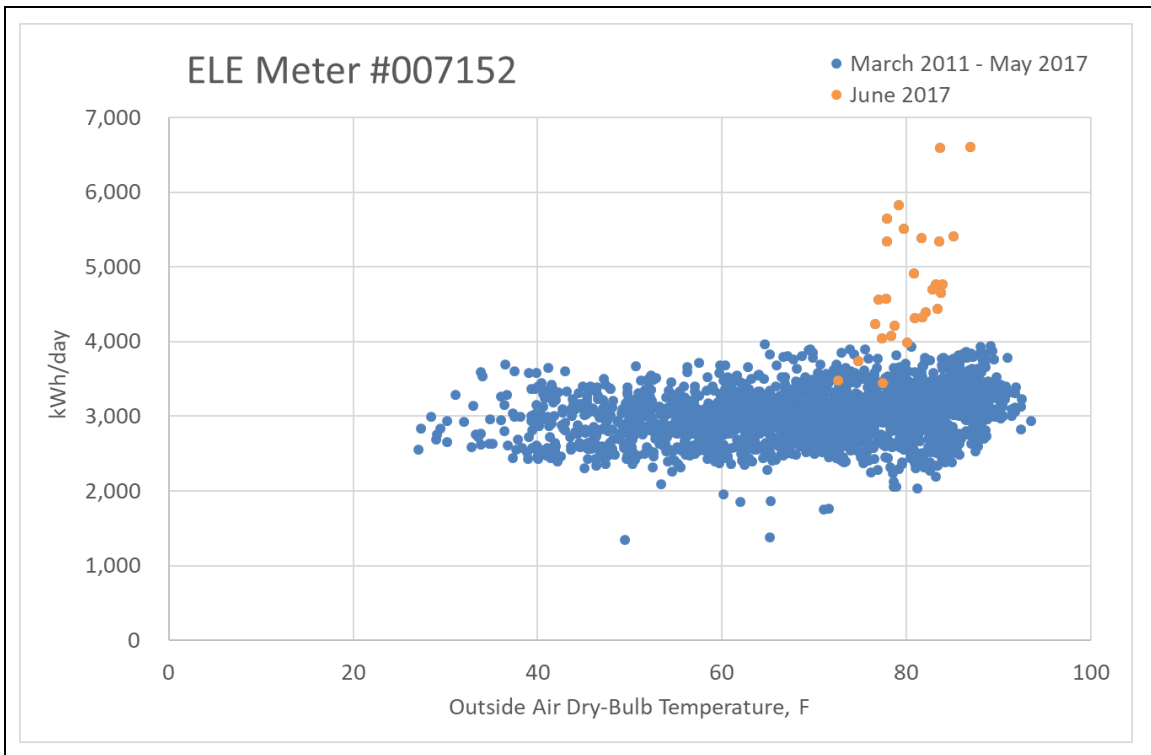
Explanatory Figure: 13 months energy balance plot with original data



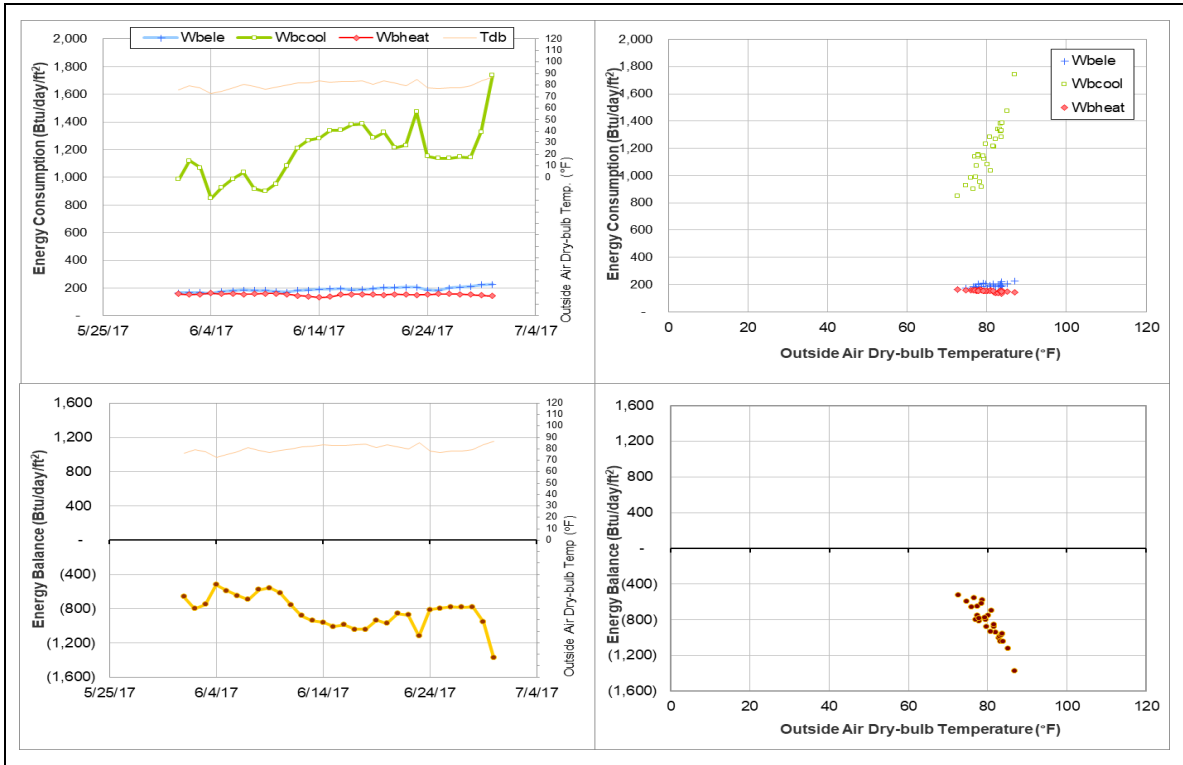
Explanatory Figure: Time series plot of electric meter #007152 from 3/1/2011 – 6/30/2017.



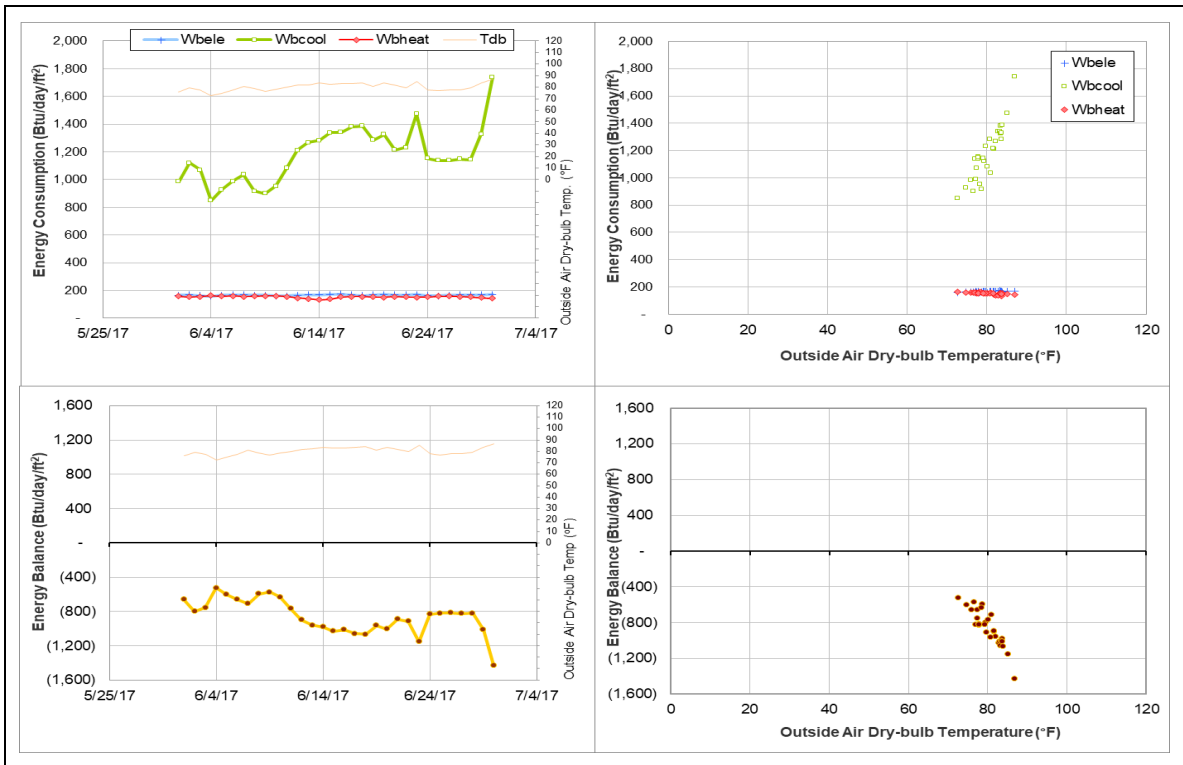
Explanatory Figure: Scatter plot of kWh/day versus outside air temperature for electric meter #007152 from 3/1/2011 – 6/30/2017.



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 |
|-------------|----------|----------------|----------------------|-------------------|
| ELE | 006691 | 12 | 6/3/2017 – 6/14/2017 | Model |
| CHW | 006913 | 12 | 6/3/2017 – 6/14/2017 | Model |
| HHW | 006900 | 30 | 6/1/2017 – 6/30/2017 | Model |
| HHW | 006917 | 30 | 6/1/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|--|----------------------|
| ELE | The consumption dropped for a short period. | 6/3/2017 – 6/14/2017 |
| CHW | The consumption dropped for a short period. | 6/3/2017 – 6/14/2017 |
| HHW | The consumption level has decreased suddenly.(#006900) | 5/19/2017 – Ongoing |
| HHW | The consumption level has decreased suddenly.(#006900) | 5/27/2017 – Ongoing |

Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|-------------------|
| CHW | 006913 | 6/3/2017 – 6/14/2017 | Flow rate | Decreased to zero |
| HHW | 006900 | 5/19/2017 - Ongoing | Flow rate | Decreased |
| HHW | 006917 | 5/30/2017 – 6/15/2017 | Delta-T | Decreased to zero |
| | | 6/15/2017 – Ongoing | Flow rate | Decreased to zero |

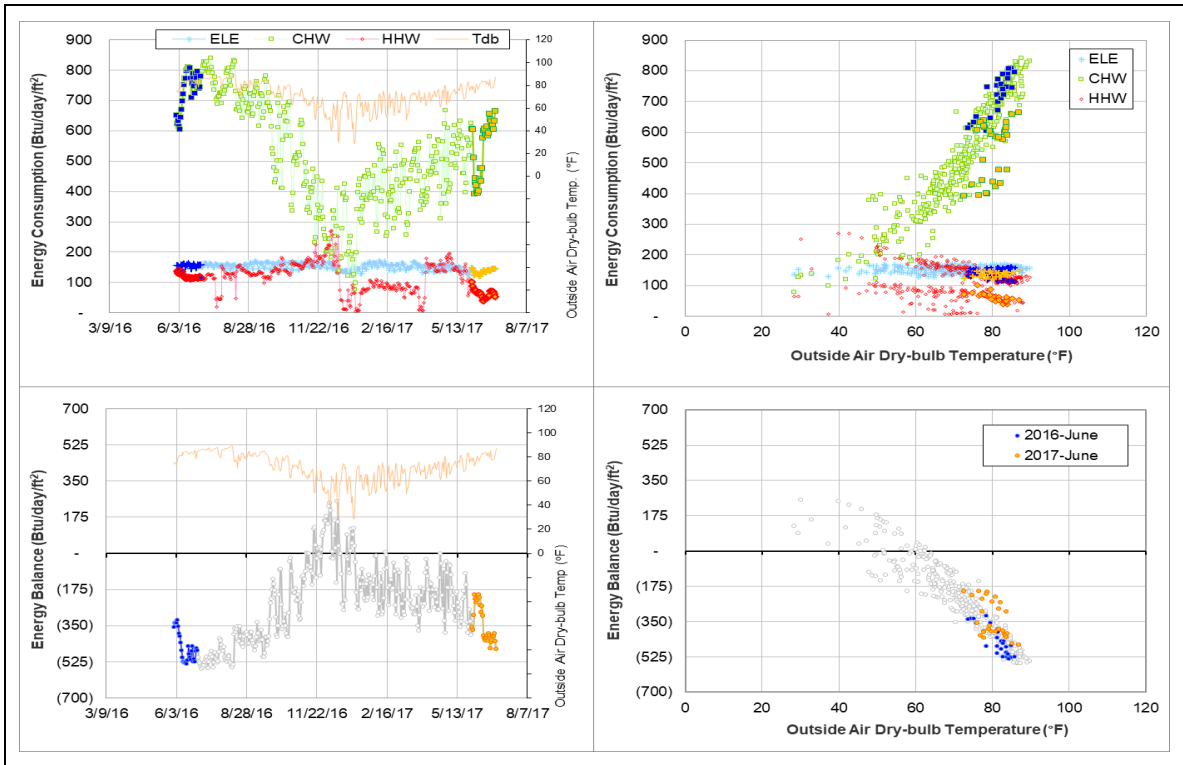
Quantitative descriptions and comments

There are two electric meters for this building. Electric meter #006691 experienced approximately a 30% drop during 6/3/2017 – 6/14/2017. The electric consumption for this meter was estimated.

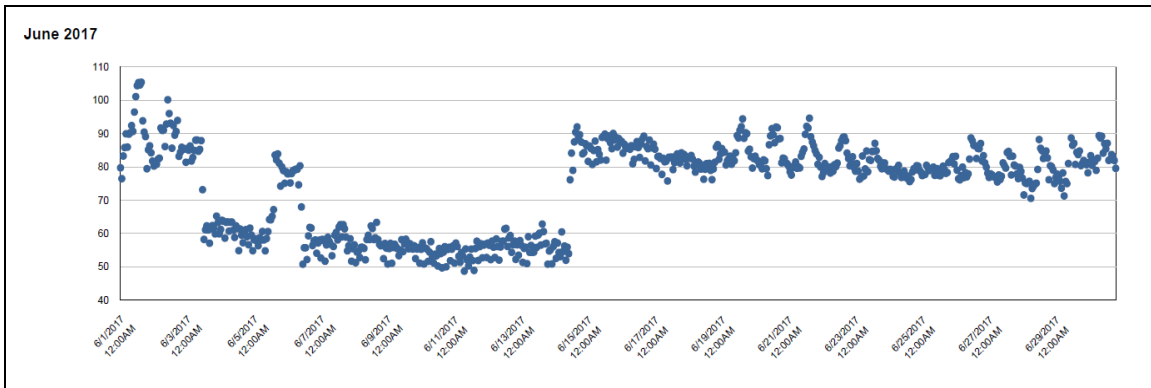
There are two CHW meters for this building. CHW meter #006913 experienced a drop in consumption during the same period as the electric meter, 6/3/2017 – 6/14/2017. The CHW flow rate decreased zero or near zero values. The CHW consumption was estimated for this meter by model.

There are two HHW meters for this building. Meter #006900 experienced a decrease in flow rate by up to half starting 5/19/2017 and continues through the month of June. HHW meter #006917 experienced a decrease to near zero Delta-T for the period 5/30/2017 – 6/15/2017 and then a decrease in flow rate to zero for the period 6/15/2017 – 6/30/2017. The HHW consumption was estimated for both meters by model.

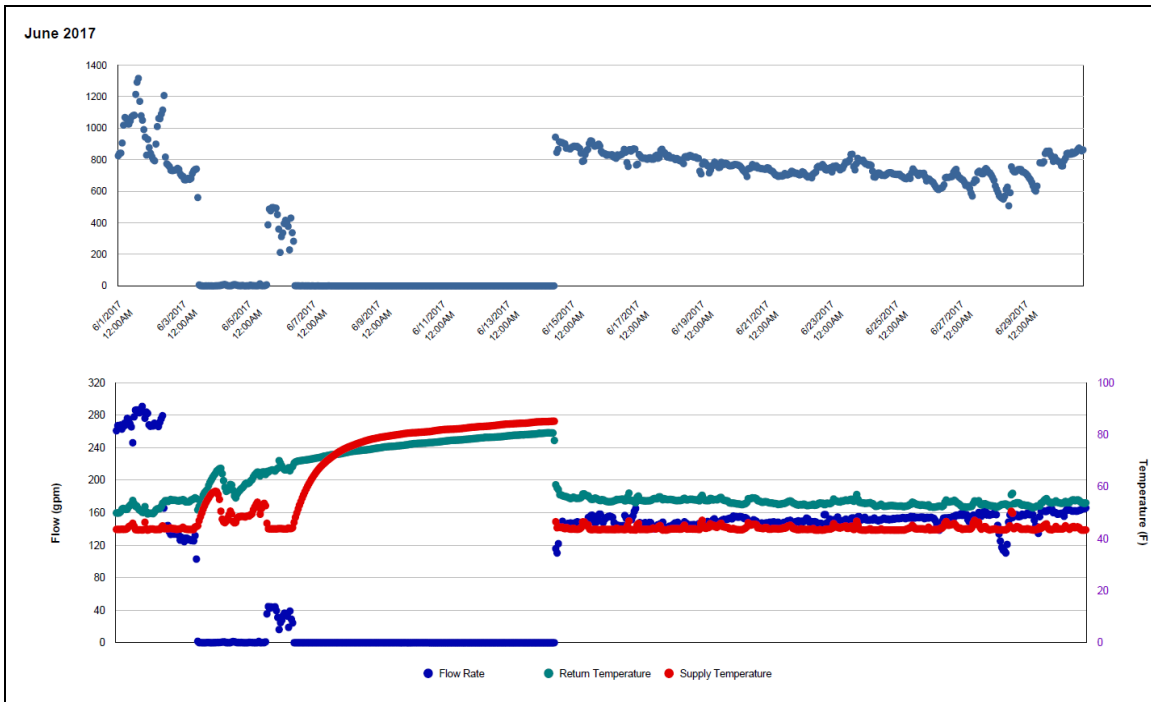
Explanatory Figure: 13 months energy balance plot with original data



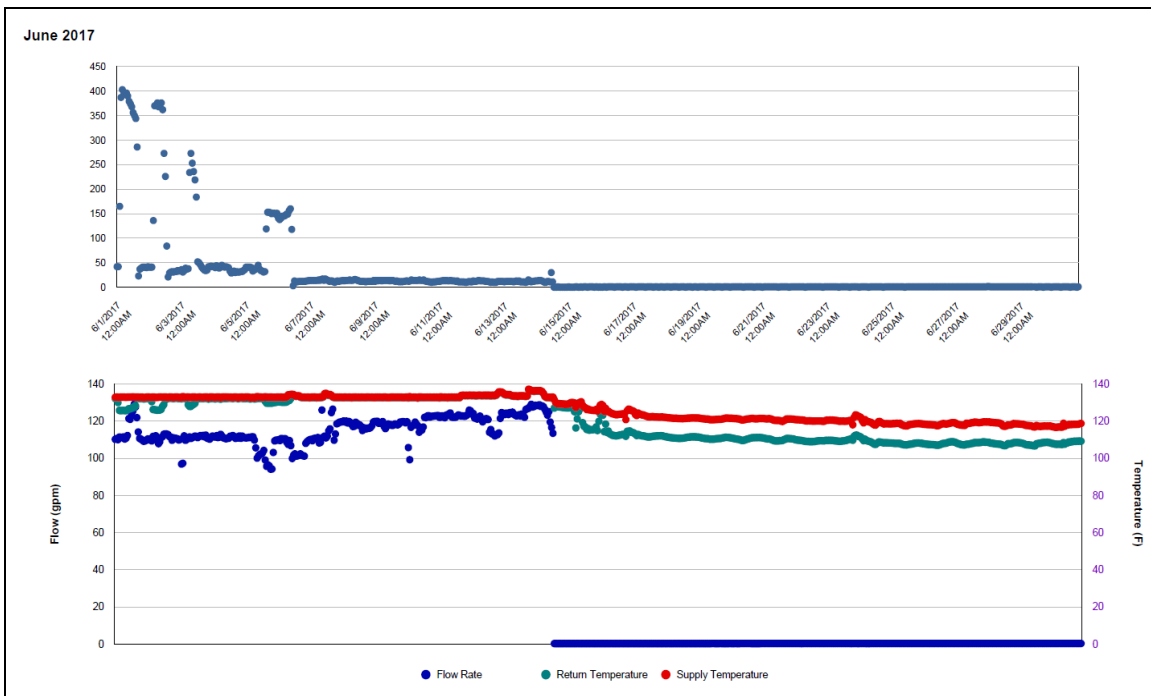
Explanatory Figure: Time series plot of hourly electricity consumption from the utilities office. (ELE meter #006691 during June 2017)



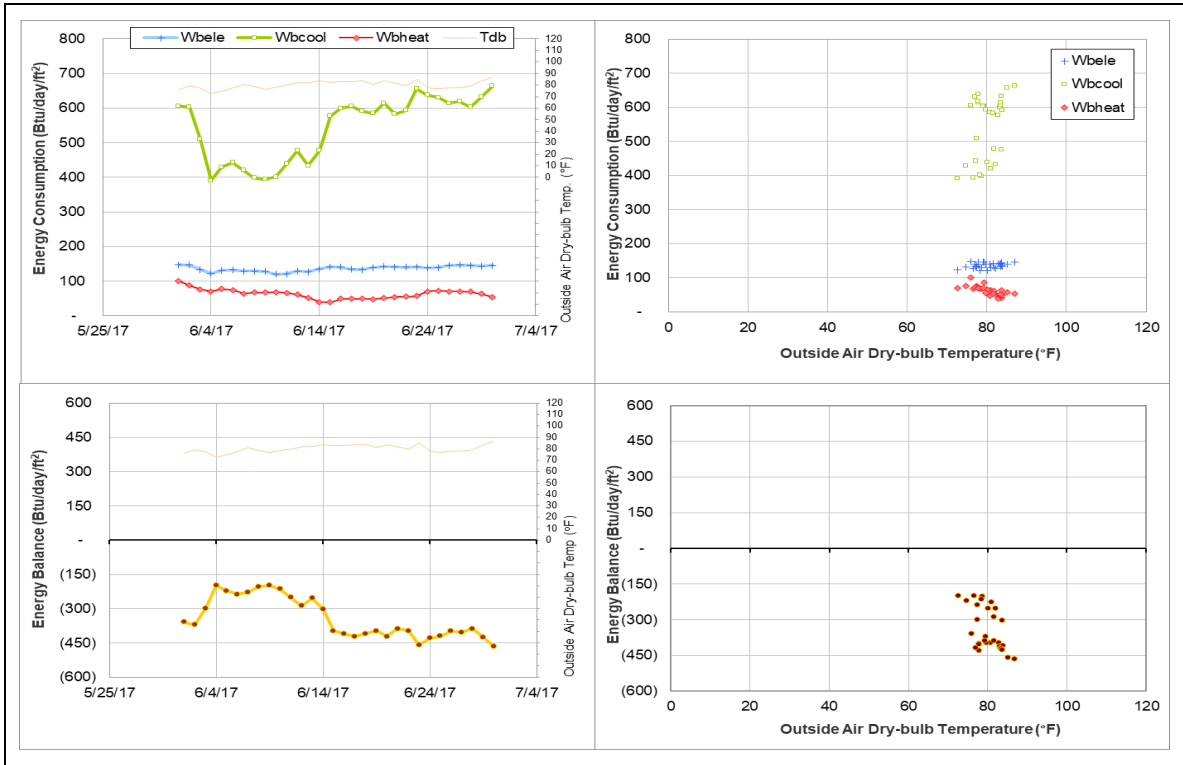
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (CHW meter #006913 during June 2017)



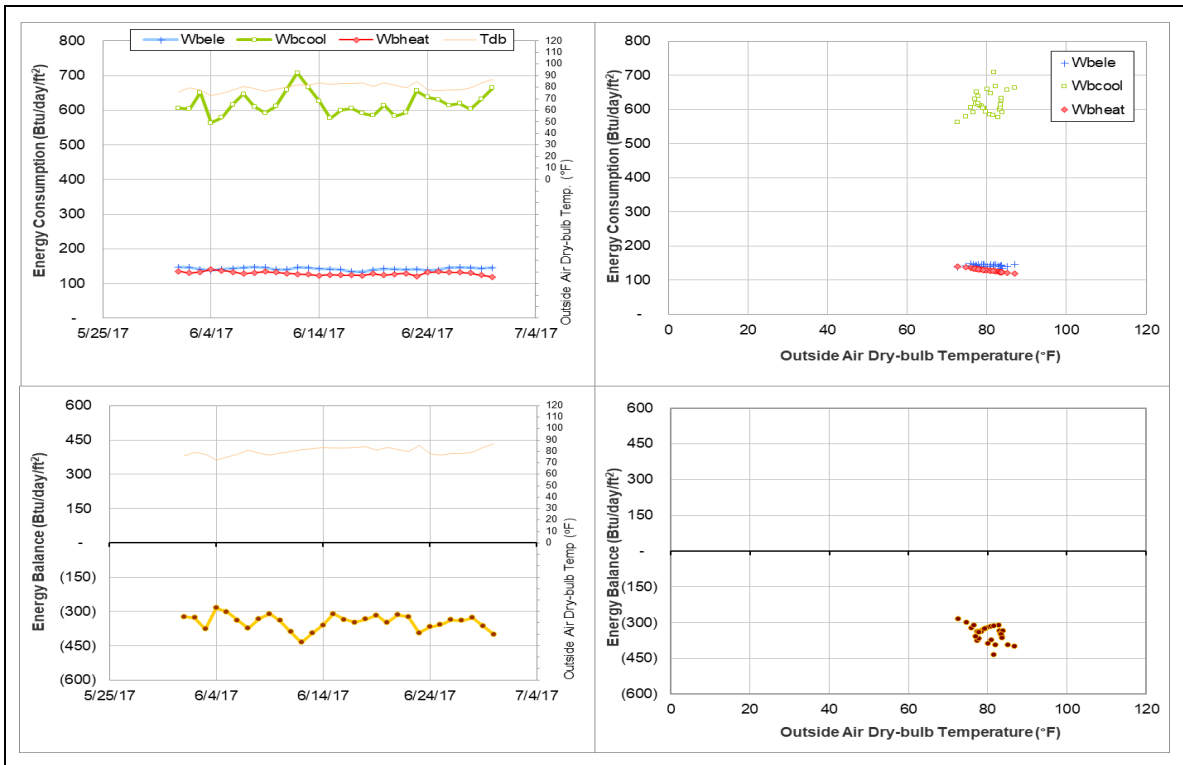
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office (HWH meter #006917 during June 2017)



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 |
|-------------|----------|----------------|-----------------------|-------------------|
| HHW | 002683 | 10 | 6/13/2017 – 6/22/2017 | 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. | 6/13/2017 – 6/22/2017 |

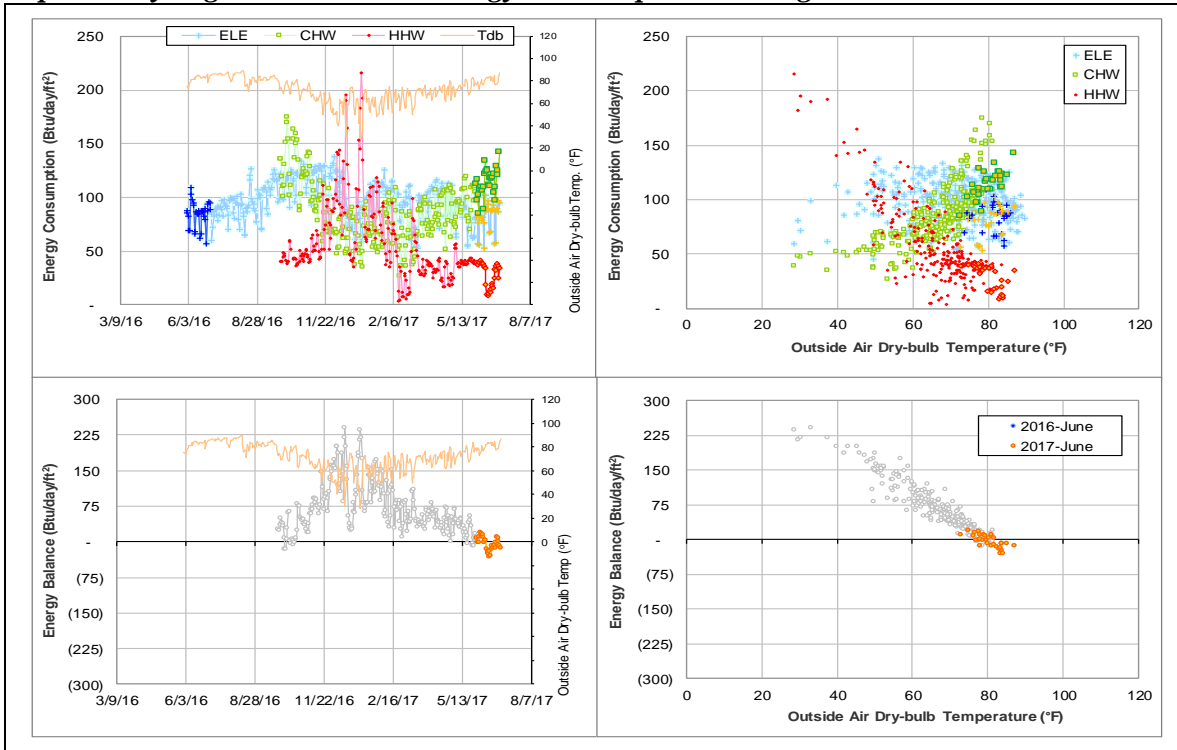
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|-------------|
| HHW | 002683 | 6/13/2017 – 6/22/2017 | Flow rate | Near zero |

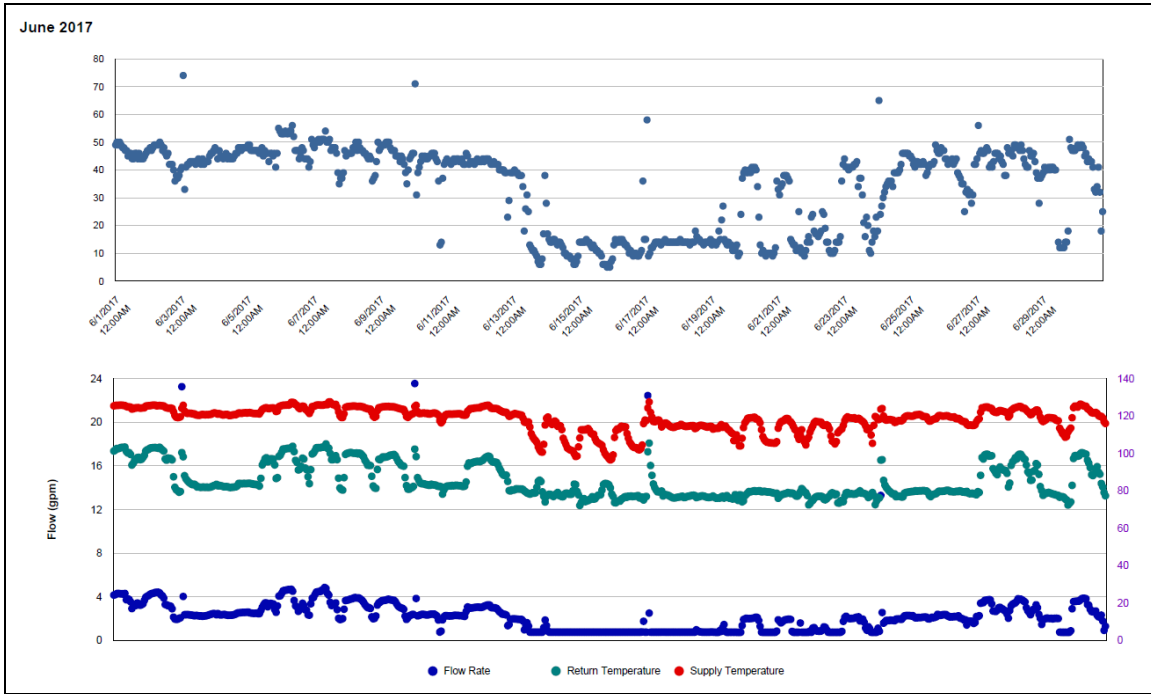
Quantitative descriptions and comments

HHW flow rate dropped to near zero on 6/13/2017 – 6/22/2017, resulting in a sudden drop in consumption during this period. The consumption of this period is estimated by model. See also Section II-3.

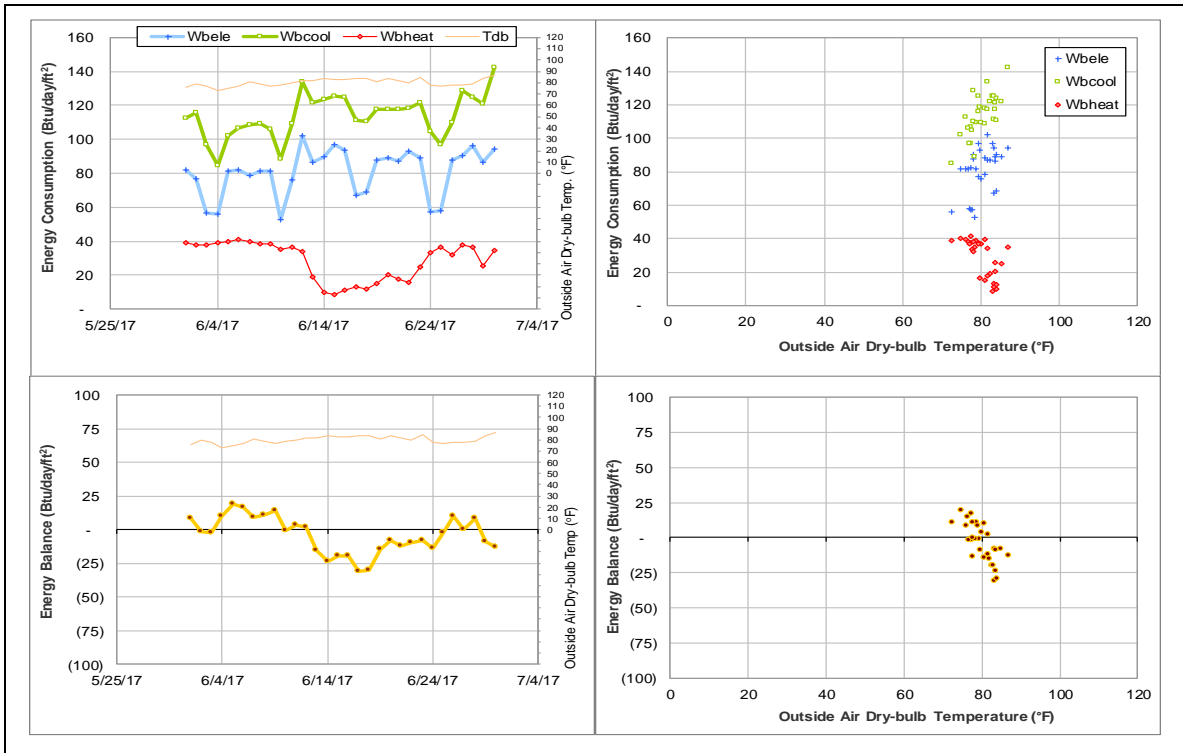
Explanatory Figure: 13 months energy balance plot with original data.



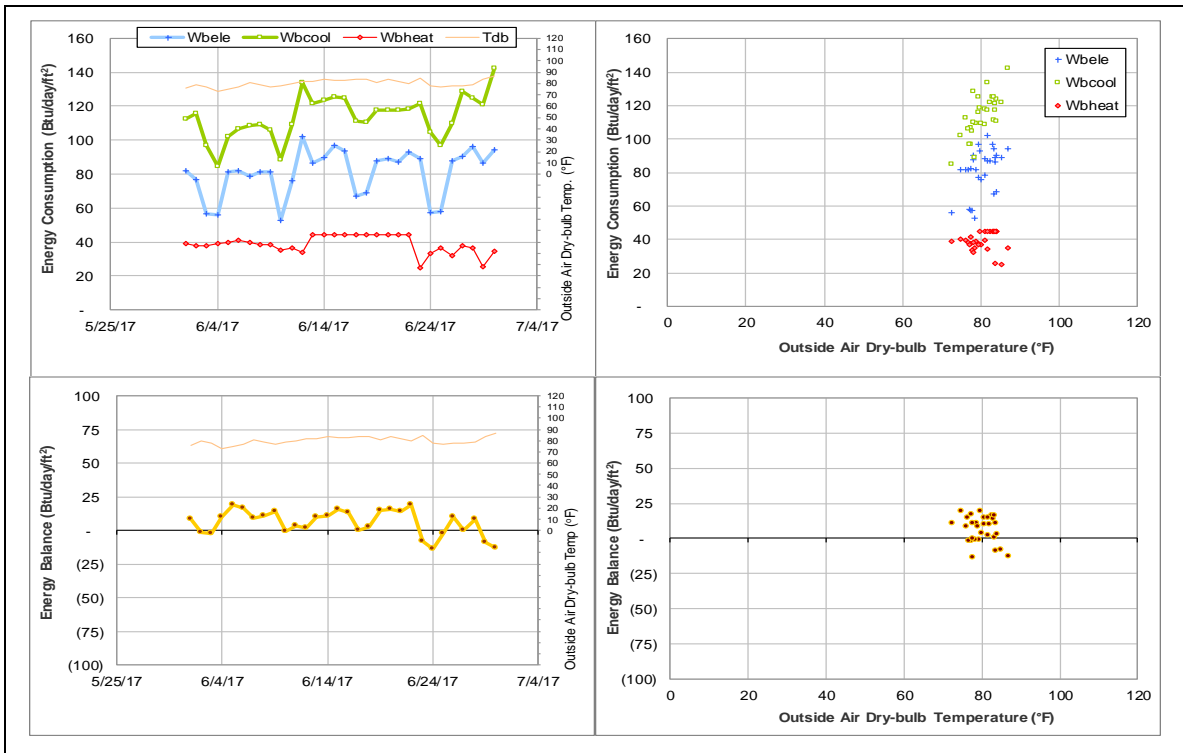
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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 |
|-------------|----------|----------------|-----------------------|-------------------|
| HHW | 003644 | 3 | 6/13/2017 – 6/15/2017 | 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. | 6/13/2017 – 6/15/2017 |

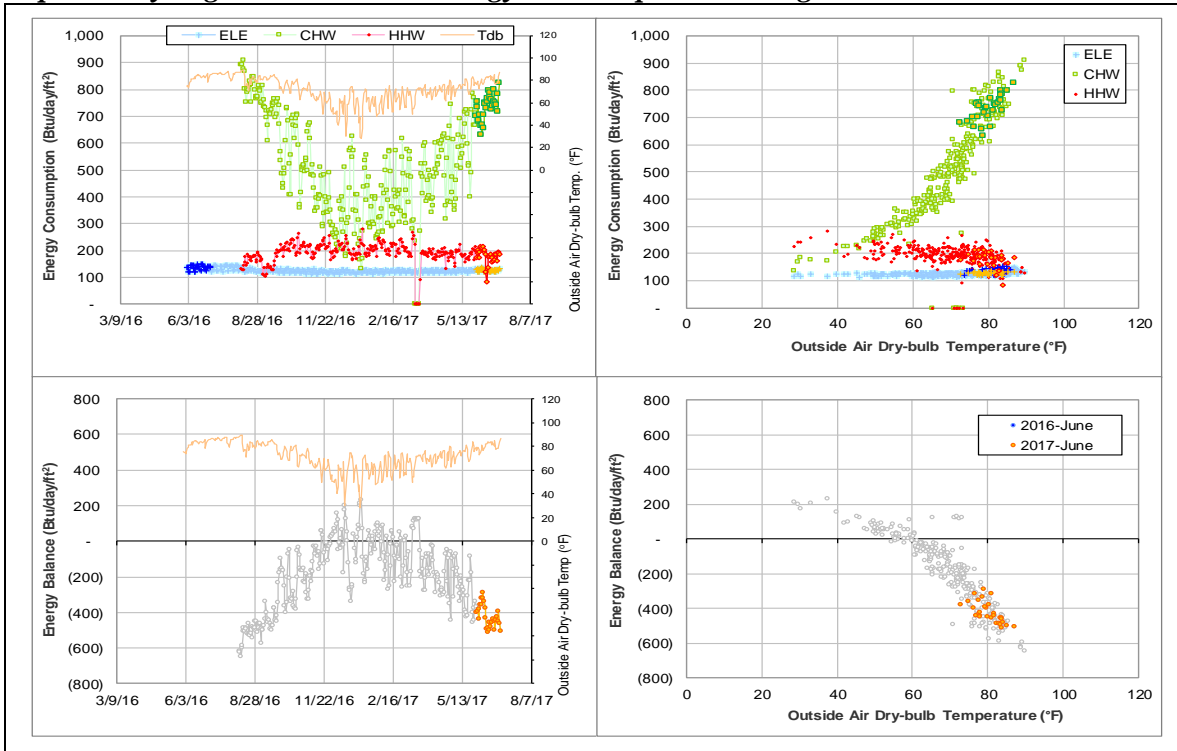
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|-------------|
| HHW | 003644 | 6/13/2017 – 6/15/2017 | Flow rate | Low |
| | | | Delta-T | Negative |

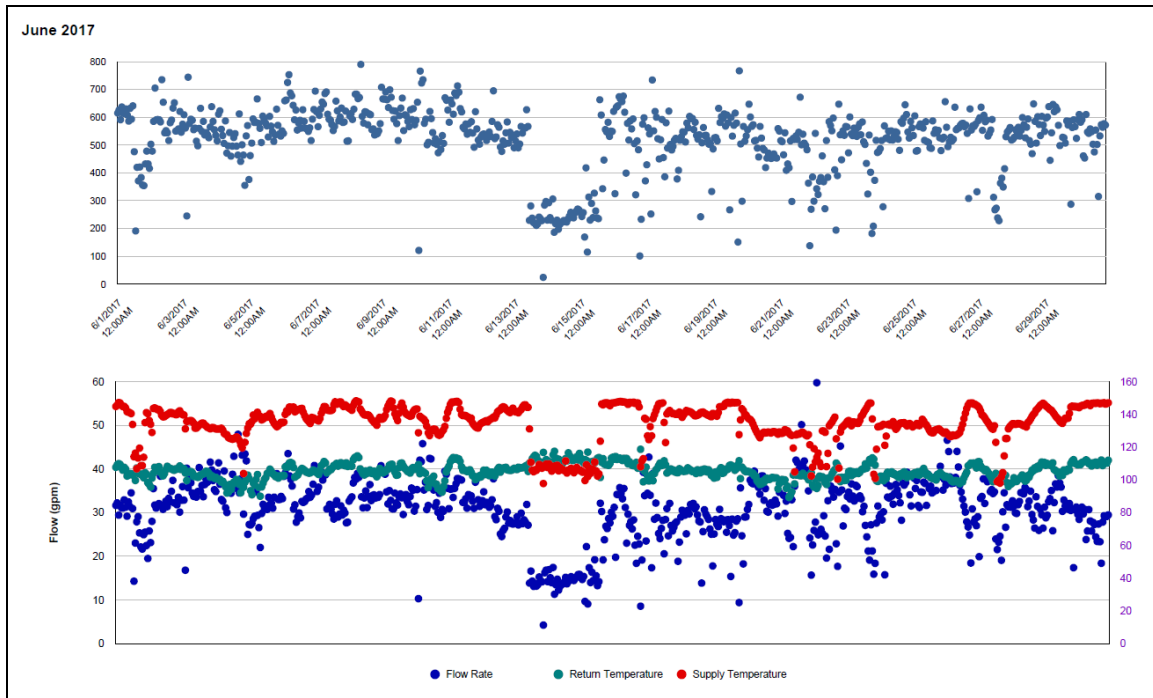
Quantitative descriptions and comments

On 6/13/2017 – 6/15/2017, HHW flow rate dropped from 20 – 30 gpm to about 15 gpm and the supply temperature dropped from 130 – 150°F to about 105°F, resulting in a negative delta-T and sudden drop in consumption during this period. The consumption of this period is estimated by model.

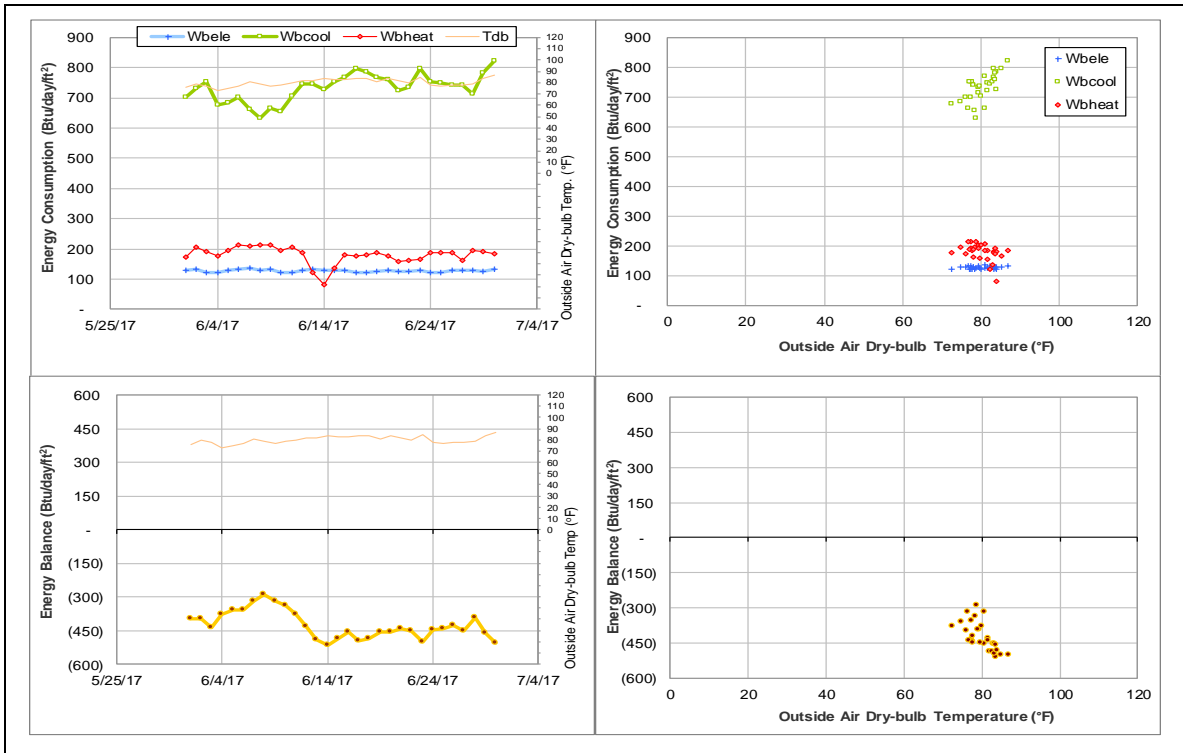
Explanatory Figure: 13 months energy balance plot with original data.



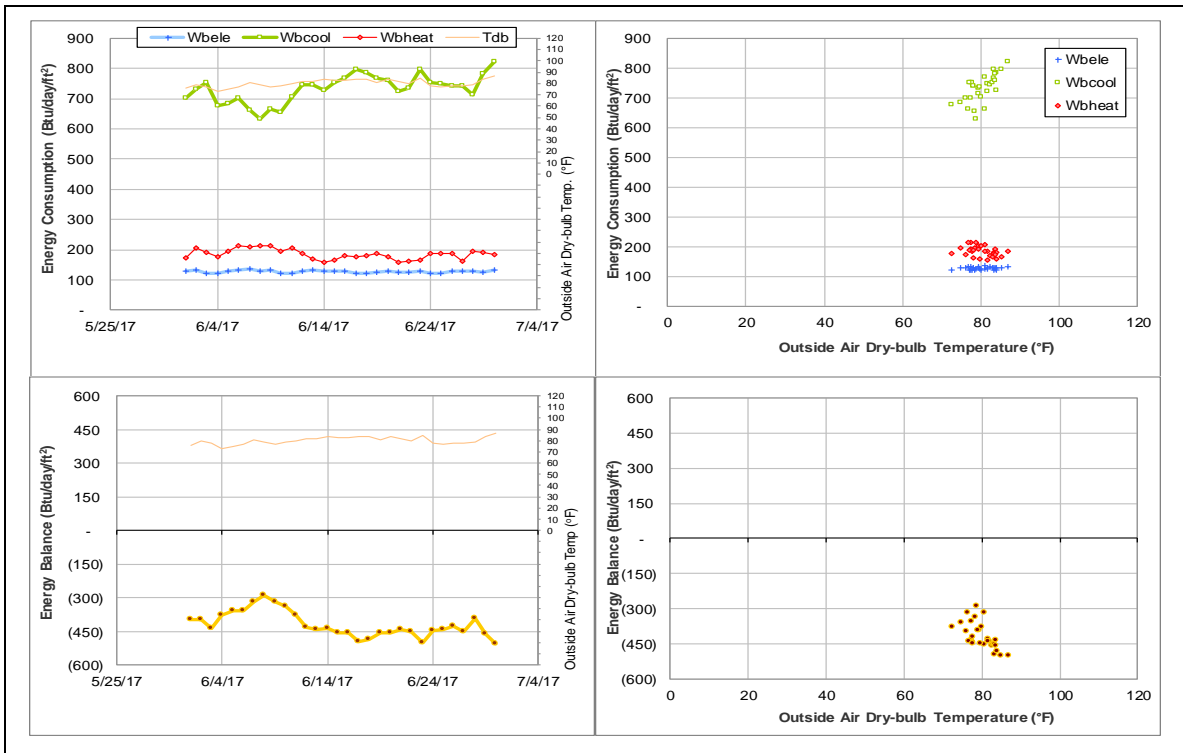
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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 Laboratory Building (TAMU Bldg #511)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| CHW | 005821 | 30 | 6/1/2017 – 6/30/2017 | Model |
| HHW | 005825 | 30 | 6/1/2017 – 6/30/2017 | 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. | 4/1/2017 – Ongoing |
| HHW | The consumption level has decreased suddenly. | 5/8/2017 – Ongoing |

Changes in sensor readings related to the detected issues

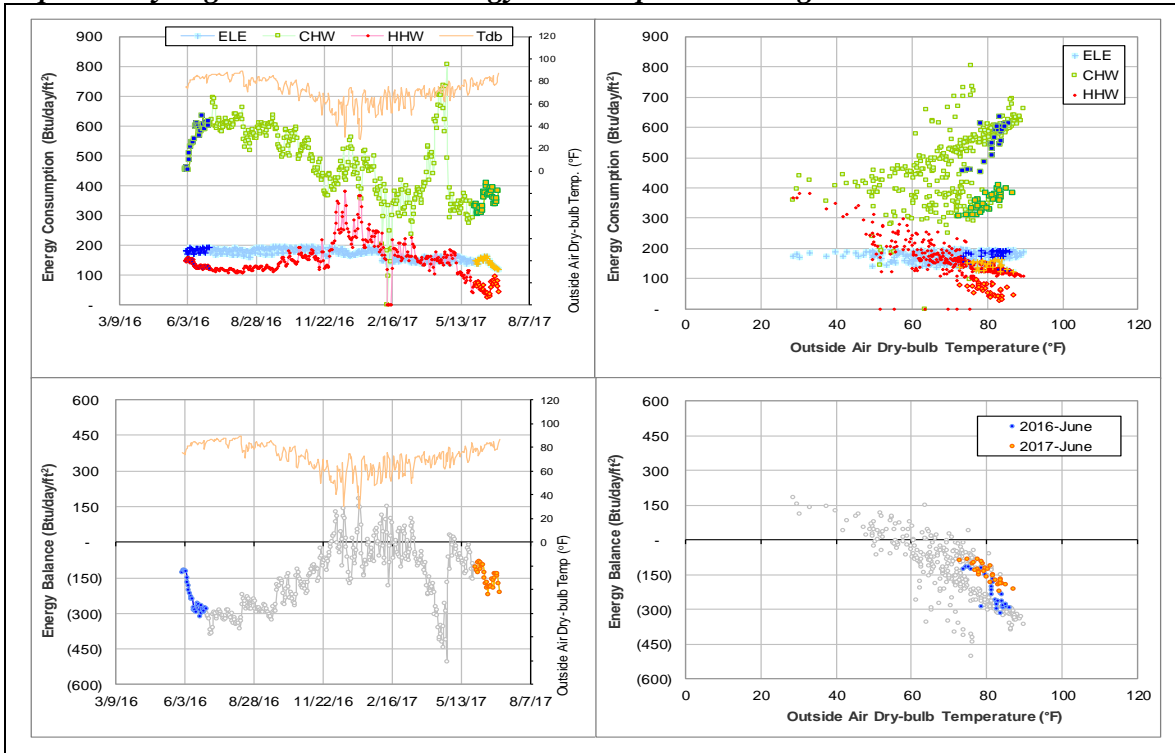
| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|--------------------|-------------|------------------|
| CHW | 005821 | 4/1/2017 – Ongoing | Supply Temp | Faulty – drifted |
| HHW | 005825 | 5/8/2017 – Ongoing | Flow rate | Low |

Quantitative descriptions and comments

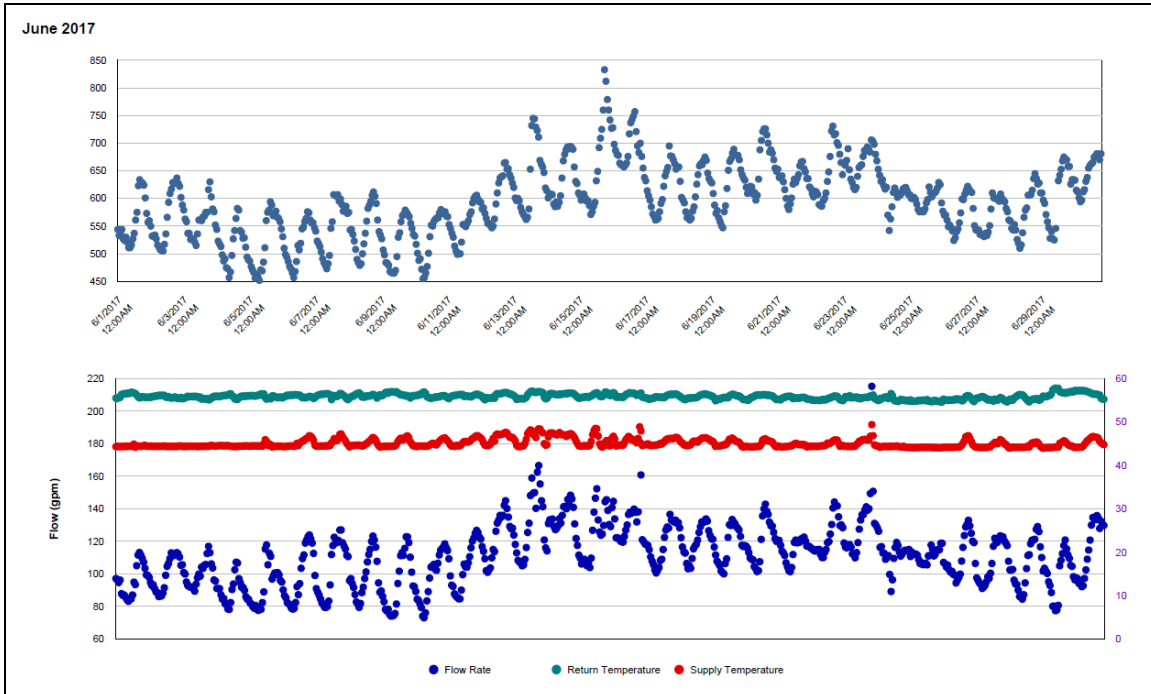
The CHW supply temp sensor appears to be faulty. The supply temp readings started to drift in the end of March 2017 and decreased to 35°F during April 2017. On 4/27/2017, the supply temp value jumped to 44°F. By comparing this value with the two hydrologically closest buildings #0471 Pavilion and #0444 Peterson, it is obviously observable that CHW supply temp sensor of #0511 is still under-calibrated (See the explanatory figure). The CHW of the whole month is estimated by model.

The HHW flow sharply dropped on 5/8/2017 from 20 – 25 gpm to 10 – 15 gpm, resulting in a significant decrease in HHW consumption. Another sudden increase in both flow rate and return temperature is observed on 6/20/2017 – 6/29/2017. This disturbance is not reflected on the consumption. The HHW of this month is estimated by model.

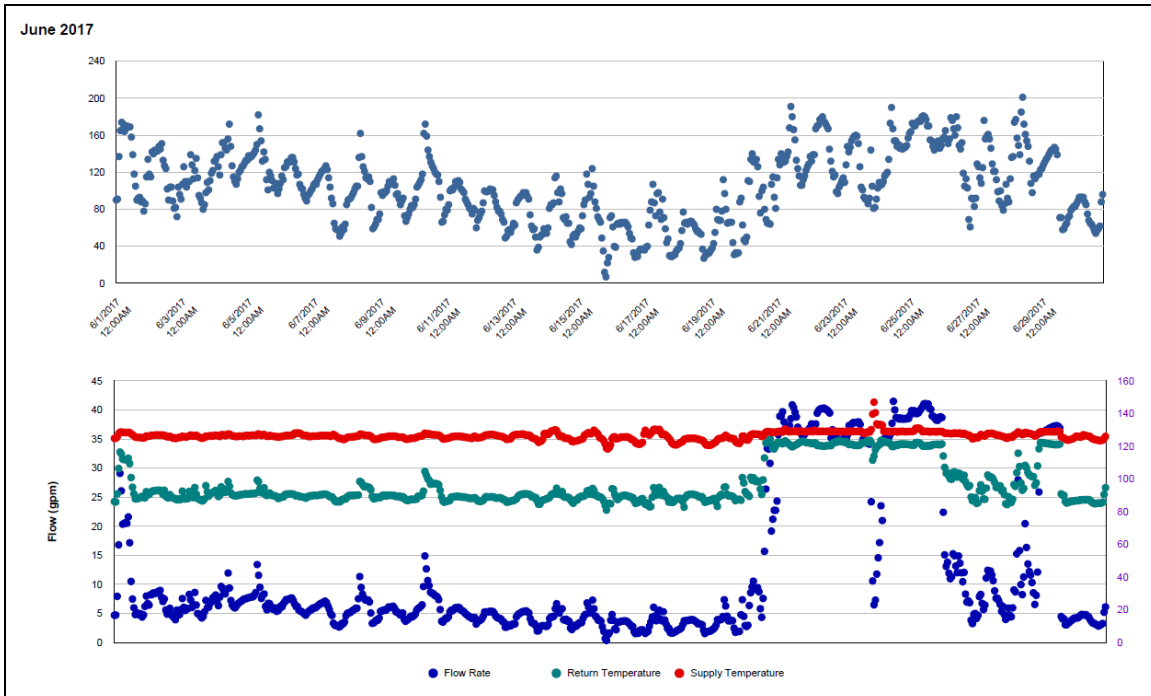
Explanatory Figure: 13 months energy balance plot with original data.



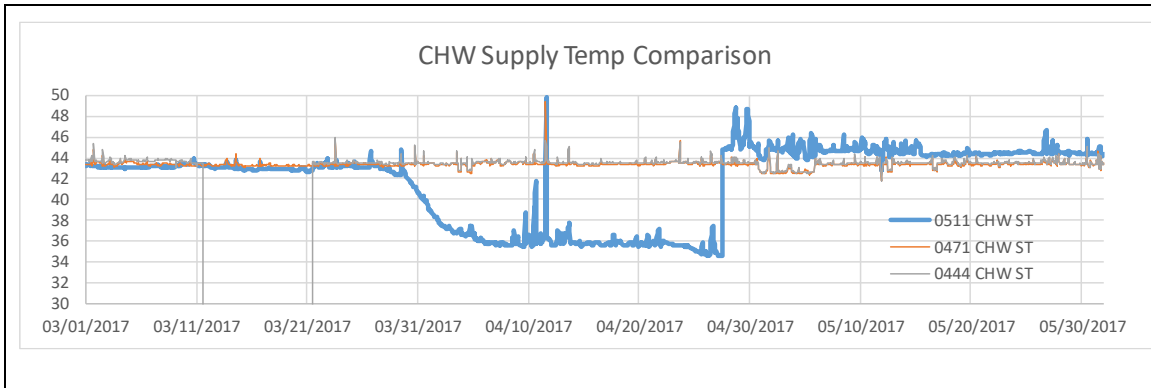
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during June 2017)



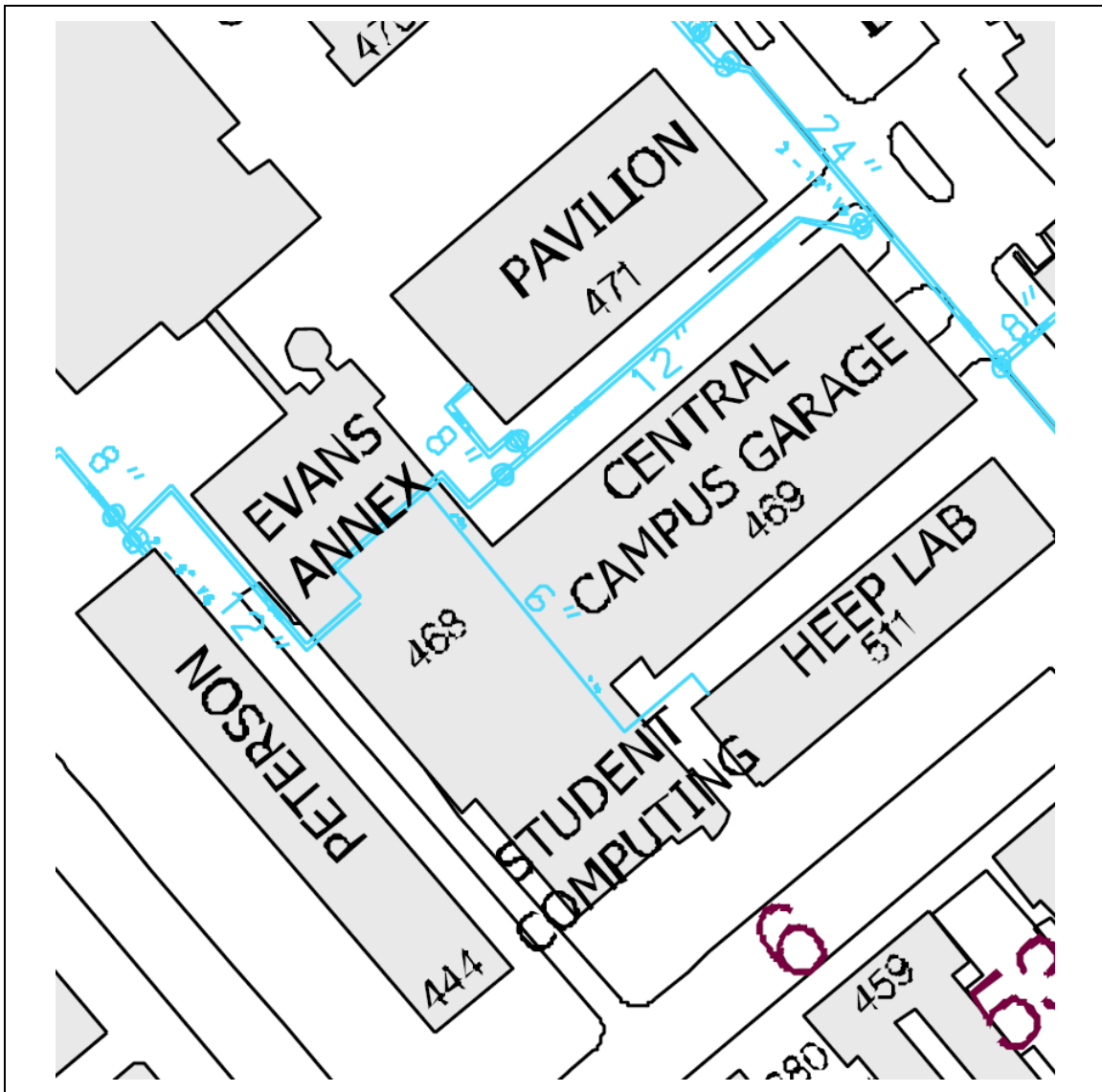
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



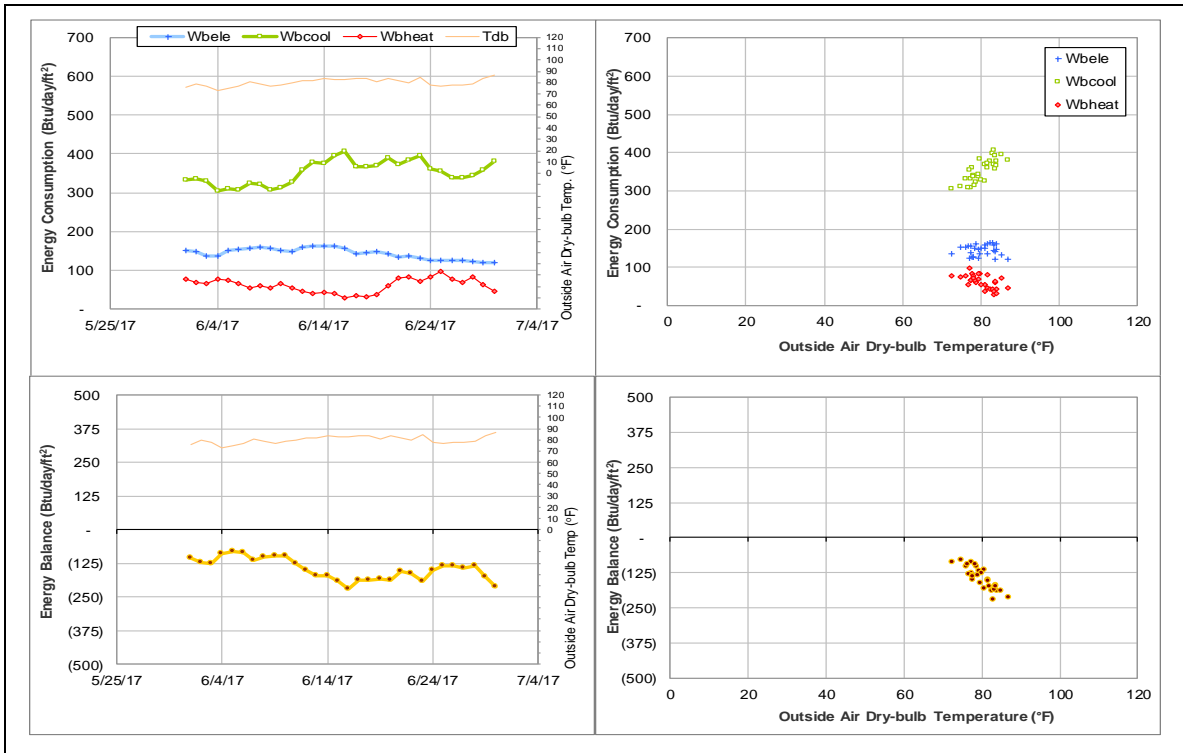
Explanatory Figure: CHW supply temp comparison of hydrologically closest buildings.



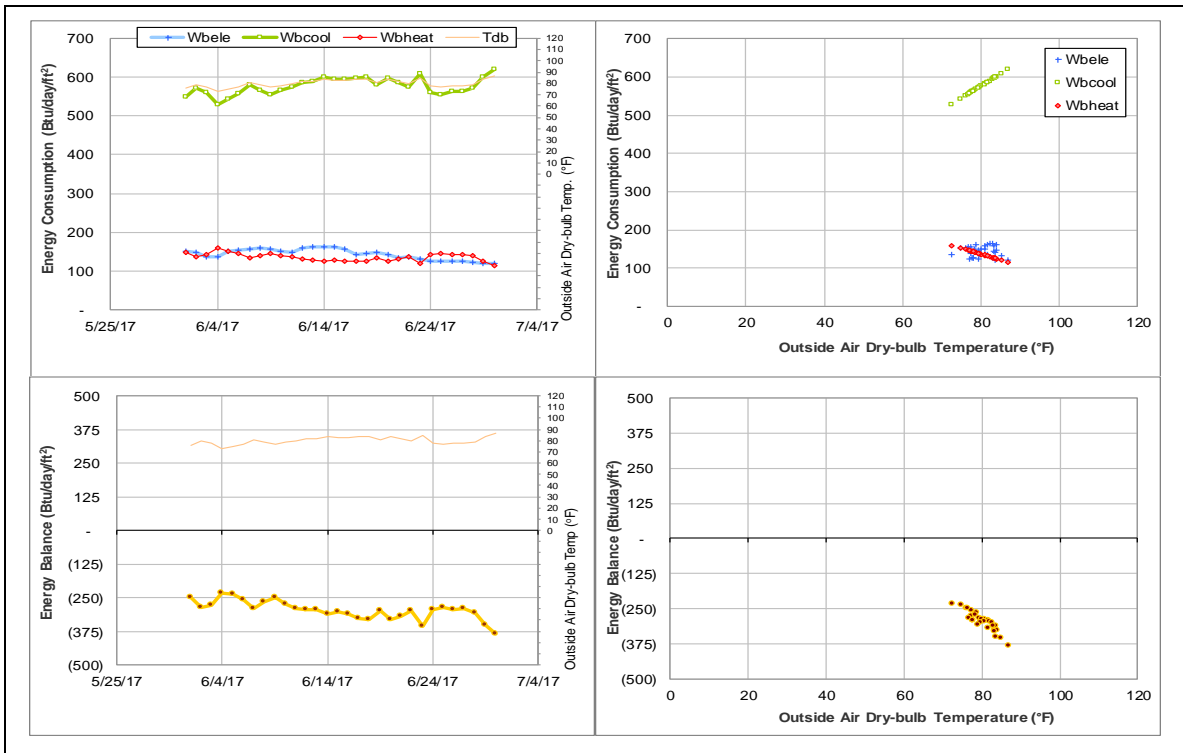
Explanatory Figure: CHW pipeline map near #0511.



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 | 14 | 6/13/2017 – 6/26/2017 | Model |
| HHW | 004293 | 30 | 6/1/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|-----------------------|
| CHW | Scattering data are observed. | 6/13/2017 – 6/26/2017 |
| HHW | The consumption level has decreased suddenly. | 4/26/2017 – Ongoing |
| | Scattering data are observed. | 6/1/2017 – Ongoing |

Changes in sensor readings related to the detected issues

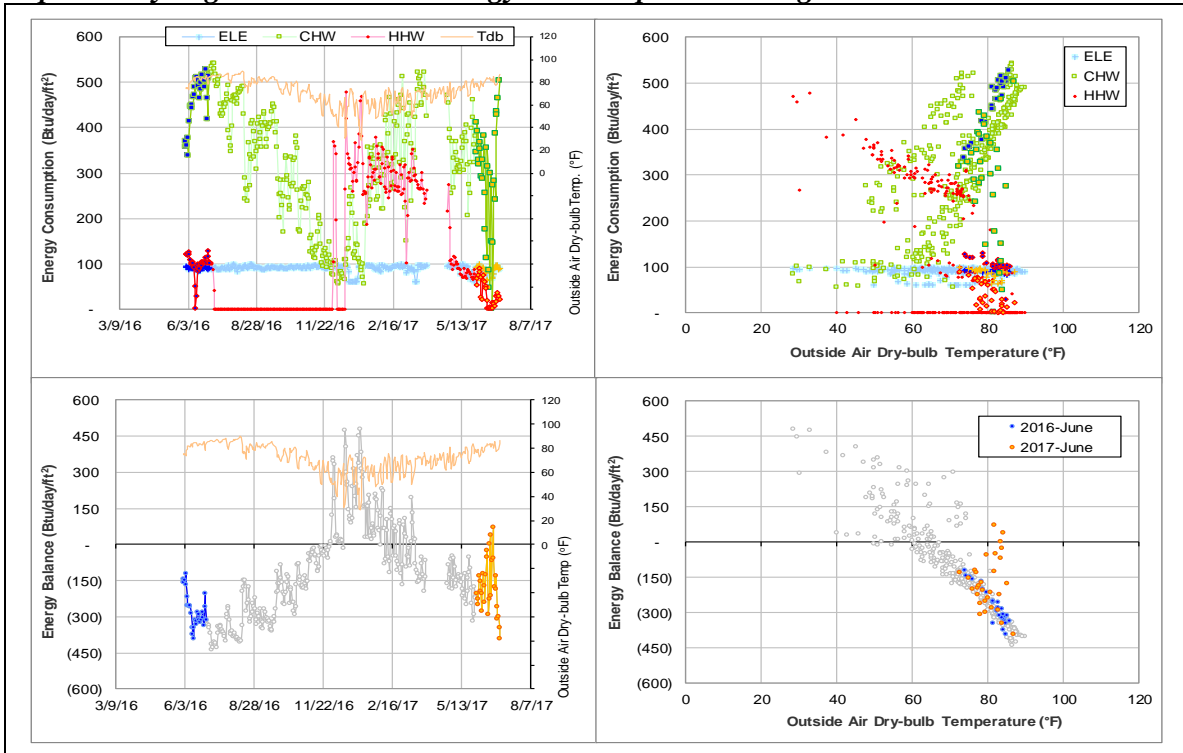
| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|---|-----------------------------|--|
| CHW | 004288 | 6/13/2017 – 6/26/2017 | Flow rate, | Scatter |
| | | | Supply temp | Scatter and sometimes is higher than return temp |
| HHW | 004293 | 4/26/2017 – Ongoing | Flow rate | Increased |
| | | 6/1/2017 | Flow rate | Zero |
| | | 6/7/2017 – 6/8/2017, 6/15/2017 – 6/16/2017 | Supply temp, Return temp | Room temperature |
| | | 6/16/2017 – 6/26/2017 | Flow rate | Low |
| | | 6/16/2017 – Ongoing | Delta-T | Zero or near zero |

Quantitative descriptions and comments

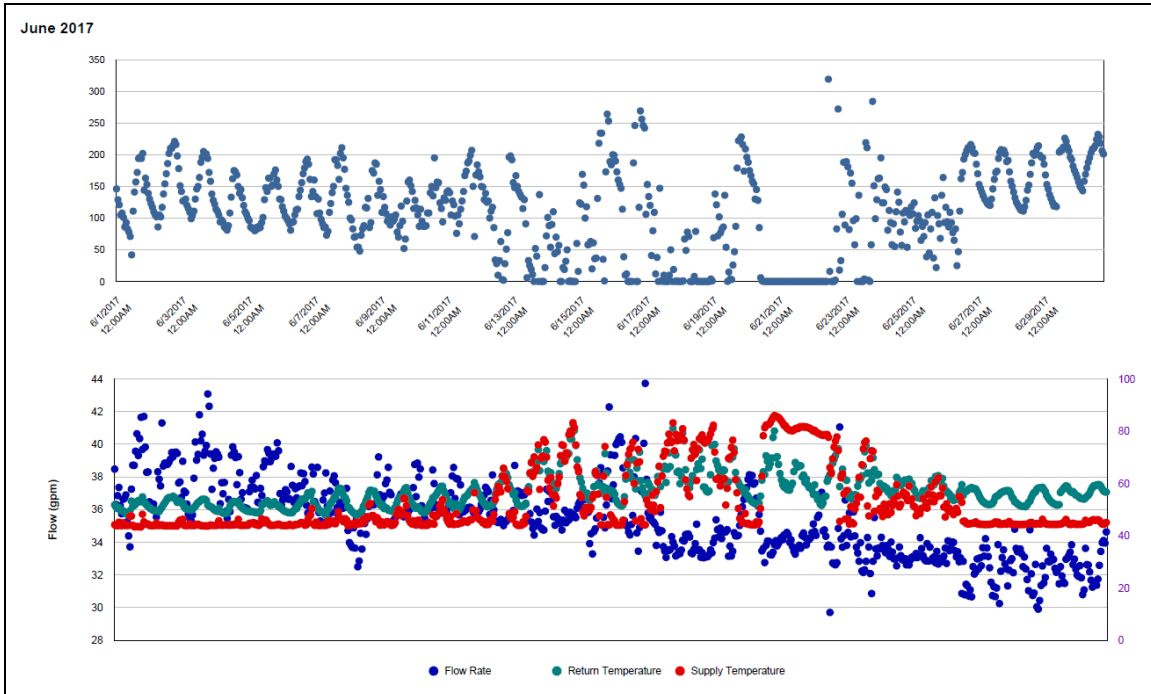
CHW flow rate and supply temperature had severe scatters on 6/13/2017 – 6/26/2017. The delta-T was negative sometimes. This period is estimated by model.

HHW consumption data was missing for most of April 2017. After the missing, HHW flow rate dropped sharply starting 4/26/2017. During June, the flow rate and both temperatures have been very unstable and have had multiple periods of anomaly, specified in the table above. The HHW of the whole month is estimated by model.

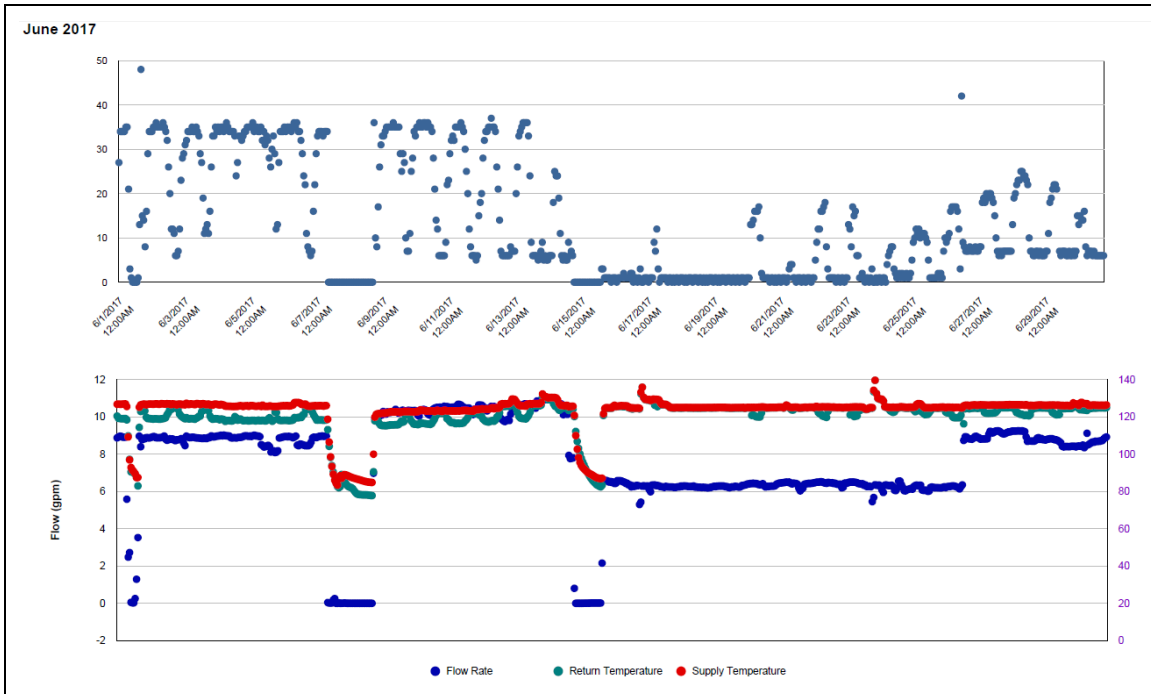
Explanatory Figure: 13 months energy balance plot with original data.



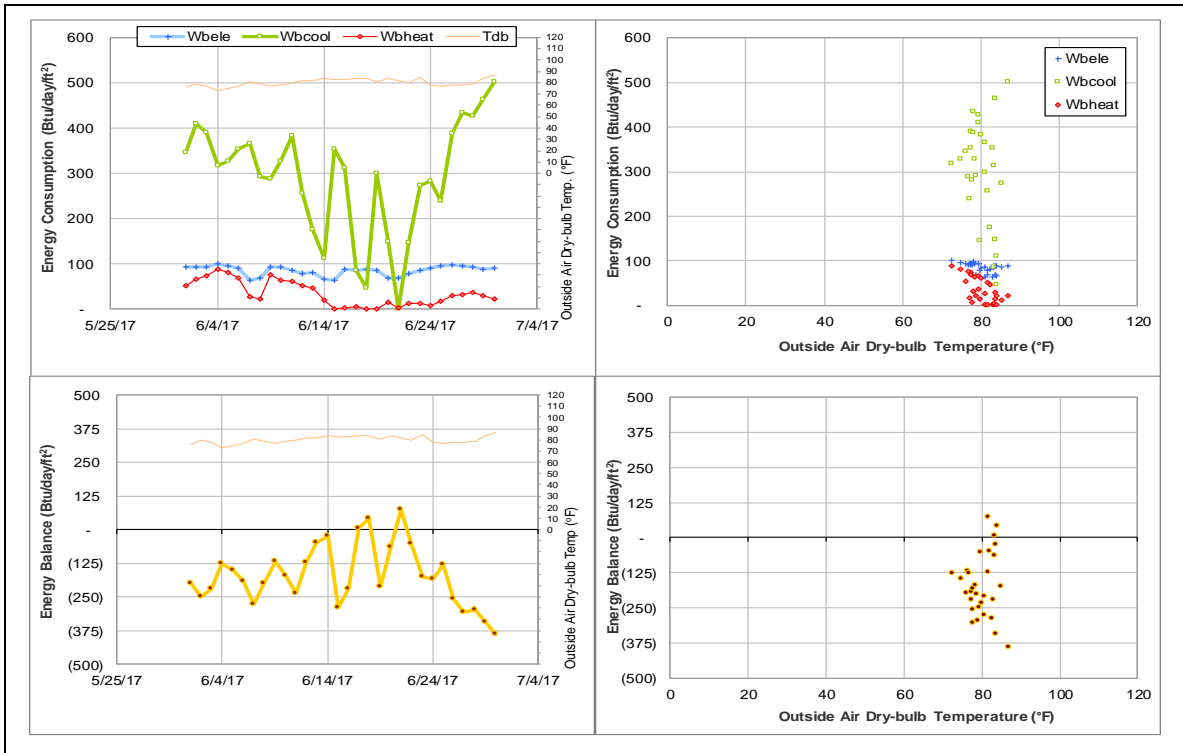
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during June 2017)



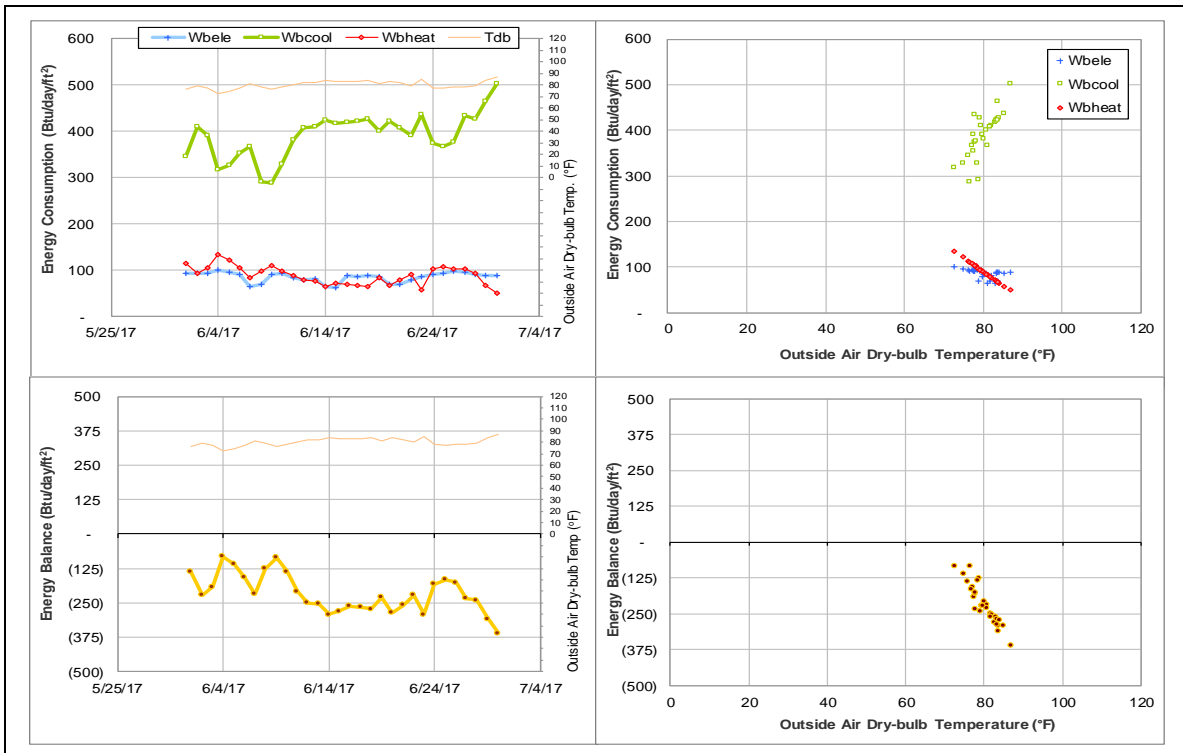
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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



Computing Services Center (TAMU Bldg #516)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|-----------------------|-------------------|
| CHW | 003959 | 12 | 6/19/2017 – 6/30/2017 | Average |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|---------------------|
| CHW | The consumption level has increased suddenly. | 6/19/2017 – Ongoing |

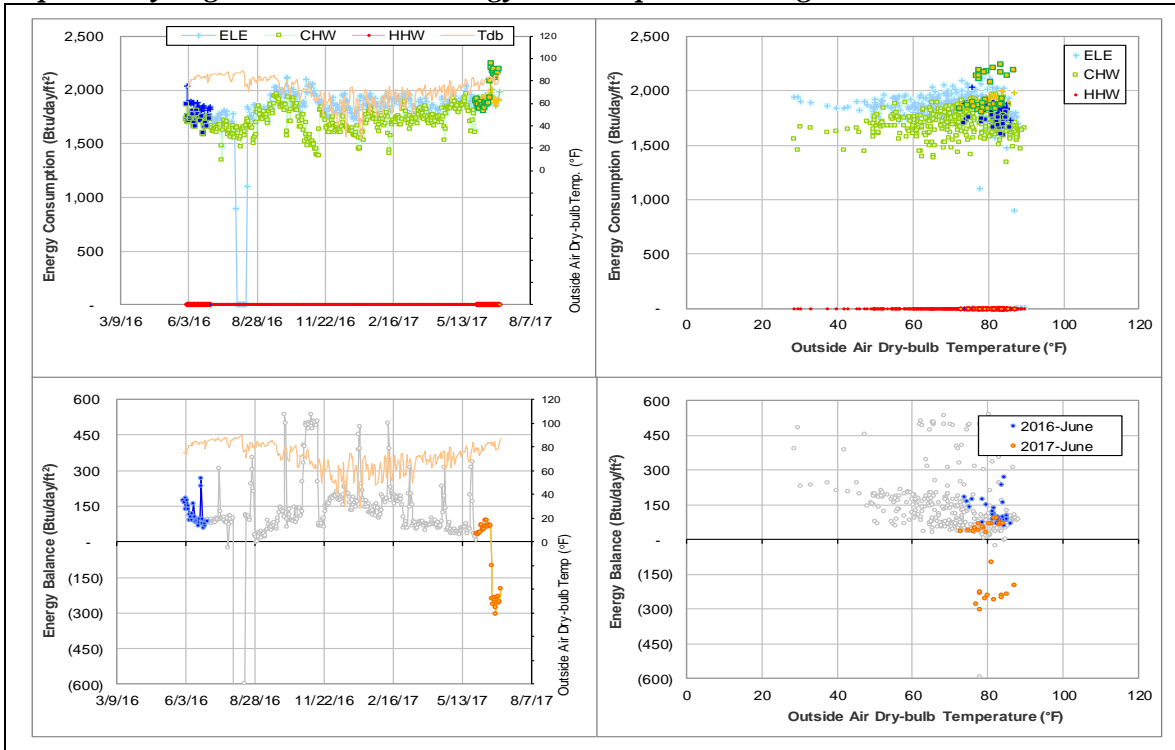
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|---------------------|-----------|-------------|
| CHW | 003959 | 6/19/2017 – Ongoing | Flow rate | High |

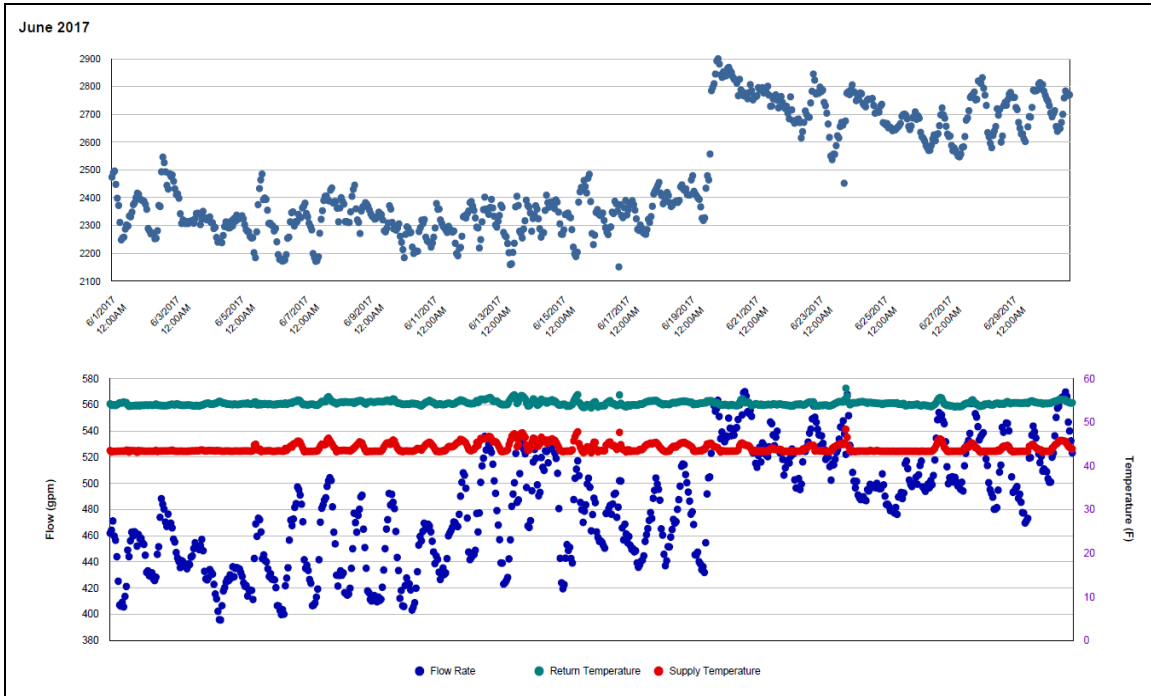
Quantitative descriptions and comments

CHW flow rate increased from the range of 400 – 520 gpm to 480 – 560 gpm since 6/19/2017. The consumption is estimated by taking average over the other days of this month.

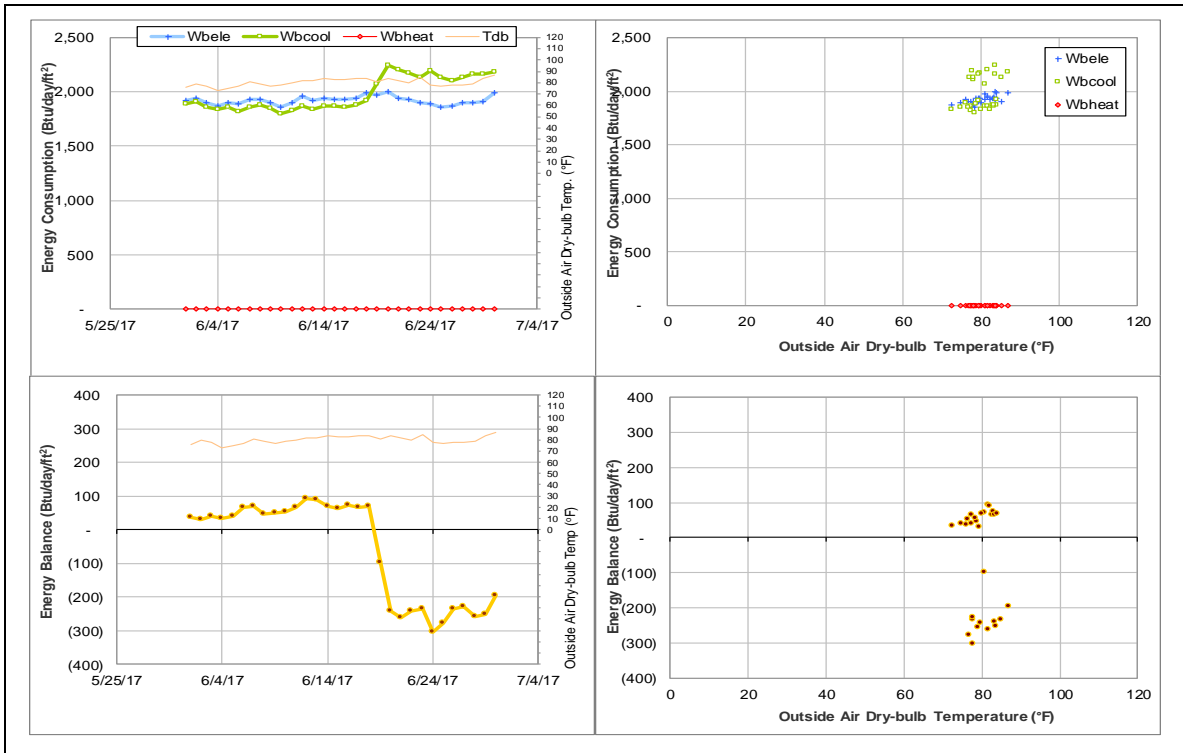
Explanatory Figure: 13 months energy balance plot with original data.



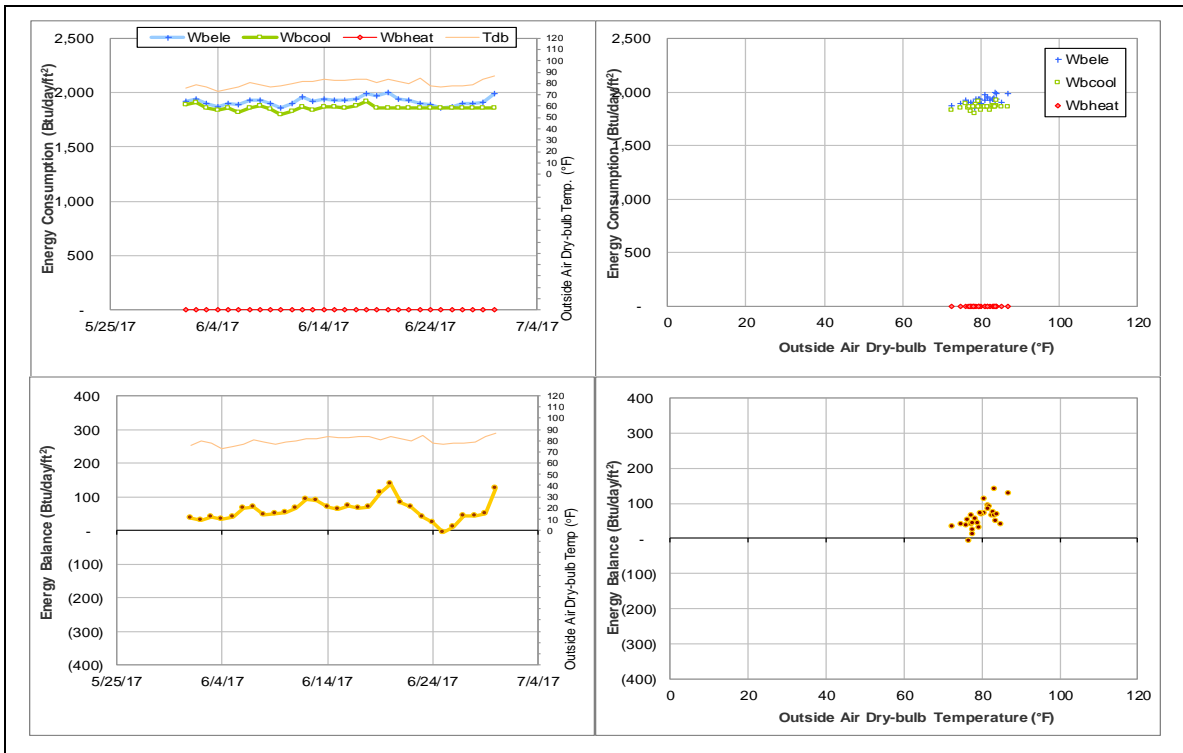
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (CHW during June 2017)



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



Beutel Health Center (TAMU Bldg #520)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| CHW | 003933 | 30 | 6/1/2017 – 6/30/2017 | Model |

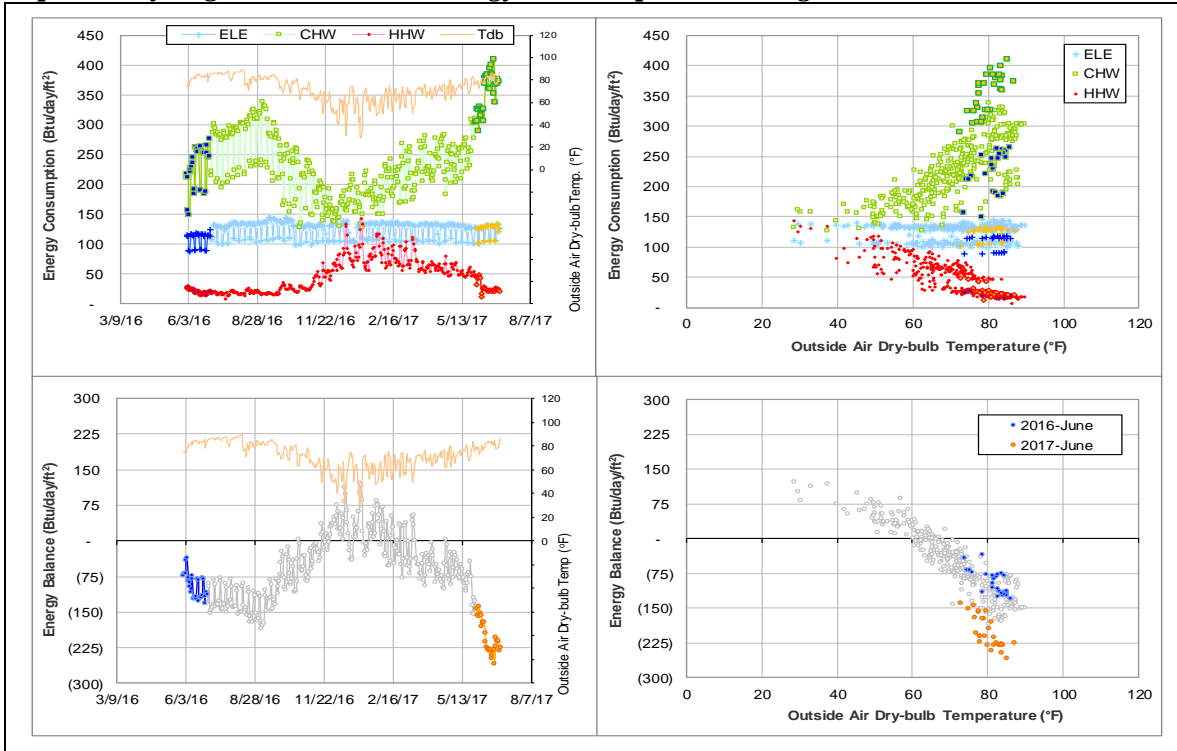
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-----------|--|--------------------|
| CHW | The consumption level is higher than the level during the past year. | 6/1/2017 – Ongoing |

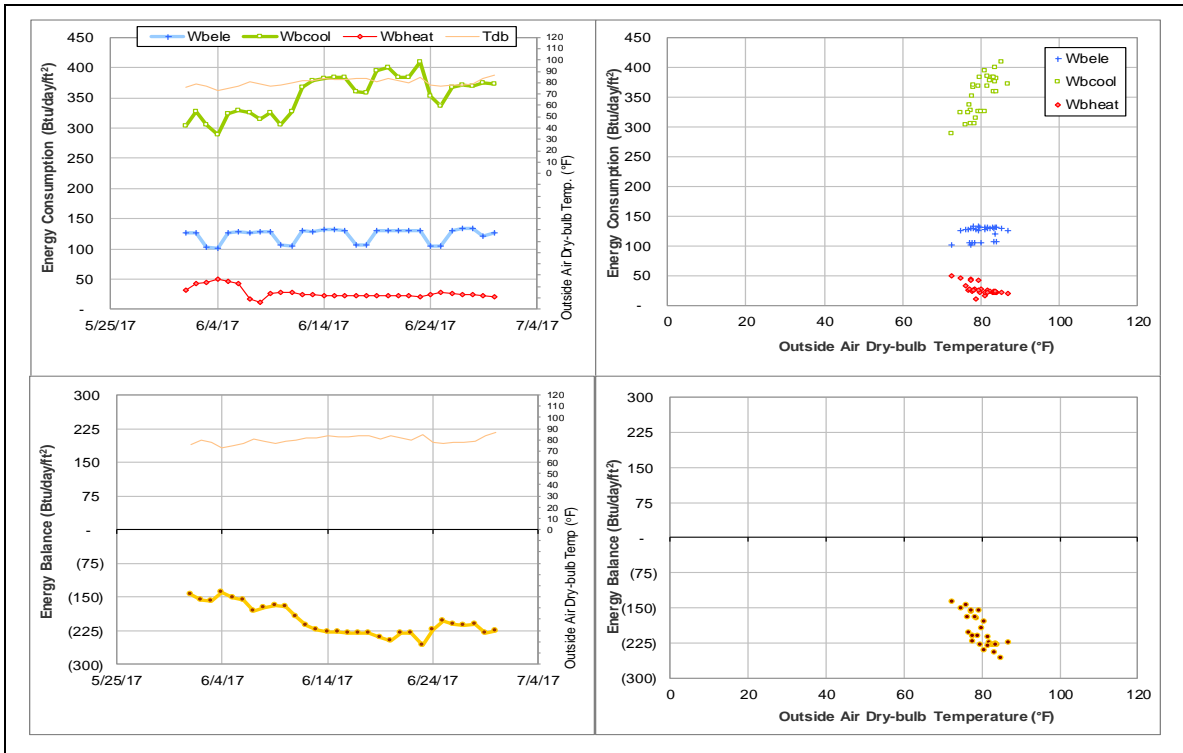
Quantitative descriptions and comments

CHW consumption of June this year is 50 – 100 Btu/day-ft² higher than June of the previous year. There is no obvious meter reading anomaly observed. The consumption of this month is estimated by model.

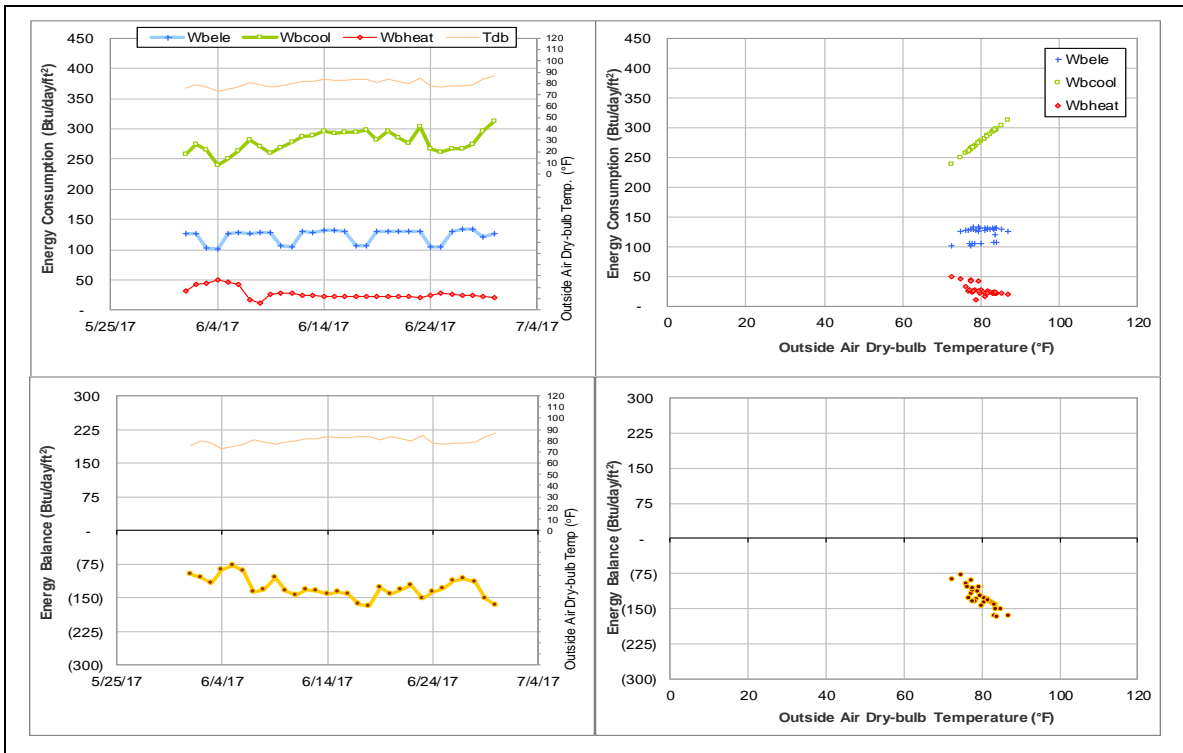
Explanatory Figure: 13 months energy balance plot with original data.



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



Veterinary Anatomic Pathology (TAMU Bldg #1184)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|-----------------------|-------------------|
| HHW | 006999 | 3 | 6/22/2017 – 6/24/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|-----------------------|
| HHW | The consumption increased for a short period. | 6/22/2017 – 6/24/2017 |

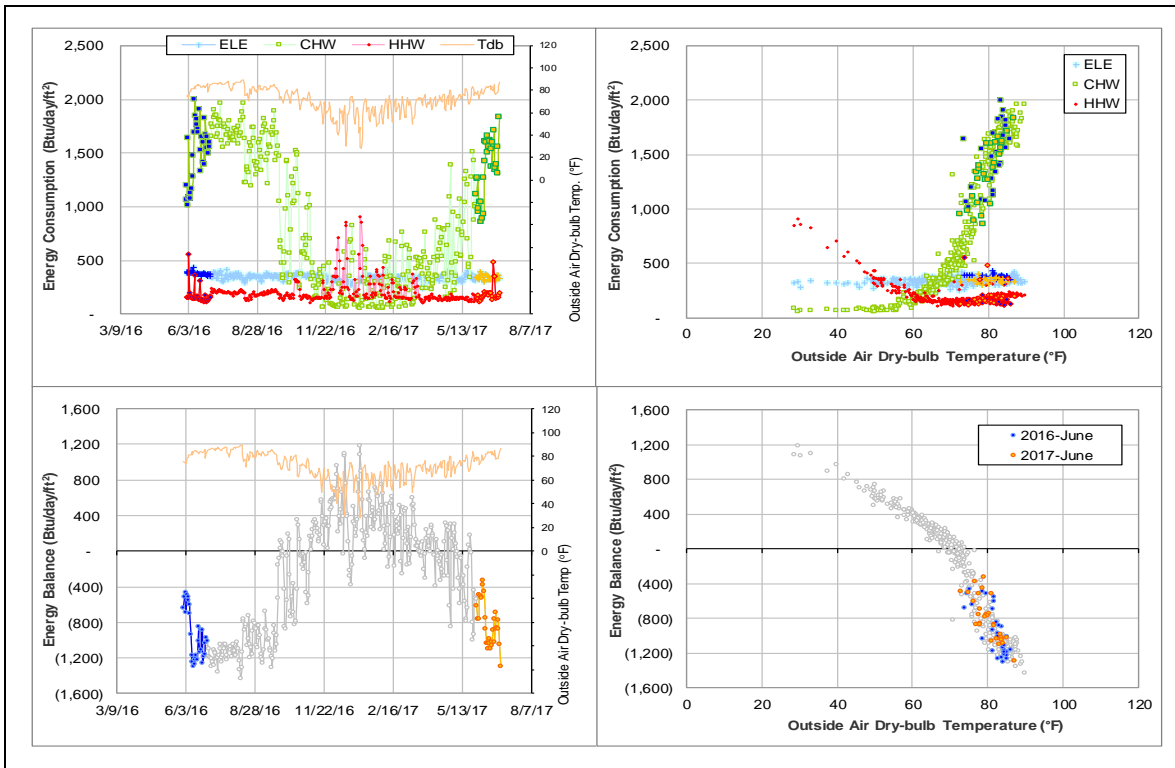
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|-----------------------|-----------|-------------|
| HHW | 006999 | 6/22/2017 – 6/24/2017 | Flow rate | High |

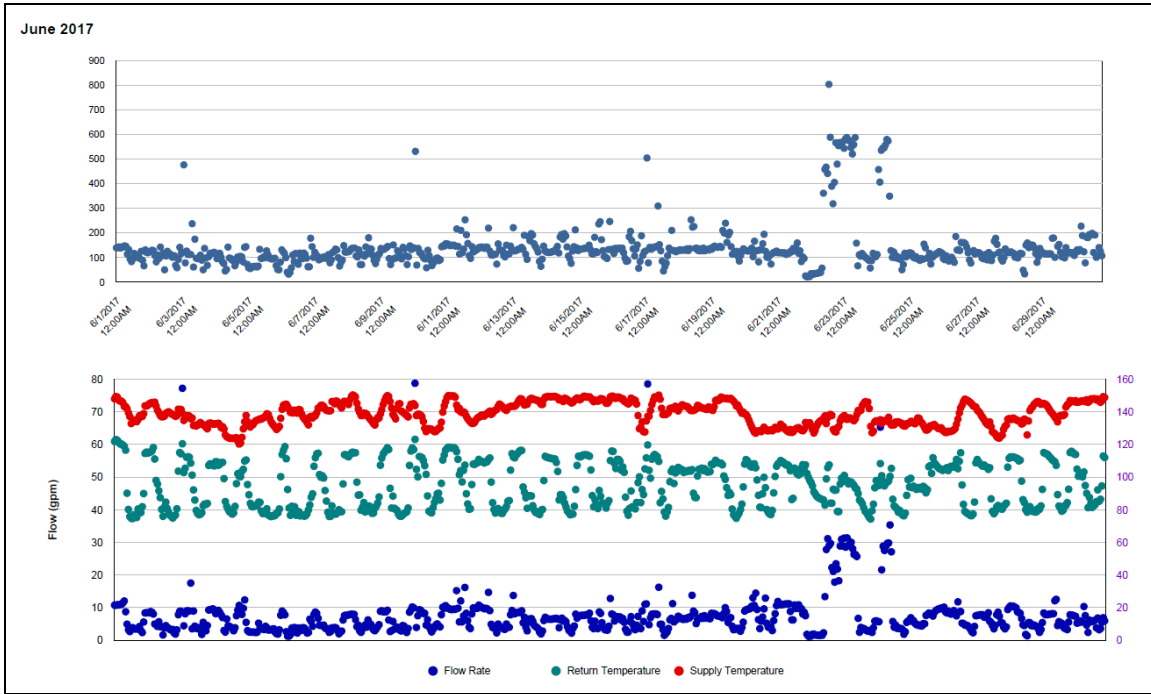
Quantitative descriptions and comments

HHW flow rate increased suddenly from less than 10 gpm to about 30 gpm on 6/22/2017 – 6/24/2017. This period is estimated by model.

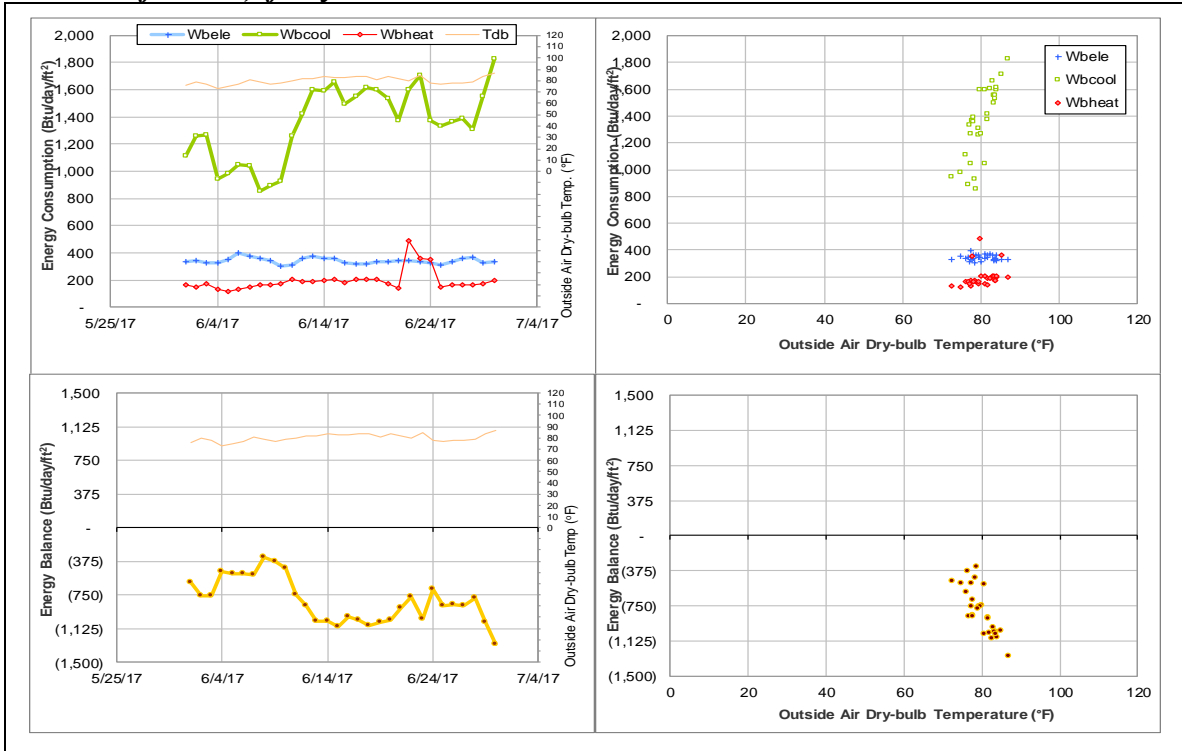
Explanatory Figure: 13 months energy balance plot with original data



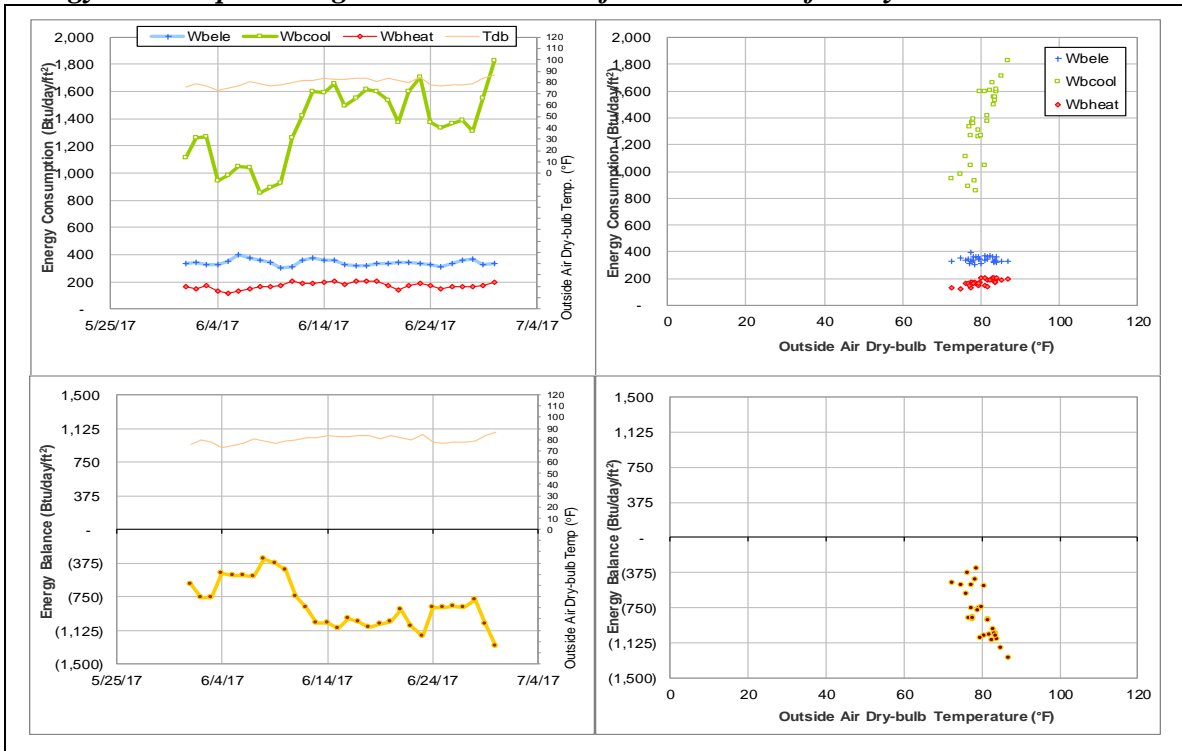
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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 |
|-------------|----------|----------------|-----------------------|-------------------|
| ELE | 003627 | 5 | 6/26/2017 – 6/30/2017 | Model |
| HHW | 002577 | 30 | 6/1/2017 – 6/30/2017 | 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. | 6/26/2017 – 6/29/2017 |
| | The consumption level is increasing gradually. | 6/29/2017 – 6/30/2017 |
| HHW | The consumption level has decreased suddenly. | 3/15/2017 – Ongoing |

Changes in sensor readings related to the detected issues

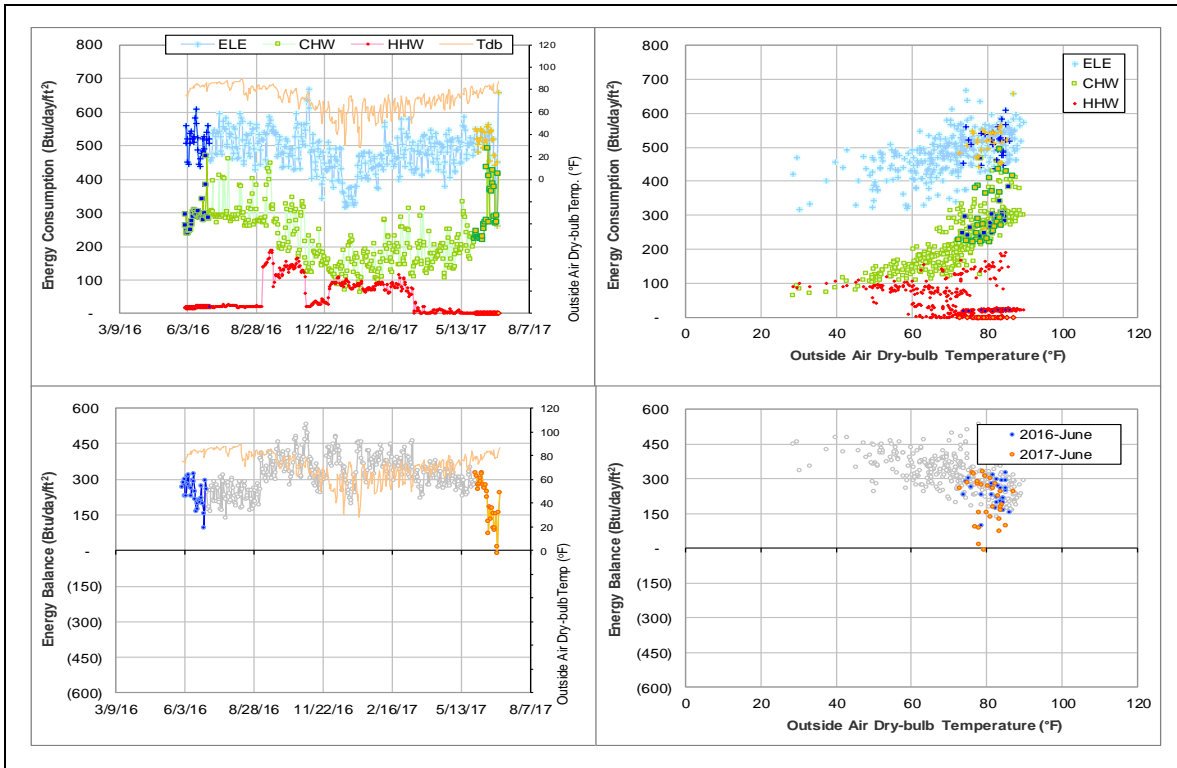
| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|---------------------|-----------|-----------------|
| HHW | 002577 | 3/15/2017 – Ongoing | Flow rate | Zero or scatter |

Quantitative descriptions and comments

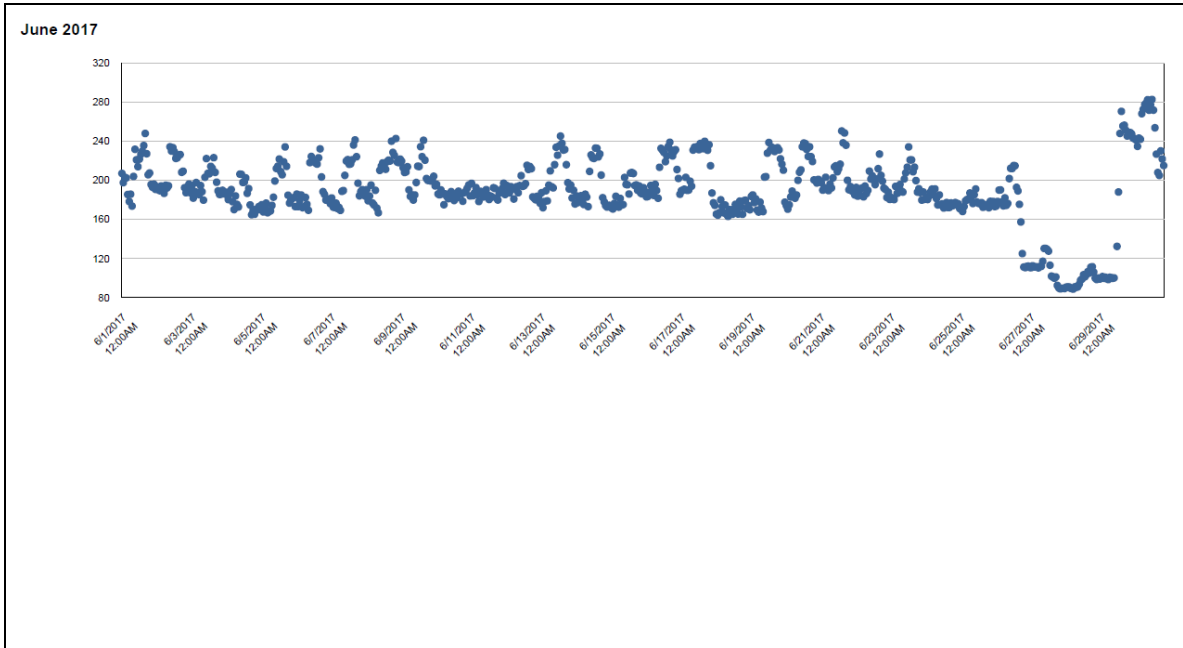
The ELE consumption of this building is very high and has a wide range a variability. At the end of the month, the consumption had a sudden drop from 160 – 240 kWh/h to 80 – 120 kWh/h on 6/26/2017, and then increased to 200 – 280 kWh/h on 6/29/2017. It is uncertain whether this higher level will retain. The consumption on 6/26/2017 – 6/30/2017 is estimated by model.

Flow rate of HHW dropped to very low or zero since 3/15/2017. The readings and the consumption show great scatter since then. CHW decreased slightly during this period, but the meter readings do not seem faulty. This period of HHW are estimated using a model.

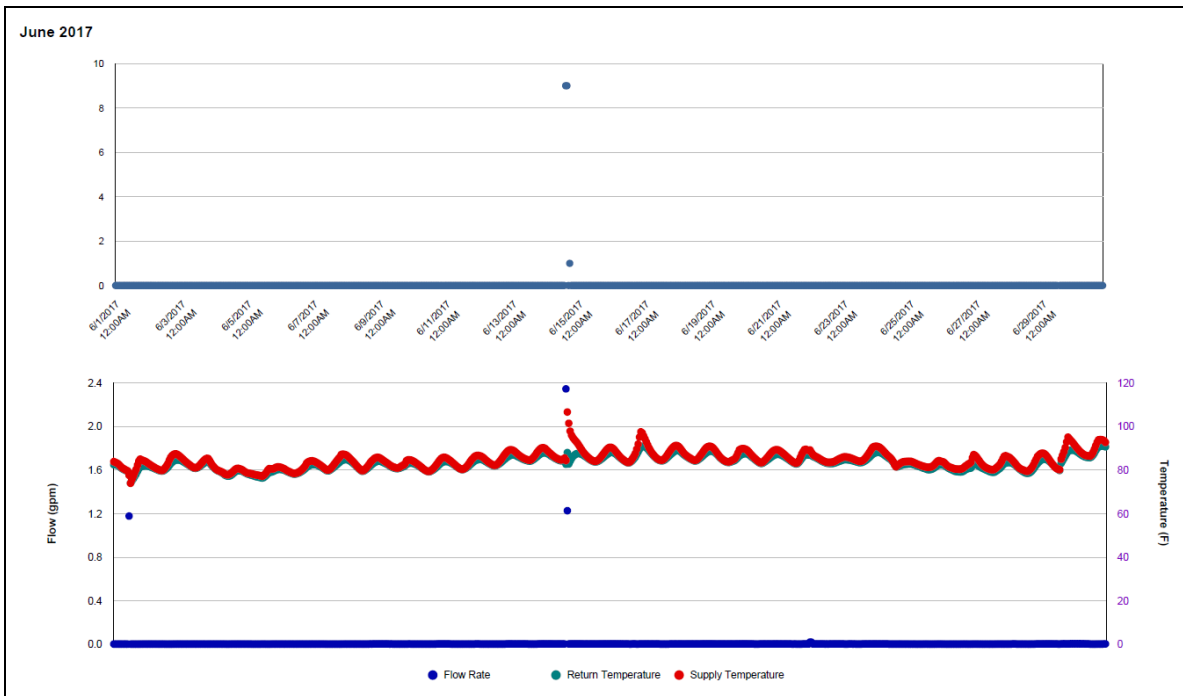
Explanatory Figure: 13 months energy balance plot with original data.



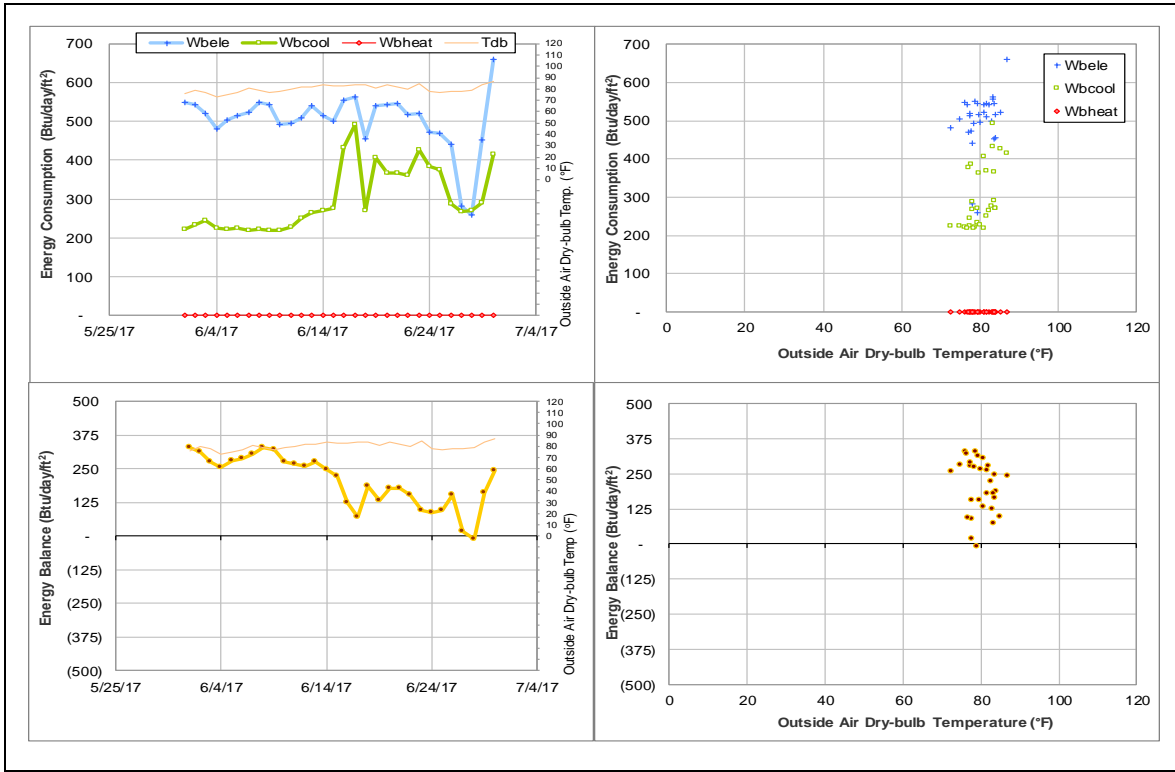
Explanatory Figure: Time series plots of hourly energy consumption from the utilities office. (ELE during June 2017)



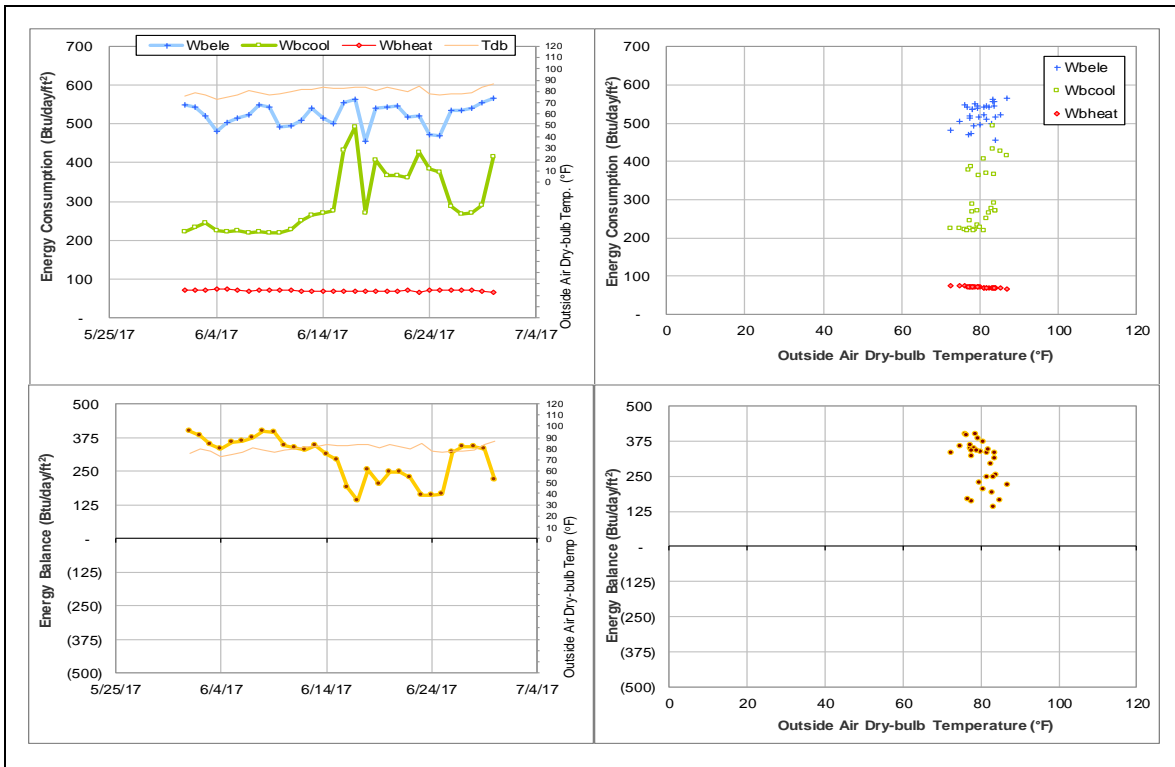
Explanatory Figure: Time series plots of hourly energy consumption, flow rate, and supply and return temperatures from the utilities office. (HHW during June 2017)



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 | 30 | 6/1/2017 – 6/30/2017 | Model |

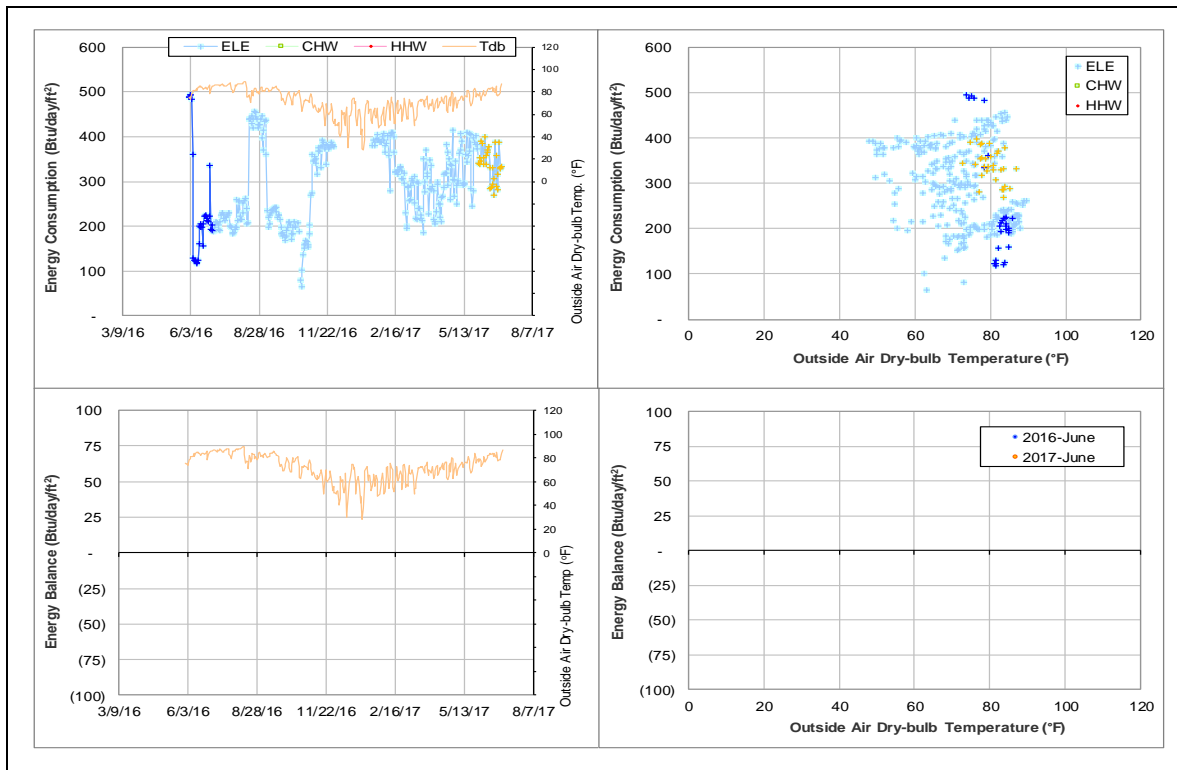
Detected issues in the energy balance and/or the consumption data

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

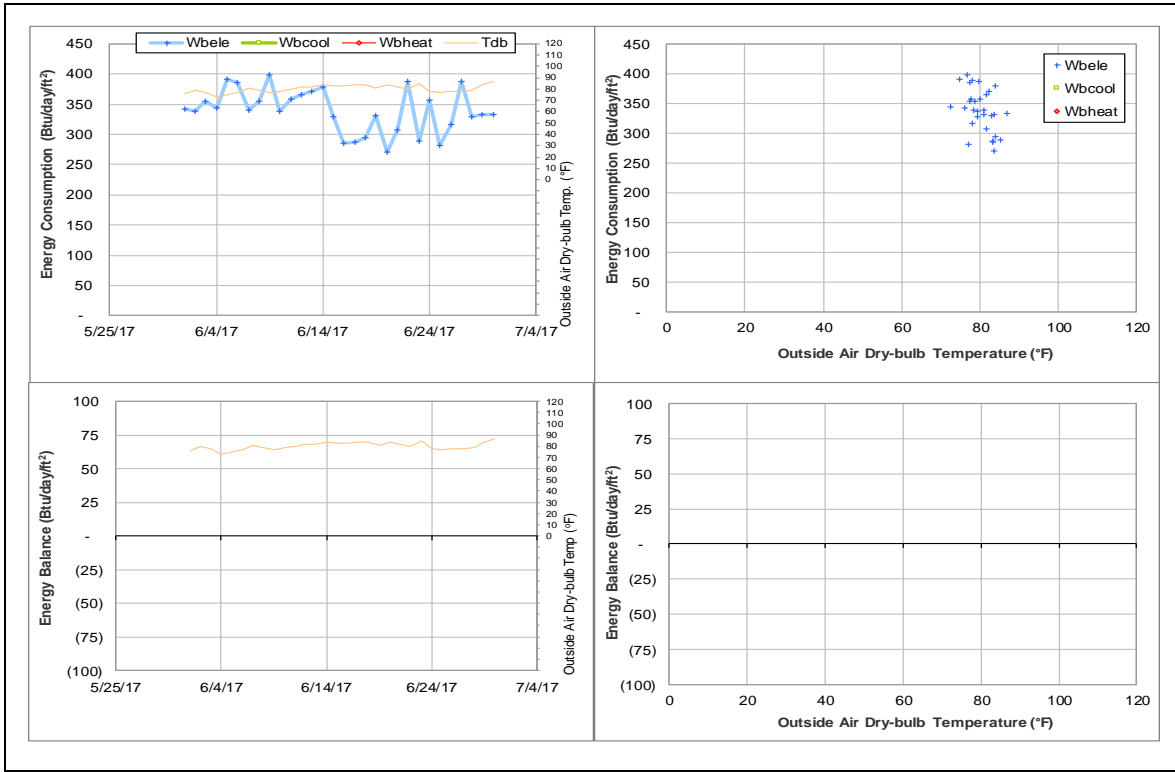
Quantitative descriptions and comments

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.

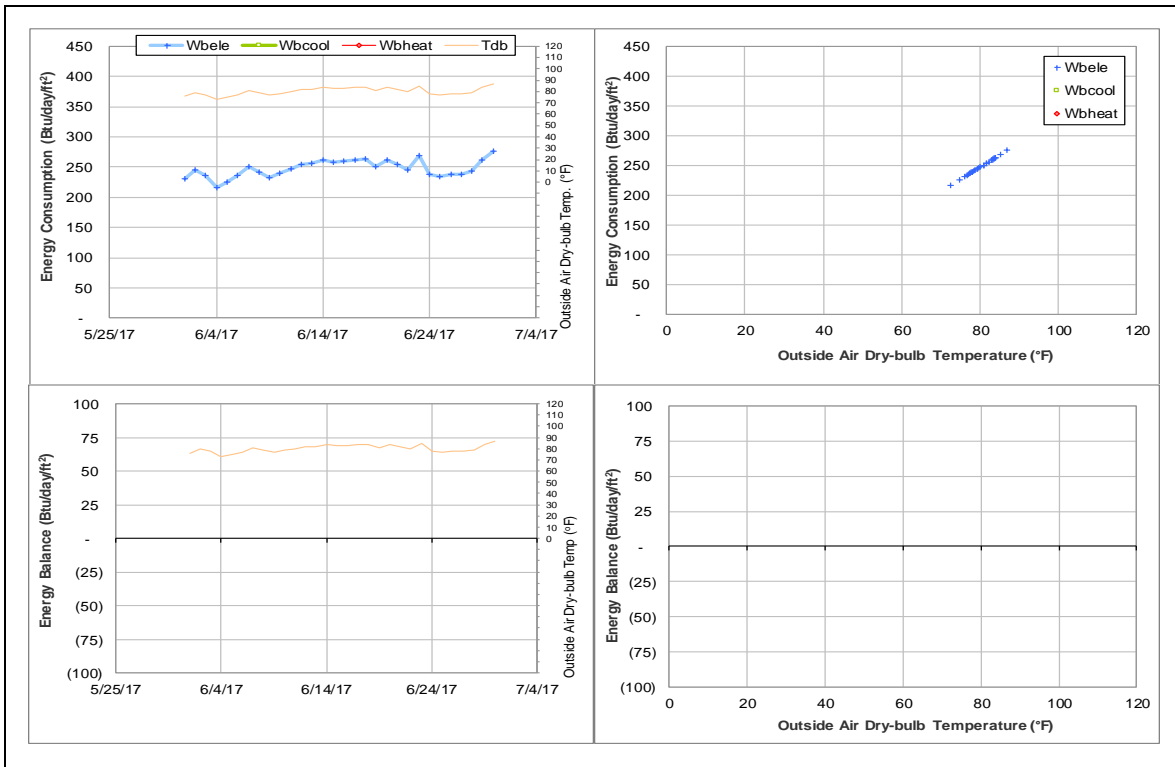
Explanatory Figure: 13 months energy balance plot with original data



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.



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 | 30 | 6/1/2017 – 6/30/2017 | Switch with 005275 |
| ELE | 005275 | 30 | 6/1/2017 – 6/30/2017 | 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 | 2930884.013 | 84.282 | 005274 | 08/13/2015 12:00:00 PM | 4741958.002 | 170.658 | 0052 |
| 08/13/2015 01:00:00 PM | 2930968.589 | 84.576 | 005274 | 08/13/2015 01:00:00 PM | 4742132.336 | 174.334 | 0052 |
| 08/13/2015 02:00:00 PM | 2931051.959 | 83.37 | 005274 | 08/13/2015 02:00:00 PM | 4742303.554 | 171.218 | 0052 |
| 08/13/2015 03:00:00 PM | 2931146.799 | 94.84 | 005274 | 08/13/2015 03:00:00 PM | 4742483.683 | 180.129 | 0052 |
| 08/13/2015 04:00:00 PM | 2931240.505 | 93.706 | 005274 | 08/13/2015 04:00:00 PM | 4742662.753 | 179.07 | 0052 |
| 08/13/2015 05:00:00 PM | 2931324.169 | 83.664 | 005274 | 08/13/2015 05:00:00 PM | 4742832.009 | 169.256 | 0052 |
| 08/13/2015 06:00:00 PM | 2931399.91 | 75.741 | 005274 | 08/13/2015 06:00:00 PM | 4742993.53 | 161.521 | 0052 |
| 08/13/2015 07:00:00 PM | 2931472.181 | 72.271 | 005274 | 08/13/2015 07:00:00 PM | 4743149.675 | 156.145 | 0052 |
| 08/13/2015 08:00:00 PM | 2931543.538 | 71.357 | 005274 | 08/13/2015 08:00:00 PM | 4743305.9 | 156.225 | 0052 |
| 08/13/2015 09:00:00 PM | 2931613.306 | 69.468 | 005274 | 08/13/2015 09:00:00 PM | 4743462.097 | 156.197 | 0052 |
| 08/13/2015 10:00:00 PM | 2931672.706 | 59.4 | 005274 | 08/13/2015 10:00:00 PM | 4743610.221 | 148.124 | 0052 |
| 08/13/2015 11:00:00 PM | 2931733.072 | 60.366 | 005274 | 08/13/2015 11:00:00 PM | 4743745.645 | 135.424 | 0052 |
| 08/14/2015 12:00:00 AM | 4743876.03 | 130.385 | 005274 | 08/14/2015 12:00:00 AM | 2931791.919 | 58.118 | 0052 |
| 08/14/2015 01:00:00 AM | 4744008.406 | 132.376 | 005274 | 08/14/2015 01:00:00 AM | 2931840.35 | 58.16 | 0052 |
| 08/14/2015 02:00:00 AM | 4744141.74 | 133.334 | 005274 | 08/14/2015 02:00:00 AM | 2931908.534 | 59.184 | 0052 |
| 08/14/2015 03:00:00 AM | 4744272.553 | 130.813 | 005274 | 08/14/2015 03:00:00 AM | 2931966.686 | 58.152 | 0052 |
| 08/14/2015 04:00:00 AM | 4744404.045 | 131.492 | 005274 | 08/14/2015 04:00:00 AM | 2932023.589 | 56.903 | 0052 |
| 08/14/2015 05:00:00 AM | 4744534.38 | 130.335 | 005274 | 08/14/2015 05:00:00 AM | 2932080.05 | 56.461 | 0052 |
| 08/14/2015 06:00:00 AM | 4744667.111 | 132.731 | 005274 | 08/14/2015 06:00:00 AM | 2932137.05 | 57 | 0052 |
| 08/14/2015 07:00:00 AM | 4744820.038 | 152.927 | 005274 | 08/14/2015 07:00:00 AM | 2932232.983 | 95.933 | 0052 |
| 08/14/2015 08:00:00 AM | 4744972.221 | 152.183 | 005274 | 08/14/2015 08:00:00 AM | 2932319.162 | 86.179 | 0052 |
| 08/14/2015 09:00:00 AM | 4745134.467 | 162.246 | 005274 | 08/14/2015 09:00:00 AM | 2932404.691 | 85.528 | 0052 |
| 08/14/2015 10:00:00 AM | 4745308.905 | 174.438 | 005274 | 08/14/2015 10:00:00 AM | 2932489.976 | 85.285 | 0052 |
| 08/14/2015 11:00:00 AM | 4745476.832 | 167.927 | 005274 | 08/14/2015 11:00:00 AM | 2932564.419 | 74.443 | 0052 |
| 08/14/2015 12:00:00 PM | 4745634.44 | 157.608 | 005274 | 08/14/2015 12:00:00 PM | 2932634.064 | 69.645 | 0052 |
| 08/14/2015 01:00:00 PM | 4745789.345 | 154.905 | 005274 | 08/14/2015 01:00:00 PM | 2932704.723 | 70.659 | 0052 |
| 08/14/2015 02:00:00 PM | 4745949.369 | 160.024 | 005274 | 08/14/2015 02:00:00 PM | 2932777.373 | 72.65 | 0052 |
| 08/14/2015 03:00:00 PM | 4746110.346 | 160.977 | 005274 | 08/14/2015 03:00:00 PM | 2932845.908 | 68.535 | 0052 |
| 08/14/2015 04:00:00 PM | 4746270.303 | 160.957 | 005274 | 08/14/2015 04:00:00 PM | 2932920.525 | 74.617 | 0052 |
| 08/14/2015 05:00:00 PM | 4746431.347 | 160.444 | 005274 | 08/14/2015 05:00:00 PM | 2932996.635 | 76.31 | 0052 |
| 08/14/2015 06:00:00 PM | 4746586.415 | 155.068 | 005274 | 08/14/2015 06:00:00 PM | 2933065.518 | 68.683 | 0052 |
| 08/14/2015 07:00:00 PM | 4746727.476 | 141.061 | 005274 | 08/14/2015 07:00:00 PM | 2933127.559 | 62.041 | 0052 |
| 08/14/2015 08:00:00 PM | 4746864.372 | 136.896 | 005274 | 08/14/2015 08:00:00 PM | 2933195.384 | 67.825 | 0052 |
| 08/14/2015 09:00:00 PM | 4747004.372 | 140 | 005274 | 08/14/2015 09:00:00 PM | 2933263.632 | 68.248 | 0052 |
| 08/14/2015 10:00:00 PM | 4747137.886 | 133.514 | 005274 | 08/14/2015 10:00:00 PM | 2933323.26 | 59.628 | 0052 |
| 08/14/2015 11:00:00 PM | 4747269.569 | 131.683 | 005274 | 08/14/2015 11:00:00 PM | 2933382.3 | 59.04 | 0052 |

West Campus Parking Garage (TAMU Bldg #1559)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| CHW | 004322 | 30 | 6/1/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|---------------------|
| CHW | The consumption level has decreased suddenly. | 3/10/2017 – Ongoing |

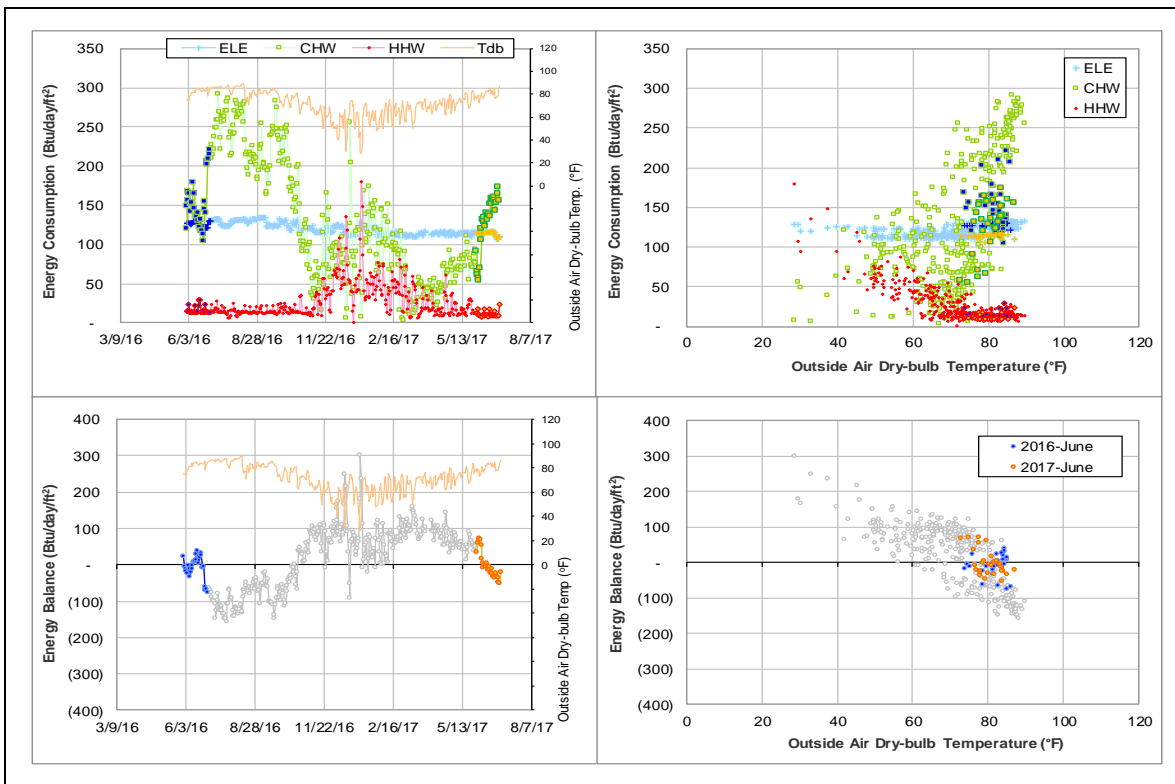
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|---------------------|-----------|-------------|
| CHW | 004322 | 3/10/2017 – Ongoing | Flow rate | Low |

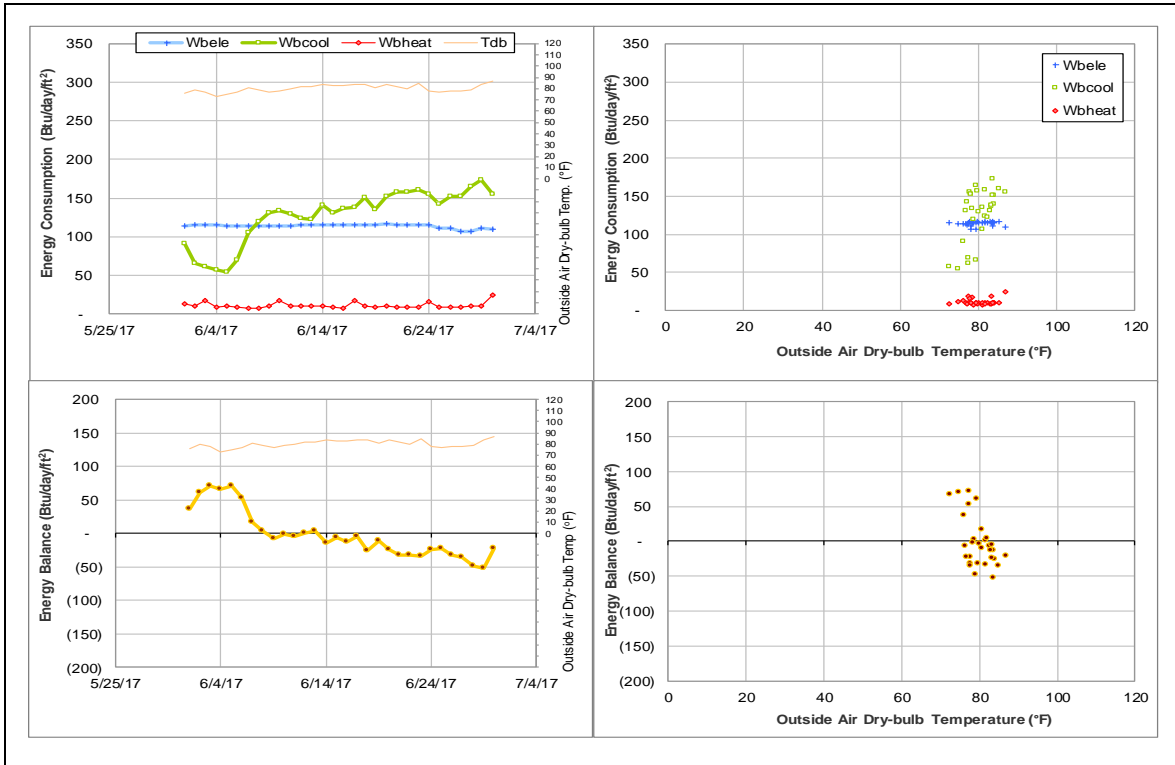
Quantitative descriptions and comments

The CHW flow rate had been severely scattered during 11/6/2016 – 3/9/2017. The consumption in current month is 100 Btu/day/ft² lower than same month of last year. The consumption of this month is estimated using a model based on the data of 6/1/2015 – 5/31/2016.

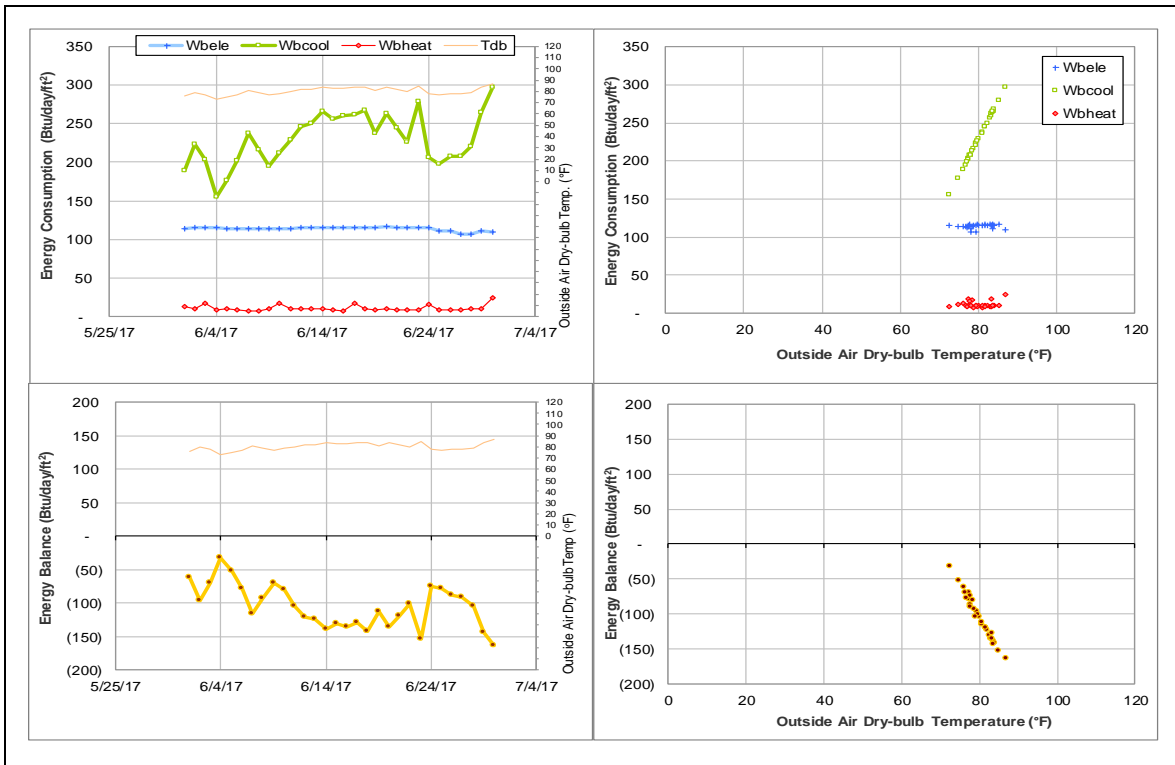
Explanatory Figure: 13 months energy balance plot with original data



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.



George Bush Presidential Library & Museum (TAMU Bldg #1606)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| HHW | 002812 | 22 | 6/9/2017 – 6/30/2017 | Model |

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

| Data Type | Description of data behaviors | Period |
|-----------|---|--------------------|
| HHW | The consumption level has increased suddenly. | 6/9/2017 – Ongoing |

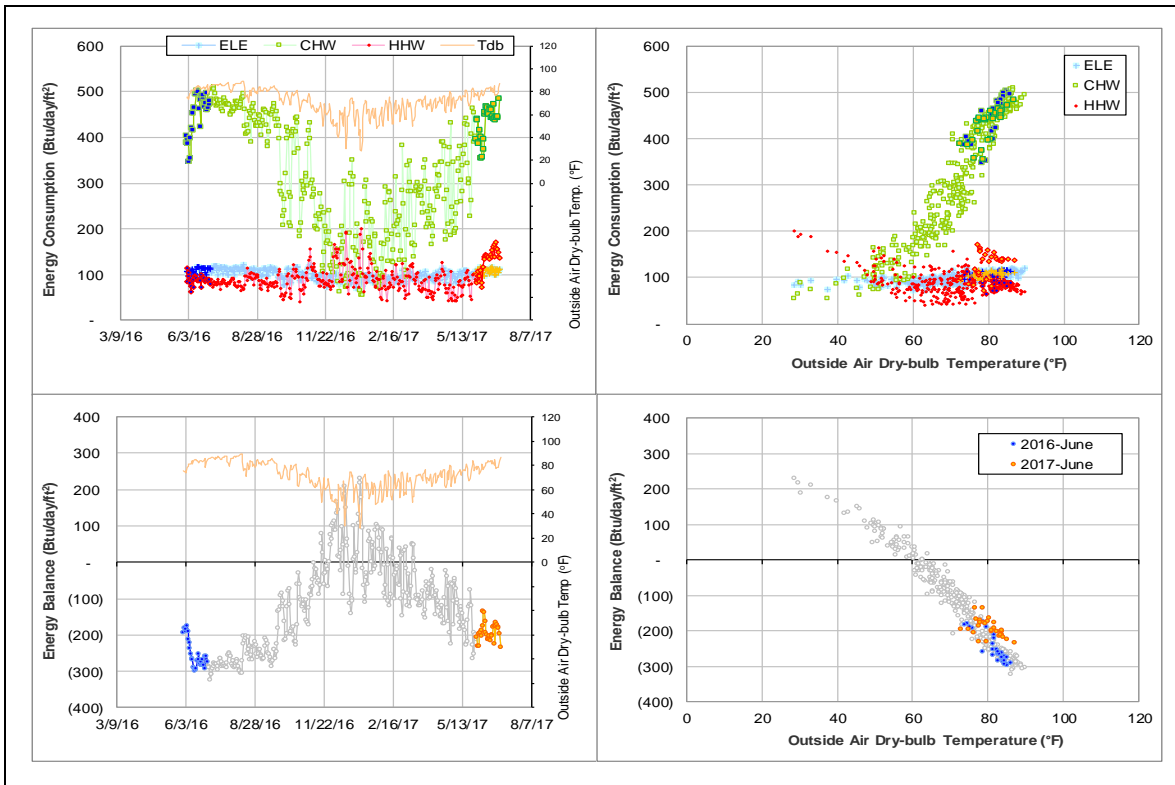
Changes in sensor readings related to the detected issues

| Energy Type | Meter ID | Period | Type | Description |
|-------------|----------|--------------------|--------------------|-------------|
| HHW | 002812 | 6/9/2017 – Ongoing | Return Temperature | Decreased |

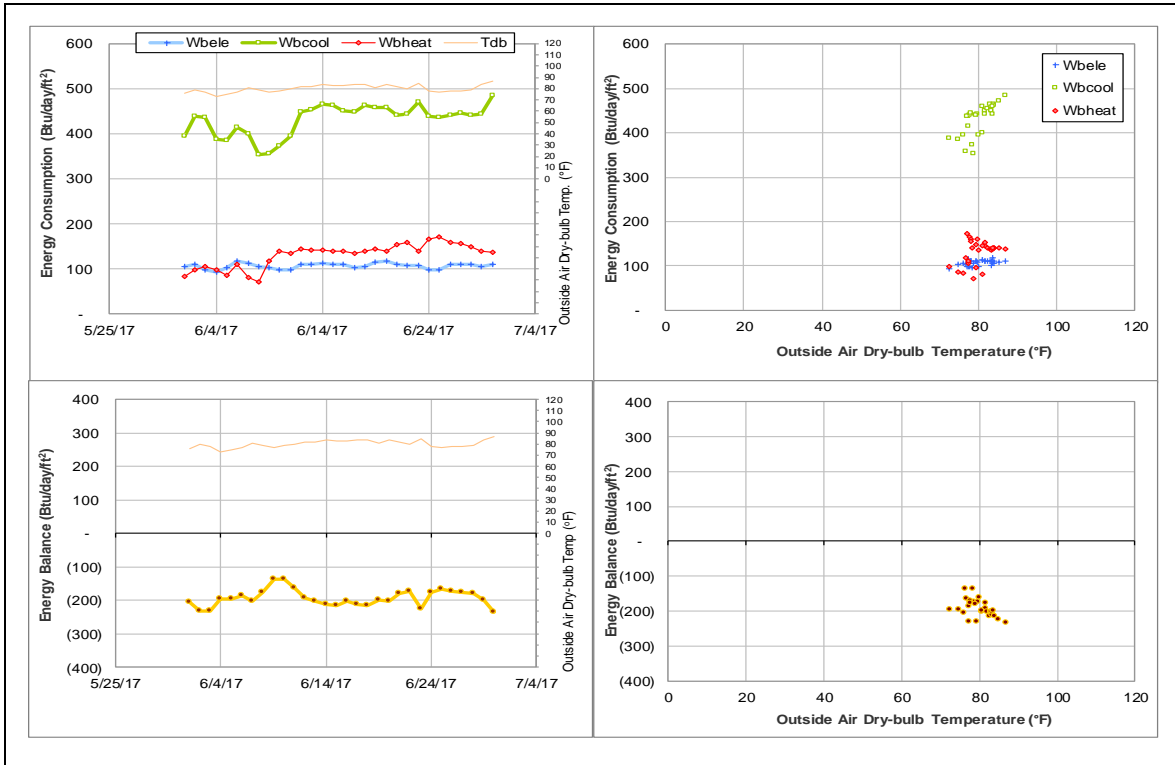
Quantitative descriptions and comments

HHW consumption increased by approximately 50 Btu/day/ft² since 6/9/2017 due to a sudden decrease in return temperature. The increased consumption was estimated by a model.

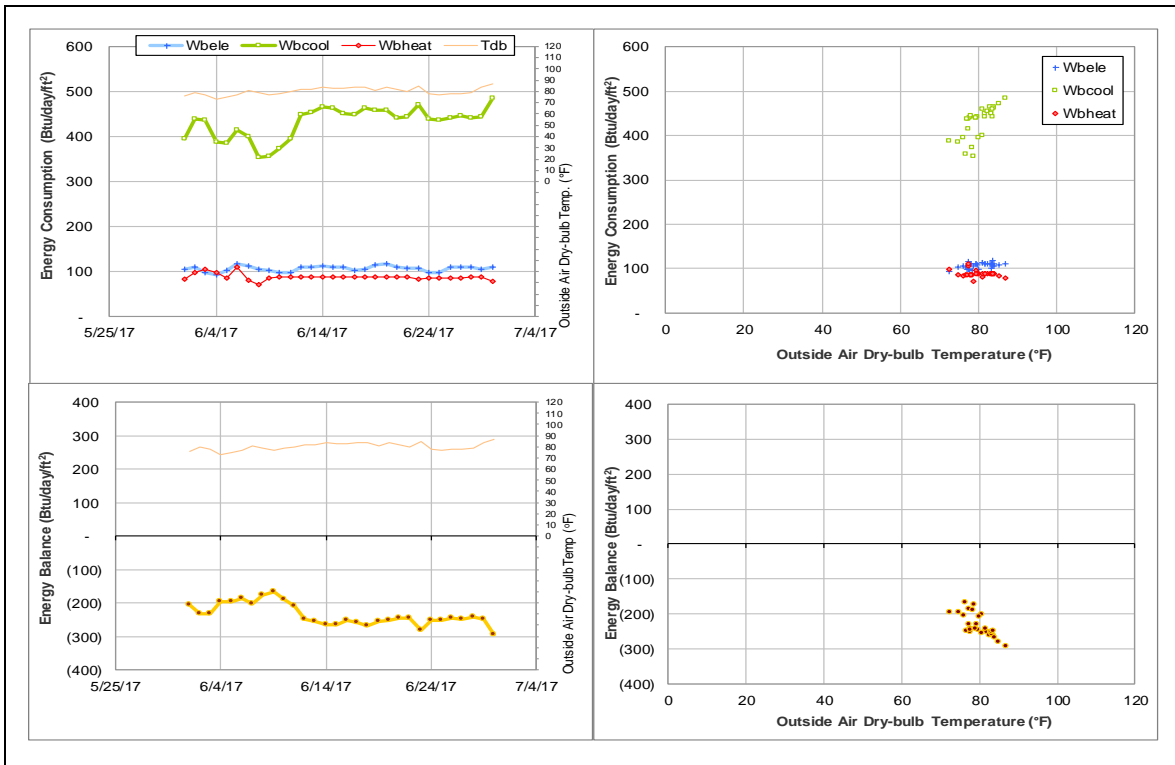
Explanatory Figure: 13 months energy balance plot with original data



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.



Annenberg Presidential Conference Center (TAMU Bldg #1608)

Estimated data

| Energy Type | Meter ID | Number of Days | Period | Estimation Method |
|-------------|----------|----------------|----------------------|-------------------|
| ELE | 000245 | 12 | 6/1/2017 – 6/12/2017 | Model |

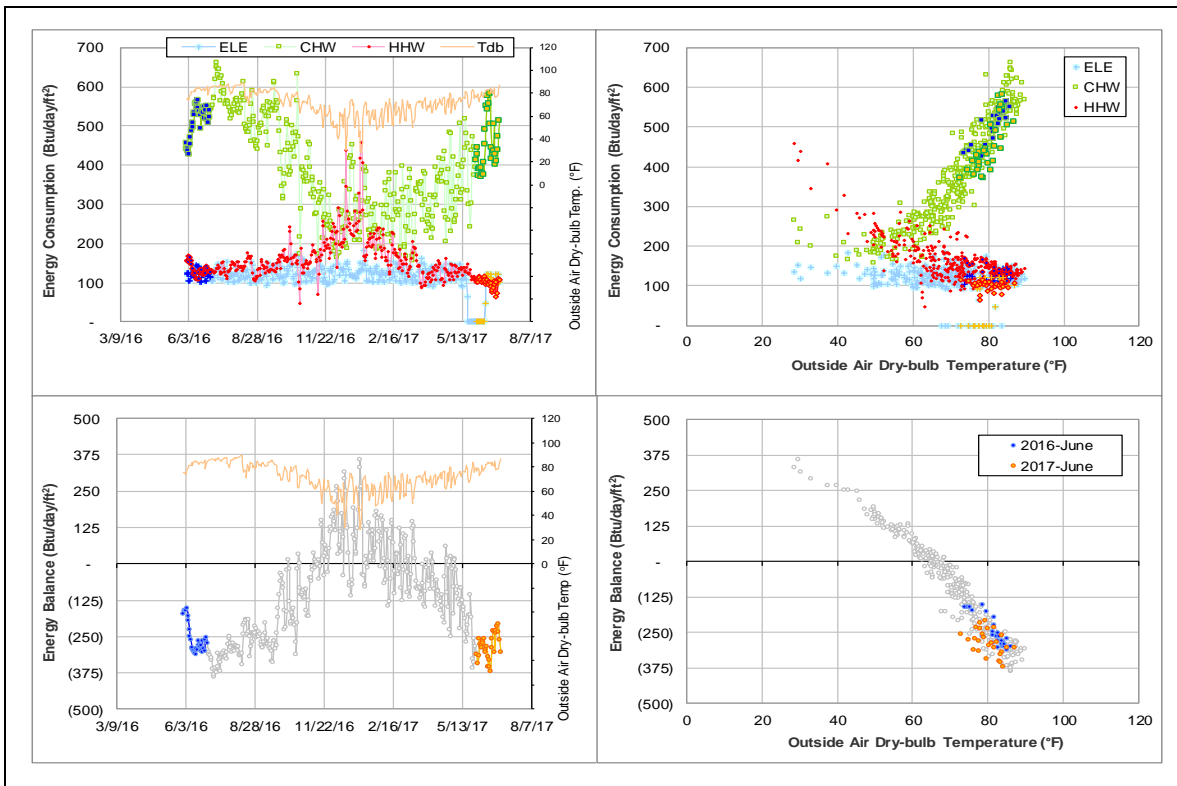
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-----------|---|-----------------------|
| ELE | The consumption dropped for a short period. | 5/20/2017 – 6/12/2017 |

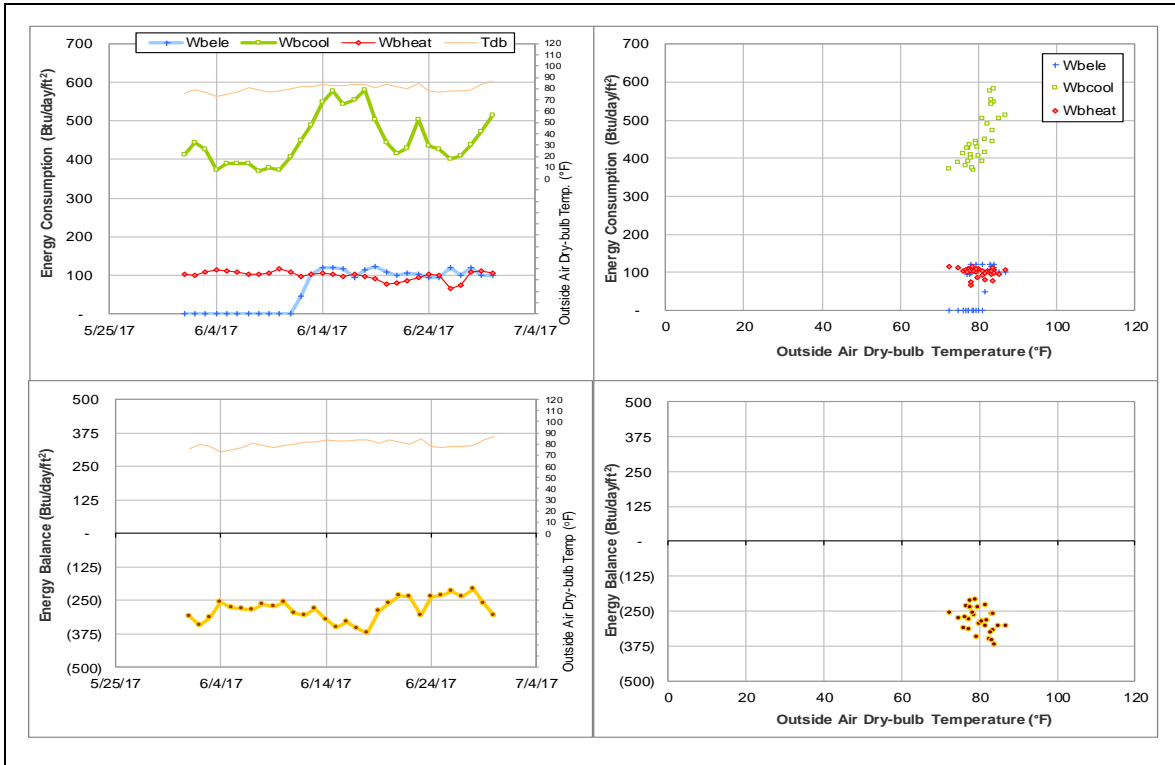
Quantitative descriptions and comments

ELE consumption decreased to zero for a short period of 5/20/2017 – 6/12/2017. The decreased consumption was estimated by a model based on data of 5/1/2016 – 4/30/2017.

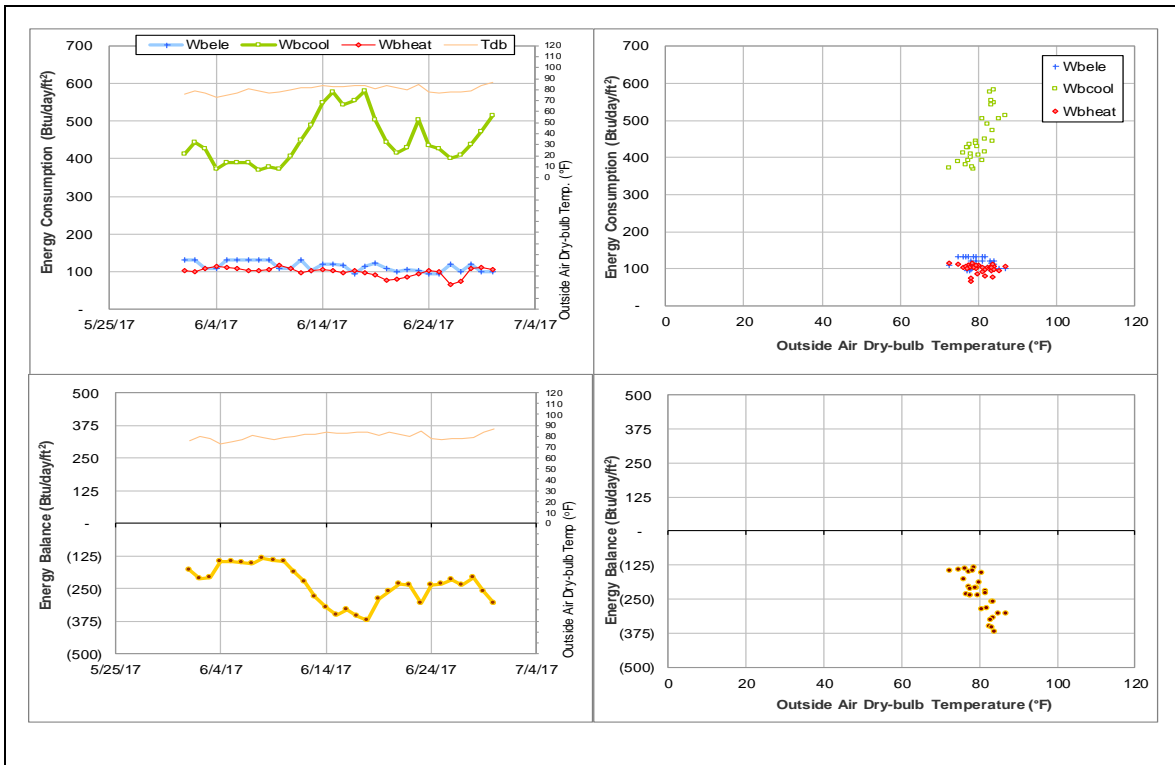
Explanatory Figure: 13 months energy balance plot with original data



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.



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 June 2017

| Building No. | Building Name | MeterID | Type | Building No. | Building Name | Meter | Type | | |
|--------------|---|---------|---------------------|--------------|--|--------|--|--------|-----|
| 0290 | Wells Residence Hall | 001984 | CHW | 482 | Fermier Hall | 005878 | CHW | | |
| | | 001988 | HHW | | | 005881 | HHW | | |
| 0291 | Rudder Residence Hall | 000351 | ELE | 484 | Chemistry Building | 007557 | ELE | | |
| | | 002132 | CHW | | | 492 | Civil Engineering Building | 005950 | CHW |
| | | 002136 | HHW | | | | | 005954 | HHW |
| 0292 | Eppright Residence Hall | 002266 | HHW | 0496 | Utilities & Energy Services Central Office | 007706 | ELE | | |
| 0293 | Appelt Residence Hall | 002062 | CHW | | | 006929 | CHW | | |
| | | 002066 | HHW | | | 006933 | HHW | | |
| 0353 | Bright Aerospace Building | 002746 | CHW | 0499 | Engineering Innovation Center | 002672 | CHW | | |
| 0394 | Underwood Residence Hall | 002117 | CHW | 0506 | Nagle Hall | 001484 | ELE | | |
| | | 002121 | HHW | | | 0524 | Blocker building | 002914 | CHW |
| 0398 | Langford Architecture Center Building A | 003951 | CHW | 002918 | HHW | | | | |
| | | 003955 | HHW | 0549 | Haas Residence Hall | 001398 | ELE | | |
| 0400-1405 | Spence Hall and Ash II LLC | 009296 | HHW | | | 002983 | CHW | | |
| 0408 | Whitely Hall - Dorm 9 | 002079 | CHW | | | 002994 | HHW | | |
| 0409 | White Hall - Dorm 10 | 002083 | HHW | 0740 | McNew Laboratory | 005874 | ELE | | |
| | | 002094 | CHW | | | 005974 | CHW | | |
| 002098 | HHW | 005968 | HHW | | | | | | |
| 0410 | Harrington Hall - Dorm 11 | 002349 | CHW | 0880 | TVMC-Small Animal Building | 005962 | HHW | | |
| | | 002353 | HHW | | | 1041 | Texas Vet Med Diagnostic Lab | 001466 | ELE |
| 0411 | Utay Hall - Dorm 12 | 002102 | CHW | 001539 | ELE | | | | |
| | | 002106 | HHW | 003817 | CHW | | | | |
| 0419 | Leggett Residence Hall | 000031 | ELE | 004137 | CHW | | | | |
| | | 002218 | CHW | 003821 | HHW | | | | |
| | | 002222 | HHW | 004130 | HHW | | | | |
| 433 | Mosher Residence Hall | 009083 | ELE | 1156 | TVMC-Small Animal Building | 007679 | CHW | | |
| | | 002485 | CHW | | | 006355 | ELE | | |
| | | 002489 | HHW | 006359 | ELE | | | | |
| 443 | Oceanography & Meteorology Building | 006388 | CHW | 1558 | Cox-McFerrin Center for Aggie Basketball | 007577 | HHW | | |
| | | 006392 | HHW | | | 1601 | International Ocean Discovery Building | 006351 | ELE |
| 517 | DPC Annex | 006567 | HHW | 006382 | CHW | | | | |
| | | 463 | Psychology Building | 001575 | ELE | | | 008144 | CHW |
| | | | | 002941 | CHW | | | 008145 | HHW |
| 002945 | HHW | 009829 | HHW | | | | | | |
| 481 | Heaton Hall | 007531 | CHW | 1604 | Offshore Technology Research Center | 006660 | ELE | | |
| | | 007535 | HHW | | | 006495 | ELE | | |
| | | | | | | 006496 | CHW | | |
| | | | | 006497 | HHW | | | | |

Wells Residence Hall (TAMU Bldg #290), Eppright Residence Hall (TAMU Bldg #292), Appelt Residence Hall (TAMU Bldg #293), Underwood Residence Hall (TAMU Bldg #394), and Spence Hall and Ash II LLC (TAMU Bldg# 400-1405)

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

| Data Type | Description of data behaviors | Period |
|-----------|---|-----------------------|
| HHW | The consumption level dropped for a short period. | 6/28/2017 – 6/30/2017 |

Comments

The HHW consumption for several buildings dropped to zero from 6/28/2017 to 6/30/2017 due to a flow rate of zero.

Wells Residence Hall (TAMU Bldg #290)

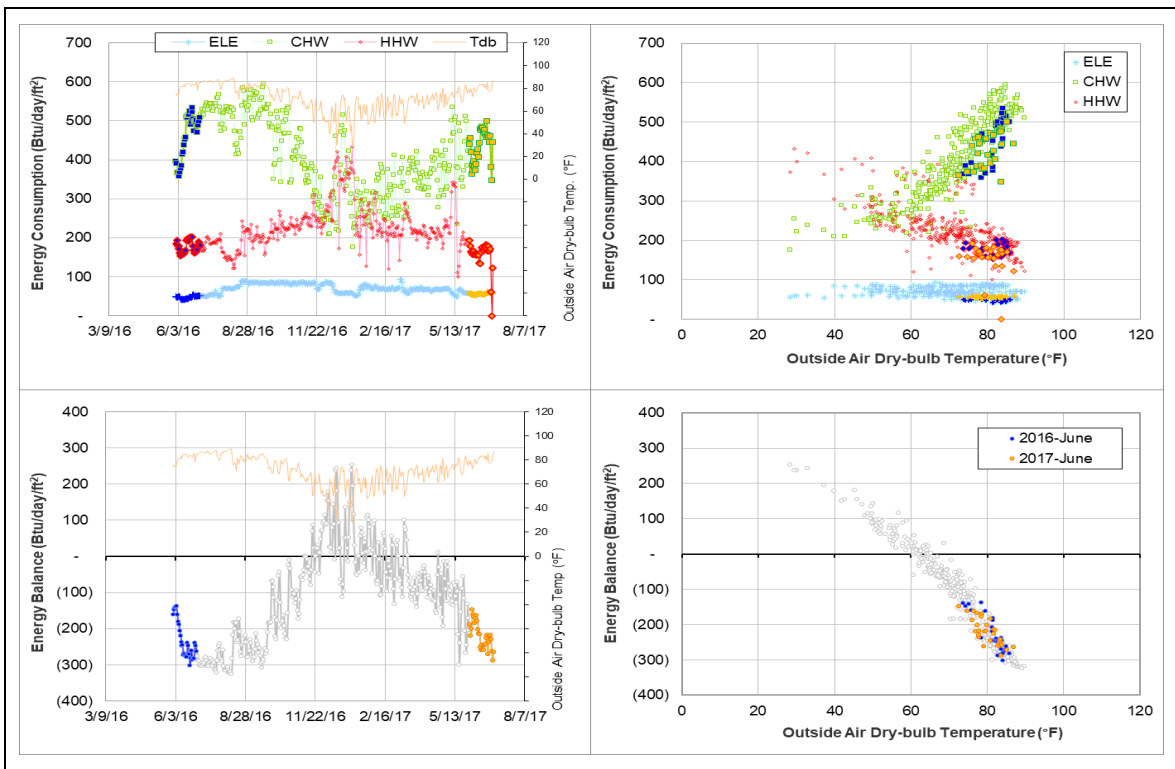
Detected issues in the energy balance and/or the consumption data

| 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



Appelt Residence Hall (TAMU Bldg #293)

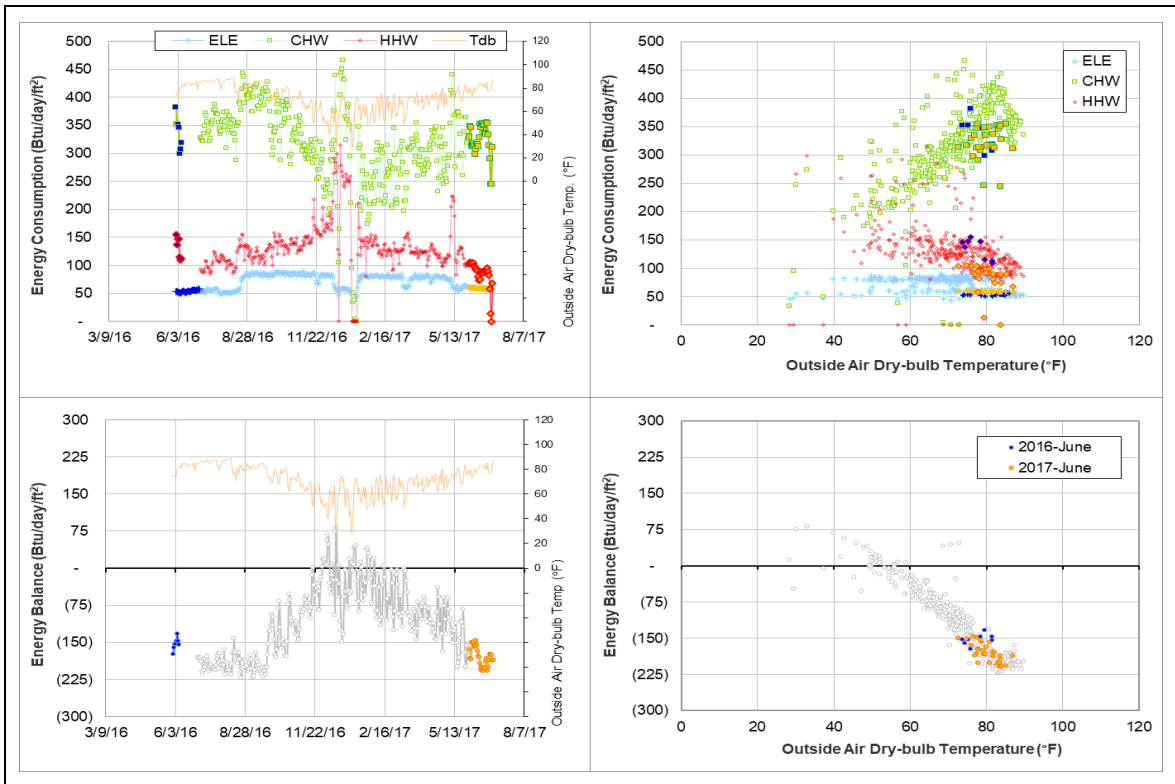
Detected issues in the energy balance and/or the consumption data

| 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)

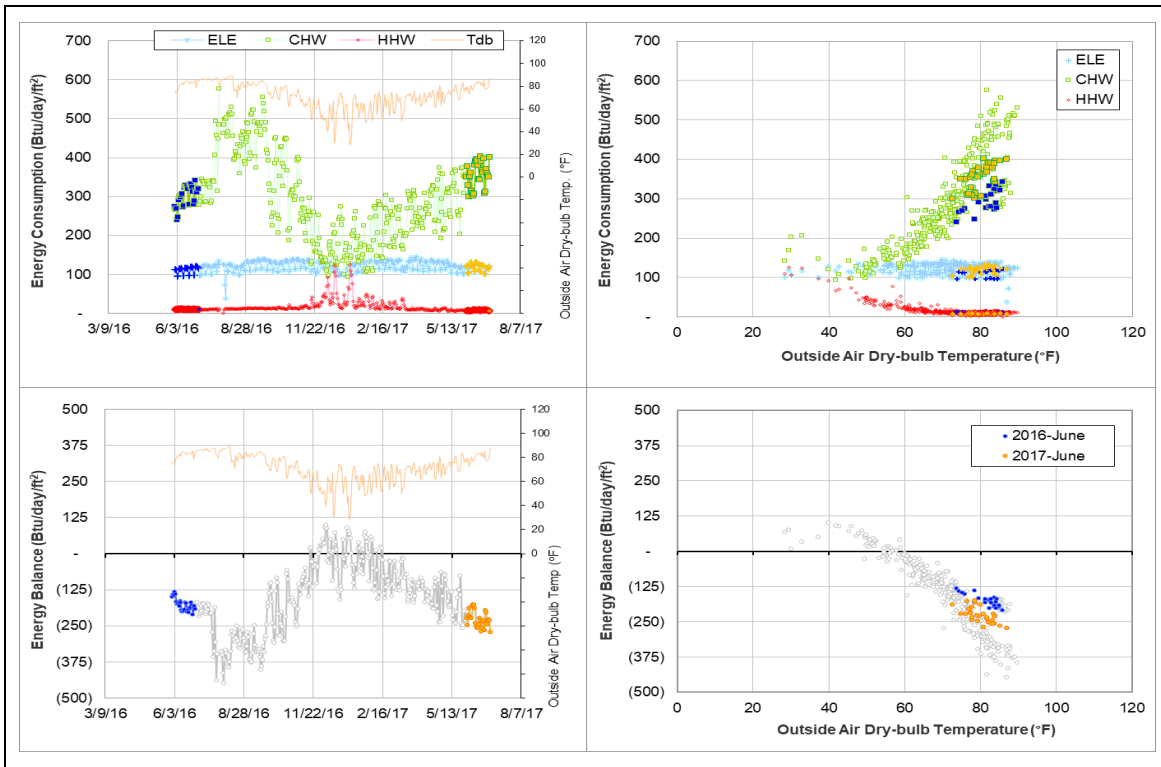
Detected issues in the energy balance and/or the consumption data

| 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)

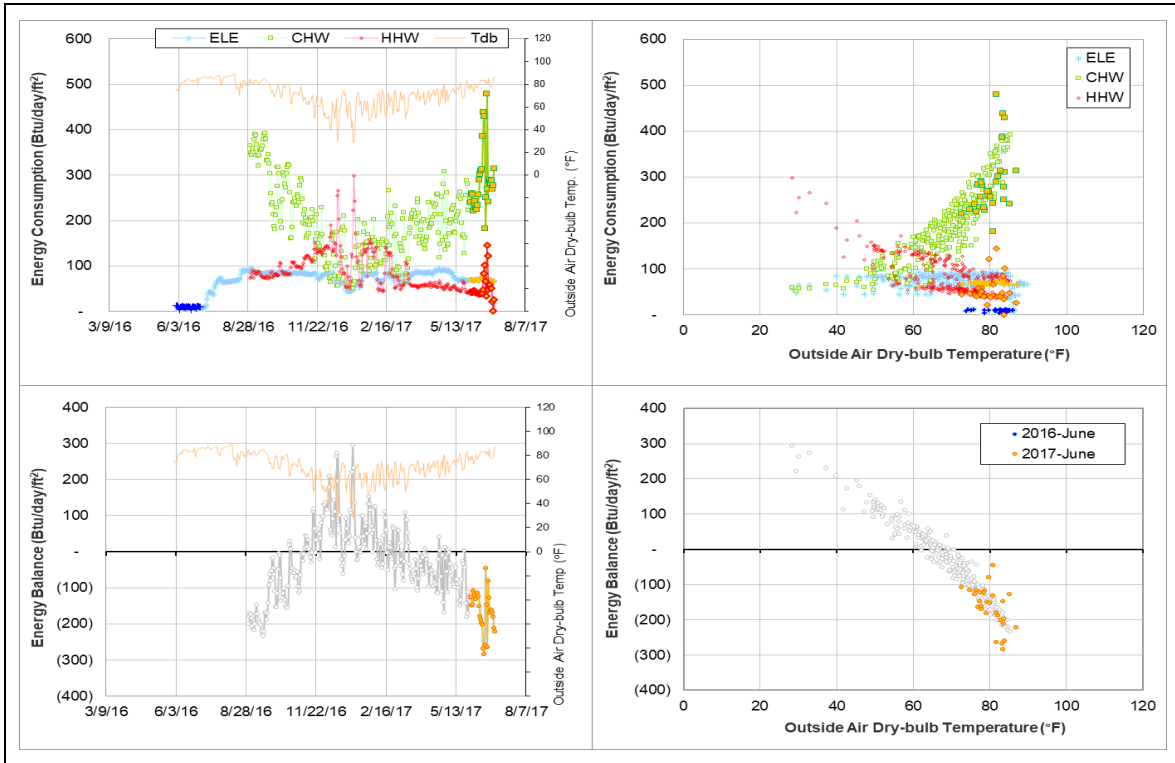
Detected issues in the energy balance and/or the consumption data

| 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. There seem to be two different patterns forming. 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)

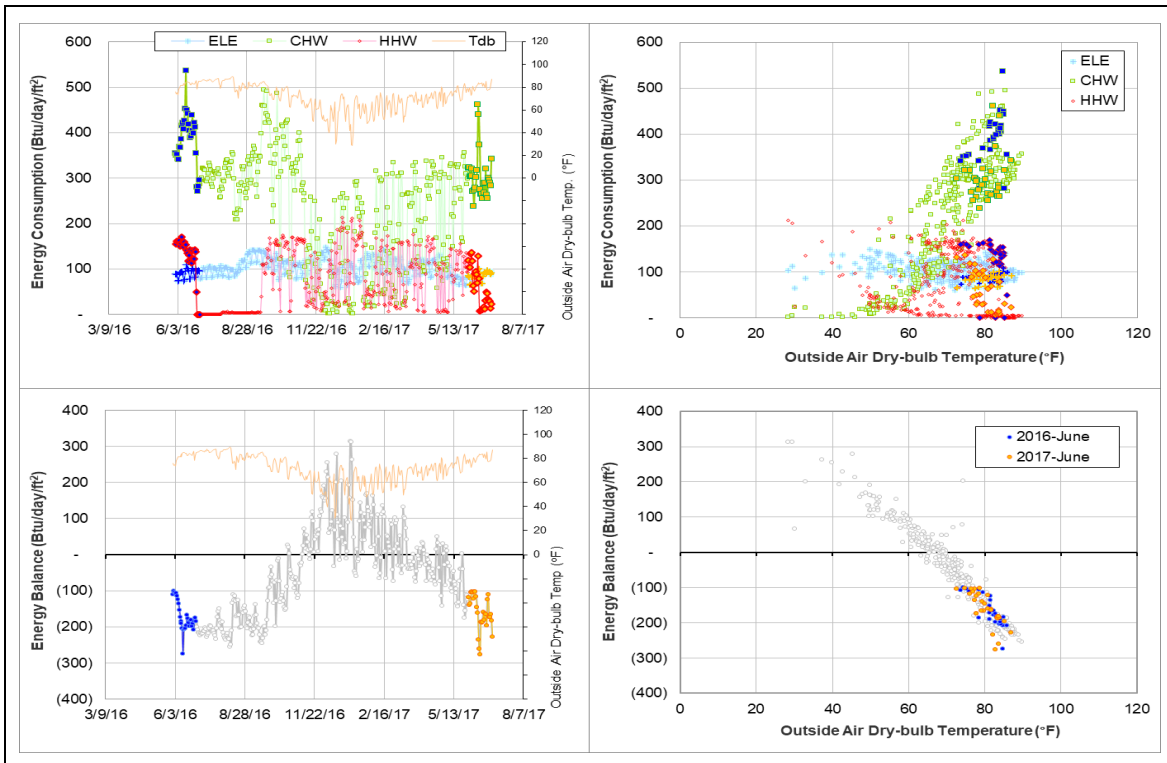
Detected issues in the energy balance and/or the consumption data

| 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



Whitely Hall – Dorm 9 (TAMU Bldg #408), White Hall – Dorm 10 (TAMU Bldg #409), Harrington Hall – Dorm 11 (TAMU Bldg #410), and Utay Hall – Dorm 12 (TAMU Bldg #411)

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

| Data Type | Description of data behaviors | Period |
|---------------|---------------------------------|--------------------|
| All utilities | Abnormal patterns are observed. | 5/1/2017 – ongoing |

Comments

These four dormitory buildings have undergone renovations during the last year starting in May 2016. The data became available for May 2017. However, there are abnormal patterns for the consumption of all utilities for these four dormitory buildings. Furthermore, there are several gaps in the data. There was not enough information available to estimate the data with models therefore averages were used to estimate all missing consumption for the month of May. The ELE patterns were stable for June and not estimated. The CHW consumption was estimated by models for June but the HHW consumption was still estimated by averages.

Legett Residence Hall (TAMU BLDG # 419)

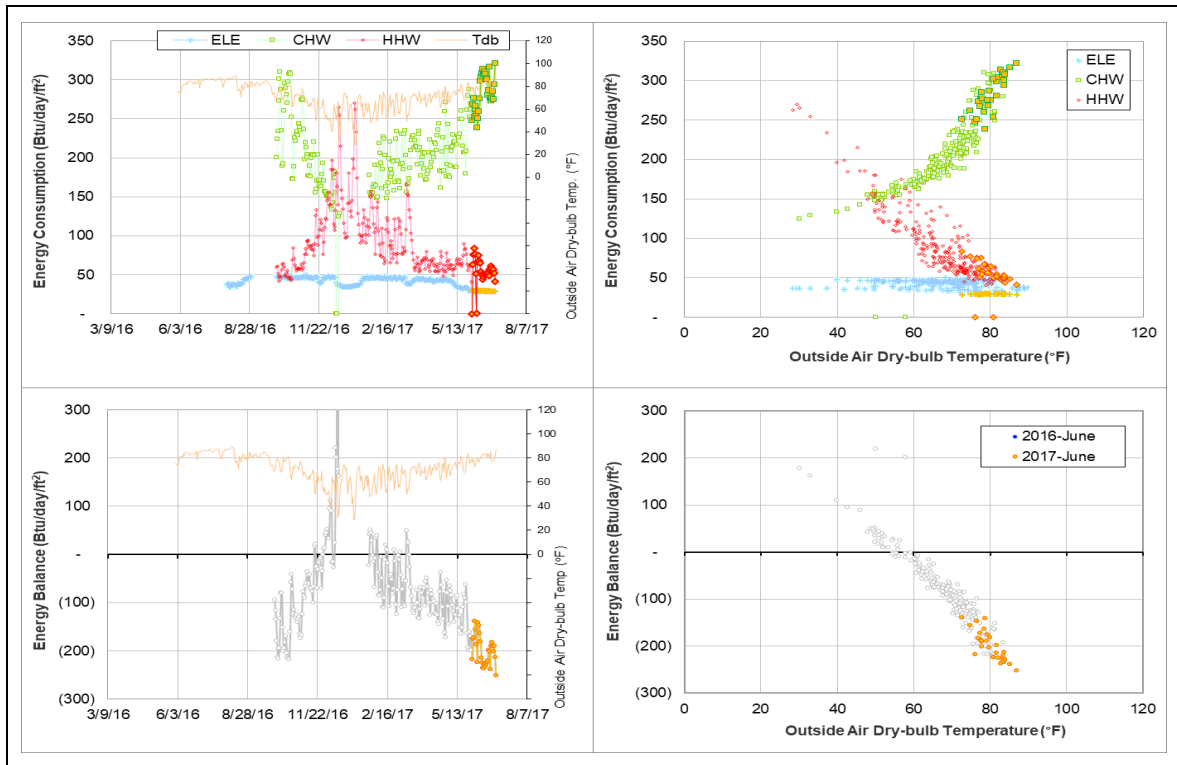
Detected issues in the energy balance and/or the consumption data

| 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.)



Mosher Residence Hall (TAMU Bldg #433)

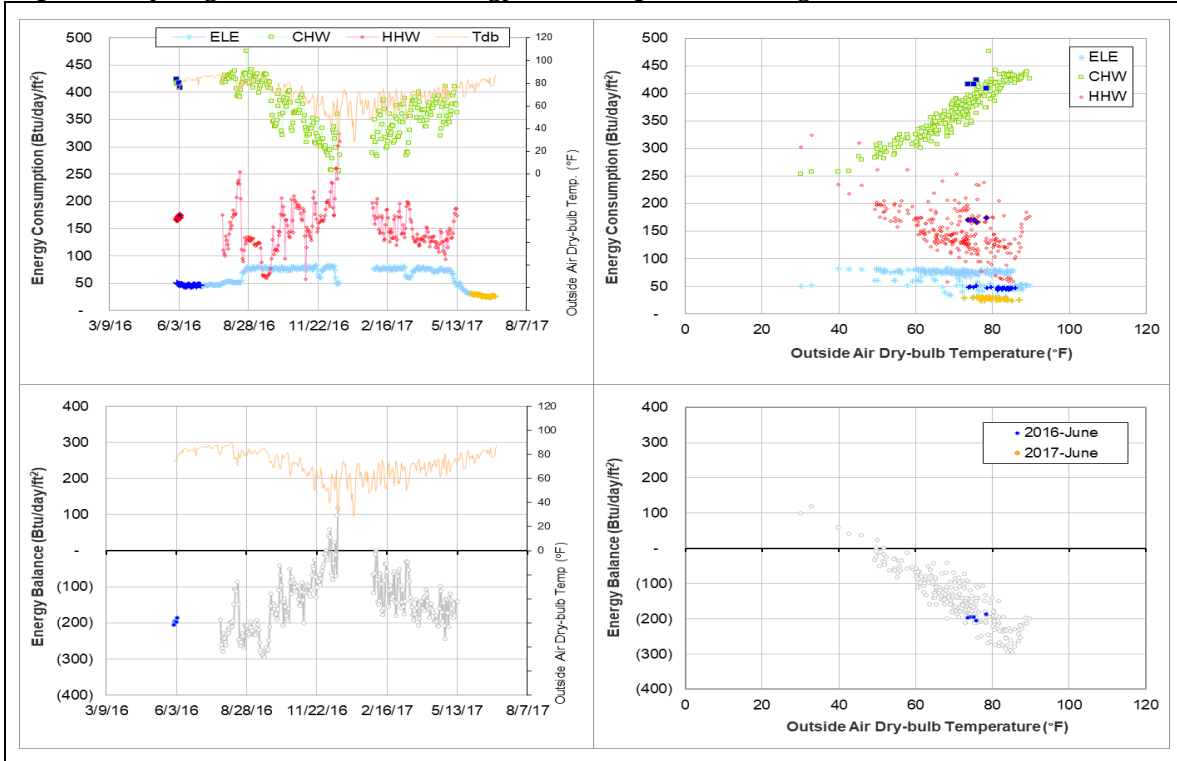
Detected issues in the energy balance and/or the consumption data

| 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)

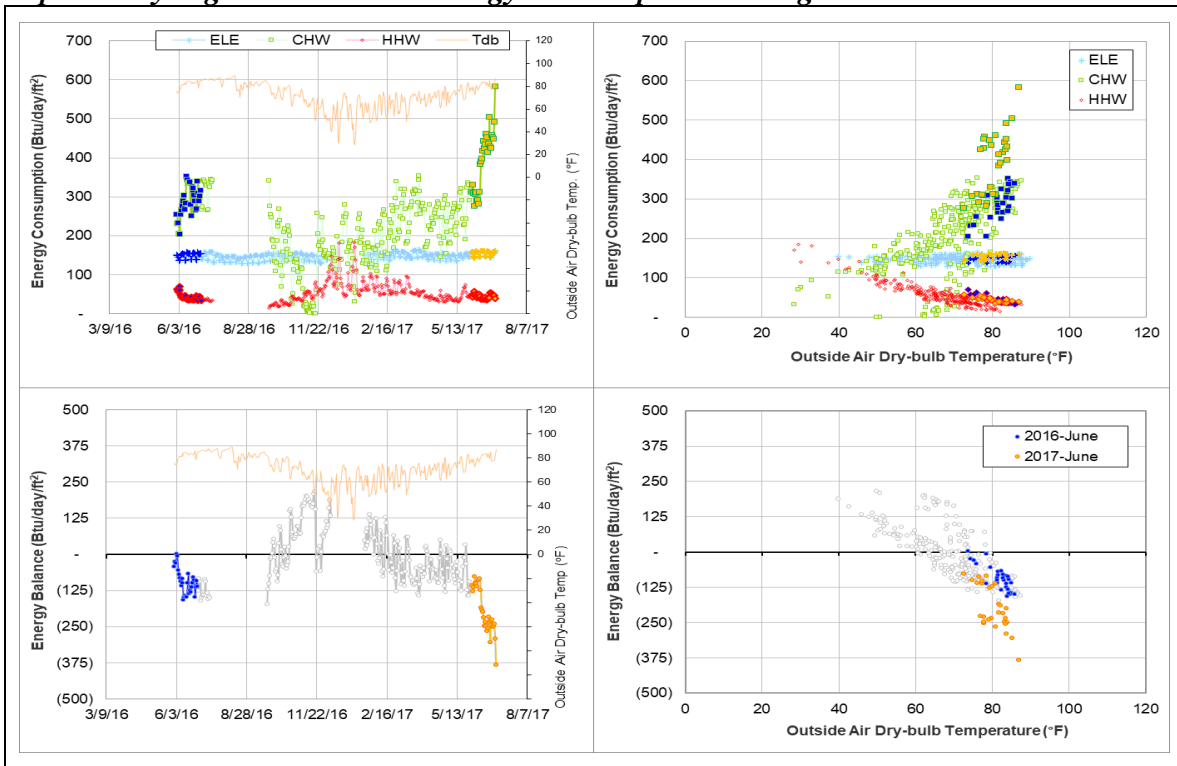
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|----------------|---|-------------------------------|
| CHW | The consumption significantly decreased after a missing period. | September 2016 – October 2016 |
| | The consumption increased suddenly. | Since November 2016 |
| HHW | The consumption significantly decreased after a missing period. | Since September 2016 |
| Energy Balance | 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 energy balance cross-point temperature to move from 75°F to 62°F.

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



DPC Annex (TAMU Bldg #517)

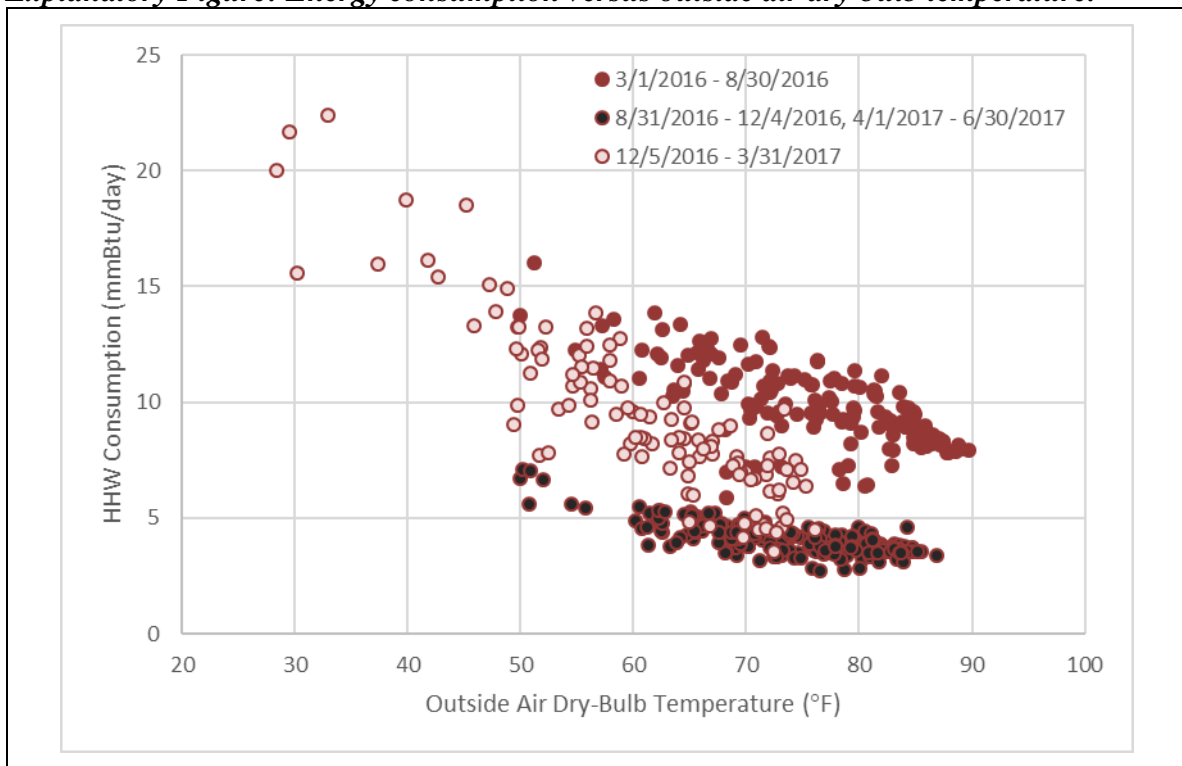
Detected issues in the energy balance and/or the consumption data

| 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 data from 12/5/2016 to 3/31/2017 appears between the main pattern and the lower pattern. However, the data for April 2017 returned to the lower pattern. This does not appear to be a meter issue. More data is needed to see how the pattern continues.

Explanatory Figure: Energy consumption versus outside air dry-bulb temperature.



Psychology Building (TAMU Bldg #463)

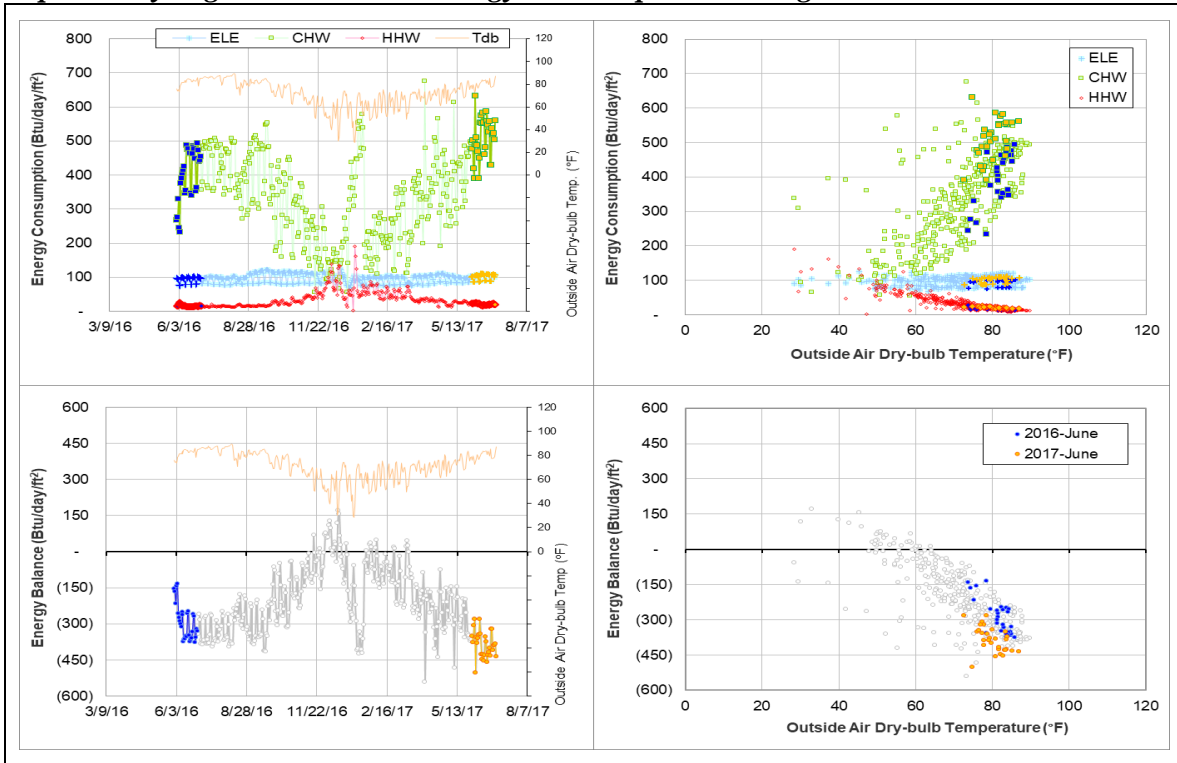
Detected issues in the energy balance and/or the consumption data

| 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 in 2011. The CHW consumption level is high with a CHW temperature differential around 20°F, which 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.



Heaton Hall (TAMU Bldg #481)

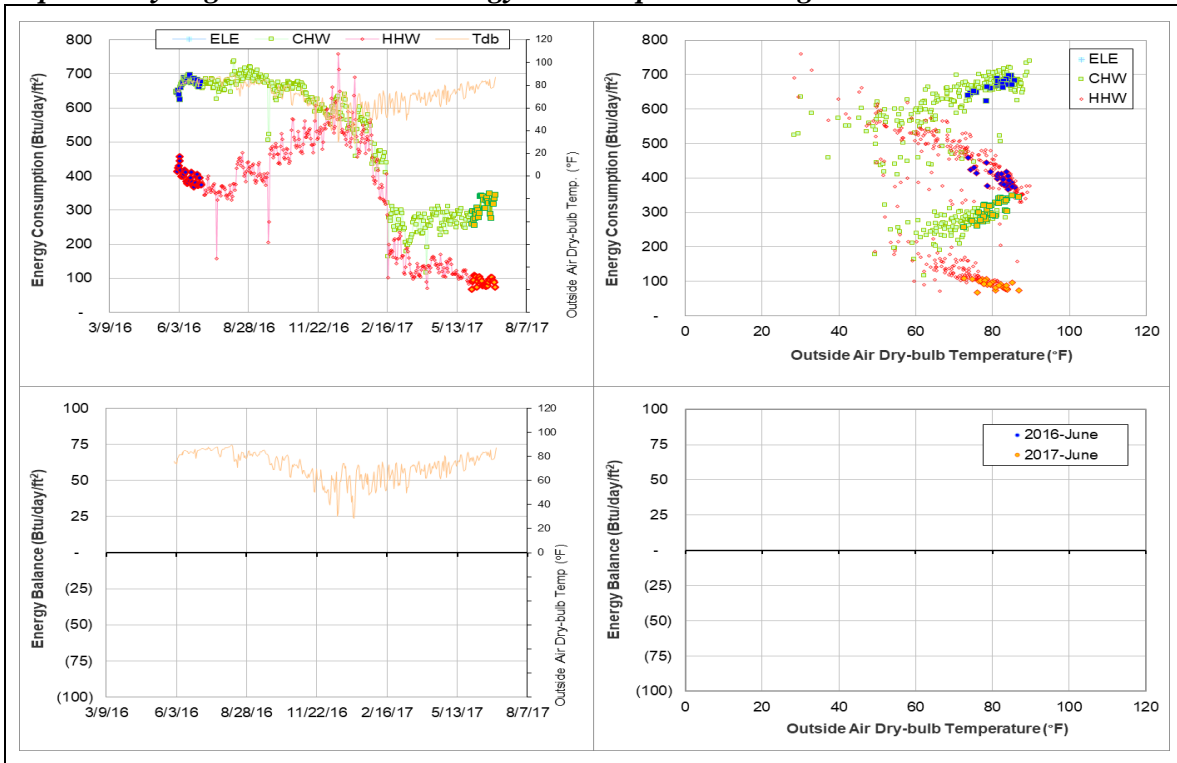
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-----------|--|-------------------------|
| CHW/HHW | The consumption level has significantly decreased. | February 2017 – Ongoing |

Comments

CHW and HHW of this building decreased significantly in February 2017. Since electric data is not available for this building the energy balance cannot be calculated. However, this new, lower consumption levels are considered a more reasonable for this type of building.

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



Fermier Hall (TAMU Bldg #482)

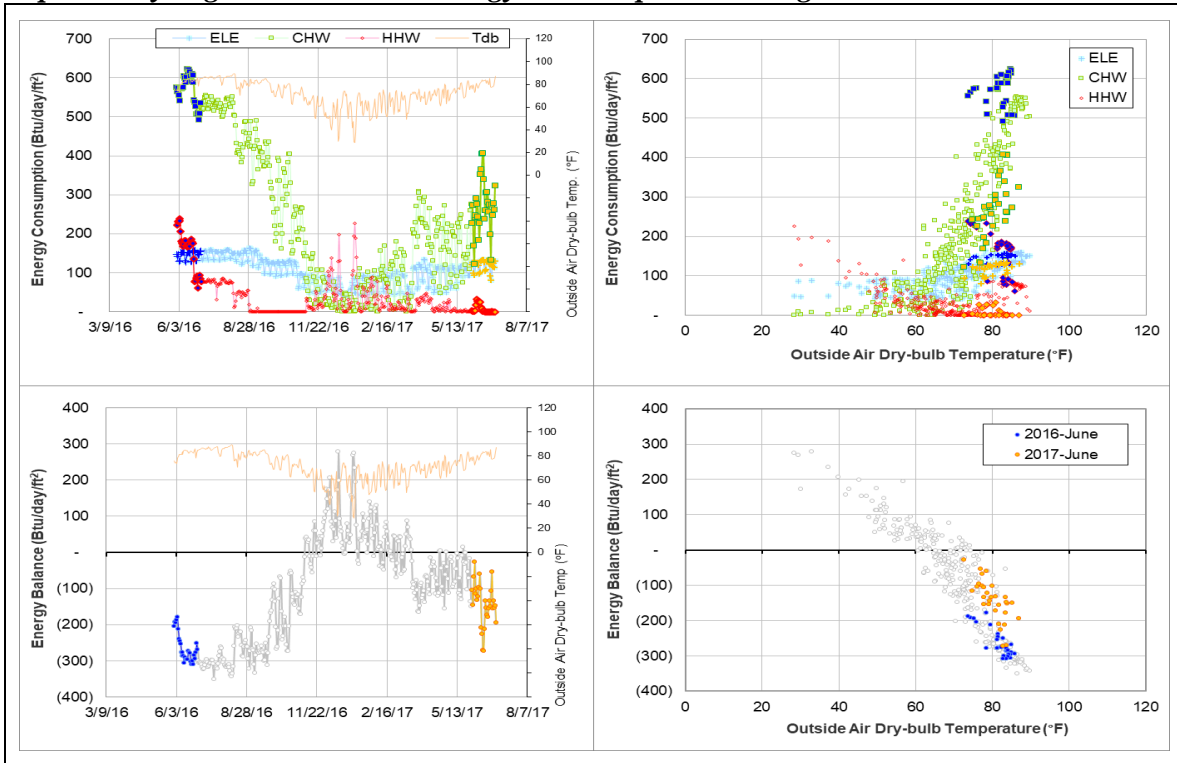
Detected issues in the energy balance and/or the consumption data

| 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 consumption during winter break (12/23/2016 – 12/31/2016) is lower than the recent pattern but does not appear to be a meter issue. This building is in the ESCO list. The decrease in consumption level could be related to it.

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



Chemistry Building (TAMU Bldg #484)

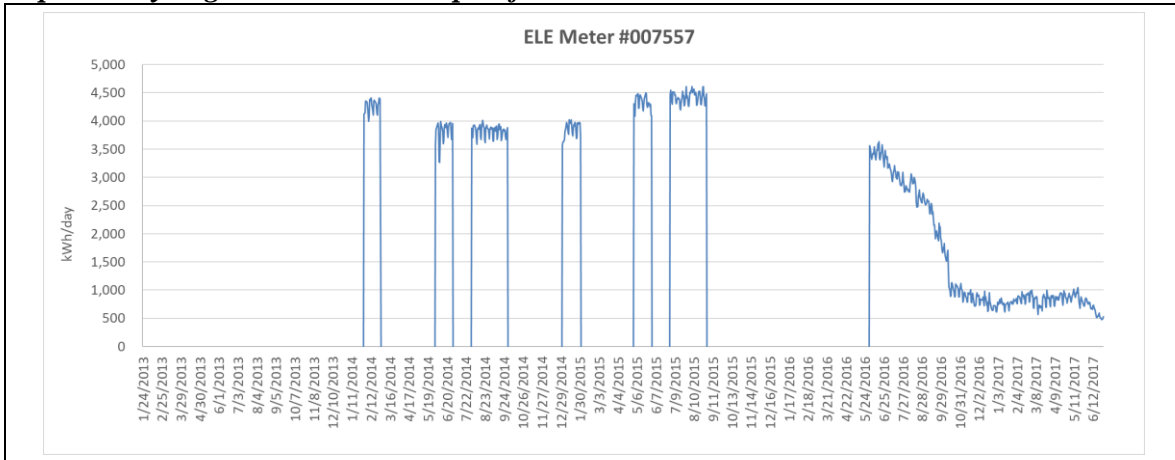
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-------------|--|--------------------|
| ELE #007557 | The ELE consumption level has decreased significantly for meter #007557. | 6/1/2016 – Ongoing |

Comments

There are four ELE meters for this building. The consumption for ELE meter #007557 decreased gradually from 6/1/2016 to 8/31/2016 then more significantly in September and October 2016. This change appears to relate to building renovations.

Explanatory Figure: Times series plot for meter #007557



Civil Engineering Building (TAMU Bldg #492)

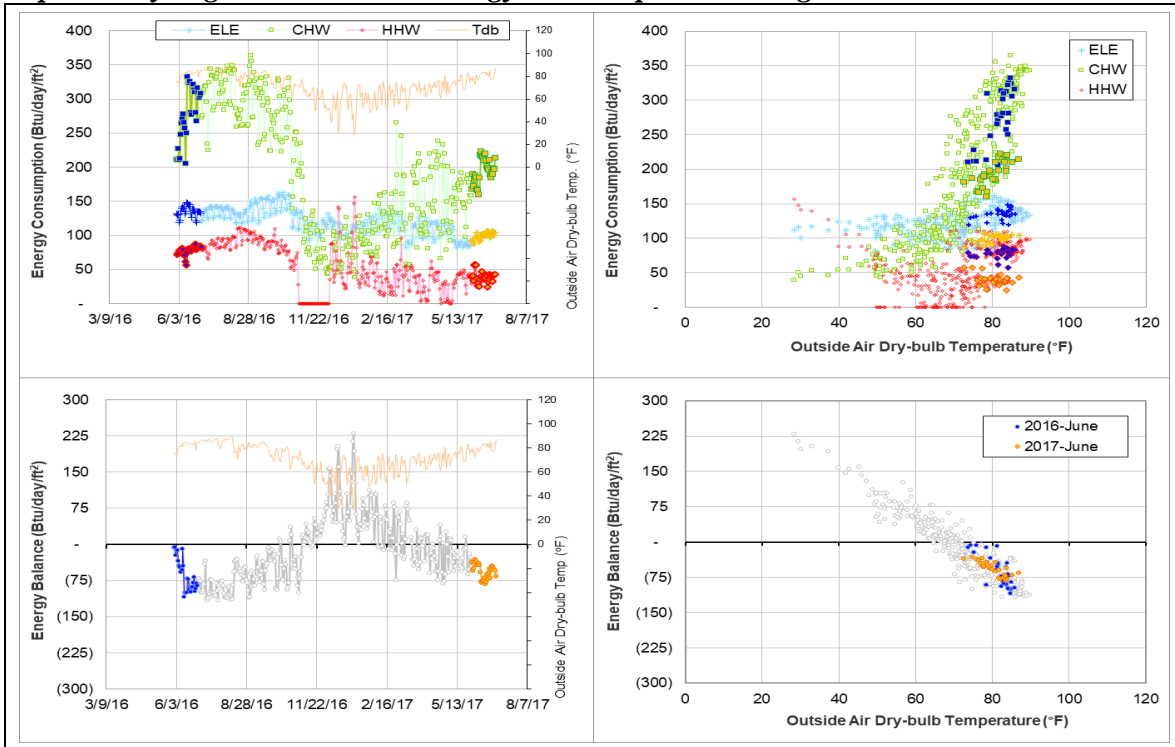
Detected issues in the energy balance and/or the consumption data

| 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

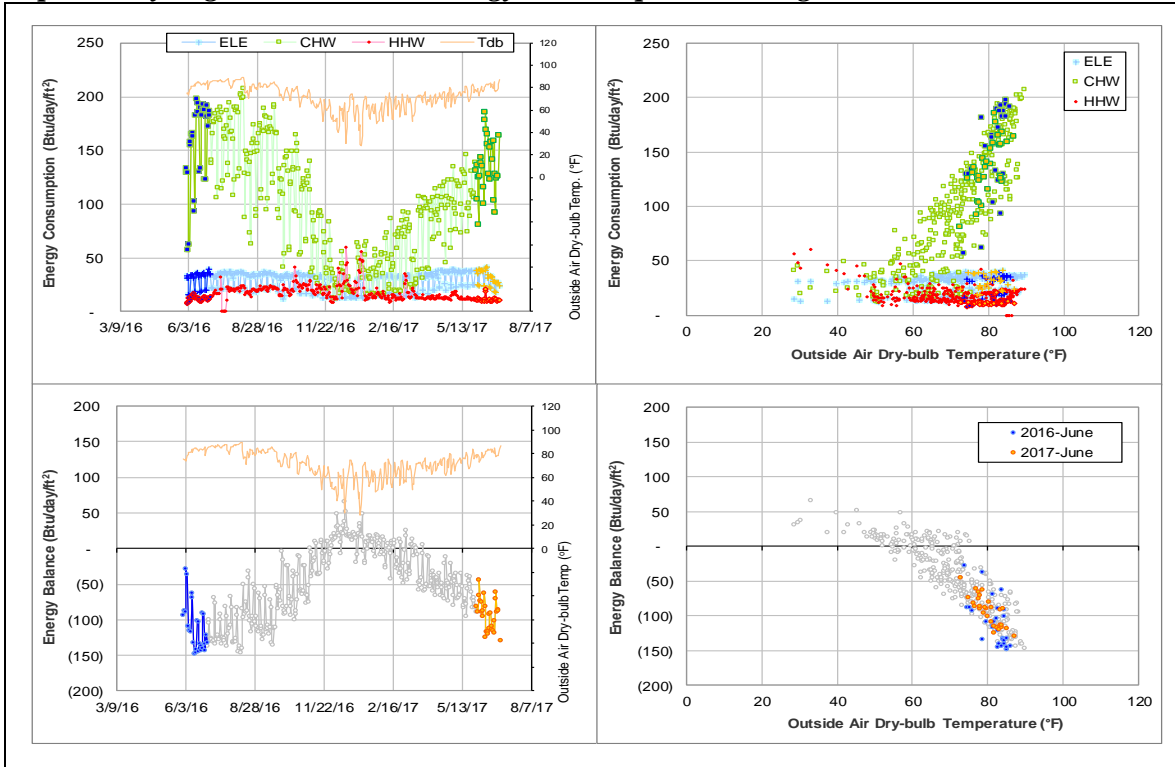
| Data Type | Description of data behaviors | Period |
|-------------------|--|---|
| ELE, CHW, and HHW | The energy use per unit floor area is low compared to other buildings. | Since the data became available on 7/1/2012 |

Comments

The peak electric use intensity is around 0.65 W/ft², which is small for an office building on campus. The delta-T for HHW seems to be small for years. The CHW and HHW consumption per unit floor area also seem to be low. It is possible that the GSF on file (46,110 ft²) includes substantial unoccupied areas. 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 is in the range of 50 to 75°F.

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



Engineering Innovation Center (TAMU Bldg # 499)

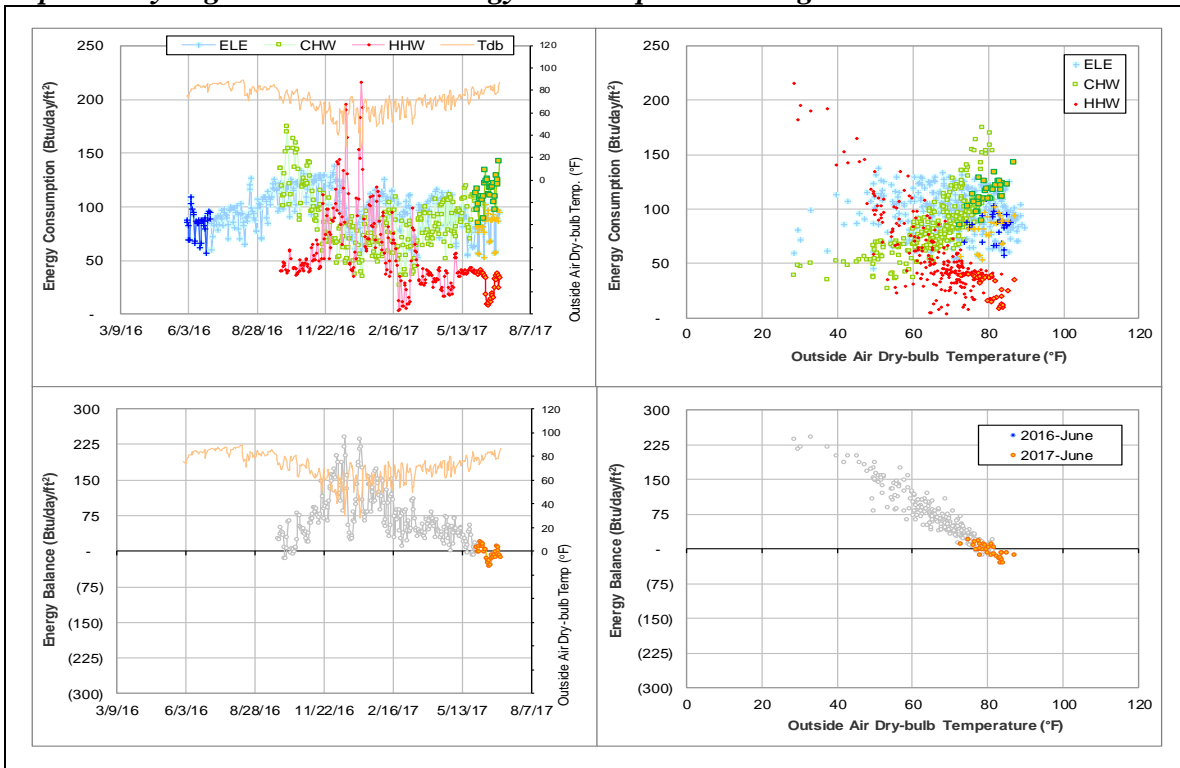
Detected issues in the energy balance and/or the consumption data

| 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 cross-point temperature of energy balance for this building is high, around 80°F. 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. See also Section II-2.

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



Nagle Hall (TAMU Bldg #506)

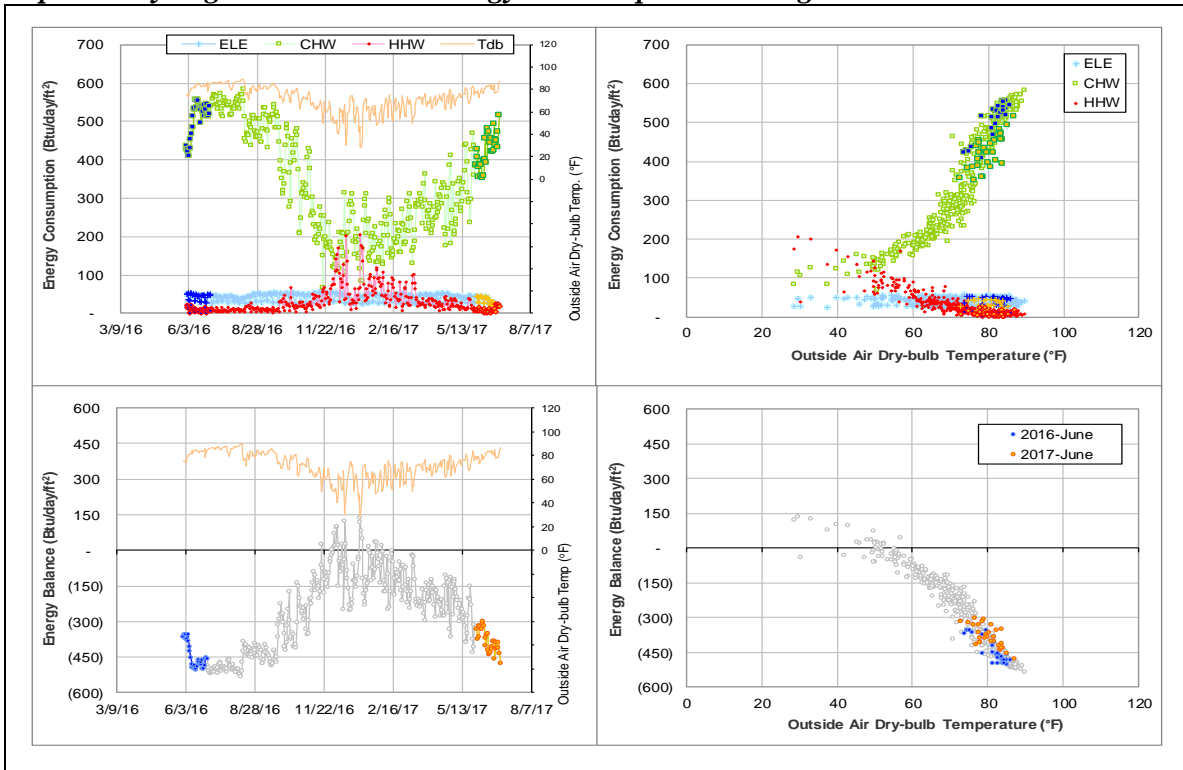
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|----------------|--|---------------------------------|
| Energy Balance | The level was low and the cross-point temperature is around 50°F. | Since the data became available |
| ELE | The consumption per unit floor area is smaller than those for other similar office buildings, and has been decreasing gradually in the past 4 years. | Since the data became available |

Comments

The ELE consumption is lower than 50 Btu/day/ft², lower than the typical level of 100 Btu/day/ft² for typical office buildings on campus. This might be a metering error that this meter might not cover the whole building or it is erroneously factored.

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

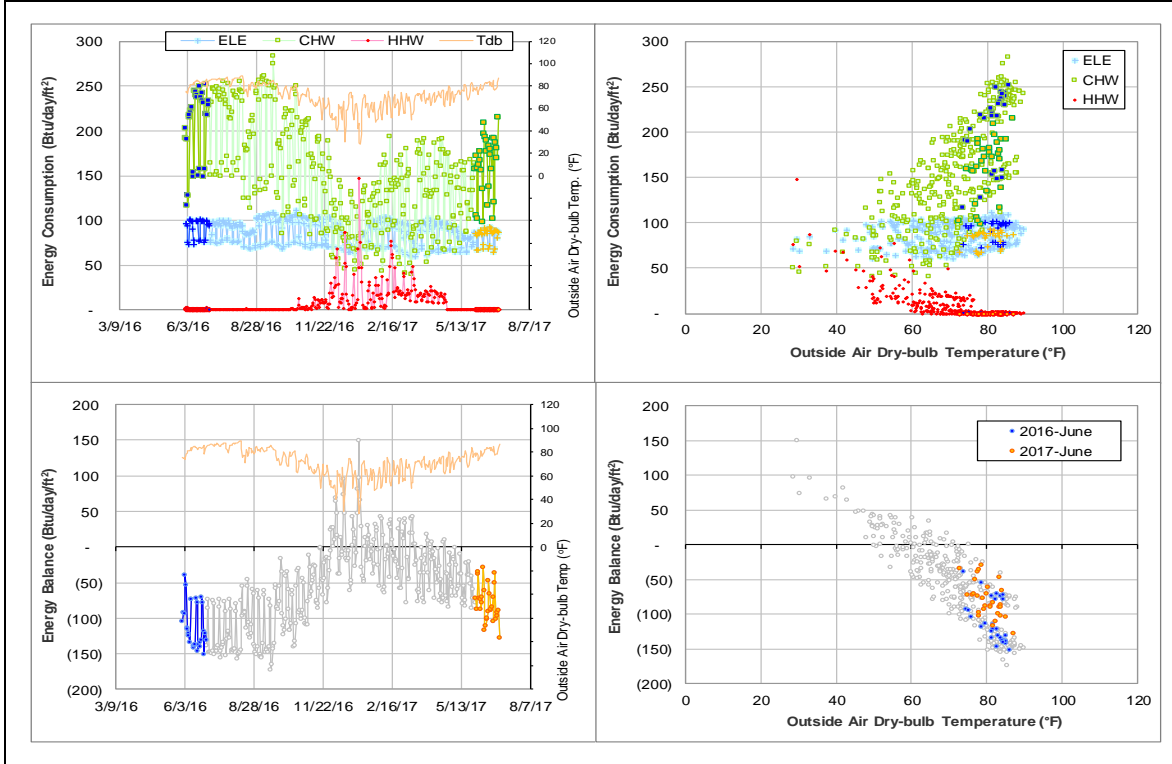
| Data Type | Description of data behaviors | Period |
|-----------|--|--------------------|
| CHW | The consumption decreased and is about 50 Btu/day-ft ² (25%) lower than the level of the past year. | Since May 2017 |
| HHW | The consumption level is low. | Past several years |

Comments

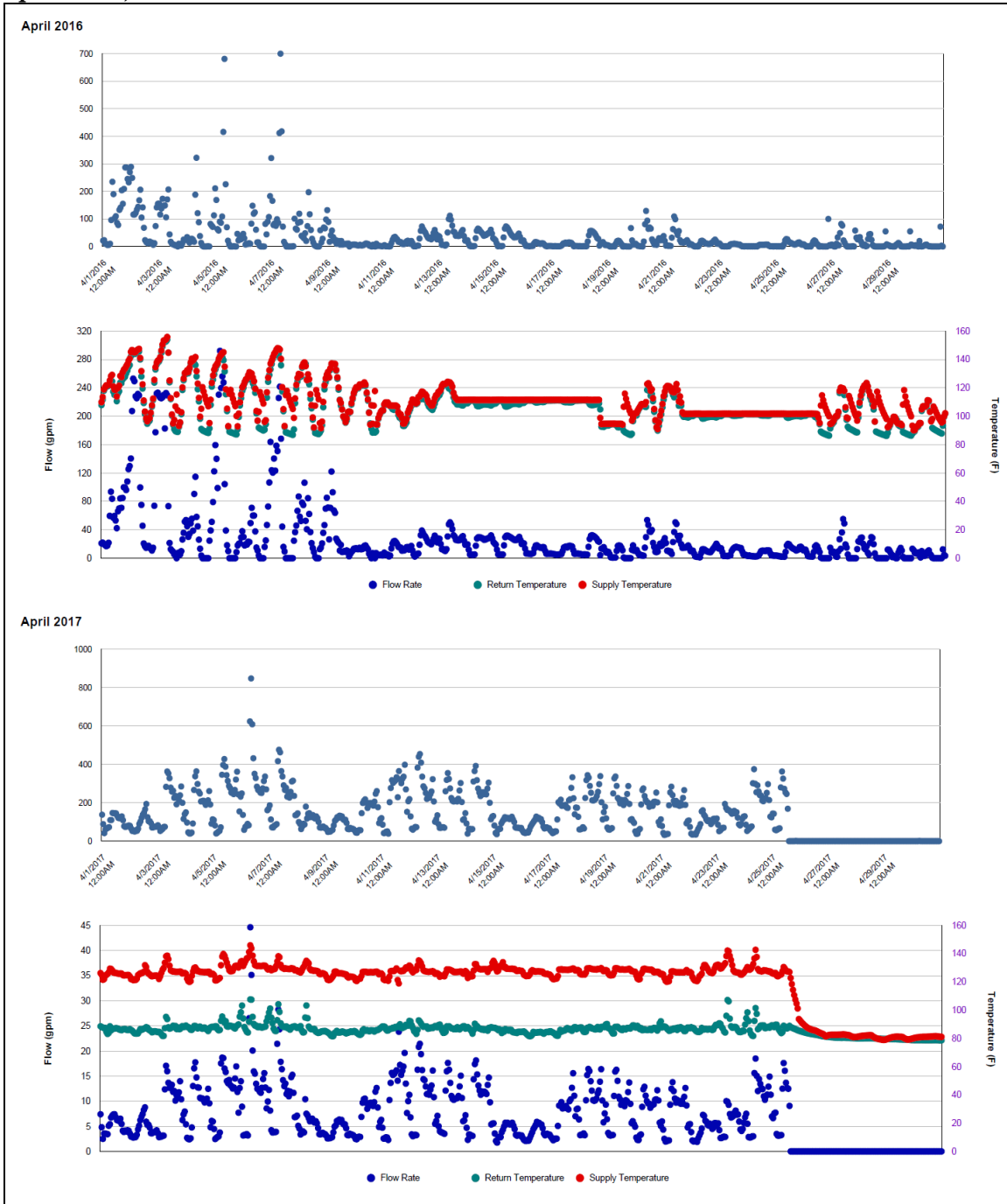
The cross-point of temperature of energy balance had been lower than 60°F for years. But the recent decrease of CHW pulled energy balance up and now it crosses between 60 and 70°F.

The delta-T and consumption level for HHW seemed low for the past couple of years and started to change in an unstable fashion in February 2017. The explanatory figures below show the change in Delta-T from April 2016 and April 2017. This increase also contributed to the higher and more reasonable cross-point of energy balance. It continues to seem closed in the non-heating season.

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: April 2016; Bottom: April 2017)



Haas Residence Hall (TAMU Bldg #549)

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

| Data Type | Description of data behaviors | Period |
|-----------|-------------------------------|----------------------|
| ELE | Fluctuates. | Since May 2017 |
| CHW HHW | Fluctuates and unstable. | Since September 2016 |

Comments

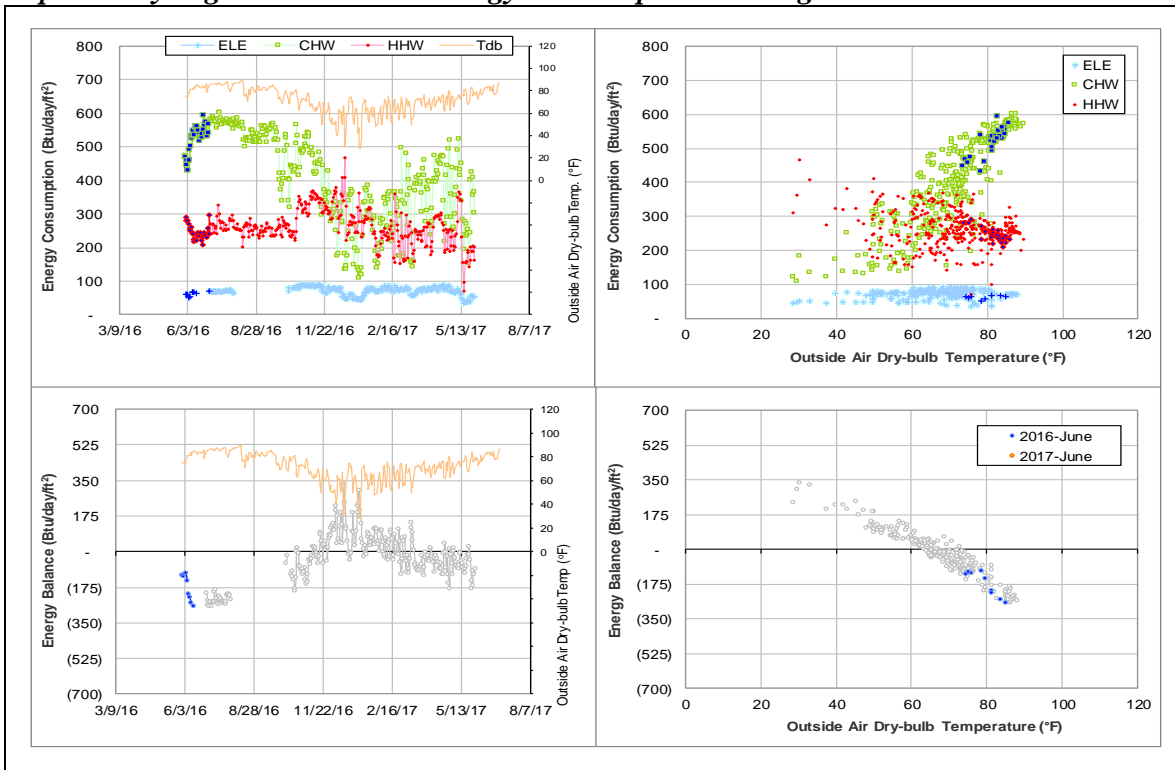
ELE consumption of this building had a sudden drop in May and then increased back to an intermediate level at the end of the month.

The CHW and HHW consumption of this building has been fluctuating. Before it went missing on 6/1/2017, it seemed to have two relatively higher and lower patterns but they cannot be separated by a weekday/weekend schedule.

The energy balance is clean and not disturbed by the described issues. This is therefore not suspected to be a meter faulty.

The missing data in June are estimated using a period before the fluctuation occurred.

Explanatory Figure: 13 months energy balance plot with original data



McNew Laboratory (TAMU Bldg #740)

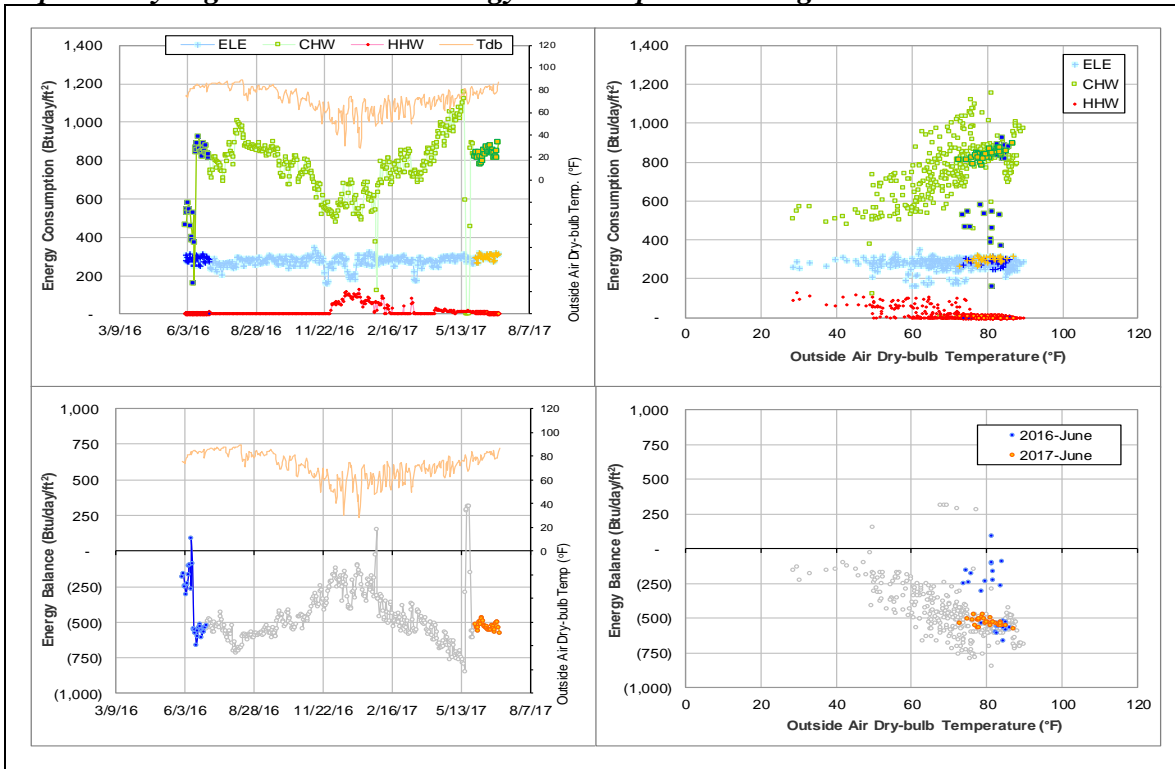
Detected issues in the energy balance and/or the consumption data

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



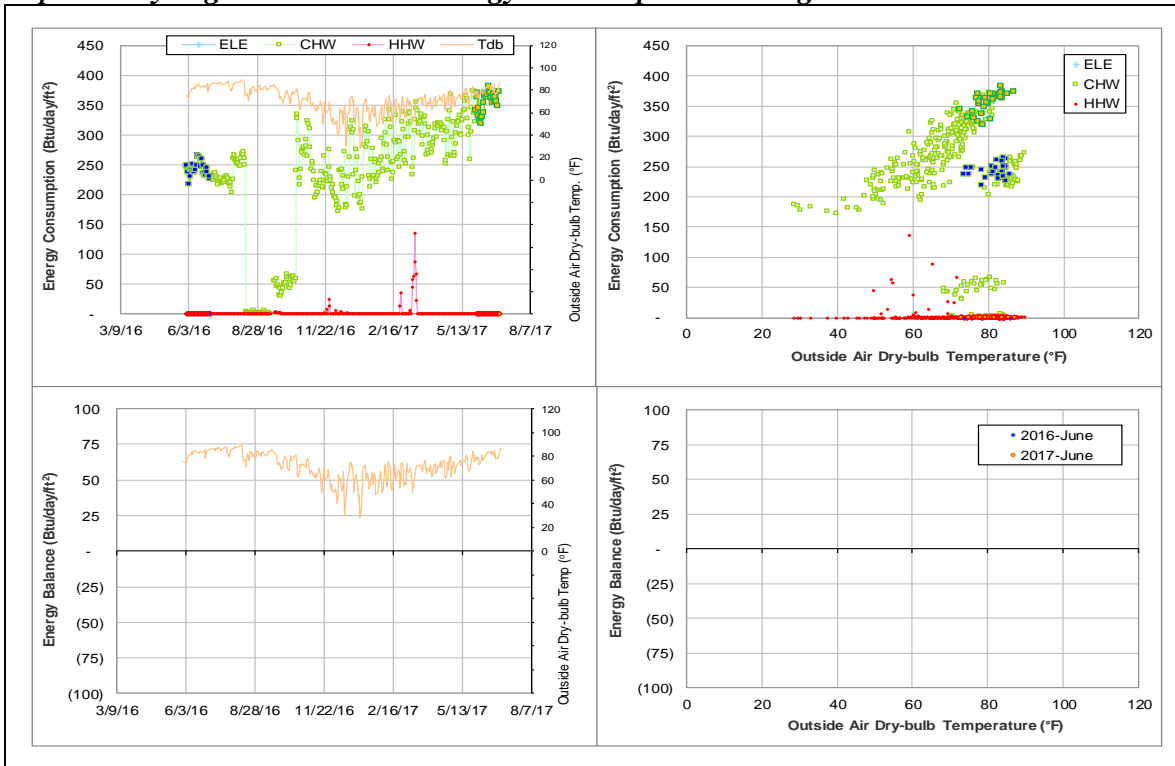
TVMC-Small Animal Building (TAMU Bldg# 880)

| 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



Texas Vet Med Diagnostic Lab (TAMU Bldg# 1041)

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

| Data Type | Description of data behaviors | Period |
|-----------|-------------------------------------|-----------------|
| ELE | Decrease after missing periods | Since May 2017 |
| CHW HHW | Still missing as ELE data recovered | Since July 2016 |

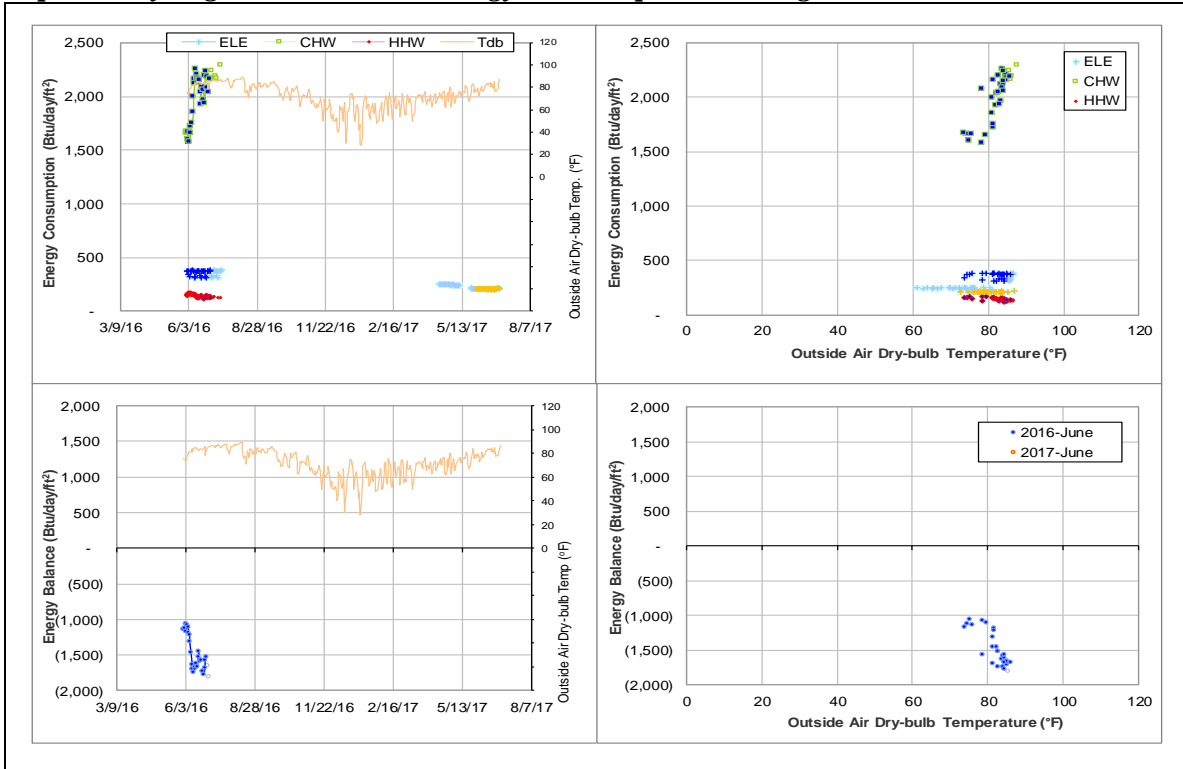
Comments

This building has six MID's in total (two for each utility type) and they had gone missing since 7/14/2016. The two ELE meters restarted taking data on 3/27/2017.

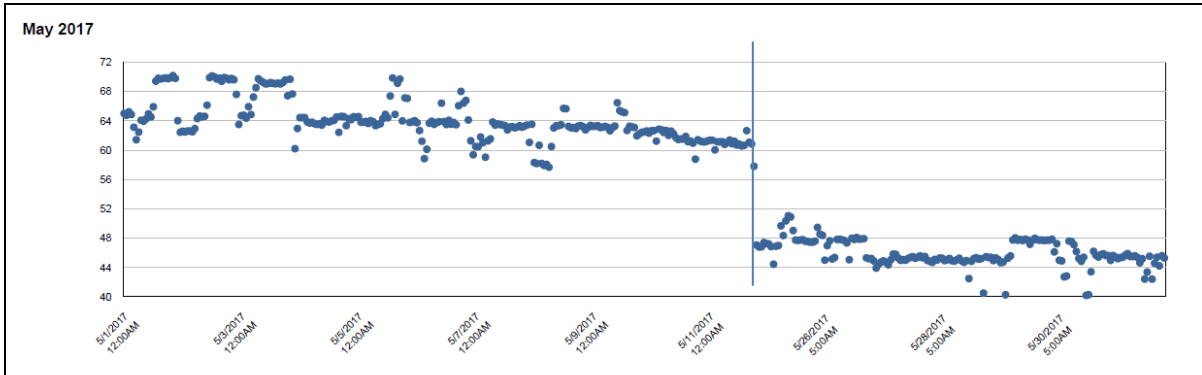
ELE MID 001466 decreased from a level ranging from 110 to 180 kWh/h to a stable 100 kWh/h level. ELE MID 001539 decreased from a level ranging from 100 to 130 kWh/h to 64 – 72 kWh/h level, and decreased further after a short missing period of 5/12/2017 – 5/24/2017 to 45 kWh/h. This building's total ELE consumption decreased by 33% in daily average value.

CHW and HHW data are still missing. To reflect the decreased level as ELE suggests, CHW and HHW consumption is estimated by first using models based on 8/1/2015 – 7/13/2016 data and then scaling down to 66%.

Explanatory Figure: 13 months energy balance plot with original data



Explanatory Figure: Time series plots of hourly energy consumption from the utilities office. (ELE MID 001539 during May 2017)



Physical Plant Administration & Shops (TAMU Bldg# 1156)

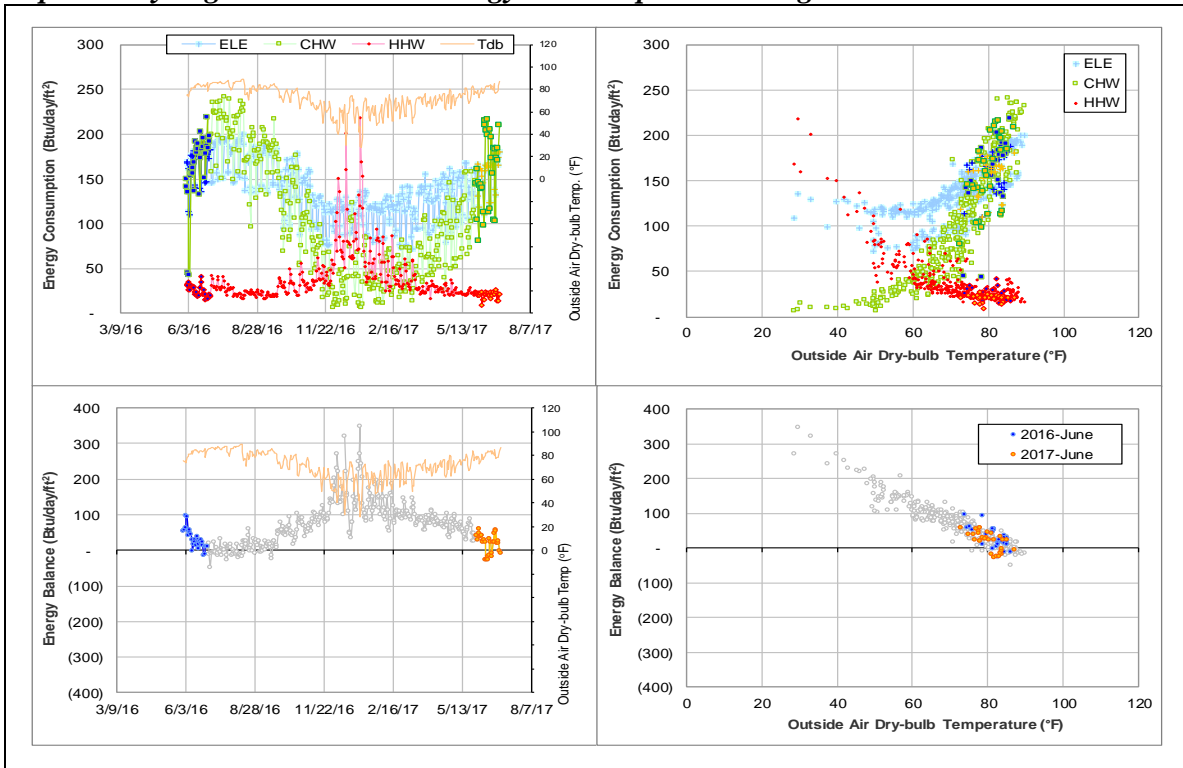
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|----------------|--|--|
| Energy Balance | The cross-point temperature is as high as 85°F. | Since 7/1/2014 when ELE became available |
| CHW | The consumption level seems 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 seems low compared to the ELE and HHW use level, but the CHW consumption has a clean and stable pattern since the data became available on 7/1/2012. More information is needed to identify which type of utility causes the high cross-point temperature. It is possible that the GSF on file (101,704 ft²) includes substantial unoccupied areas.

Explanatory Figure: 13 months energy balance plot with original data



Veterinary Research Building (TAMU Bldg# 1197)

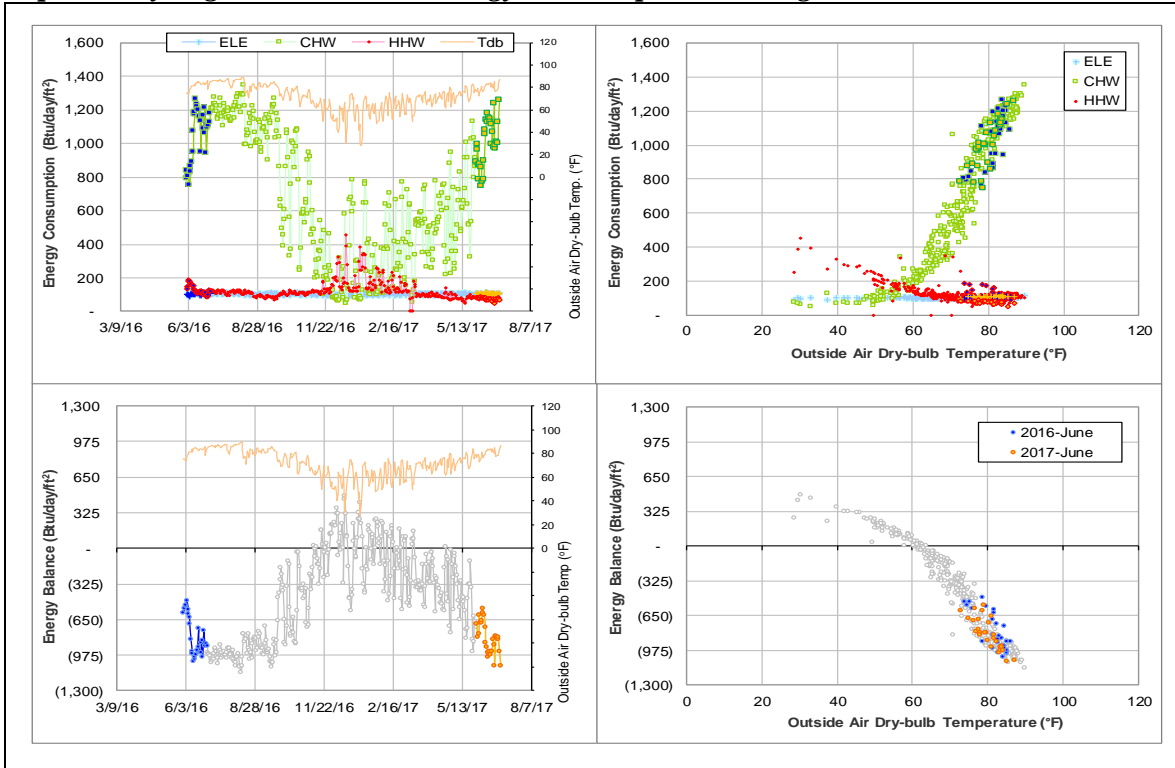
Detected issues in the energy balance and/or the consumption data

| 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 electricity consumption is in the range of 90 - 120 Btu/day/ft² (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.

Explanatory Figure: 13 months energy balance plot with original data



Medical Sciences Library (TAMU Bldg #1509)

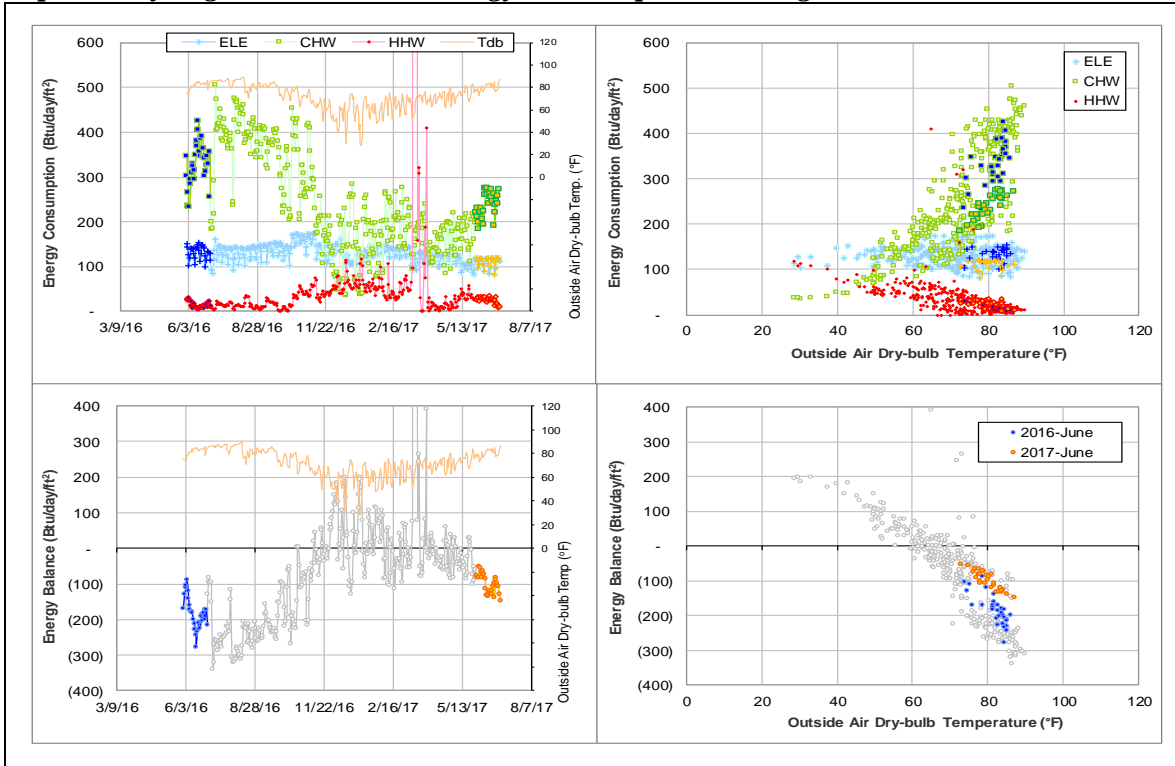
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-----------|--|------------------|
| CHW | Decreased and a new pattern is suspected | Since 3/24/2017. |

Comments

CHW flow rate has been unstable for a long time. On 3/24/2017, the flow rate dropped to and remained at the 20 – 80 gpm level, which is significantly lower than the beginning of Mar 2017 at near 300 gpm. The CHW consumption thus has a considerable decrease in the following months. This building is on the ESCO list, which is a probable cause of the change. More data are needed to verify new pattern.

Explanatory Figure: 13 months energy balance plot with original data



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

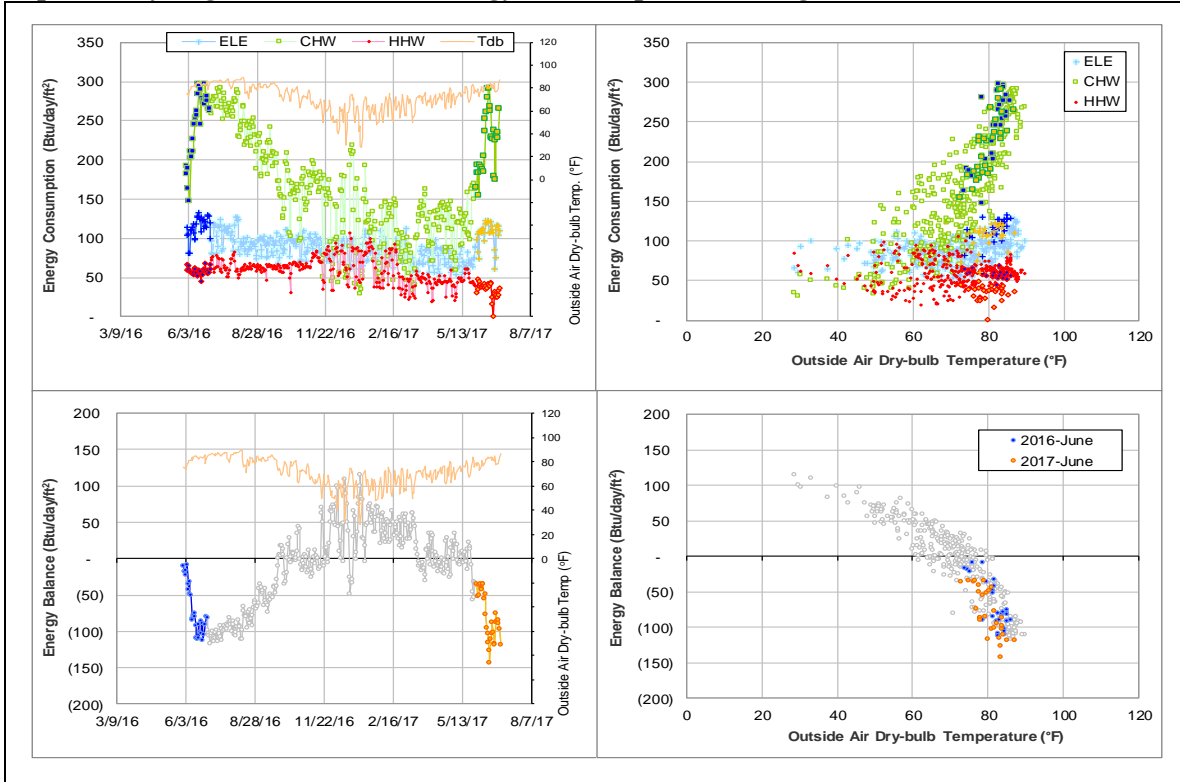
Detected issues in the energy balance and/or the consumption data

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

Comments

The HHW pattern remains scattered and does not appear to be weather dependent.

Explanatory Figure: 13 months energy balance plot with original data



International Ocean Discovery Building (TAMU Bldg# 1601)

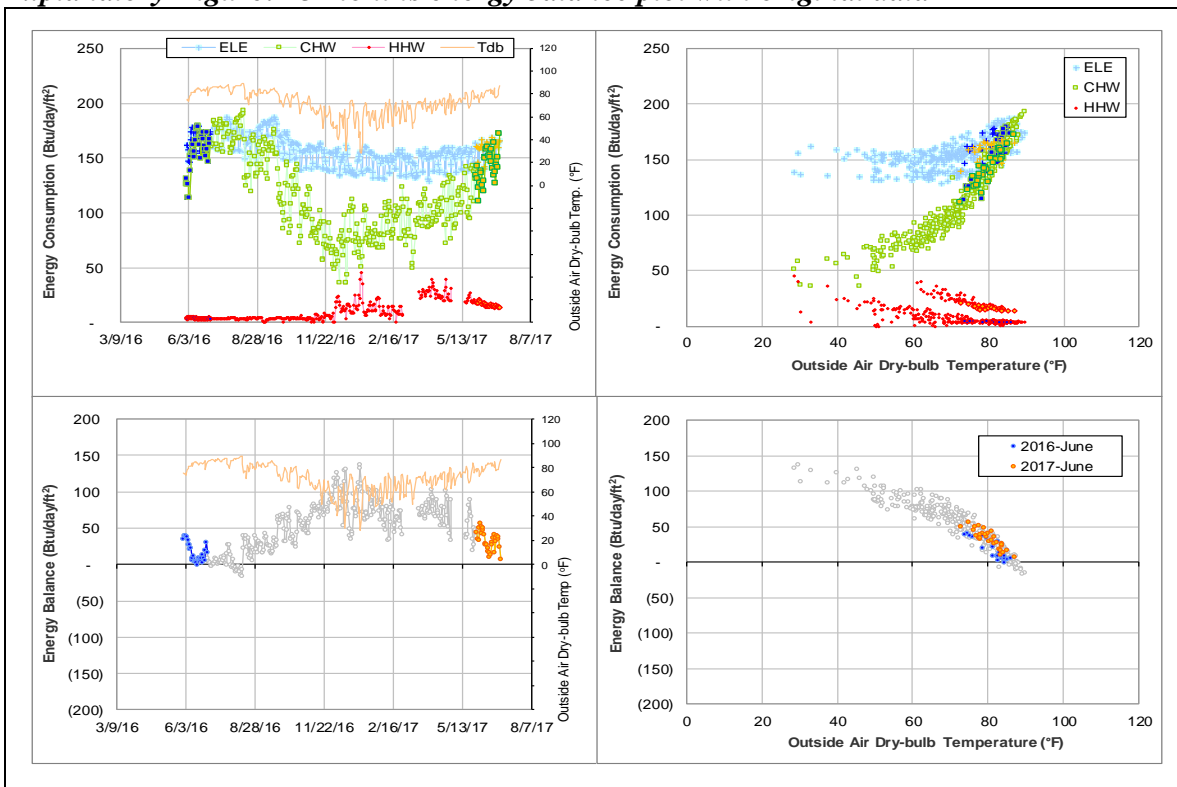
Detected issues in the energy balance and/or the consumption data

| 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 009829 is discovered. | 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.

Explanatory Figure: 13 months energy balance plot with original data



Offshore Technology Research Center (TAMU Bldg# 1604)

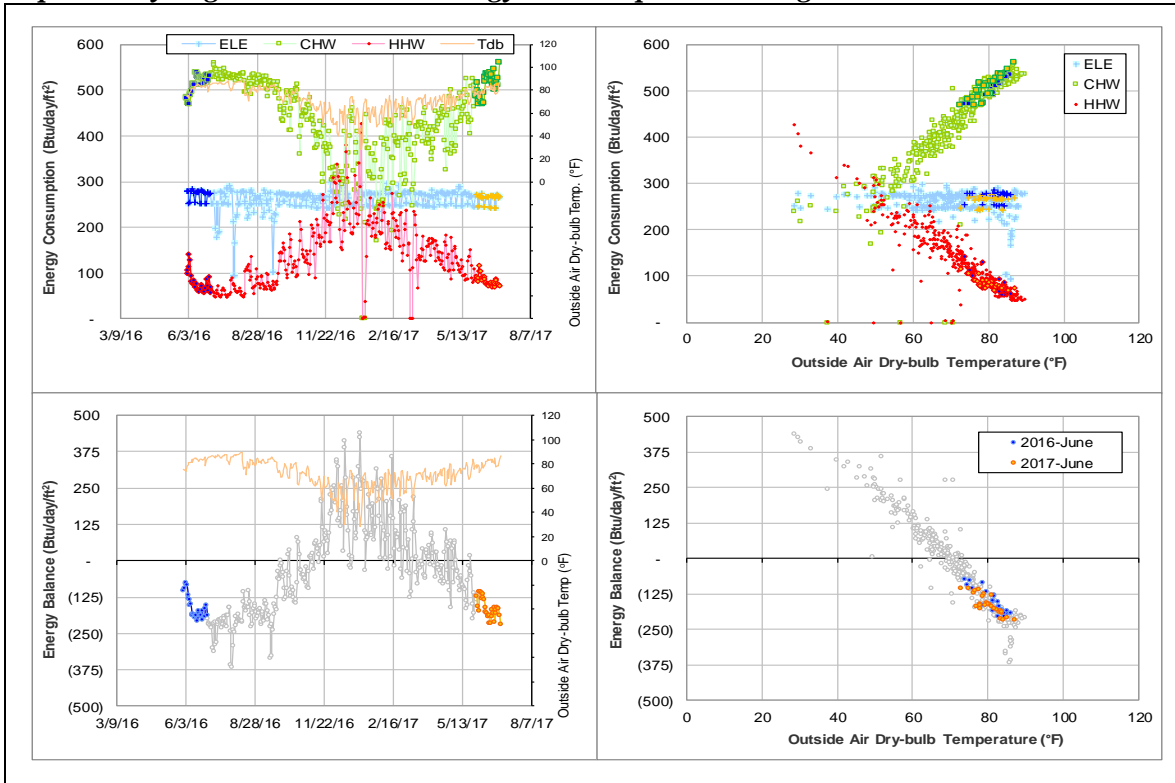
Detected issues in the energy balance and/or the consumption data

| Data Type | Description of data behaviors | Period |
|-------------|---|--------------------|
| ELE #006660 | Consumption is zero for most of the time. | 2/1/2015 – Ongoing |

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.

Explanatory Figure: 13 months energy balance plot with original data



TTI Headquarters (TAMU Bldg# 1609)

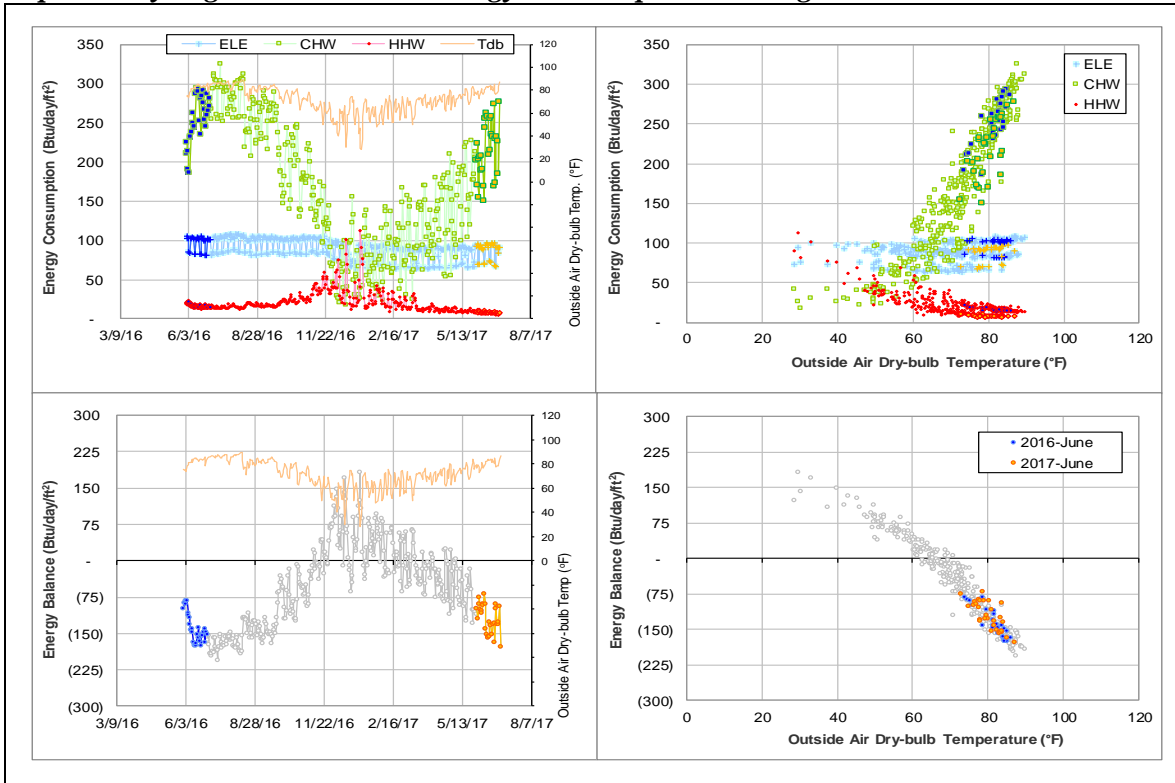
Detected issues in the energy balance and/or the consumption data

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

Comments

All energy consumption are showing a decrease compared to the level of last year. A very clear new pattern is forming. CHW is even showing weekday/weekend pattern. This building is listed as an ESCO building. These decrease could be caused by ESCO.

Explanatory Figure: 13 months energy balance plot with original data



III. Time Series Plots for June 2017 Consumption

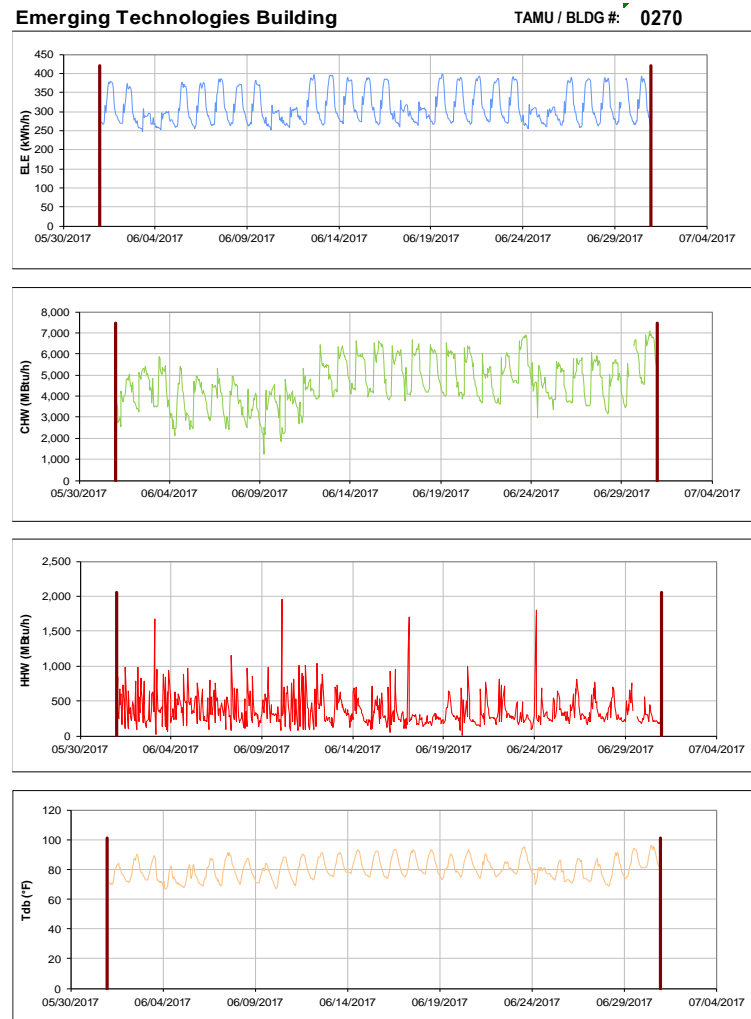


Figure III-1 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Emerging Technologies Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



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

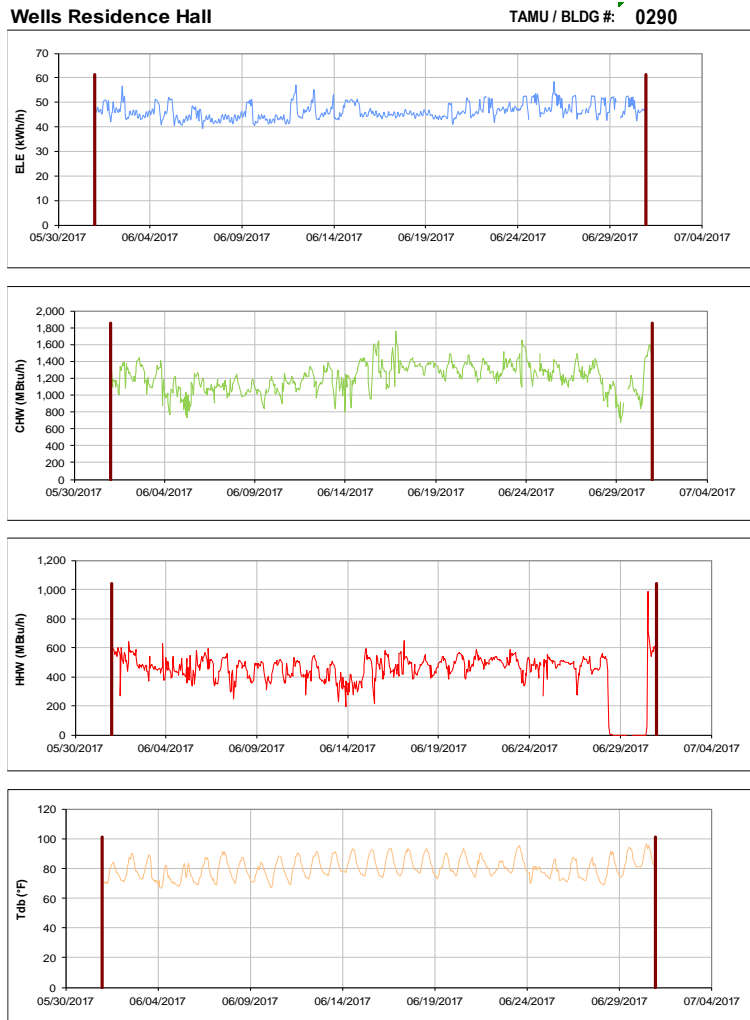


Figure III-3 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wells Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

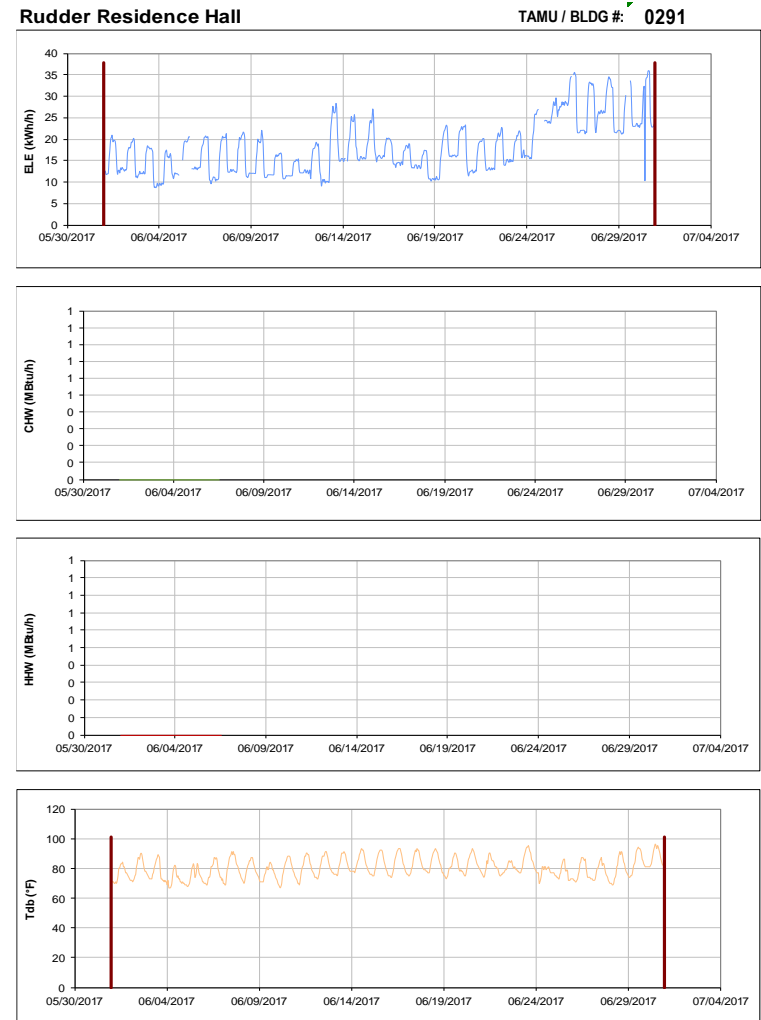


Figure III-4 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Eppright Residence Hall

TAMU / BLDG #: 0292

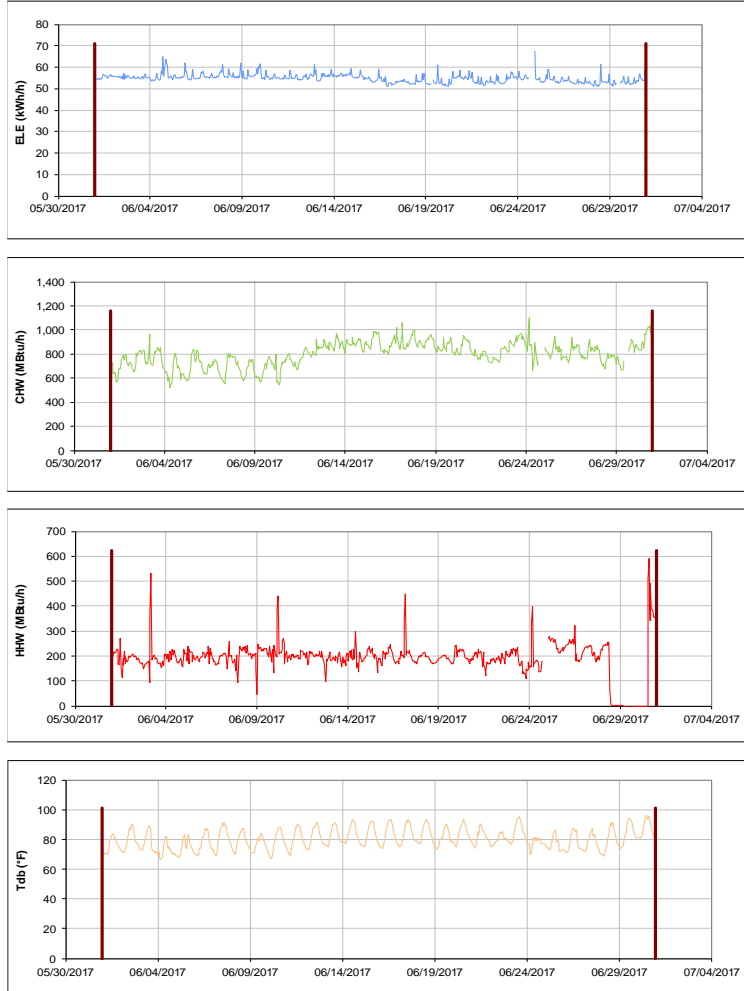


Figure III-5 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Eppright Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Appelt Residence Hall

TAMU / BLDG #: 0293

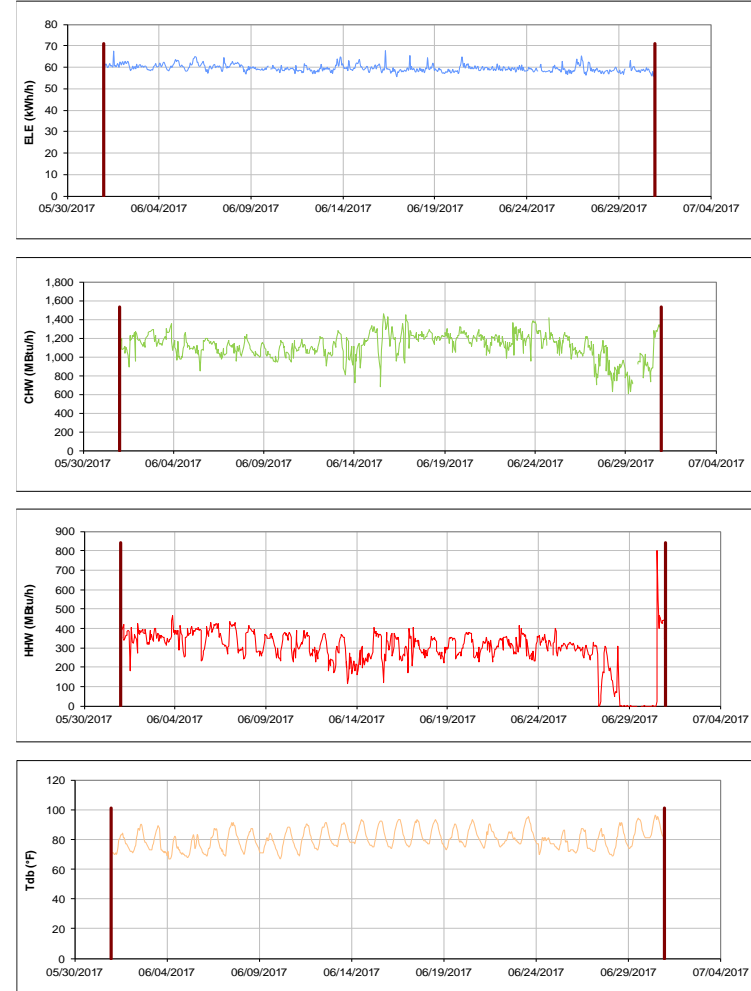


Figure III-6 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Appelt Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

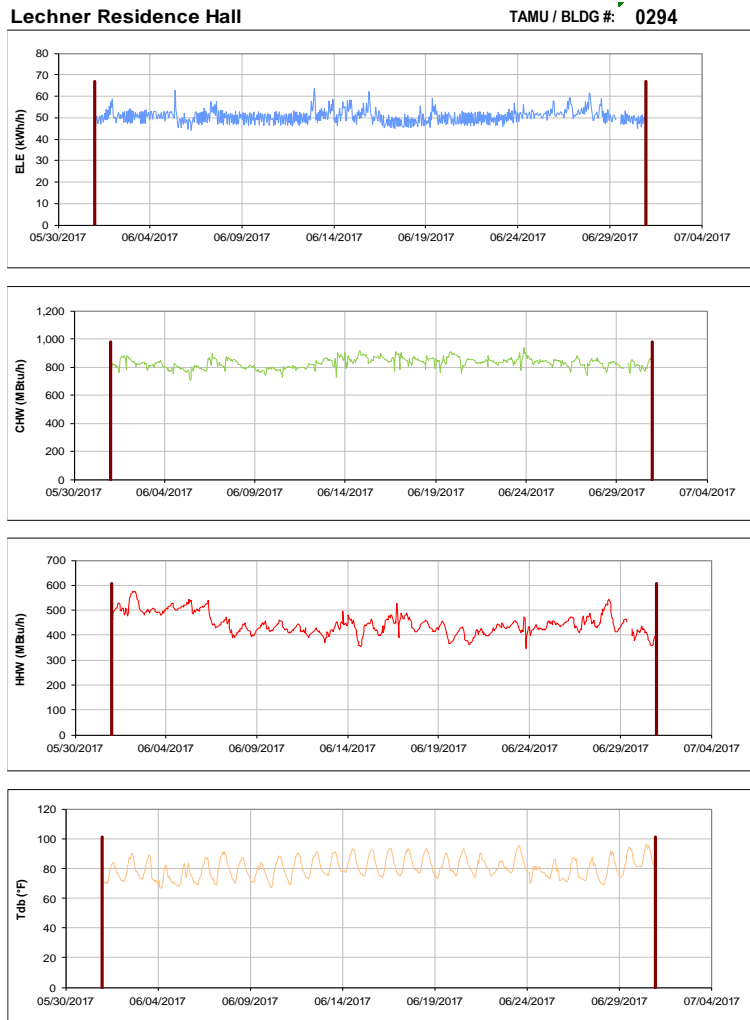


Figure III-7 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lechner Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

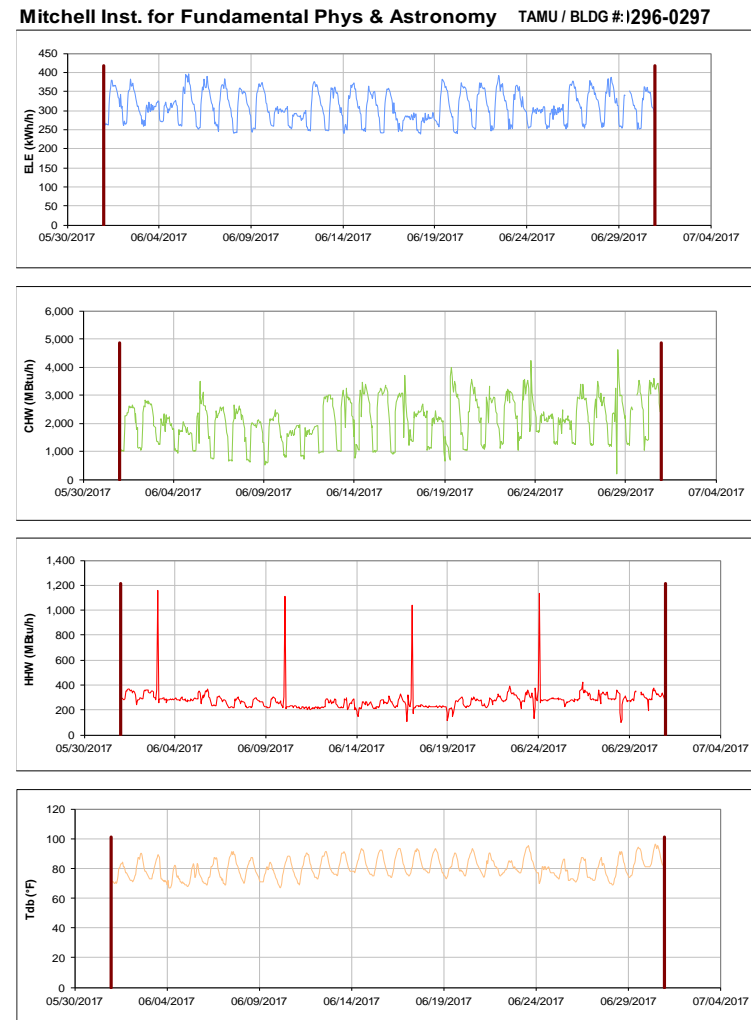


Figure III-8 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mitchell Inst. for Fundamental Phys & Astronomy during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



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

Davis Football Player Development Center TAMU / BLDG #: 0358

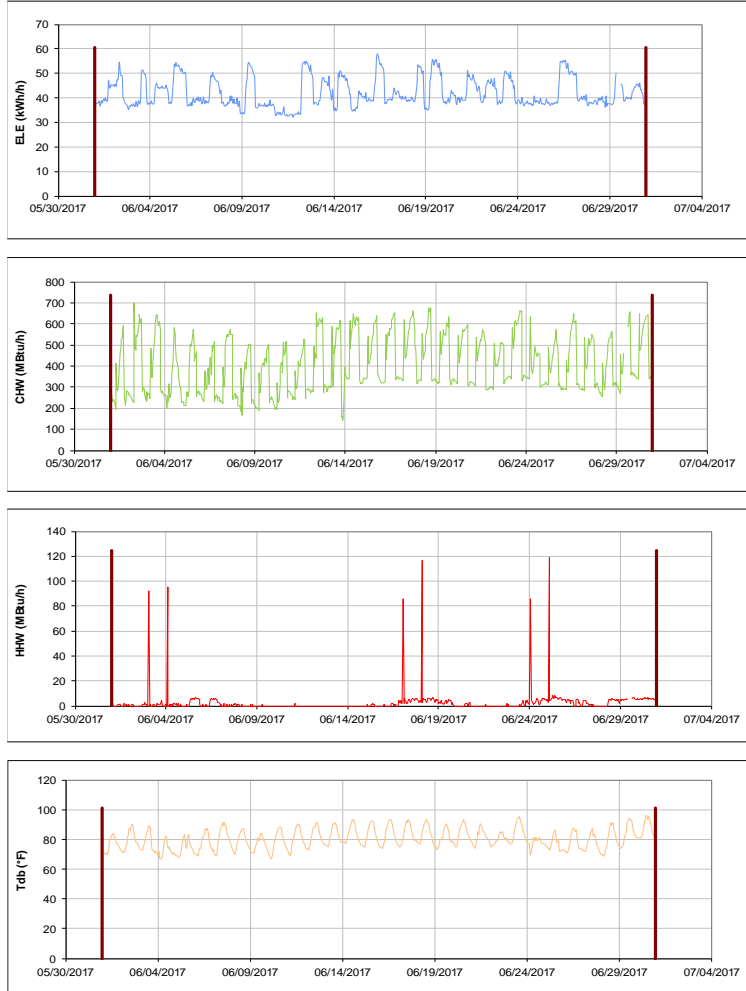


Figure III-11 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Davis Football Player Development Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

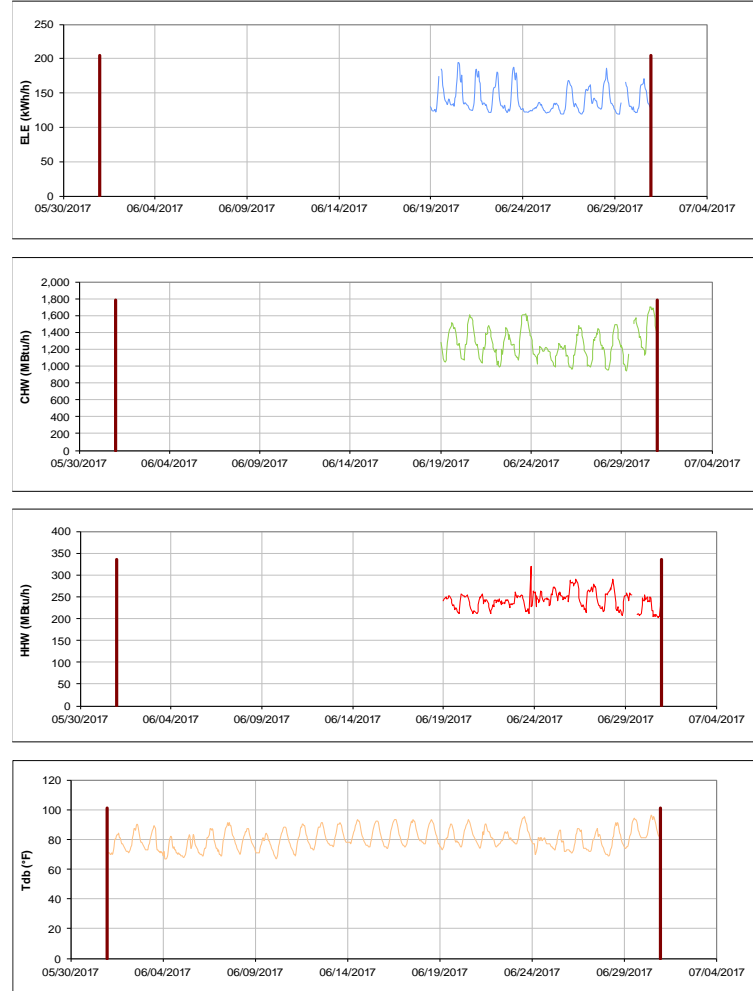


Figure III-12 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building B&C during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

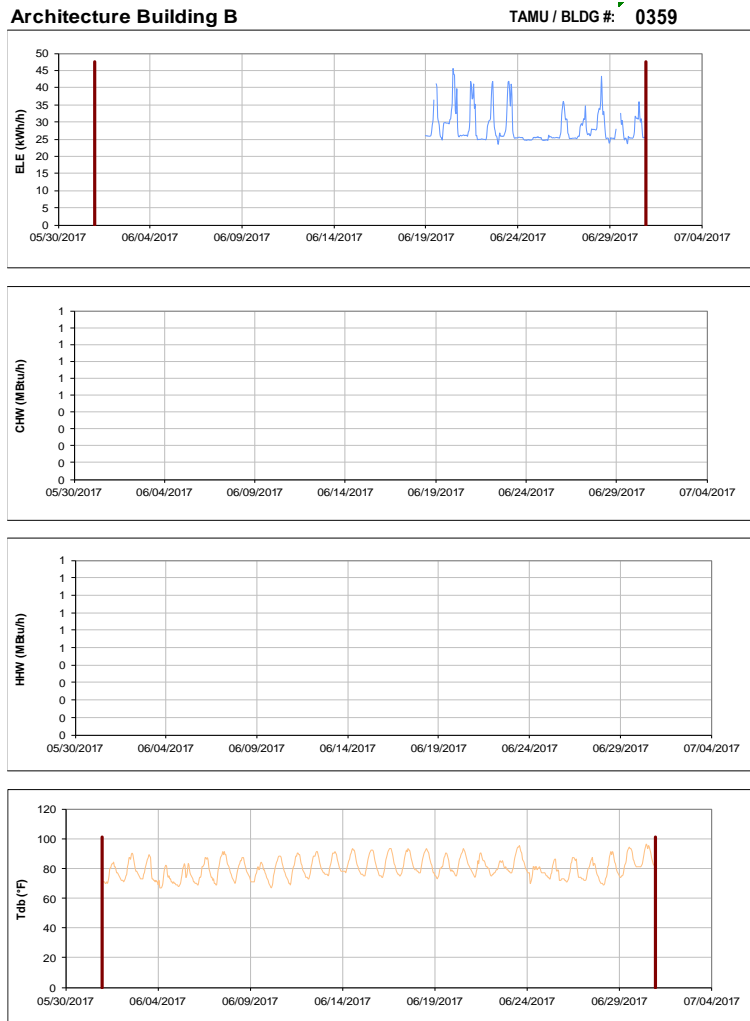


Figure III-13 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building B during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

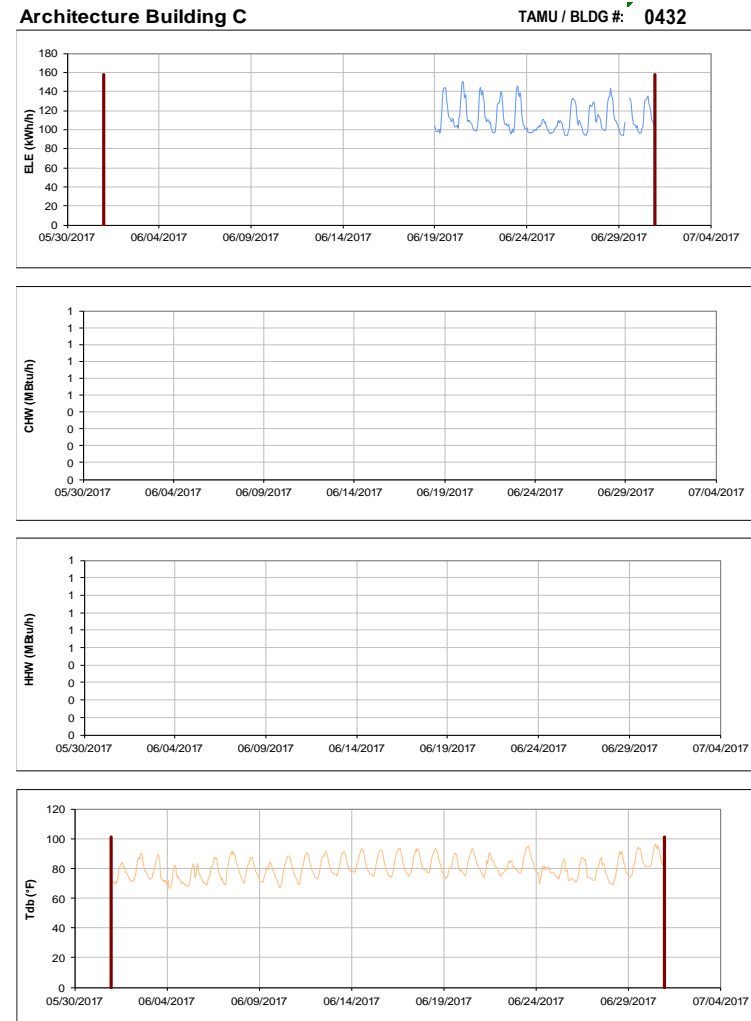


Figure III-14 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Architecture Building C during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

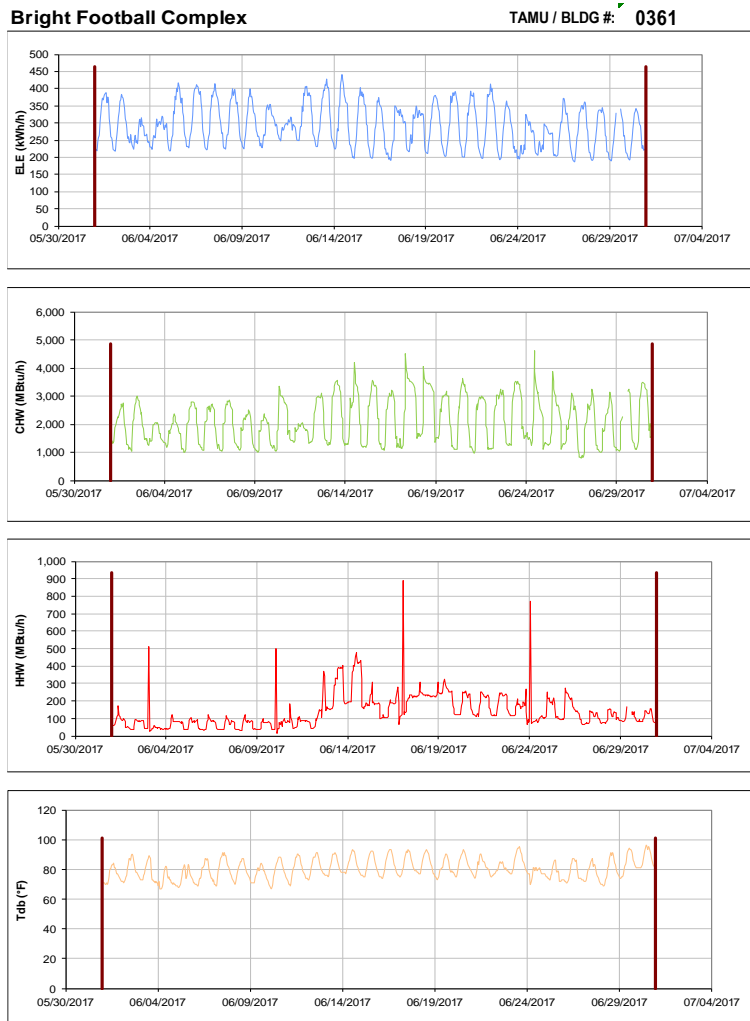


Figure III-15 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Bright Football Complex during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

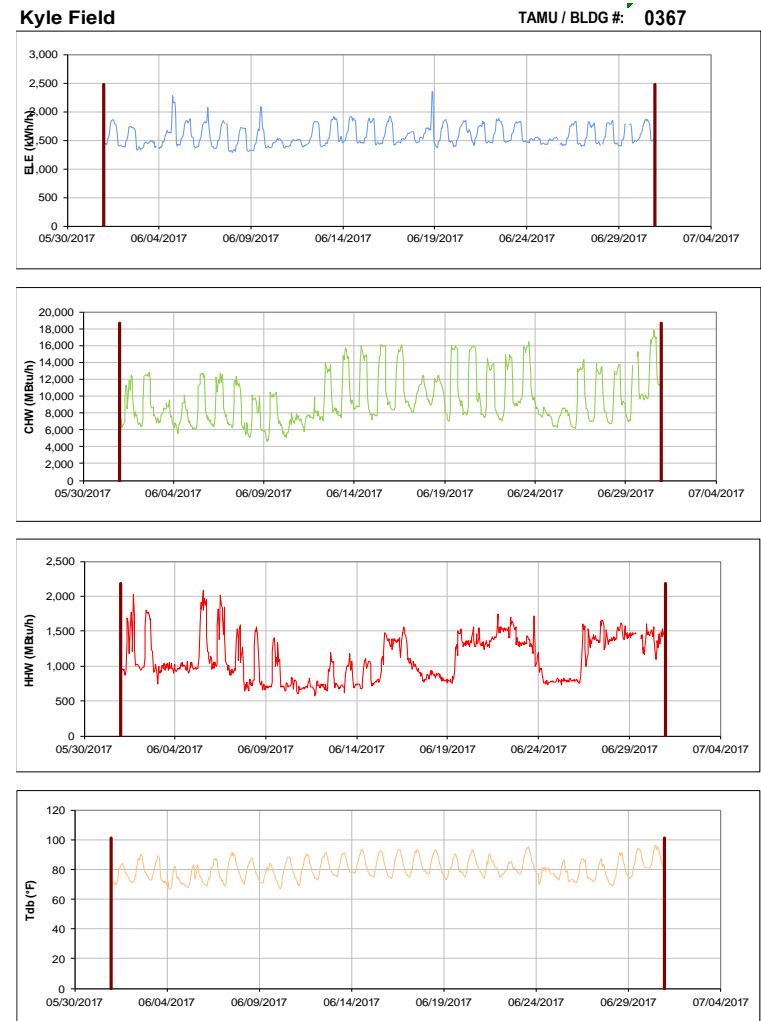


Figure III-16 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kyle Field during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Chemistry Building Addition

TAMU / BLDG #: 0376

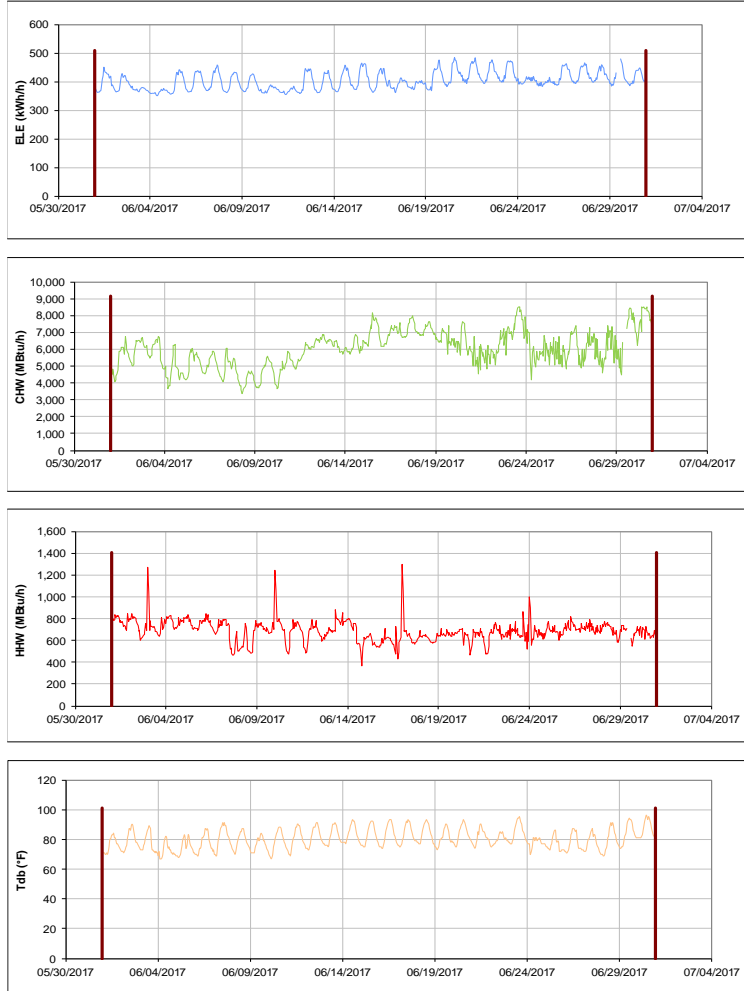


Figure III-17 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Chemistry Building Addition during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Koldus Building

TAMU / BLDG #: 0383

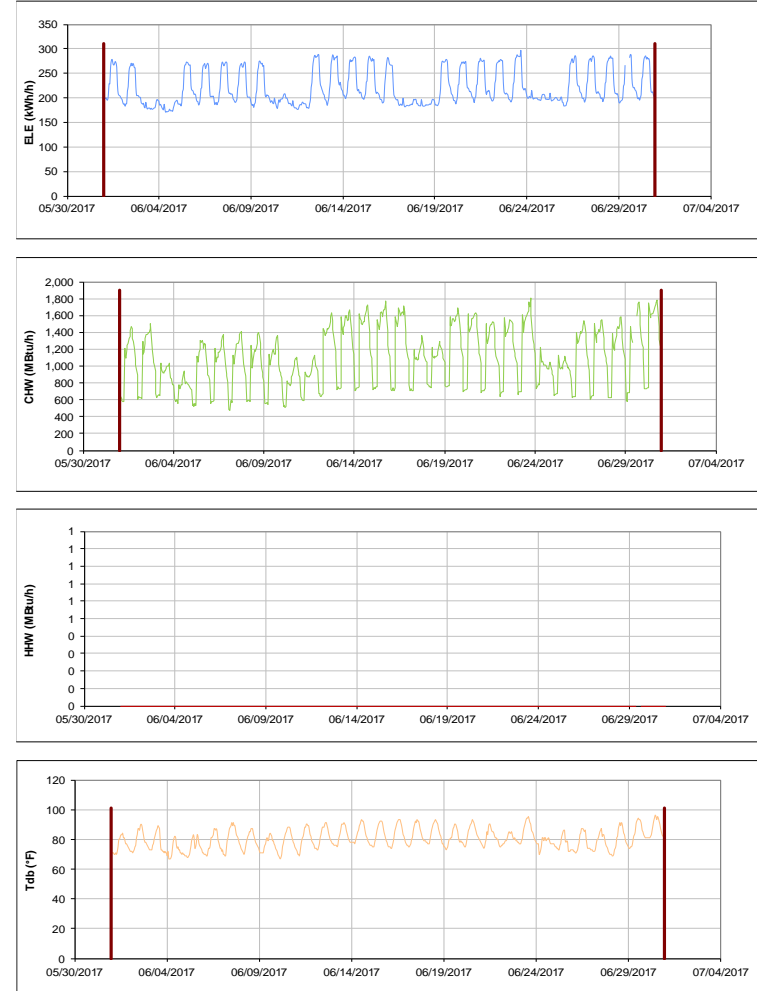


Figure III-18 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Koldus Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

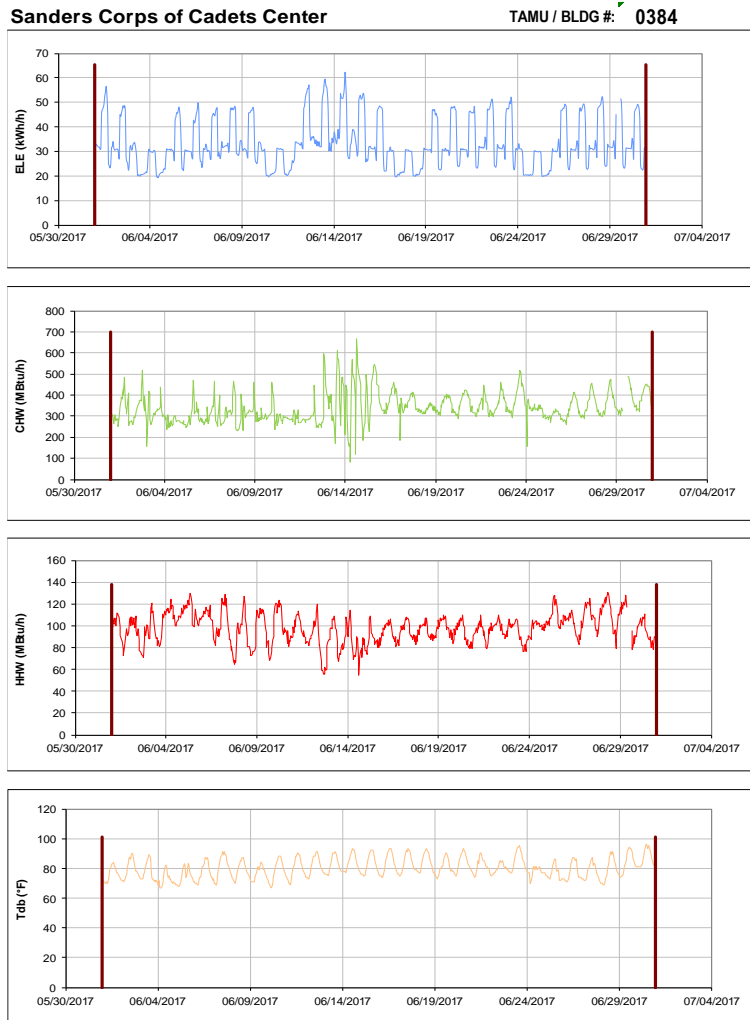


Figure III-19 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Sanders Corps of Cadets Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

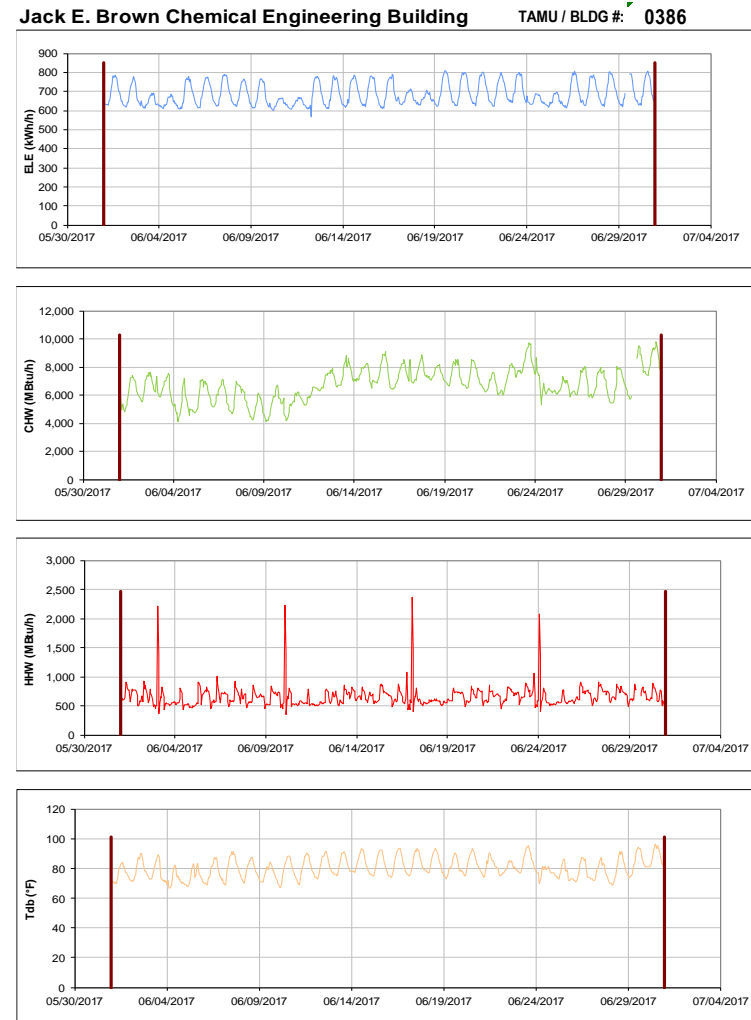


Figure III-20 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Jack E. Brown Chemical Engineering Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Richardson Petroleum Engineering Building TAMU / BLDG #: 0387

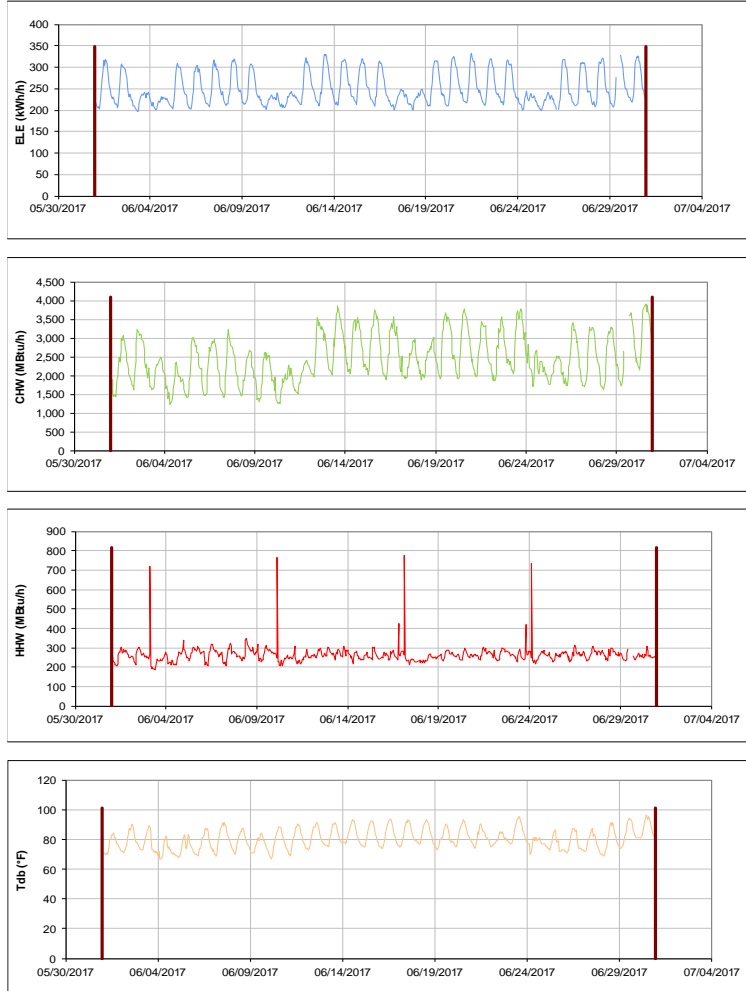


Figure III-21 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Richardson Petroleum Engineering Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

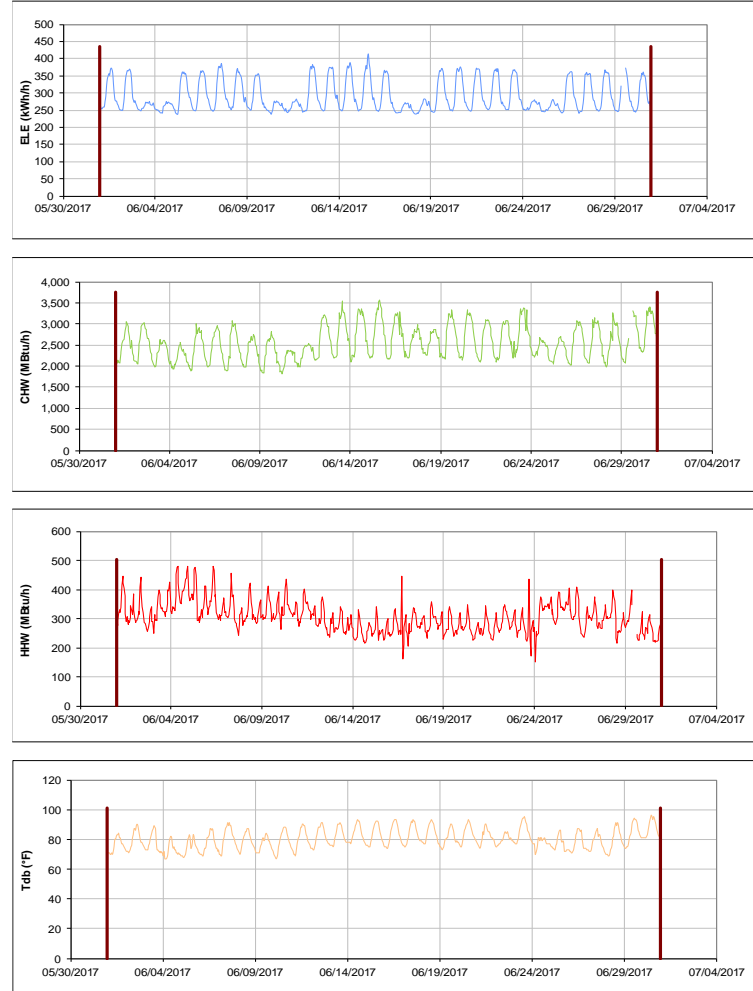


Figure III-22 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for James J. Cain'51 and Mechanical Engineering Office Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

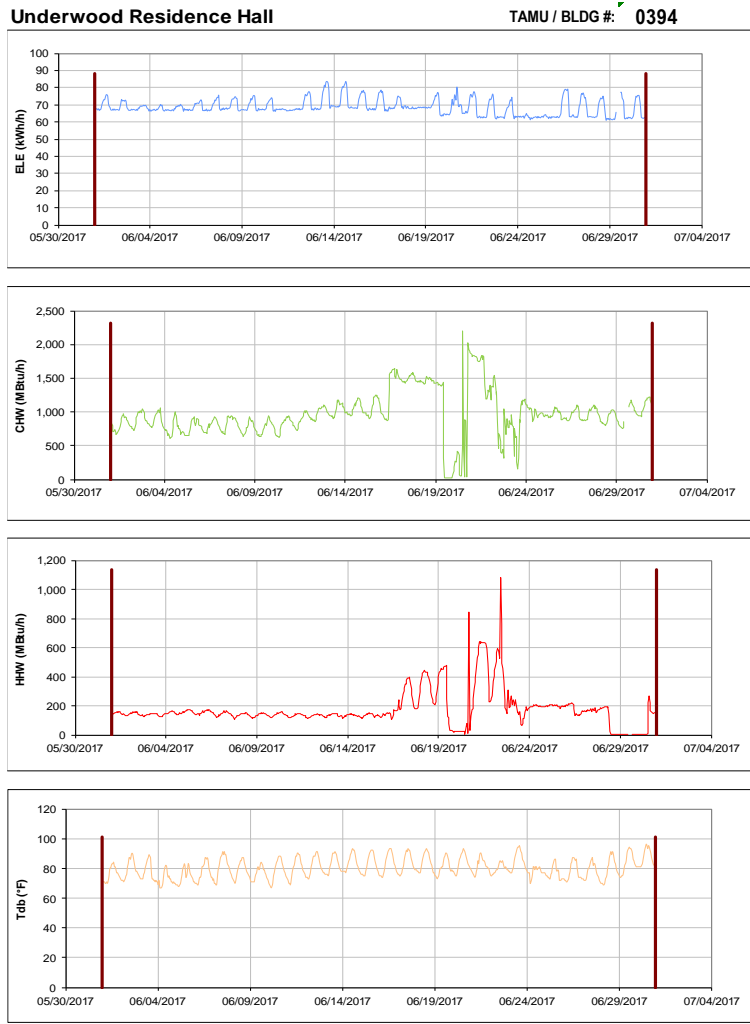


Figure III-23 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Underwood Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

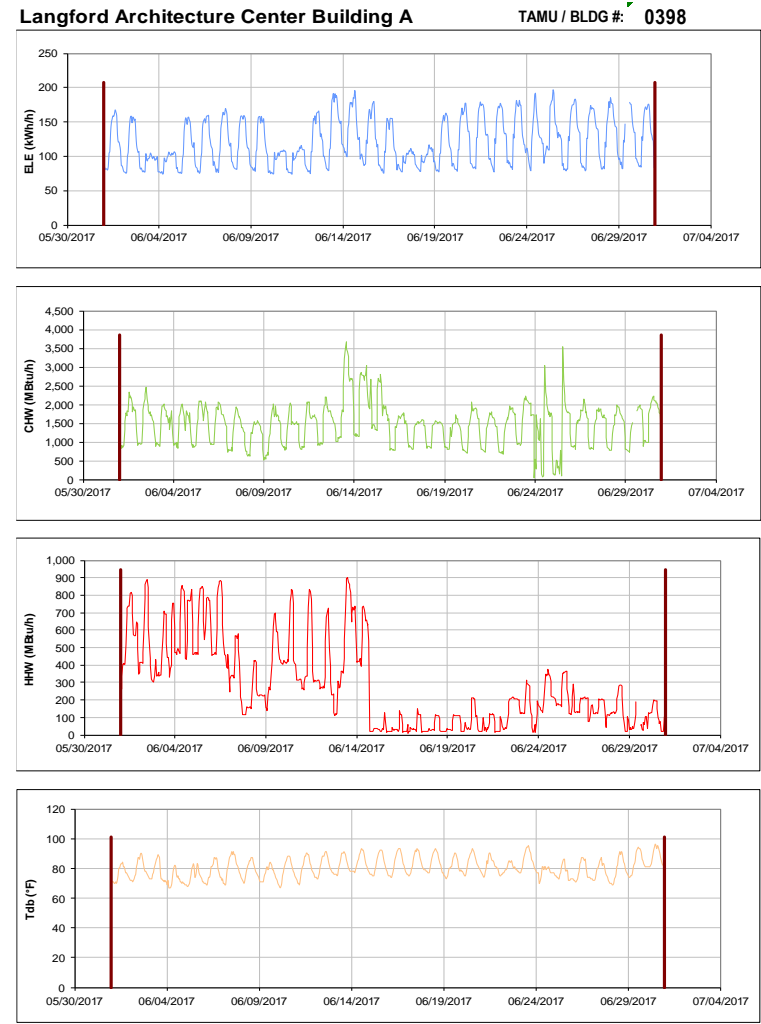


Figure III-24 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Langford Architecture Center Building A during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

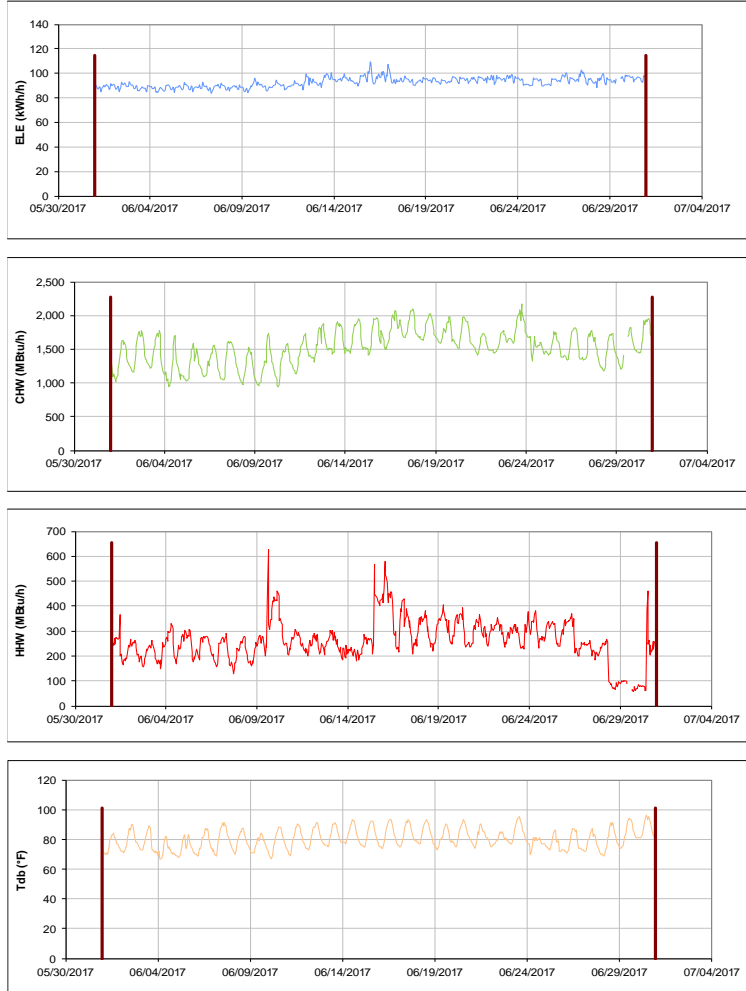


Figure III-25 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Spence Hall, Briggs Hall, and Ash II LLC during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Spence Hall Dorm 1 TAMU / BLDG #: 0400

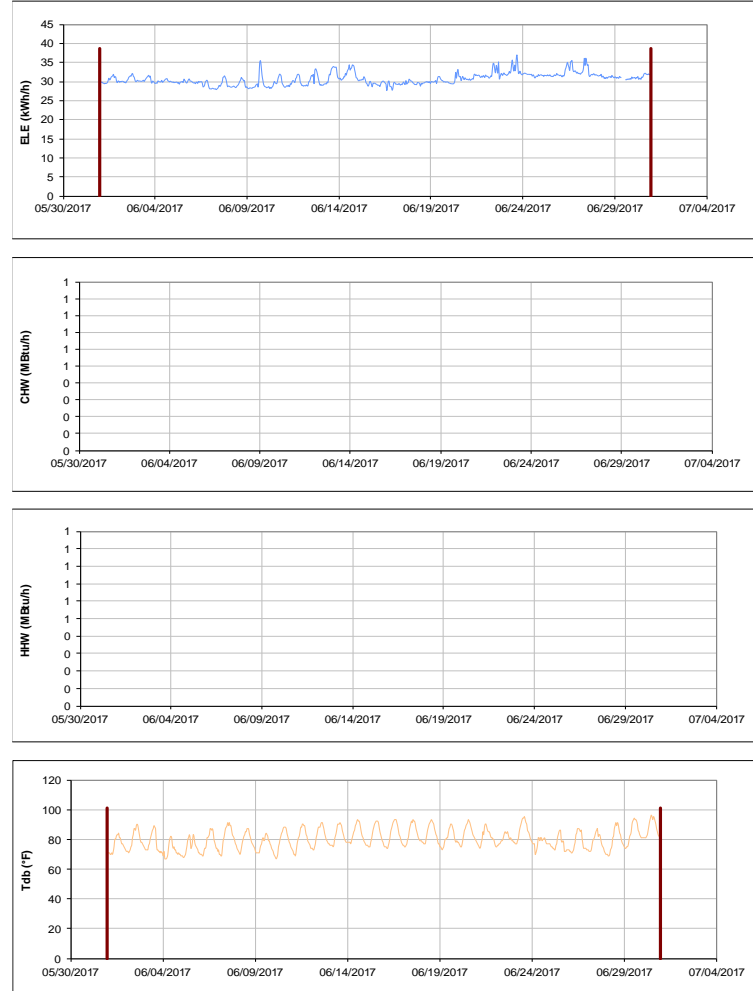


Figure III-26 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Spence Hall Dorm 1 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Briggs Hall Dorm 3

TAMU / BLDG #: 0402

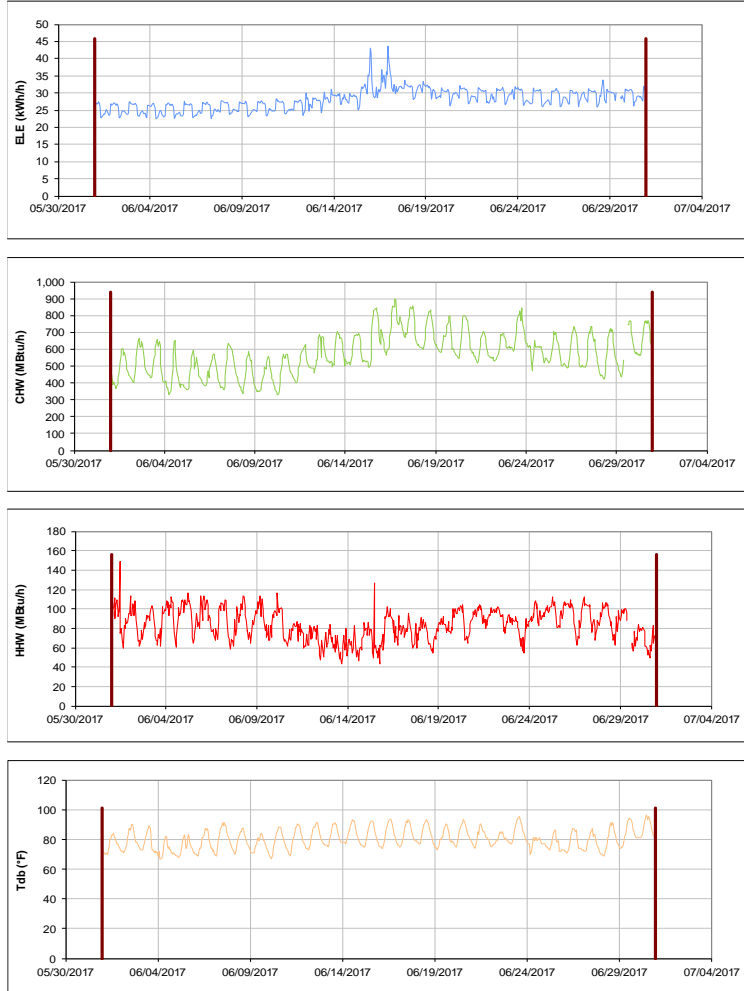


Figure III-27 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Briggs Hall Dorm 3 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Ash II LLC

TAMU / BLDG #: 1405

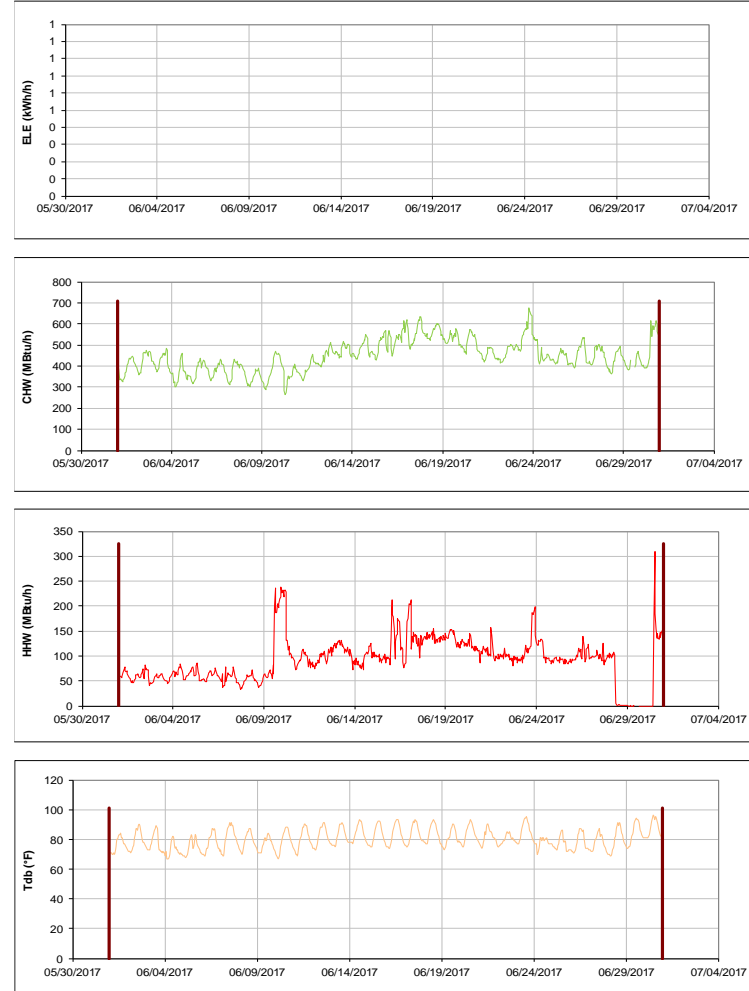


Figure III-28 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Ash II LLC during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

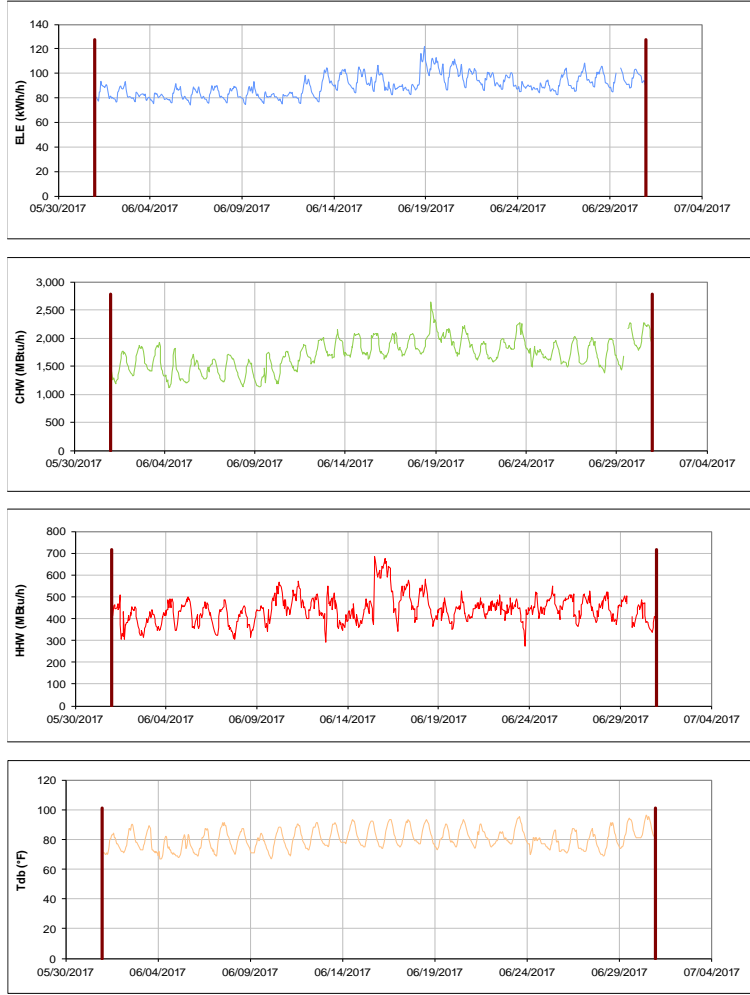


Figure III-29 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kiest Hall, Fountain Hall, and Plank LLC during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Kiest Hall Dorm 2 TAMU / BLDG #: 0401

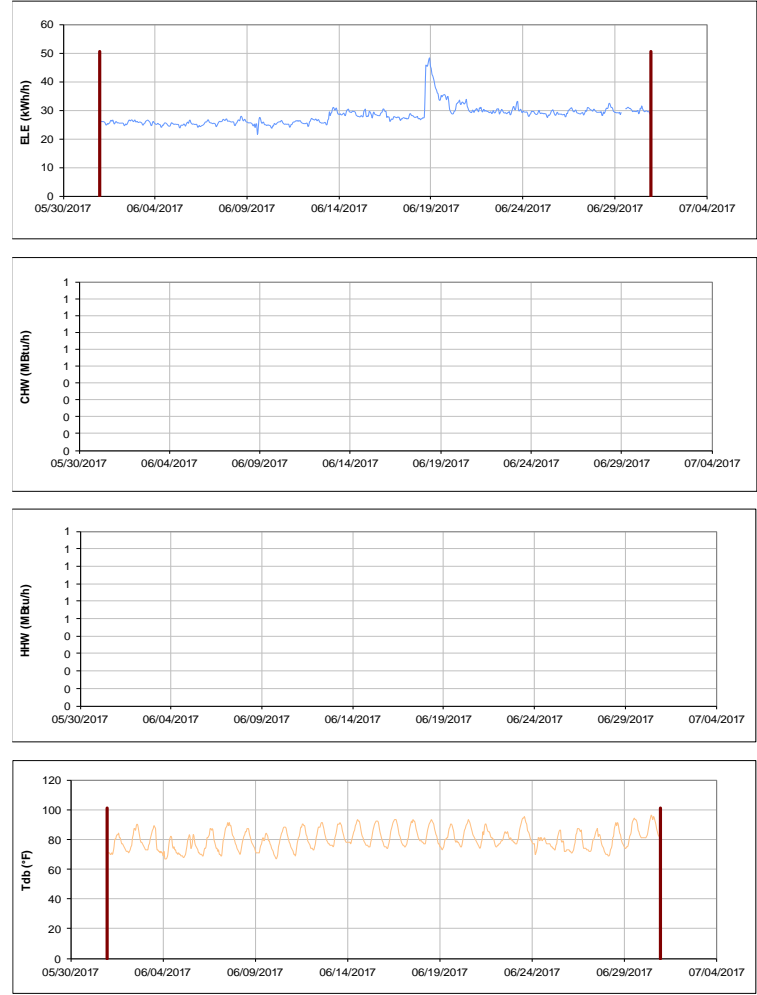


Figure III-30 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kiest Hall Dorm 2 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Fountain Hall Dorm 4

TAMU / BLDG #: 0403

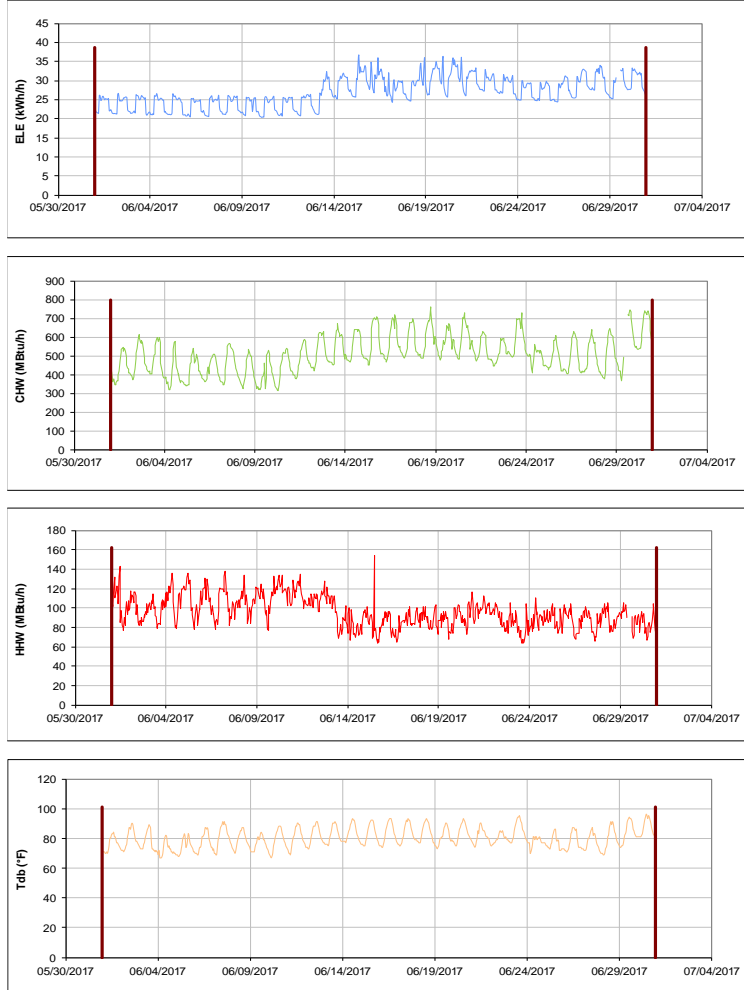


Figure III-31 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Fountain Hall Dorm 4 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Plank LLC

TAMU / BLDG #: 1404

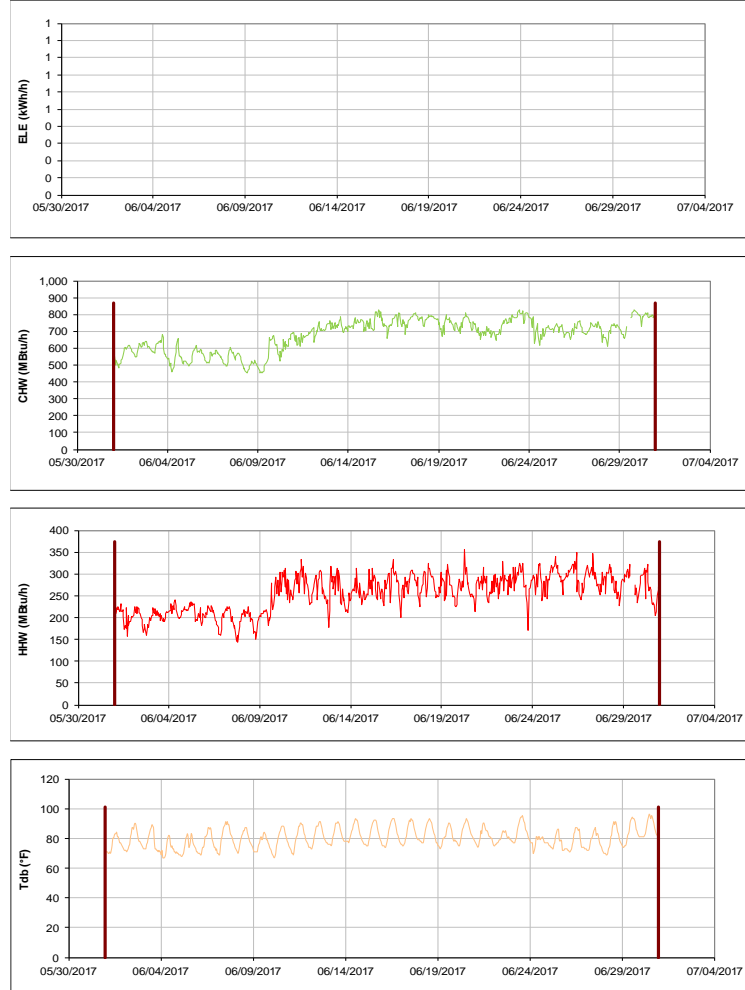


Figure III-32 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Plank LLC during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

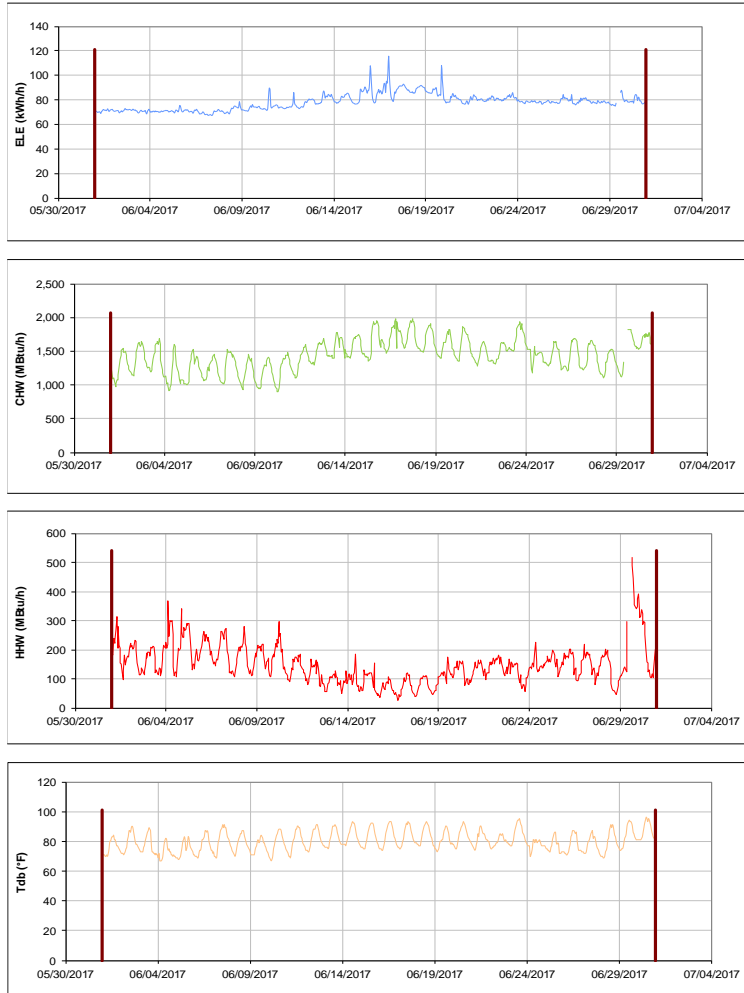


Figure III-33 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gainer Hall, Leonard Hall and Ash LLC during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Gainer Hall Dorm 5 TAMU / BLDG #: 0404

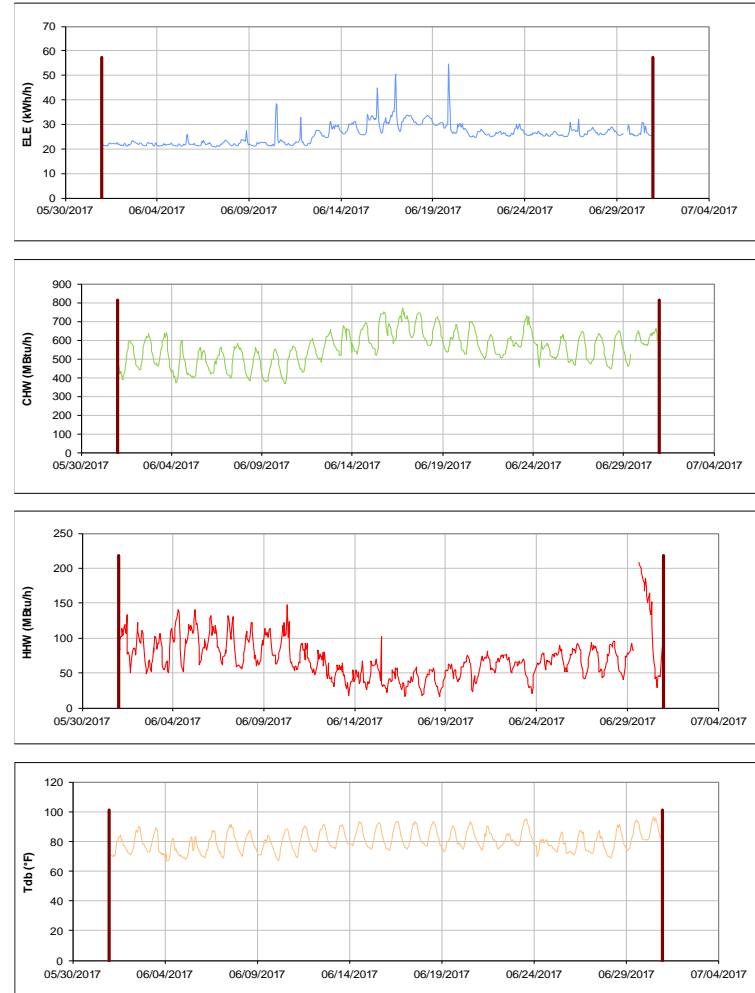


Figure III-34 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gainer Hall Dorm 5 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

H. Grady Ash, Jr. '58 Leadership Learning Center TAMU / BLDG #: 1403

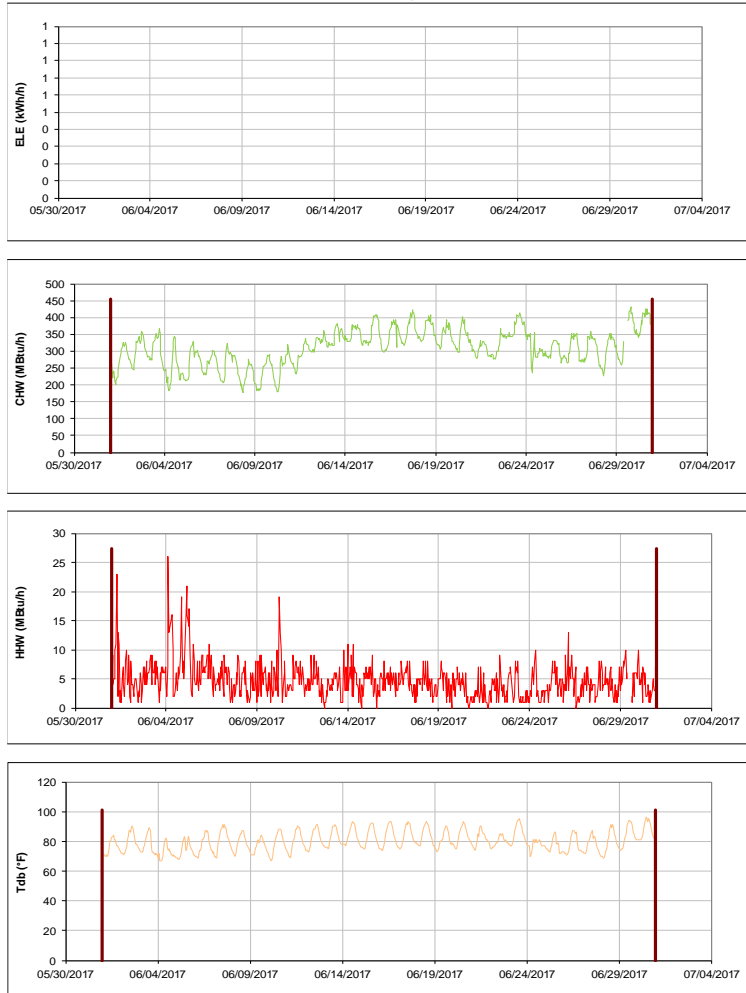


Figure III-35 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for H. Grady Ash, Jr. '58 Leadership Learning Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

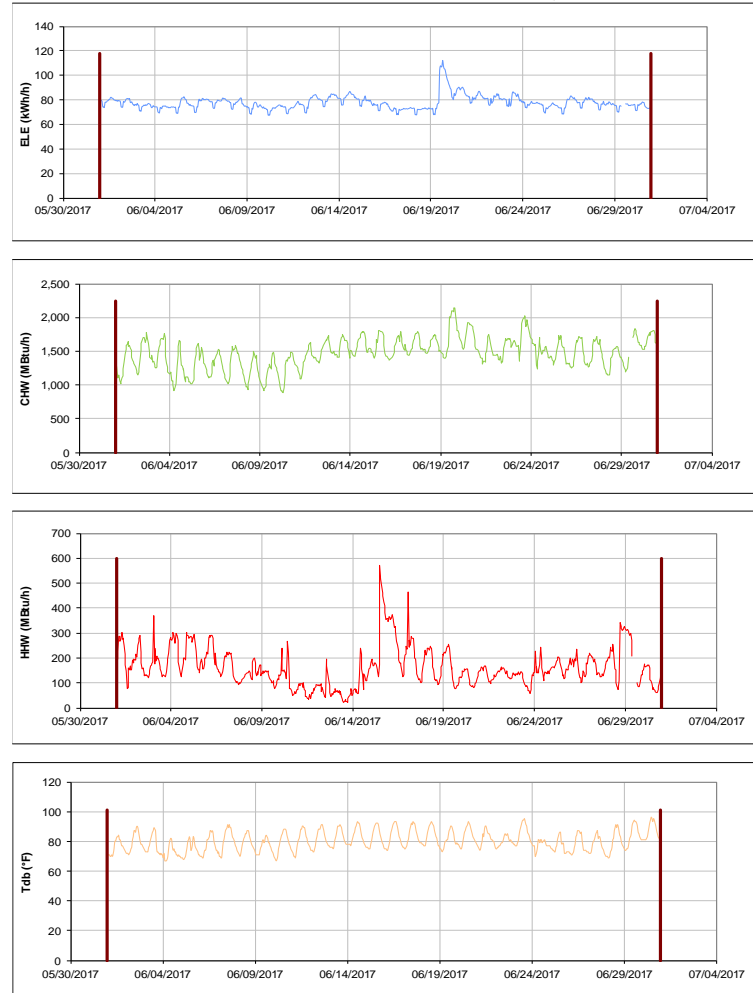


Figure III-36 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Lacy Hall - Dorm 6

TAMU / BLDG #: 0405

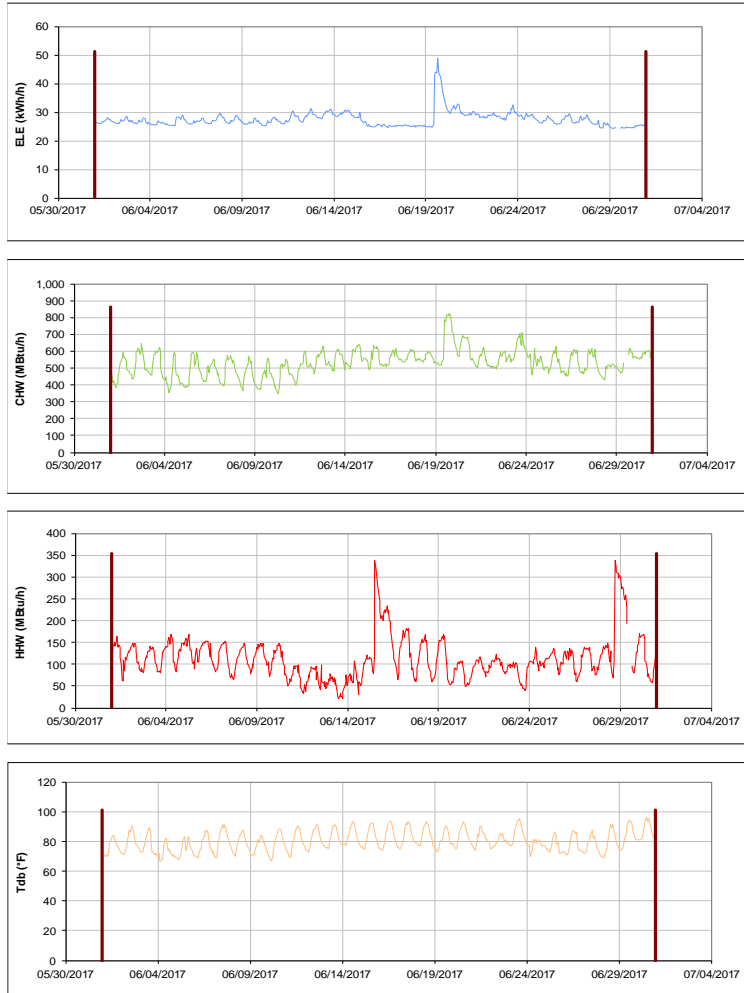


Figure III-37 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Lacy Hall - Dorm 6 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Harrell Hall - Dorm 8

TAMU / BLDG #: 0407

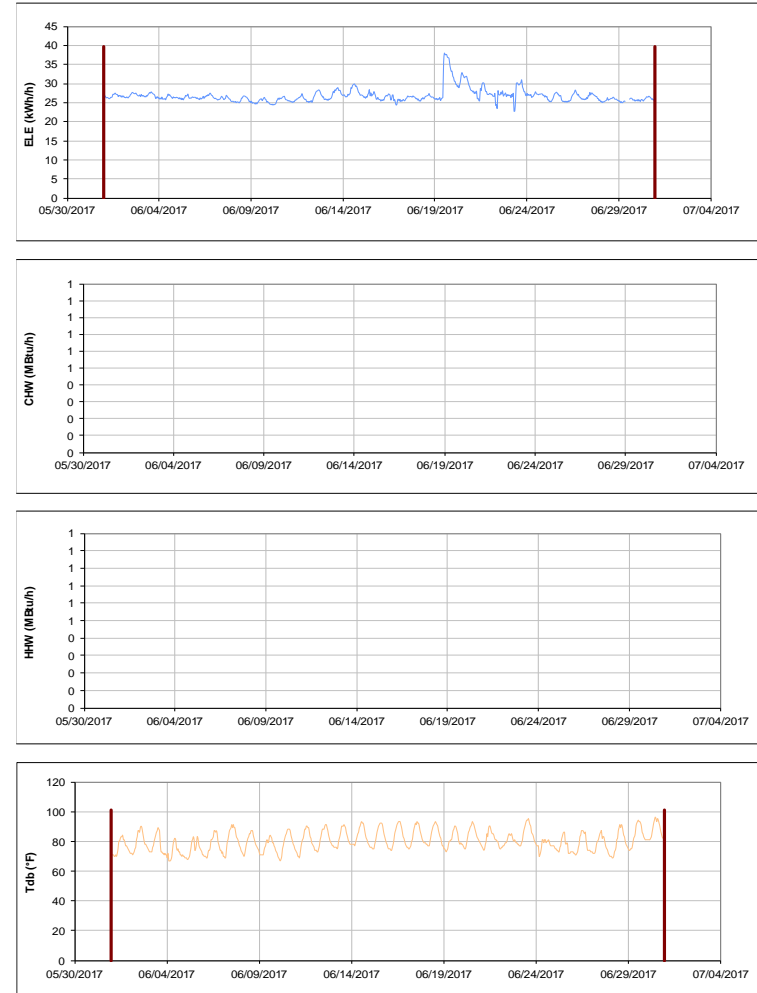


Figure III-38 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrell Hall - Dorm 8 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-39 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Buzbee Leadership Learning Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

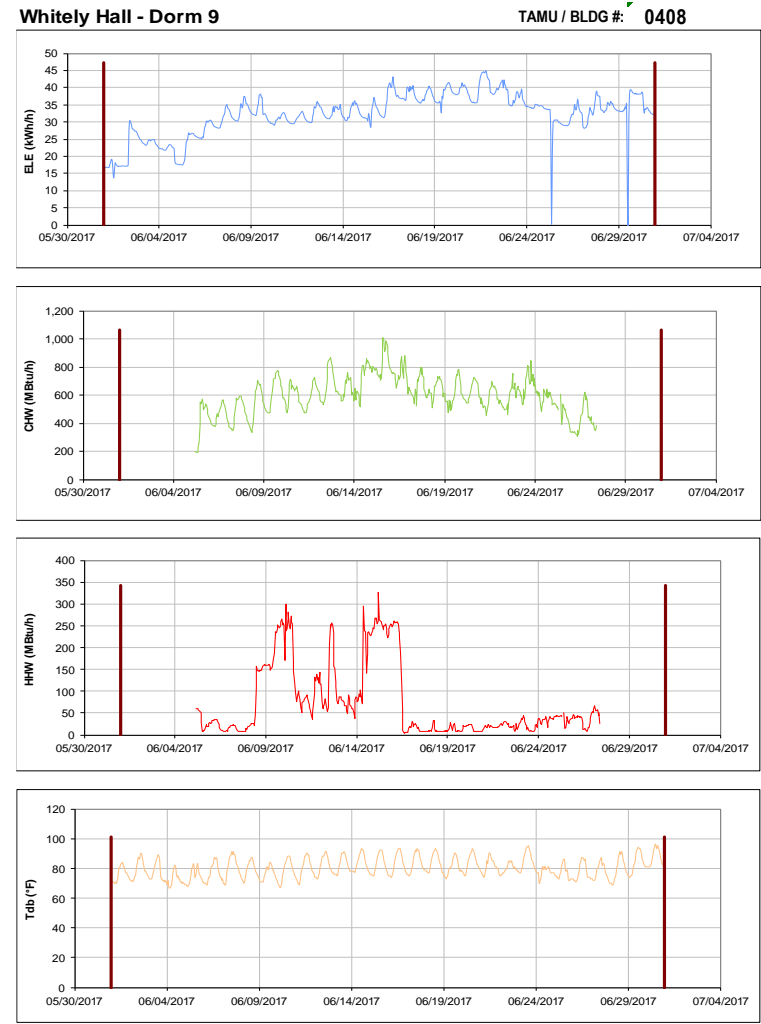


Figure III-40 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Whitely Hall - Dorm 9 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

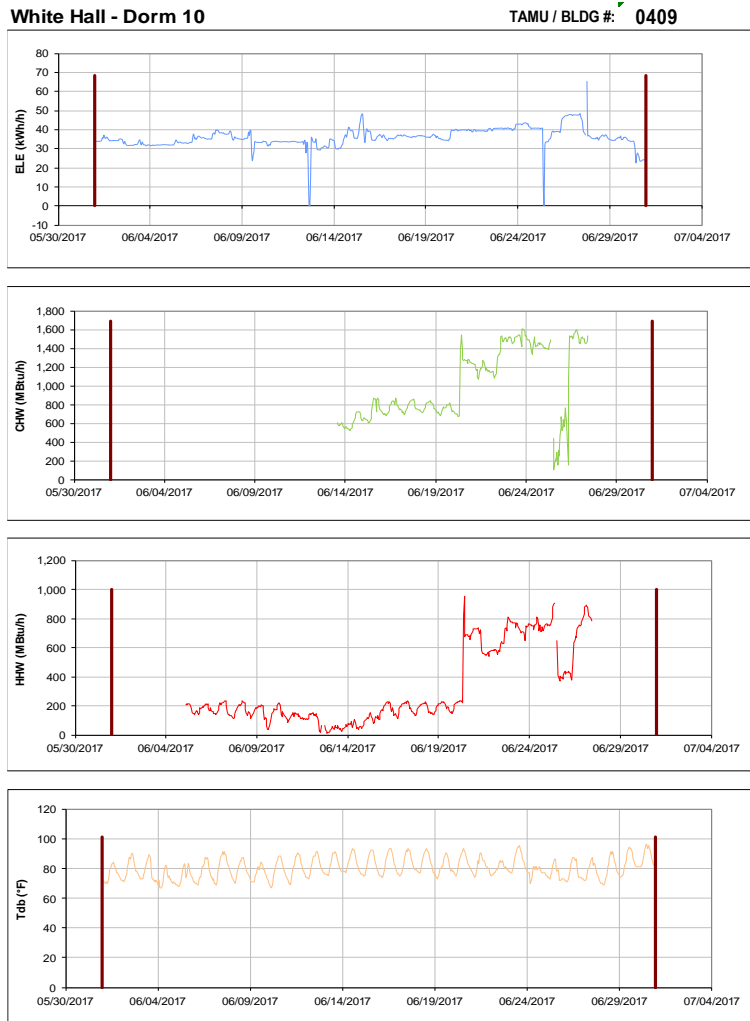


Figure III-41 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Hall - Dorm 10 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

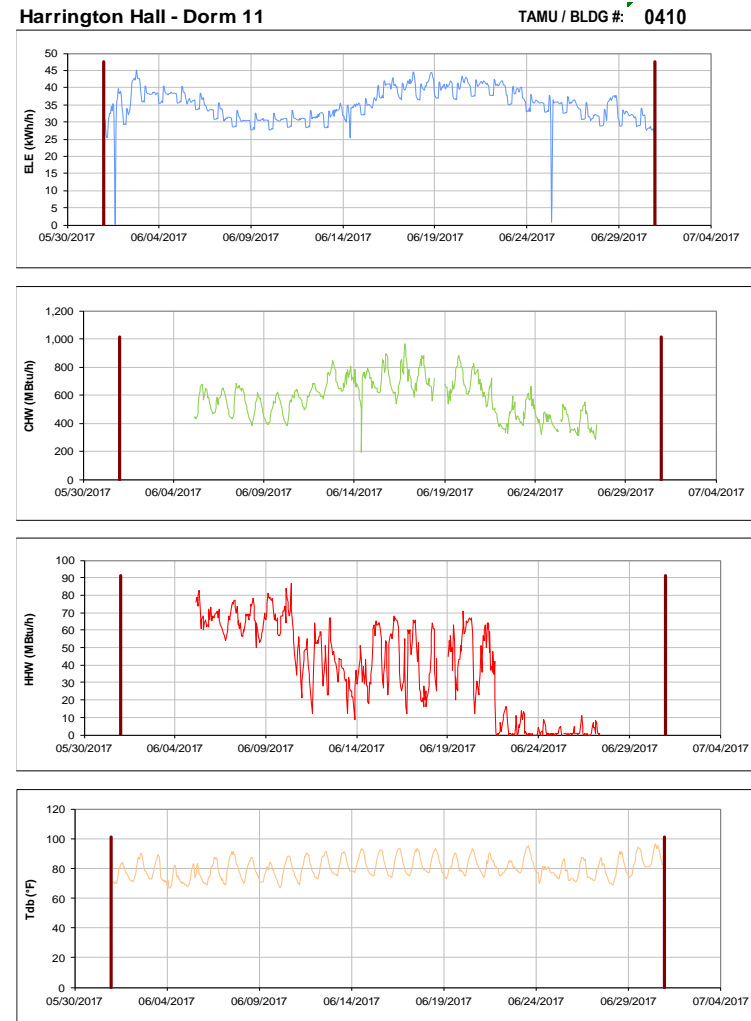


Figure III-42 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Hall - Dorm 11 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Utay Hall - Dorm 12

TAMU / BLDG #: 0411

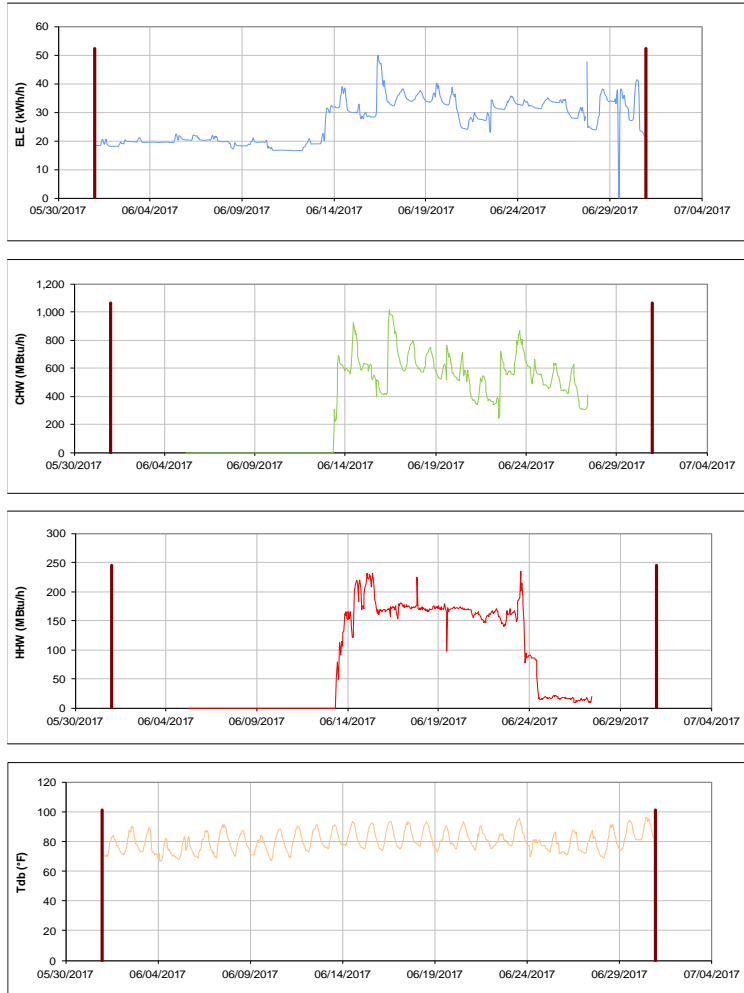


Figure III-43 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utay Hall - Dorm 12 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Moses Residence Hall

TAMU / BLDG #: 0412

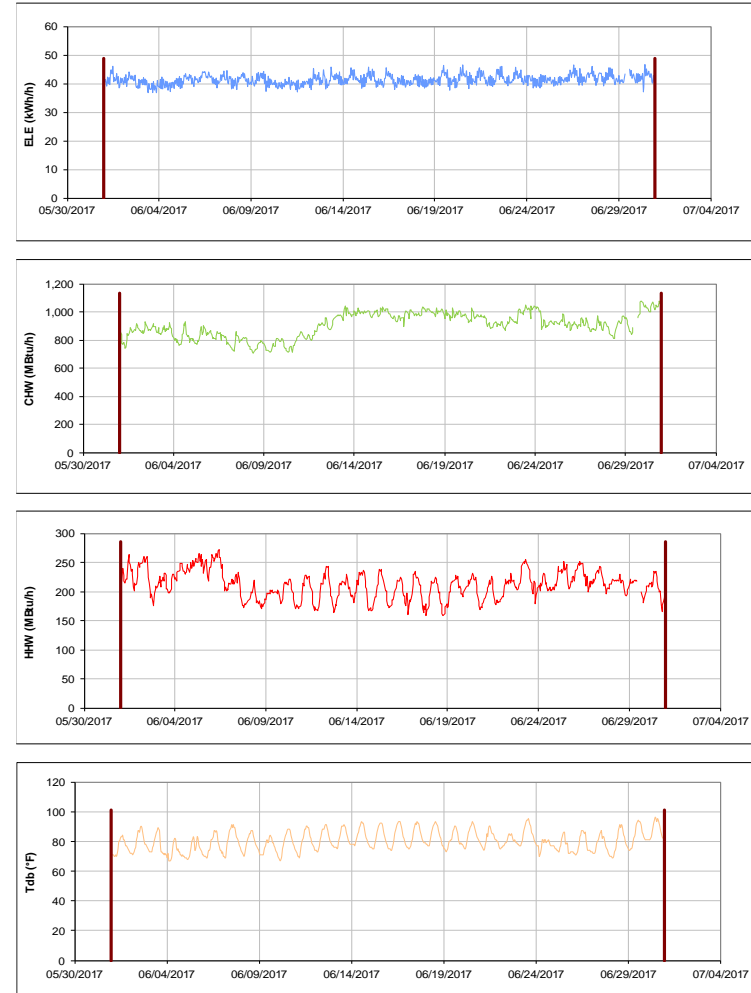


Figure III-44 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Moses Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

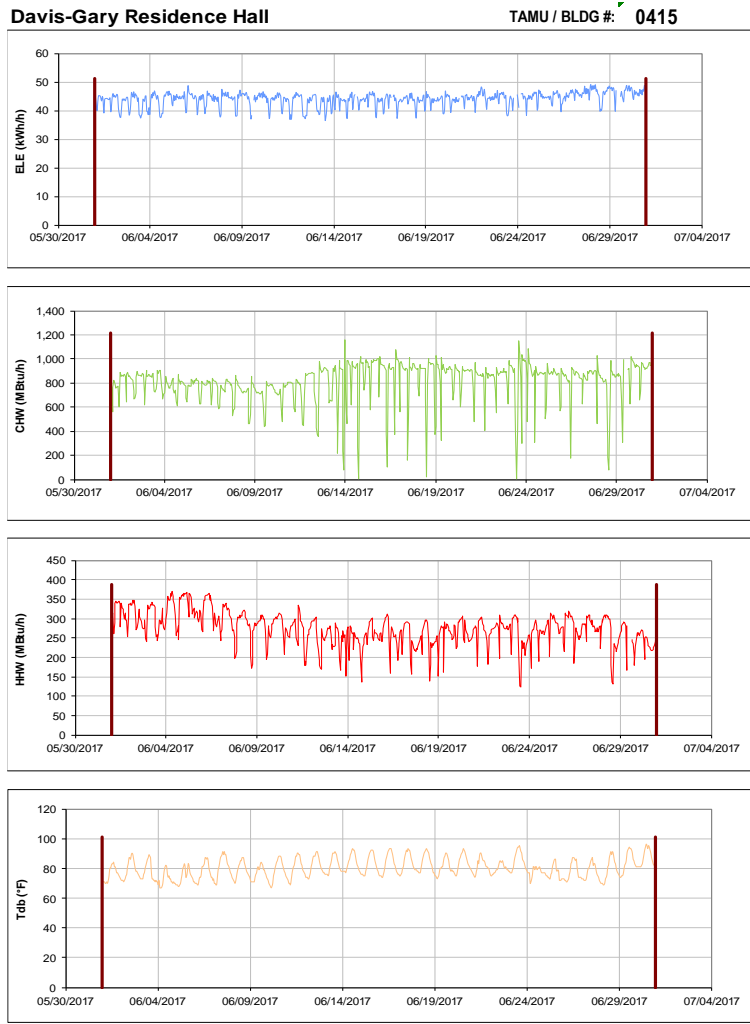


Figure III-45 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Davis-Gary Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

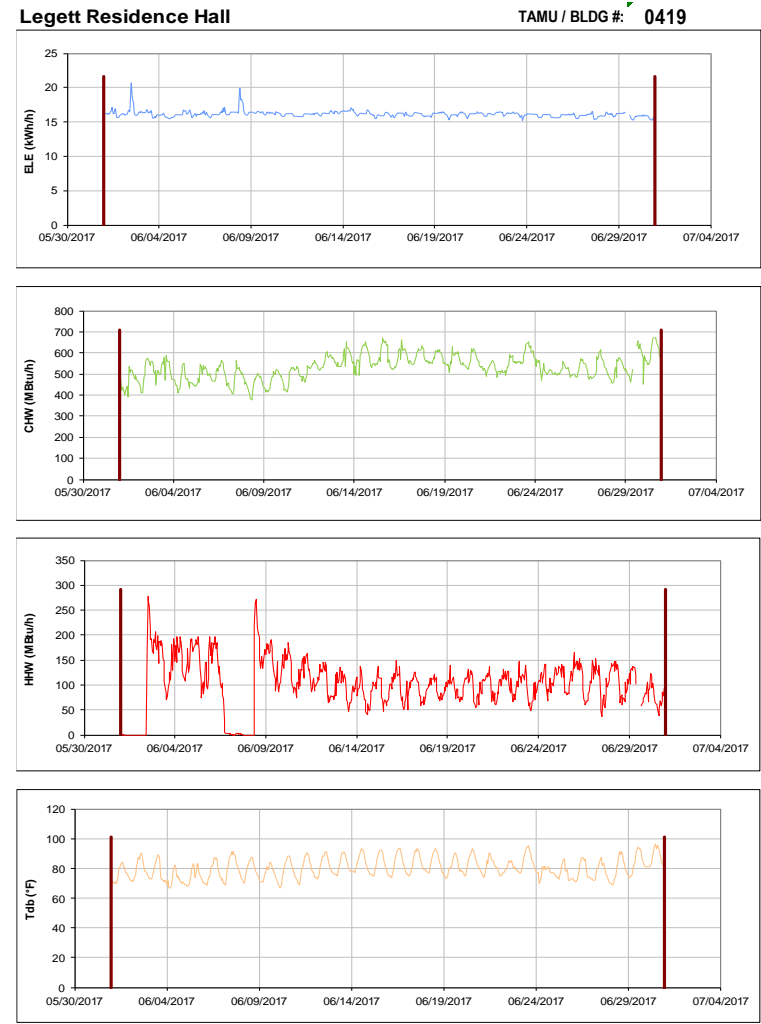


Figure III-46 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Legett Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

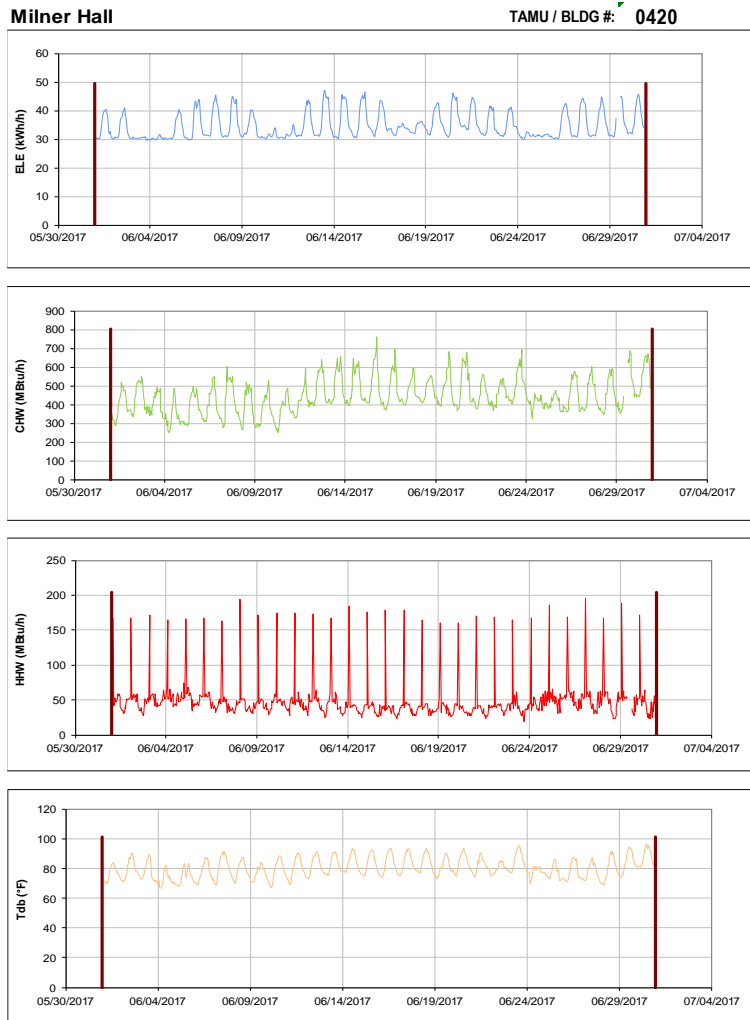


Figure III-47 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Milner Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

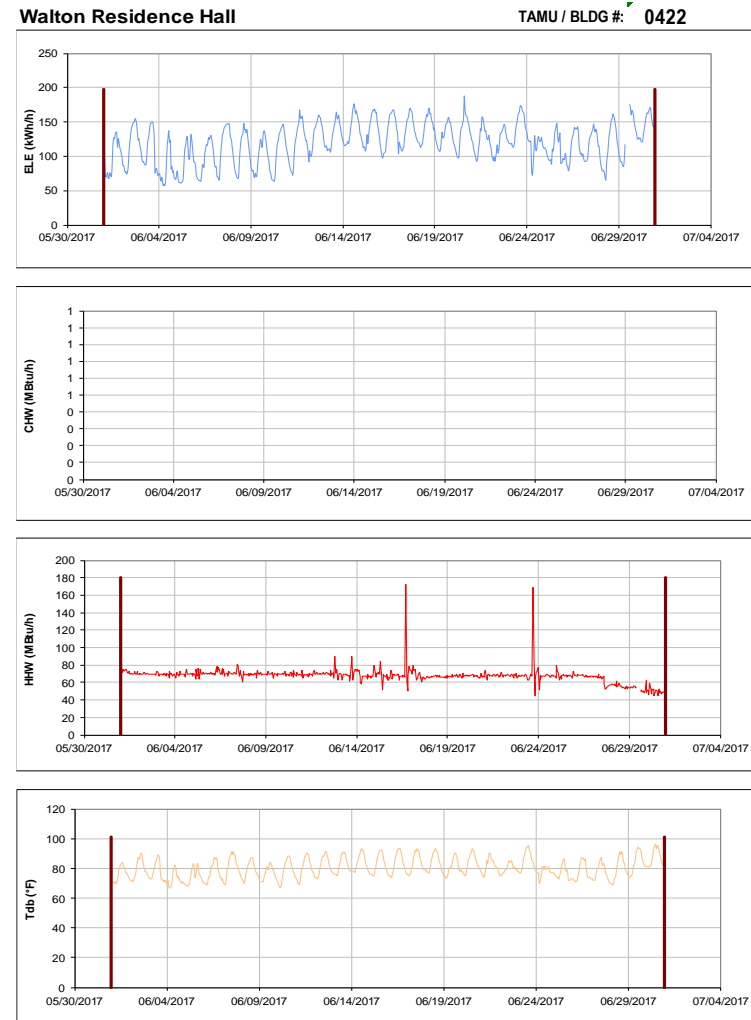


Figure III-48 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Walton Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Hotard Hall

TAMU / BLDG #: 0424

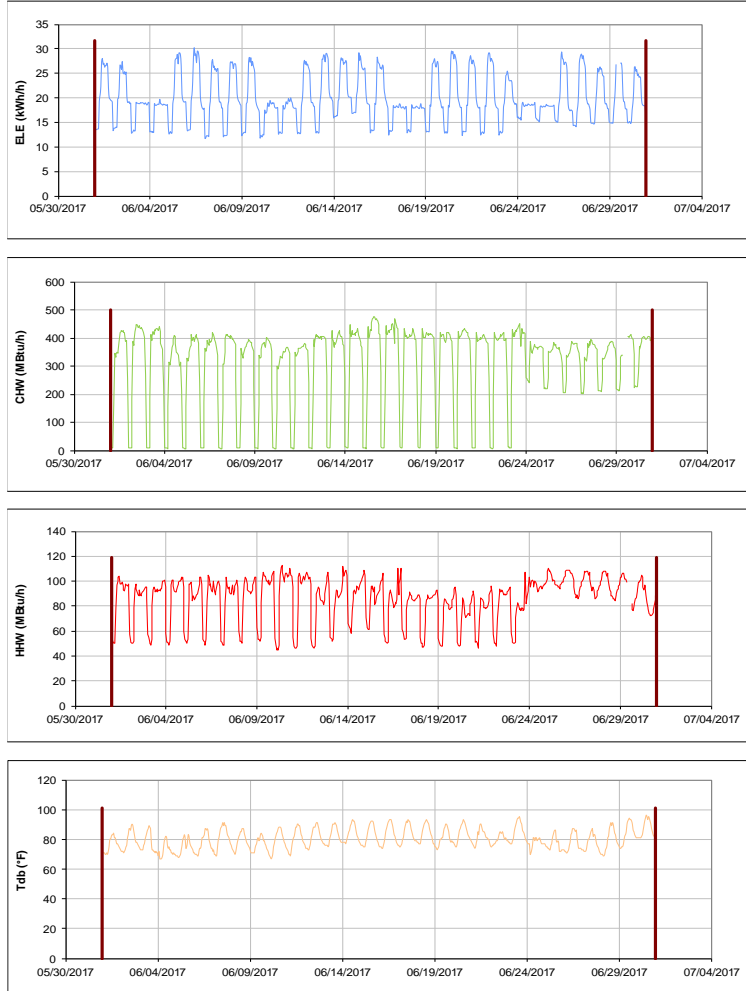


Figure III-49 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hotard Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Henderson Hall

TAMU / BLDG #: 0425

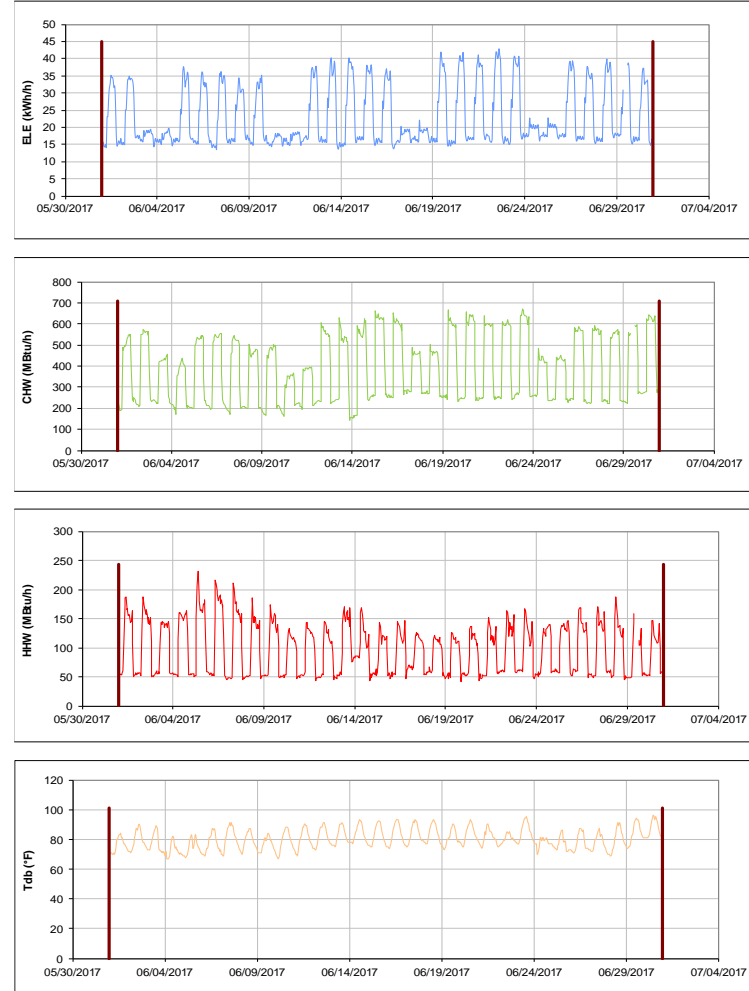


Figure III-50 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Henderson Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

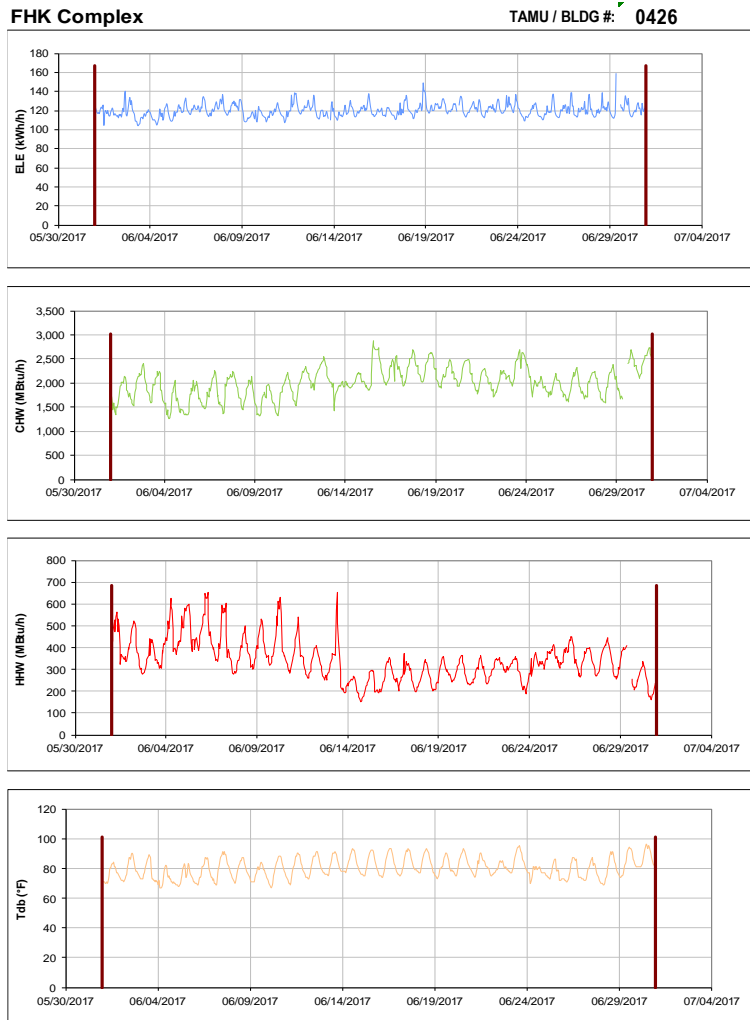


Figure III-51 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for FKH Complex during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

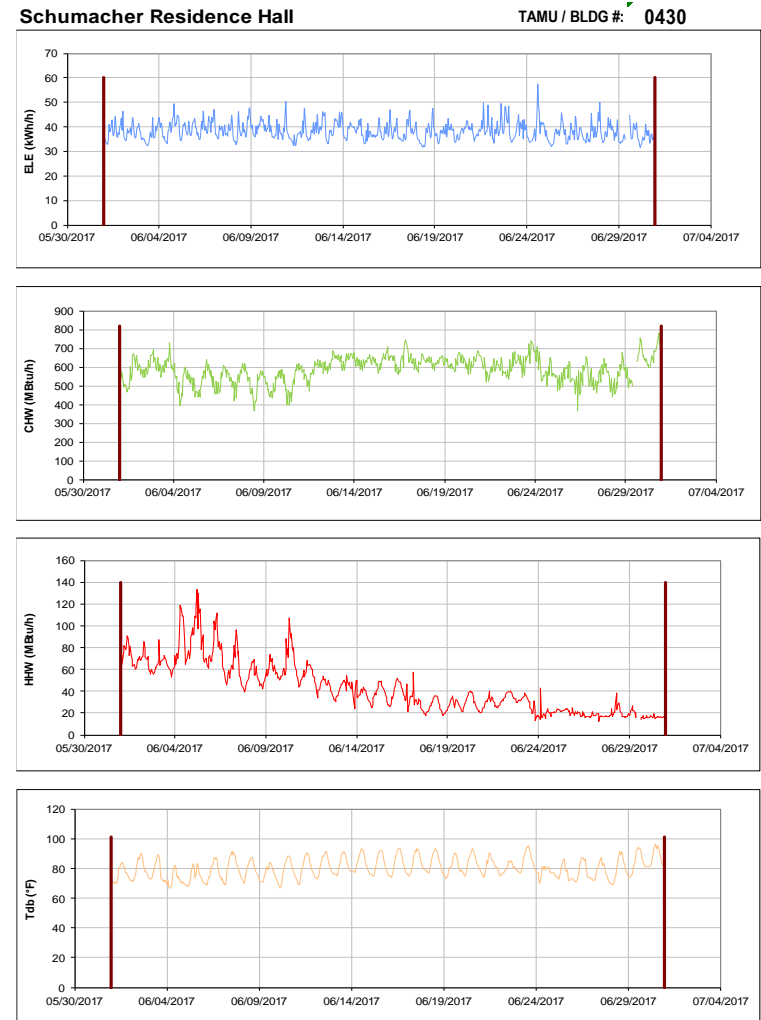


Figure III-52 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Schumacher Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Mosher Commons Krueger Dunn Aston TAMU / BLDG #: 0-0441-0442-0447

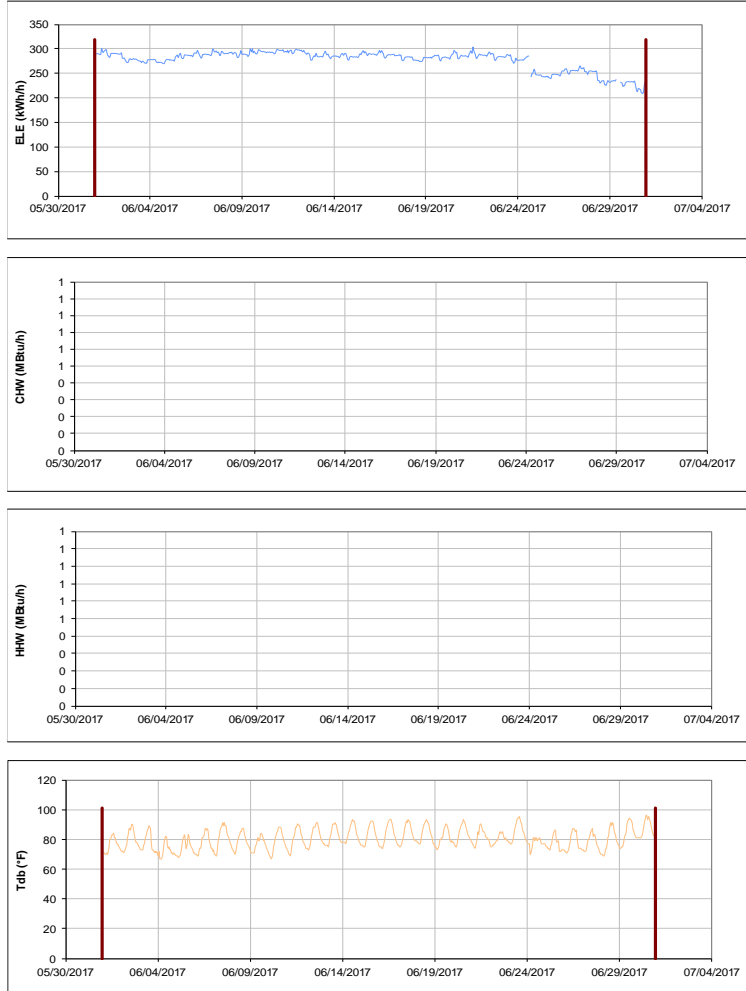


Figure III-53 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mosher Commons Krueger Dunn Aston during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Mosher Residence Hall TAMU / BLDG #: 0433

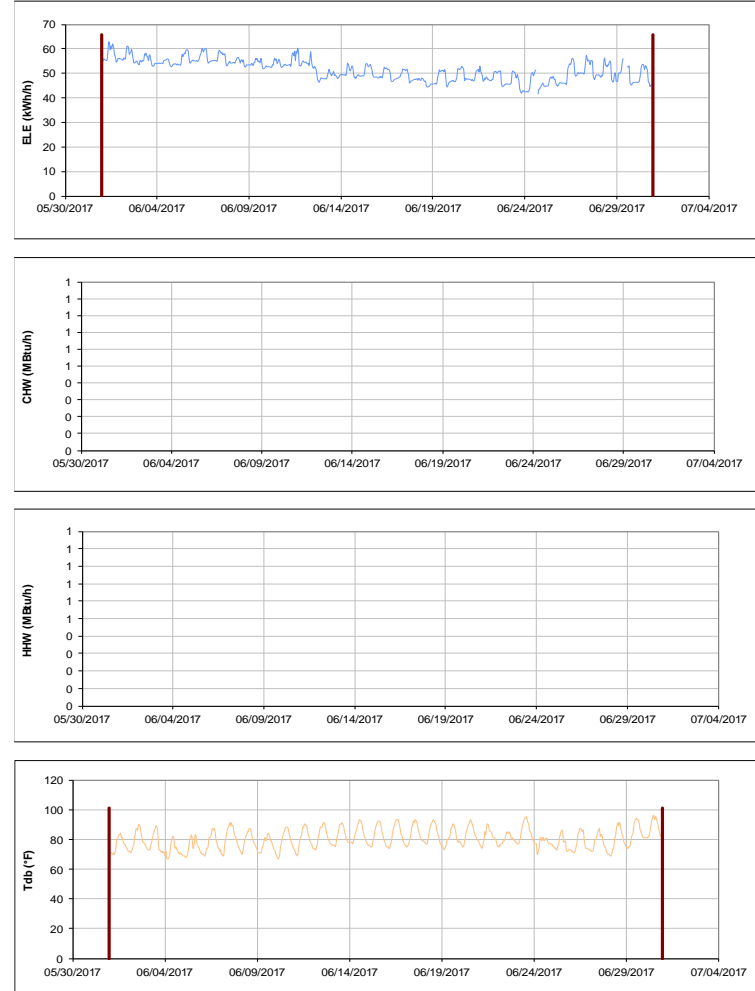


Figure III-54 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Mosher Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

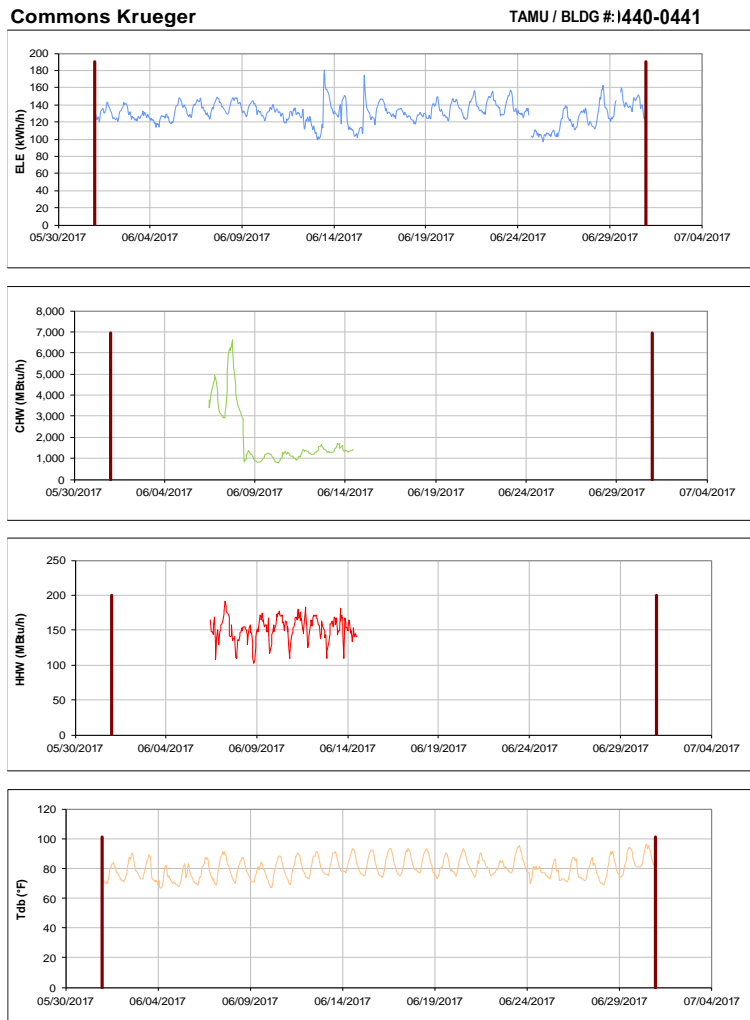


Figure III-55 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Commons Krueger during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

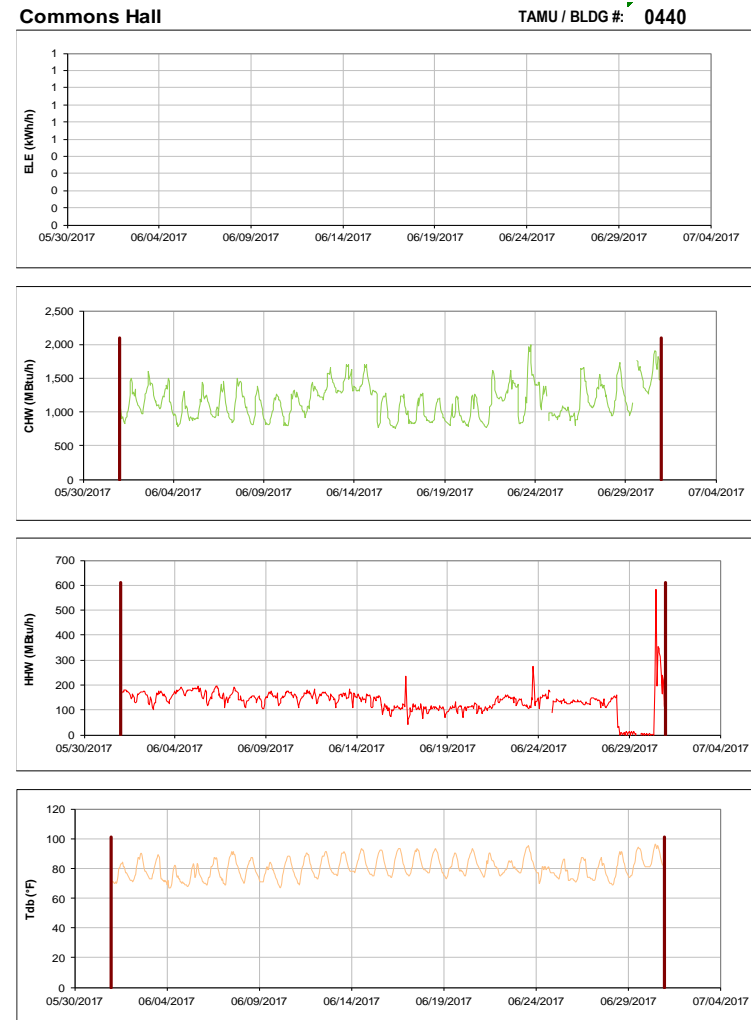


Figure III-56 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Commons Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

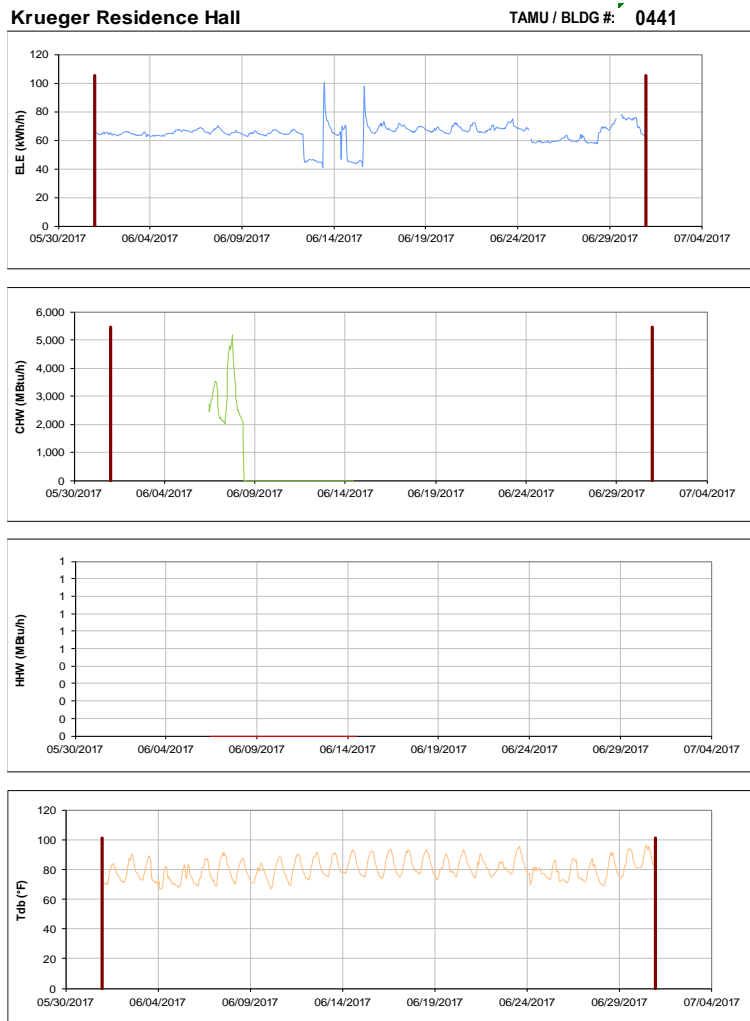


Figure III-57 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Krueger Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

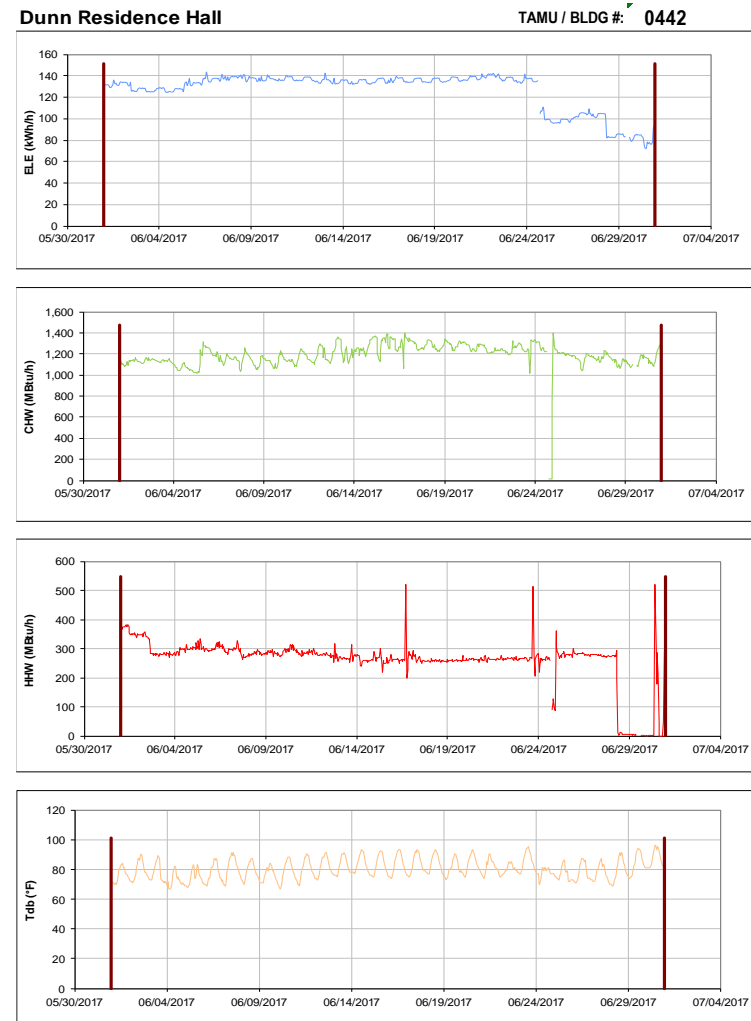


Figure III-58 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Dunn Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

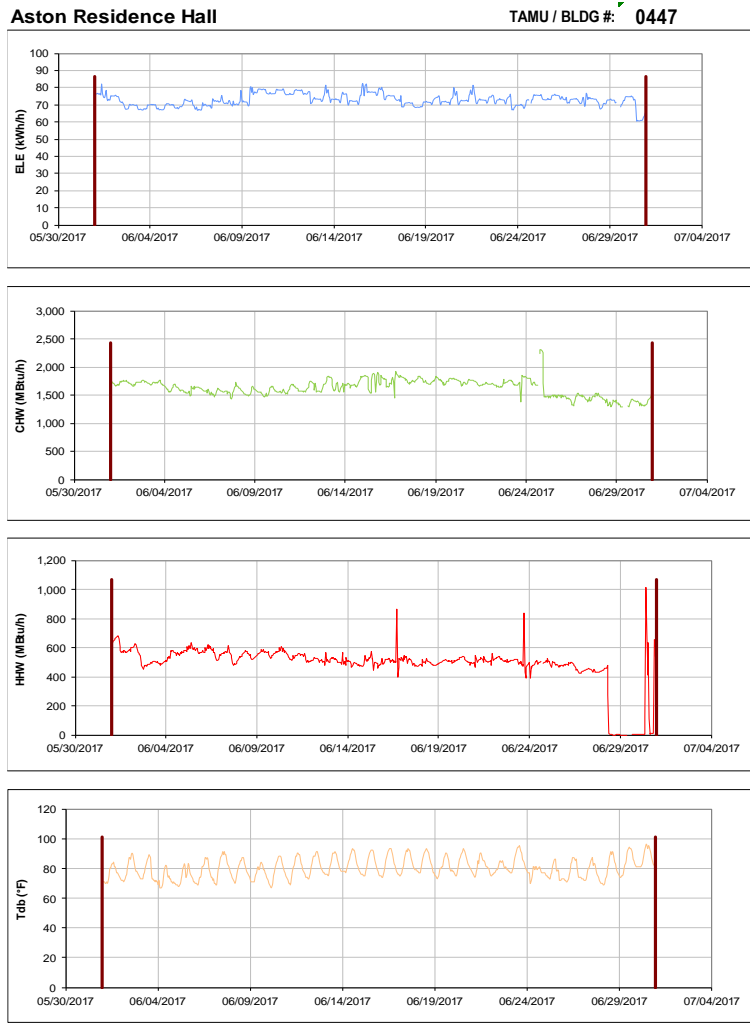


Figure III-59 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Aston Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

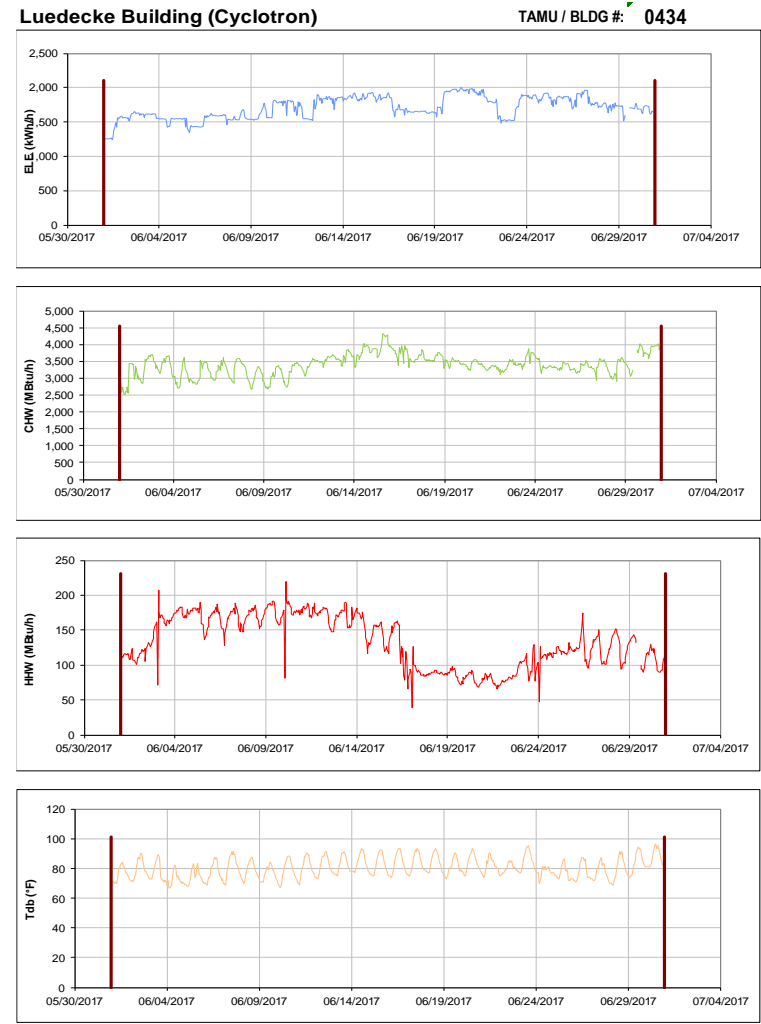


Figure III-60 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Luedecke Building (Cyclotron) during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Harrington Education Center Office Tower TAMU / BLDG #: 0435

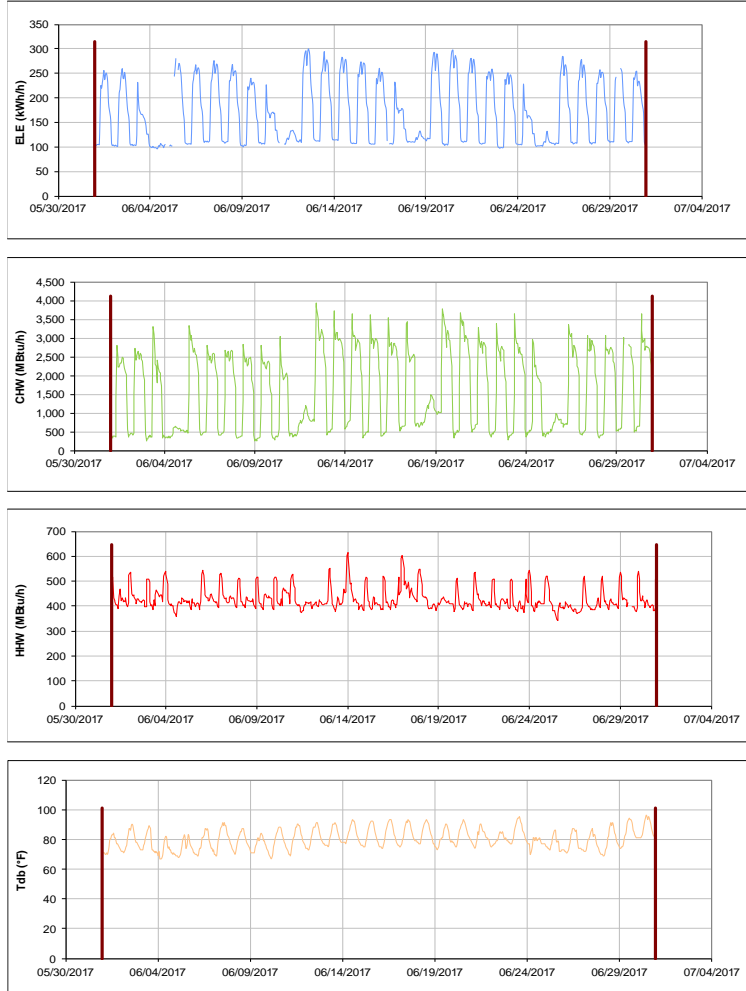


Figure III-61 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Education Center Office Tower during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

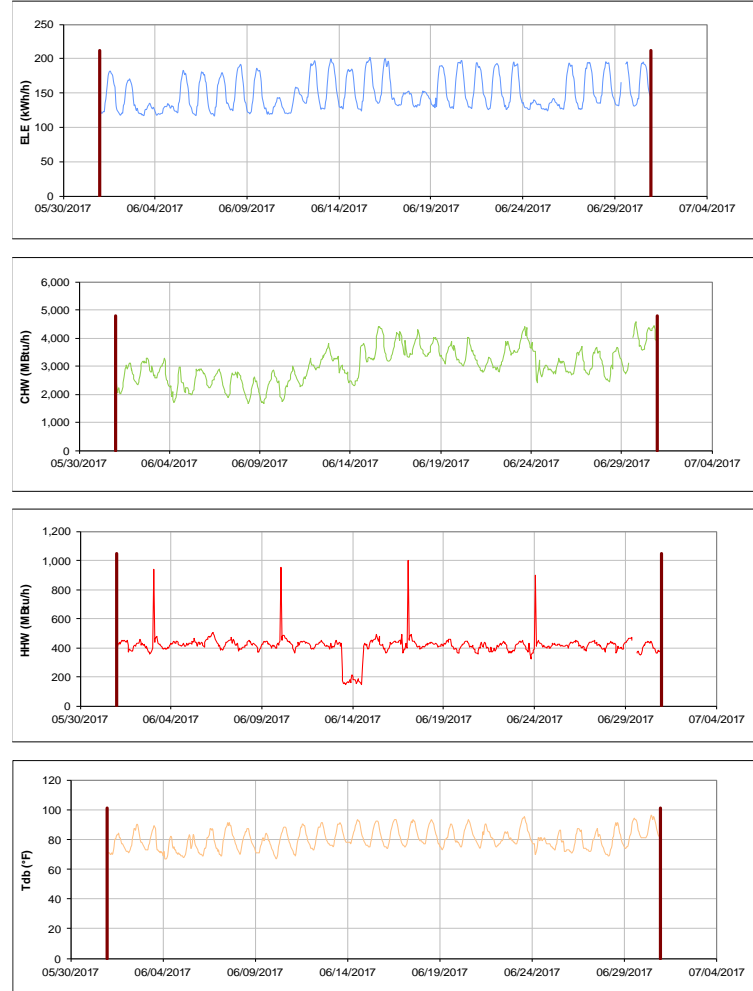


Figure III-62 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed-McDonald and Engineering Innovation Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Reed-McDonald Building

TAMU / BLDG #: 0436

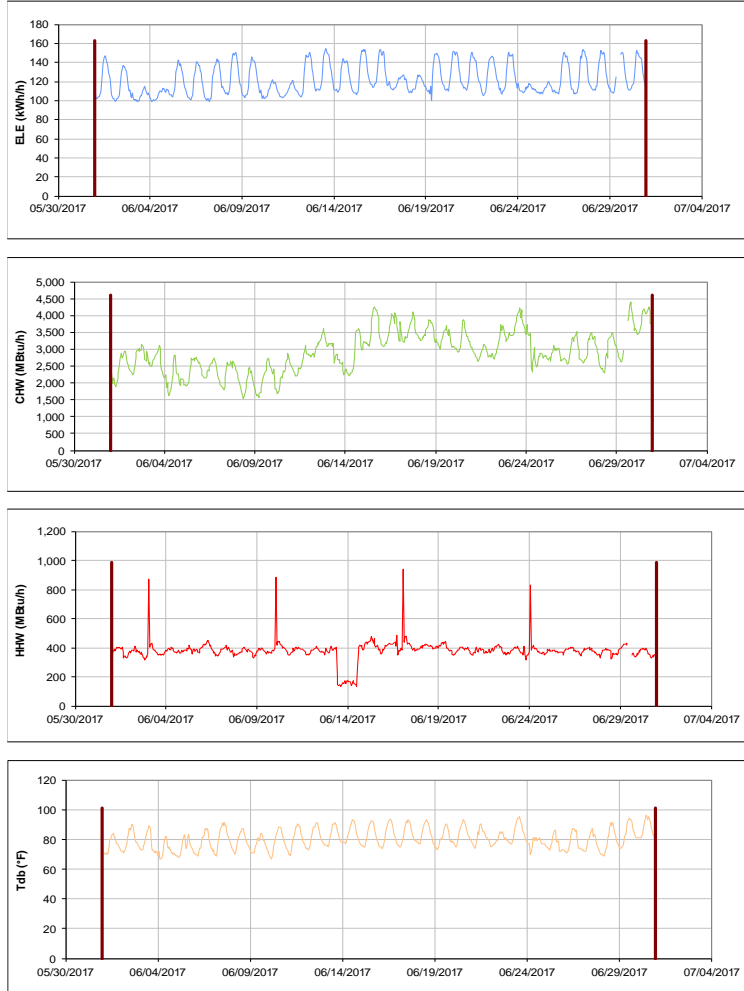


Figure III-63 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed-McDonald Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Engineering Innovation Center

TAMU / BLDG #: 0499

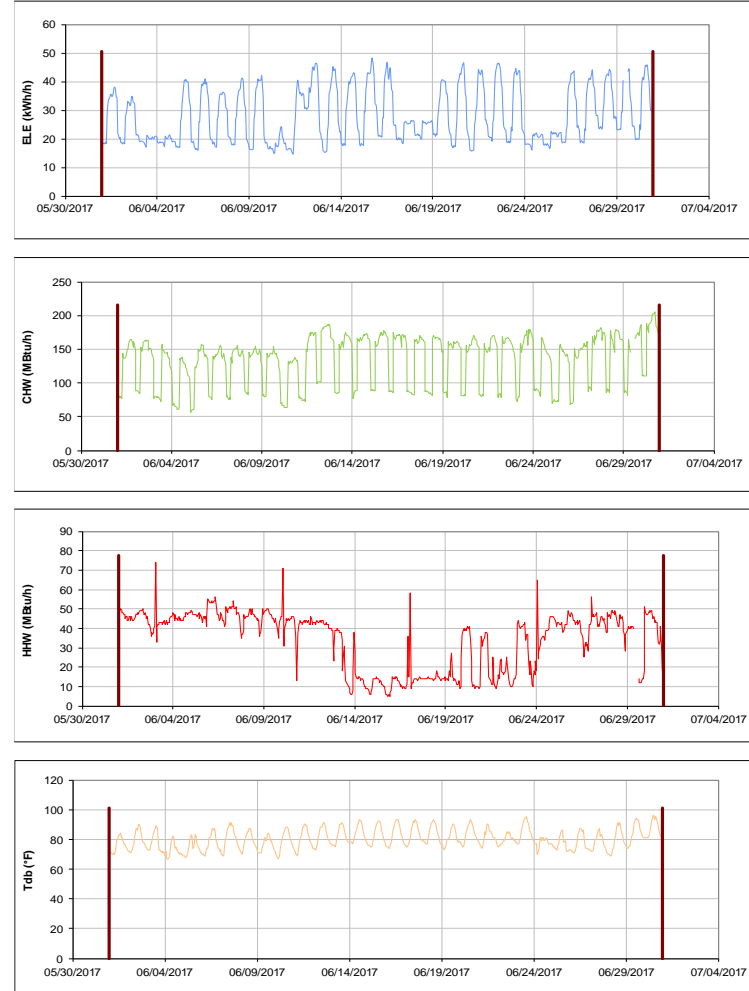


Figure III-64 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Engineering Innovation Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Harrington Education Center Classroom Building TAMU / BLDG #: 0438

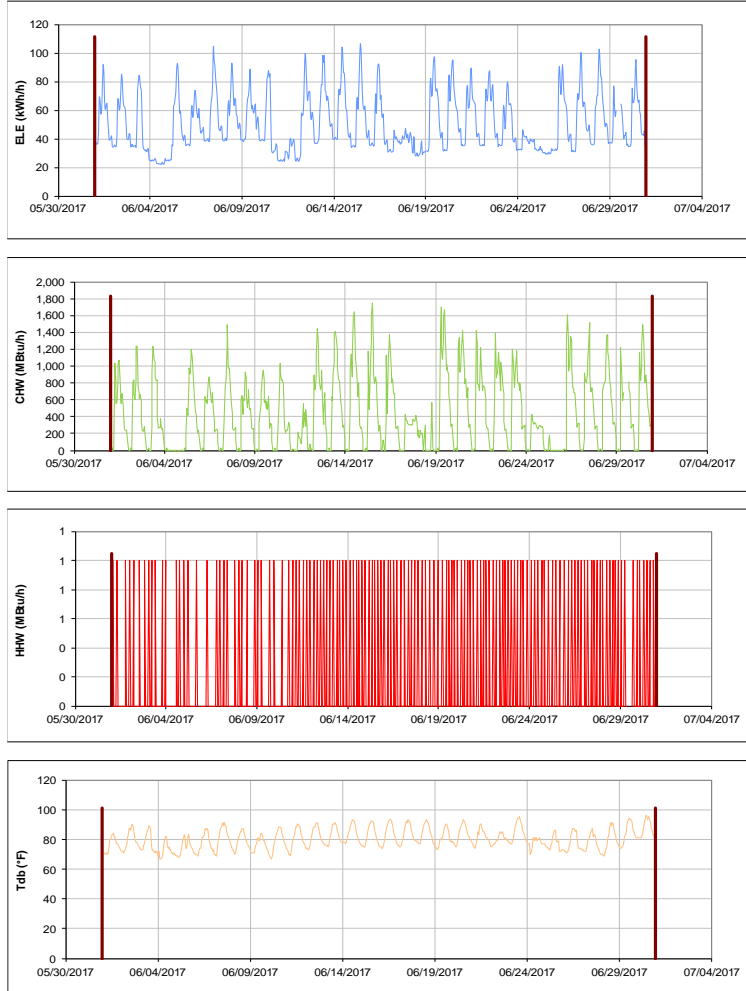


Figure III-65 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Harrington Education Center Classroom Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Oceanography & Meteorology Building TAMU / BLDG #: 0443

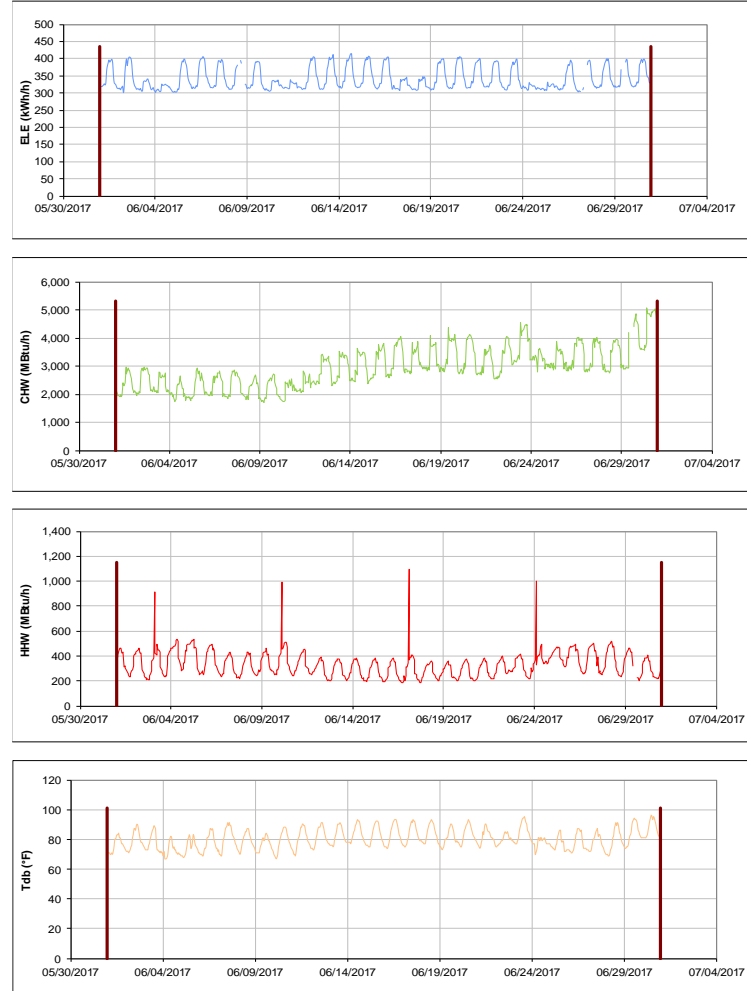


Figure III-66 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Oceanography & Meteorology Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

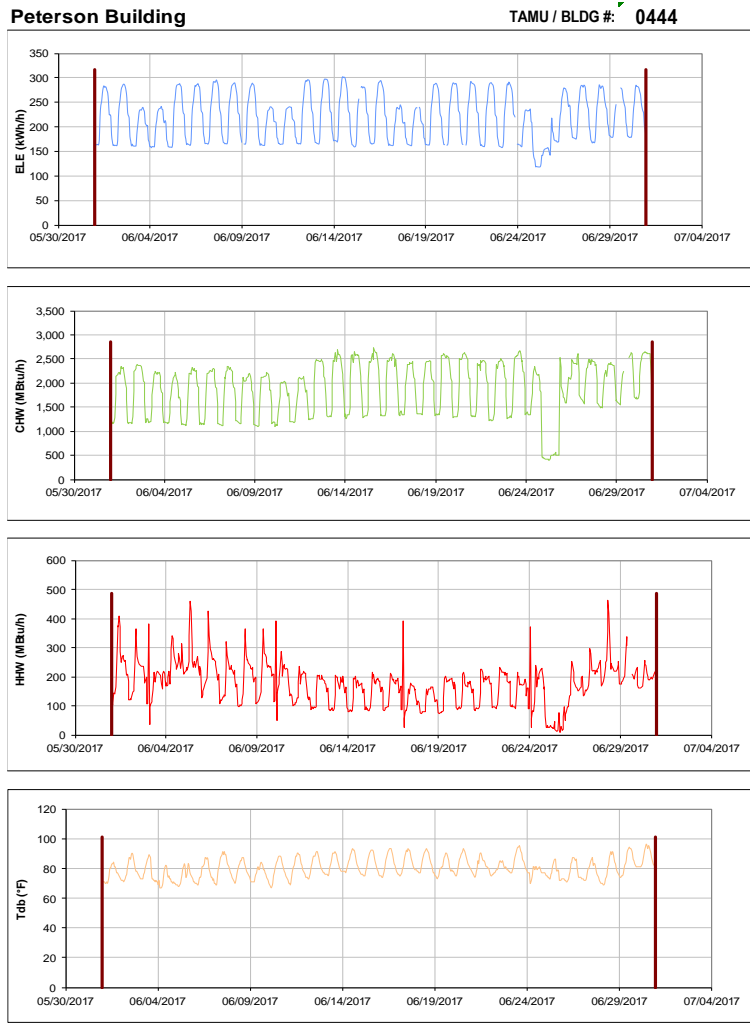


Figure III-67 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Peterson Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

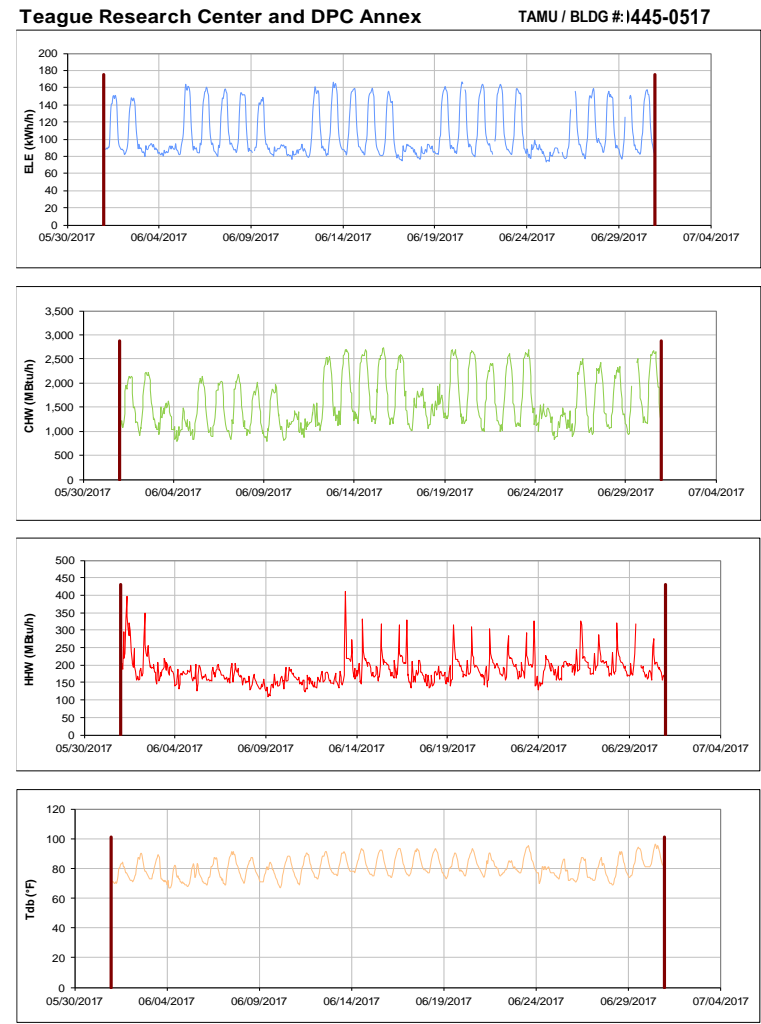


Figure III-68 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Teague Research Center and DPC Annex during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Teague Research Center

TAMU / BLDG #: 0445

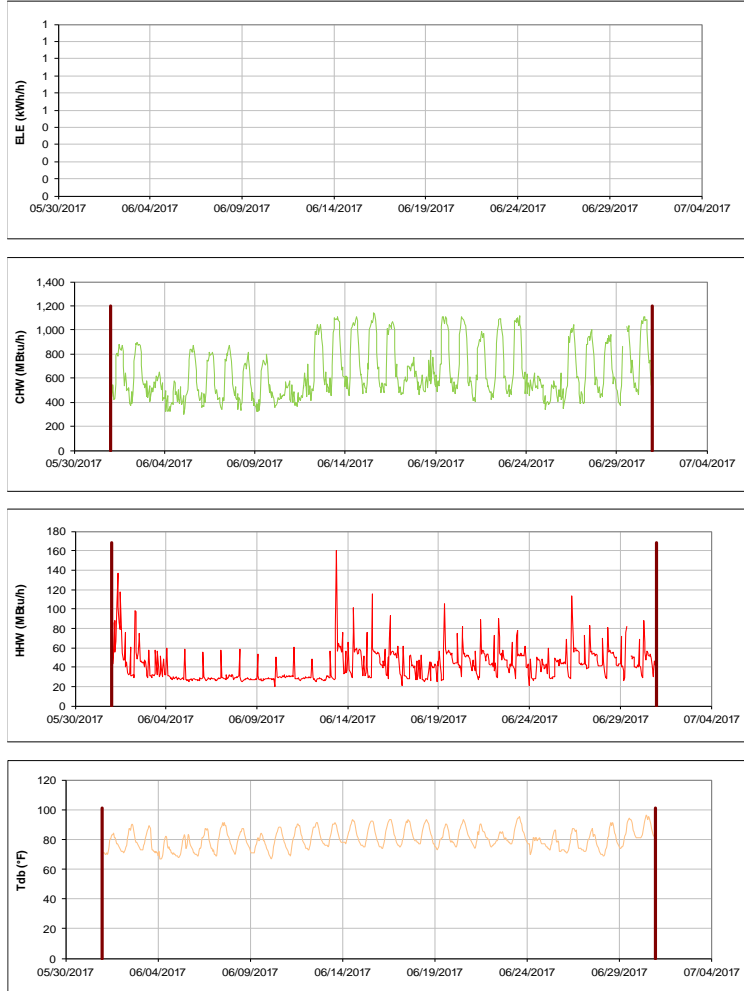


Figure III-69 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Teague Research Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

DPC Annex

TAMU / BLDG #: 0517

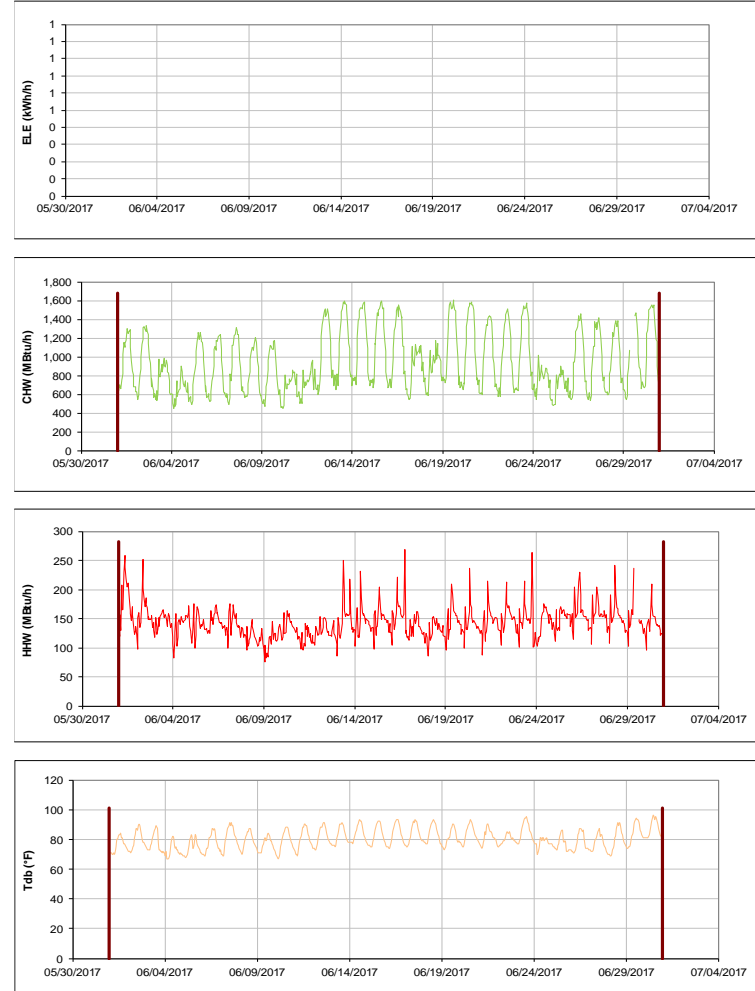


Figure III-70 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for DPC Annex during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Rudder Tower and Theatre Complex

TAMU / BLDG #: 0446

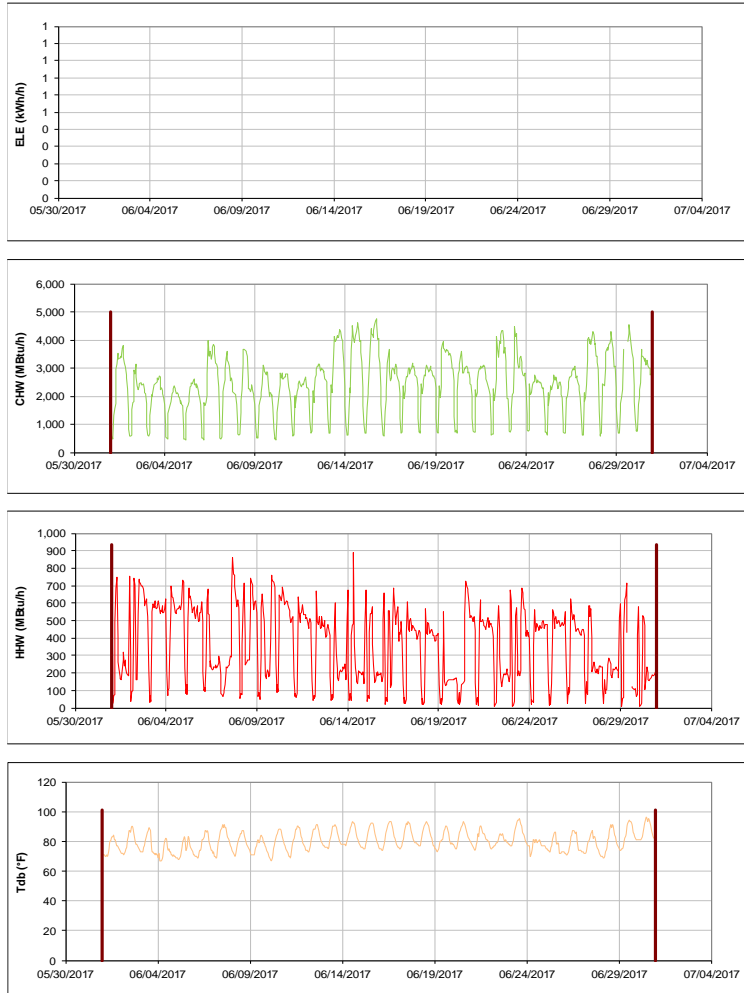


Figure III-71 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Tower and Theatre Complex during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Rudder Theatre Complex

TAMU / BLDG #: 0446-A



Figure III-72 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Theatre Complex during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Rudder Tower

TAMU / BLDG #: 0446-B

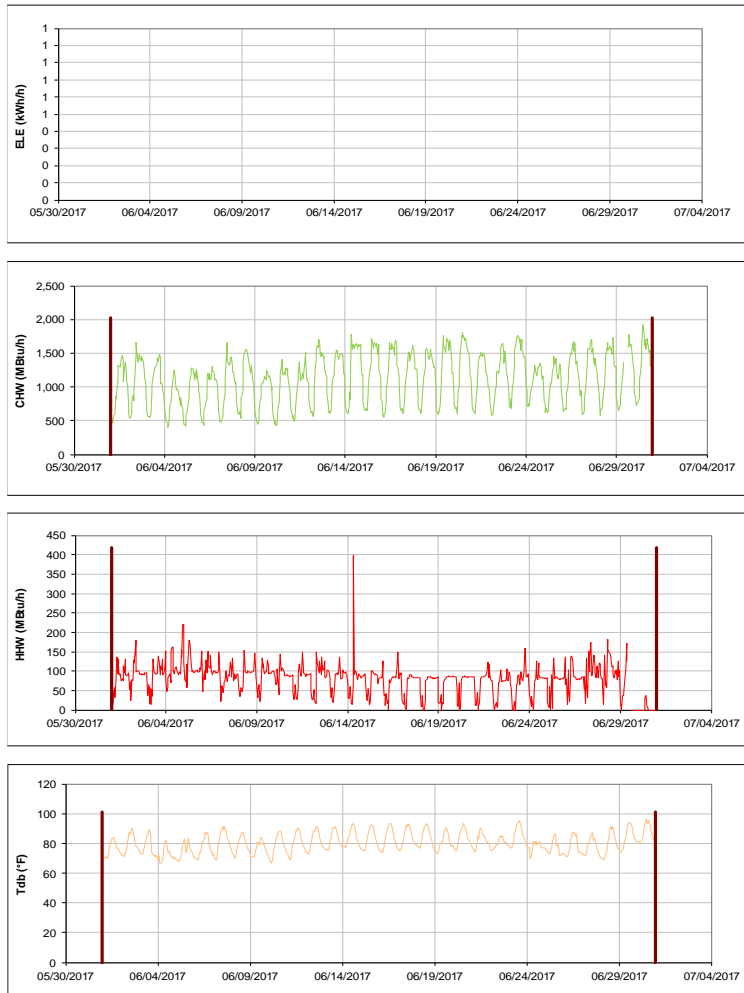


Figure III-73 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rudder Tower during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Adams Band Hall

TAMU / BLDG #: 0448

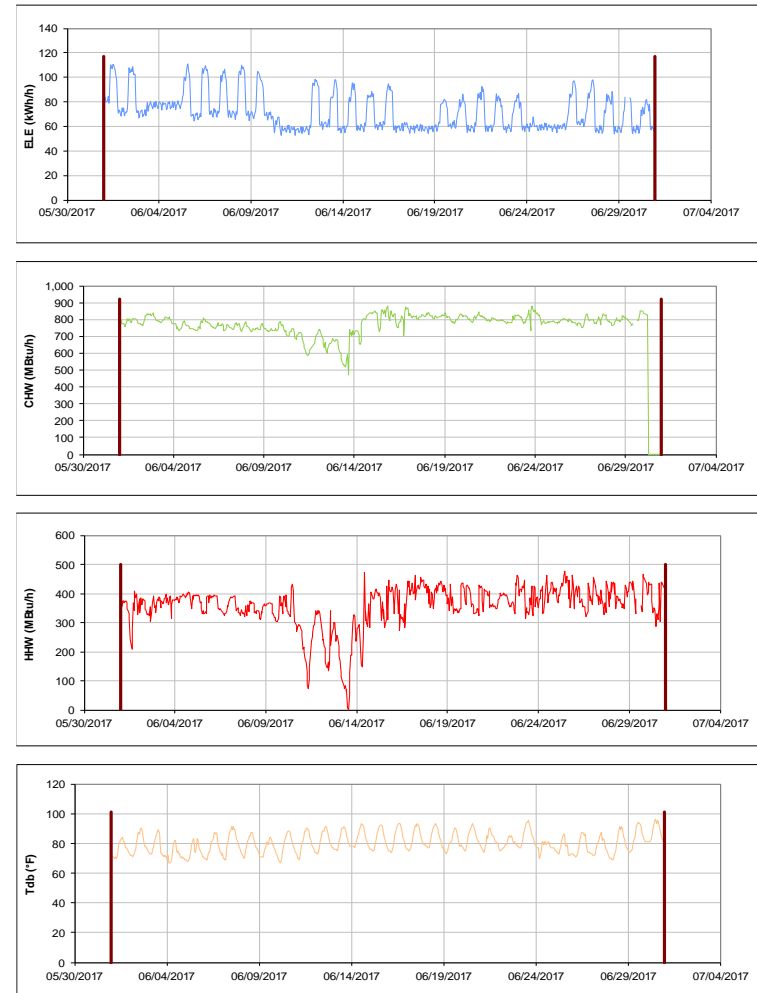


Figure III-74 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Adams Band Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

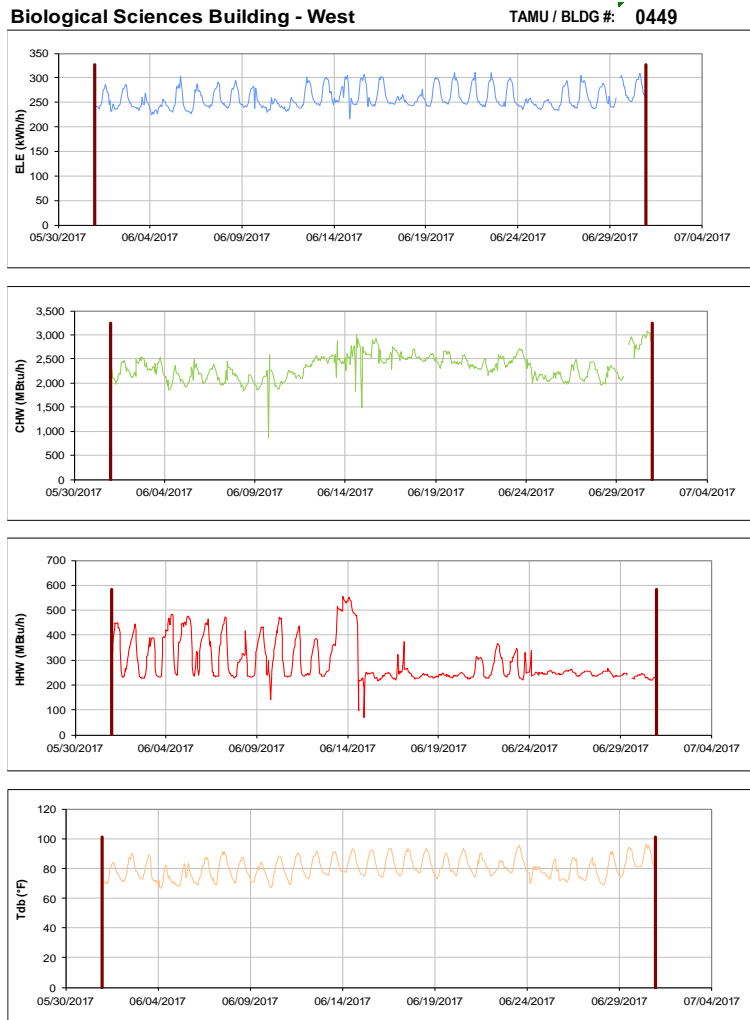


Figure III-75 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Sciences Building - West during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

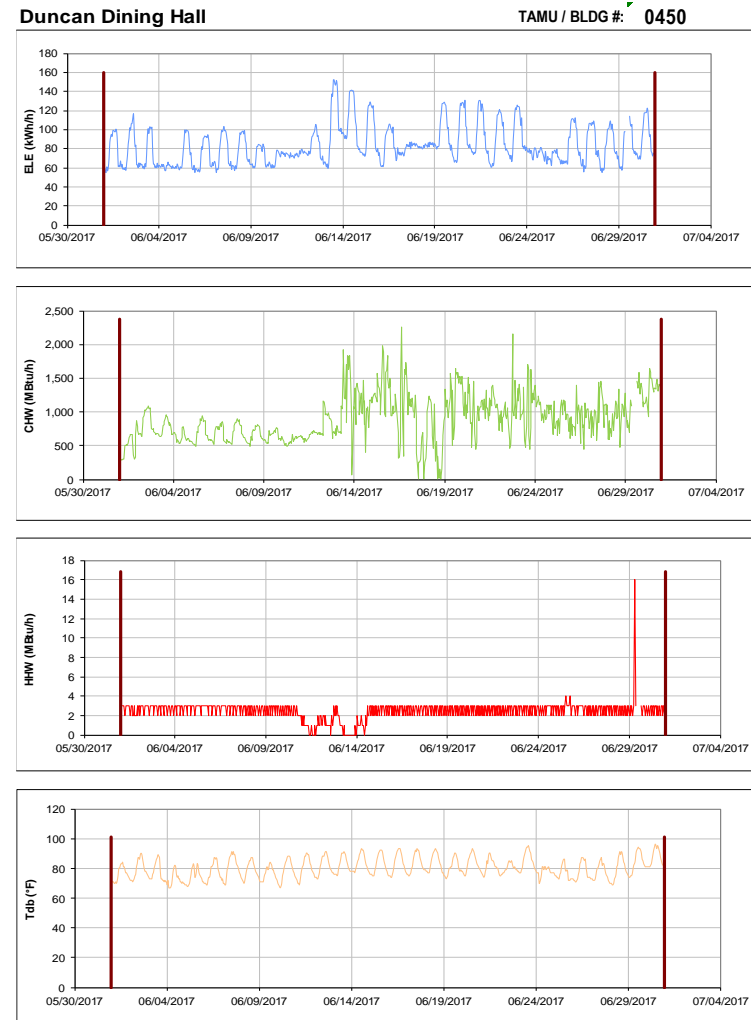


Figure III-76 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Duncan Dining Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

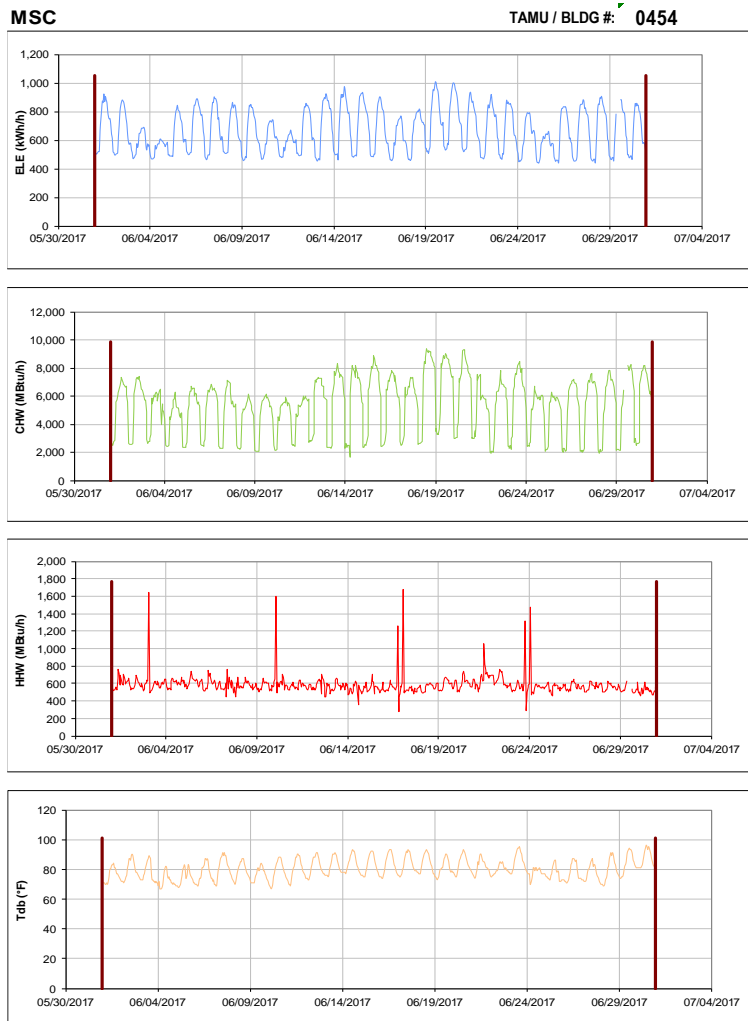


Figure III-77 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for MSC during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

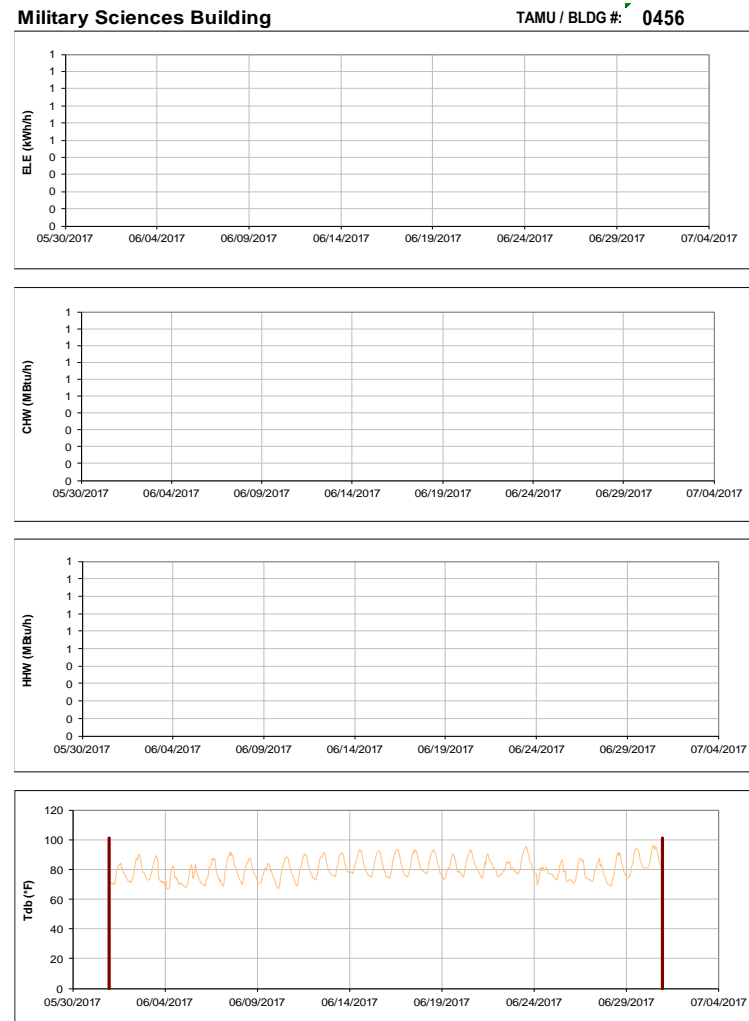


Figure III-78 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Military Sciences Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

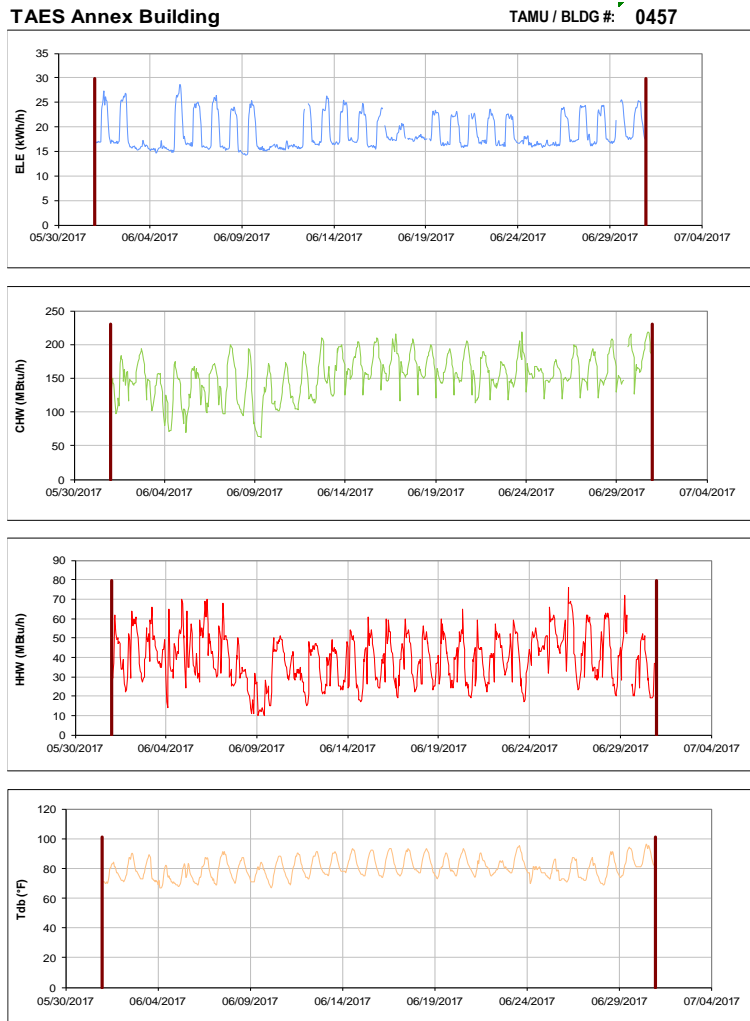


Figure III-79 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TAES Annex Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

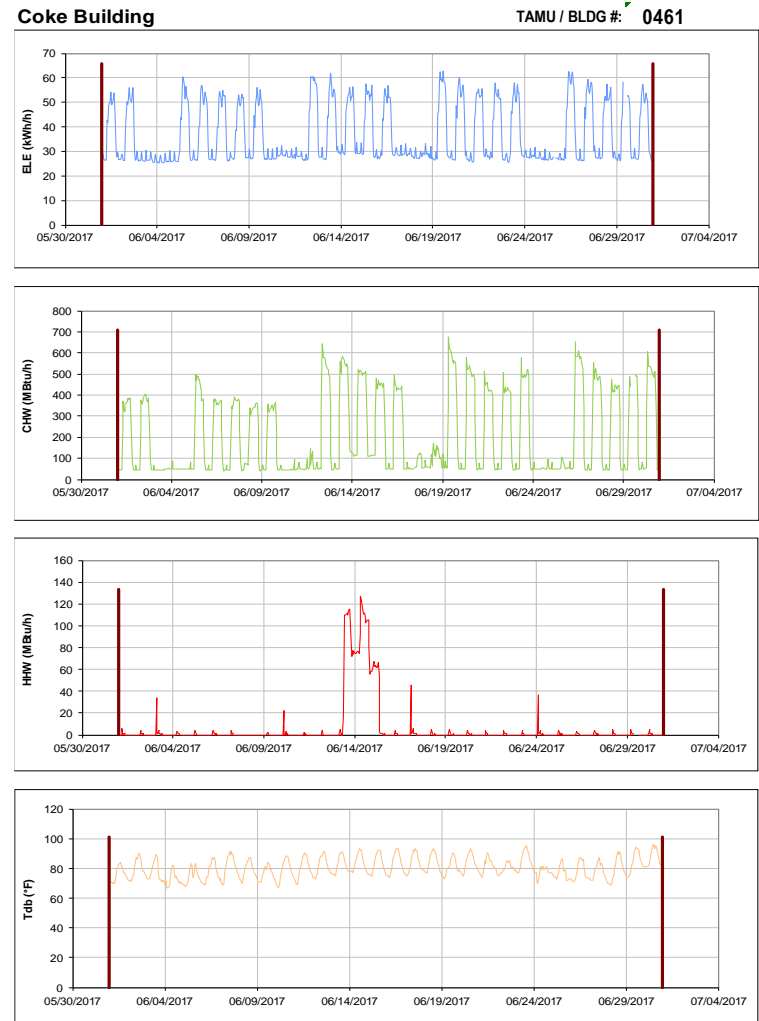


Figure III-80 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Coke Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

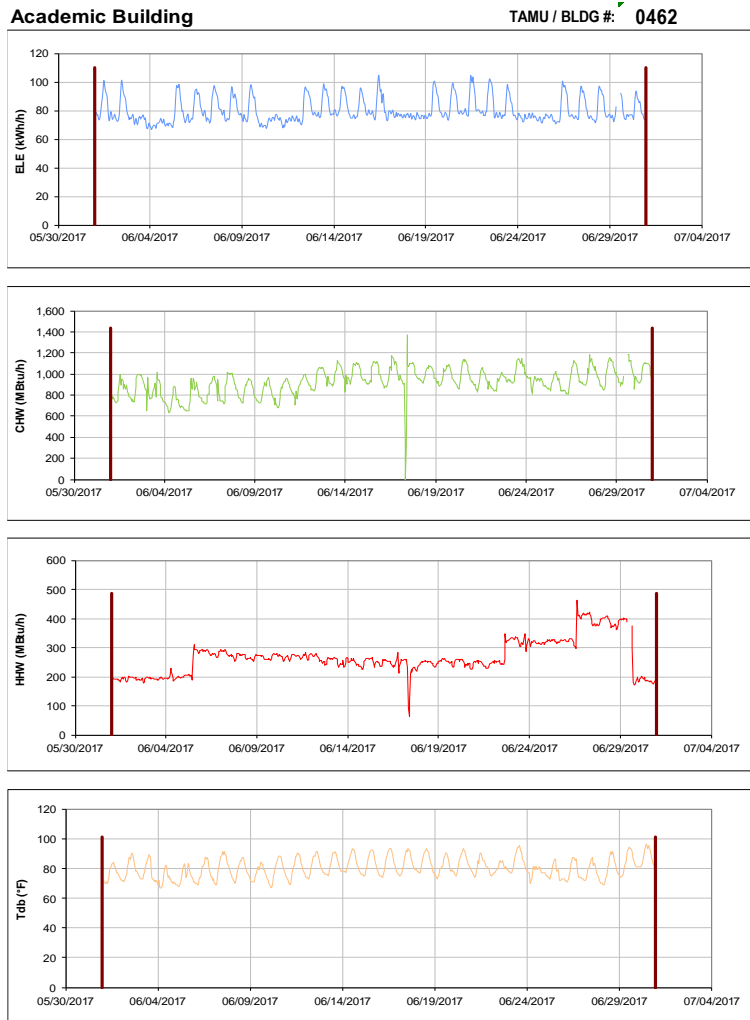


Figure III-81 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Academic Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



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

State Chemist Building

TAMU / BLDG #: 0464

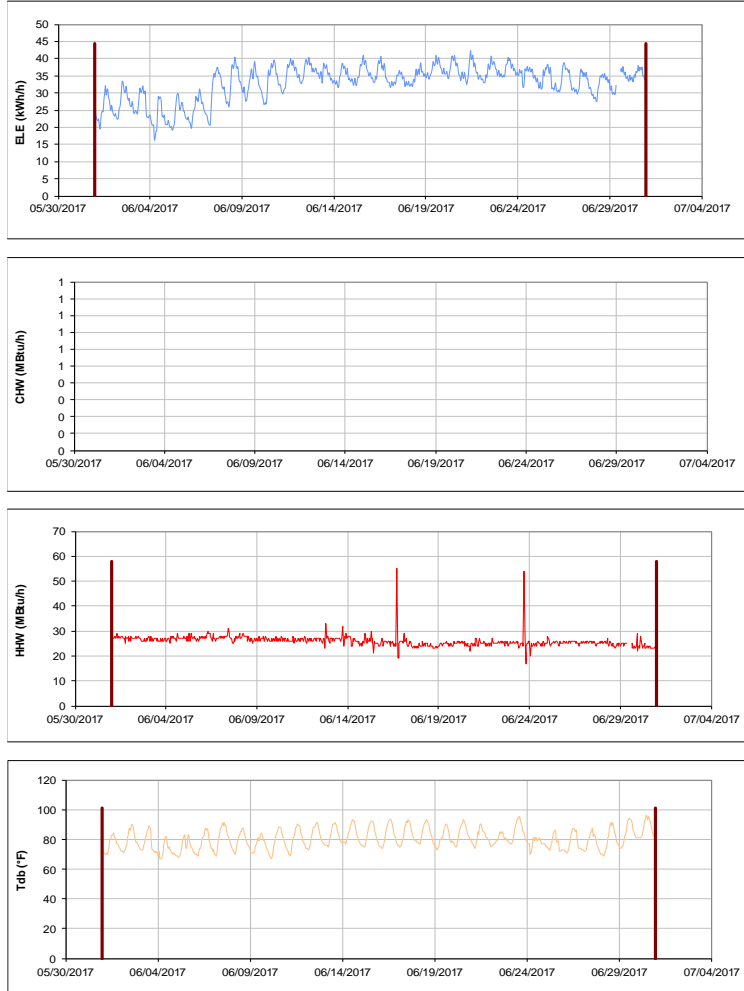


Figure III-83 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for State Chemist Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Butler Hall

TAMU / BLDG #: 0465

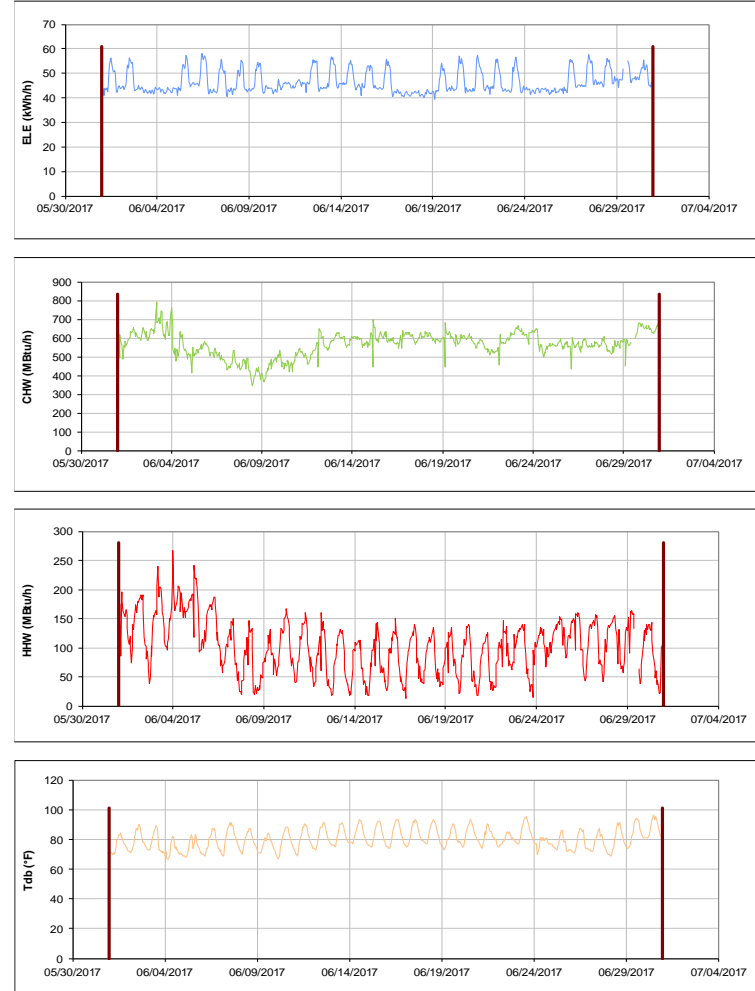


Figure III-84 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Butler Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

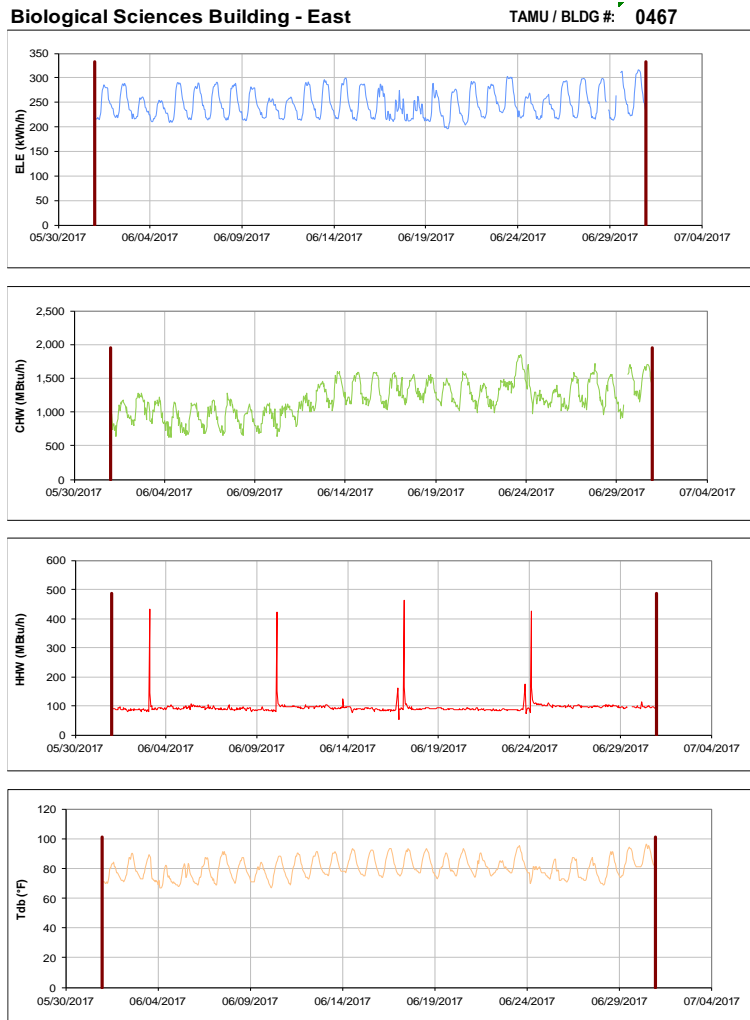


Figure III-85 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Sciences Building - East during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

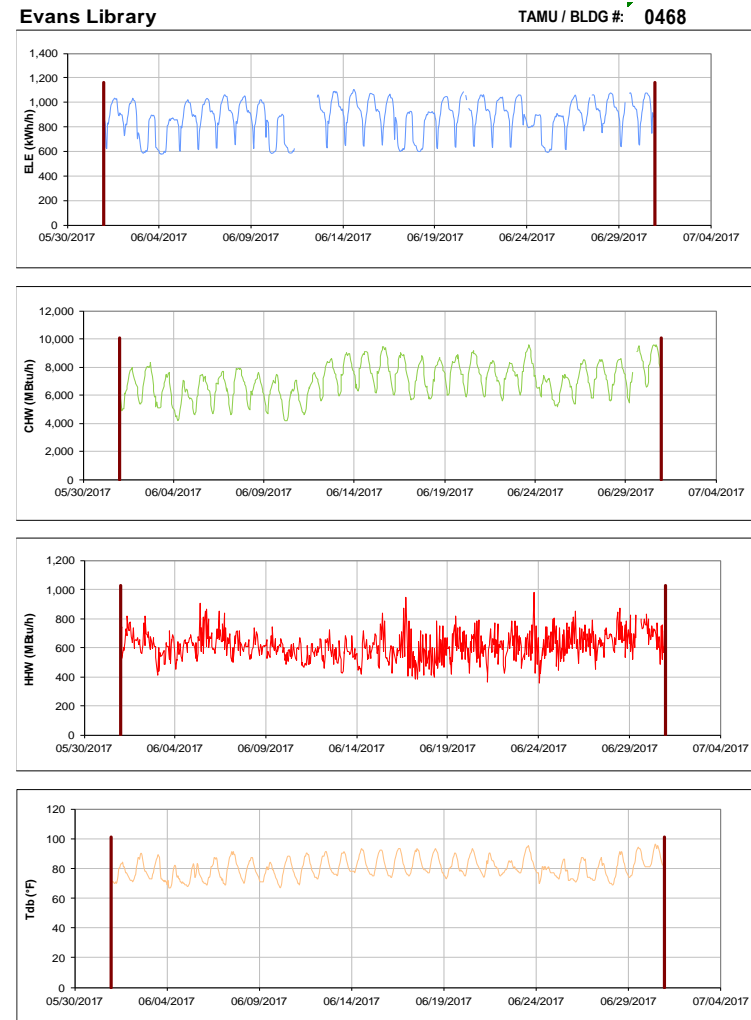


Figure III-86 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Evans Library during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

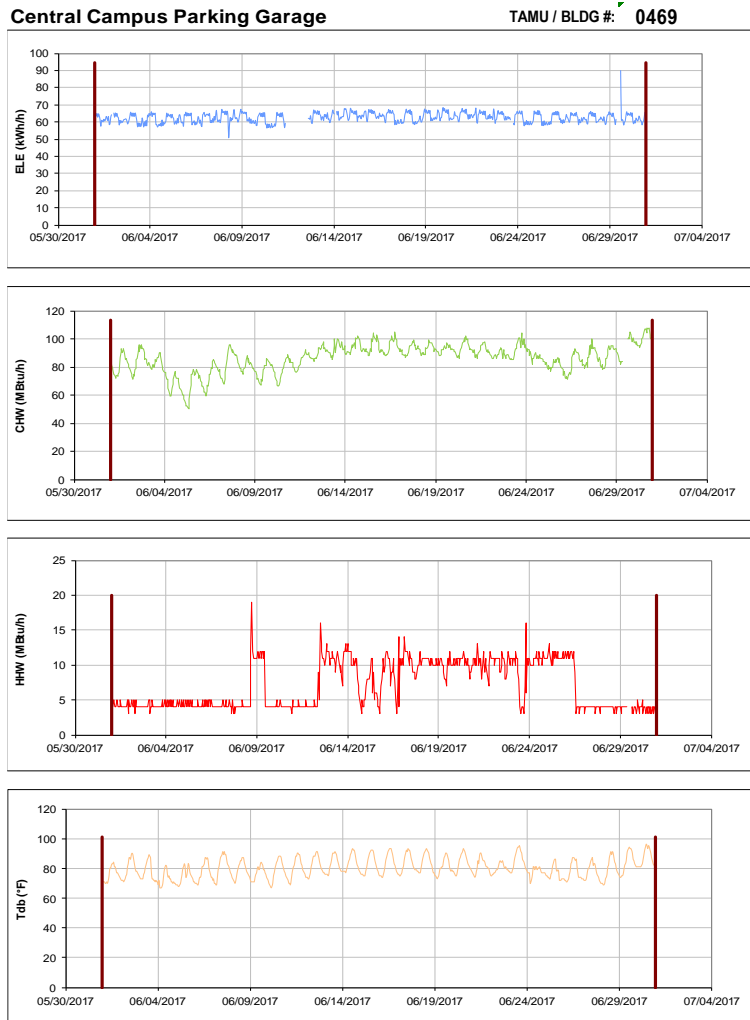


Figure III-87 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Central Campus Parking Garage during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-88 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Glasscock History Bldg during the Month of June 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 Pavilion during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

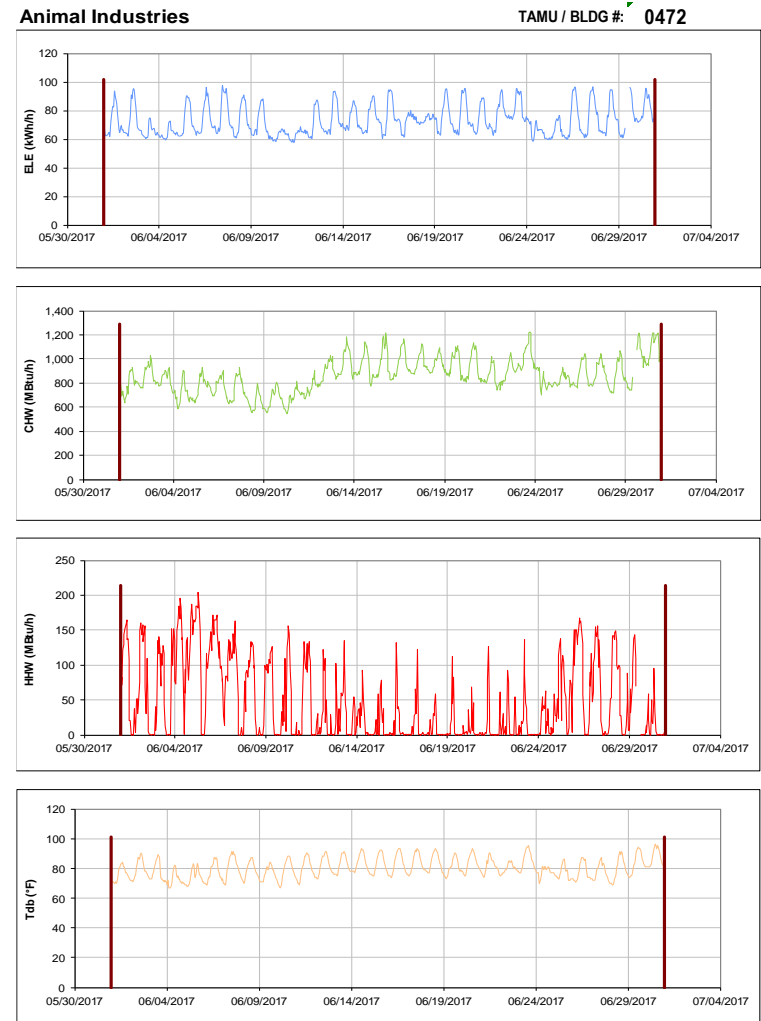


Figure III-90 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Animal Industries during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

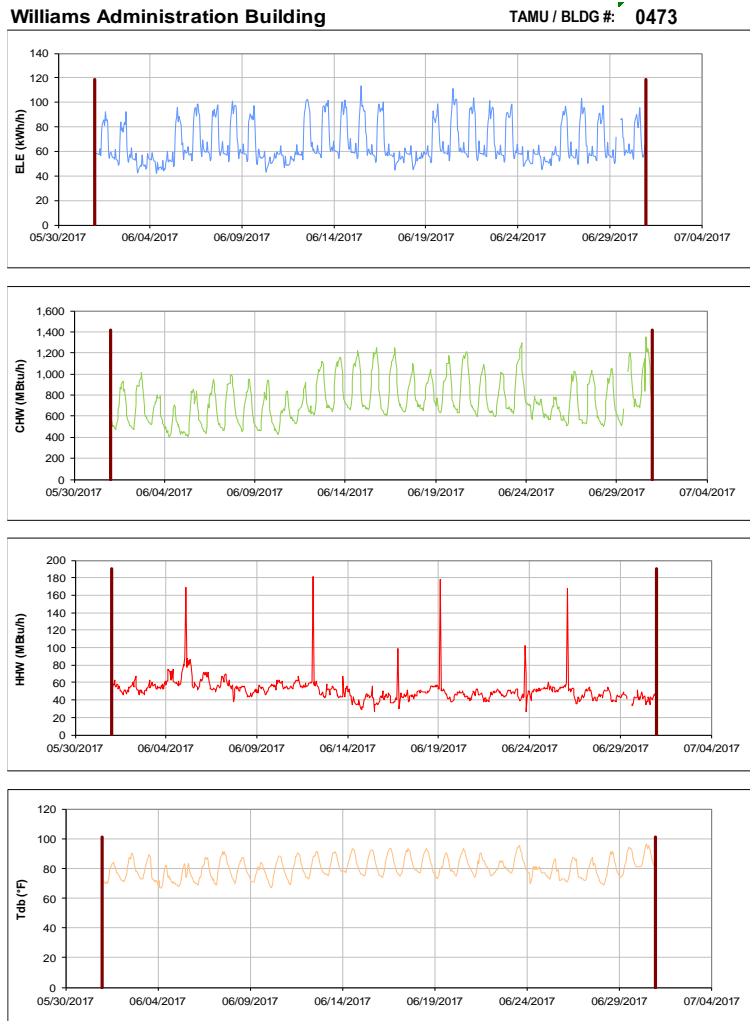


Figure III-91 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Williams Administration Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

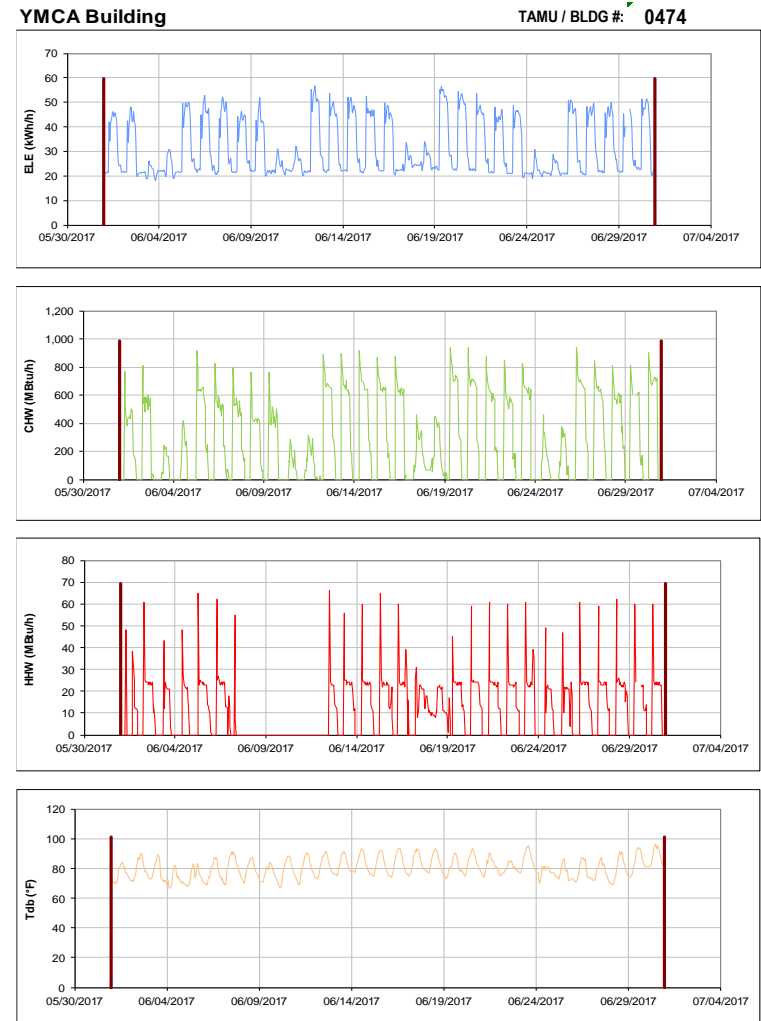


Figure III-92 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for YMCA Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

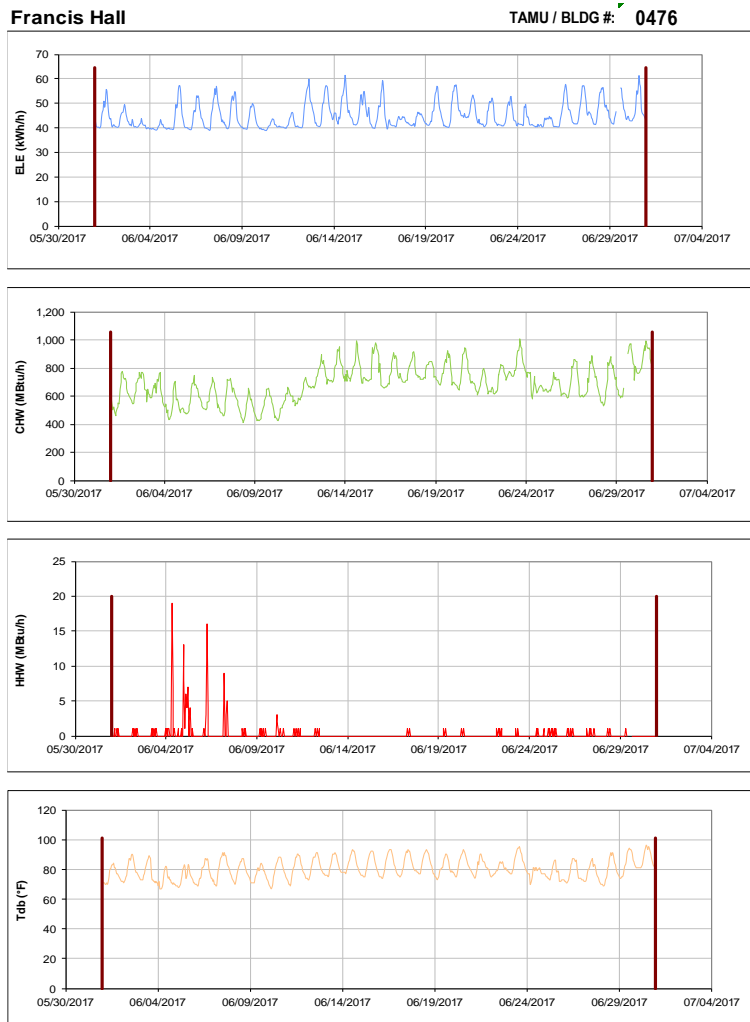


Figure III-93 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Francis Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



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

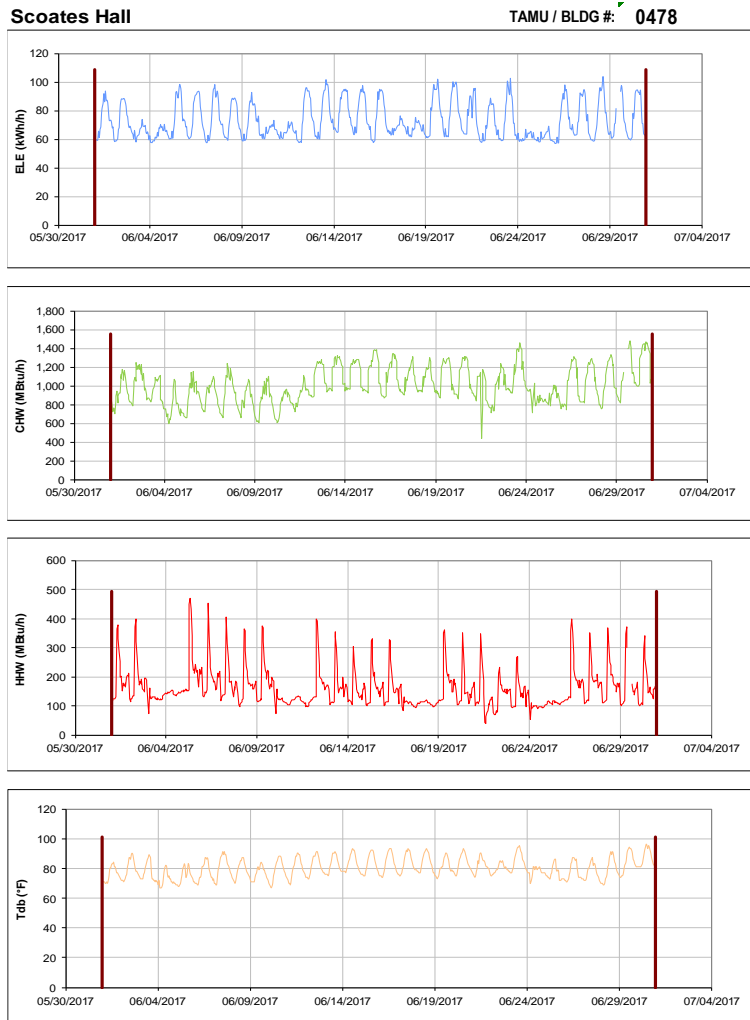


Figure III-95 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Scoates Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



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

Heaton Hall

TAMU / BLDG #: 0481

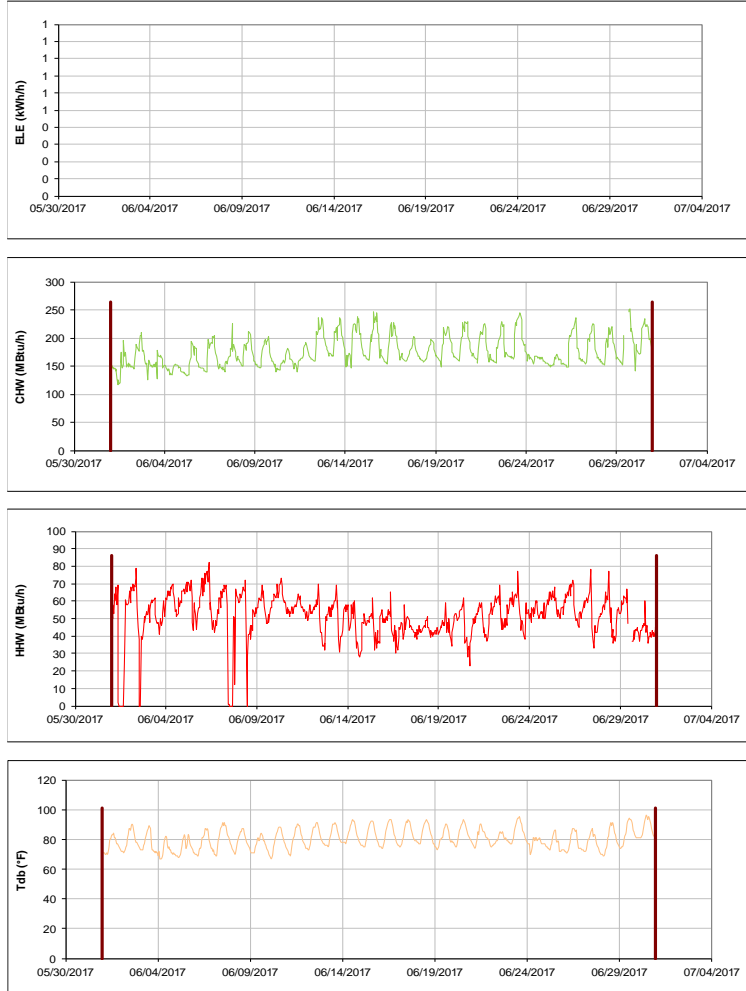


Figure III-97 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heaton Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Fermier Hall

TAMU / BLDG #: 0482

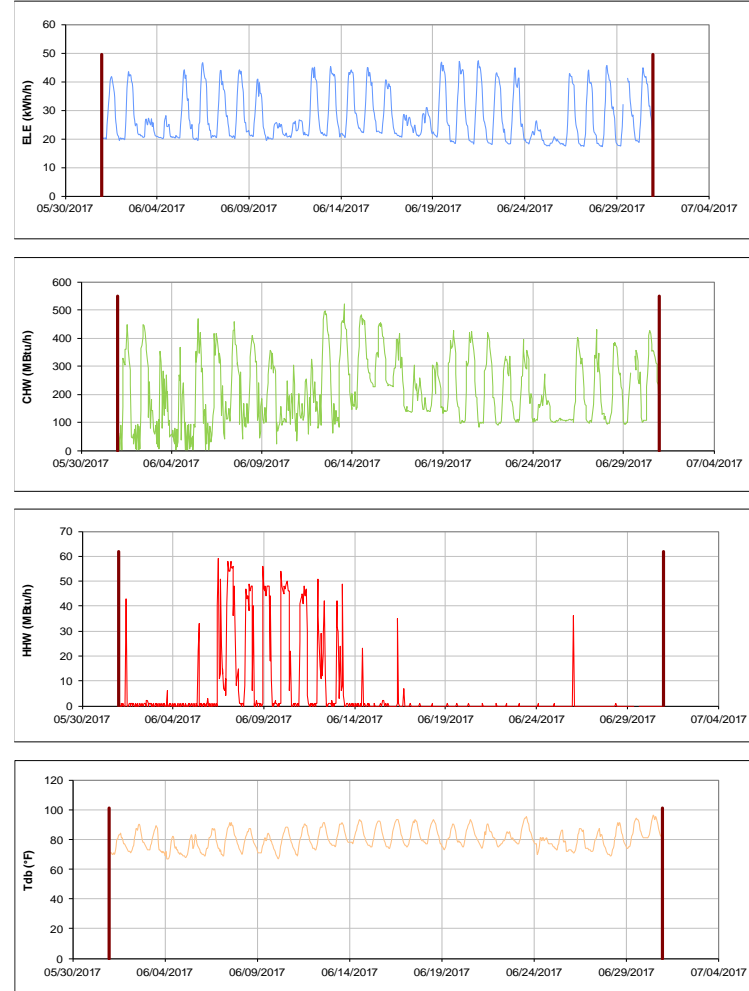


Figure III-98 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Fermier Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

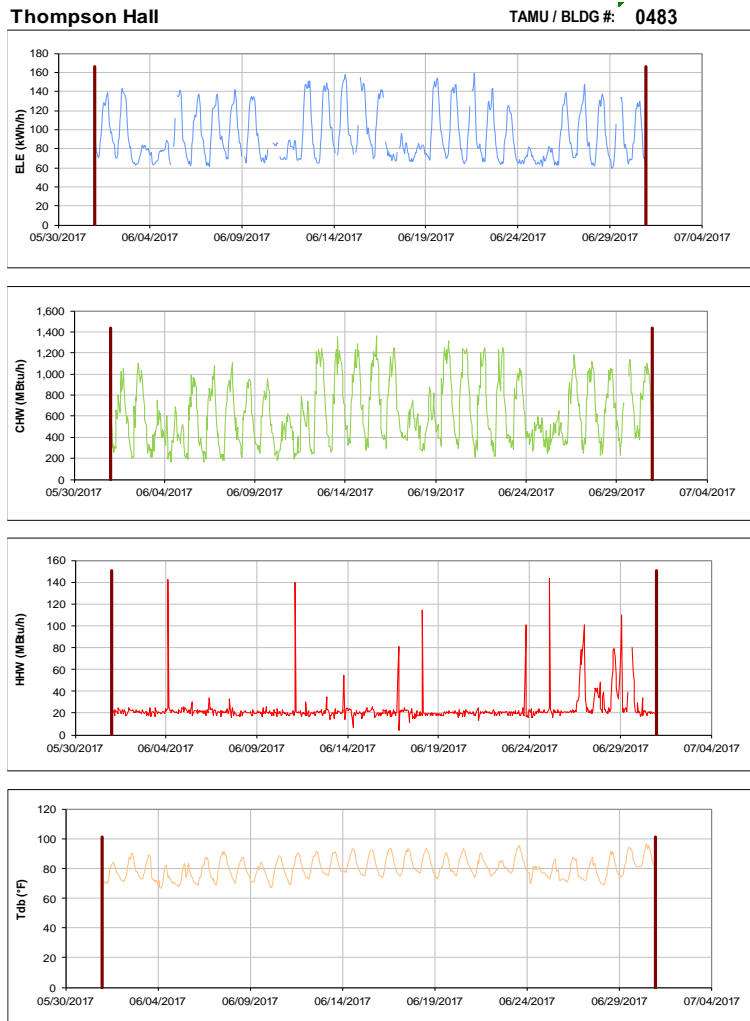


Figure III-99 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Thompson Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

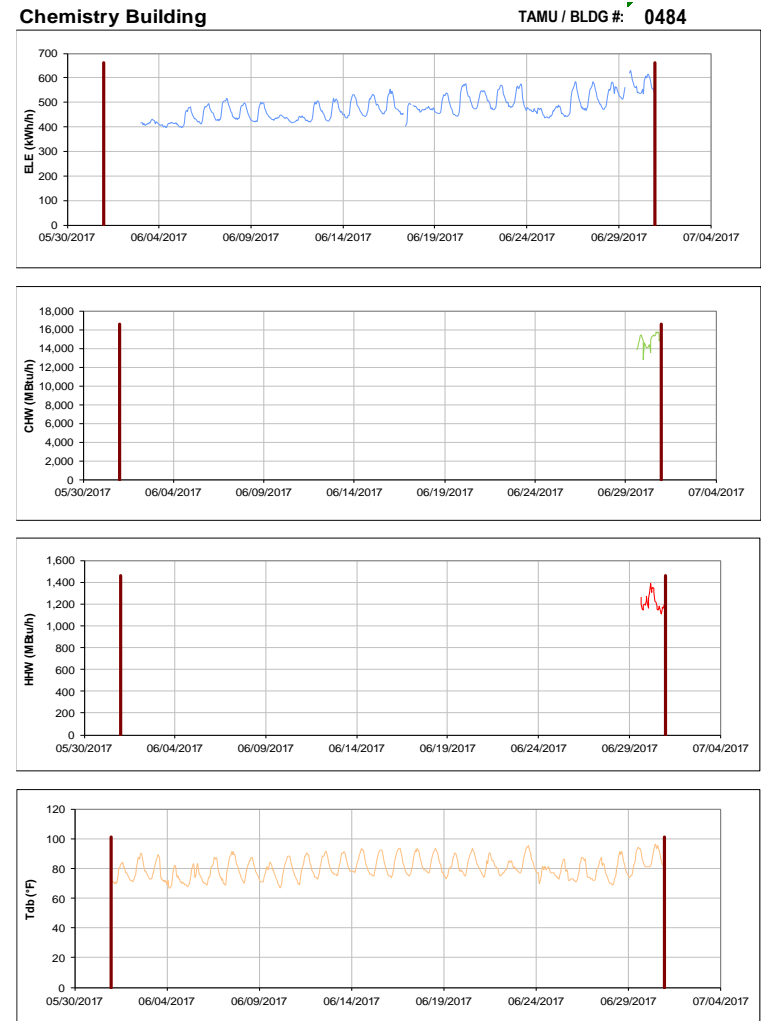


Figure III-100 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Chemistry Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

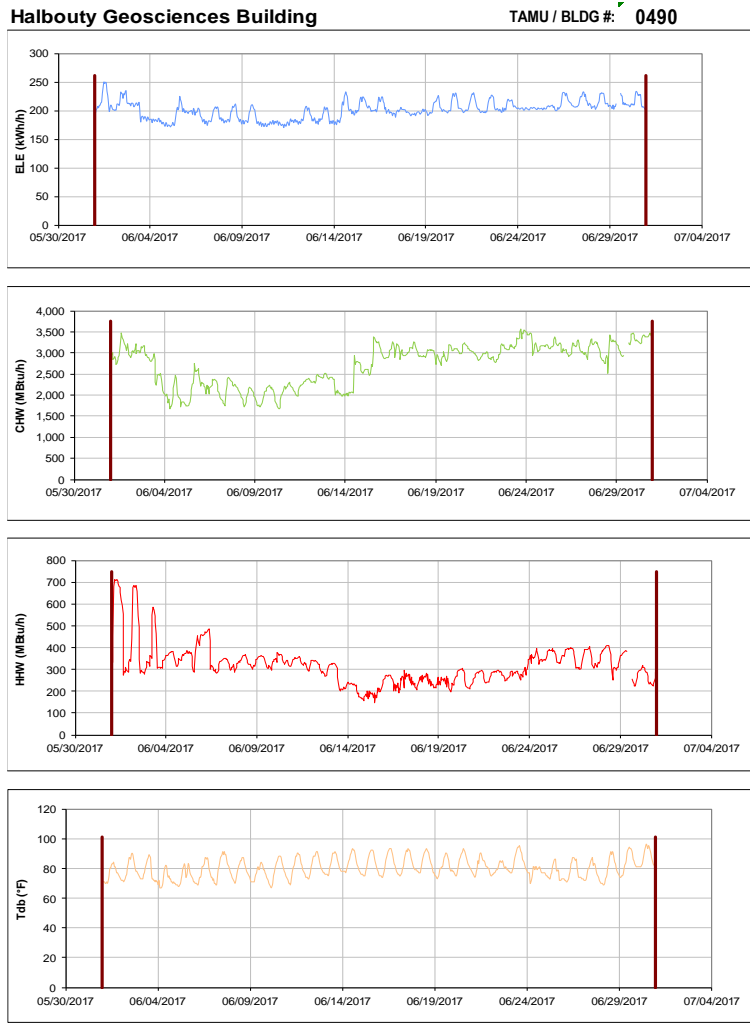


Figure III-101 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Halbutoy Geosciences Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

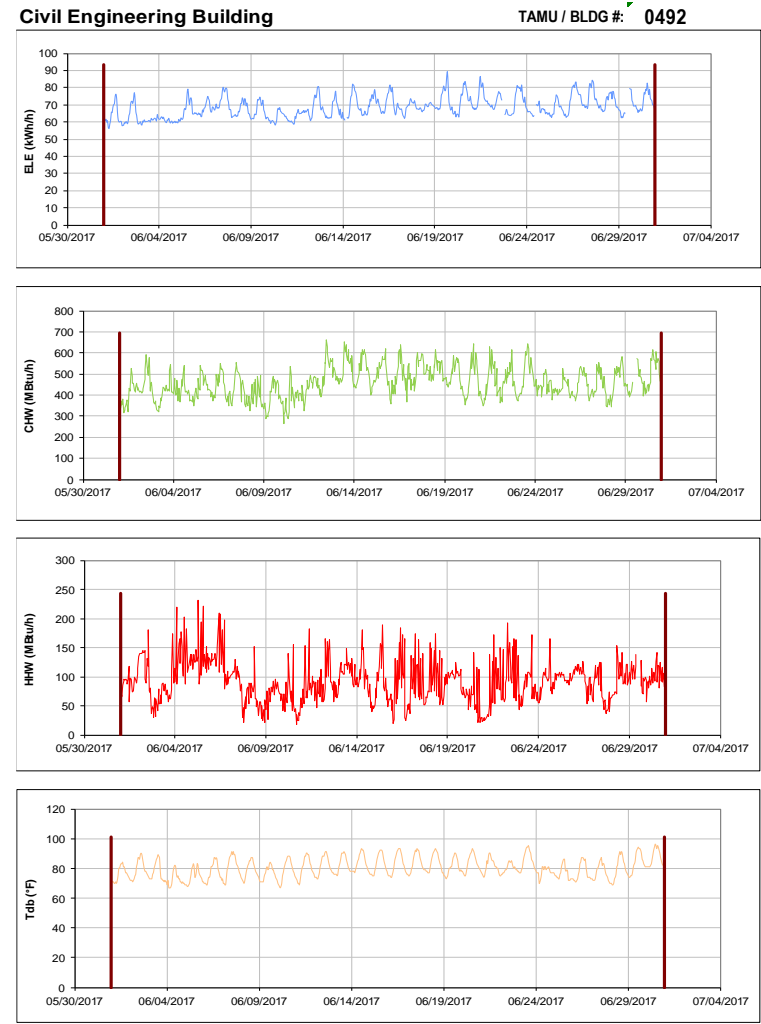


Figure III-102 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Civil Engineering Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Sbisa Dining Hall

TAMU / BLDG #: 0495

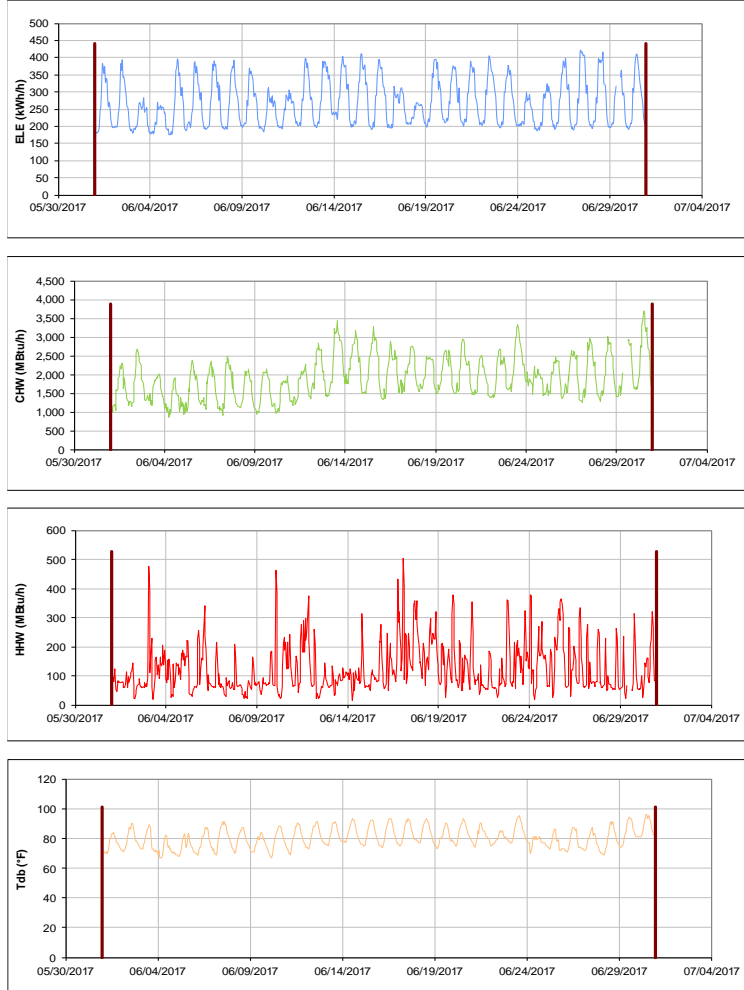


Figure III-103 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Sbisa Dining Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Utilities & Energy Services Central Office

TAMU / BLDG #: 0496

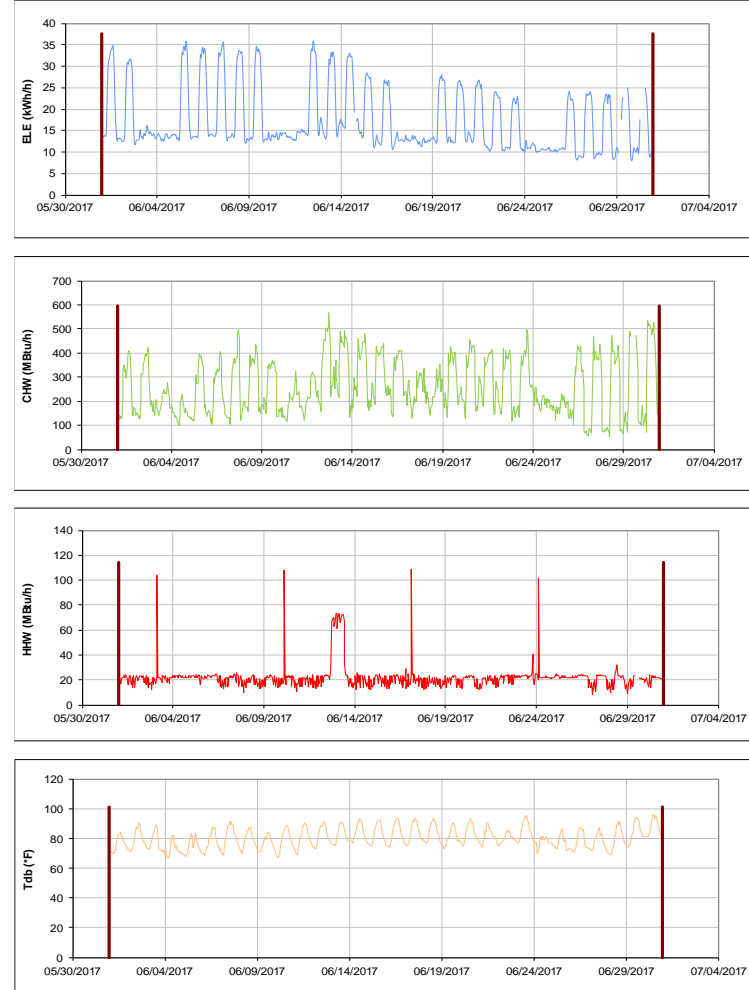


Figure III-104 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities & Energy Services Central Office during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

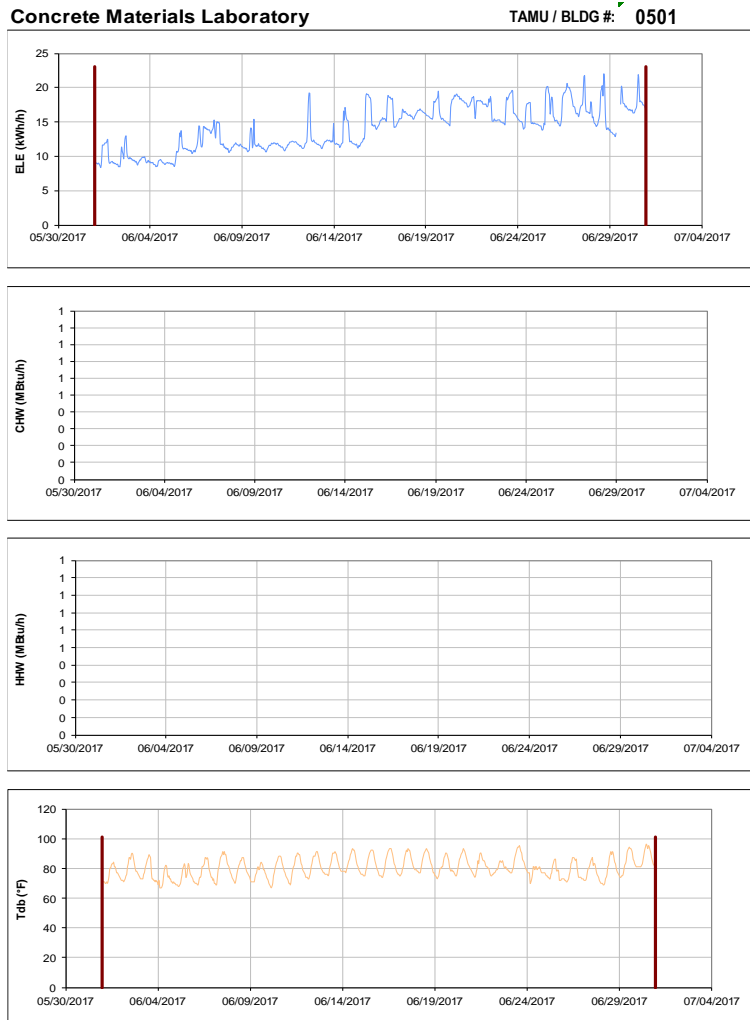


Figure III-105 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Concrete Materials Laboratory during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



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

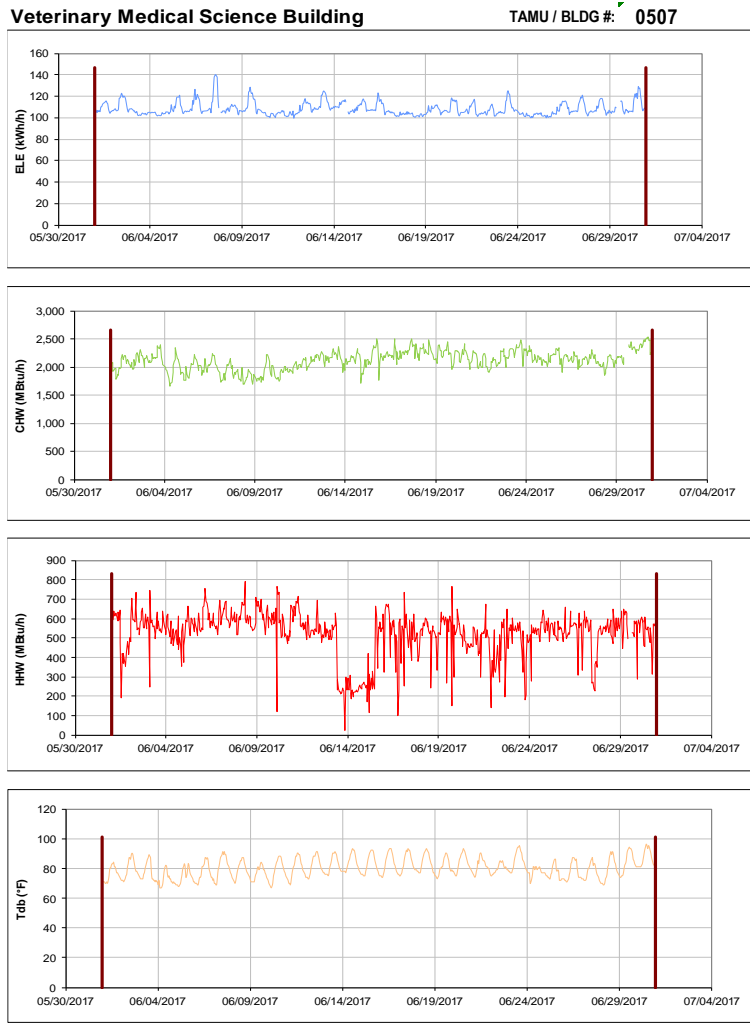


Figure III-107 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medical Science Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

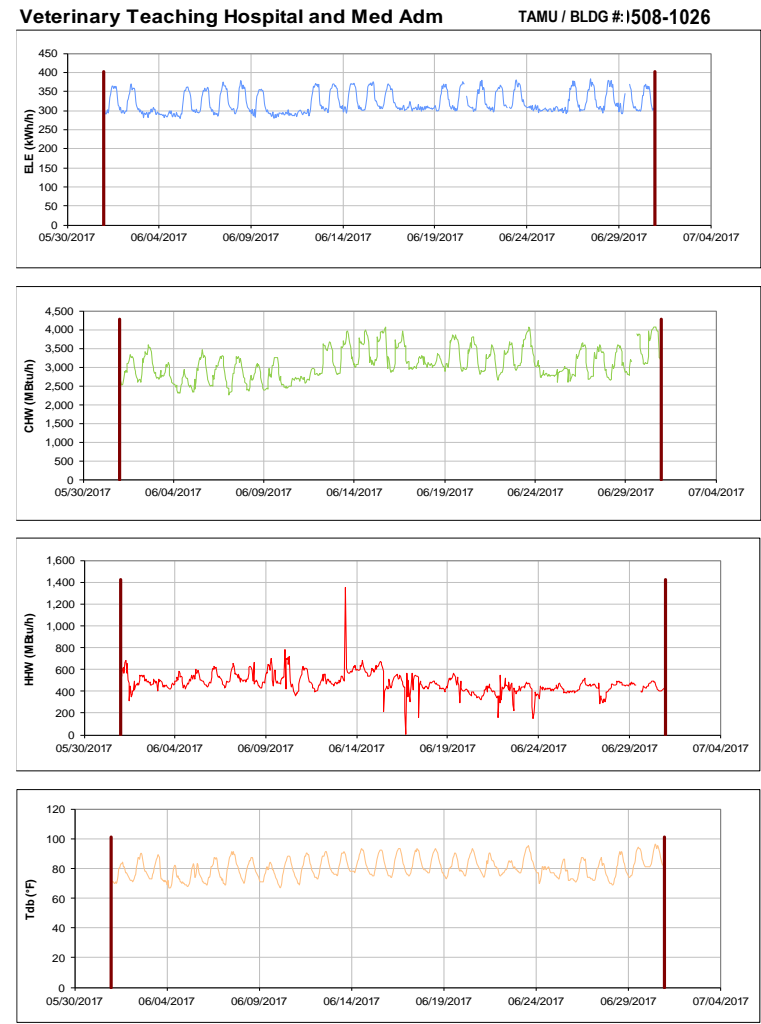


Figure III-108 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Teaching Hospital and Med Adm during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

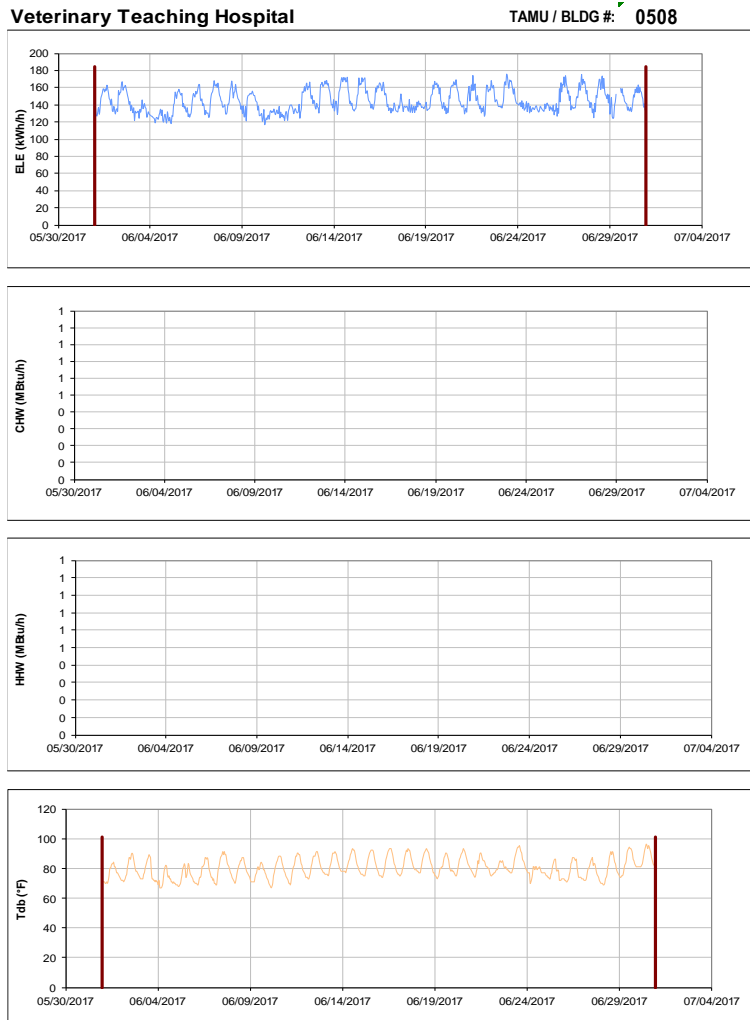


Figure III-109 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Teaching Hospital during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

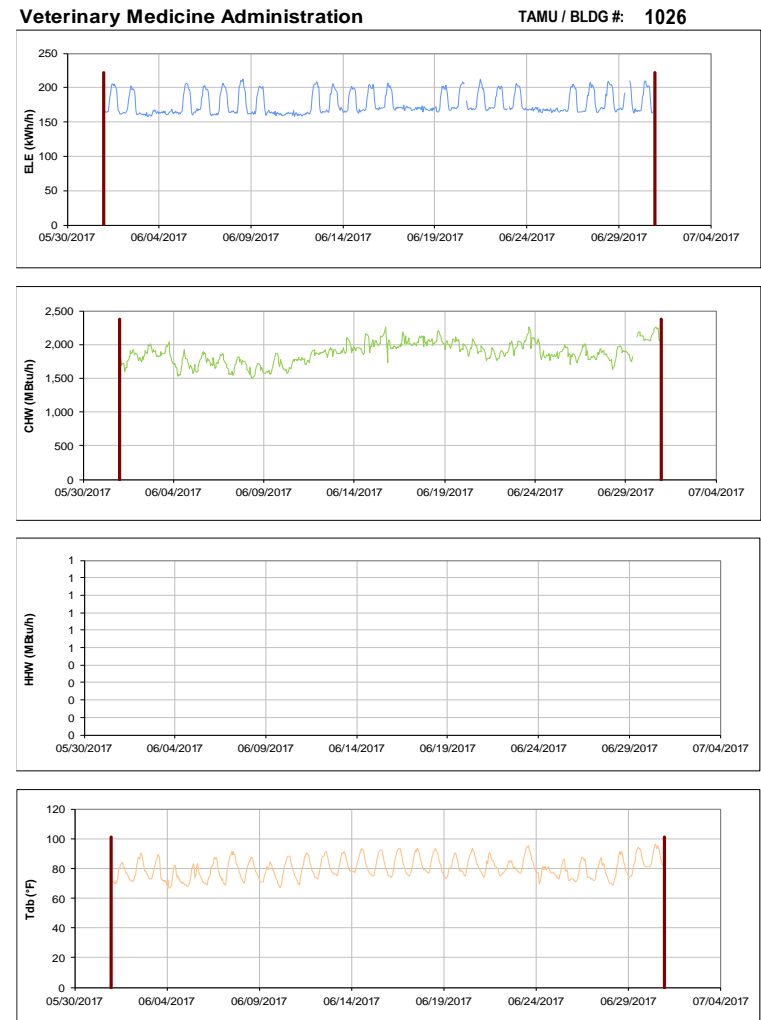


Figure III-110 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medicine Administration during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Heep Laboratory Building

TAMU / BLDG #: 0511

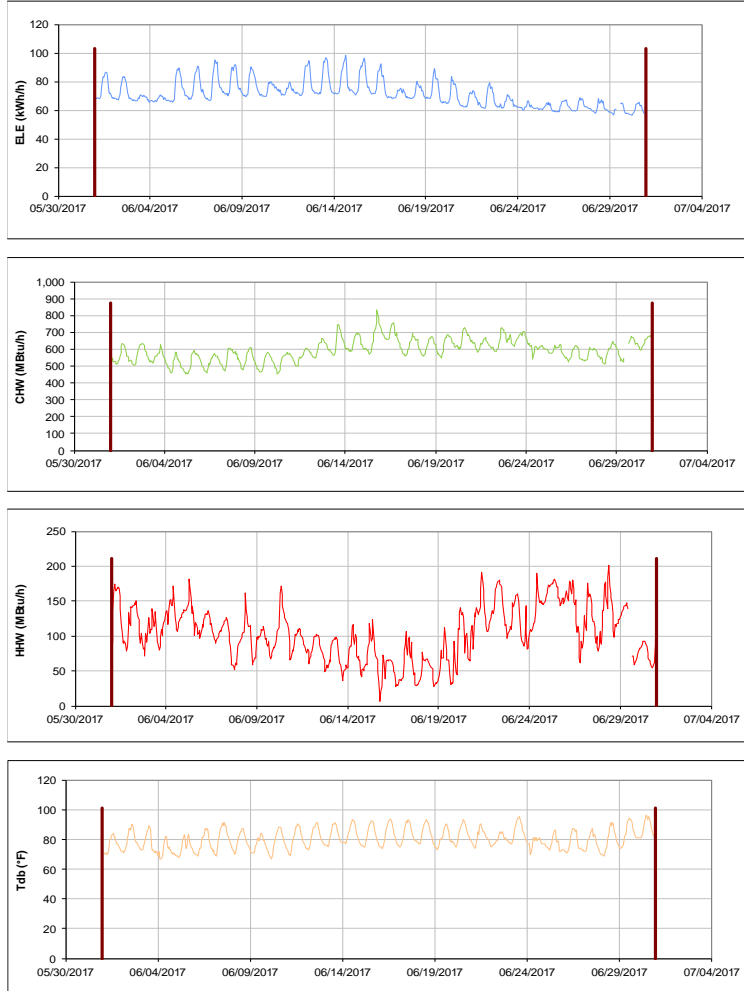


Figure III-111 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heep Laboratory Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

All Faiths Chapel

TAMU / BLDG #: 0512

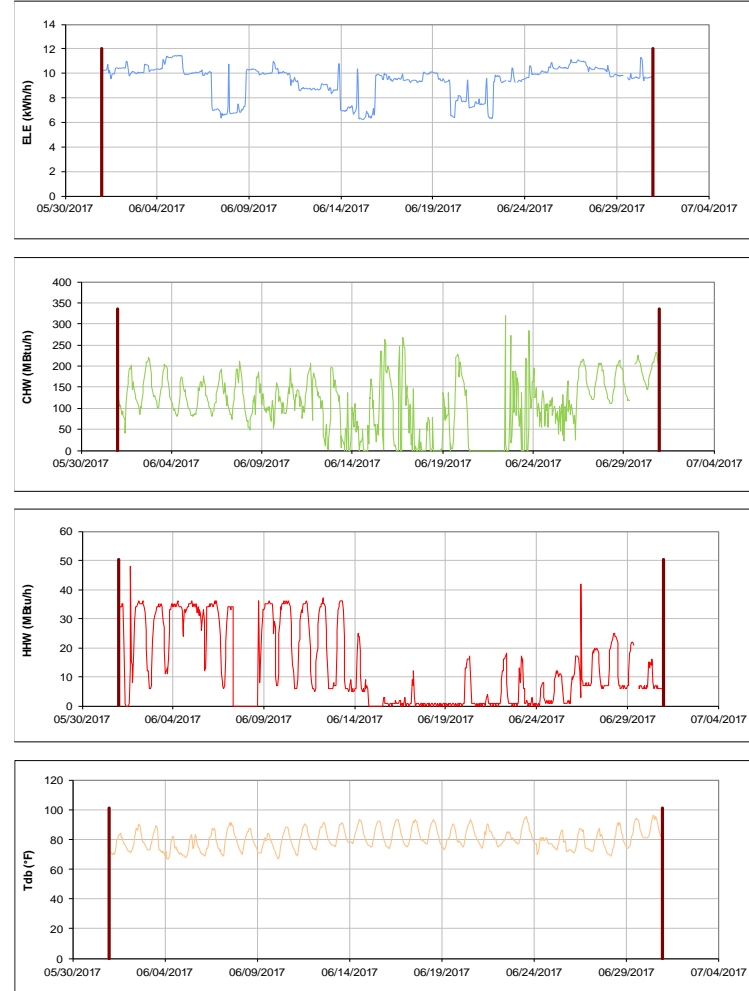


Figure III-112 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for All Faiths Chapel during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Doherty Building

TAMU / BLDG #: 0513

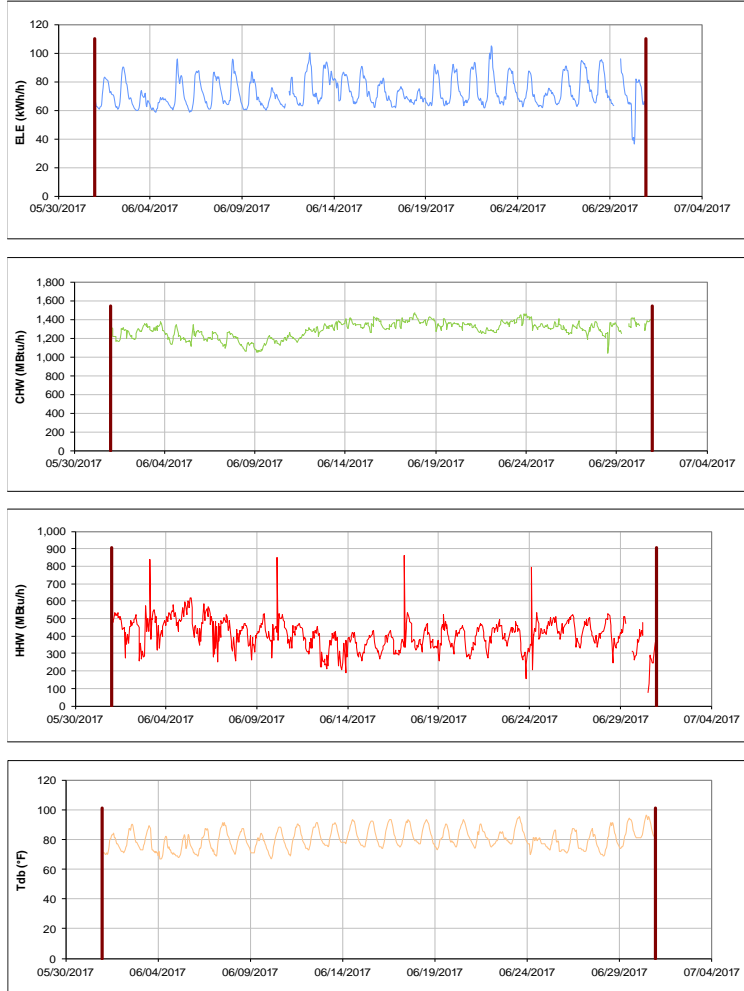


Figure III-113 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Doherty Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Munnerlyn Astronomy & Space Sciences Engineering BLDG #: 0514

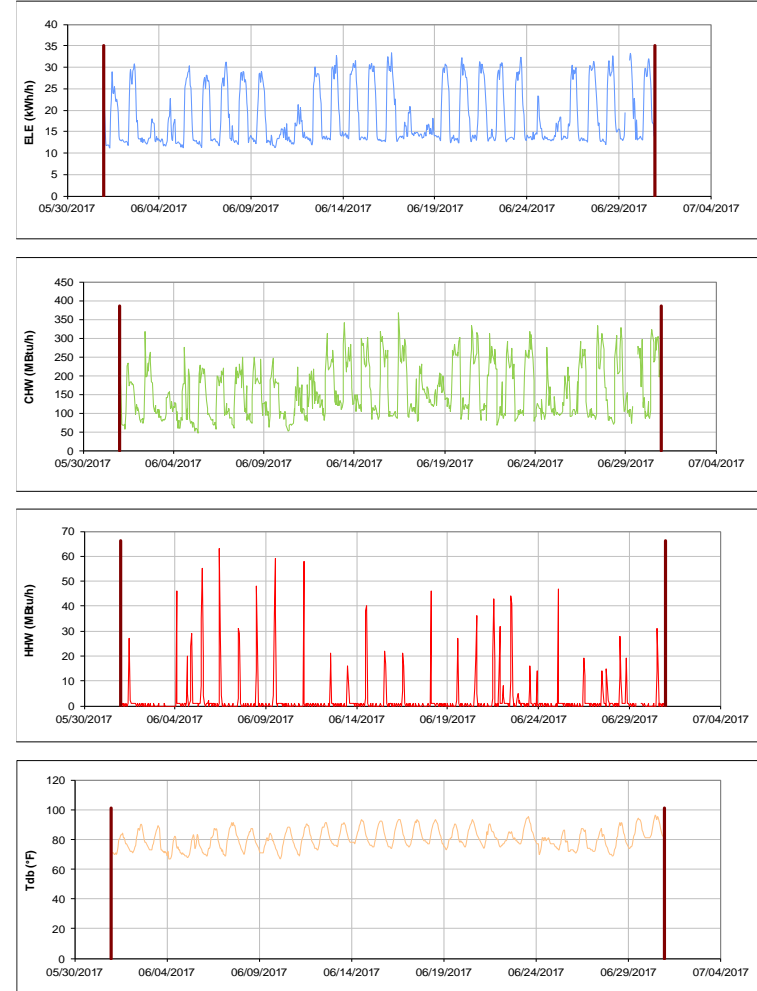


Figure III-114 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Munnerlyn Astronomy & Space Sciences Engineering during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Computing Services Center

TAMU / BLDG #: 0516

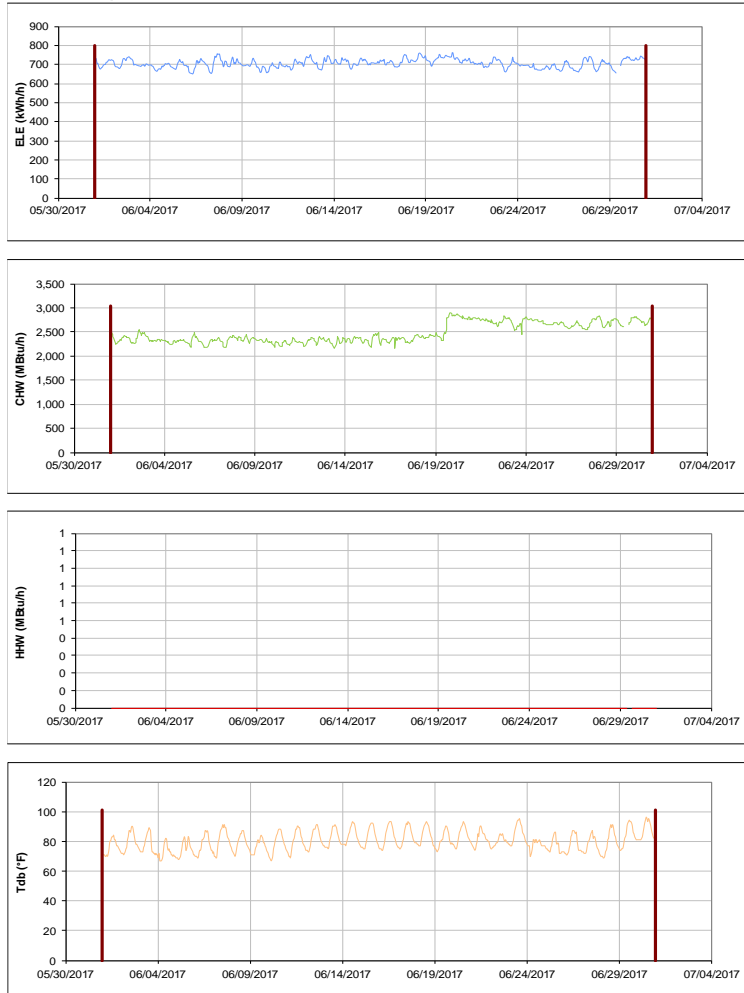


Figure III-115 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Computing Services Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Zachry Engineering Center

TAMU / BLDG #: 0518

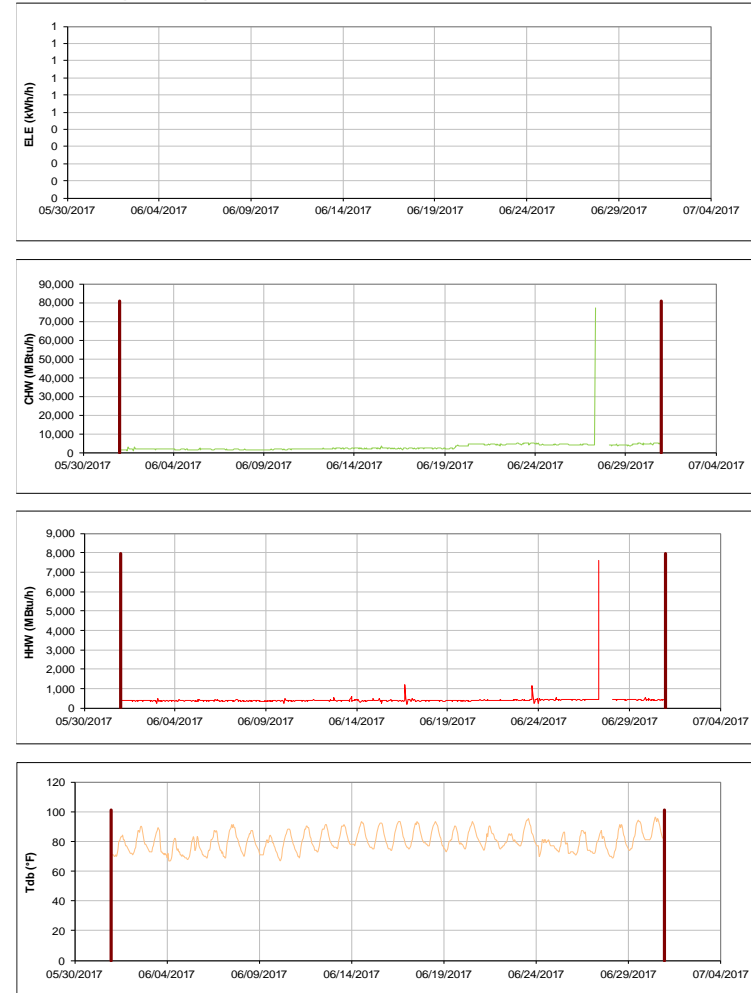


Figure III-116 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Zachry Engineering Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

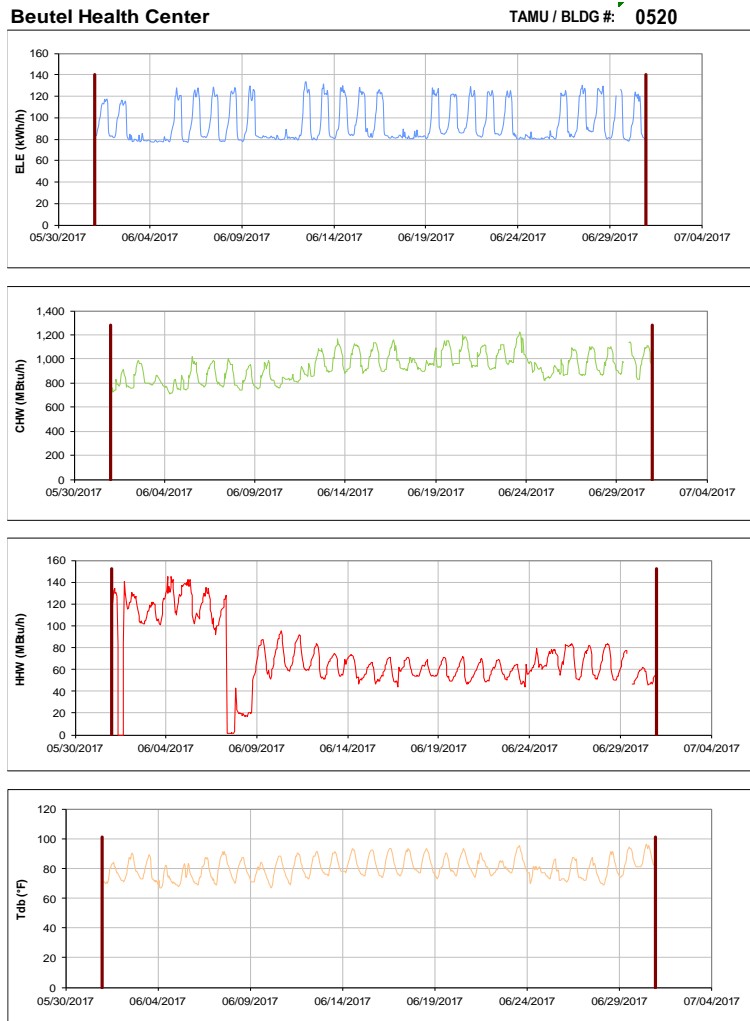


Figure III-117 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Beutel Health Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

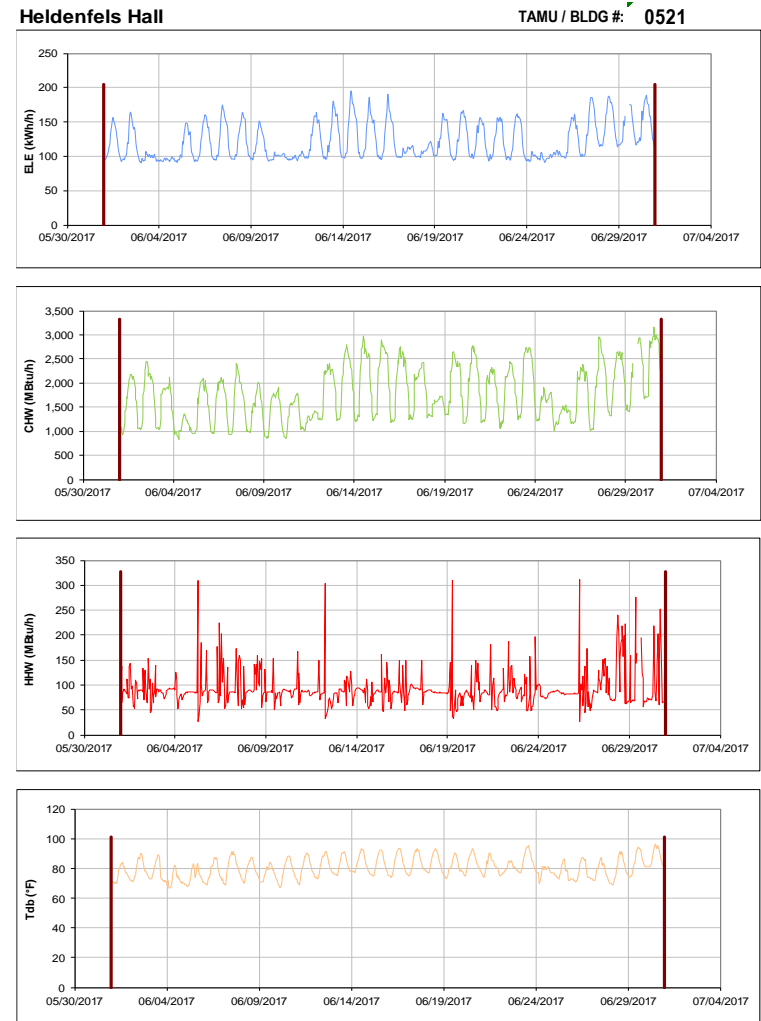


Figure III-118 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heldenfels Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Blocker building

TAMU / BLDG #: 0524

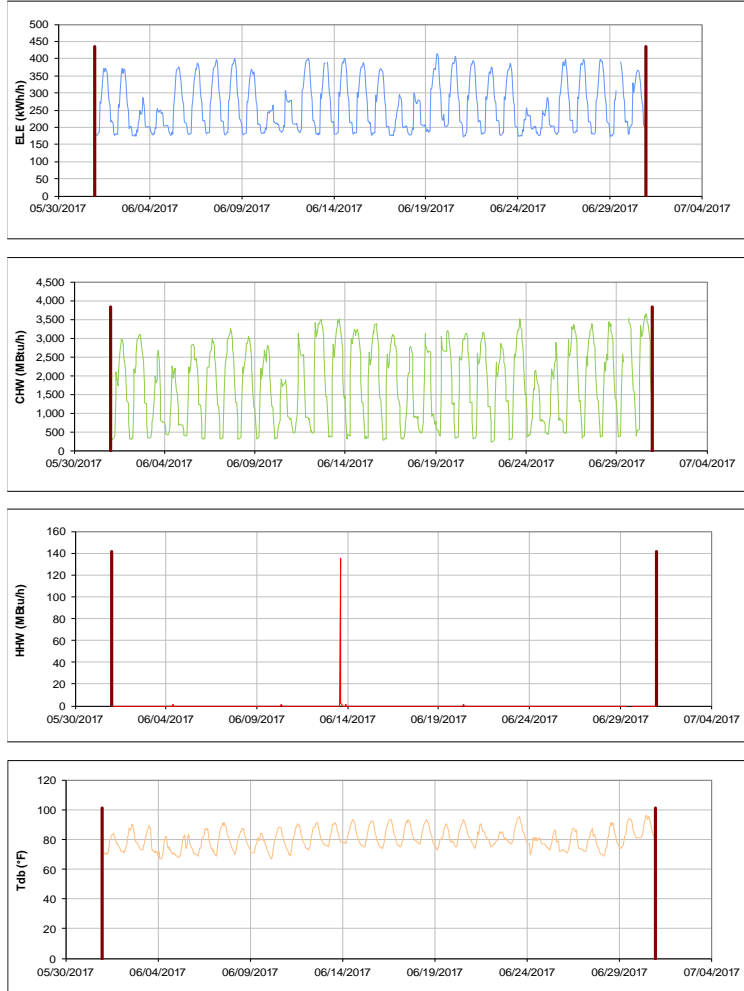


Figure III-119 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Blocker building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Clements Residence Hall

TAMU / BLDG #: 0548

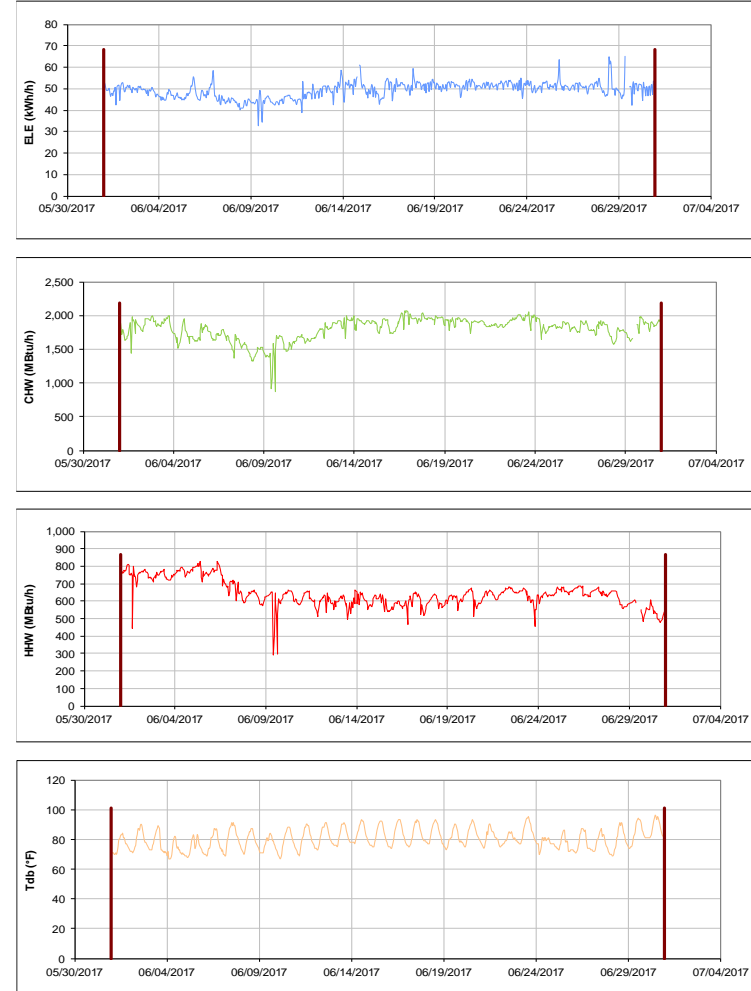


Figure III-120 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Clements Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Haas Residence Hall

TAMU / BLDG #: 0549

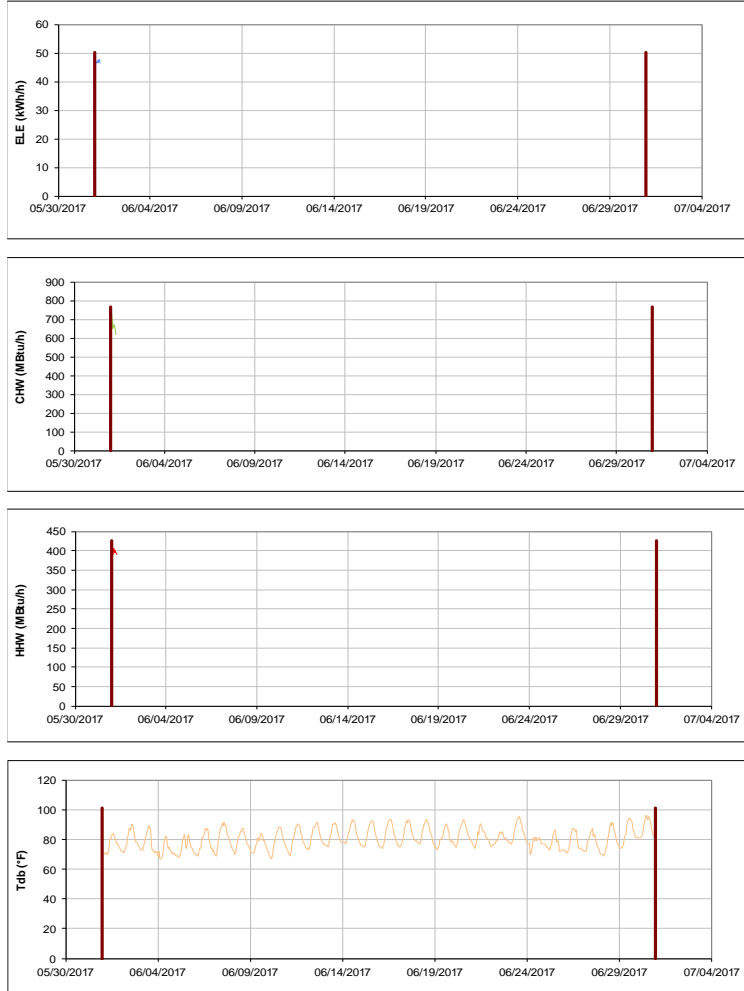


Figure III-121 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Haas Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

McFadden Residence Hall

TAMU / BLDG #: 0550

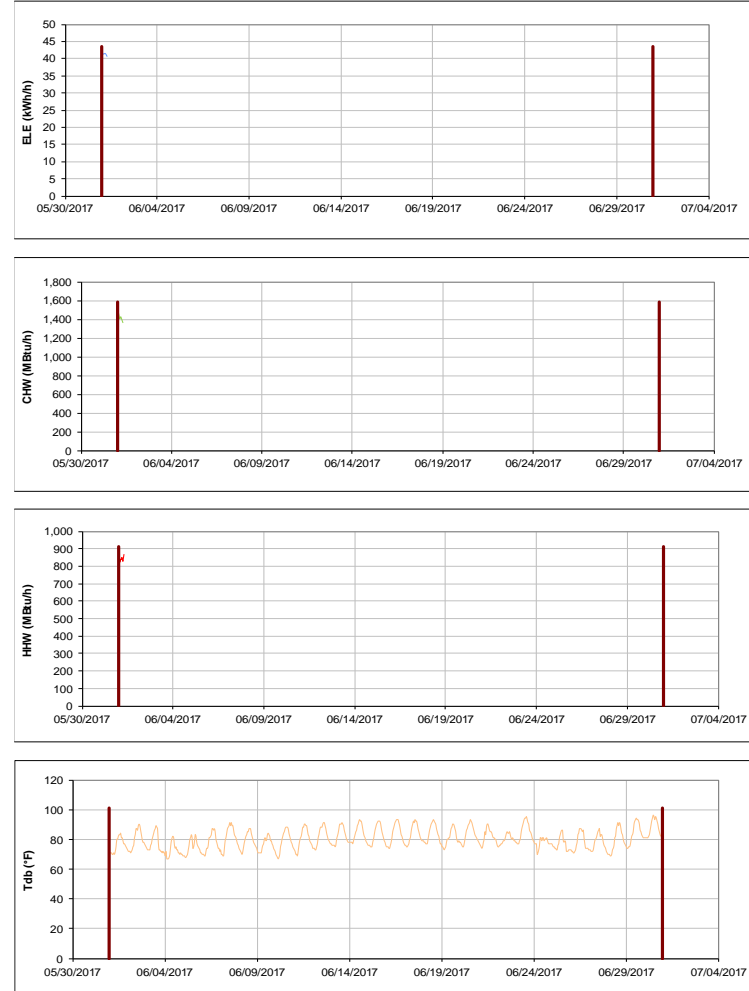


Figure III-122 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for McFadden Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Neeley Residence Hall

TAMU / BLDG #: 0652

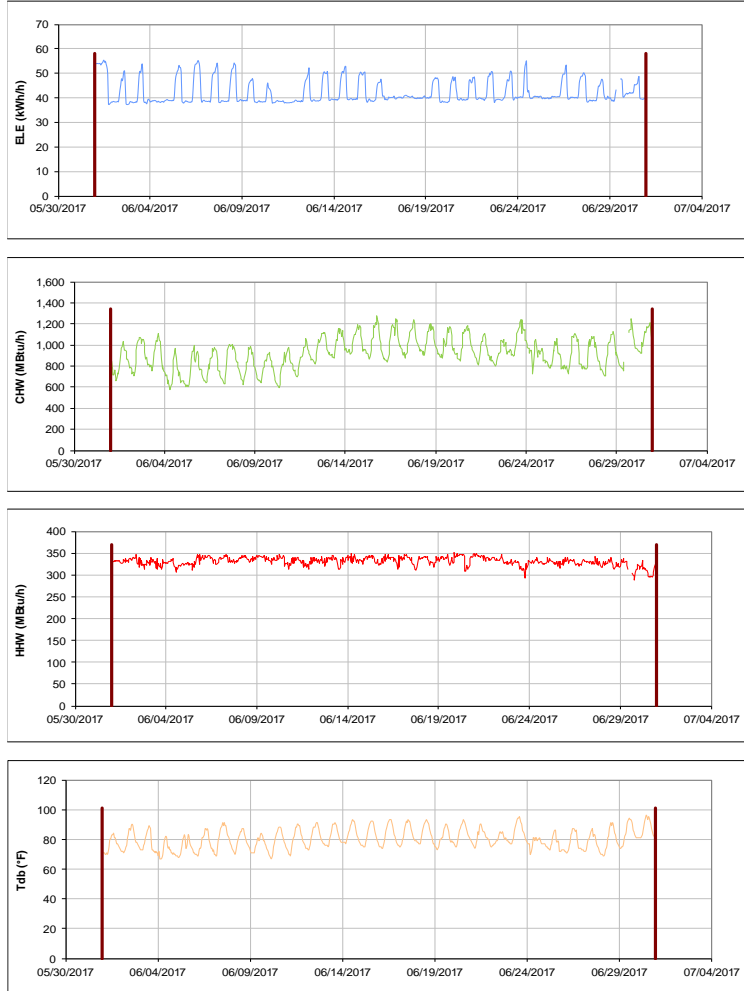


Figure III-123 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Neeley Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Hobby Residence Hall

TAMU / BLDG #: 0653

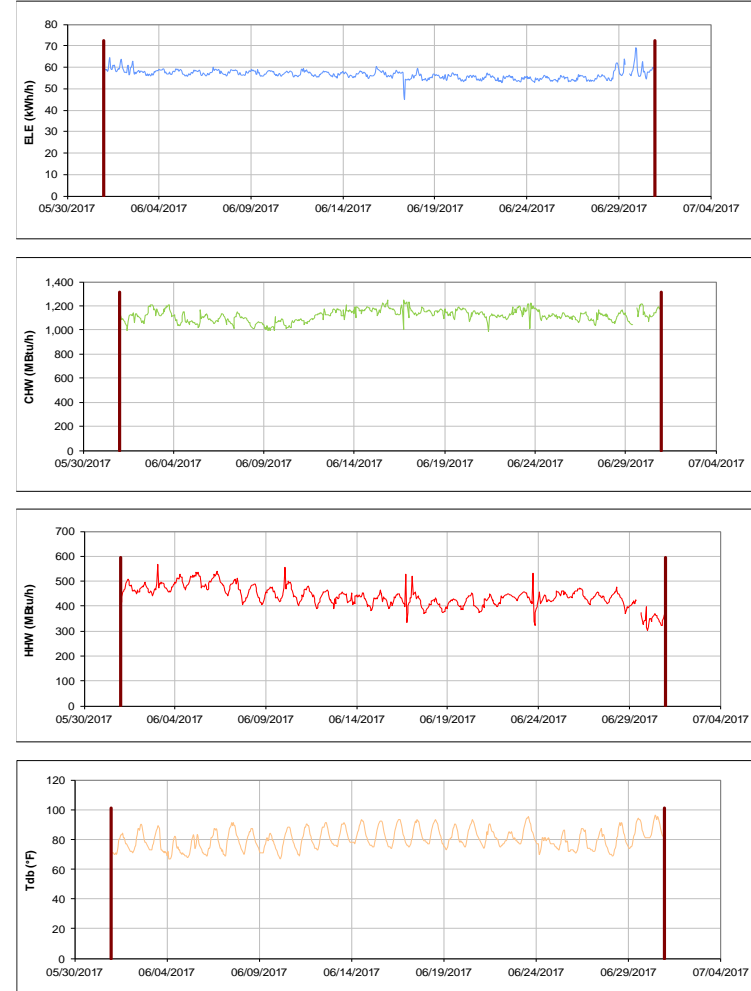


Figure III-124 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hobby Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Wisembaker Engineering Research Center TAMU / BLDG #: 0682

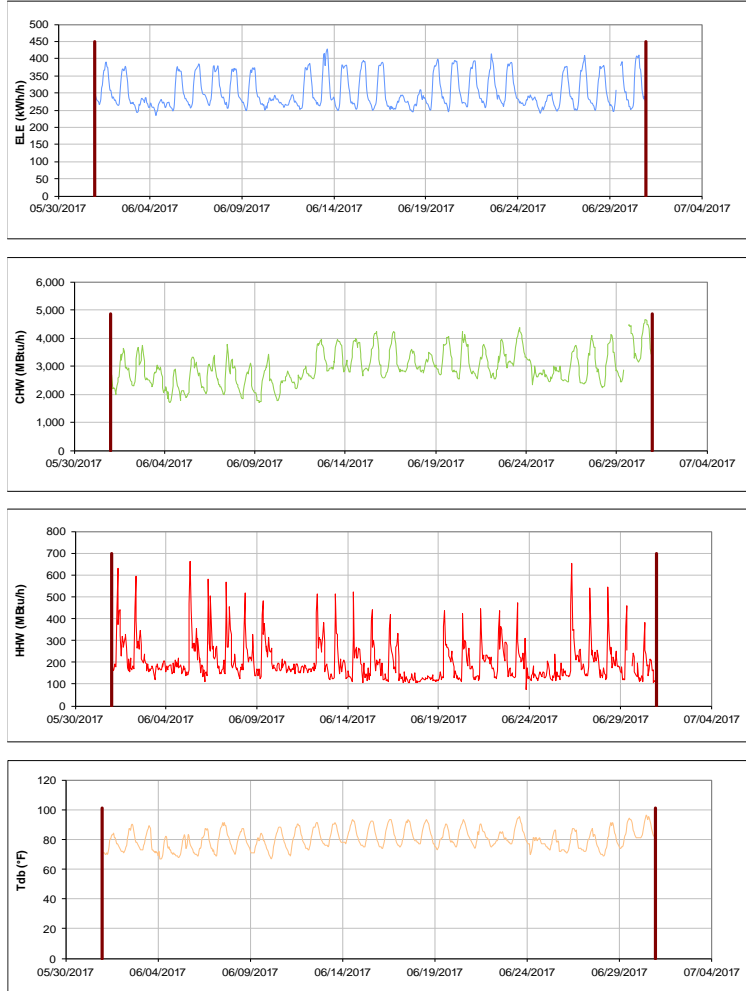


Figure III-125 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wisembaker Engineering Research Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

McNew Laboratory TAMU / BLDG #: 0740

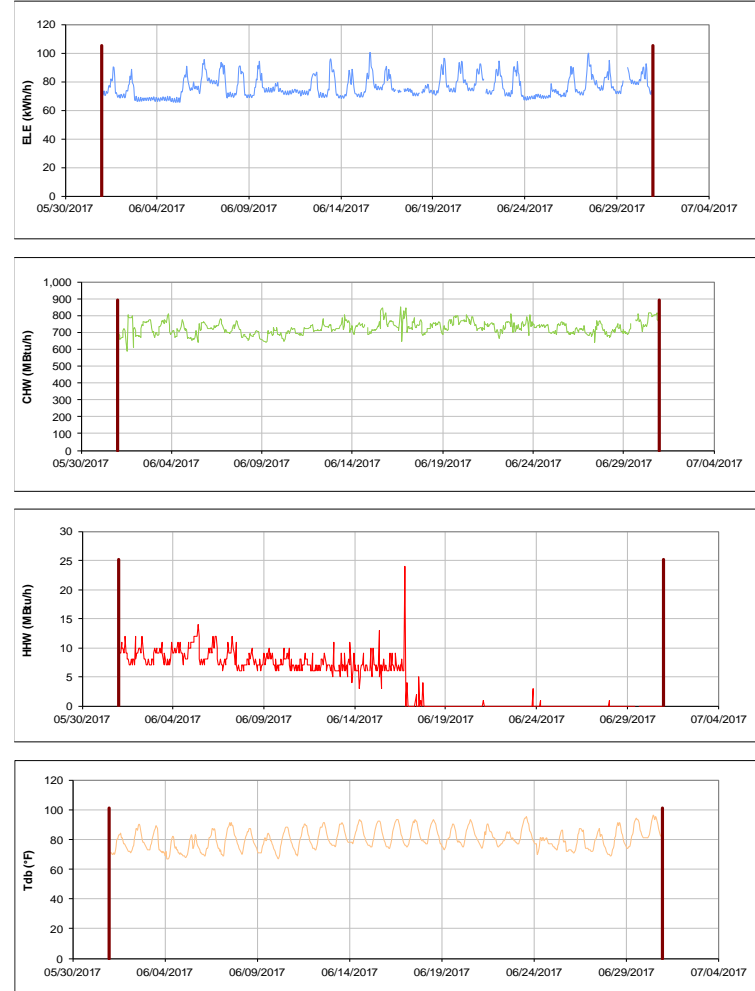


Figure III-126 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for McNew Laboratory during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Soil Testing Labs

TAMU / BLDG #: 0806

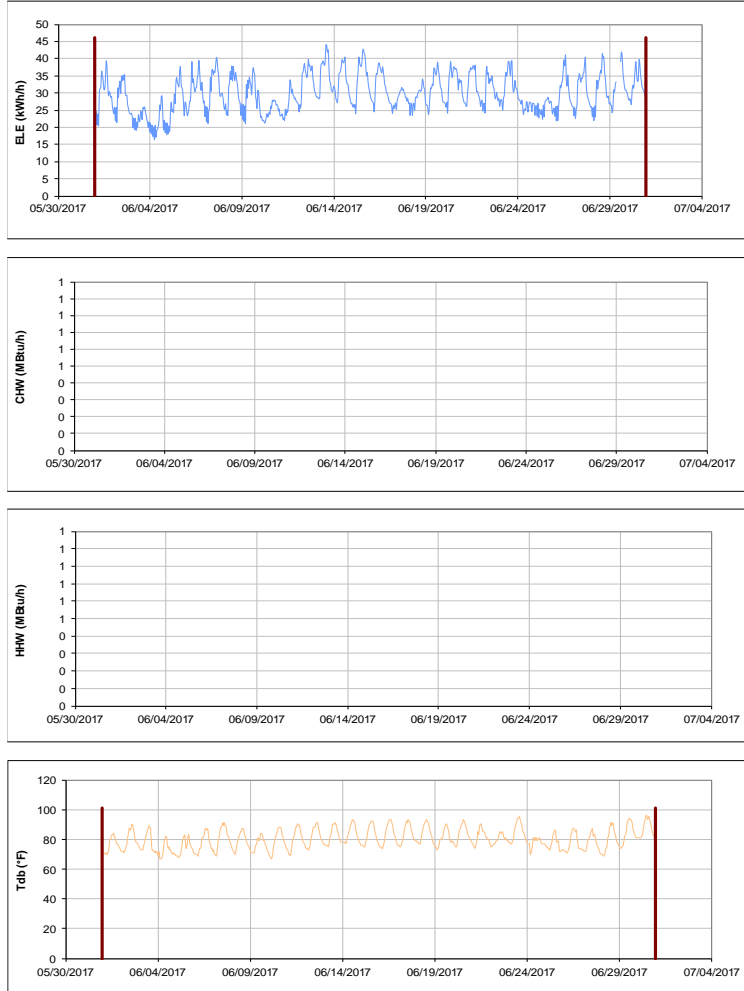


Figure III-127 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Soil Testing Labs during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Entomology Research Lab

TAMU / BLDG #: 0815

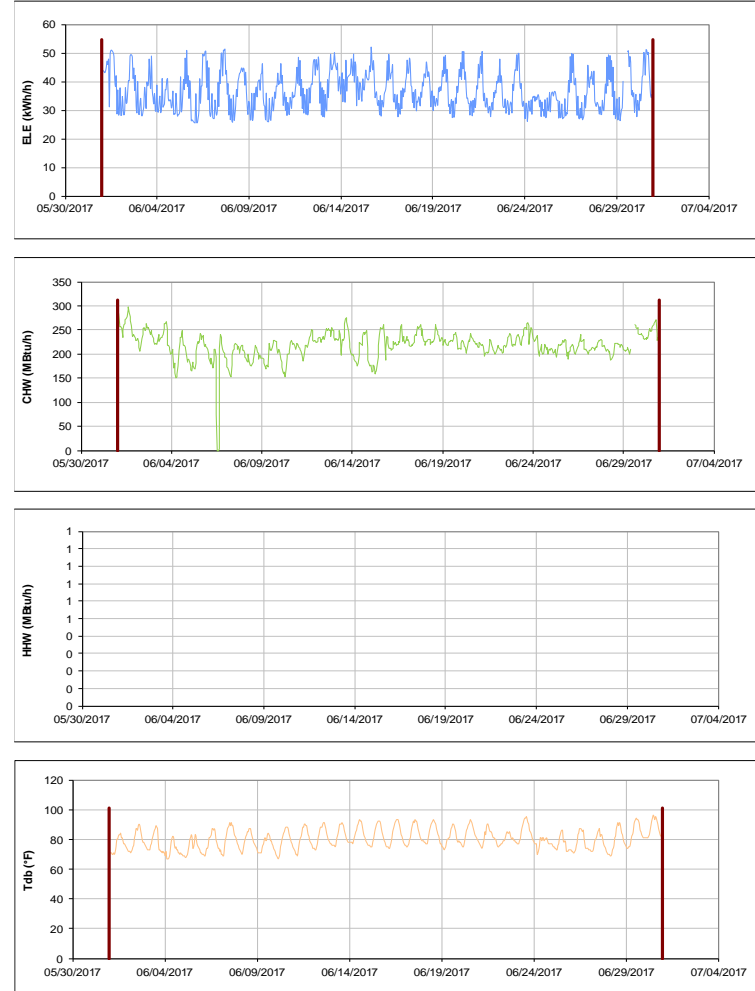


Figure III-128 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Entomology Research Lab during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

TVMC-Small Animal Building

TAMU / BLDG #: 0880

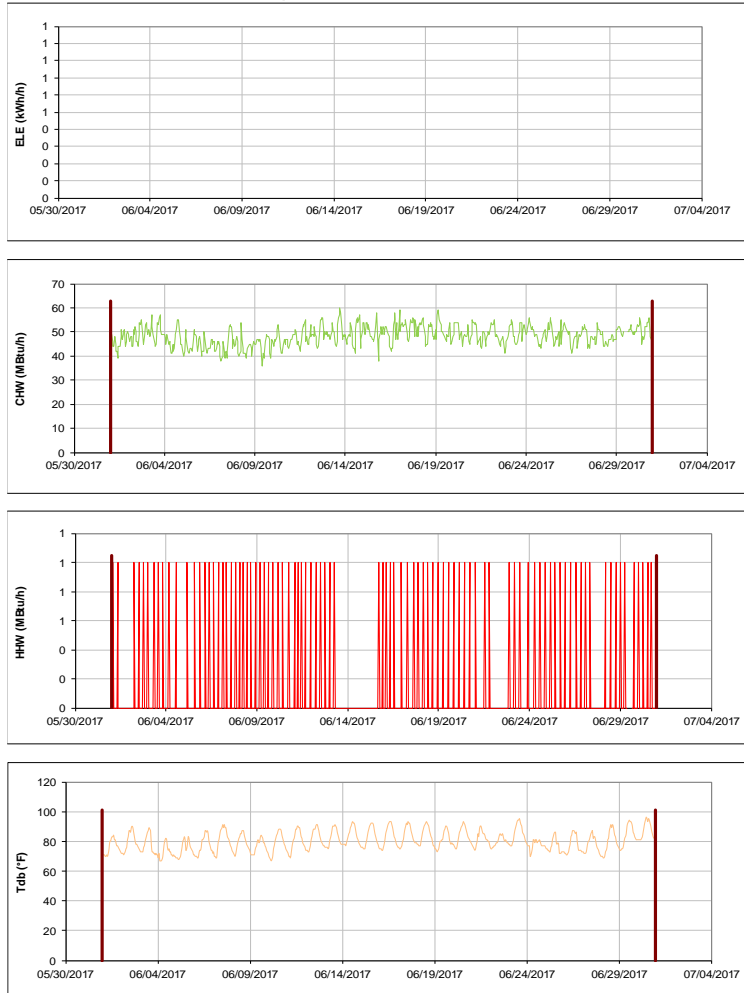


Figure III-129 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TVMC-Small Animal Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Laboratory Animal Care Building

TAMU / BLDG #: 0972

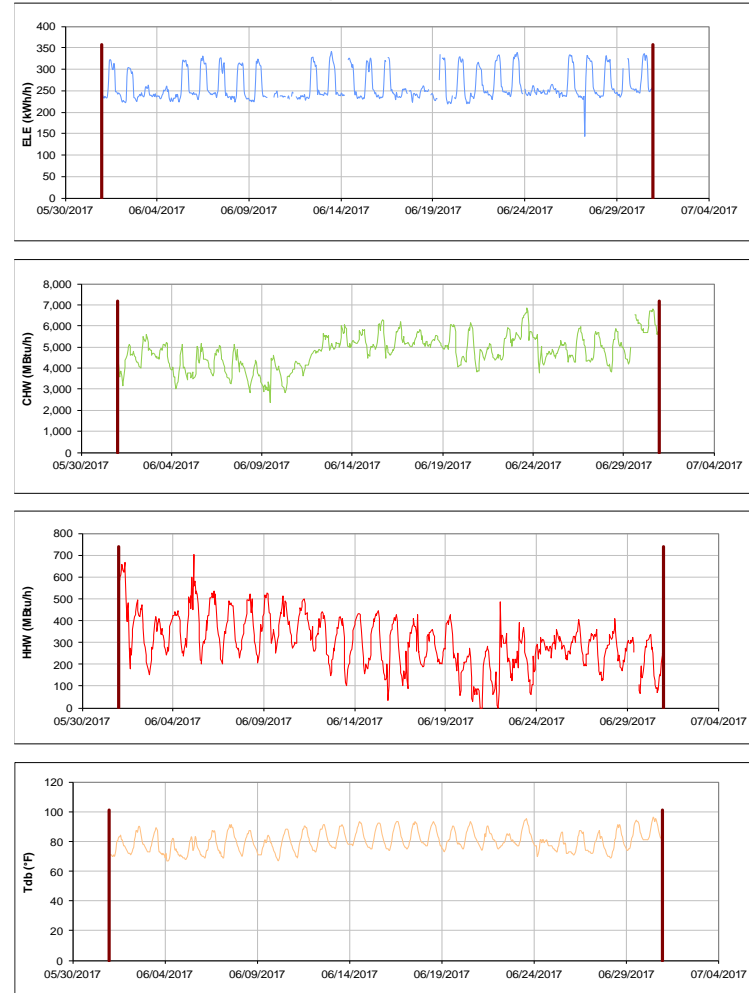


Figure III-130 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Laboratory Animal Care Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

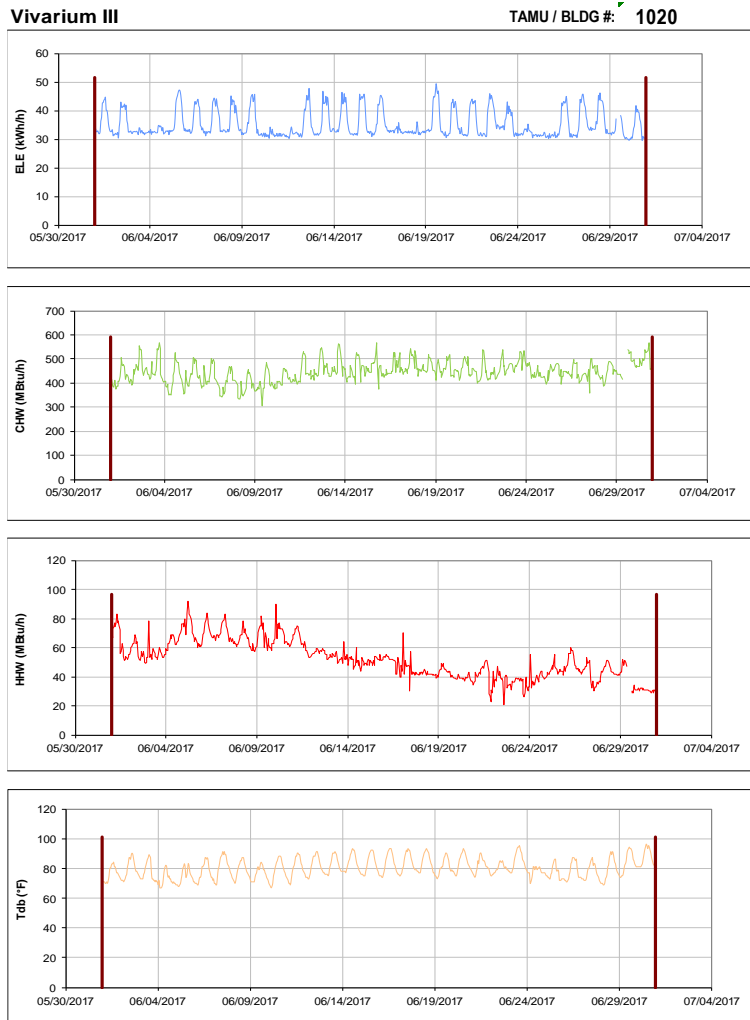


Figure III-131 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Vivarium III during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

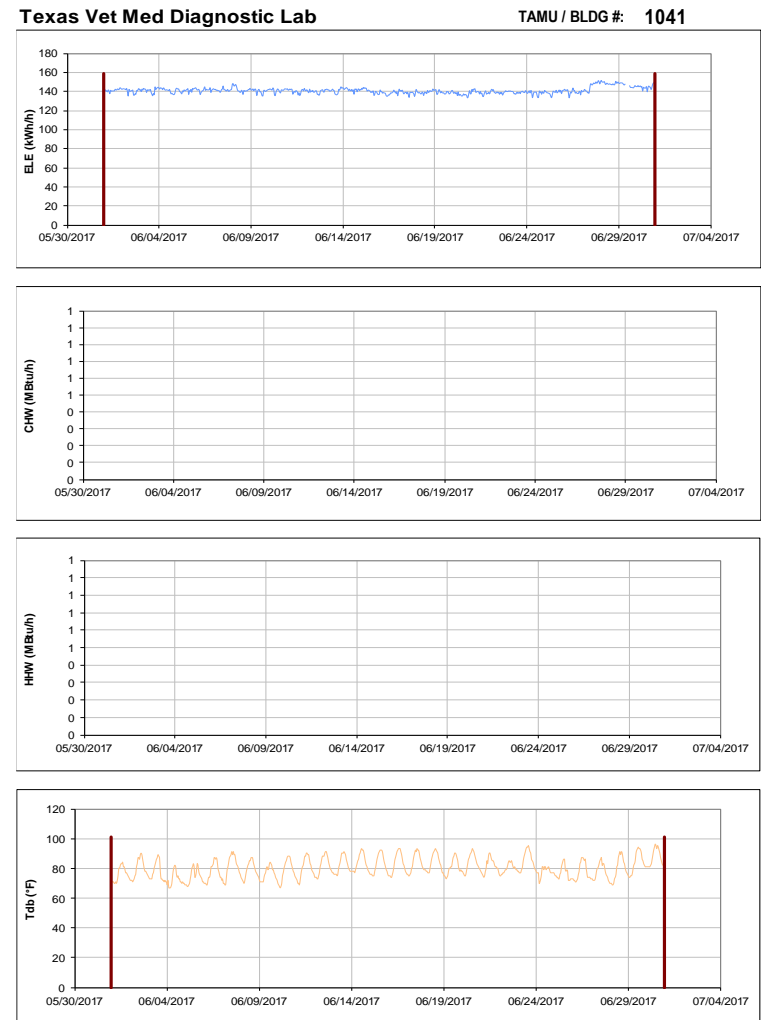


Figure III-132 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas Vet Med Diagnostic Lab during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

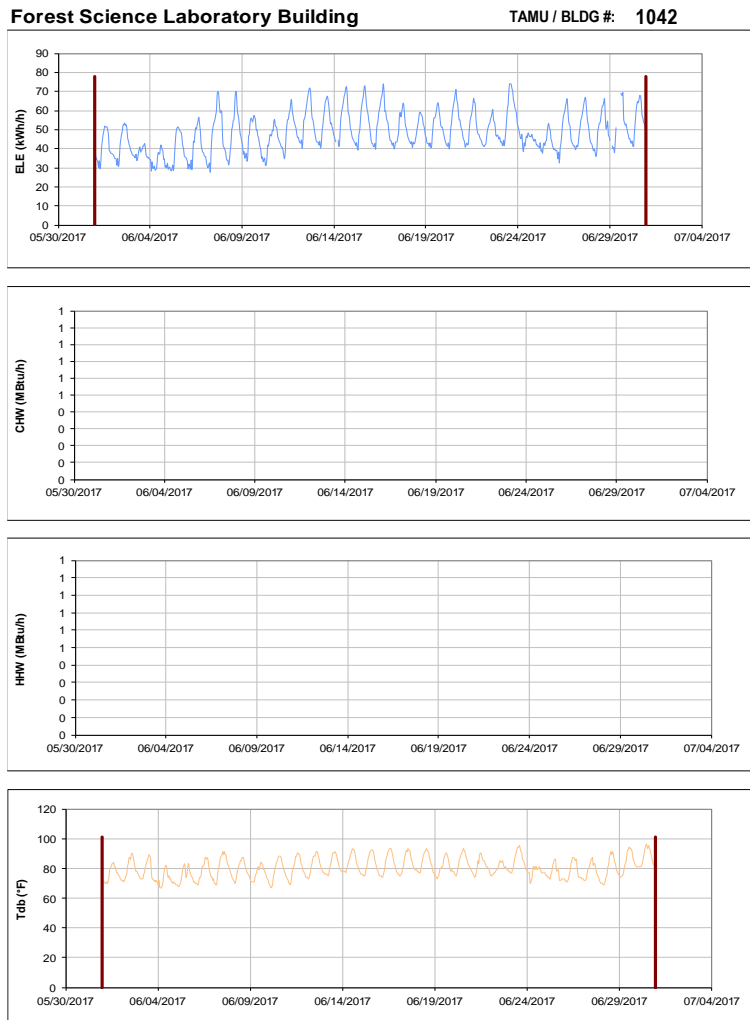


Figure III-133 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Forest Science Laboratory Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

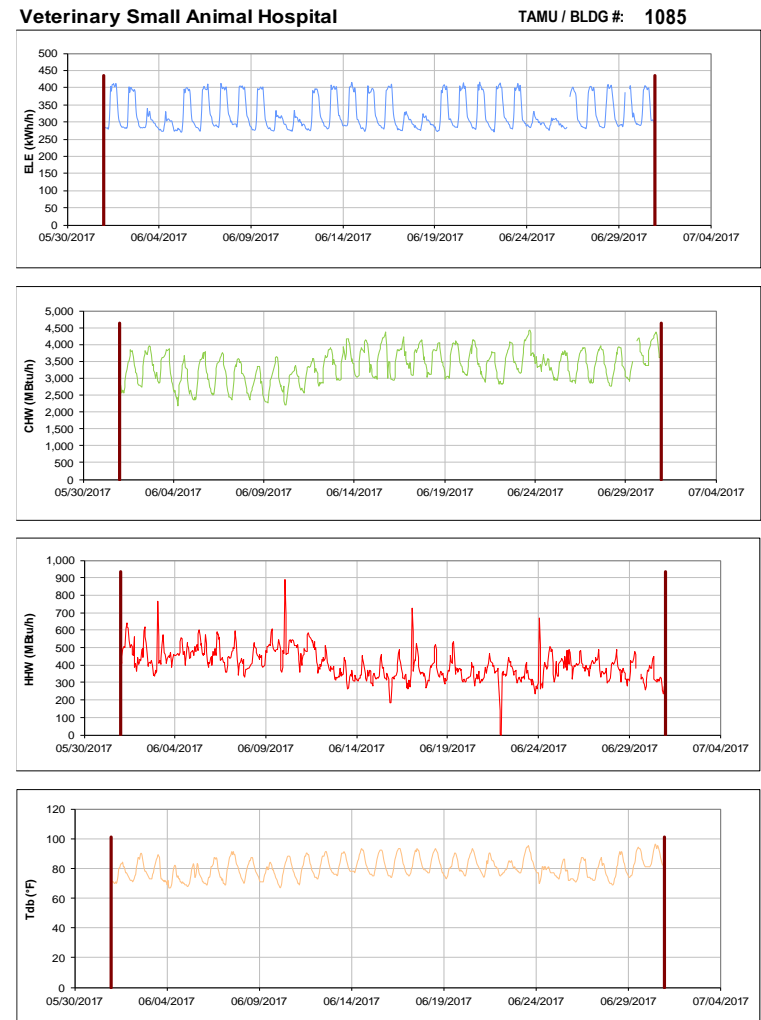


Figure III-134 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Small Animal Hospital during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Utilities Energy Office Annex

TAMU / BLDG #: 1089

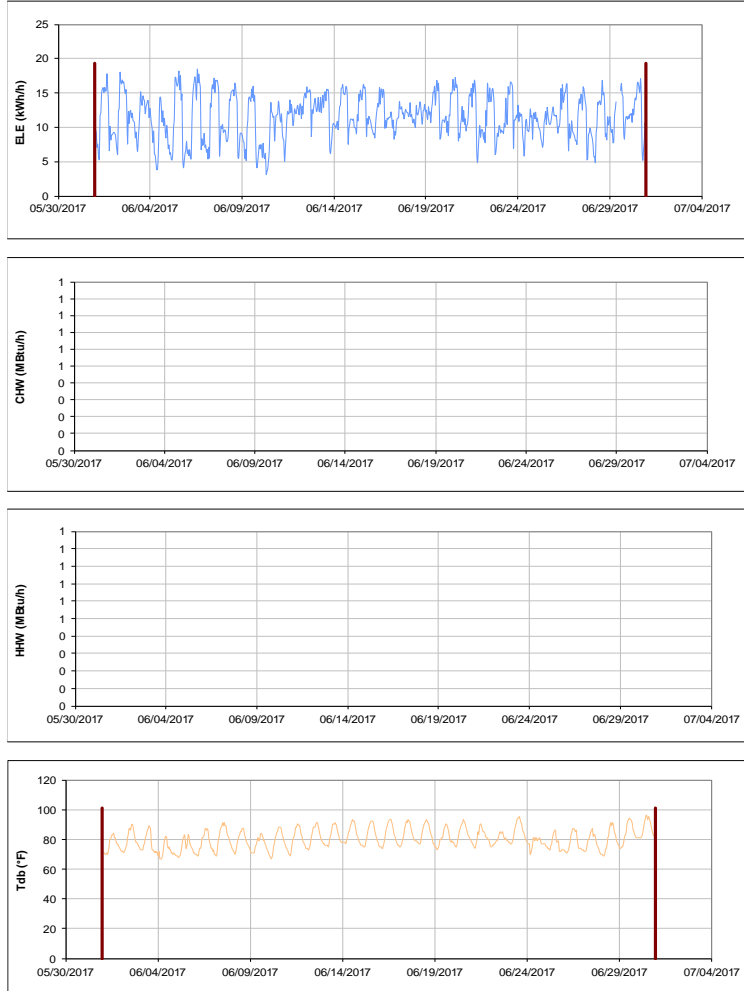


Figure III-135 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities Energy Office Annex during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Biological Control Facility

TAMU / BLDG #: 1146

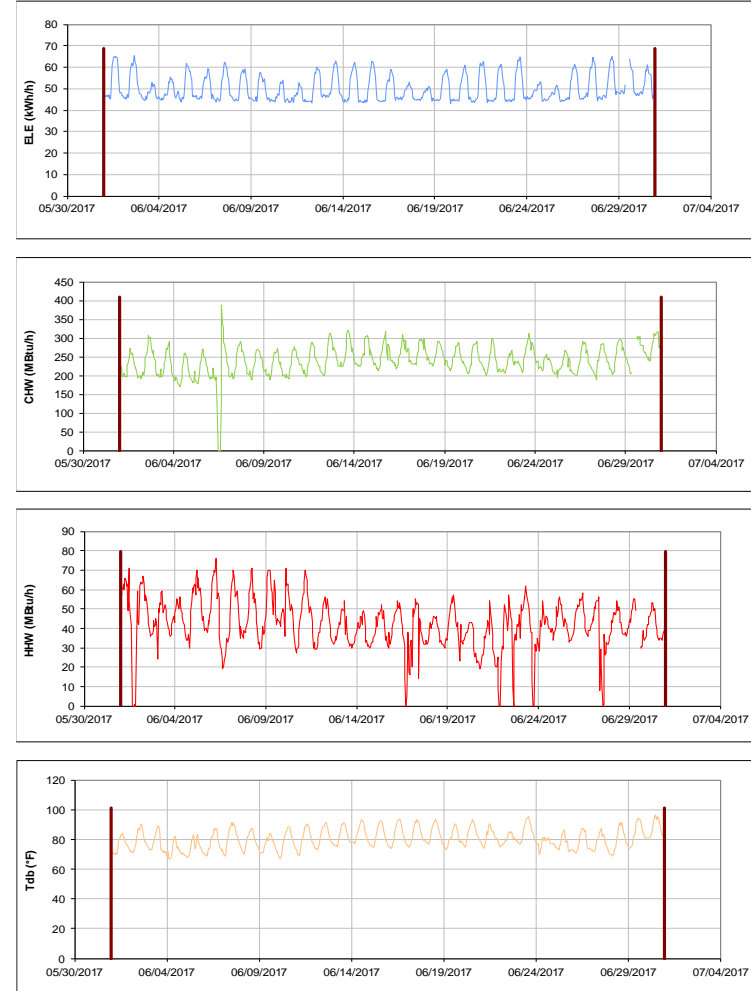


Figure III-136 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biological Control Facility during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

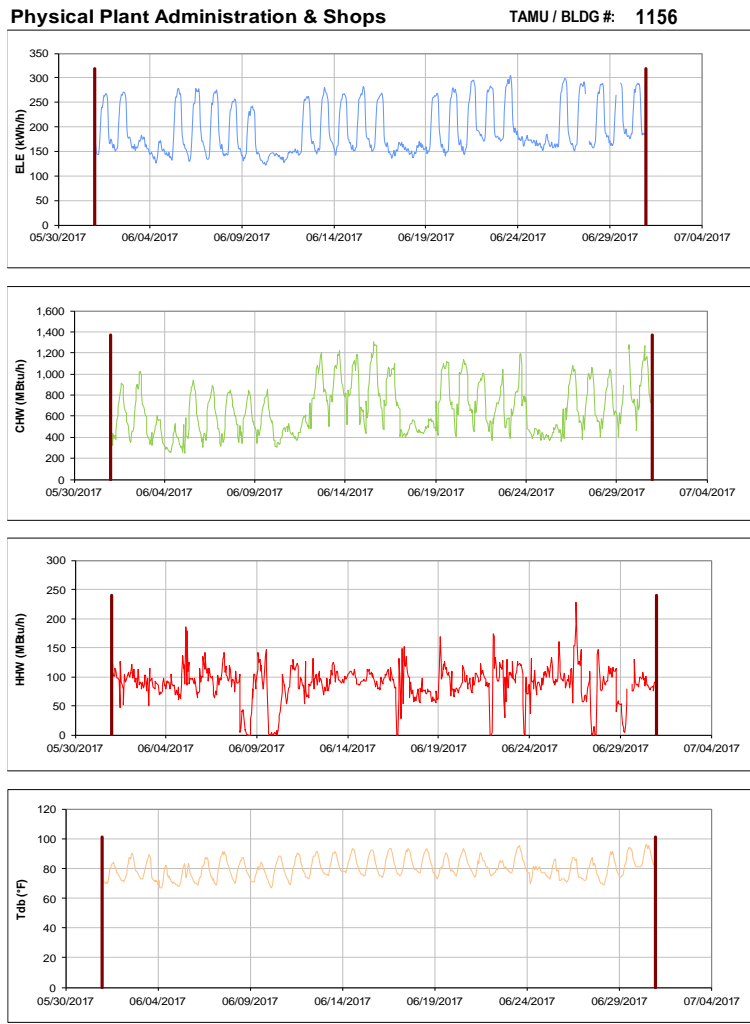


Figure III-137 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Physical Plant Administration & Shops during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

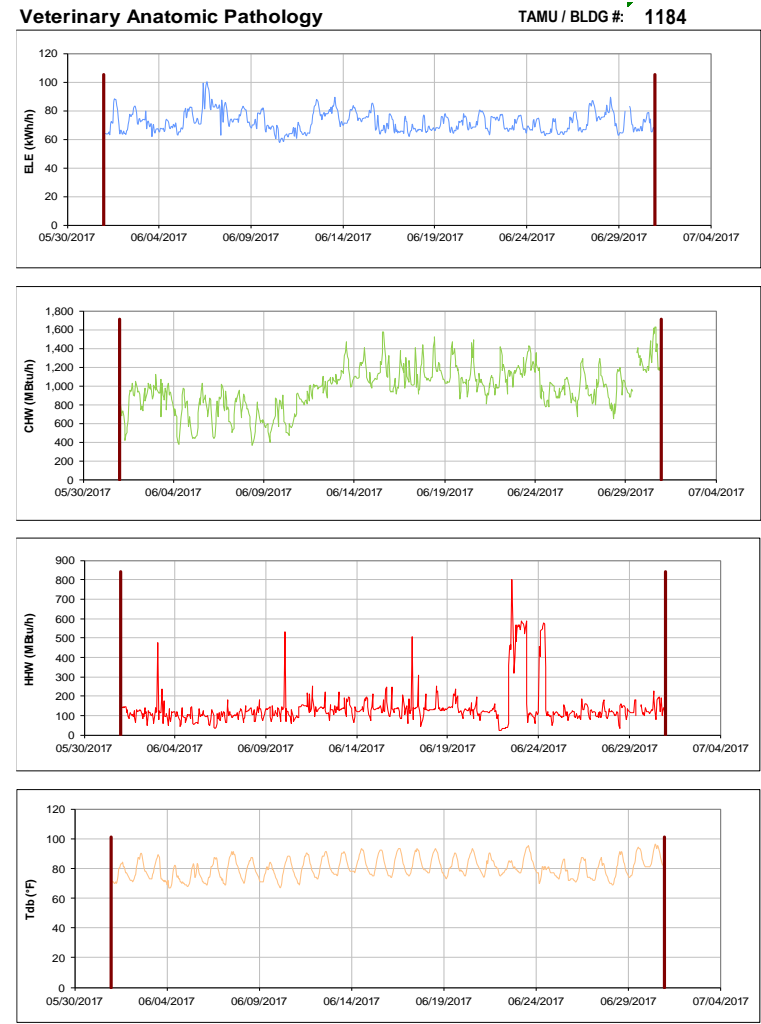


Figure III-138 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Anatomic Pathology during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

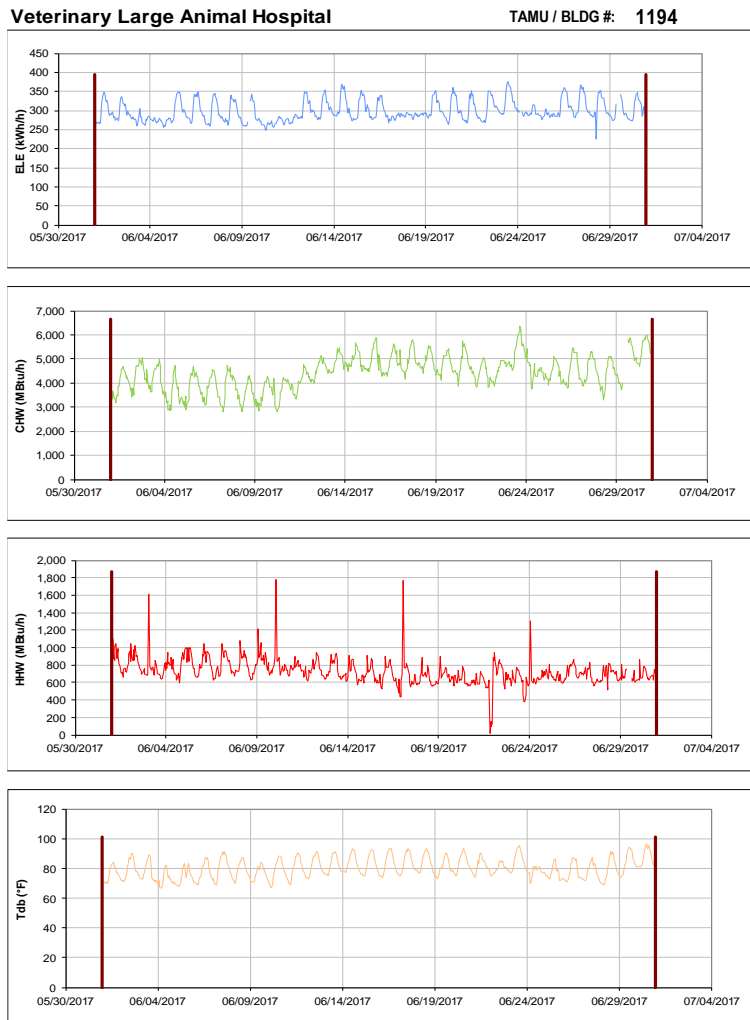


Figure III-139 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Large Animal Hospital during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

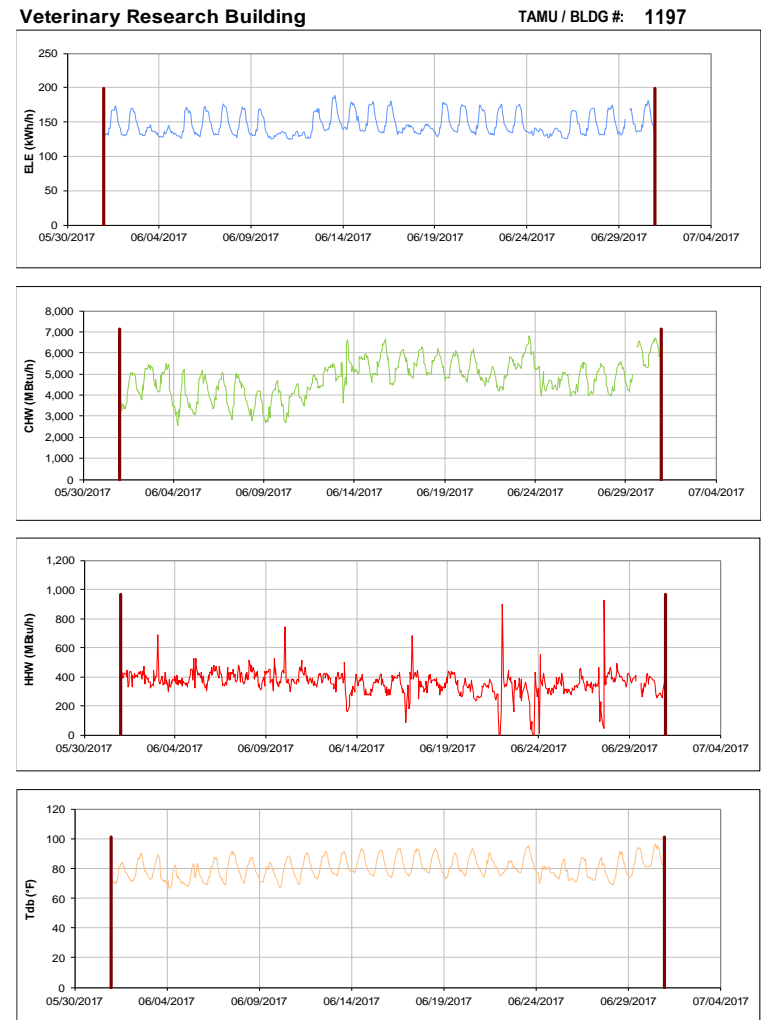


Figure III-140 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Research Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Hullabaloo Residence Hall

TAMU / BLDG #: 1416

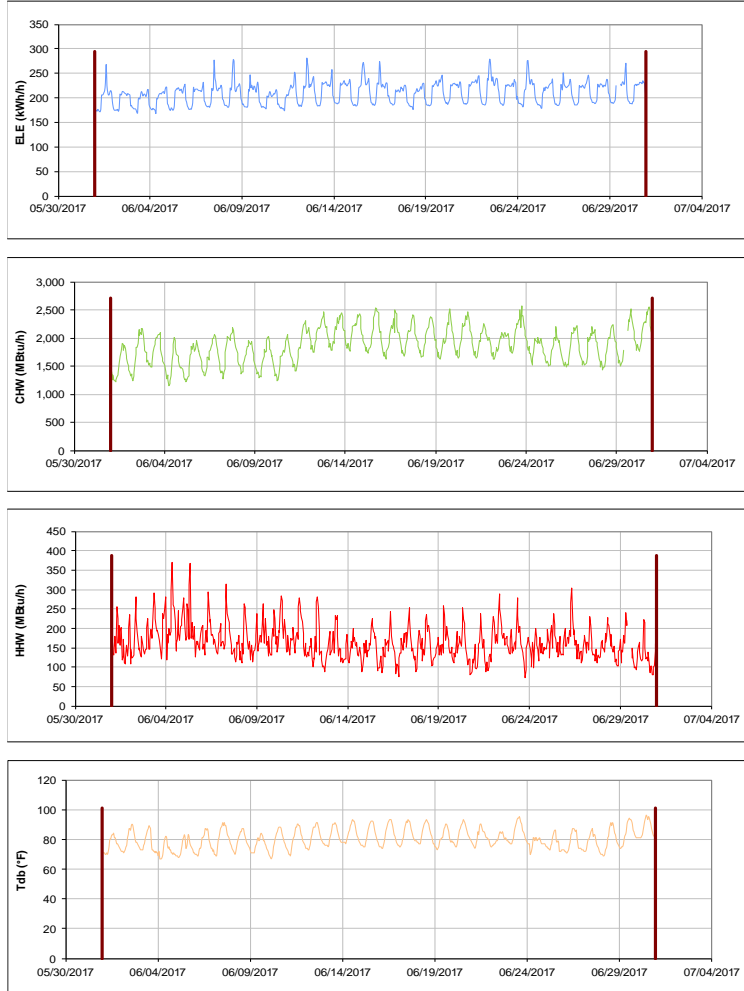


Figure III-141 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Hullabaloo Residence Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

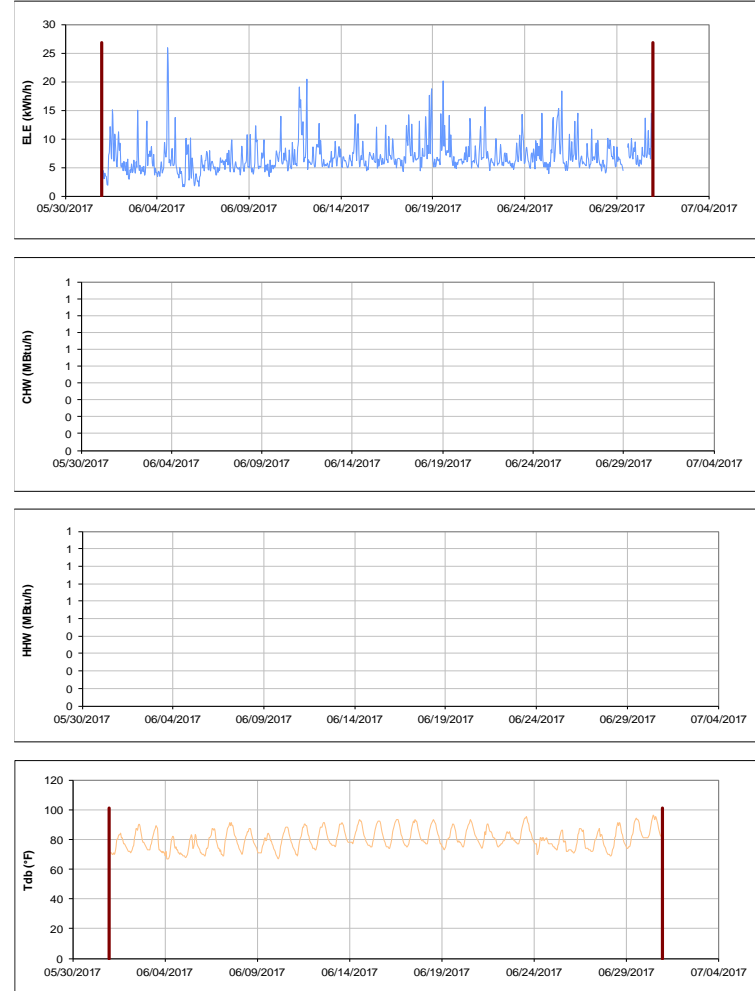


Figure III-142 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - Laundry at the Gardens during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

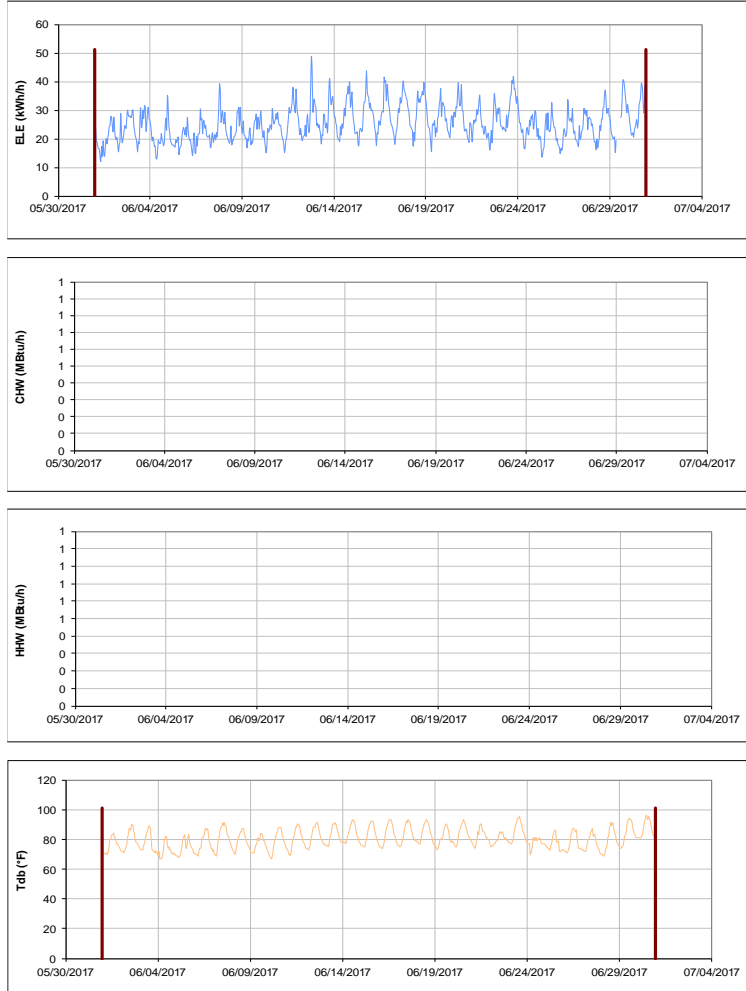


Figure III-143 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens J during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - The Gardens K TAMU / BLDG #: 1452

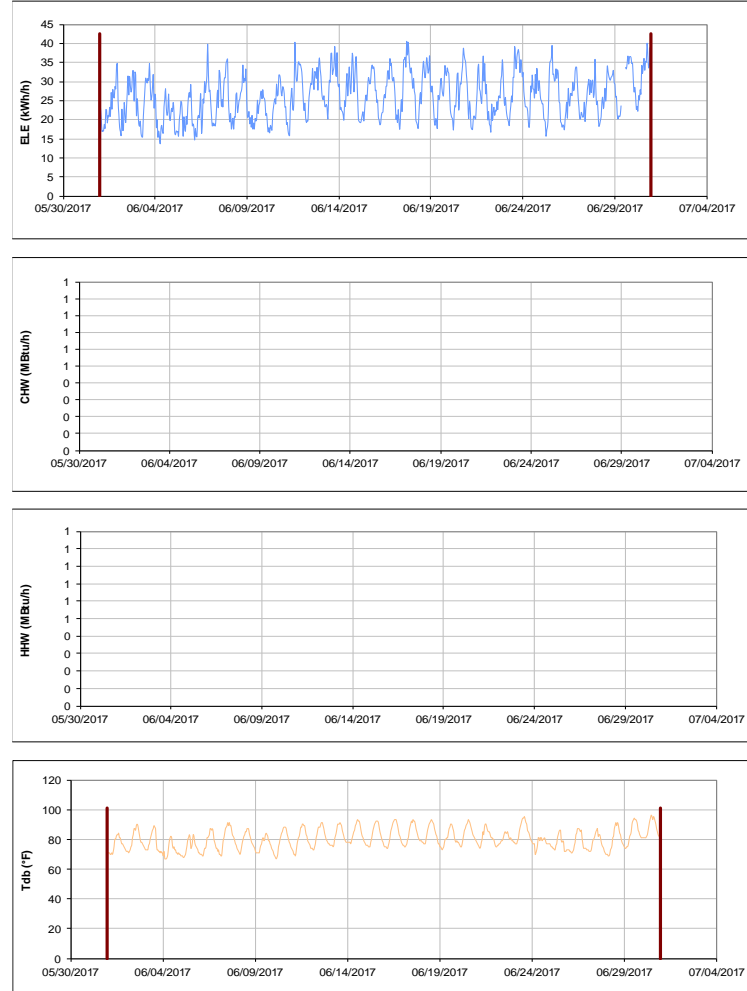


Figure III-144 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens K during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - The Gardens L TAMU / BLDG #: 1453

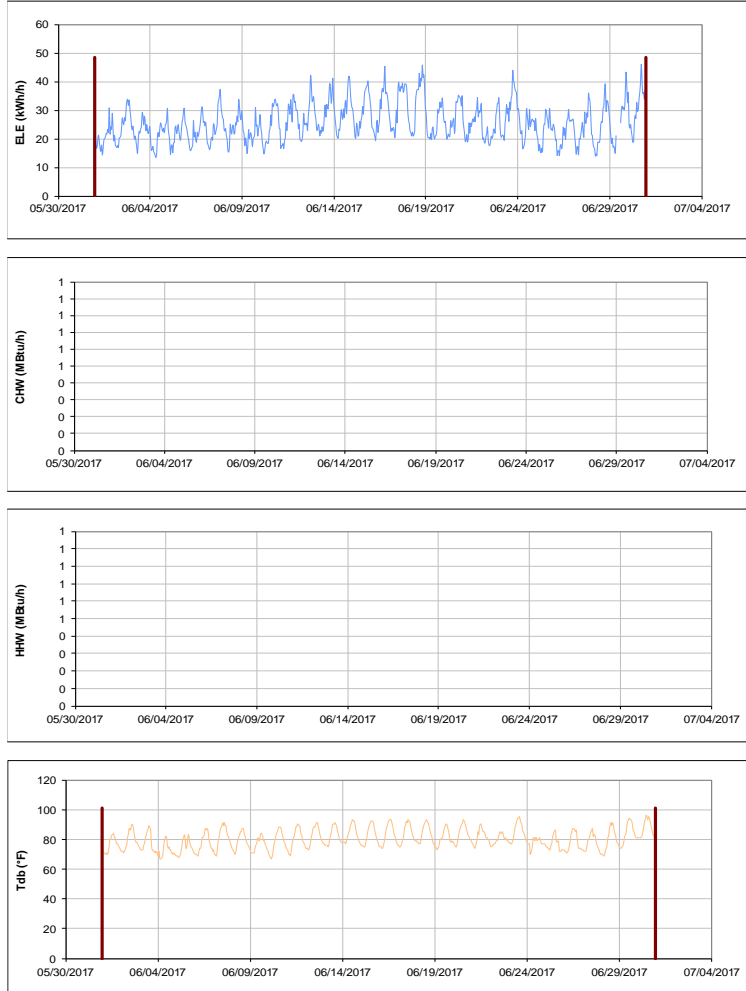


Figure III-145 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens L during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - The Gardens F TAMU / BLDG #: 1454

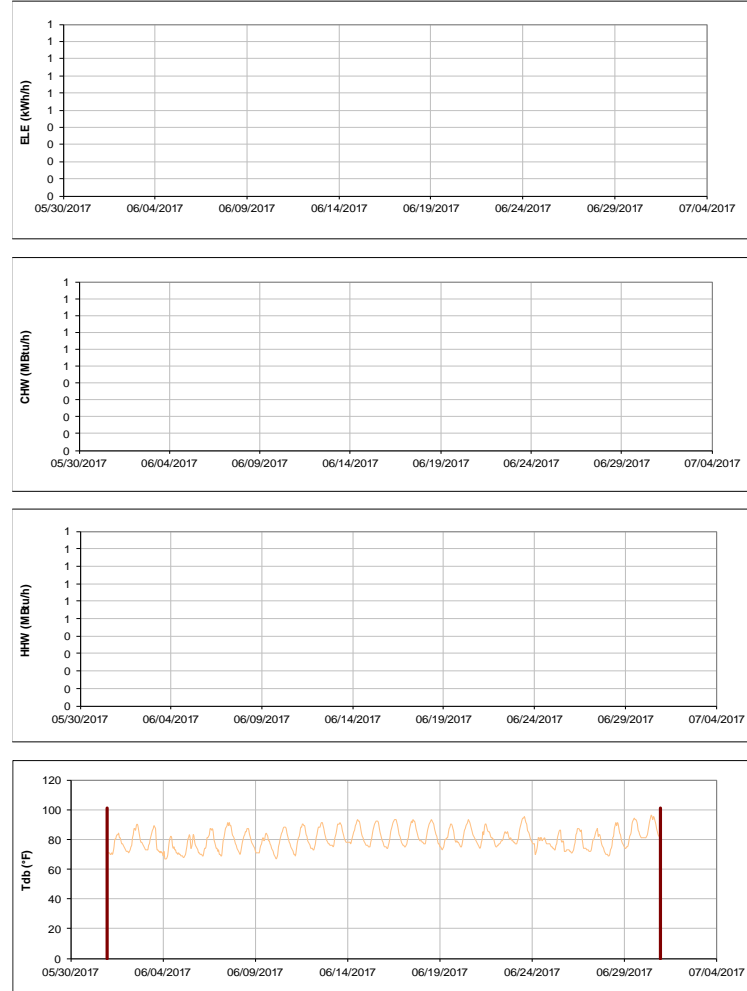


Figure III-146 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens F during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - The Gardens G

TAMU / BLDG #: 1455

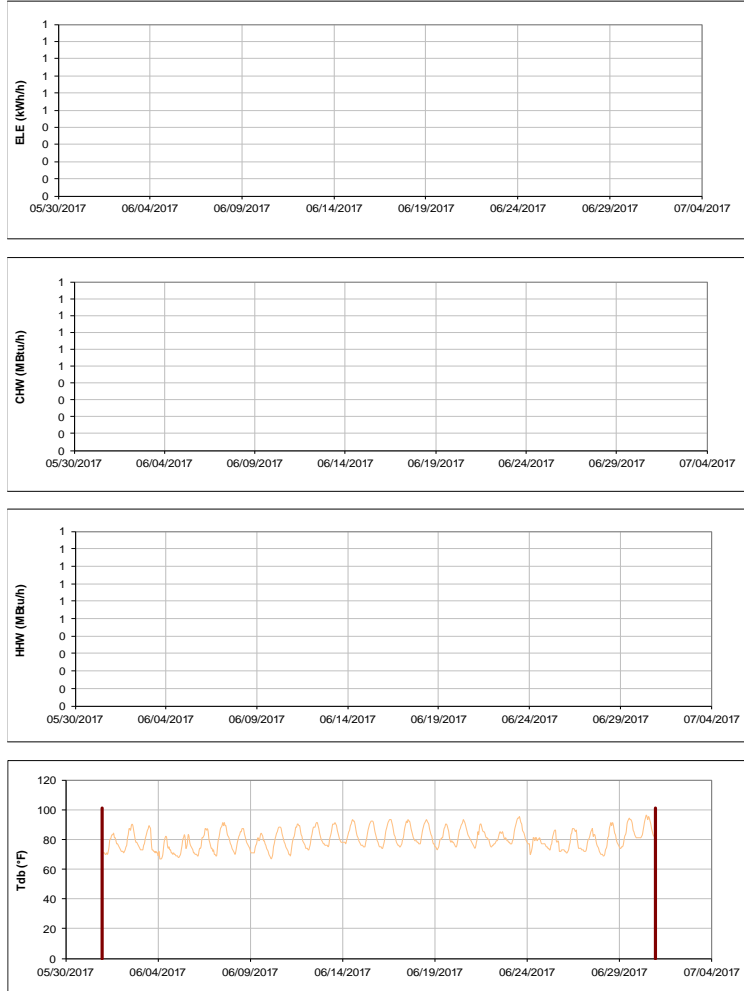


Figure III-147 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens G during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - The Gardens H

TAMU / BLDG #: 1456

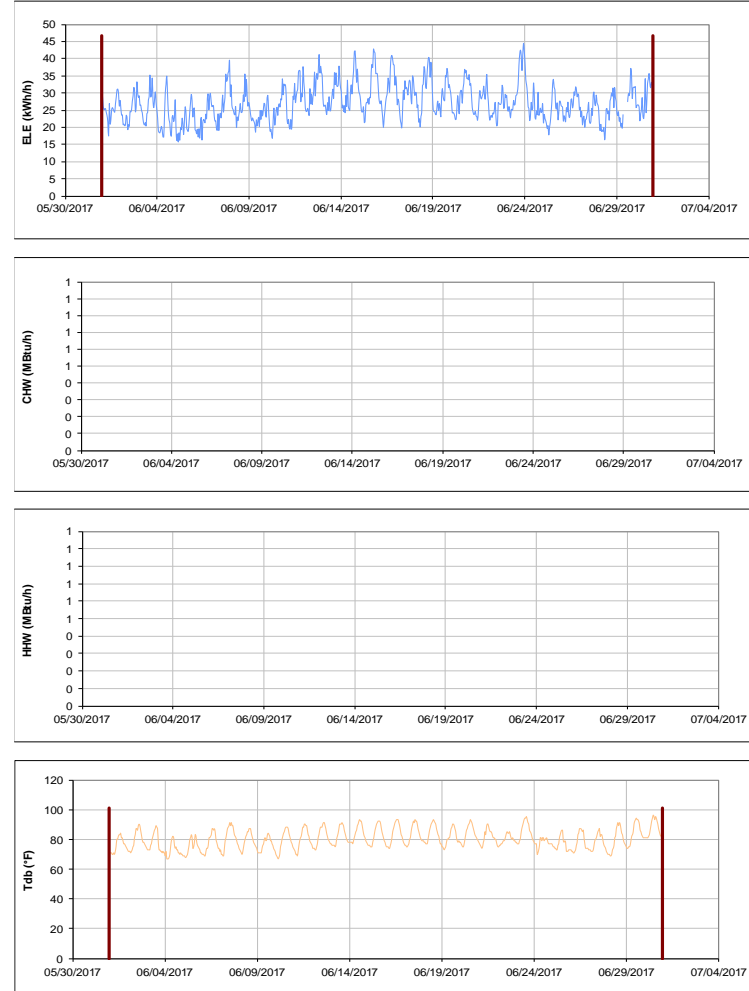


Figure III-148 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens H during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

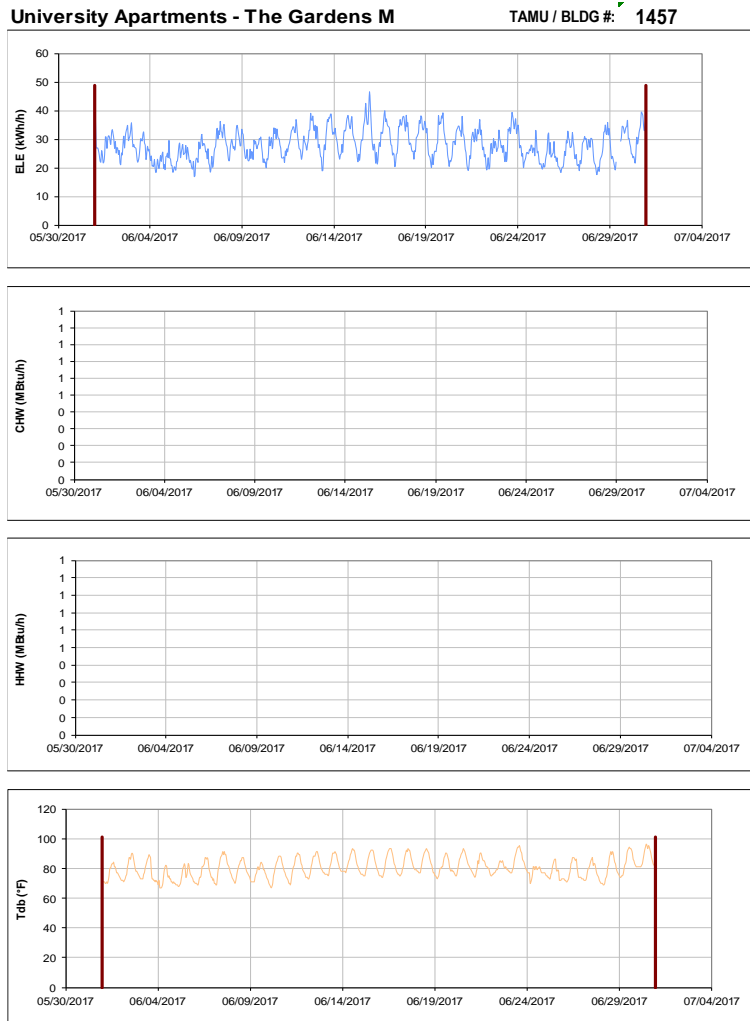


Figure III-149 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens M during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

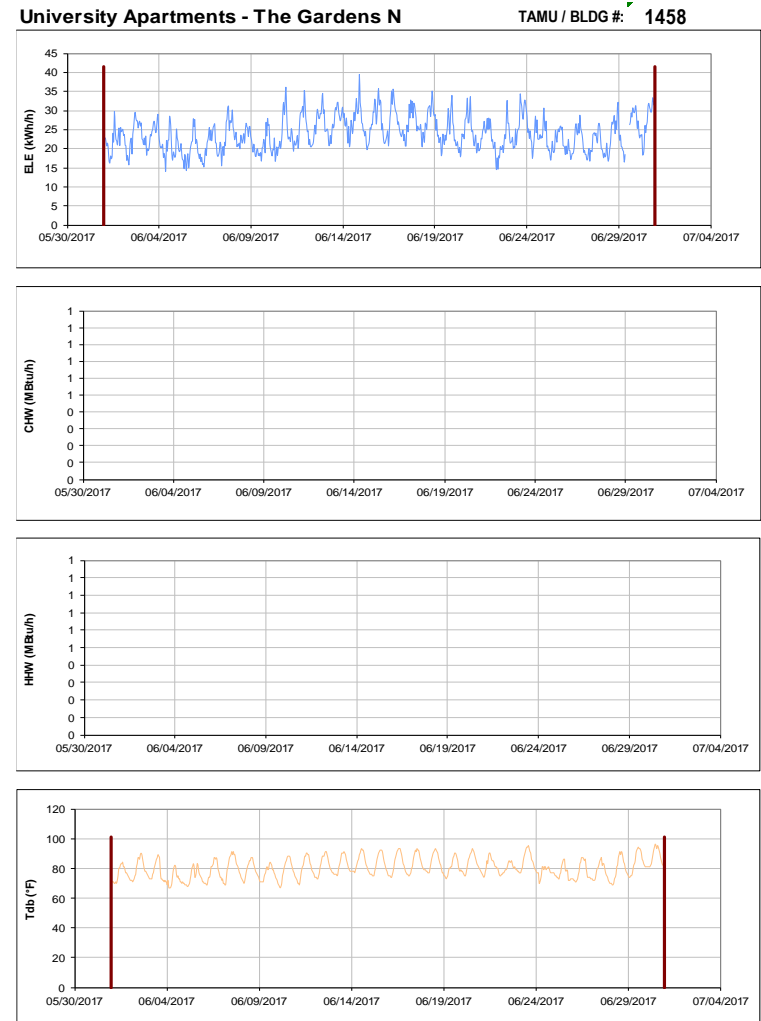


Figure III-150 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens N during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - The Gardens P TAMU / BLDG #: 1459

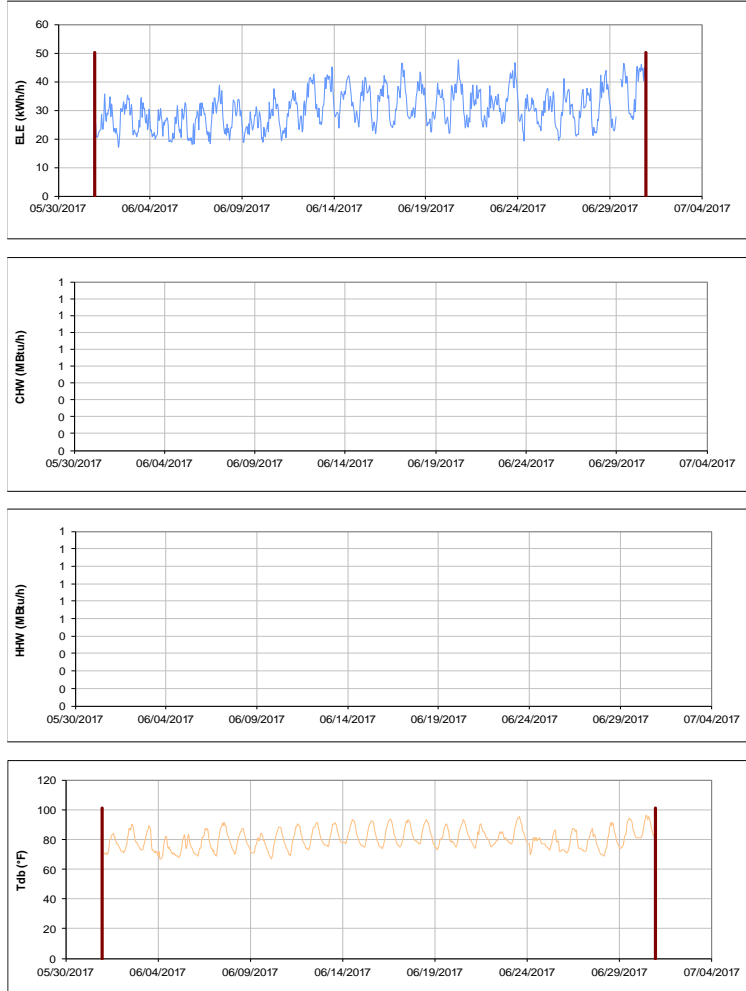


Figure III-151 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens P during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

University Apartments - The Gardens Q TAMU / BLDG #: 1460

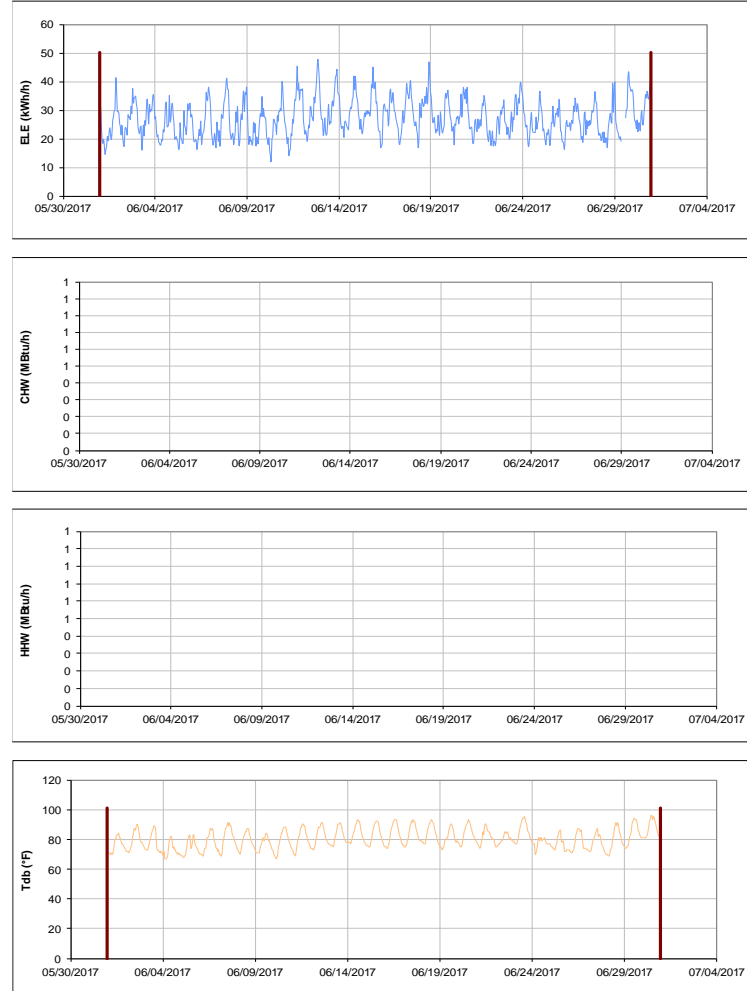


Figure III-152 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for University Apartments - The Gardens Q during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Utilities & Energy Services Business Office TAMU / BLDG #: 1497



Figure III-153 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Utilities & Energy Services Business Office during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Kleberg Center TAMU / BLDG #: 1501

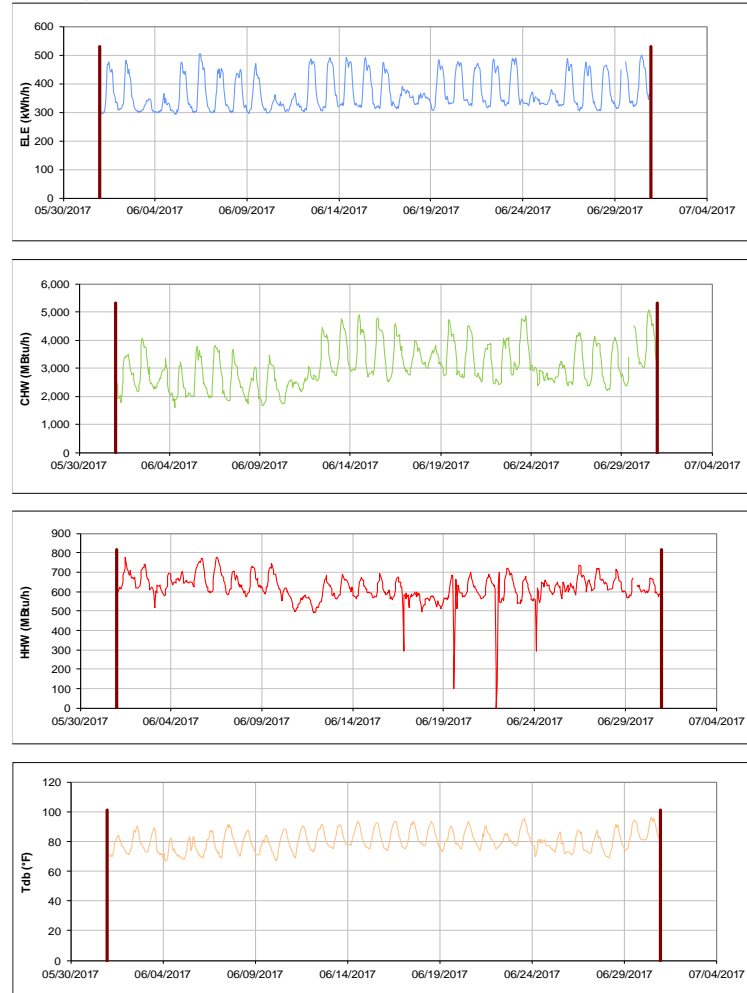


Figure III-154 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Kleberg Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

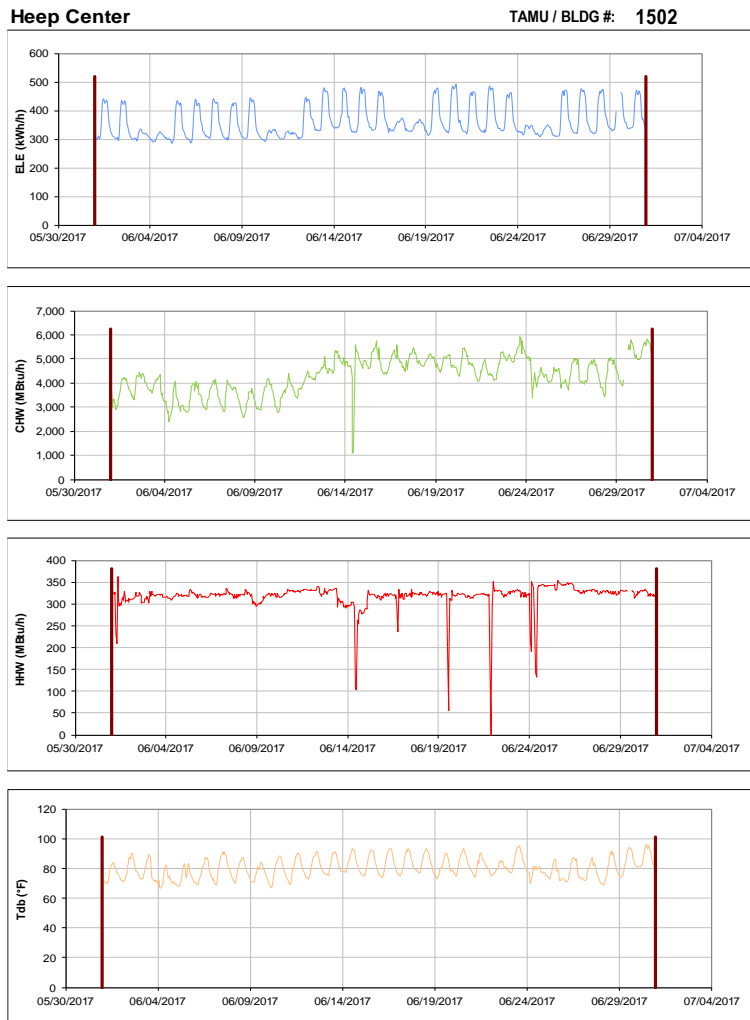


Figure III-155 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Heep Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

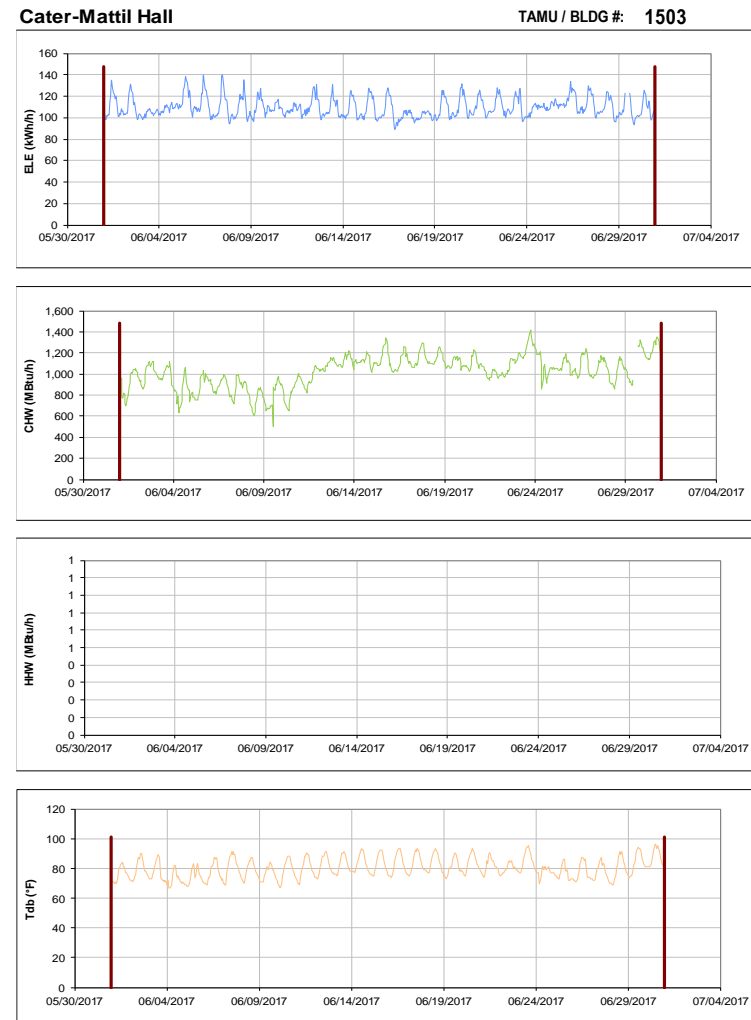


Figure III-156 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cater-Mattil Hall during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

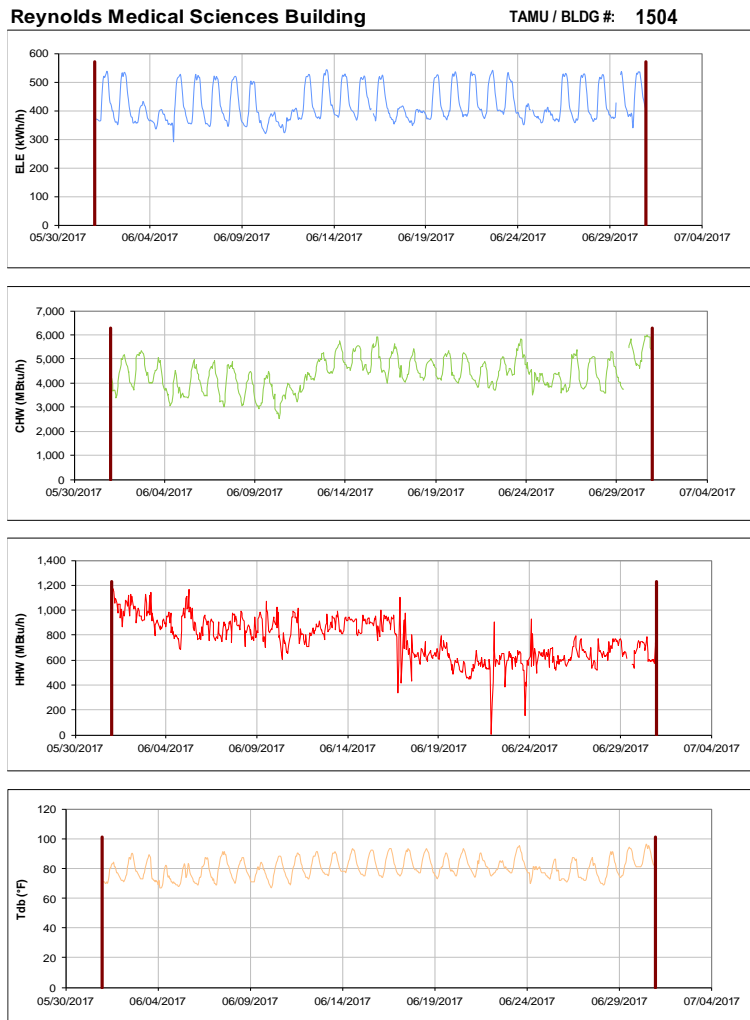


Figure III-157 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reynolds Medical Sciences Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-158 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Rosenthal Meat Science & Technology Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

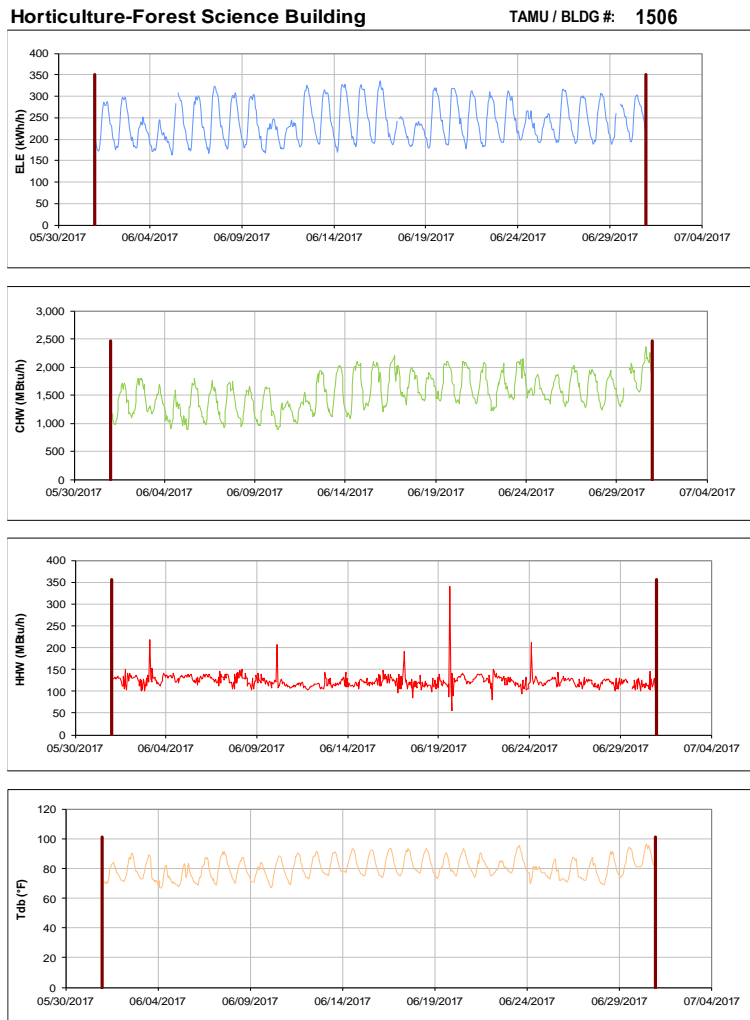


Figure III-159 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Horticulture-Forest Science Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

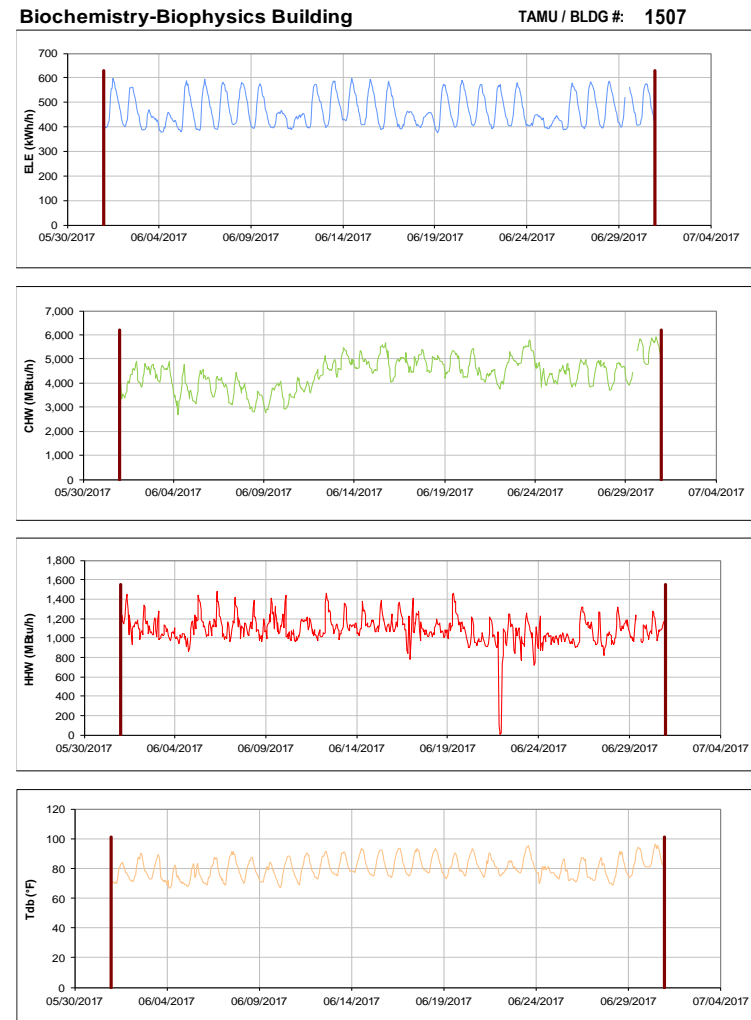


Figure III-160 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Biochemistry-Biophysics Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Price Hobgood Ag. Engineering Research Lab TAMU / BLDG #: 1508

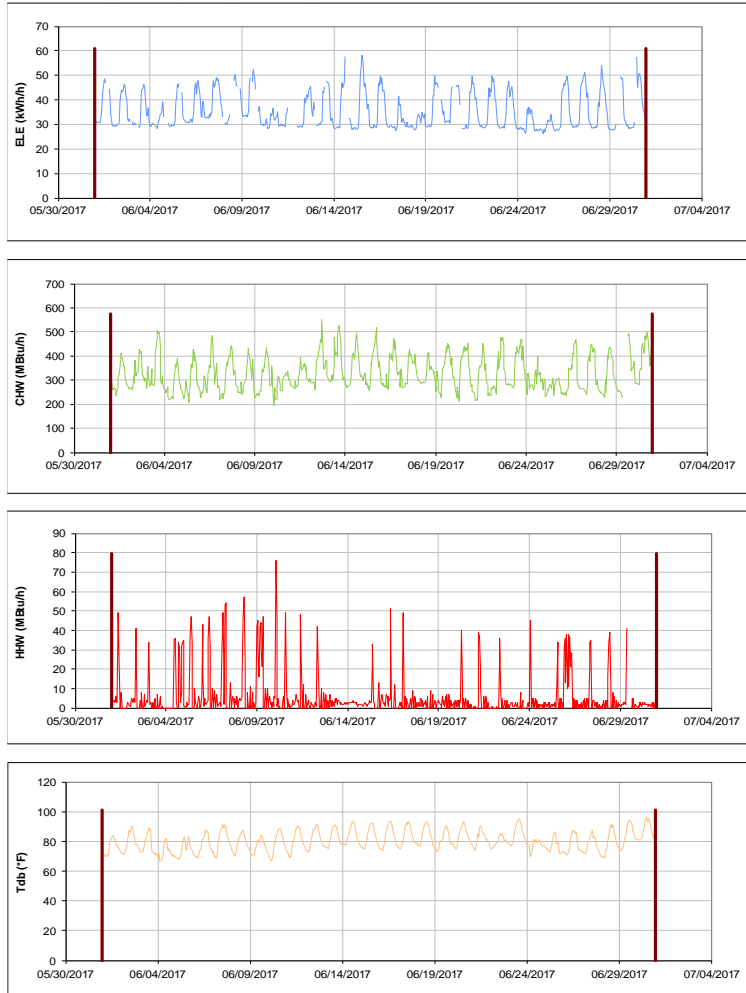


Figure III-161 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Price Hobgood Ag. Engineering Research Lab during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Medical Sciences Library TAMU / BLDG #: 1509

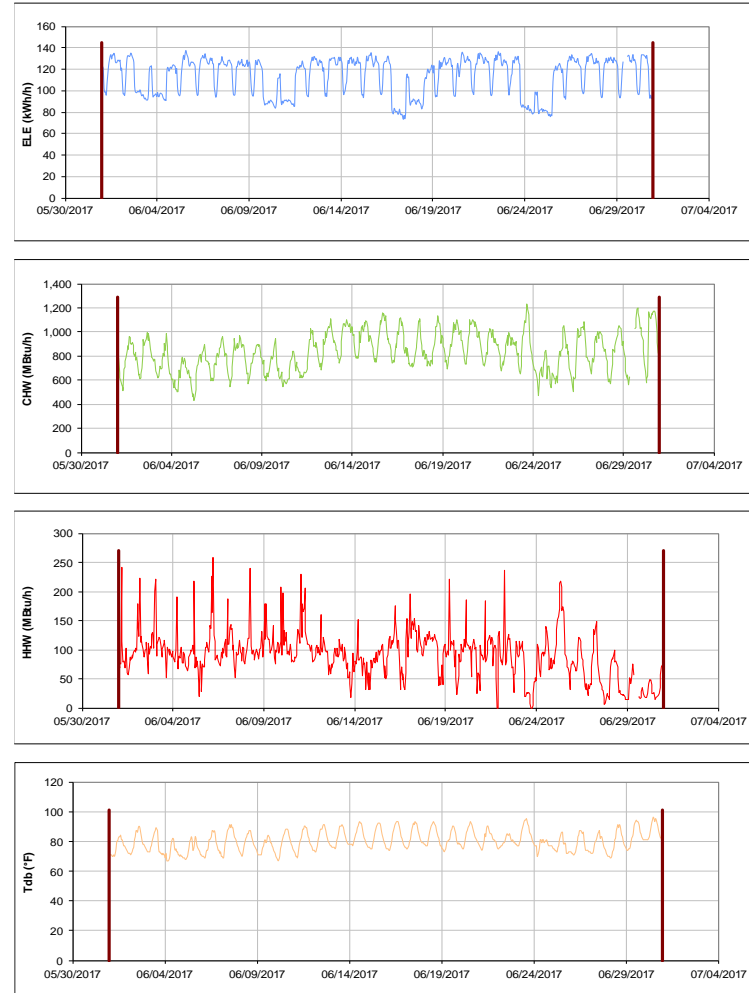


Figure III-162 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Medical Sciences Library during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Wehner Building

TAMU / BLDG #: 1510

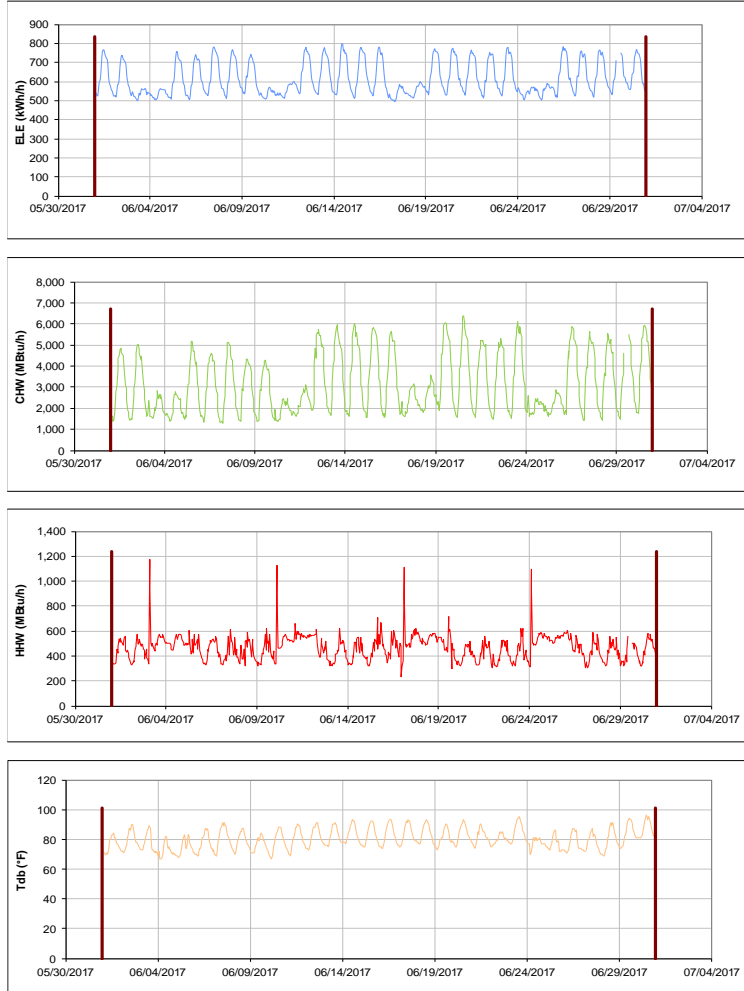


Figure III-163 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Wehner Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

West Campus Library Facility

TAMU / BLDG #: 1511

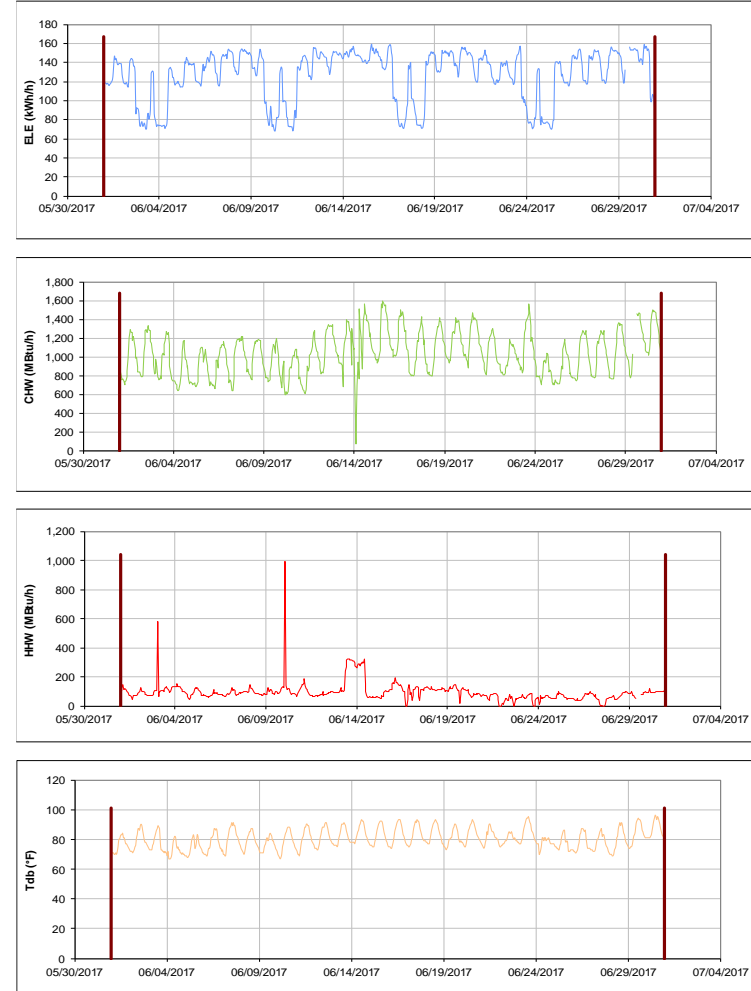


Figure III-164 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for West Campus Library Facility during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

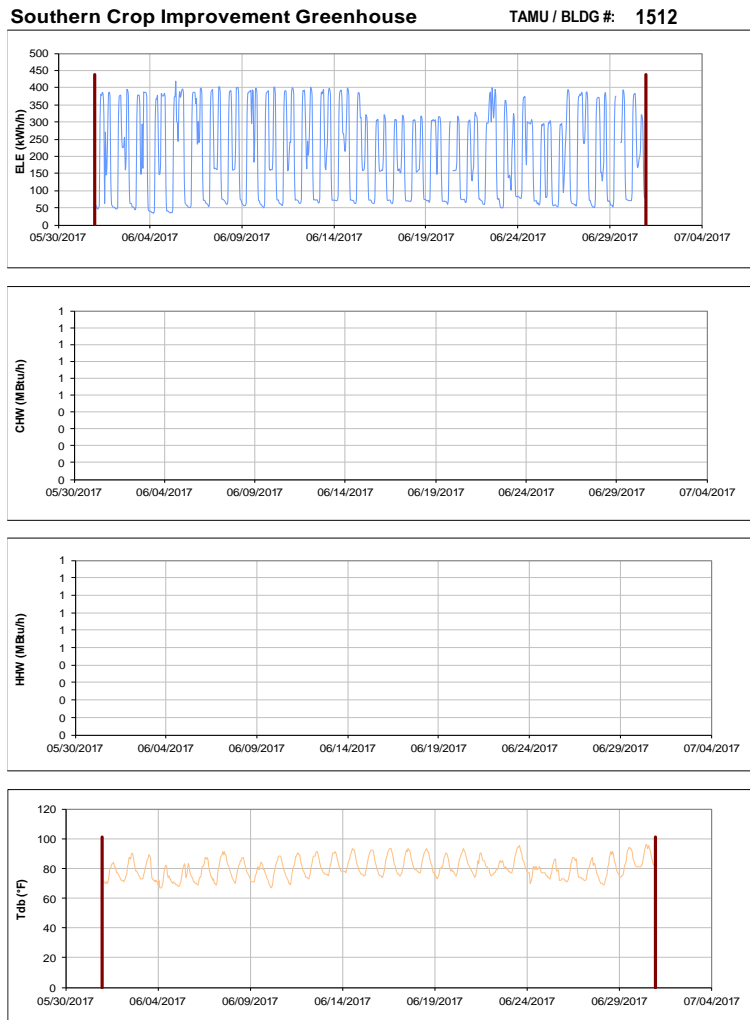


Figure III-165 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Southern Crop Improvement Greenhouse during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

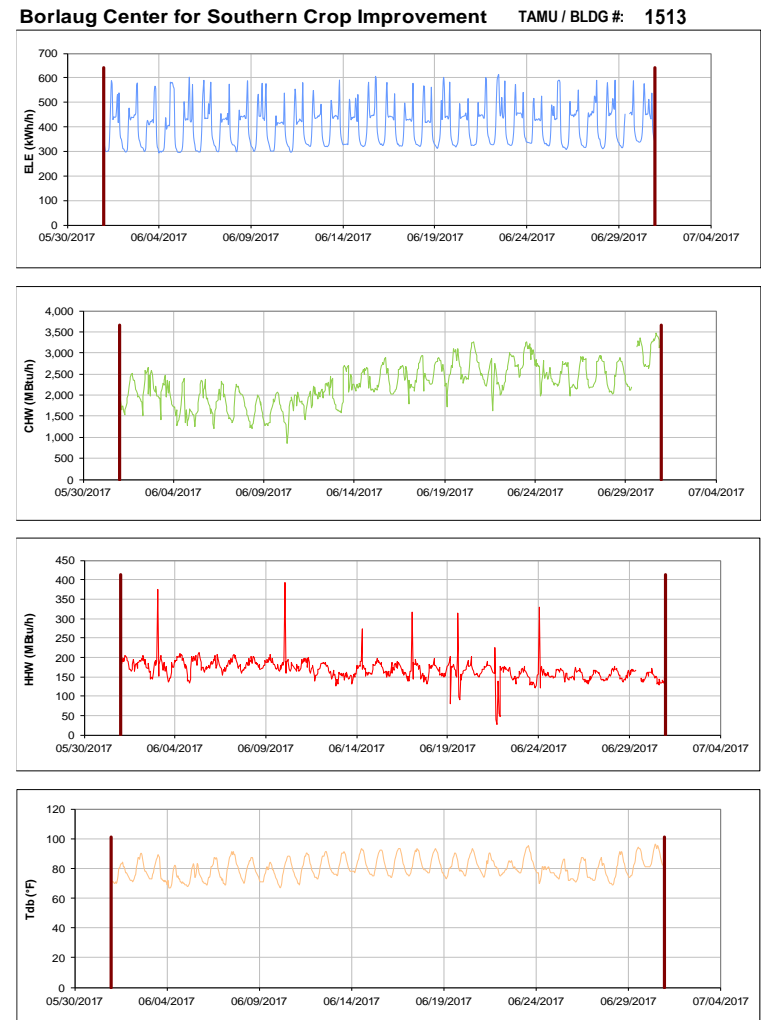


Figure III-166 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Borlaug Center for Southern Crop Improvement during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

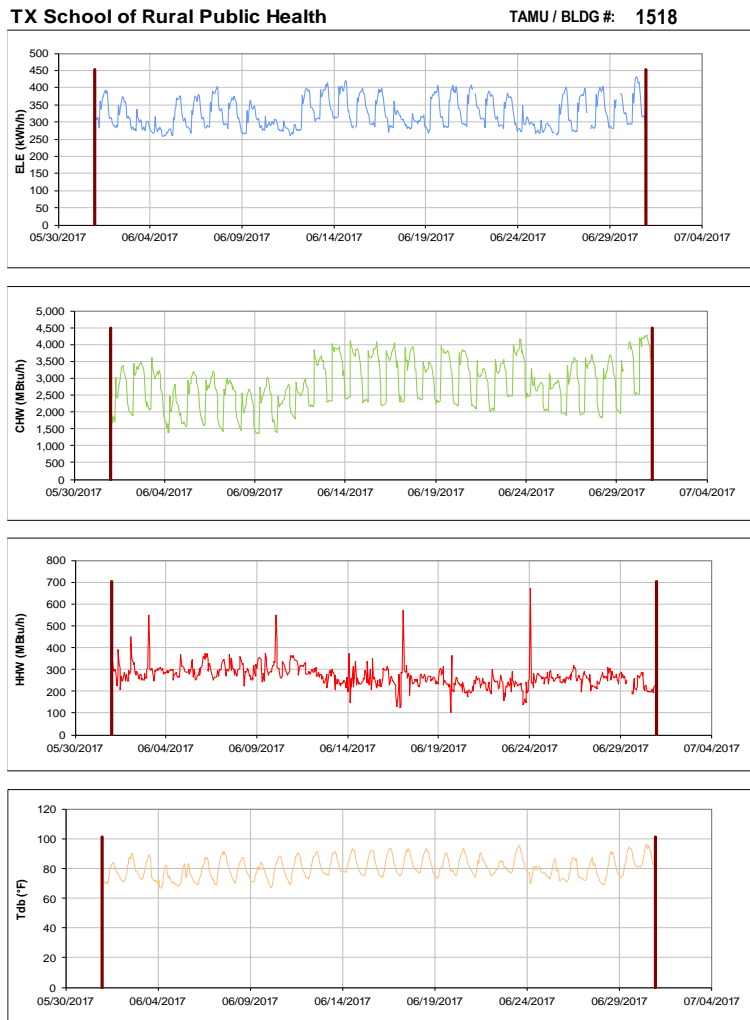


Figure III-167 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TX School of Rural Public Health during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

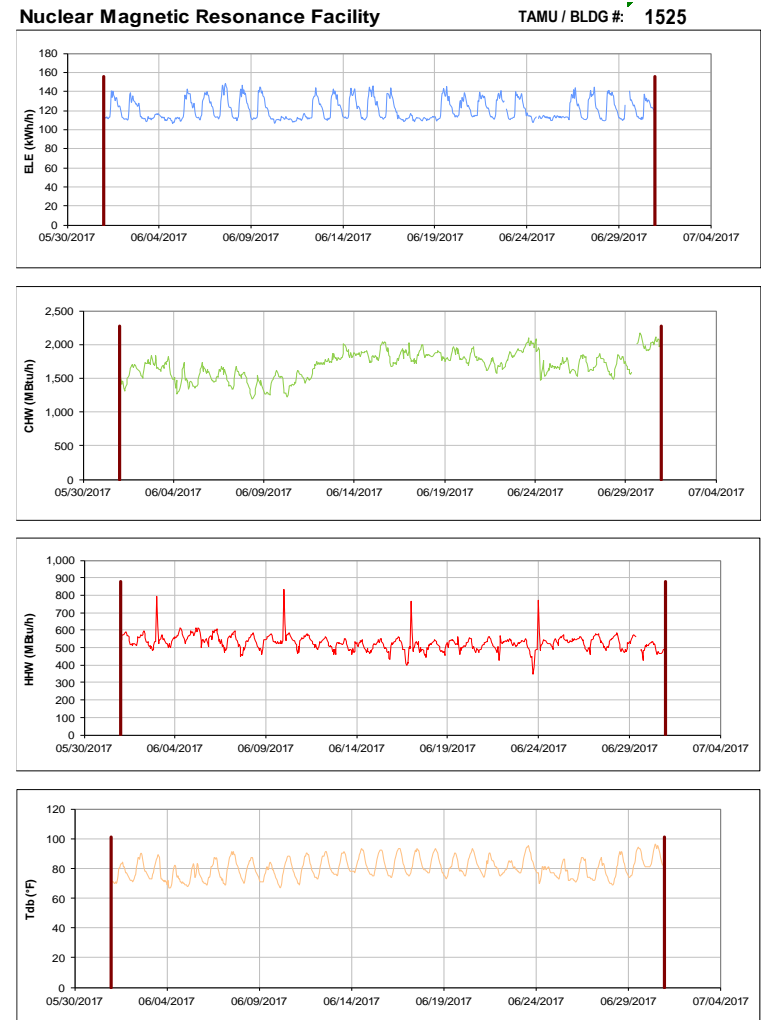


Figure III-168 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Nuclear Magnetic Resonance Facility during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-169 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Interdisciplinary Life Sciences Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

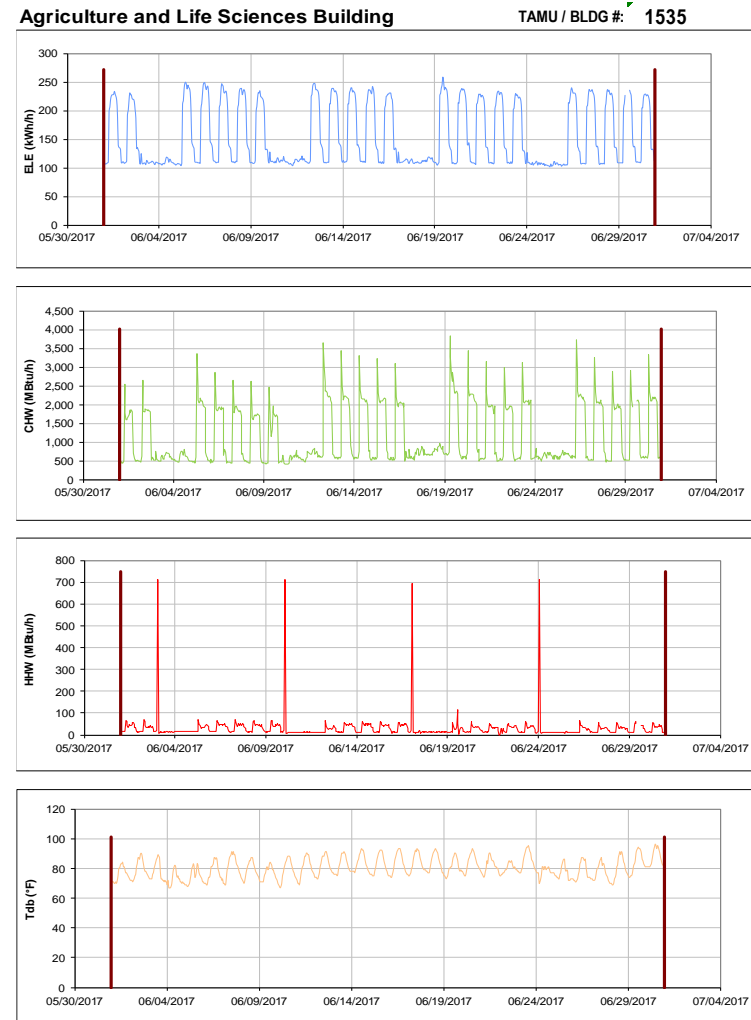


Figure III-170 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture and Life Sciences Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

AgriLife Services Building

TAMU / BLDG #: 1536

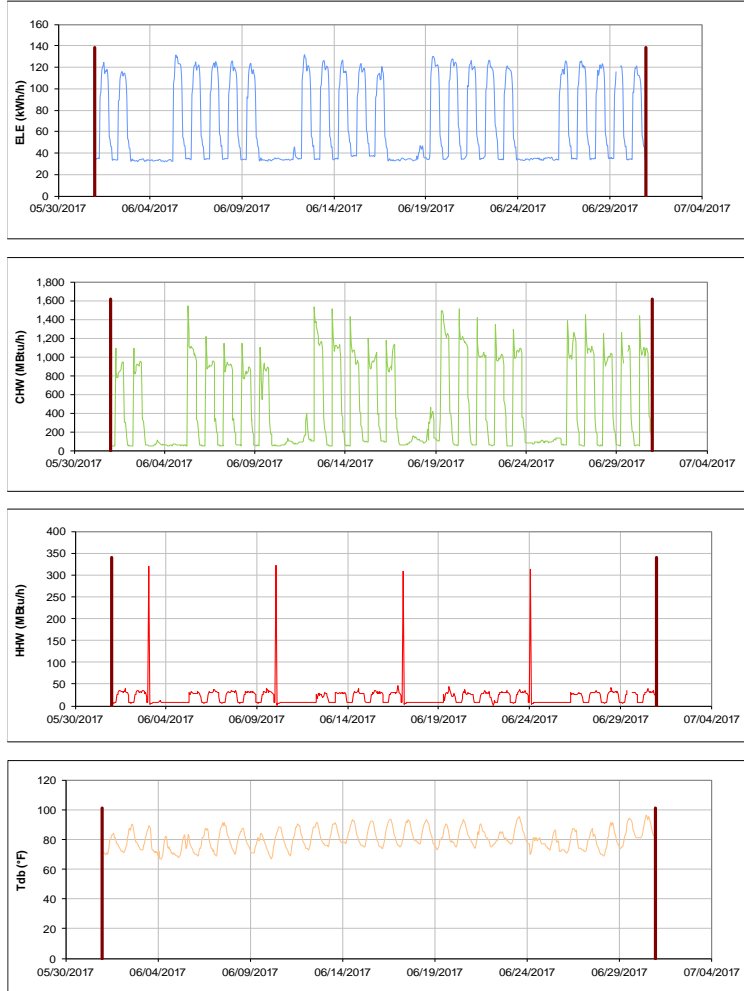


Figure III-171 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for AgriLife Services Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Agriculture Public Building

TAMU / BLDG #: 1537

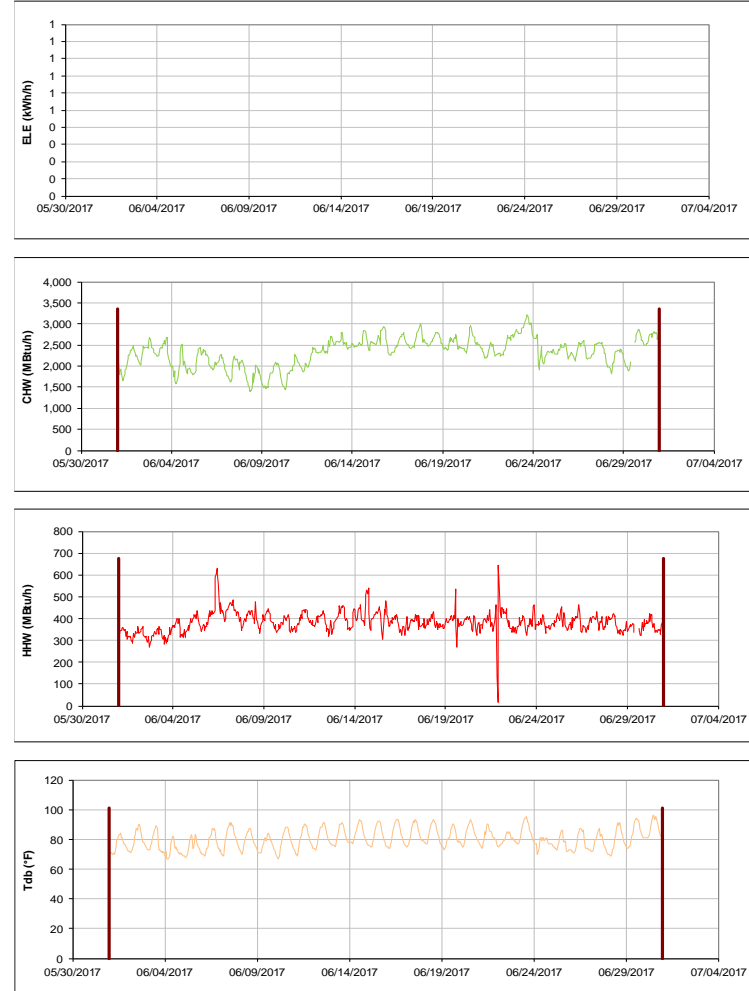


Figure III-172 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture Public Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

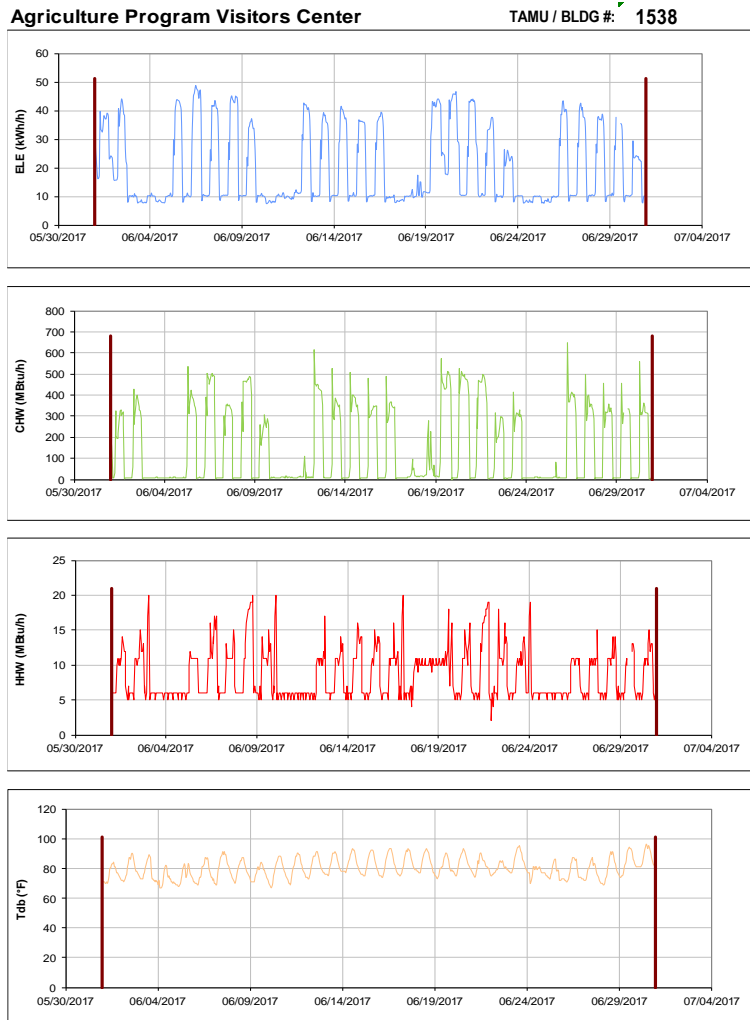


Figure III-173 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Agriculture Program Visitors Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

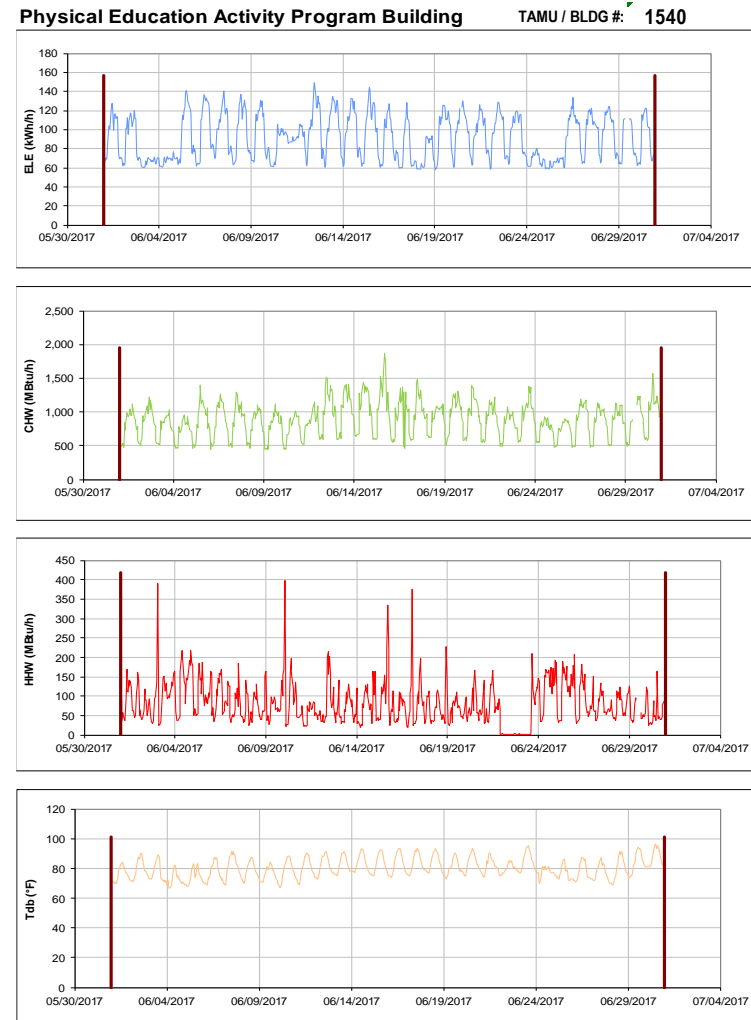


Figure III-174 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Physical Education Activity Program Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

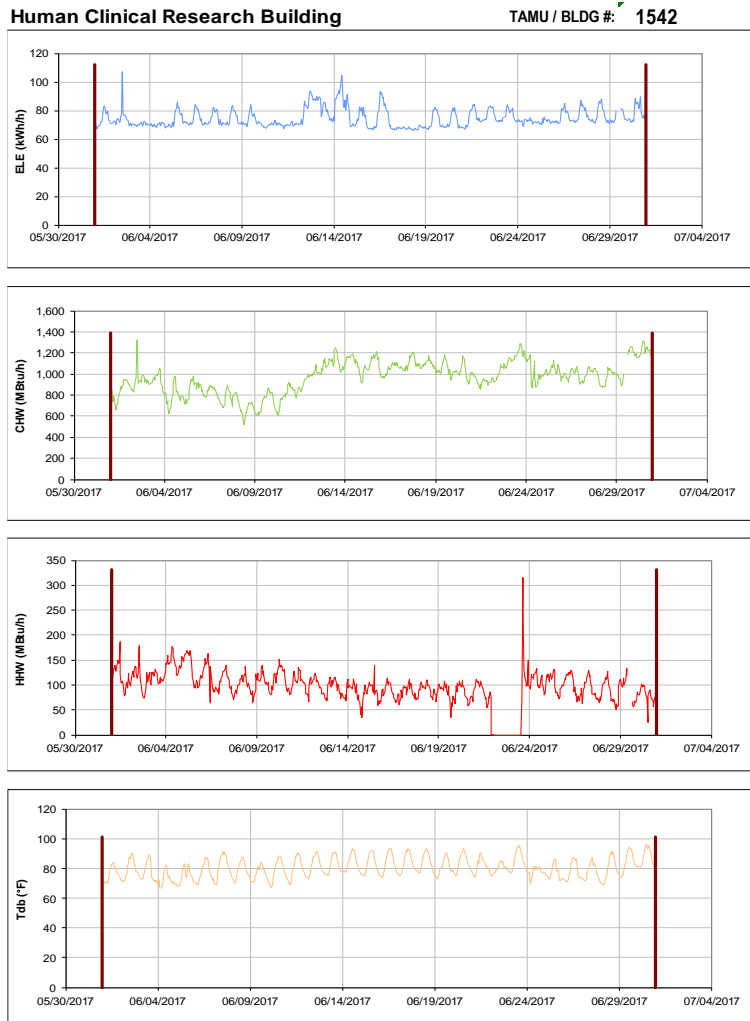


Figure III-175 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Human Clinical Research Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

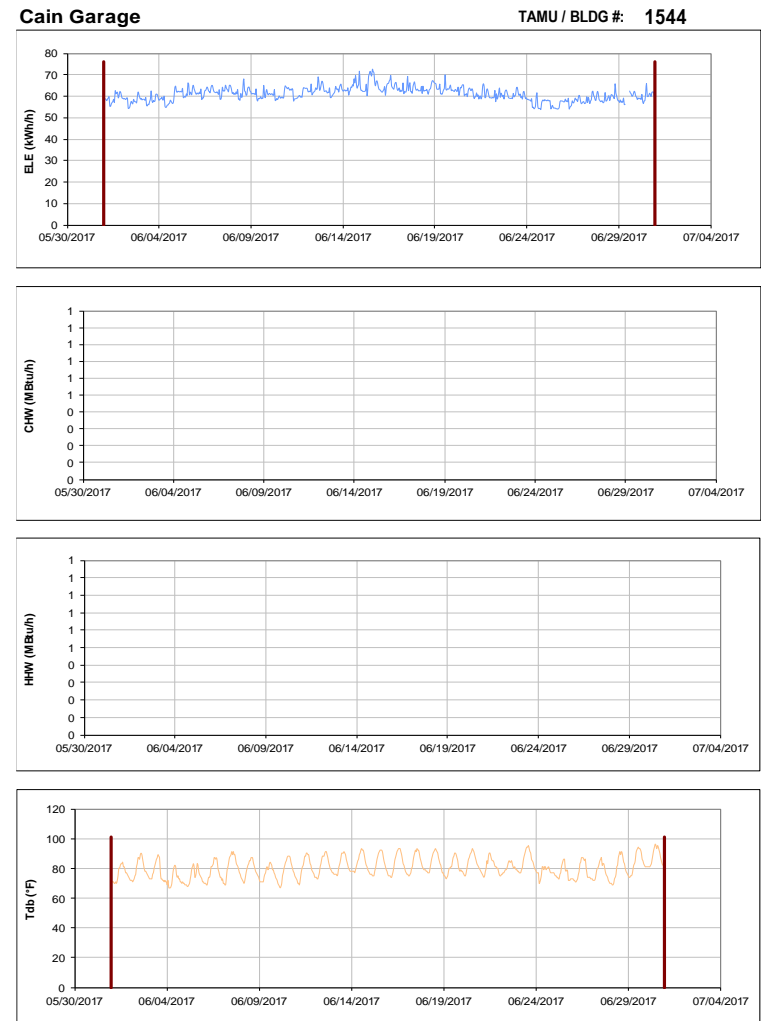


Figure III-176 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cain Garage during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

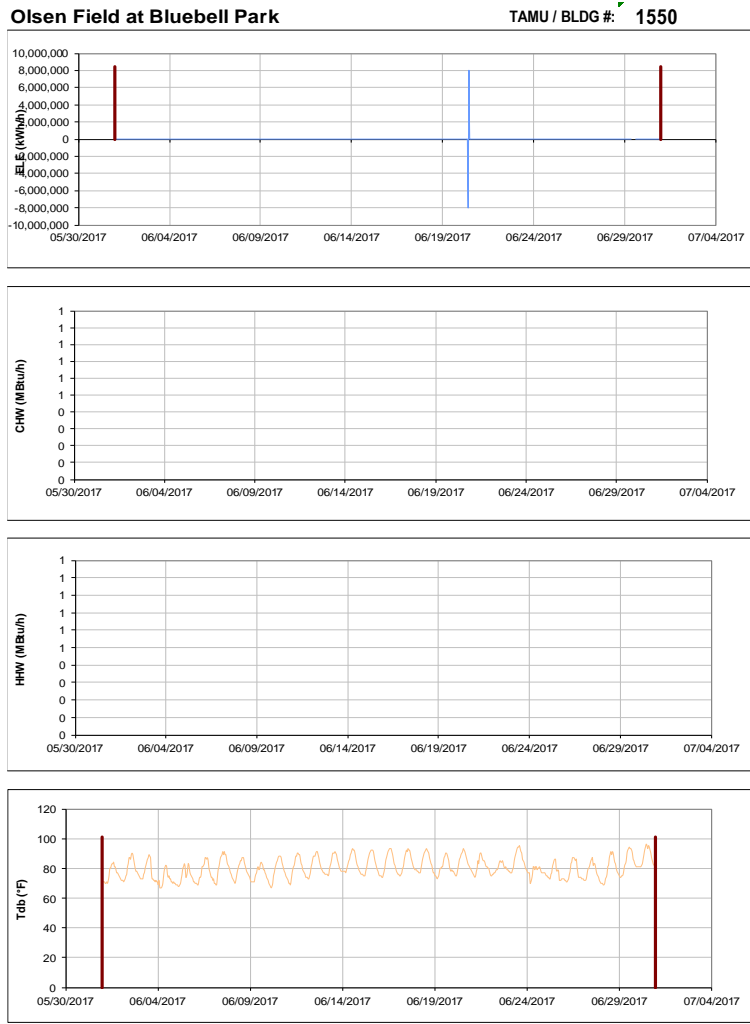


Figure III-177 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Olsen Field at Bluebell Park during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

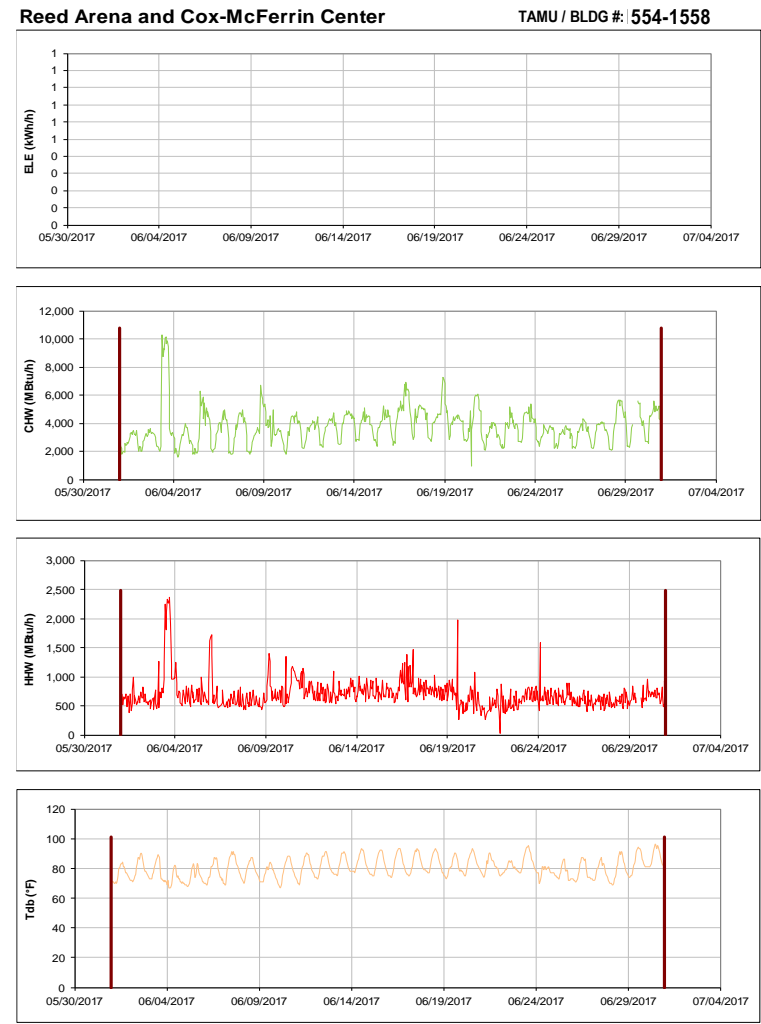


Figure III-178 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Reed Arena and Cox-McFerrin Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

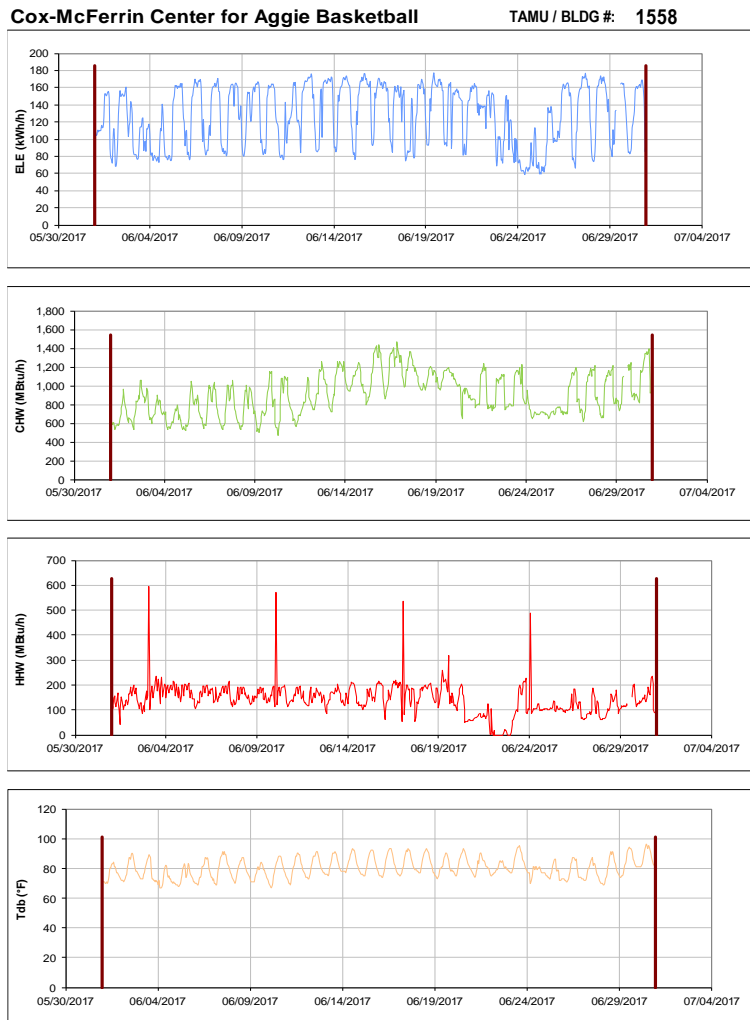


Figure III-179 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Cox-McFerrin Center for Aggie Basketball during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

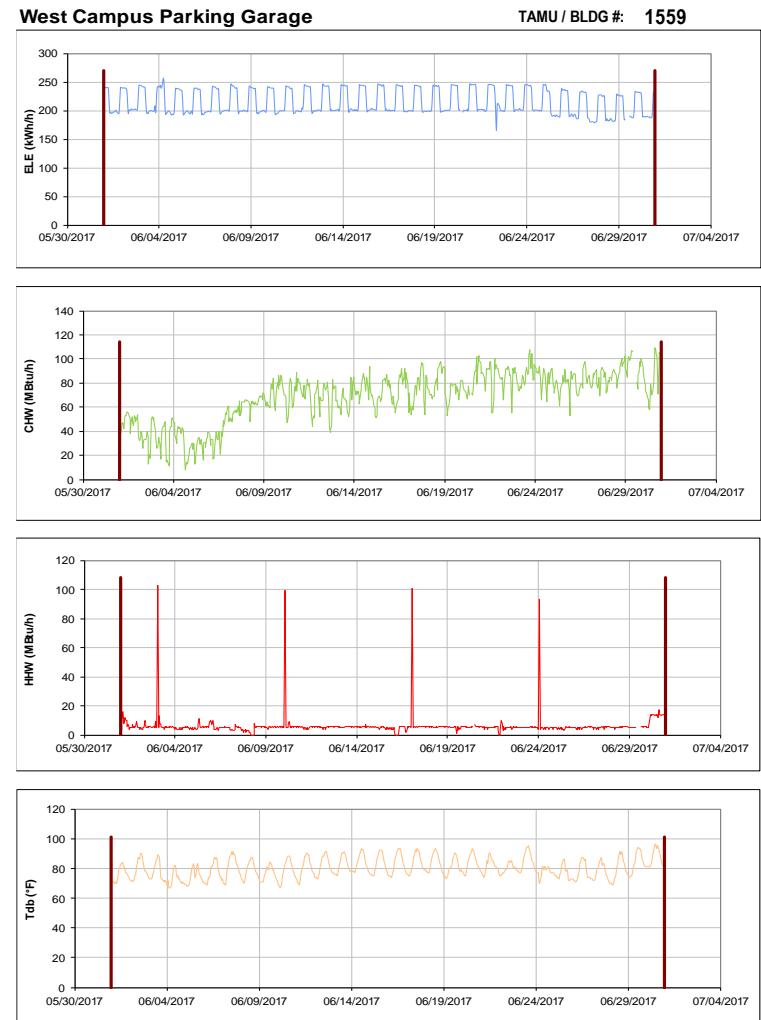


Figure III-180 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for West Campus Parking Garage during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Student Recreation Center

TAMU / BLDG #: 1560

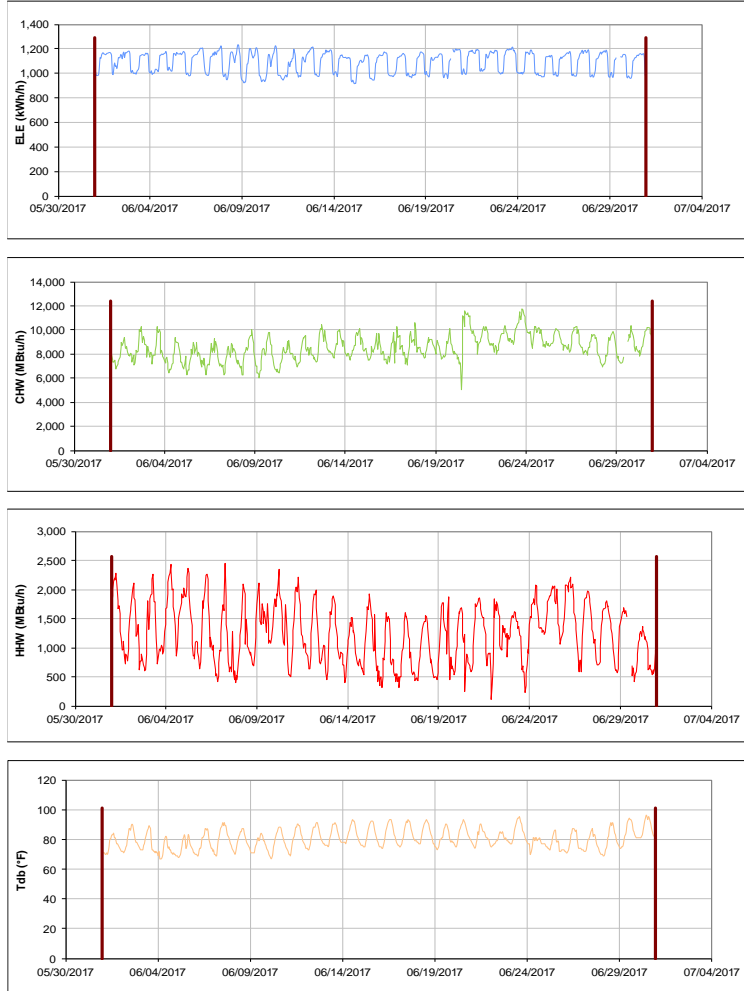


Figure III-181 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Student Recreation Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

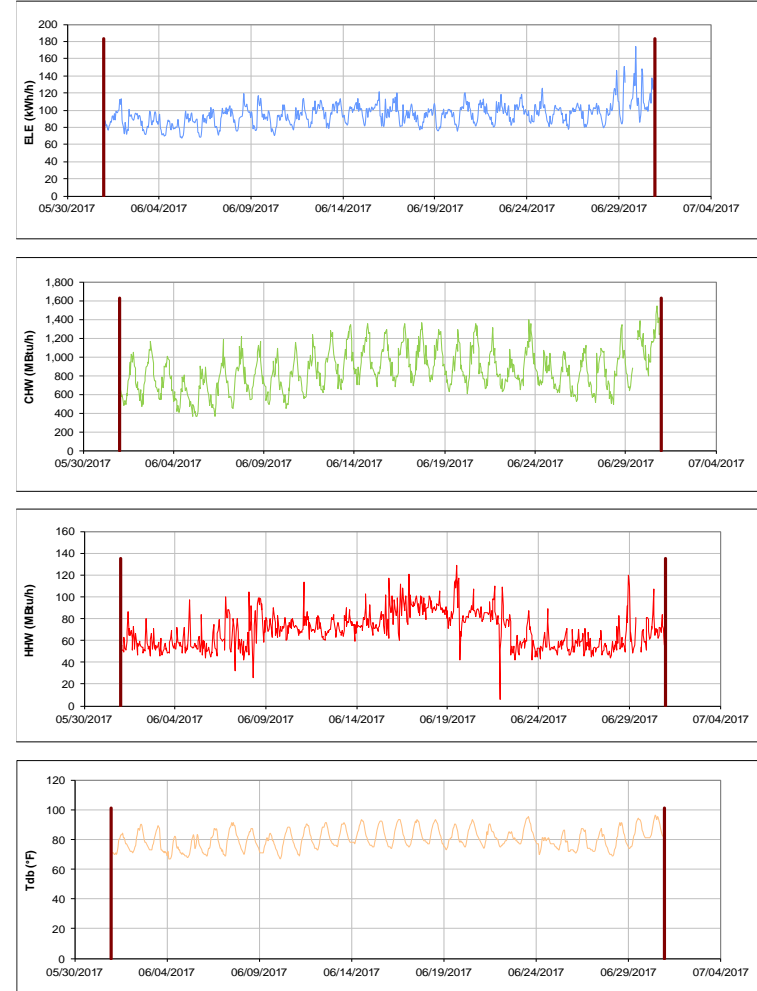


Figure III-182 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 1 and White Creek Apts Activity Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

White Creek Apartment 2

TAMU / BLDG #: 1591

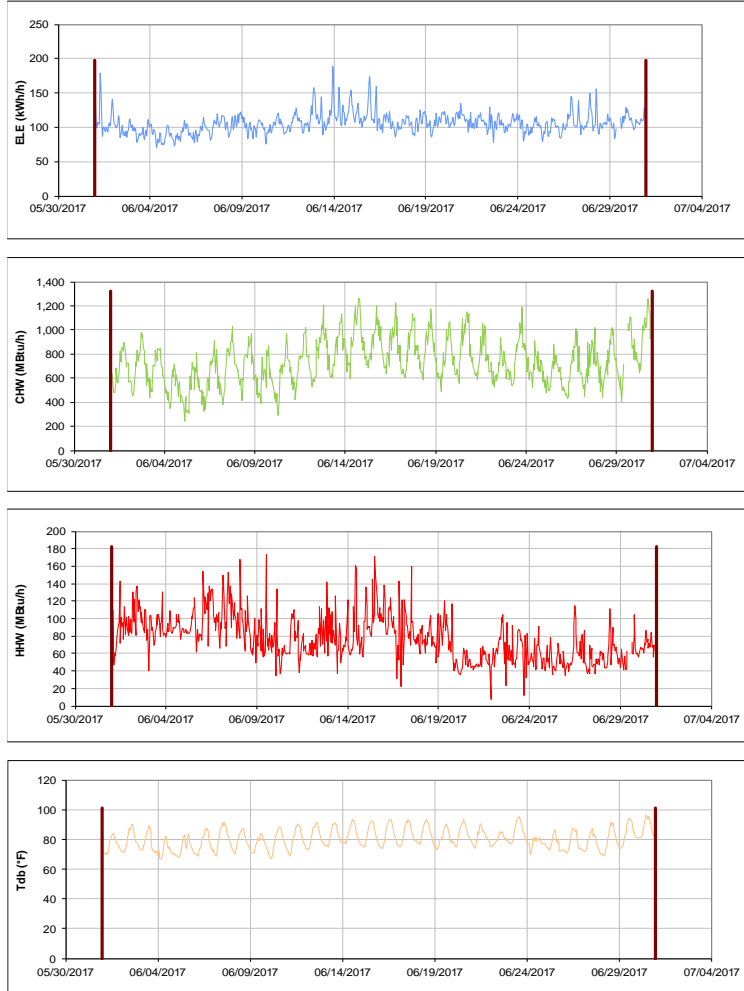


Figure III-183 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 2 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

White Creek Apartment 3

TAMU / BLDG #: 1592

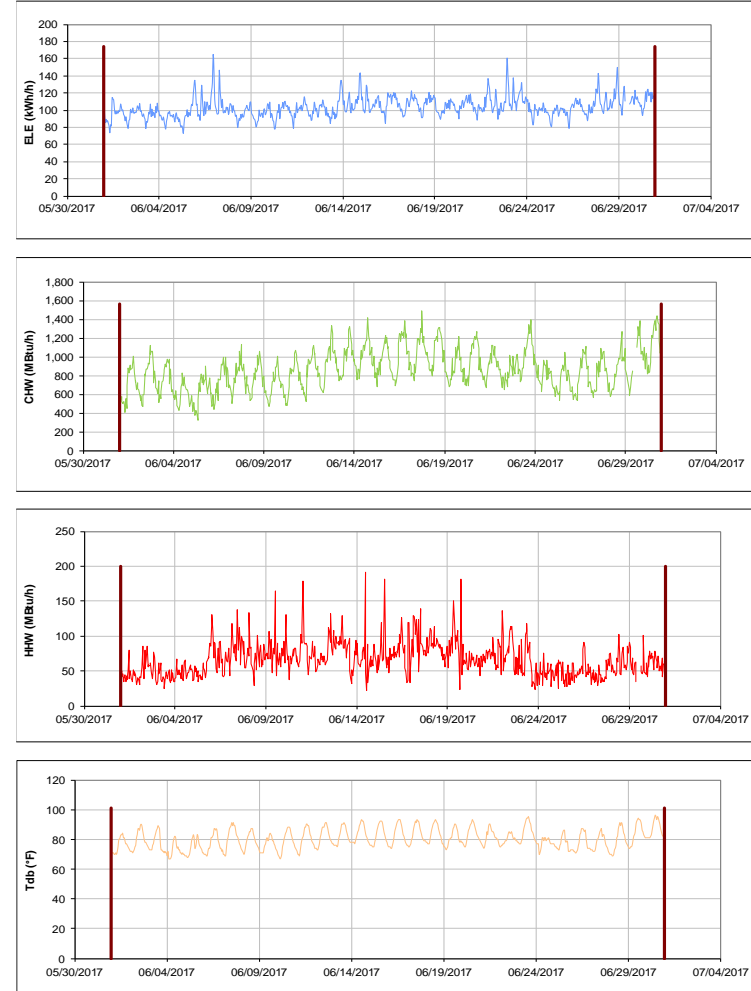


Figure III-184 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for White Creek Apartment 3 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

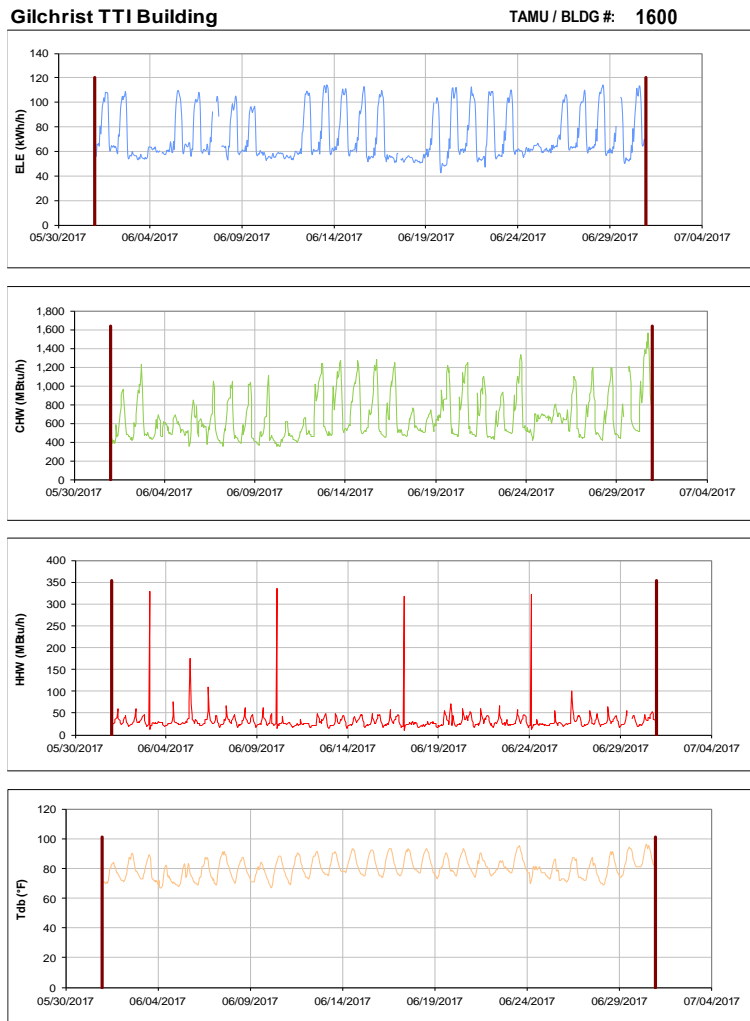


Figure III-185 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Gilchrist TTI Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

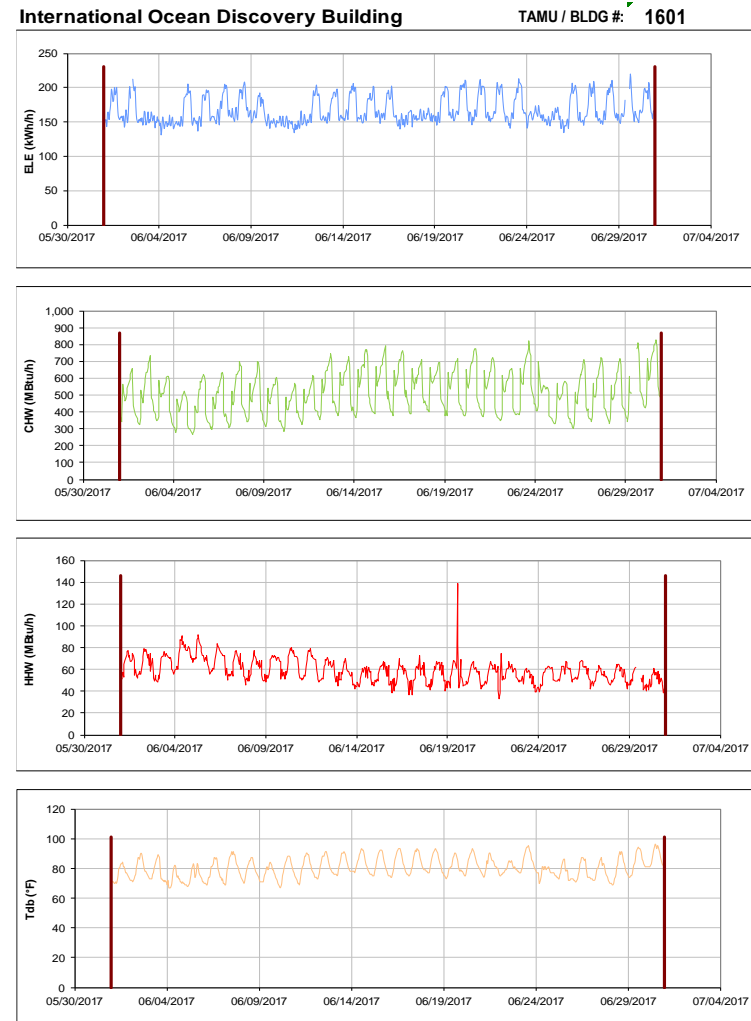


Figure III-186 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for International Ocean Discovery Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

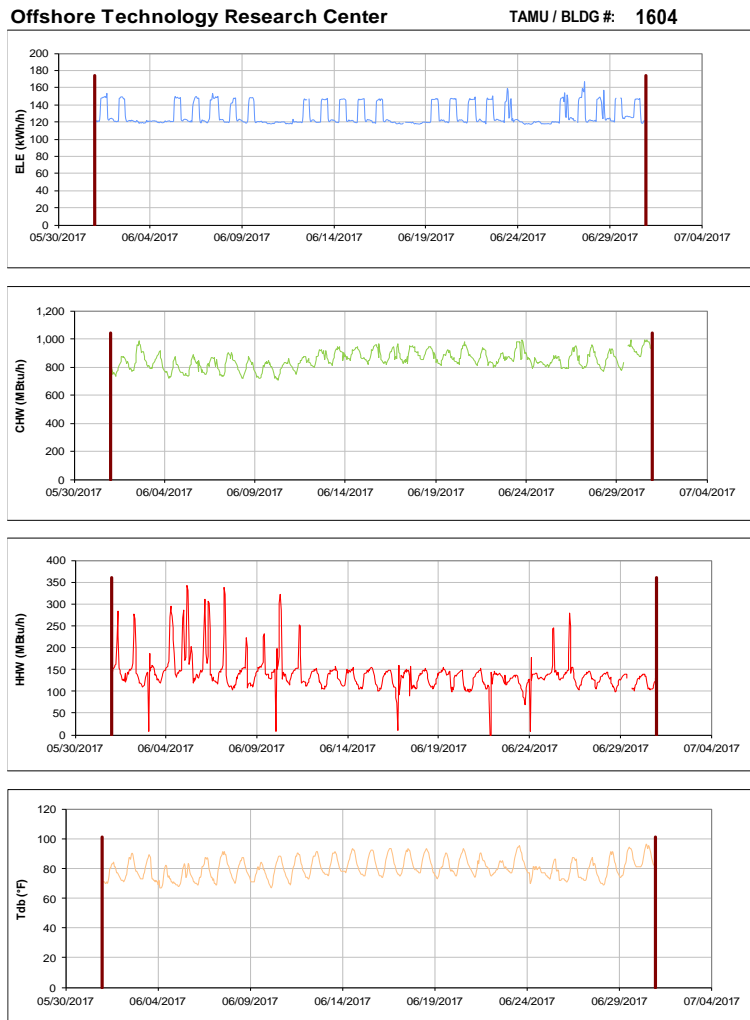


Figure III-187 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Offshore Technology Research Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

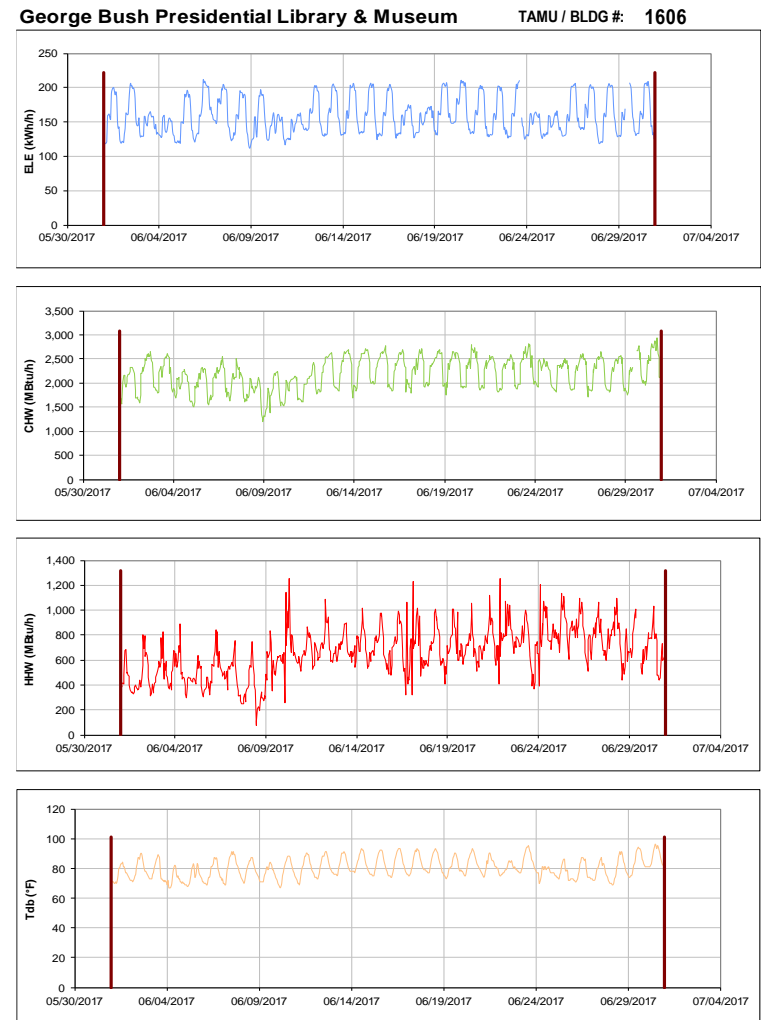


Figure III-188 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for George Bush Presidential Library & Museum during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



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

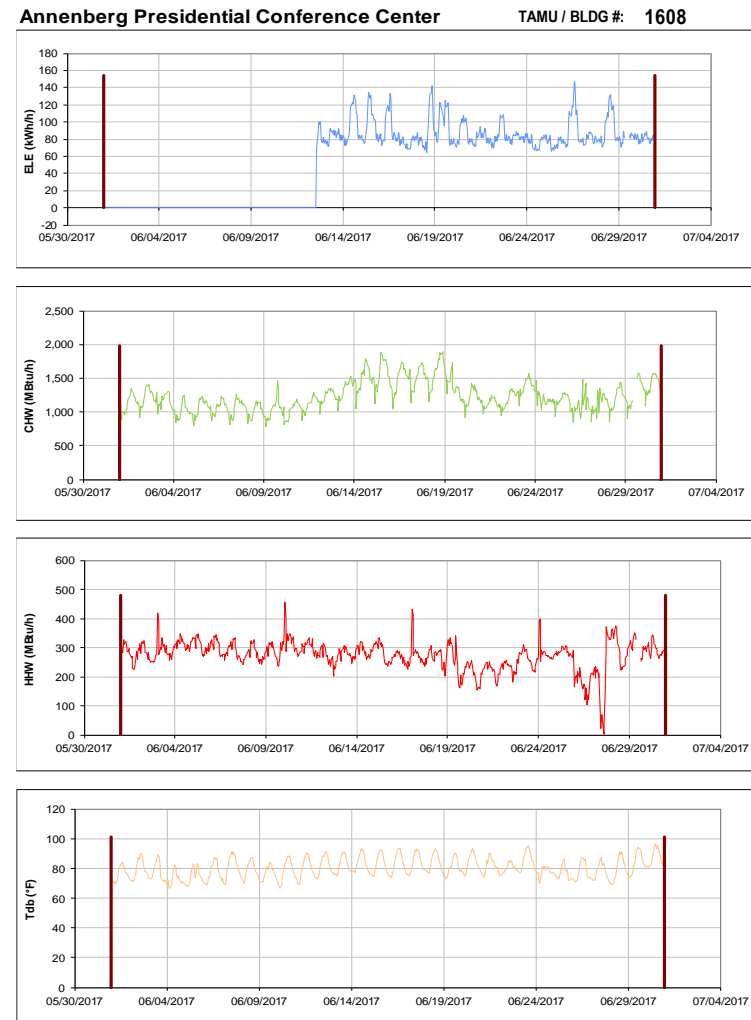


Figure III-190 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Annenberg Presidential Conference Center during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

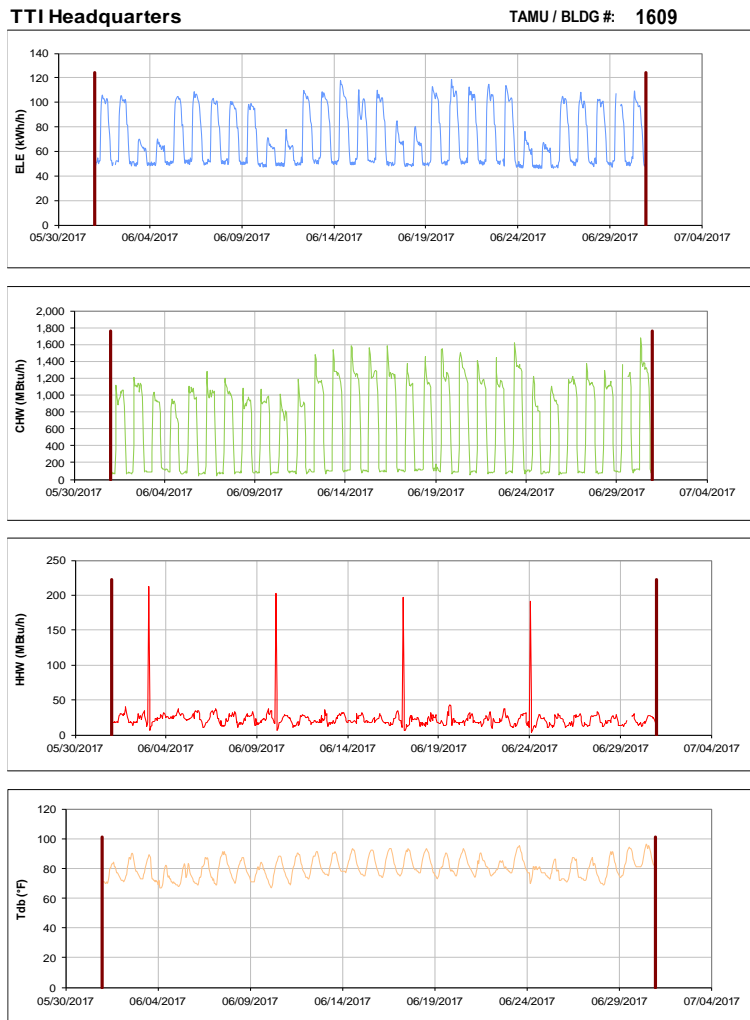


Figure III-191 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for TTI Headquarters during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-192 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Engineering Research Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

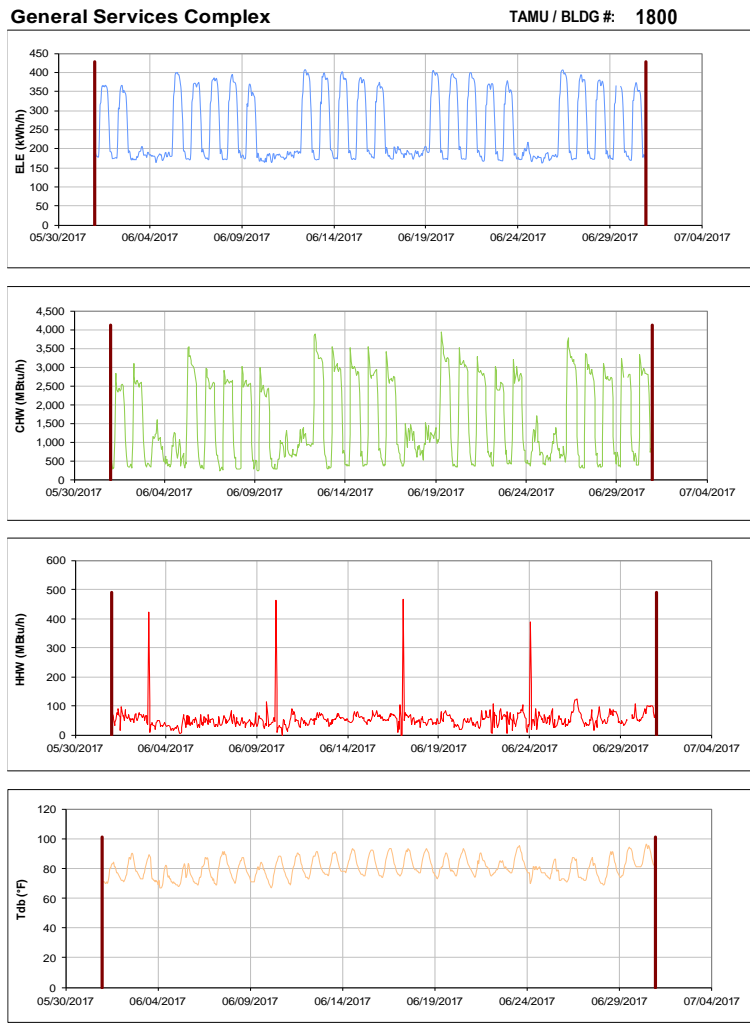


Figure III-193 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for General Services Complex during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

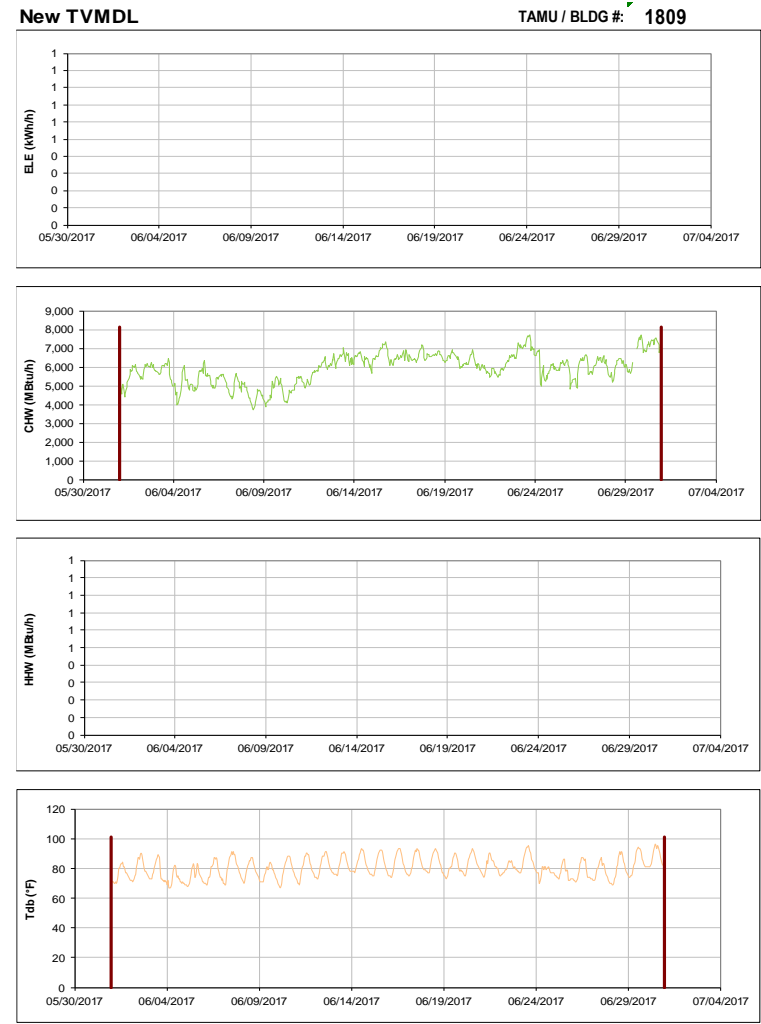


Figure III-194 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for New TVMDL during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

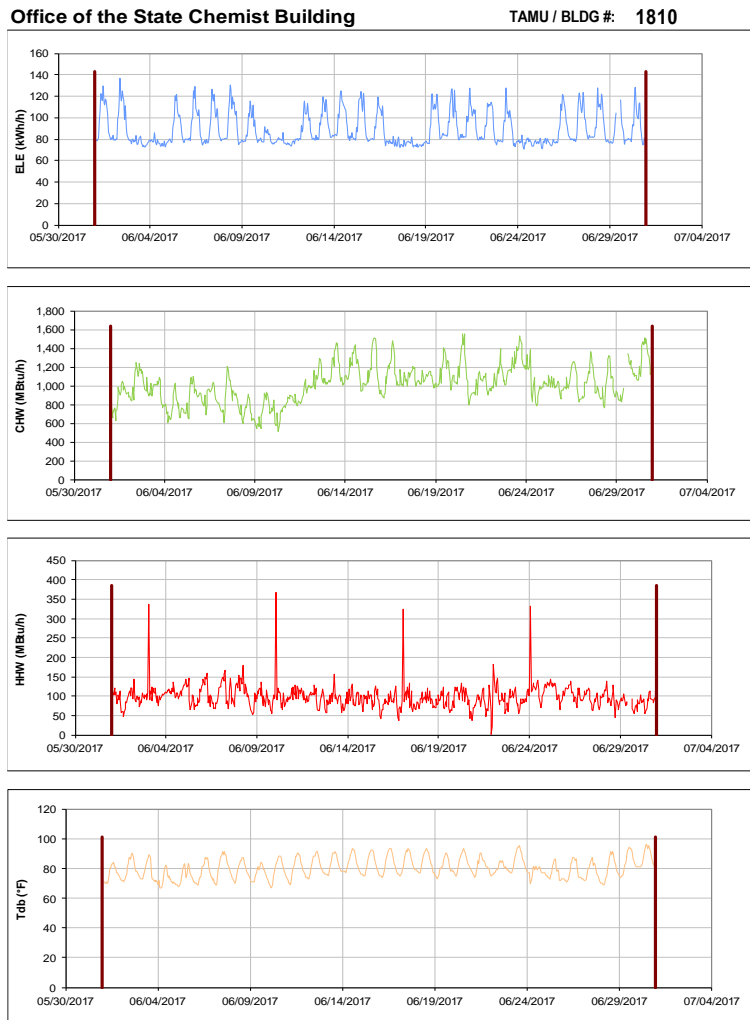


Figure III-195 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Office of the State Chemist Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX



Figure III-196 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Vet Med Research Bldg Addition during the Month of June 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

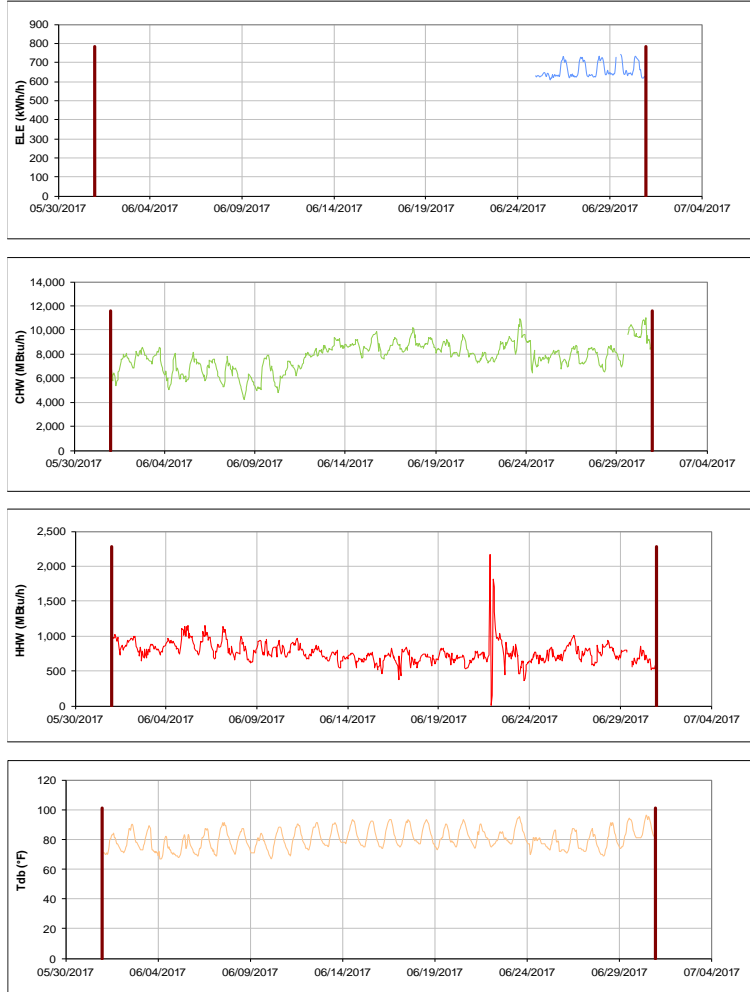


Figure III-197 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Veterinary Medicine Building 1, 2, and 3 during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Texas Institute for Genomic Medicine TAMU / BLDG #: 1900

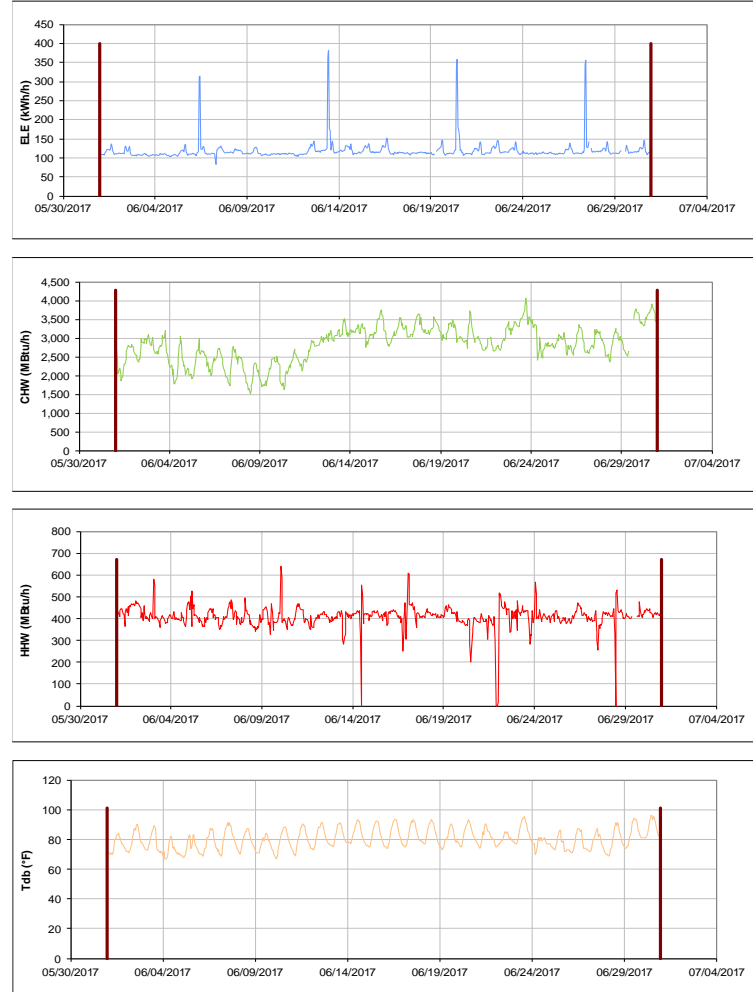


Figure III-198 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas Institute for Genomic Medicine during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

Texas A&M Institute for Preclinical Studies A TAMU / BLDG #: 1904



Figure III-199 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Texas A&M Institute for Preclinical Studies A during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

National Center for Therapeutics Manufacturing TAMU / BLDG #: 1910

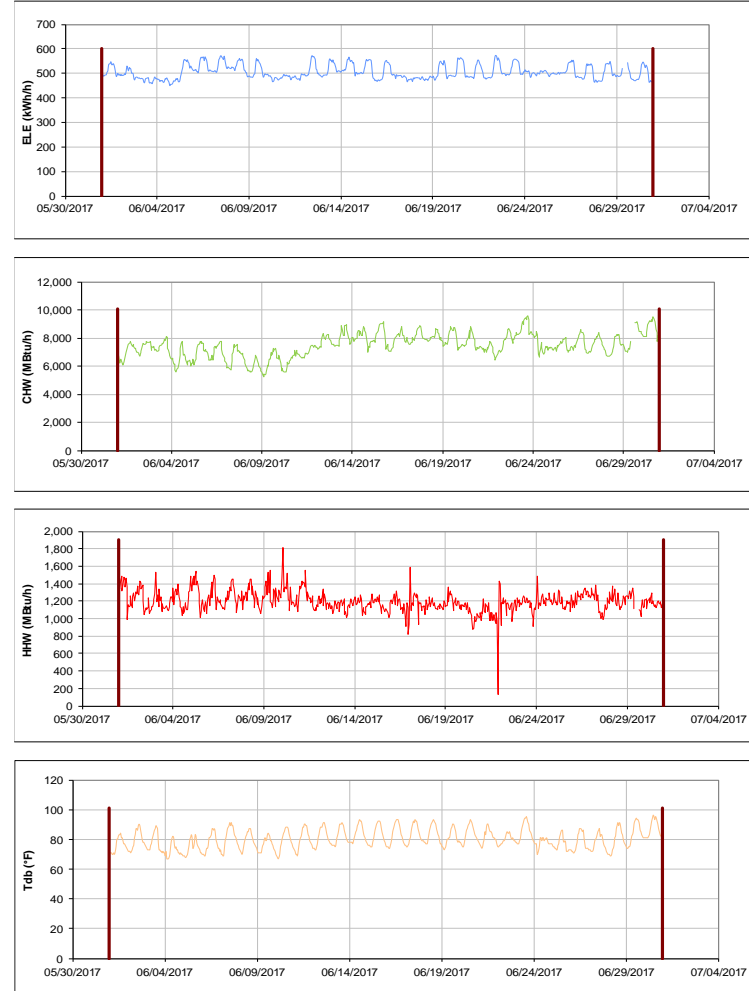


Figure III-200 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for National Center for Therapeutics Manufacturing during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

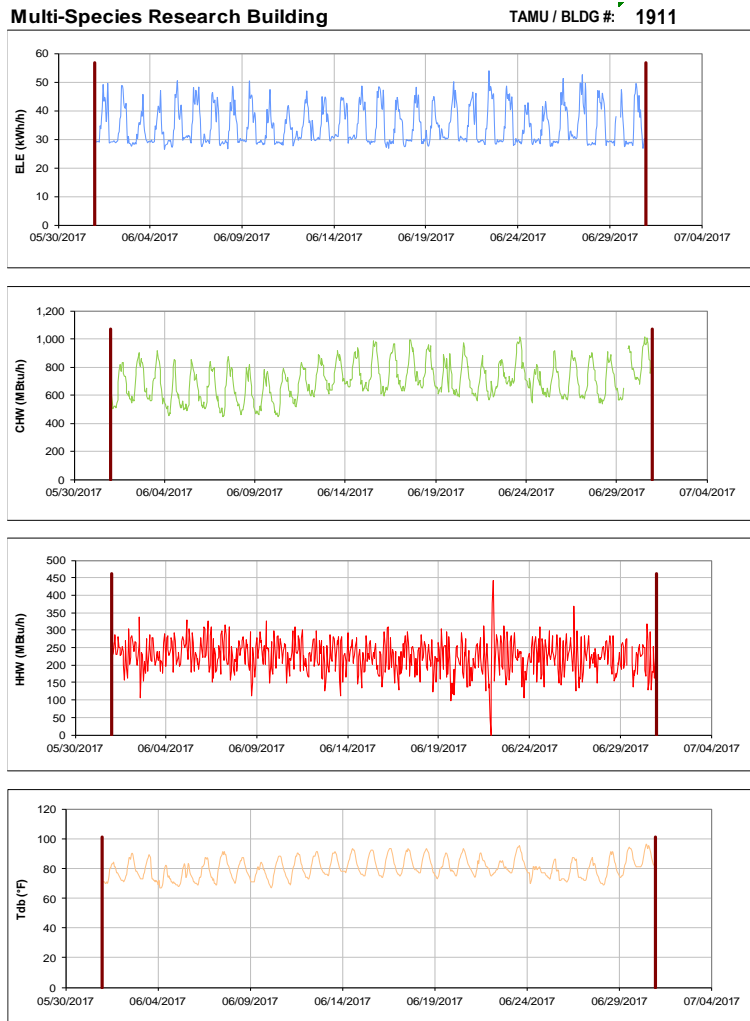


Figure III-201 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for Multi-Species Research Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

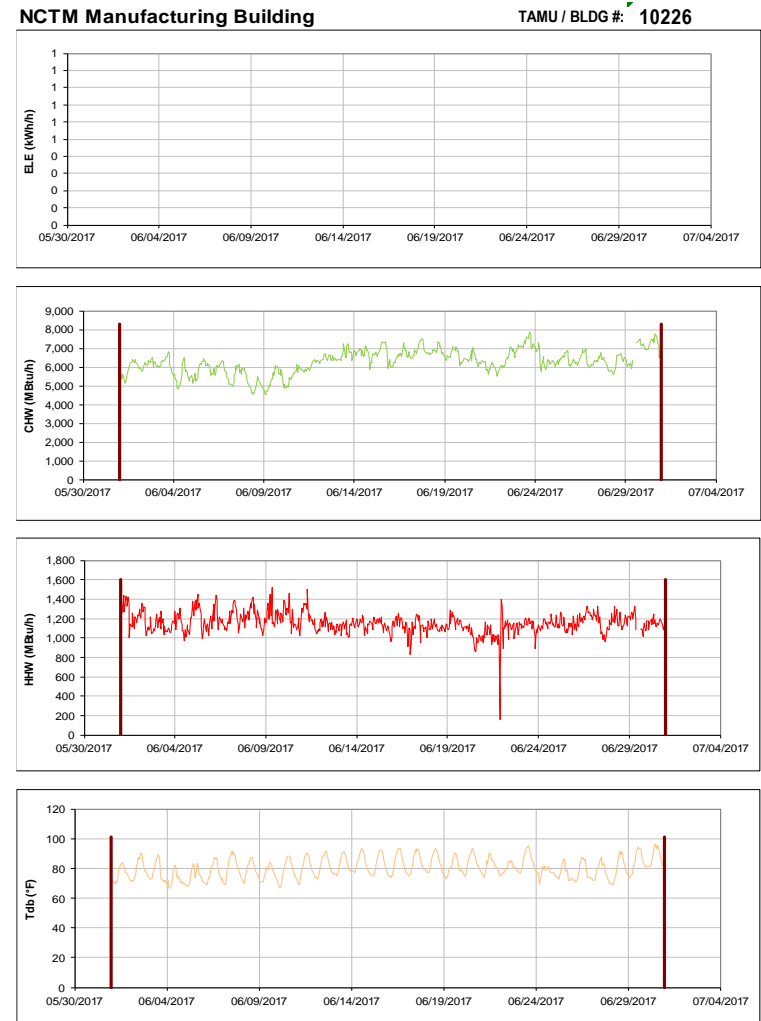


Figure III-202 Hourly Whole Building Electricity, Chilled Water, and Hot Water Consumption for NCTM Manufacturing Building during the Month of June 2017 and the Corresponding Hourly Outdoor Dry Bulb Temperature for College Station, TX

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

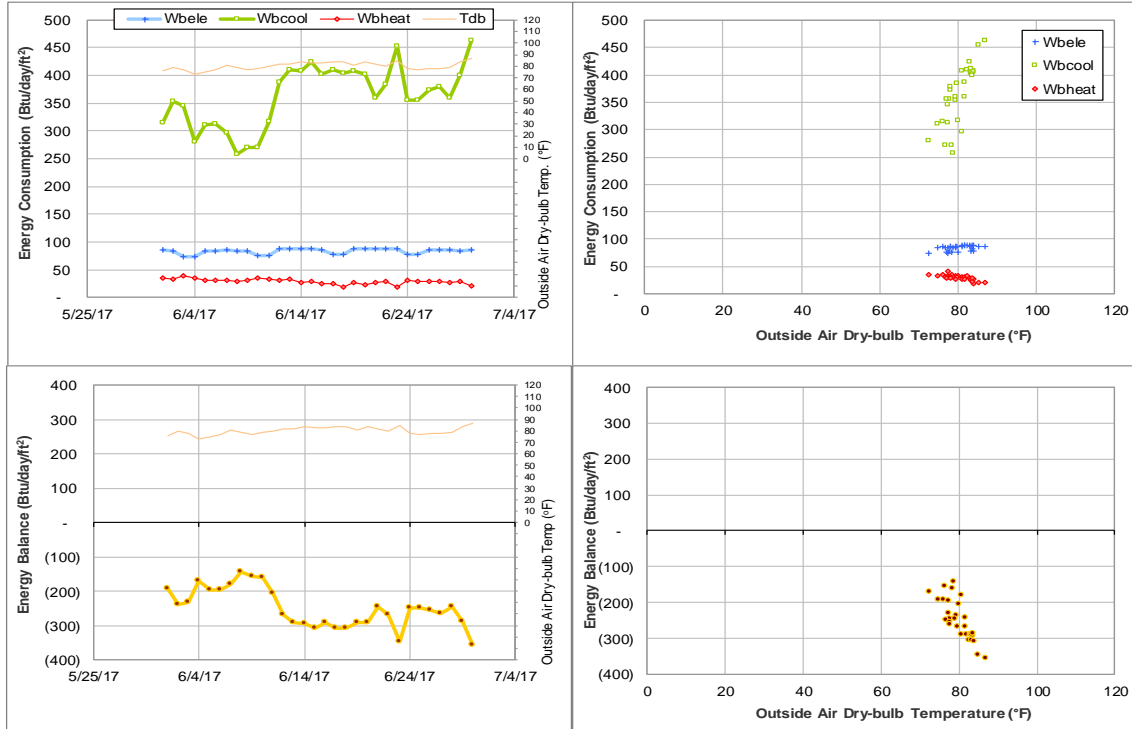


Figure IV-1 Emerging Technologies Building TAMU BLDG # 270 Energy Balance Plot during June 2017

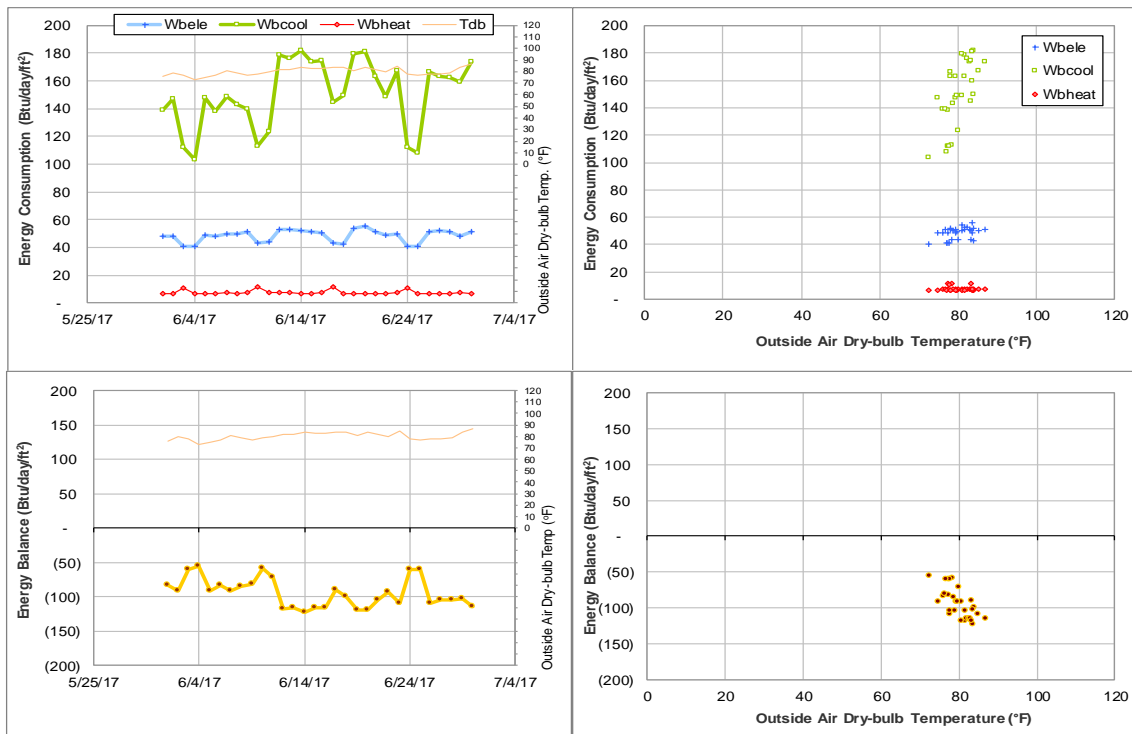


Figure IV-2 Liberal Arts and Arts & Humanities Building TAMU BLDG # 275 Energy Balance Plot during June 2017

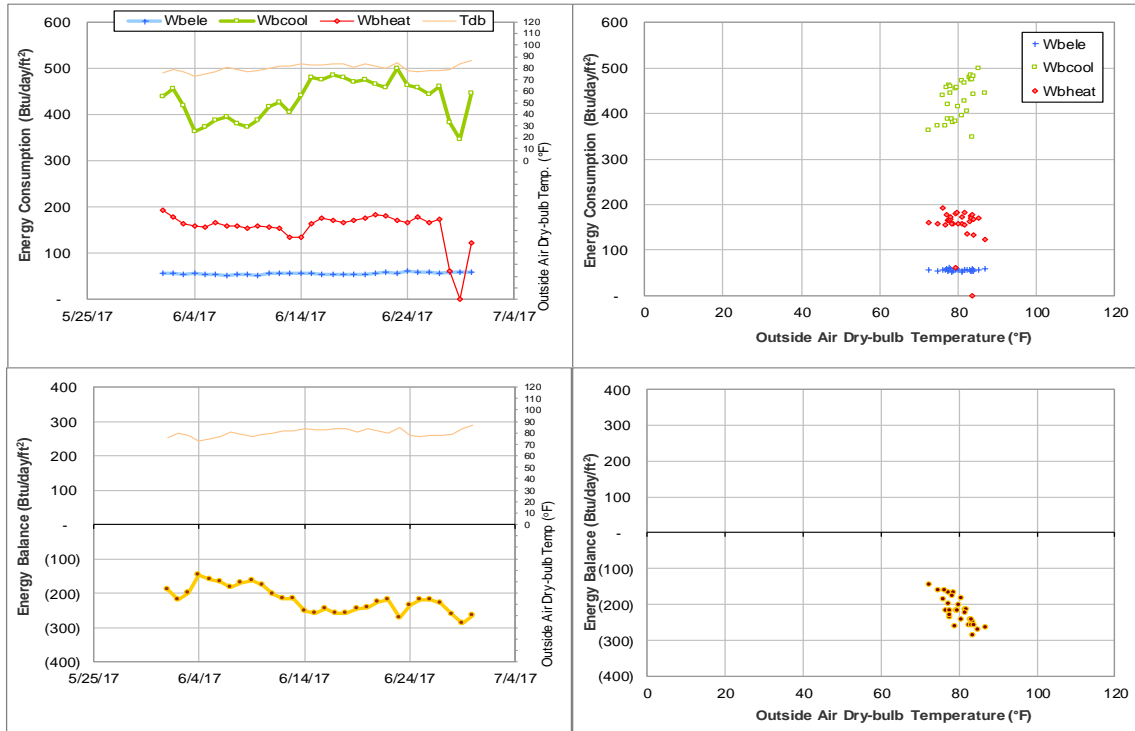


Figure IV-3 Wells Residence Hall TAMU BLDG # 290 Energy Balance Plot during June 2017

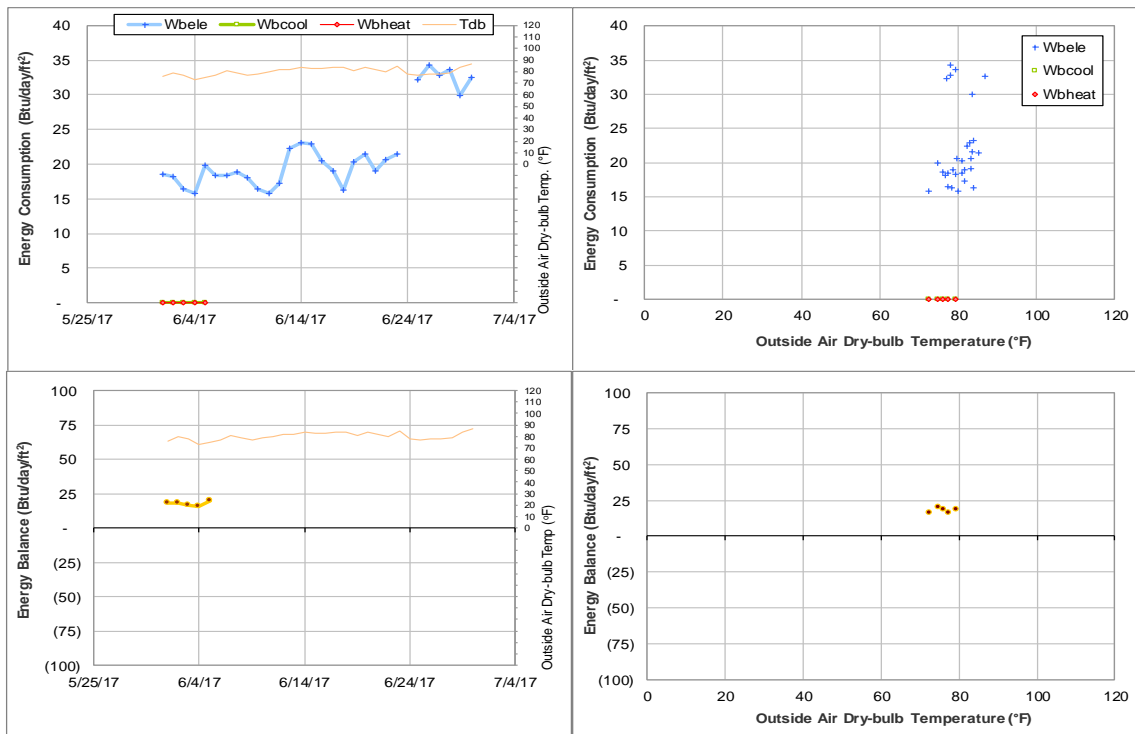


Figure IV-4 Rudder Residence Hall TAMU BLDG # 291 Energy Balance Plot during June 2017

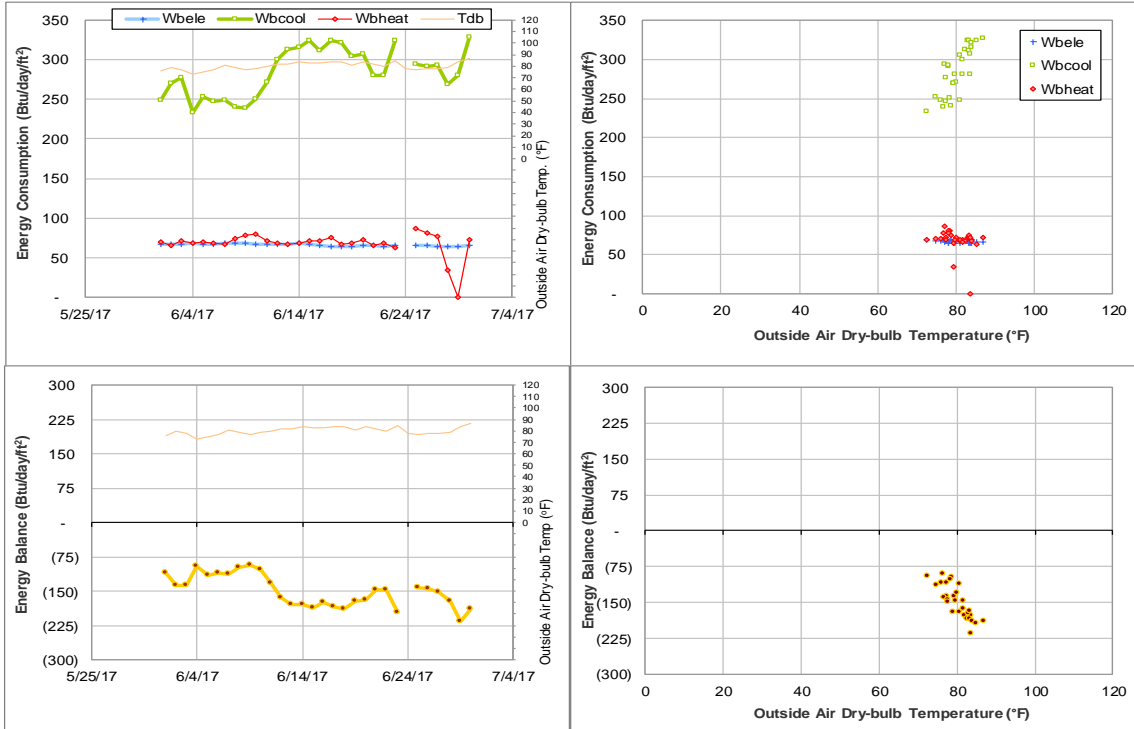


Figure IV-5 Eppright Residence Hall TAMU BLDG # 292 Energy Balance Plot during June 2017

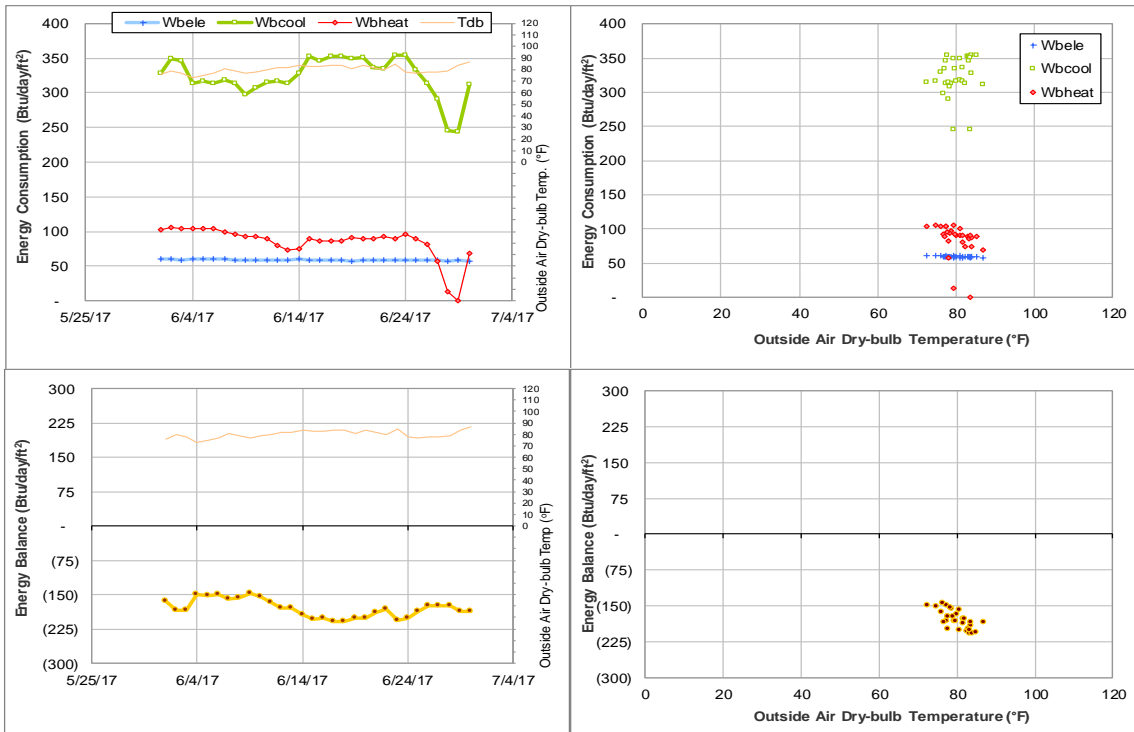


Figure IV-6 Appelt Residence Hall TAMU BLDG # 293 Energy Balance Plot during June 2017

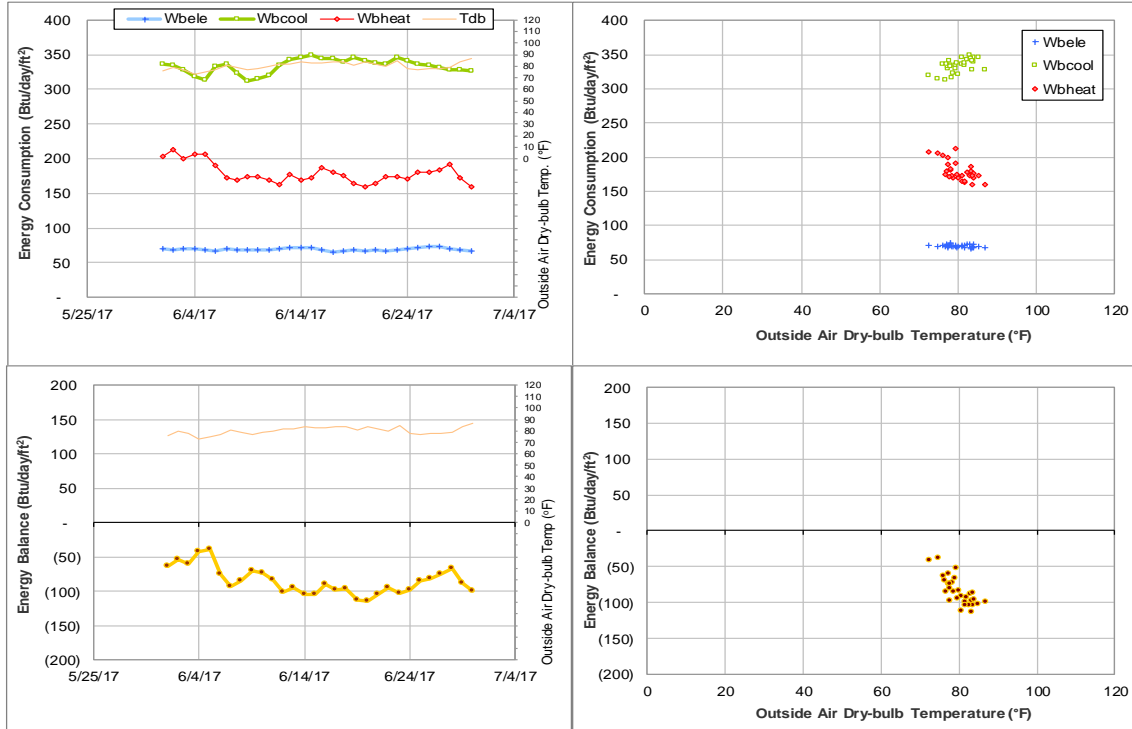


Figure IV-7 Lechner Residence Hall TAMU BLDG # 294 Energy Balance Plot during June 2017

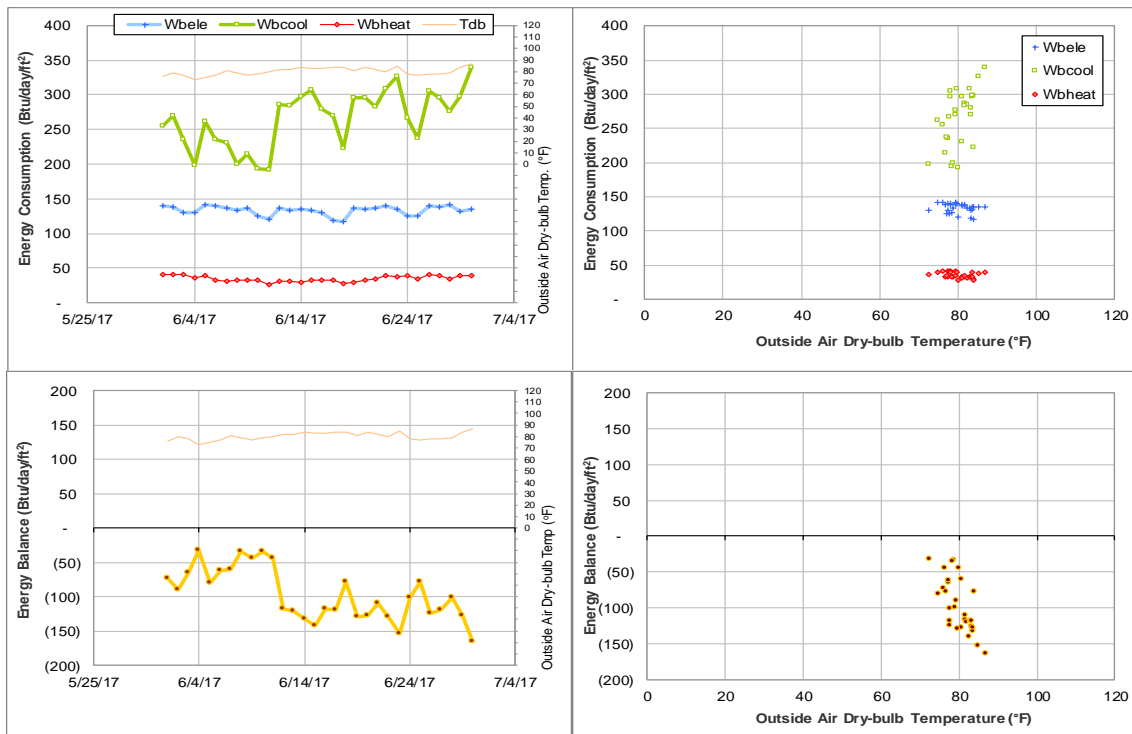


Figure IV-8 Mitchell Inst. for Fundamental Phys & Astronomy TAMU BLDG # 296 Energy Balance Plot during June 2017

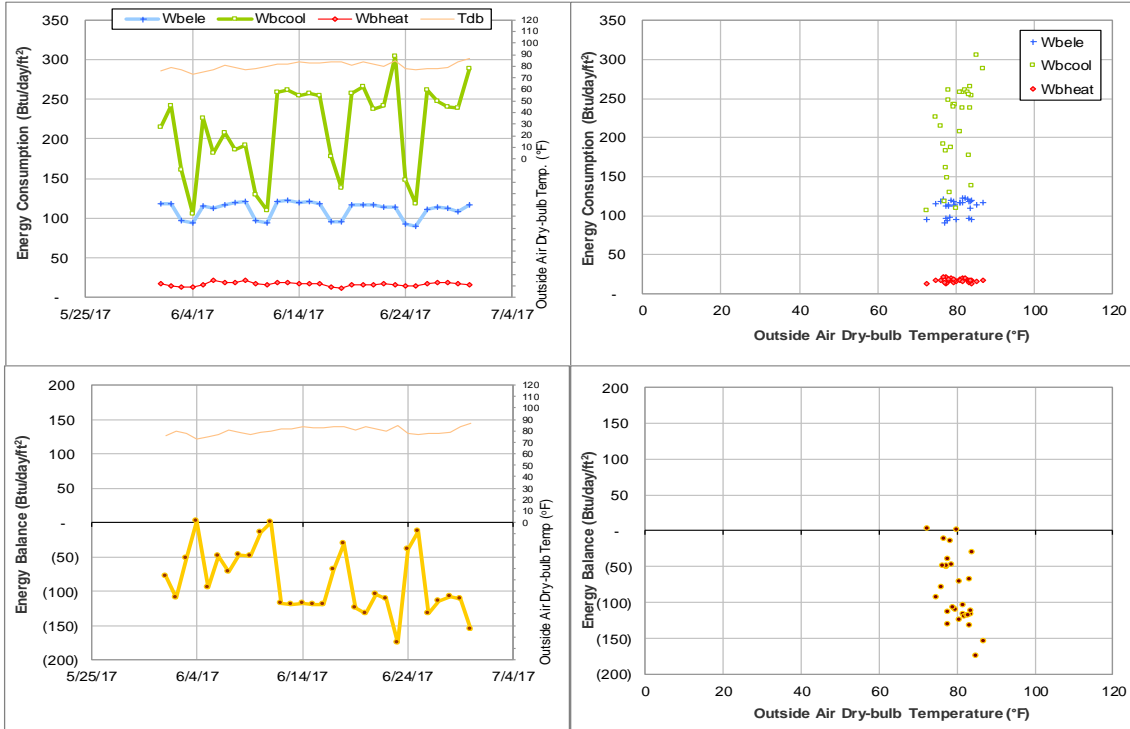


Figure IV-9 CE TTI Office & Lab Building TAMU BLDG # 325 Energy Balance Plot during June 2017

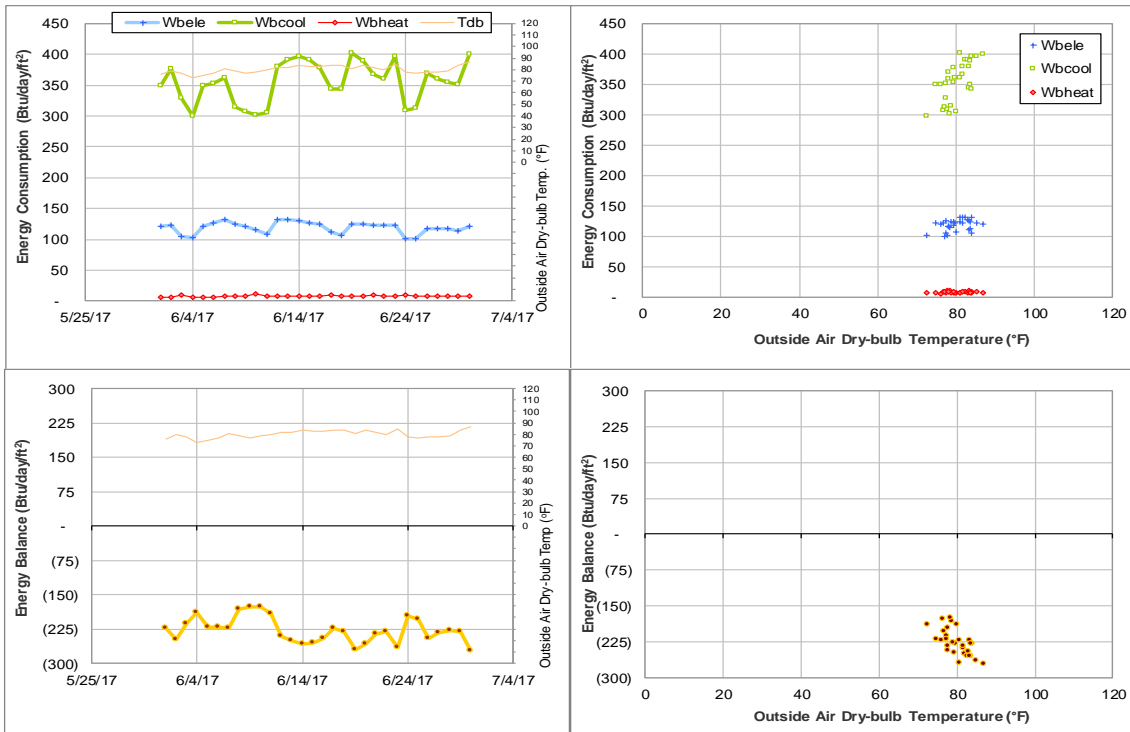


Figure IV-10 Bright Aerospace Building TAMU BLDG # 353 Energy Balance Plot during June 2017

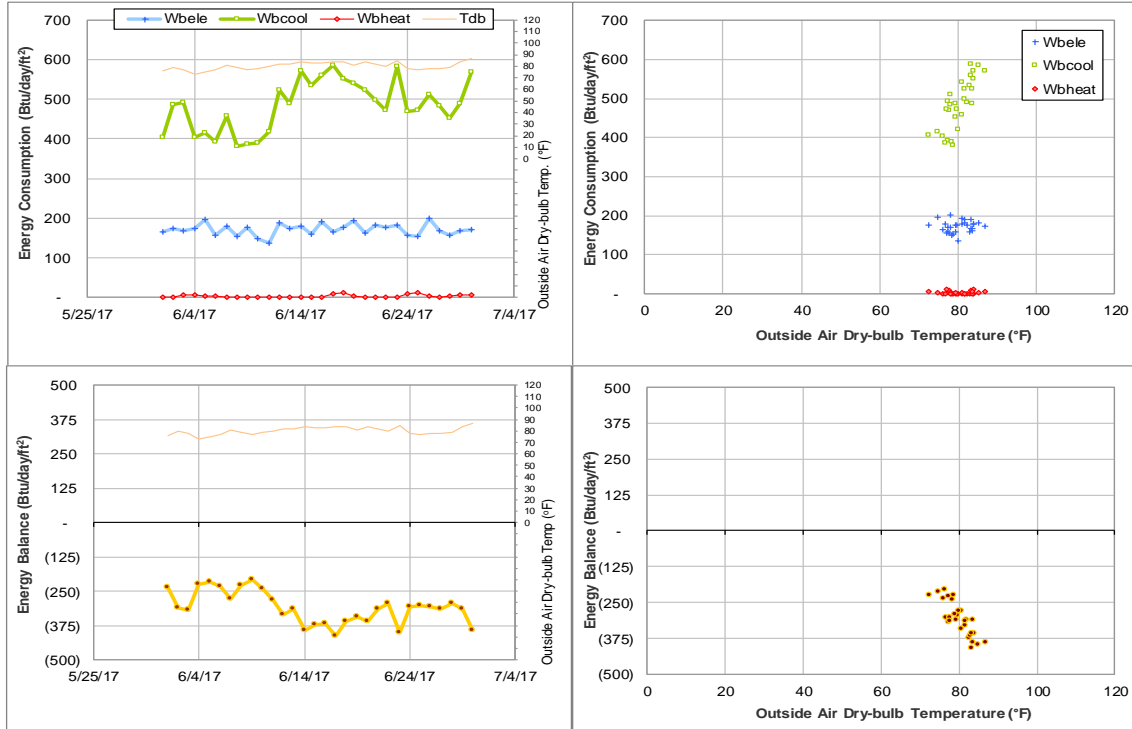


Figure IV-11 Davis Football Player Development Center TAMU BLDG # 358 Energy Balance Plot during June 2017

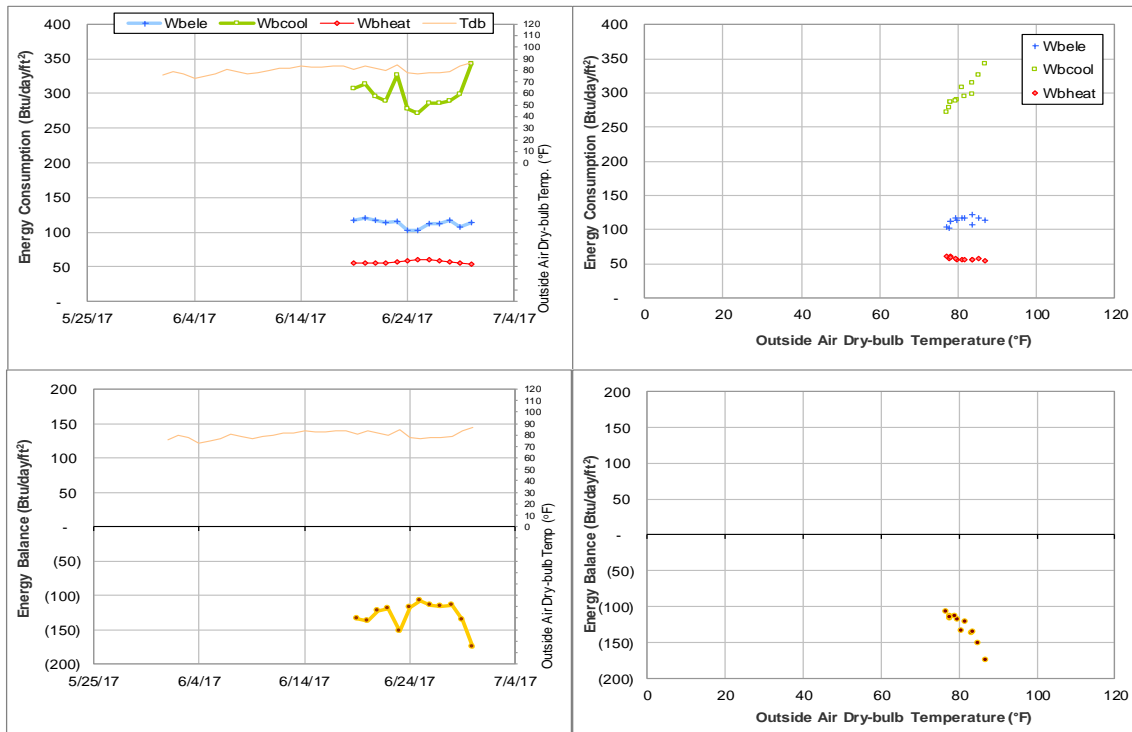


Figure IV-12 Architecture Building B&C TAMU BLDG # 359 and #432 Energy Balance Plot during June 2017

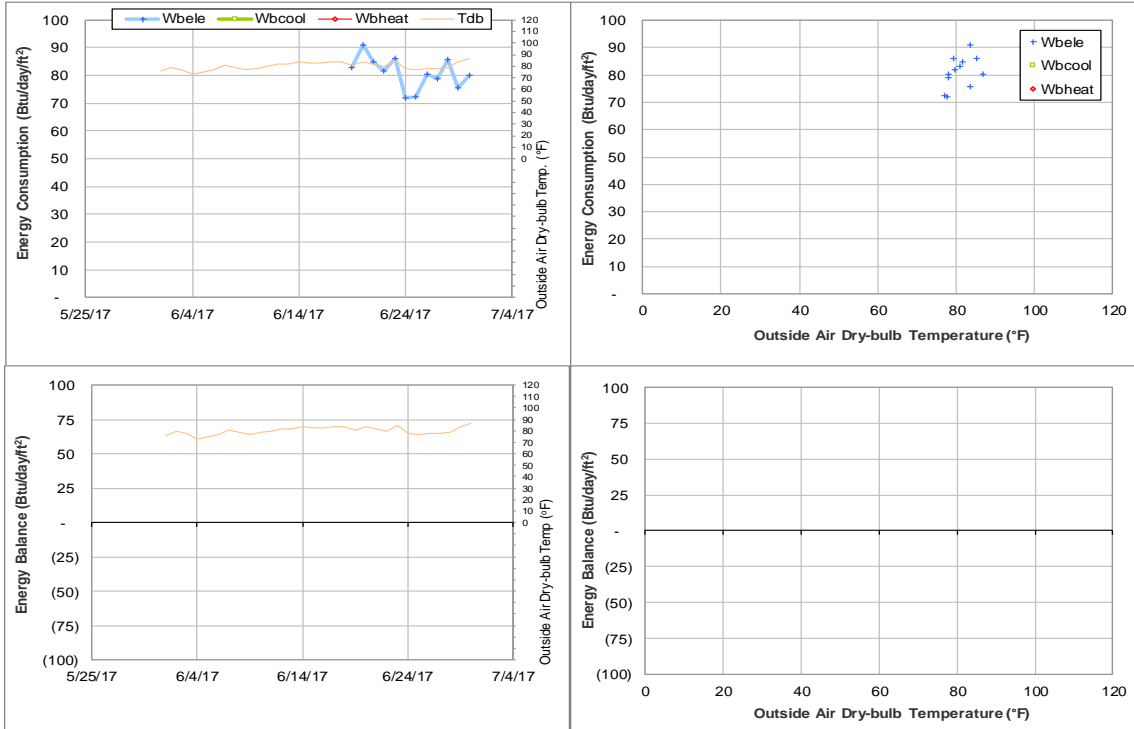


Figure IV-13 Architecture Building B TAMU BLDG # 359 Energy Balance Plot during June 2017

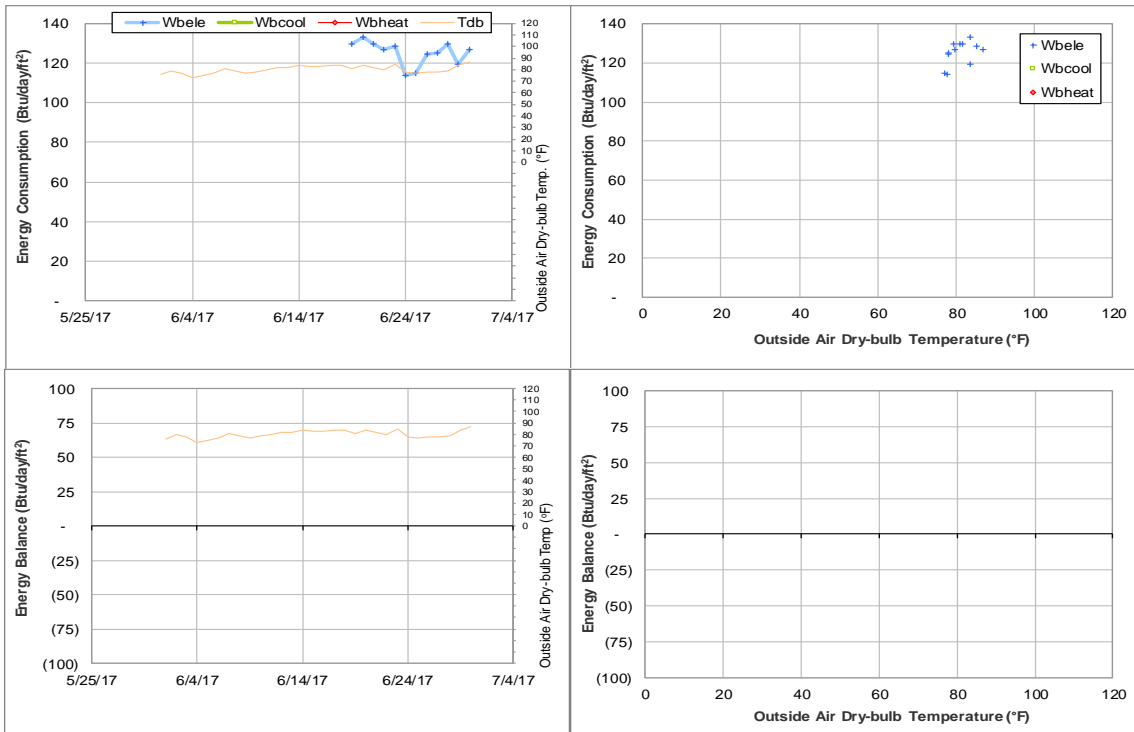


Figure IV-14 Architecture Building C TAMU BLDG # 432 Energy Balance Plot during June 2017

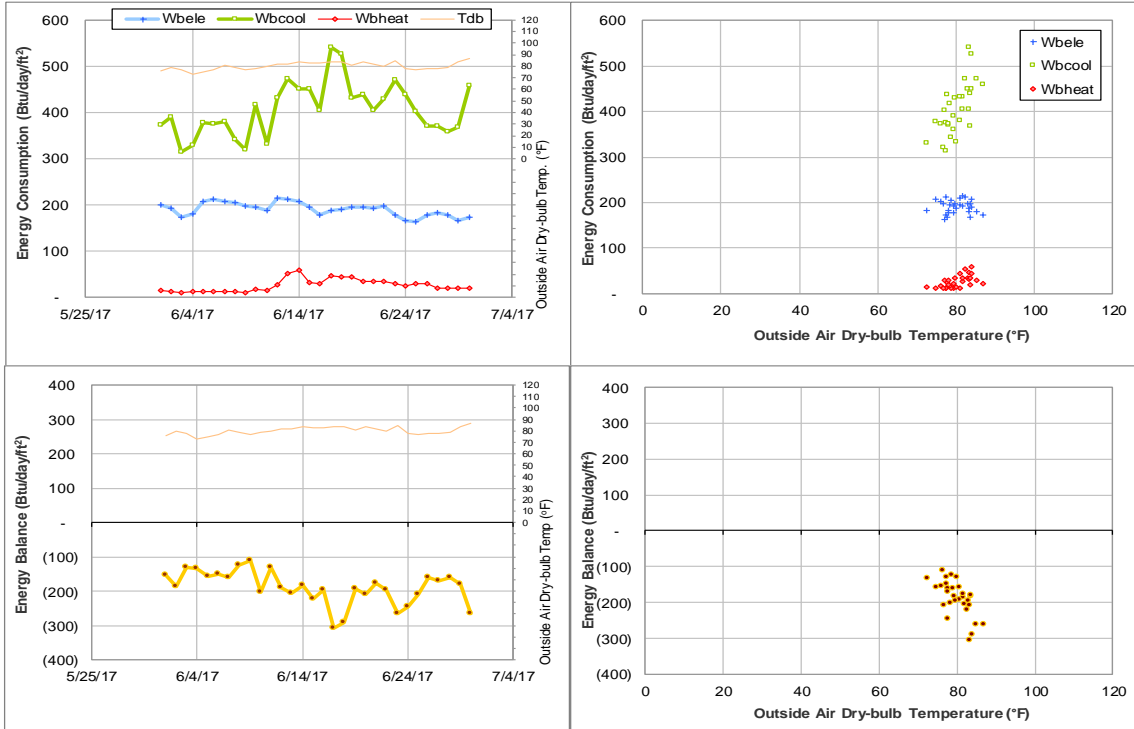


Figure IV-15 Bright Football Complex TAMU BLDG # 361 Energy Balance Plot during June 2017

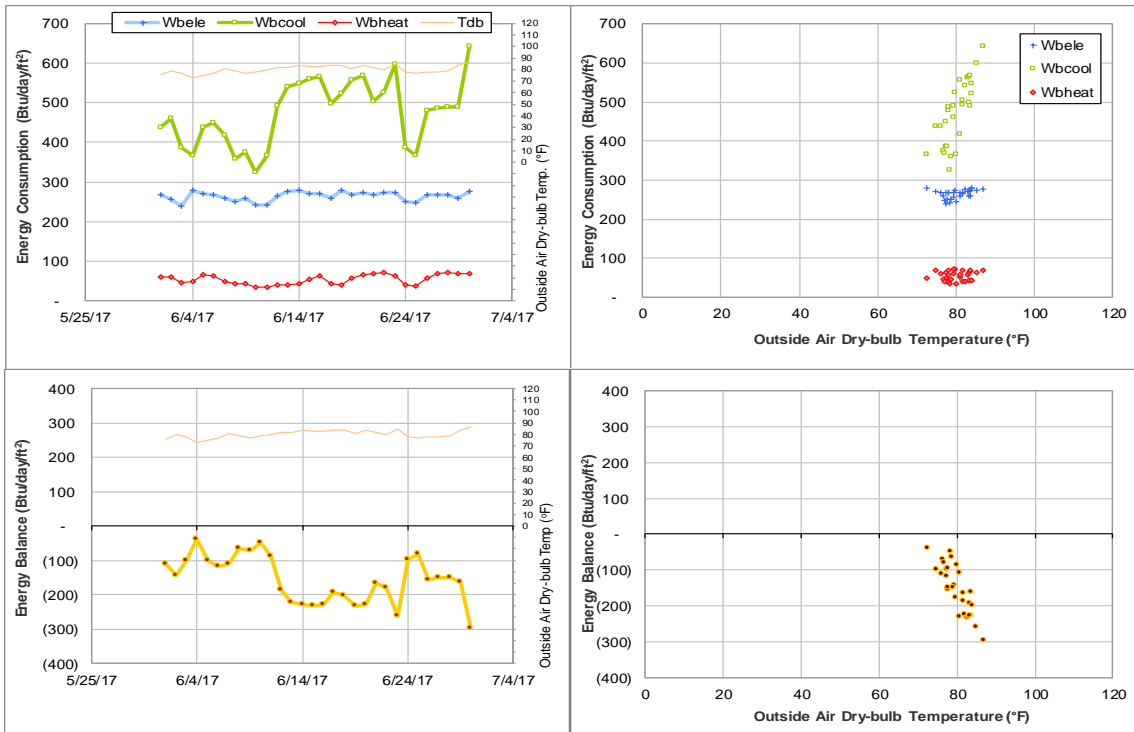


Figure IV-16 Kyle Field TAMU BLDG # 367 Energy Balance Plot during June 2017

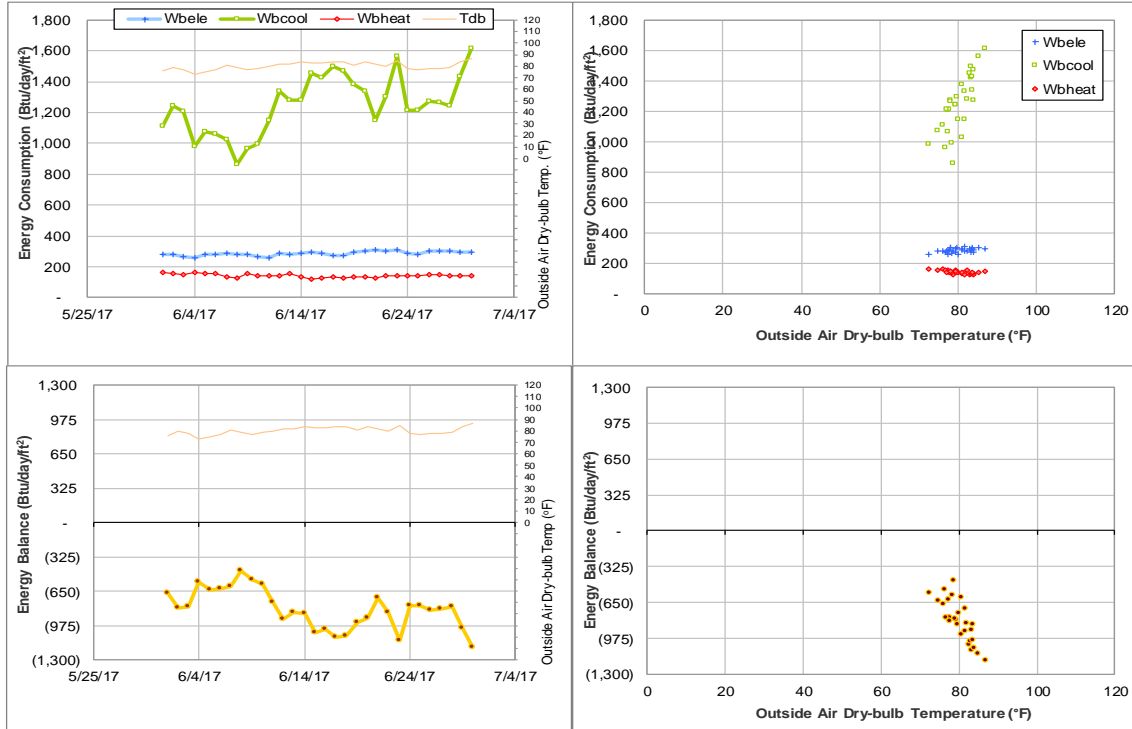


Figure IV-17 Chemistry Building Addition TAMU BLDG # 376 Energy Balance Plot during June 2017

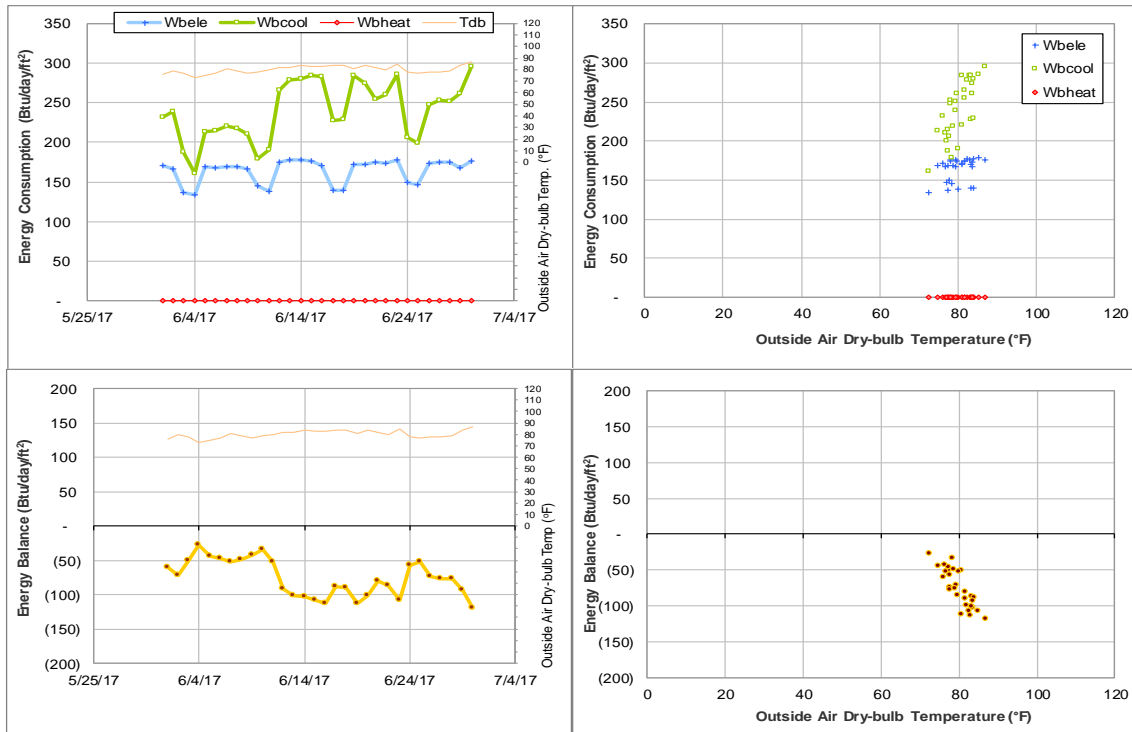


Figure IV-18 Koldus Building TAMU BLDG # 383 Energy Balance Plot during June 2017

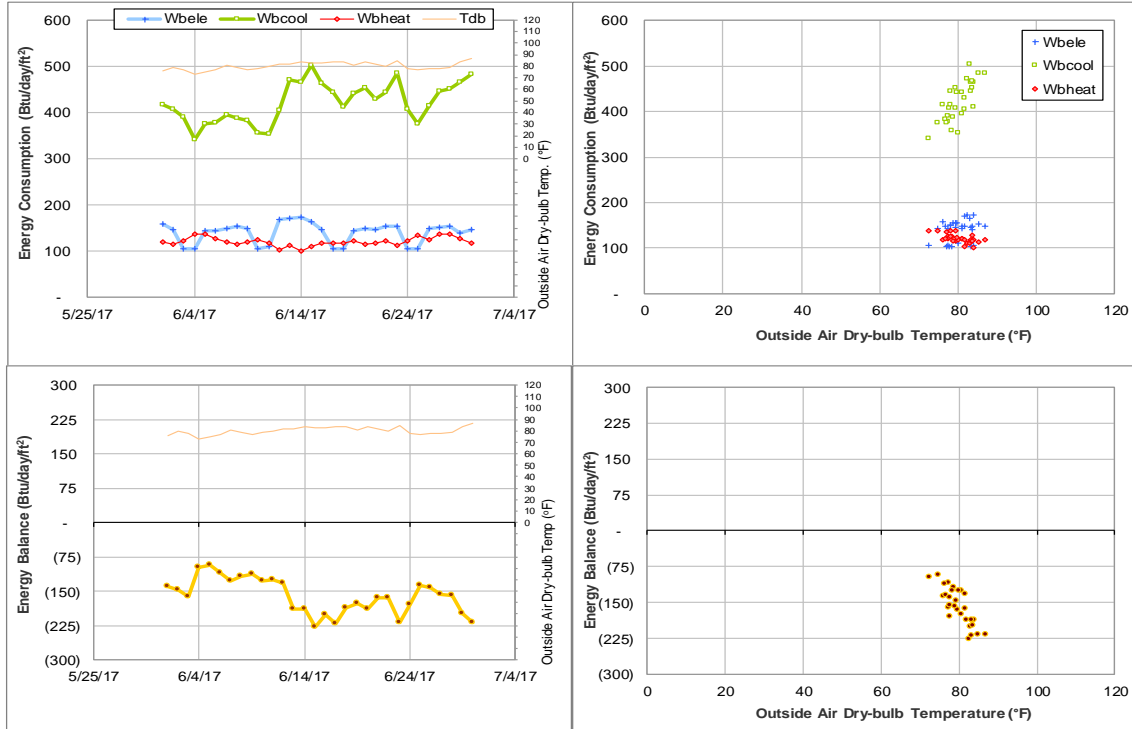


Figure IV-19 Sanders Corps of Cadets Center TAMU BLDG # 384 Energy Balance Plot during June 2017

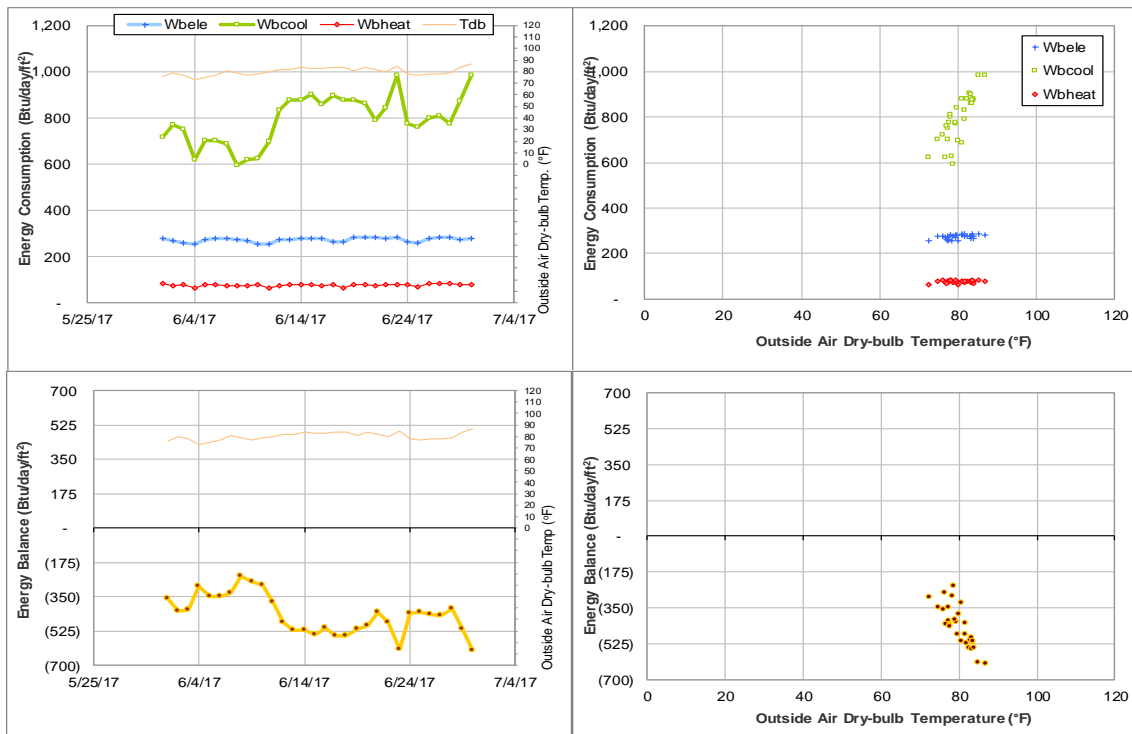


Figure IV-20 Jack E. Brown Chemical Engineering Building TAMU BLDG # 386 Energy Balance Plot during June 2017

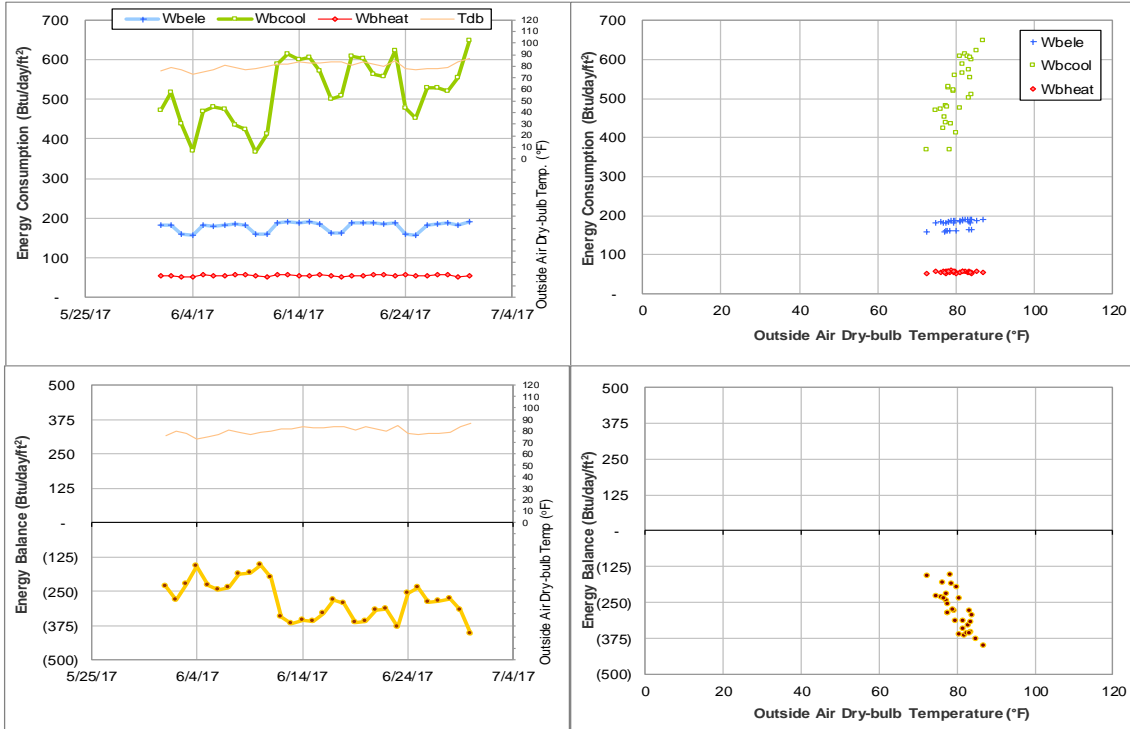


Figure IV-21 Richardson Petroleum Engineering Building TAMU BLDG # 387 Energy Balance Plot during June 2017

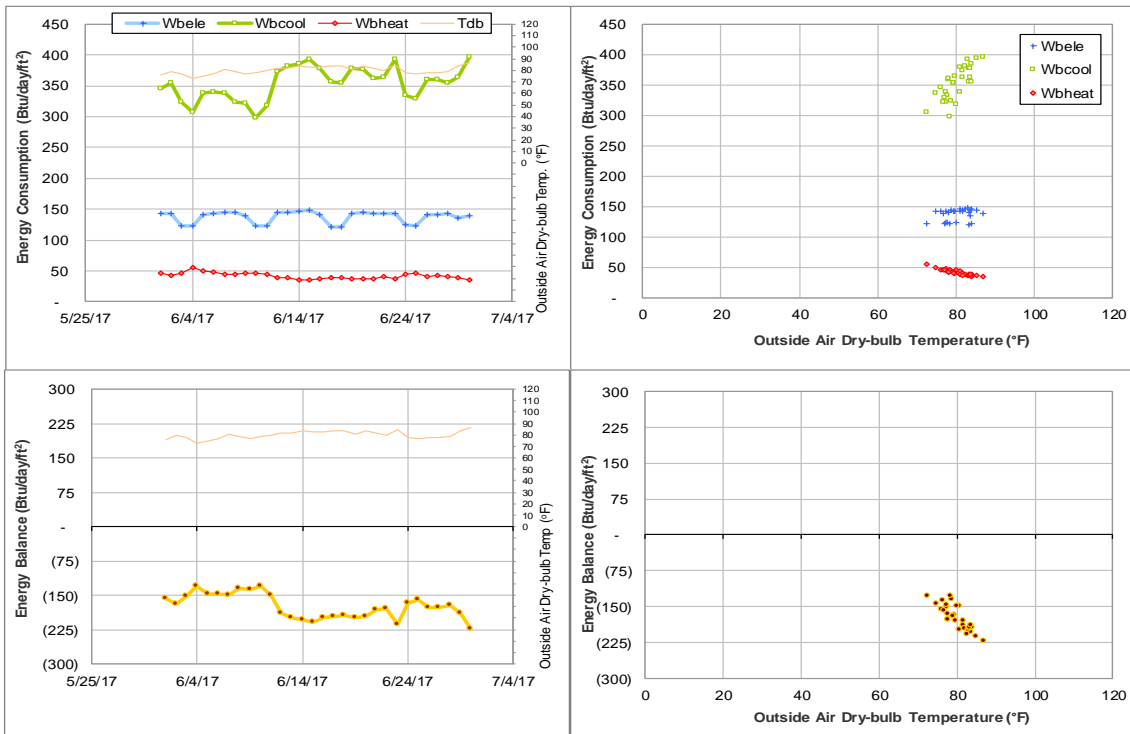


Figure IV-22 James J. Cain'51 and Mechanical Engineering Office Building TAMU BLDG # 391 Energy Balance Plot during June 2017

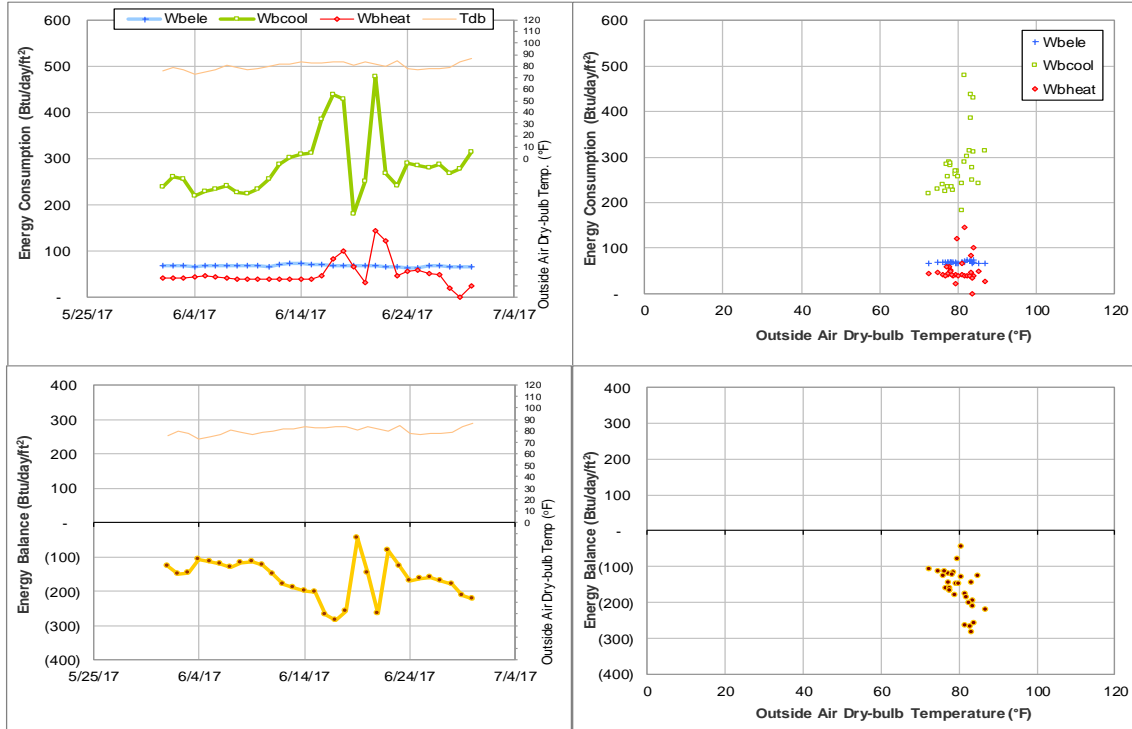


Figure IV-23 Underwood Residence Hall TAMU BLDG # 394 Energy Balance Plot during June 2017

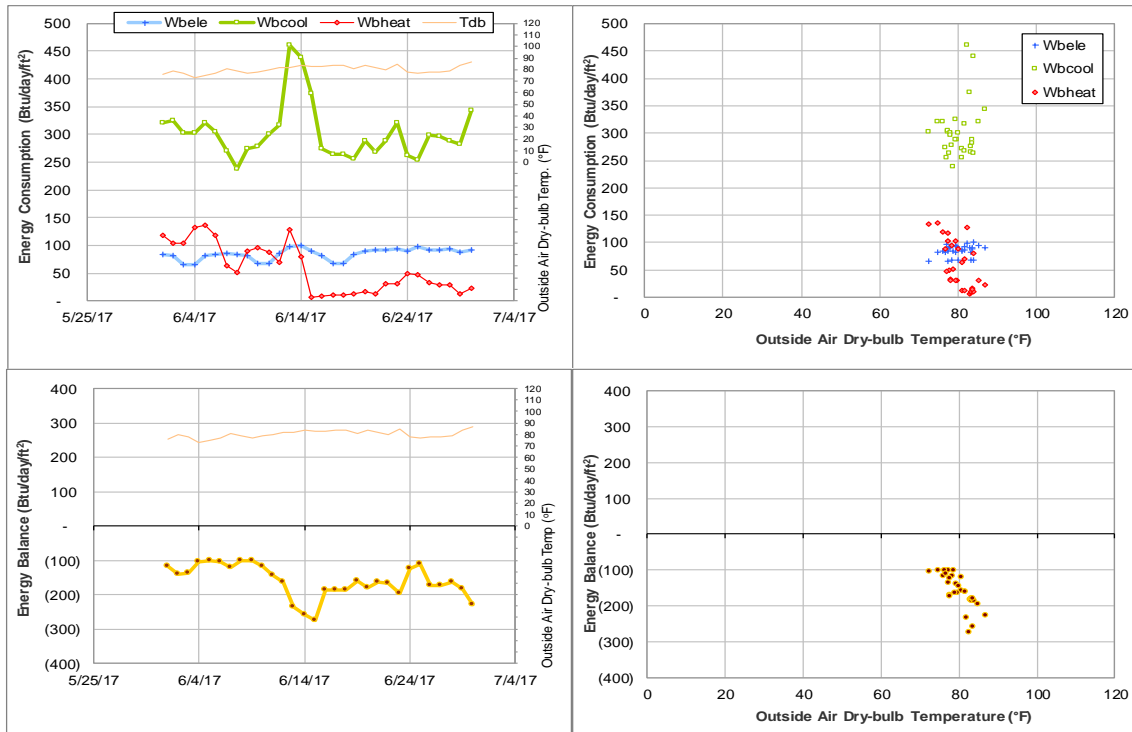


Figure IV-24 Langford Architecture Center Building A TAMU BLDG # 398 Energy Balance Plot during June 2017

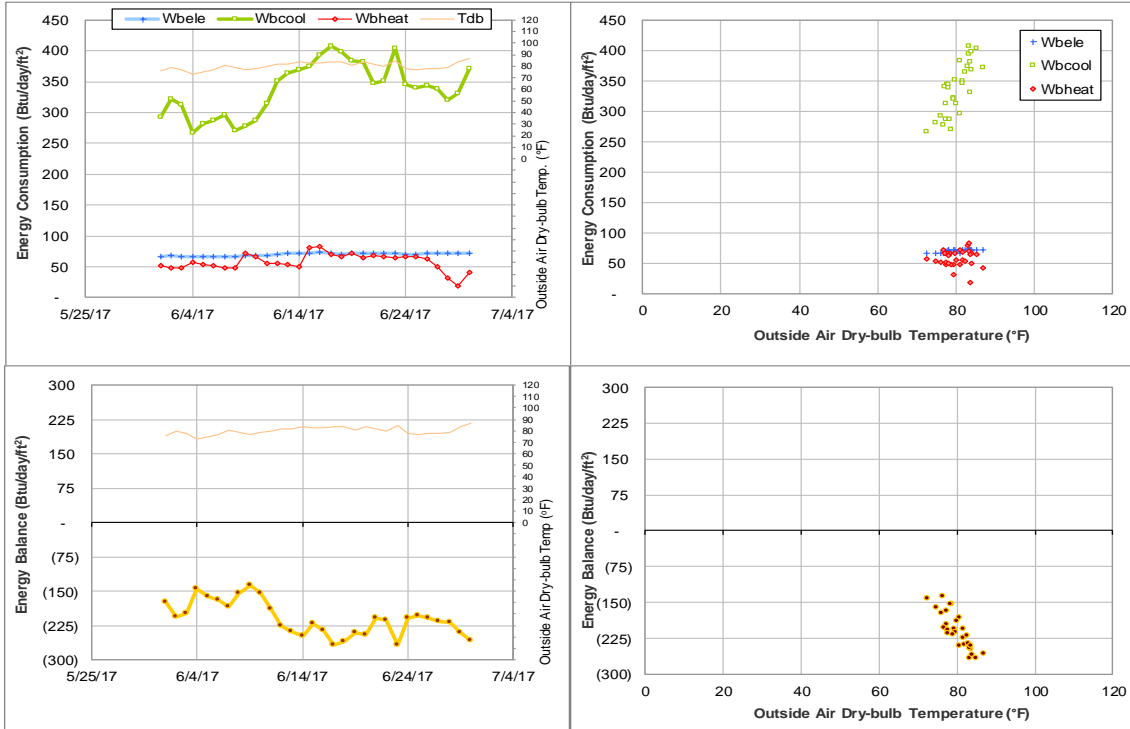


Figure IV-25 Spence Hall, Briggs Hall, and Ash II LLC TAMU BLDG # 400, #402, #1405 Energy Balance Plot during June 2017

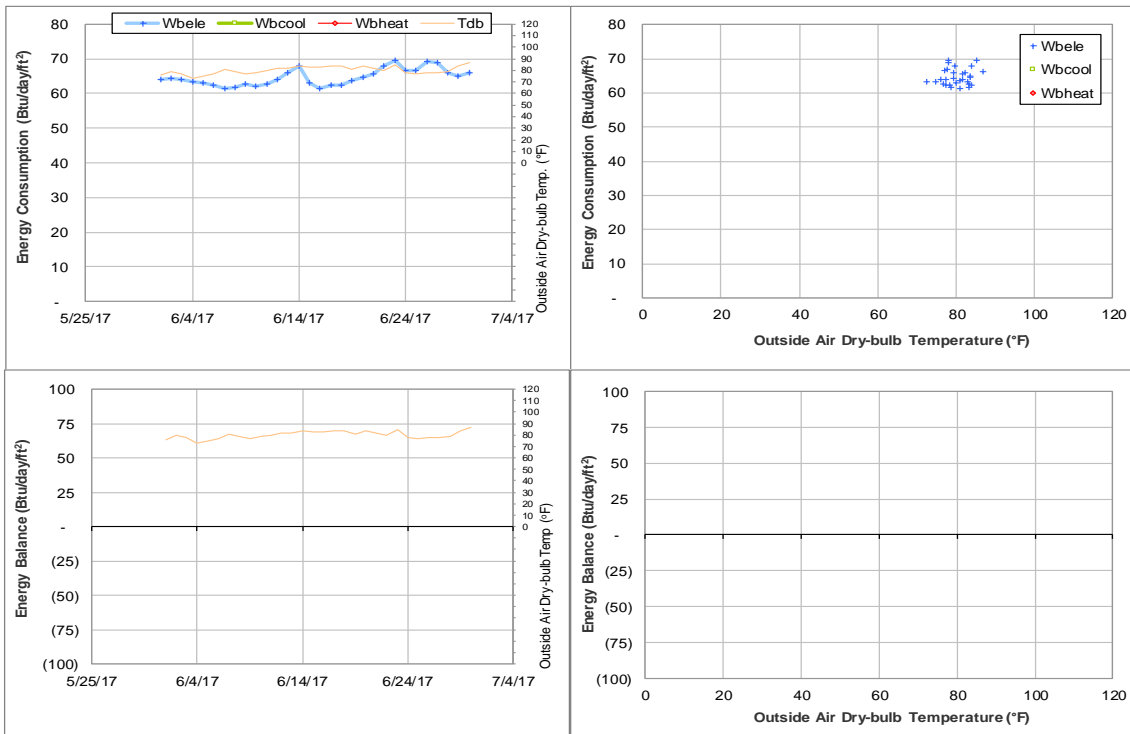


Figure IV-26 Spence Hall Dorm 1 TAMU BLDG # 400 Energy Balance Plot during June 2017

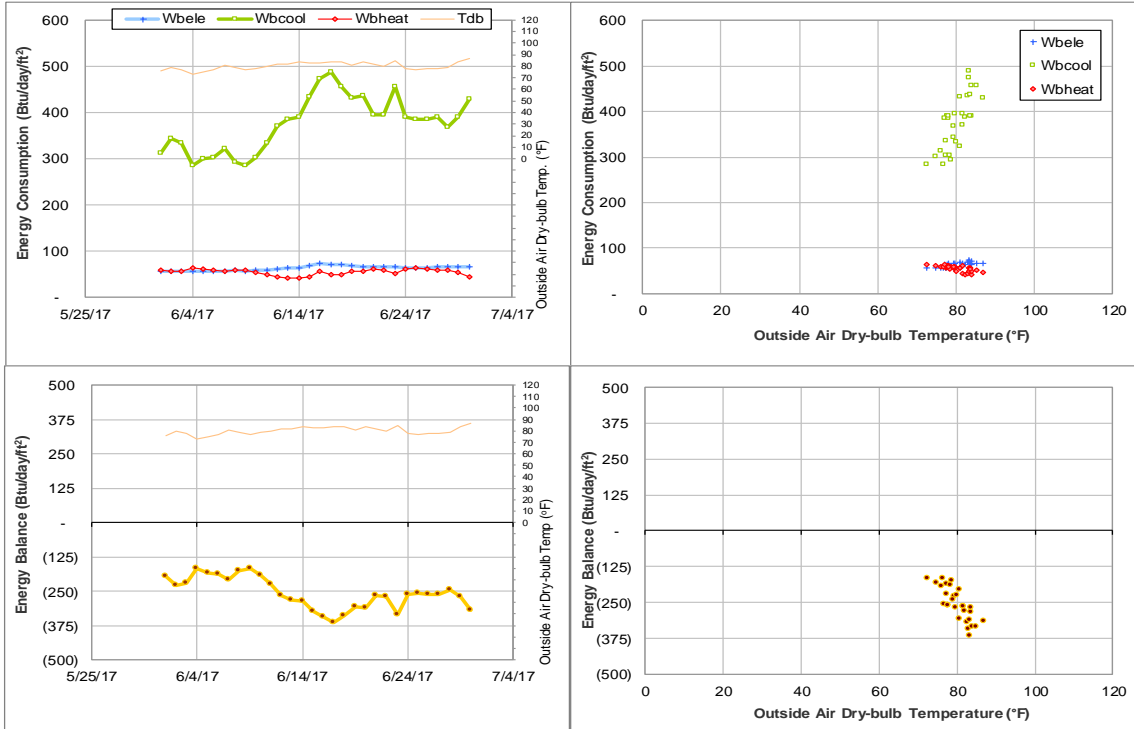


Figure IV-27 Briggs Hall Dorm 3 TAMU BLDG # 402 Energy Balance Plot during June 2017

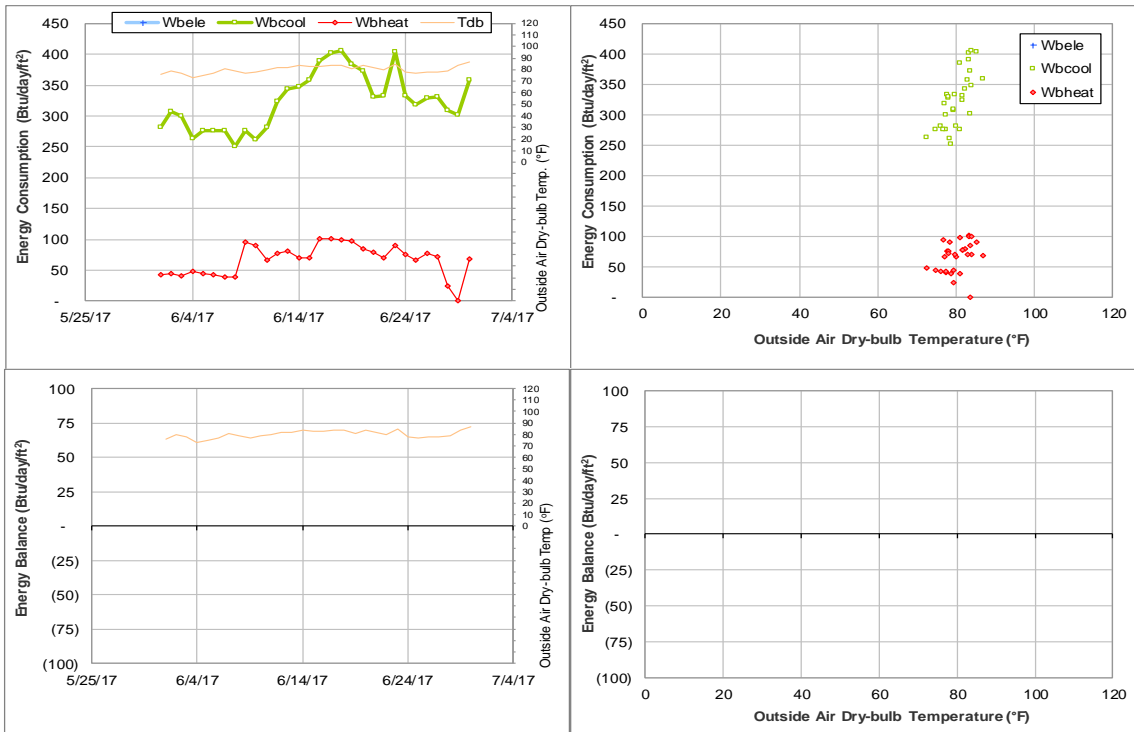


Figure IV-28 Ash II LLC TAMU BLDG # 1405 Energy Balance Plot during June 2017

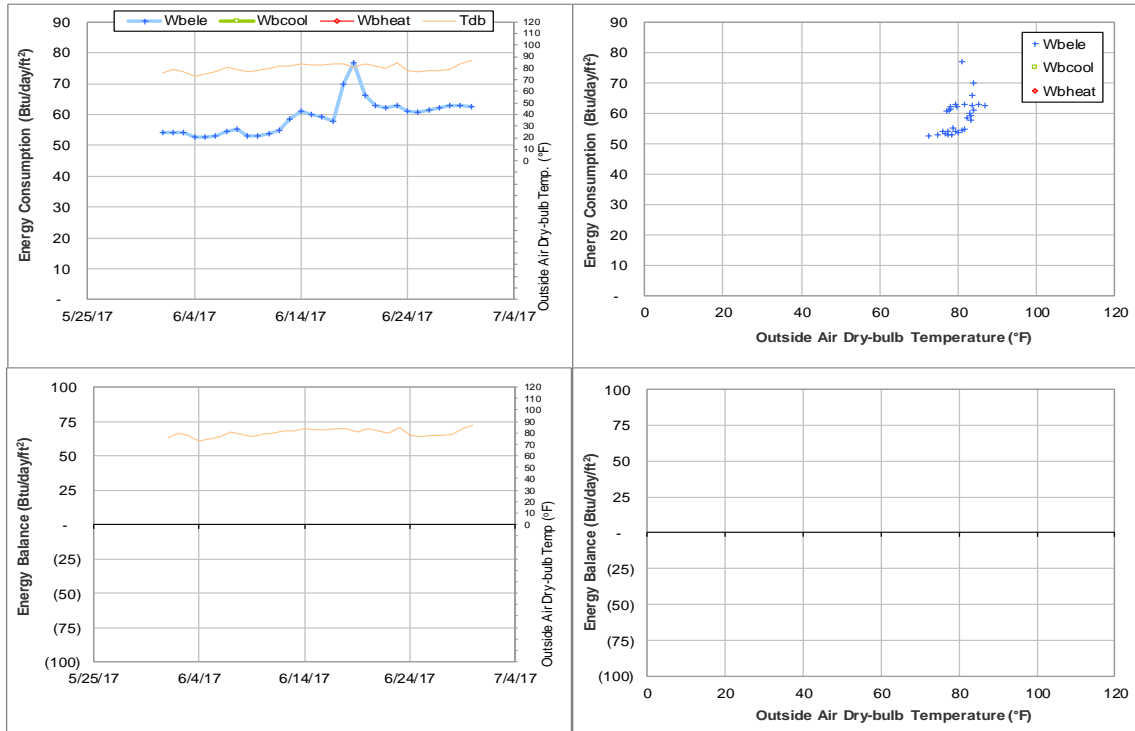


Figure IV-29 Kiest Hall Dorm 2 TAMU BLDG # 401, #403, #1404 Energy Balance Plot during June 2017

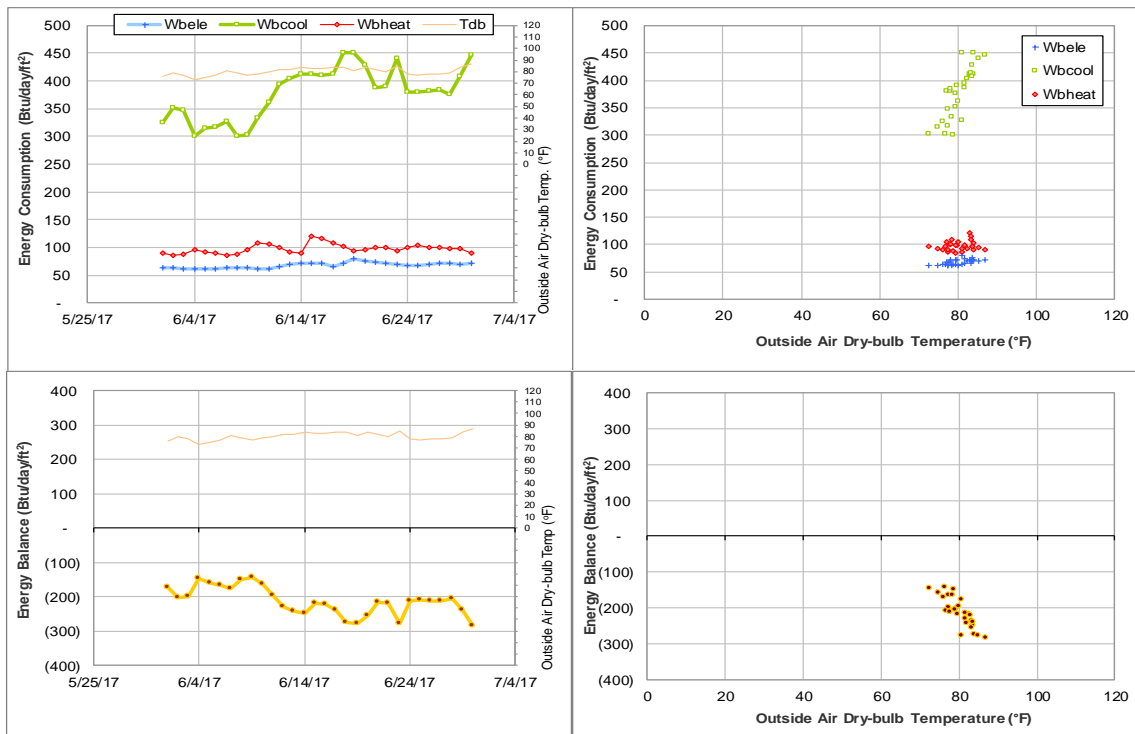


Figure IV-30 Kiest Hall, Fountain Hall, and Plank LLC TAMU BLDG # 401 Energy Balance Plot during June 2017

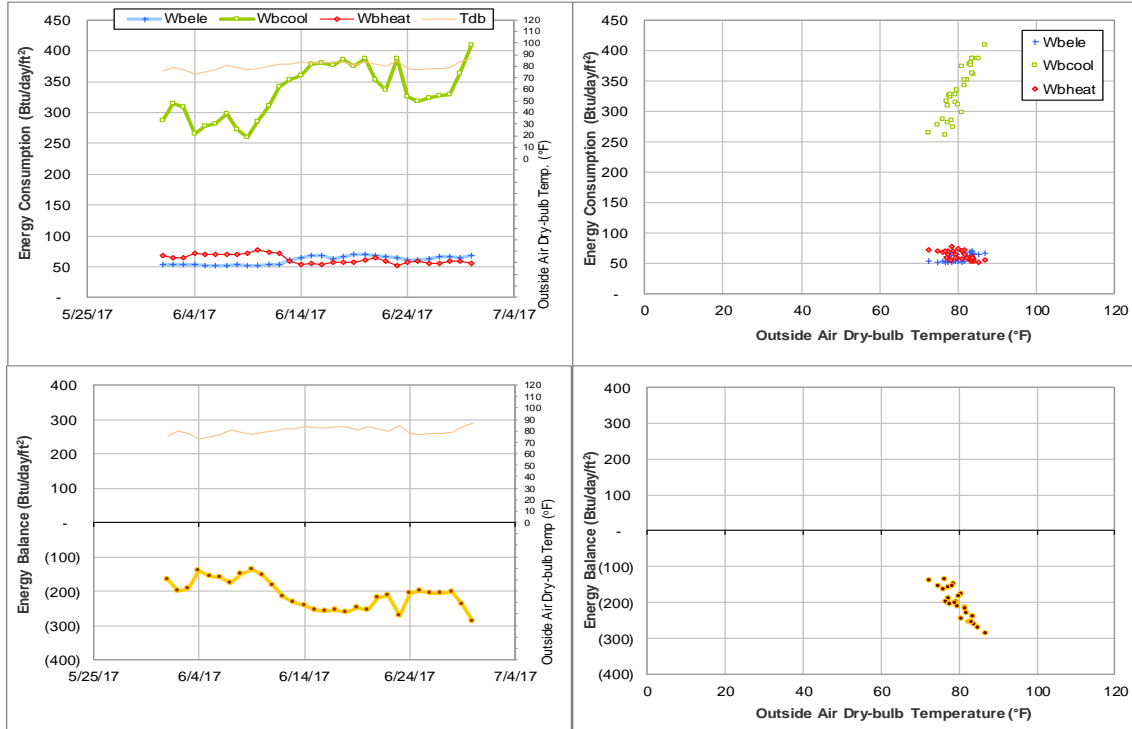


Figure IV-31 Fountain Hall Dorm 4 TAMU BLDG # 403 Energy Balance Plot during June 2017

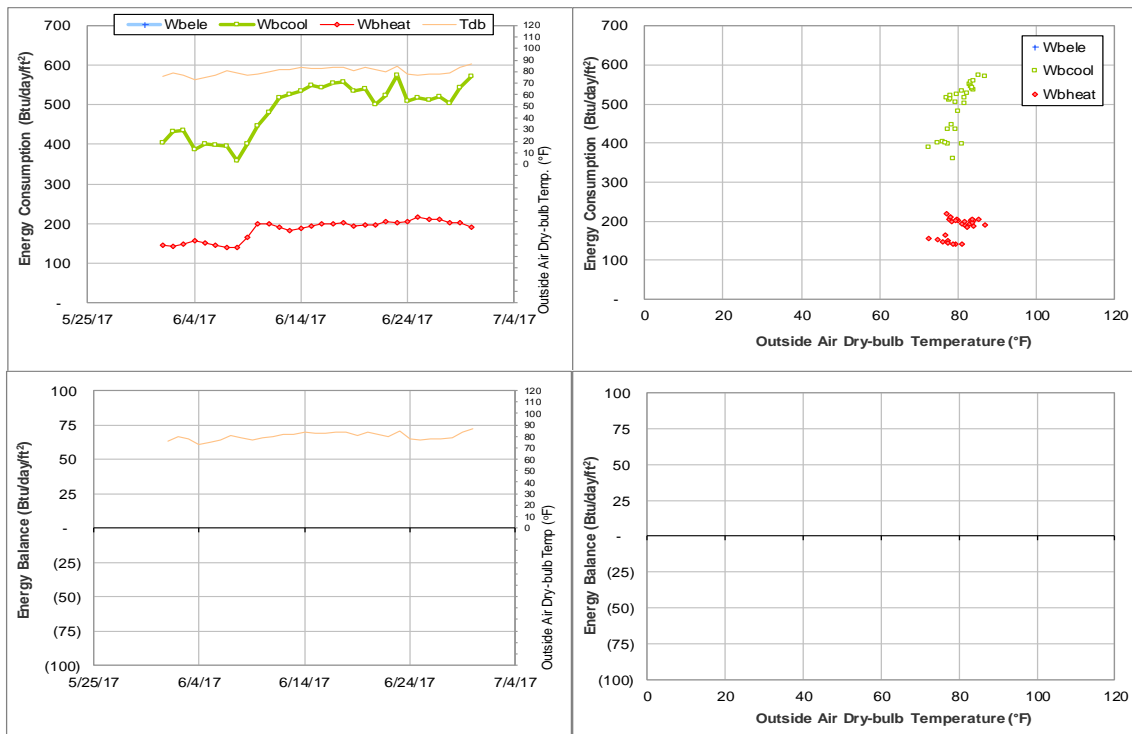


Figure IV-32 Plank LLC TAMU BLDG # 1404 Energy Balance Plot during June 2017

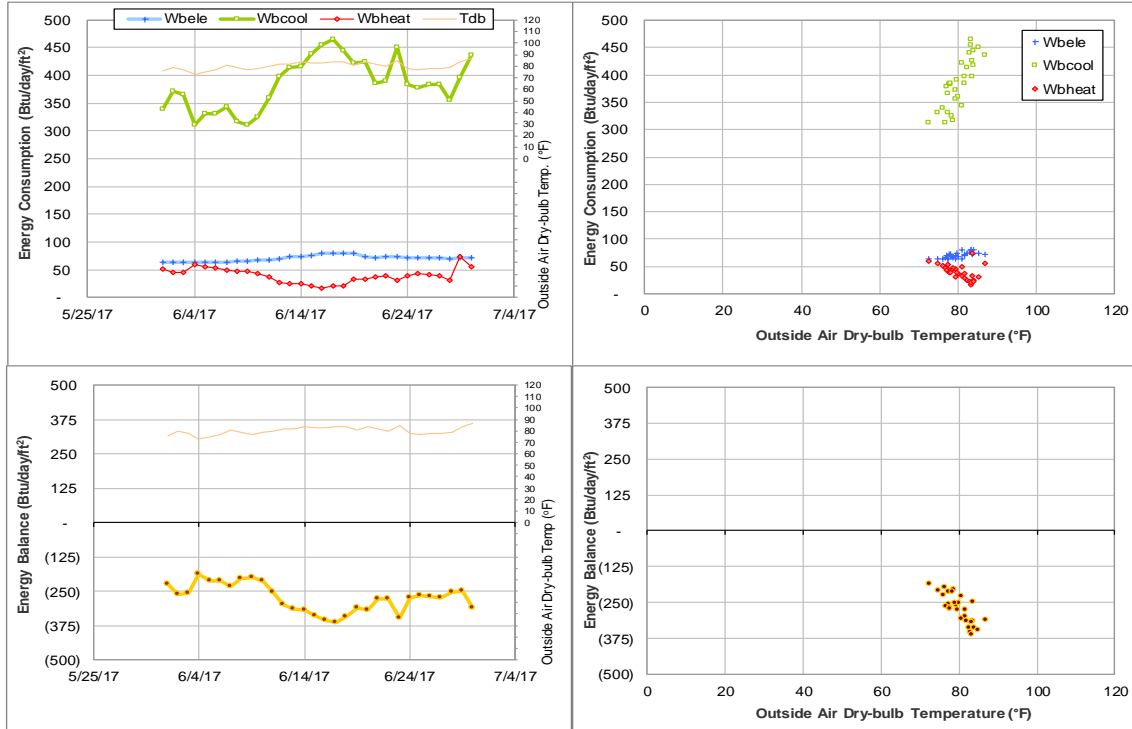


Figure IV-33 Gainer Hall, Leonard Hall and Ash LLC TAMU BLDG # 404, #406, #1403 Energy Balance Plot during June 2017

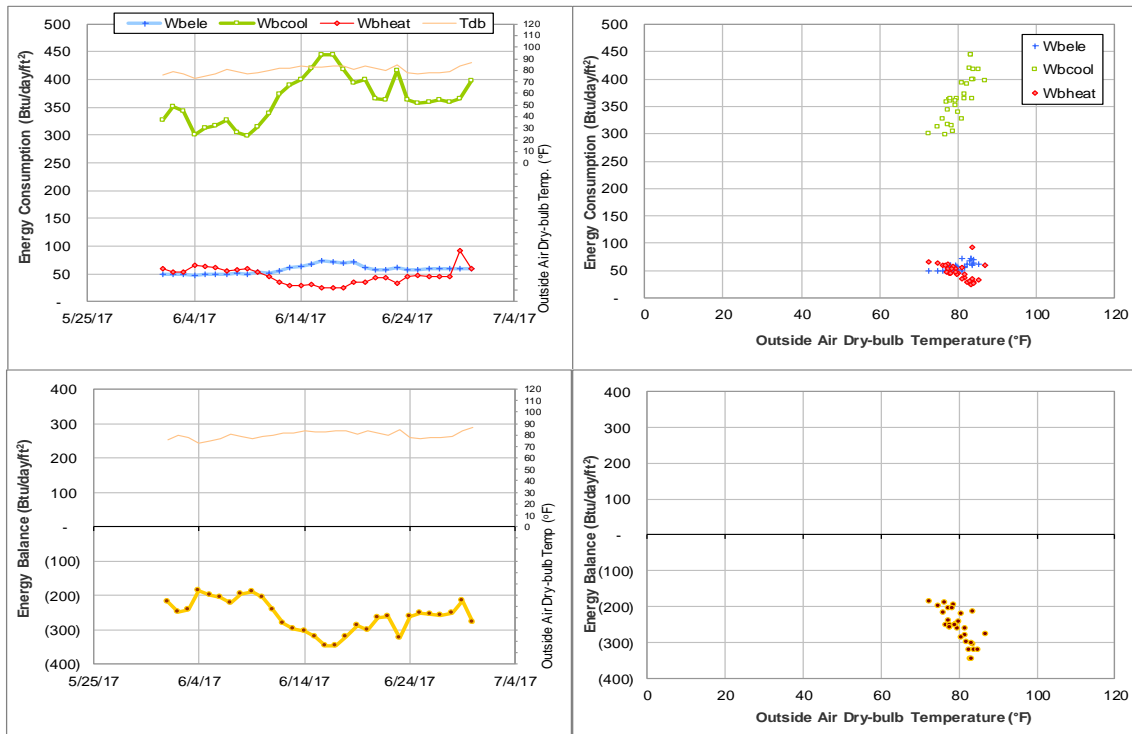


Figure IV-34 Gainer Hall Dorm 5 TAMU BLDG # 404 Energy Balance Plot during June 2017

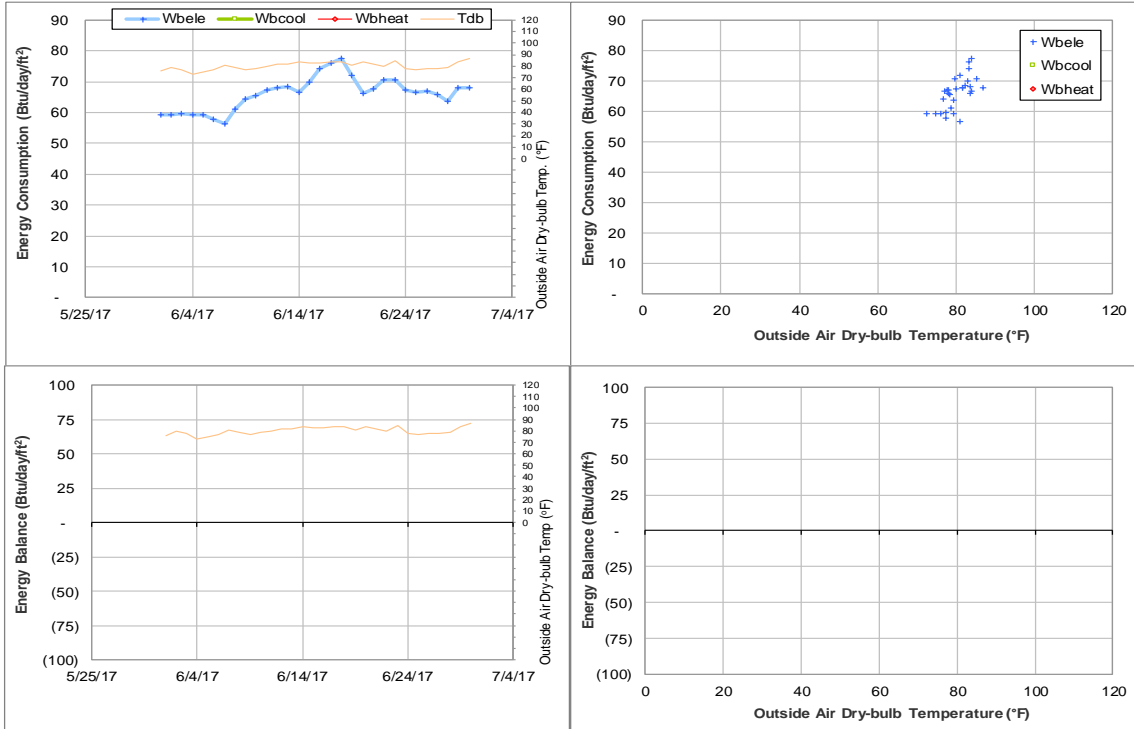


Figure IV-35 Leonard Hall - Dorm 7 TAMU BLDG # 406 Energy Balance Plot during June 2017

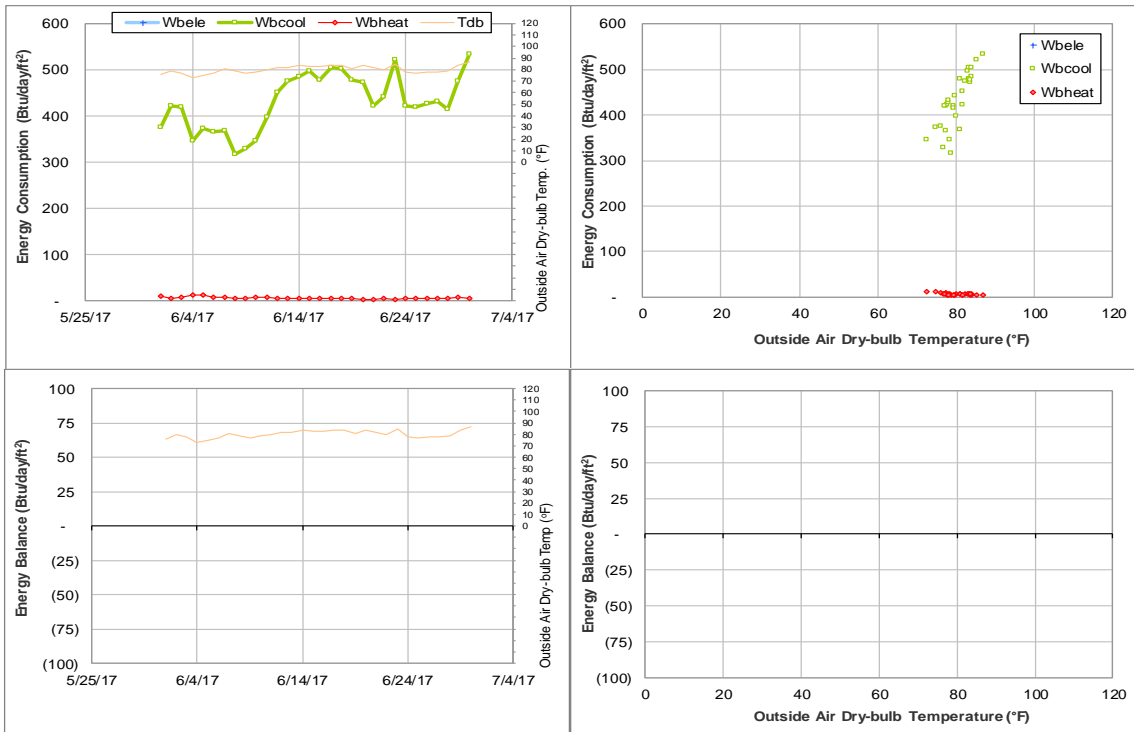


Figure IV-36 H. Grady Ash, Jr. '58 Leadership Learning Center TAMU BLDG # 1403 Energy Balance Plot during June 2017

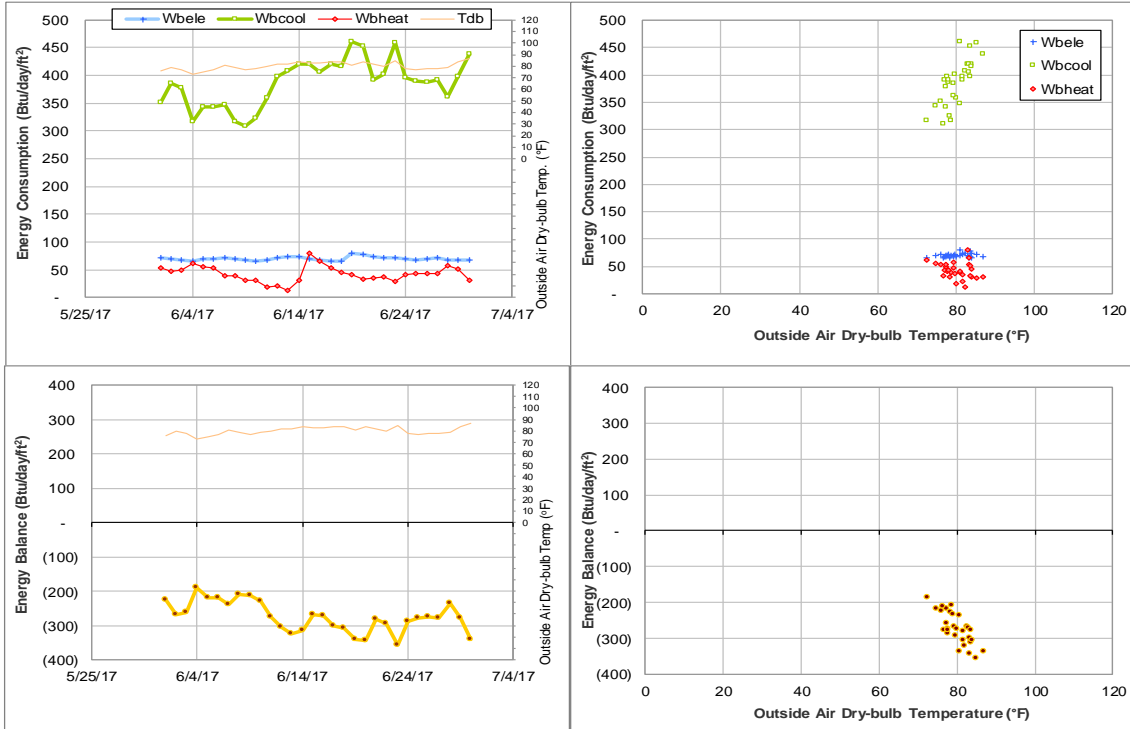


Figure IV-37 Lacy Hall - Dorm 6, Harrell Hall and Leadership Learning Center TAMU BLDG # 405, #407, and #1402 Energy Balance Plot during June 2017

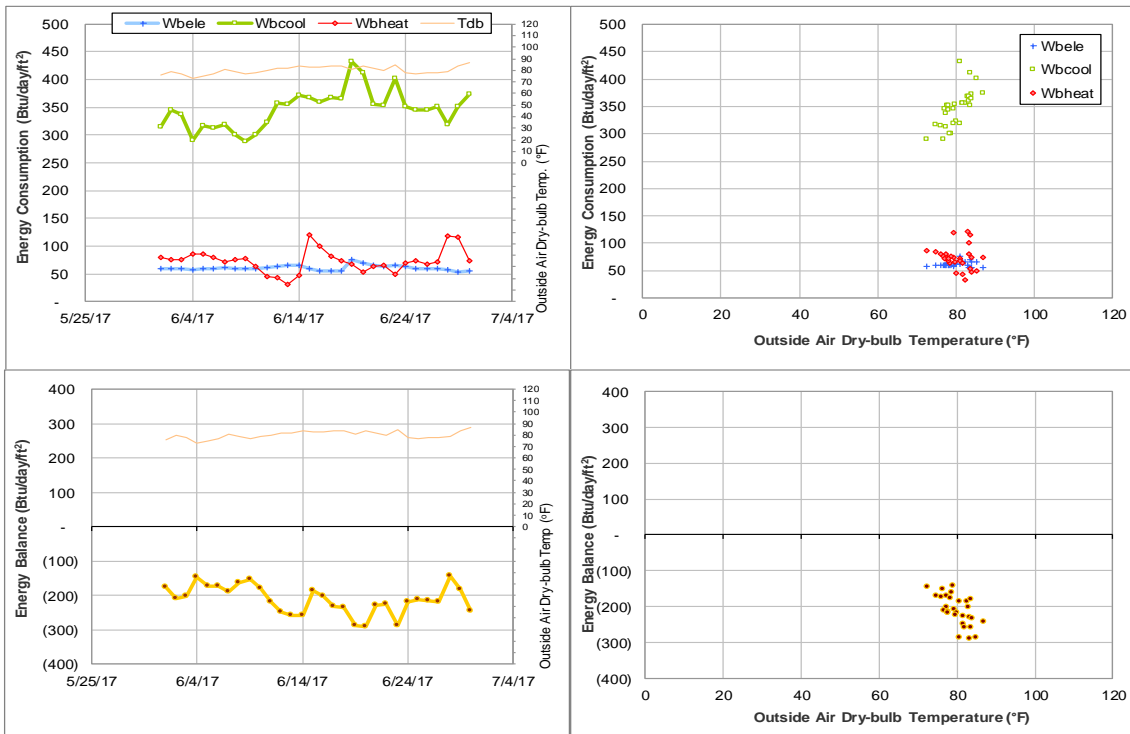


Figure IV-38 Lacy Hall - Dorm 6 TAMU BLDG # 405 Energy Balance Plot during June 2017

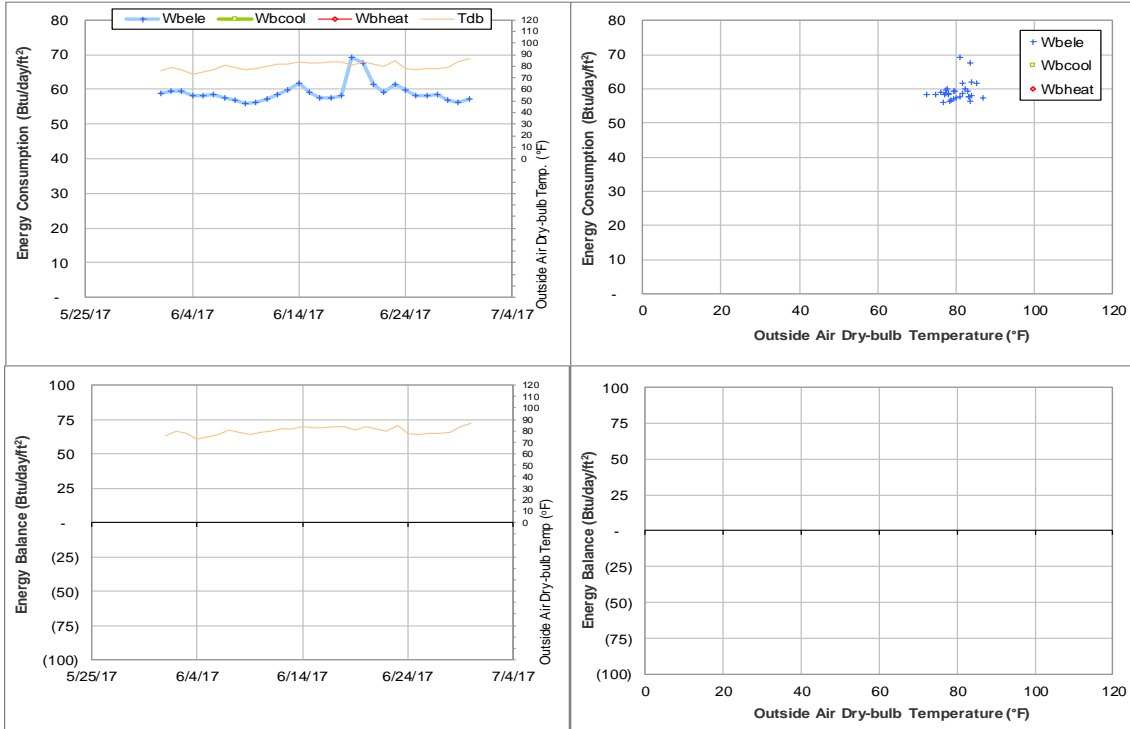


Figure IV-39 Harrell Hall - Dorm 8 TAMU BLDG # 407 Energy Balance Plot during June 2017

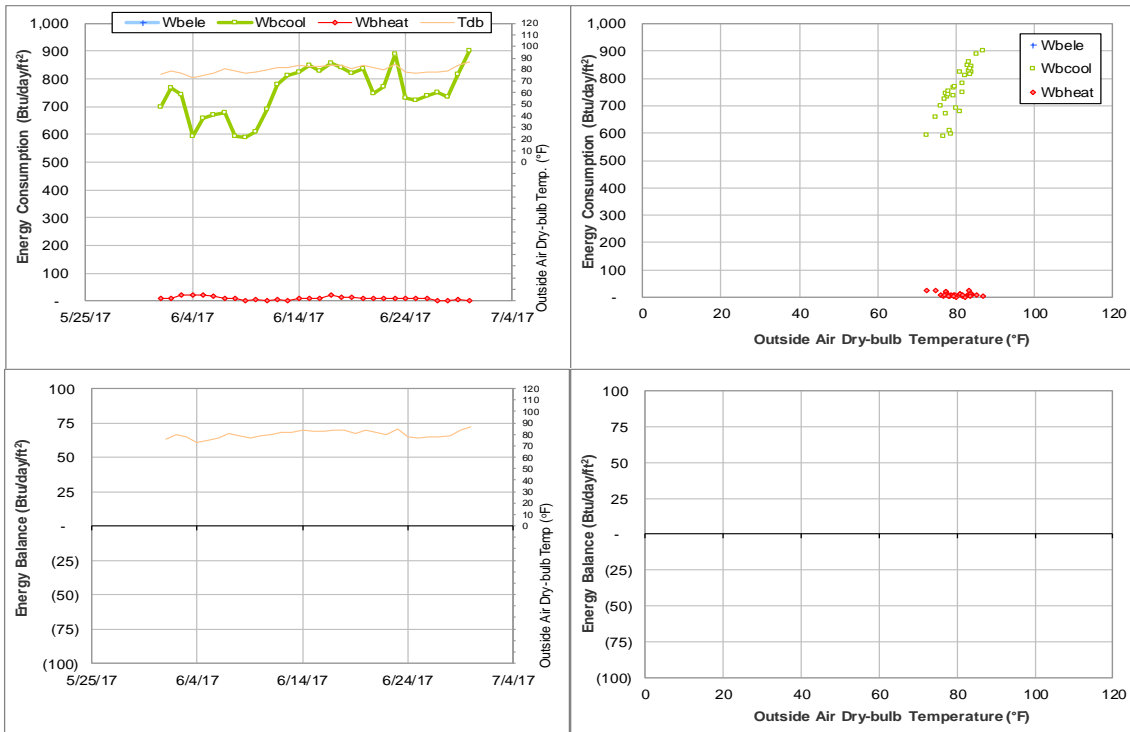


Figure IV-40 Buzbee Leadership Learning Center TAMU BLDG # 1402 Energy Balance Plot during June 2017

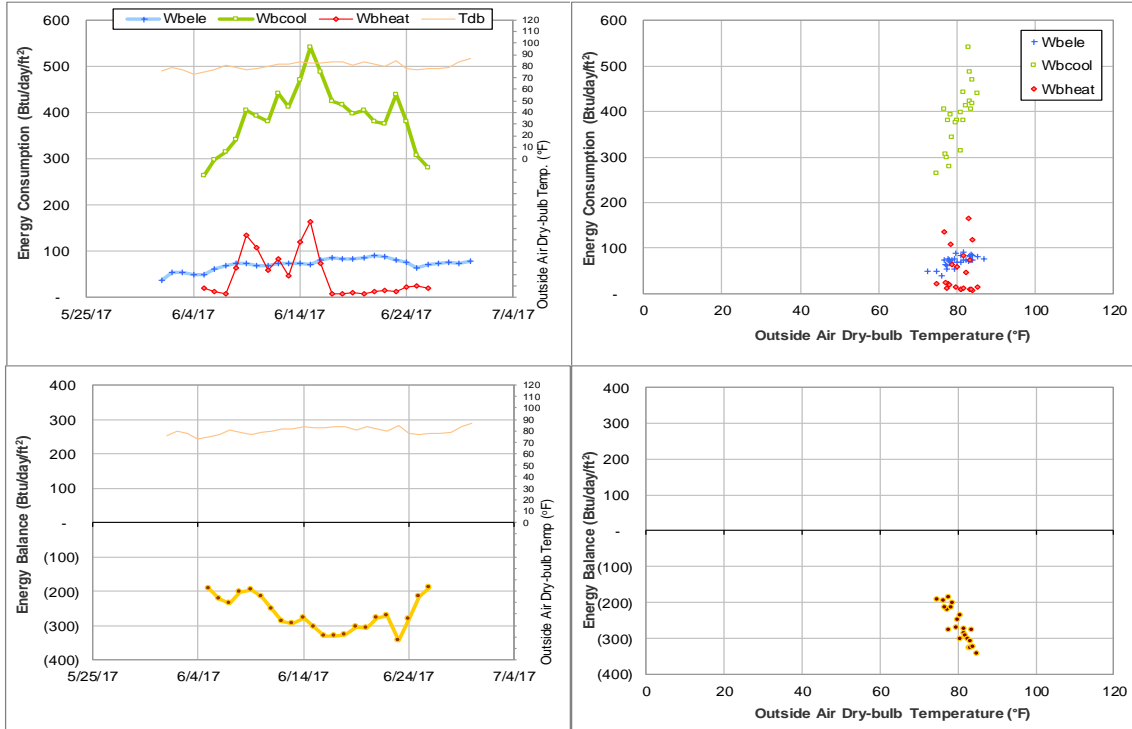


Figure IV-41 Whitey Hall - Dorm 9 TAMU BLDG # 408 Energy Balance Plot during June 2017

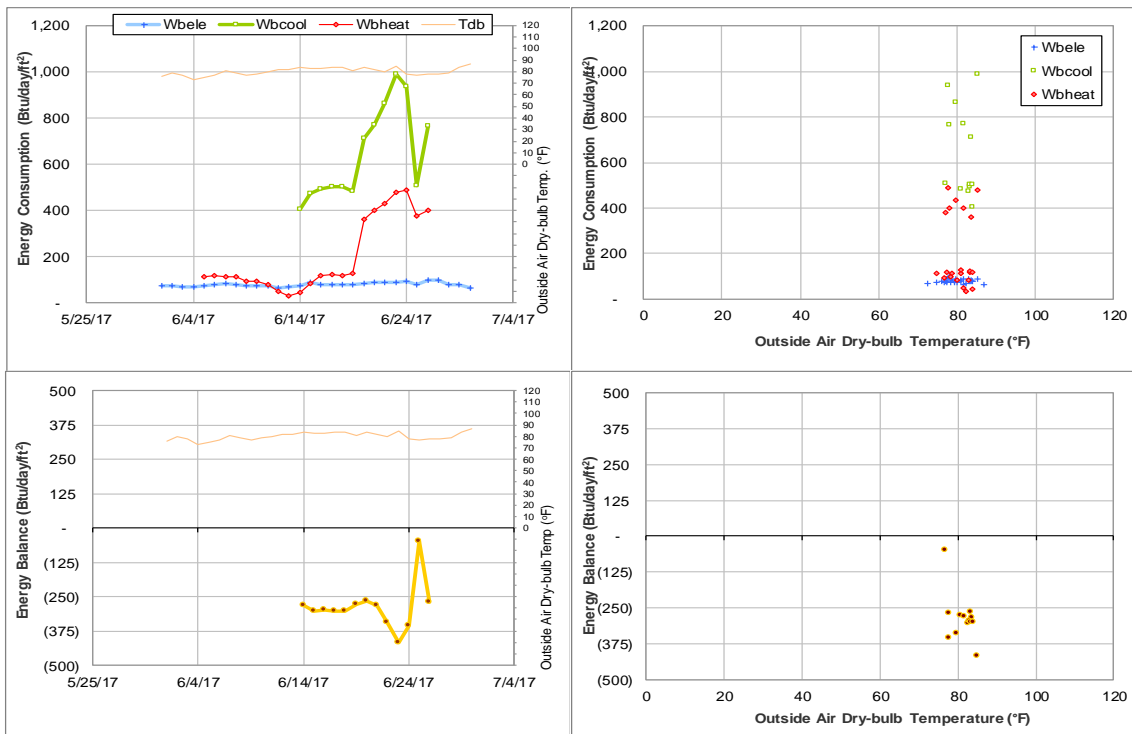


Figure IV-42 White Hall - Dorm 10 TAMU BLDG # 409 Energy Balance Plot during June 2017

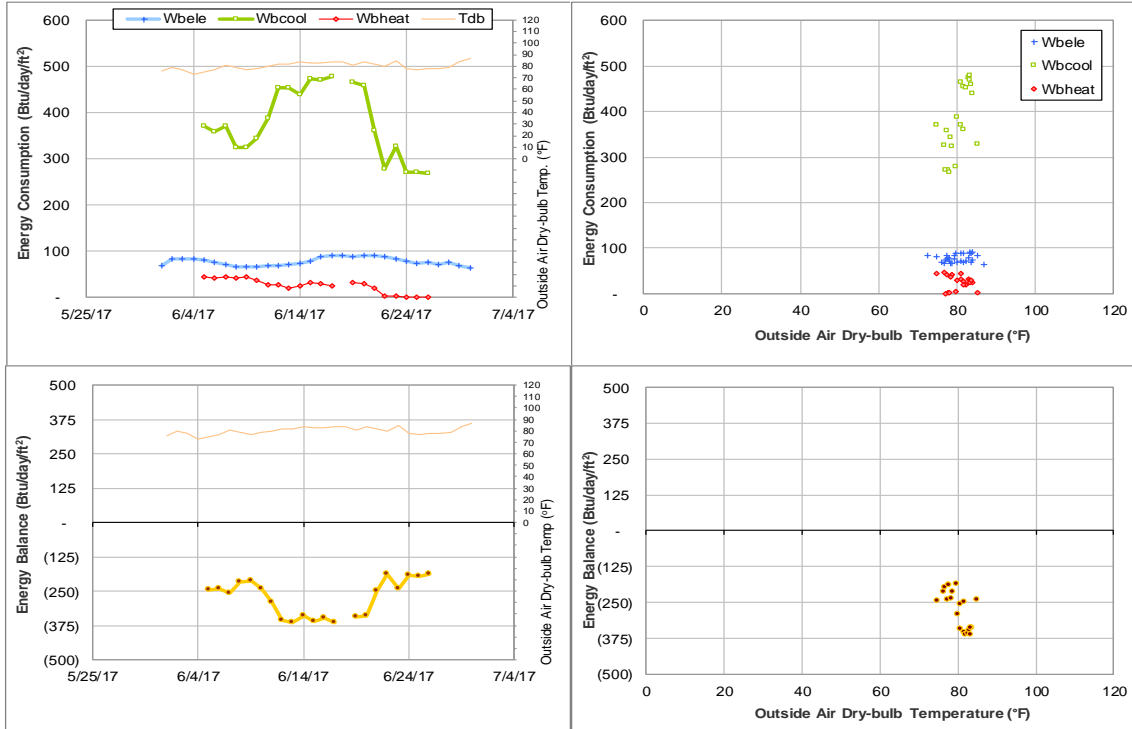


Figure IV-43 Harrington Hall - Dorm 11 TAMU BLDG # 410 Energy Balance Plot during June 2017

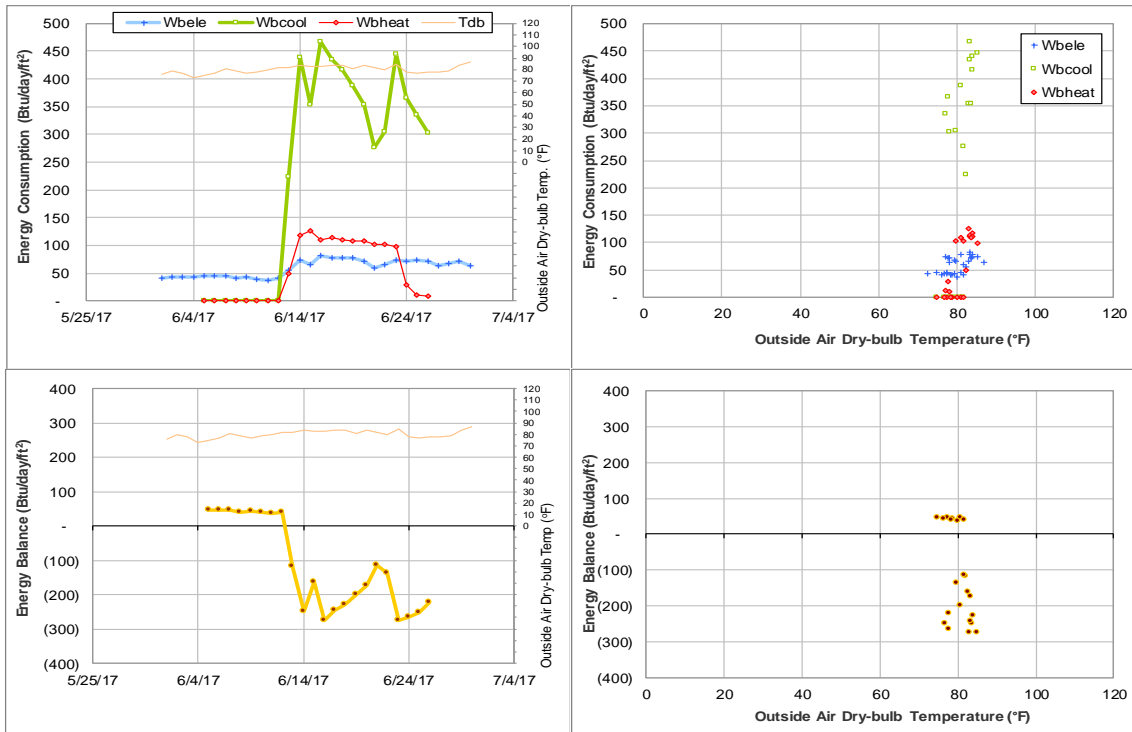


Figure IV-44 Utay Hall - Dorm 12 TAMU BLDG # 411 Energy Balance Plot during June 2017

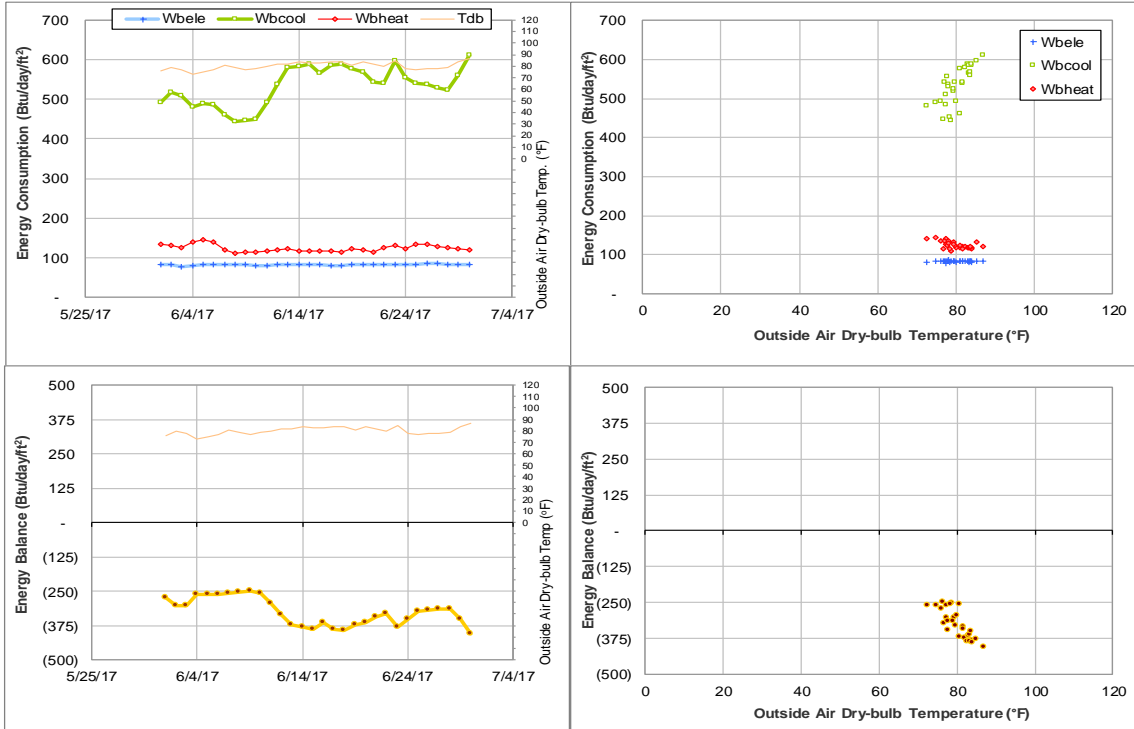


Figure IV-45 Moses Residence Hall TAMU BLDG # 412 Energy Balance Plot during June 2017

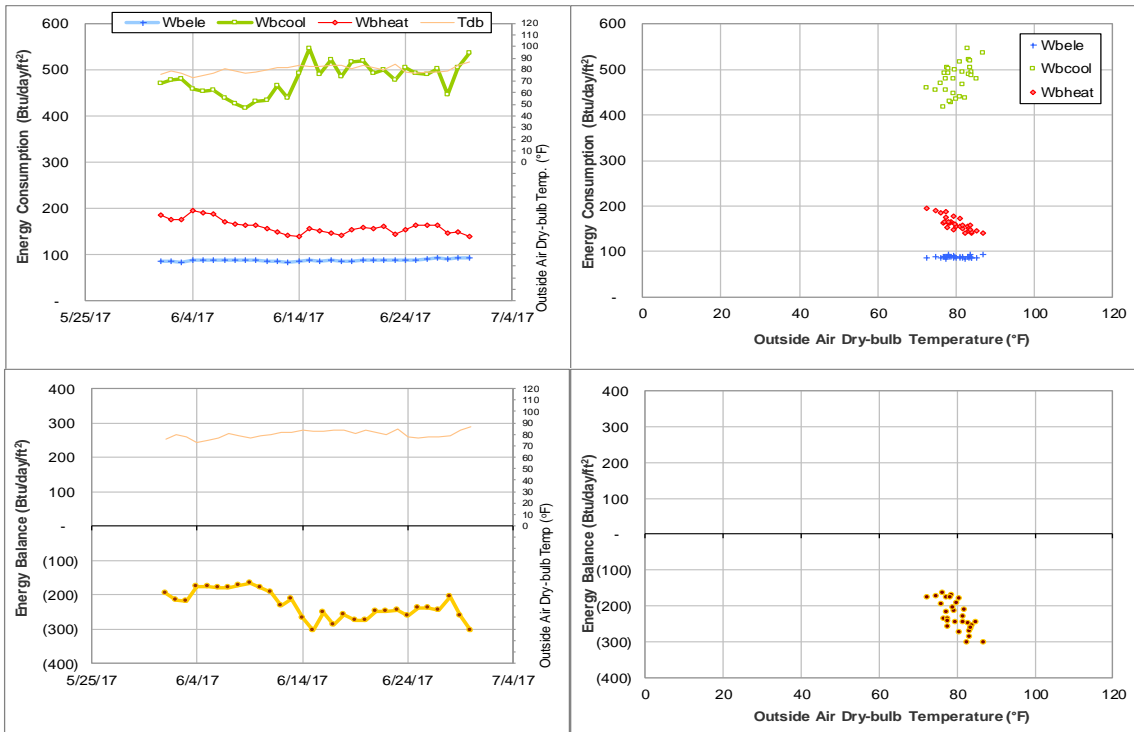


Figure IV-46 Davis-Gary Residence Hall TAMU BLDG # 415 Energy Balance Plot during June 2017

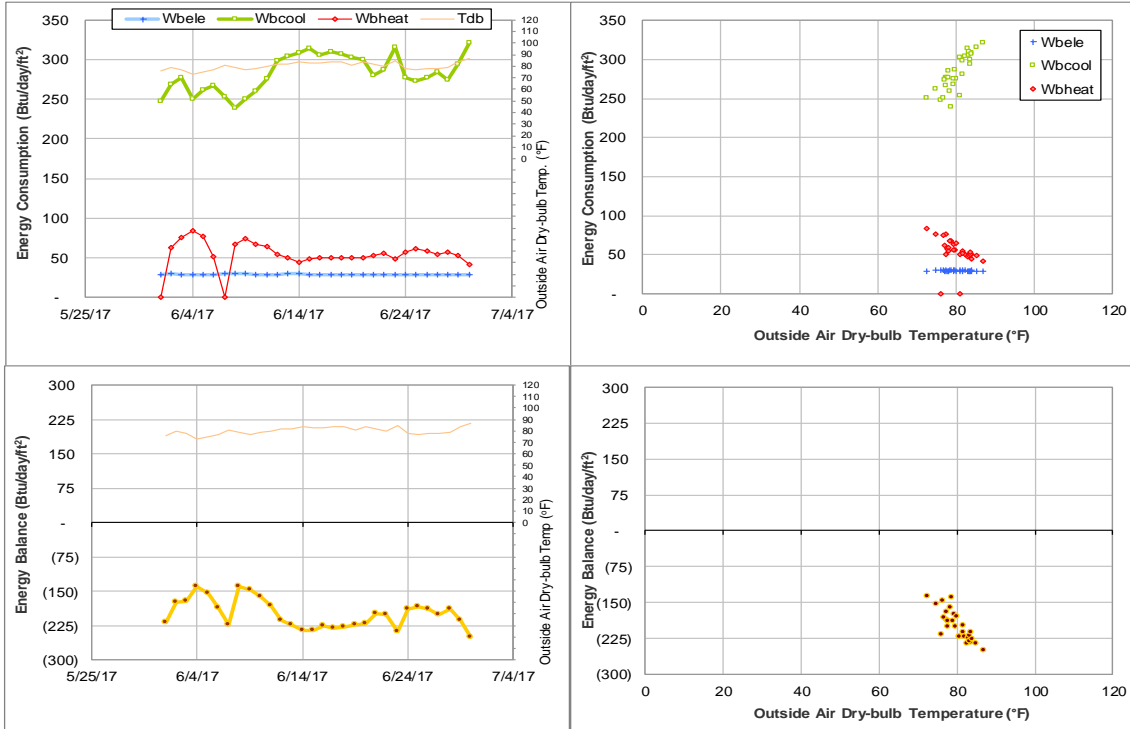


Figure IV-47 Legett Residence Hall TAMU BLDG # 419 Energy Balance Plot during June 2017

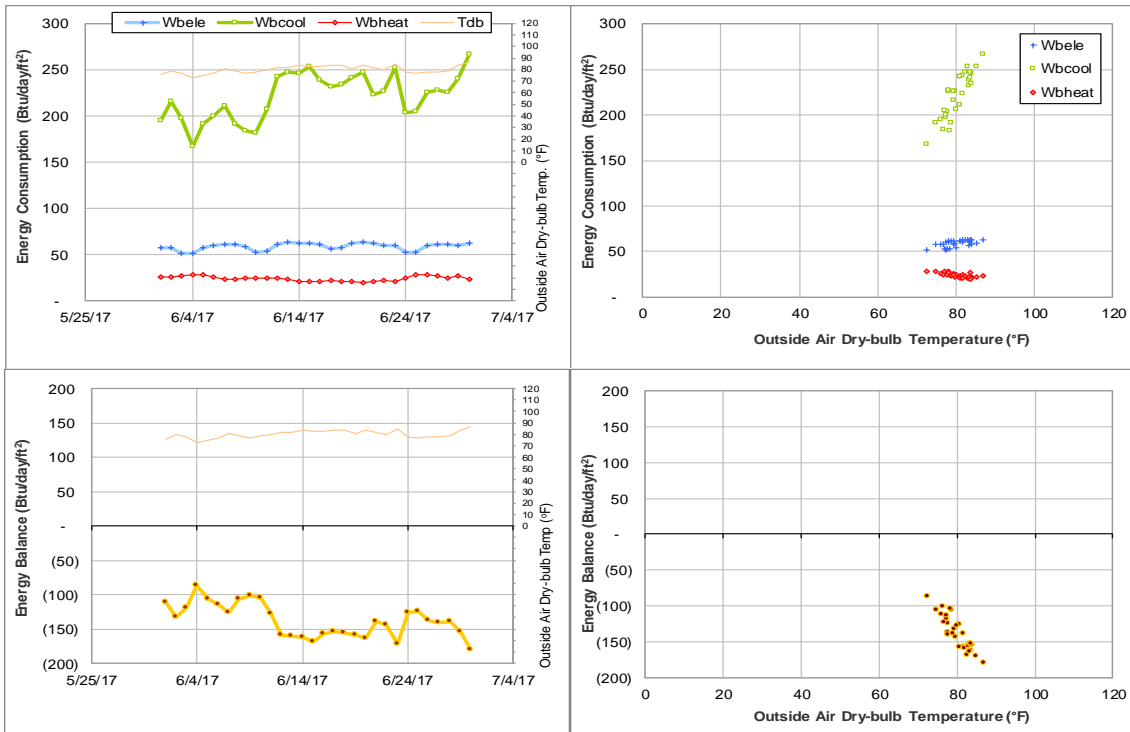


Figure IV-48 Milner Hall TAMU BLDG # 420 Energy Balance Plot during June 2017

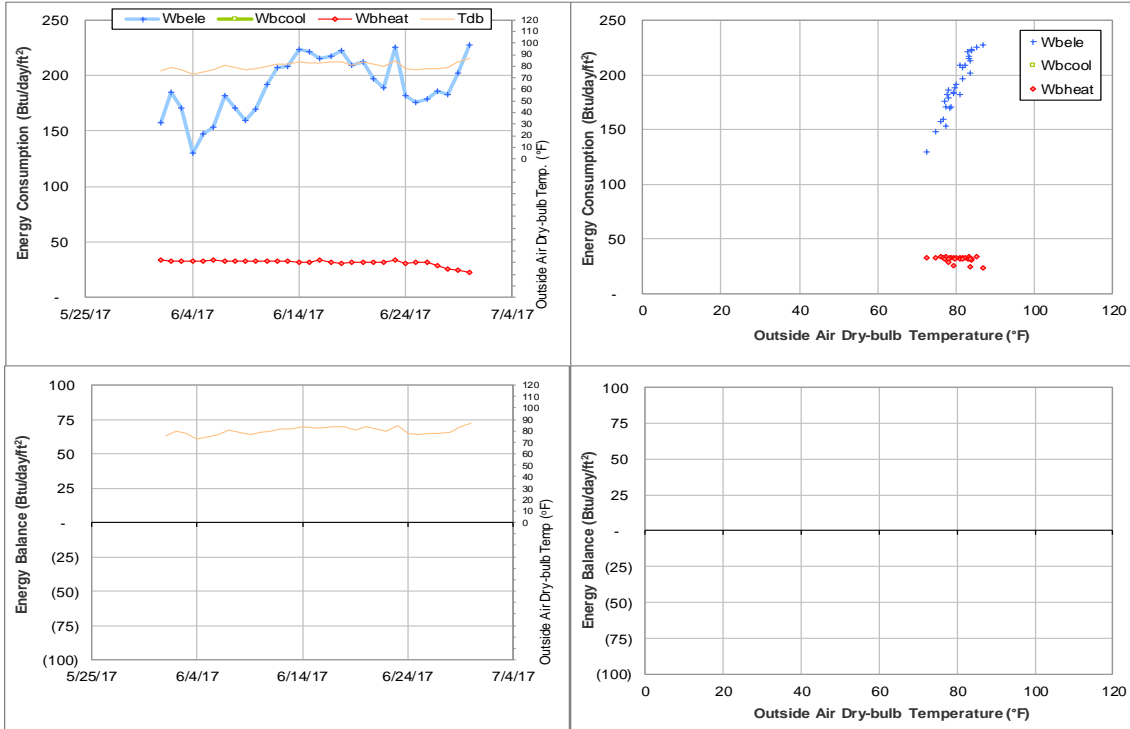


Figure IV-49 Walton Residence Hall TAMU BLDG # 422 Energy Balance Plot during June 2017

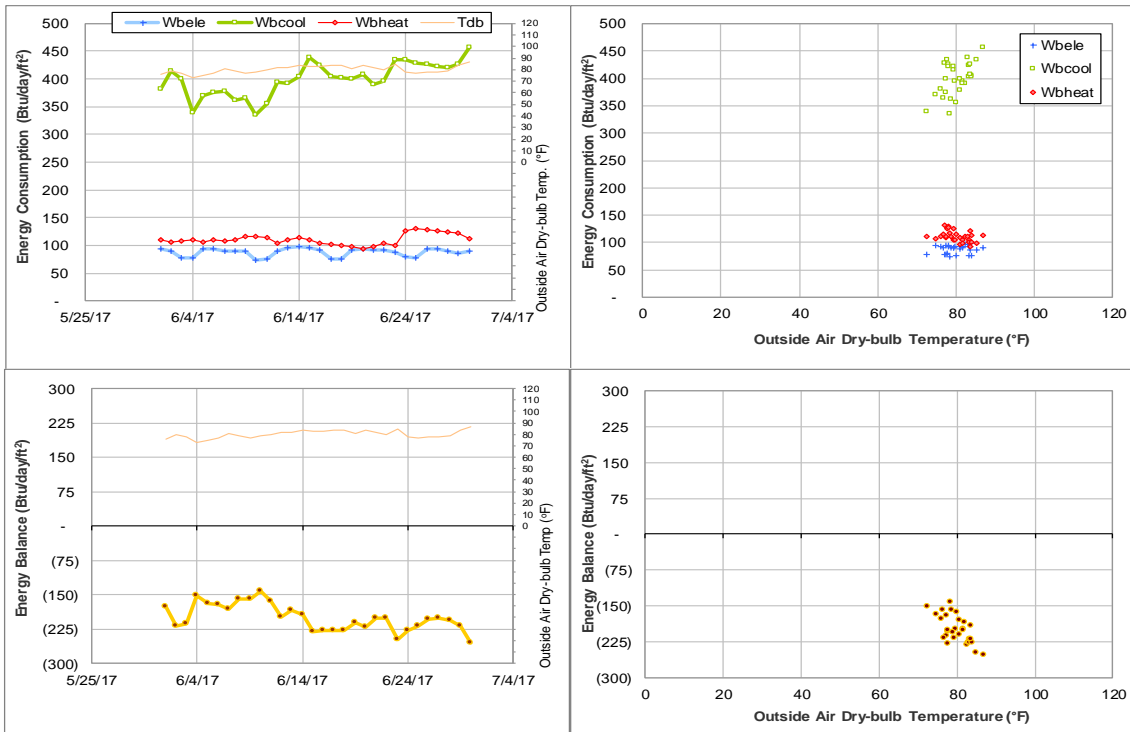


Figure IV-50 Hotard Hall TAMU BLDG # 424 Energy Balance Plot during June 2017

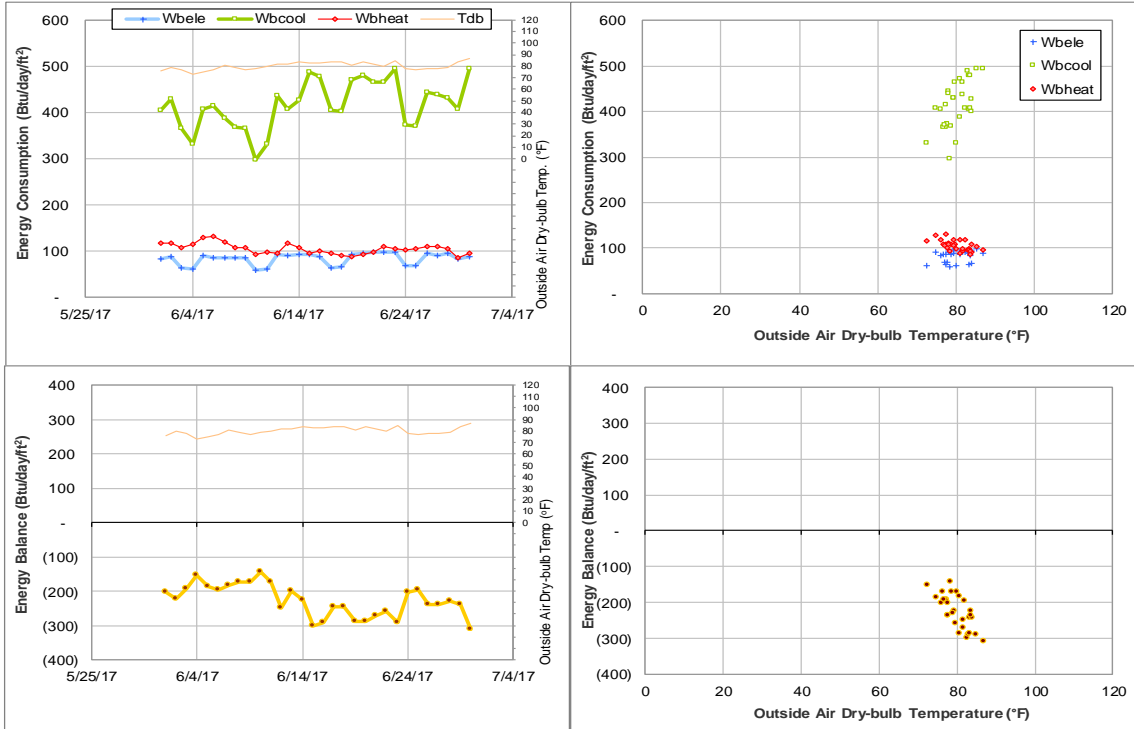


Figure IV-51 Henderson Hall TAMU BLDG # 425 Energy Balance Plot during June 2017

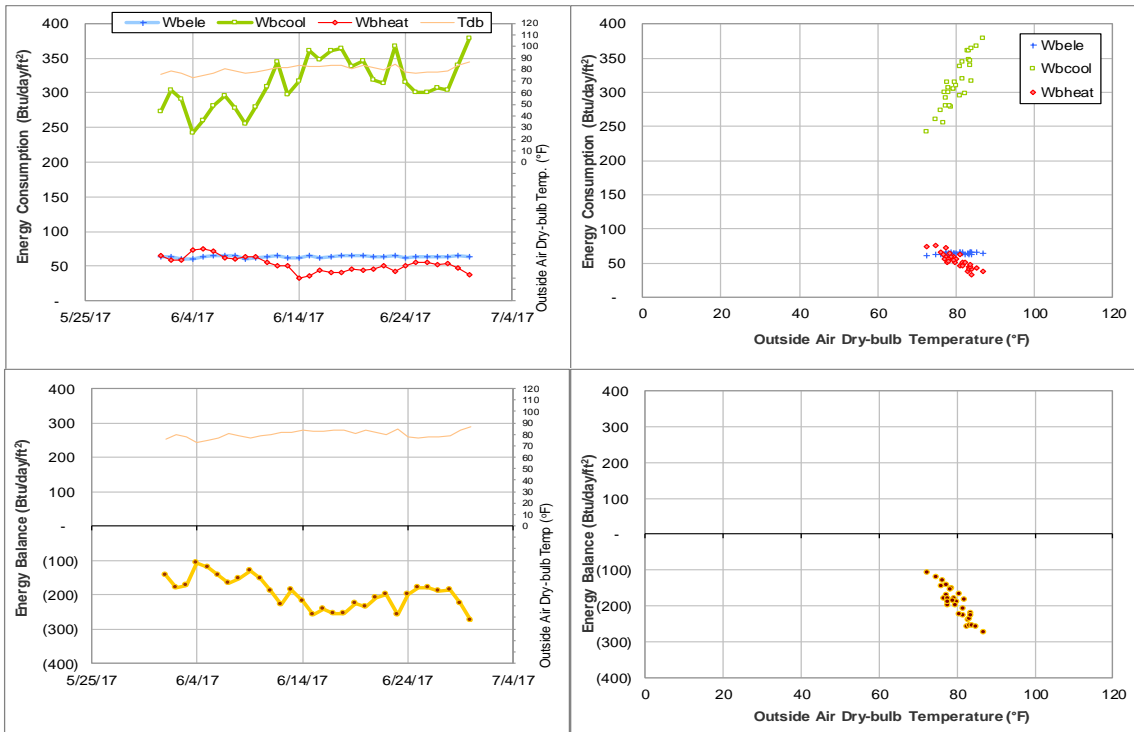


Figure IV-52 FHK Complex TAMU BLDG # 426 Energy Balance Plot during June 2017

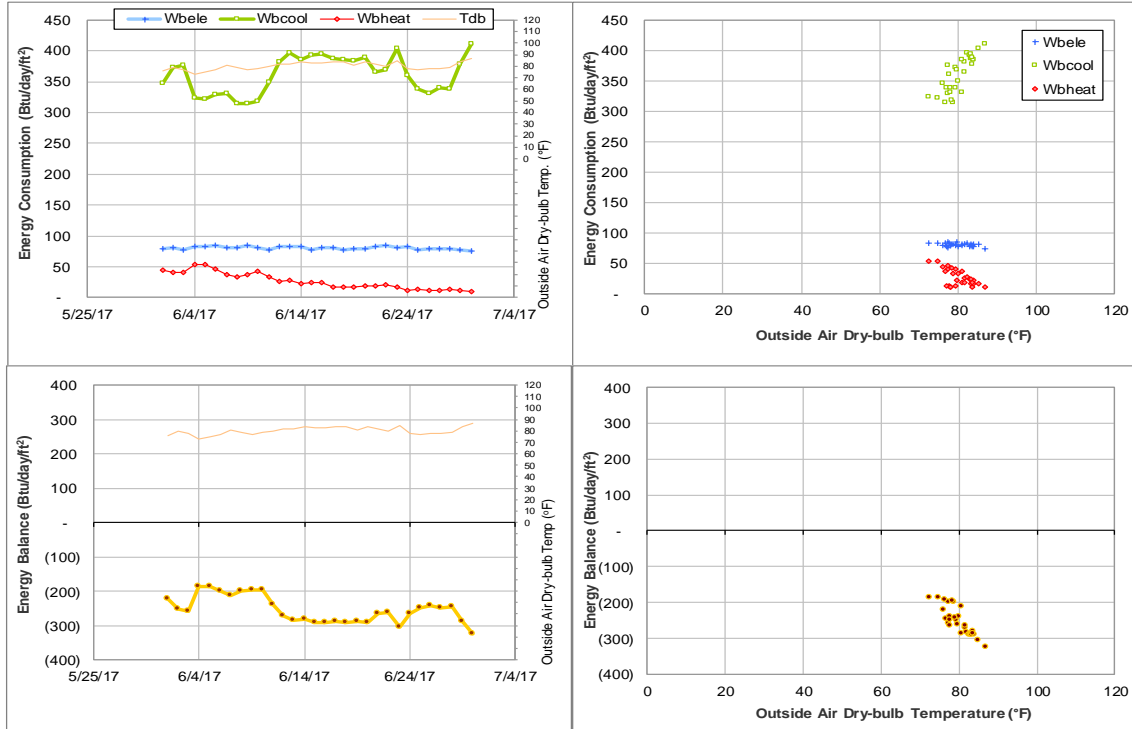


Figure IV-53 Schumacher Residence Hall TAMU BLDG # 430 Energy Balance Plot during June 2017

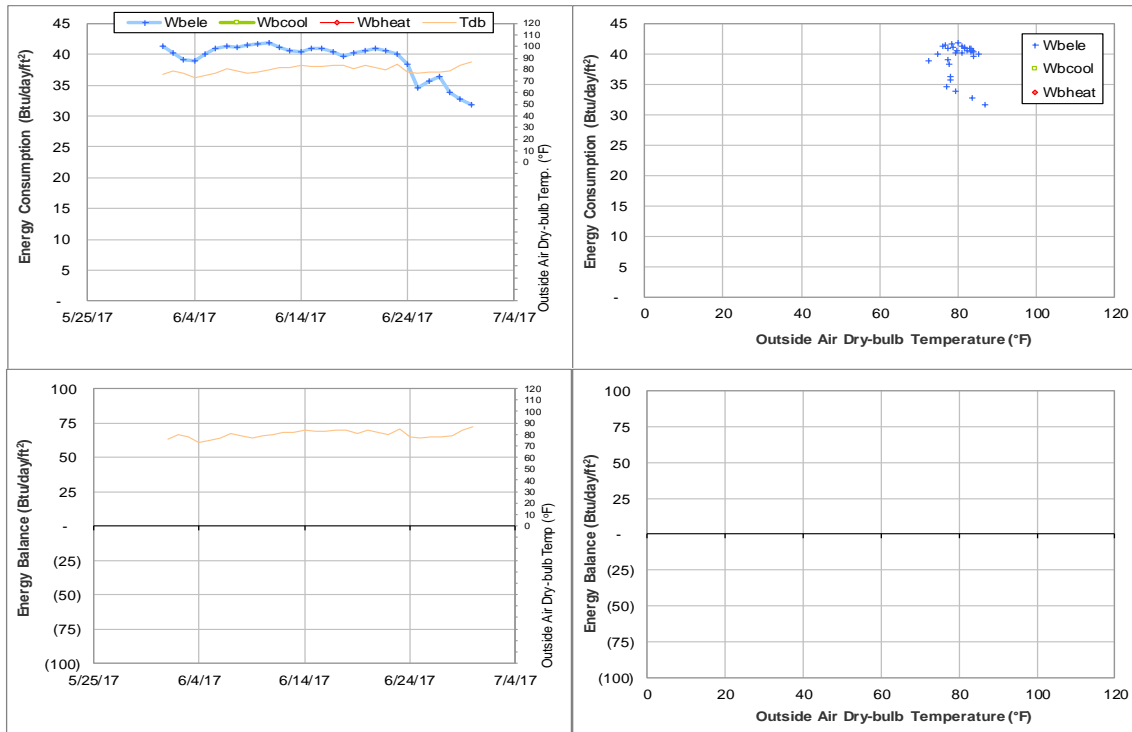


Figure IV-54 Mosher Commons Krueger Dunn Aston TAMU BLDG # 433, #440, #441, #442, #447 Energy Balance Plot during June 2017

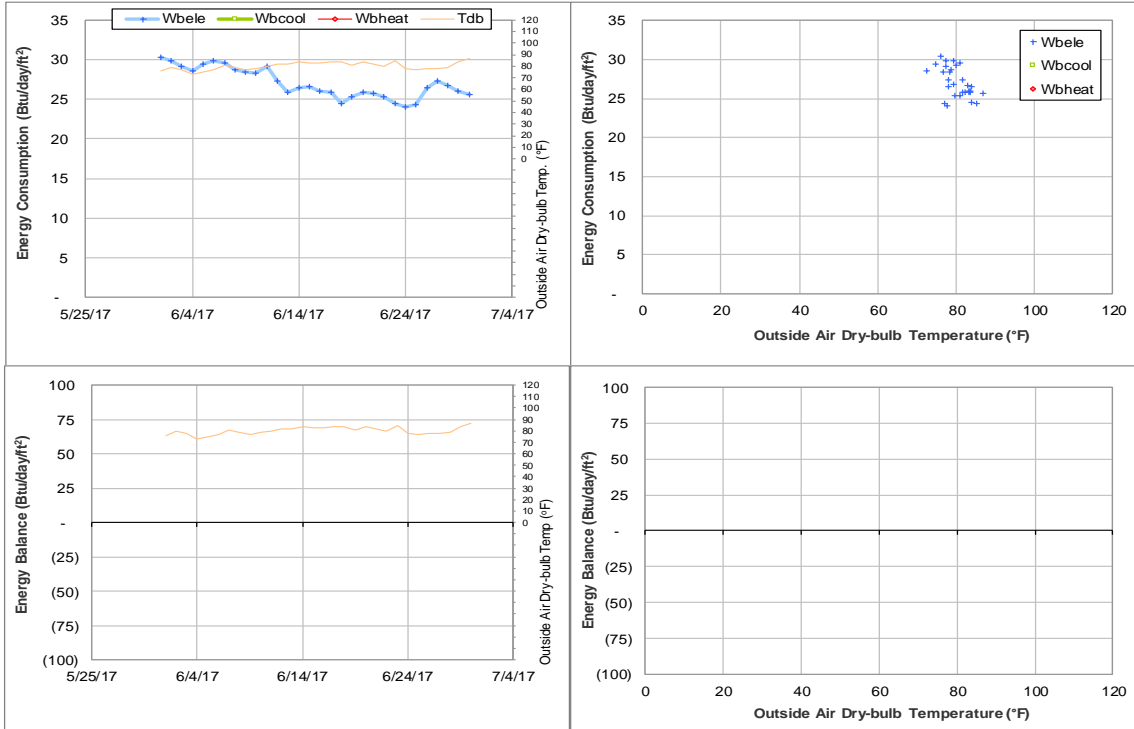


Figure IV-55 Mosher Residence Hall TAMU BLDG # 433 Energy Balance Plot during June 2017

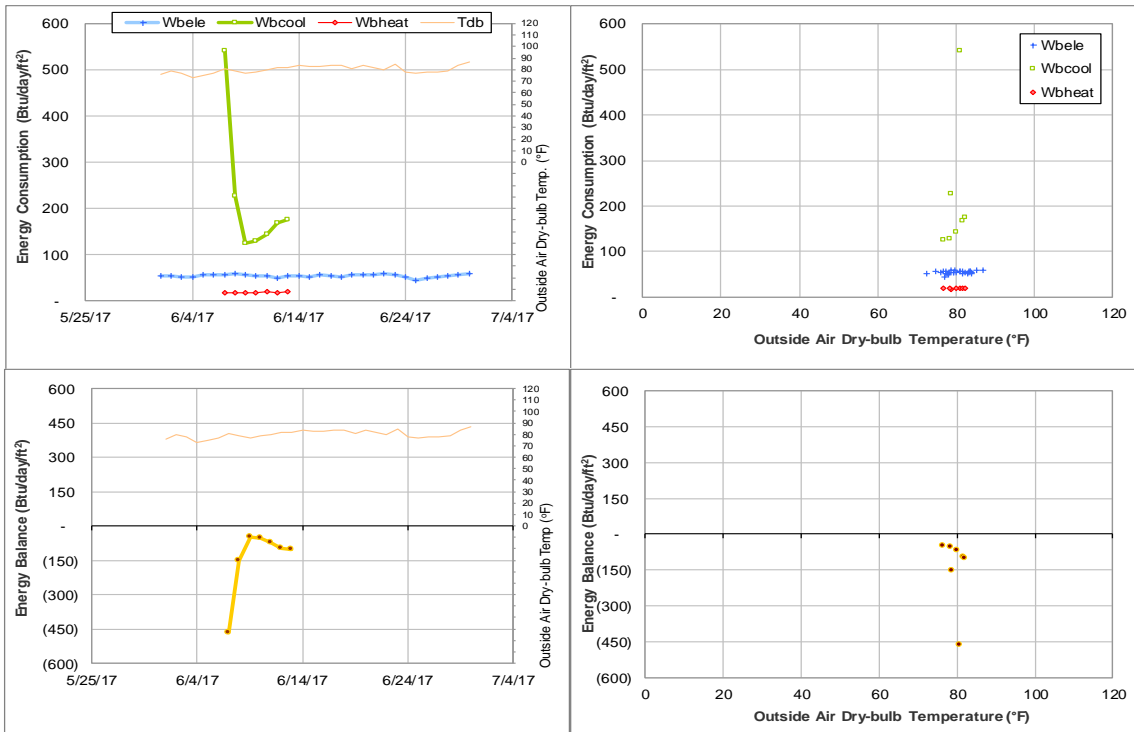


Figure IV-56 Commons Krueger TAMU BLDG # 440, #441 Energy Balance Plot during June 2017

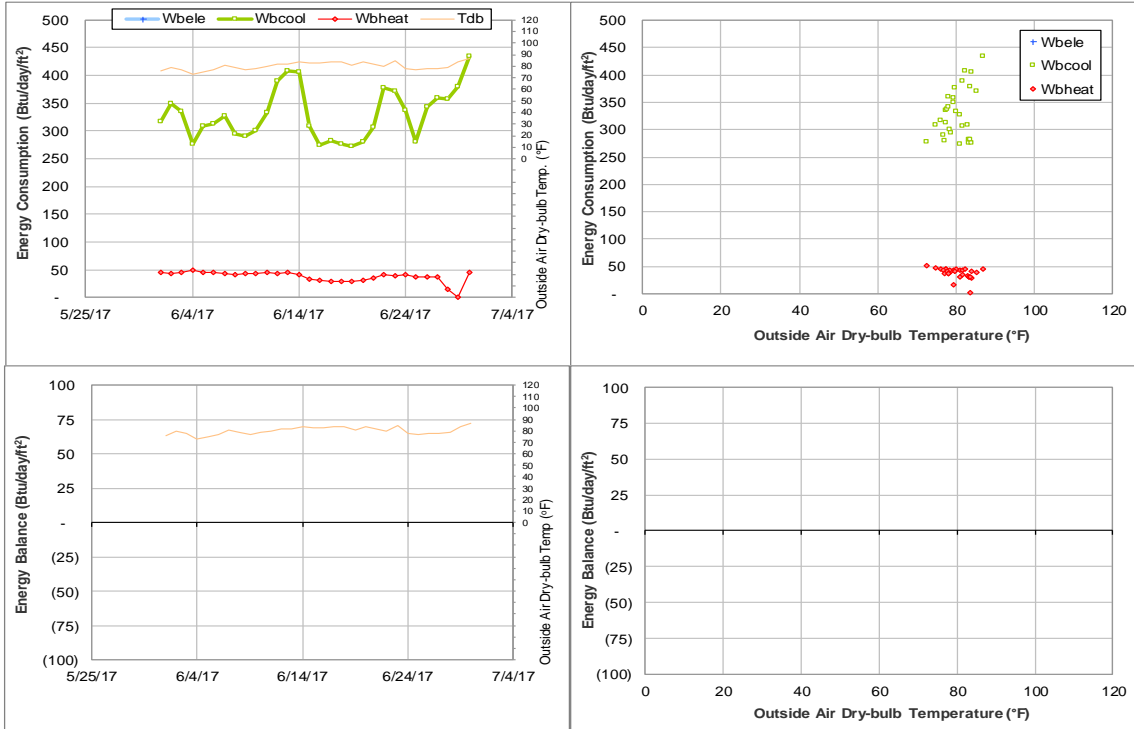


Figure IV-57 Commons Hall TAMU BLDG # 440 Energy Balance Plot during June 2017

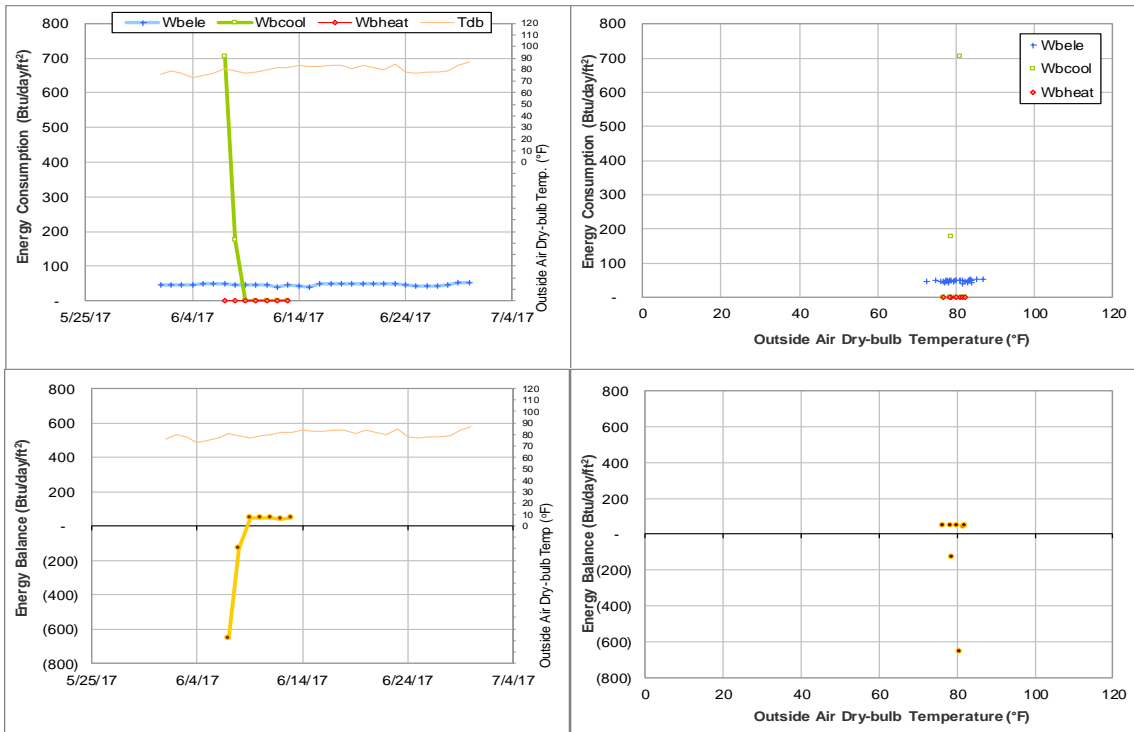


Figure IV-58 Krueger Residence Hall TAMU BLDG # 441 Energy Balance Plot during June 2017

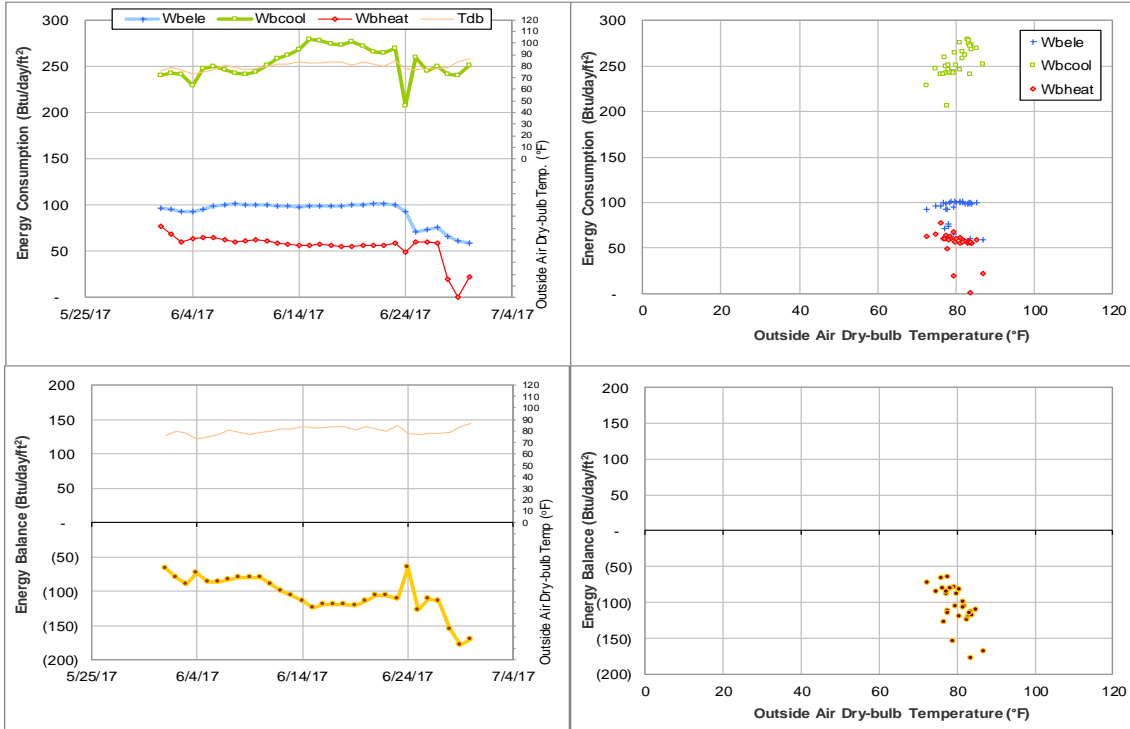


Figure IV-59 Dunn Residence Hall TAMU BLDG # 442 Energy Balance Plot during June 2017

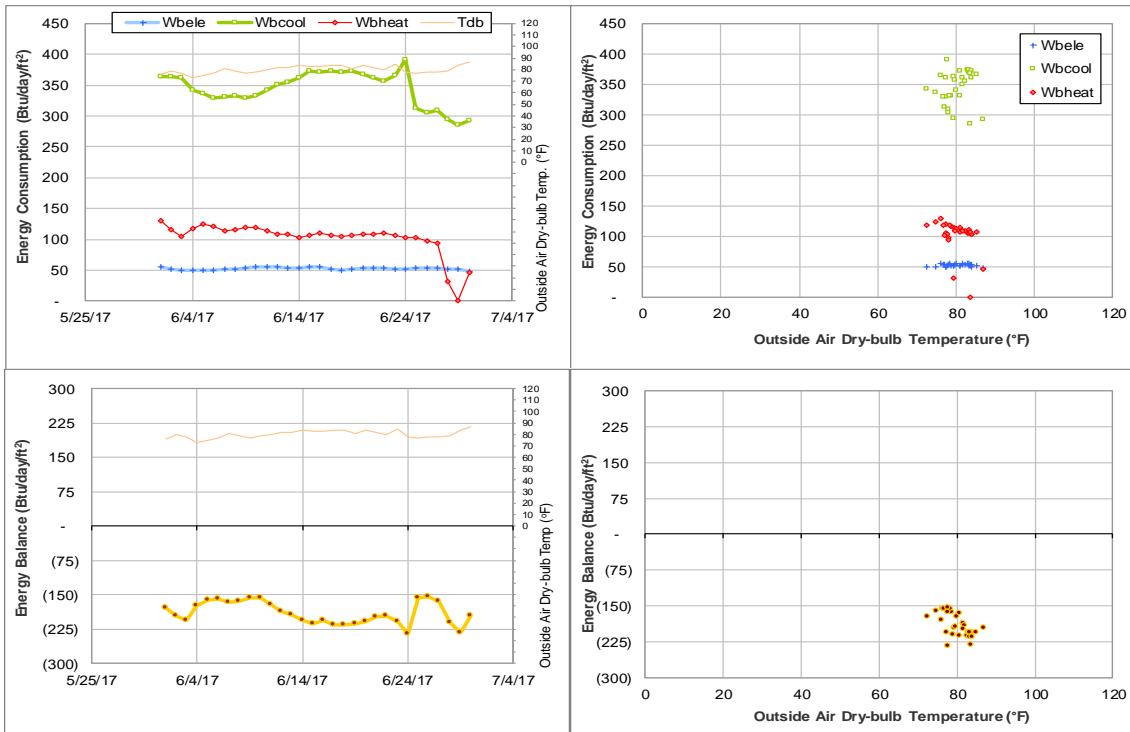


Figure IV-60 Aston Residence Hall TAMU BLDG # 447 Energy Balance Plot during June 2017

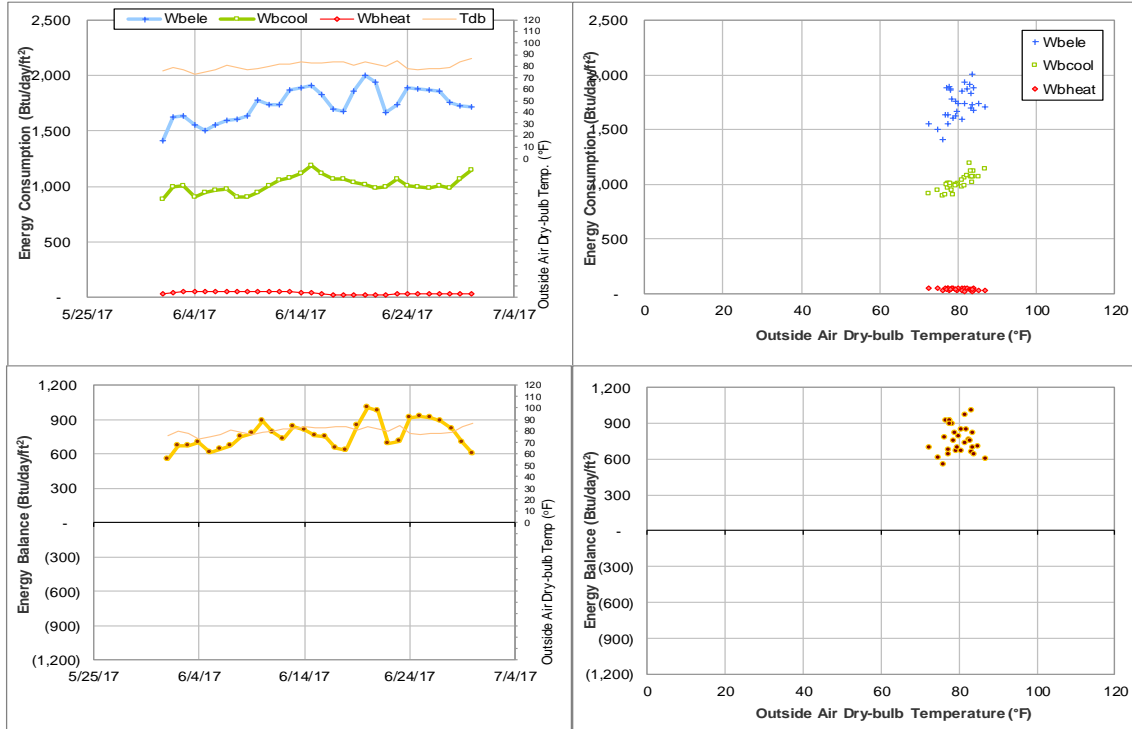


Figure IV-61 Luedcke Building (Cyclotron) TAMU BLDG # 434 Energy Balance Plot during June 2017

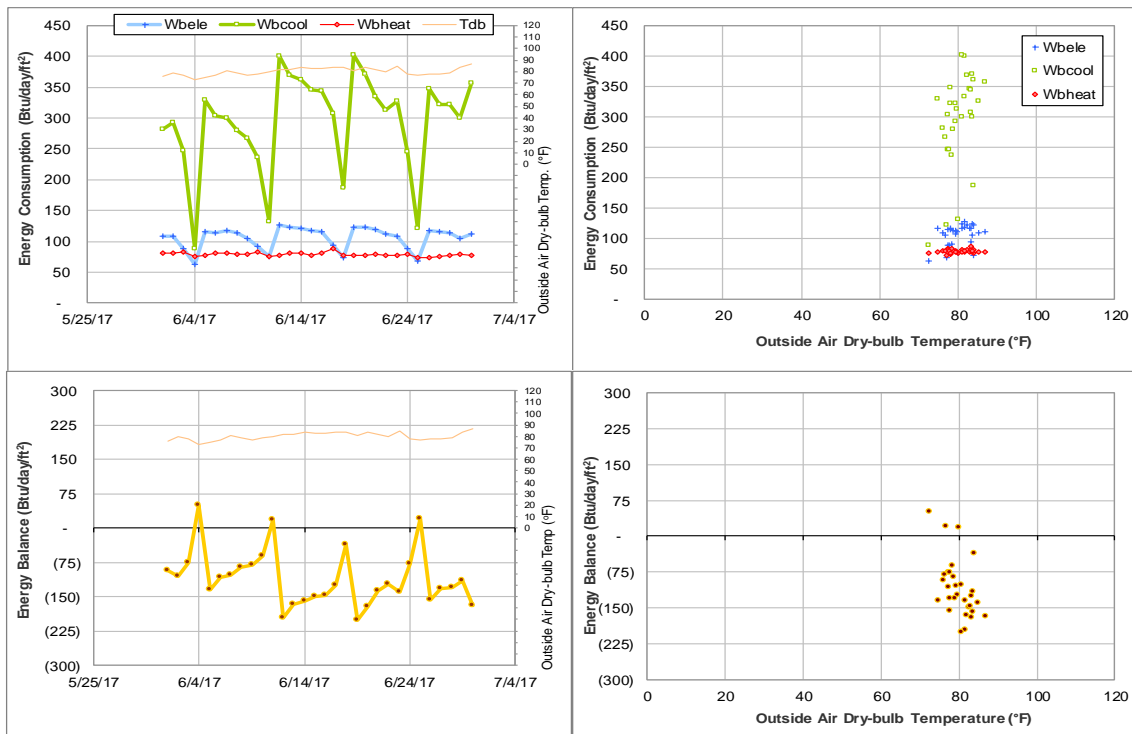


Figure IV-62 Harrington Education Center Office Tower TAMU BLDG # 435 Energy Balance Plot during June 2017

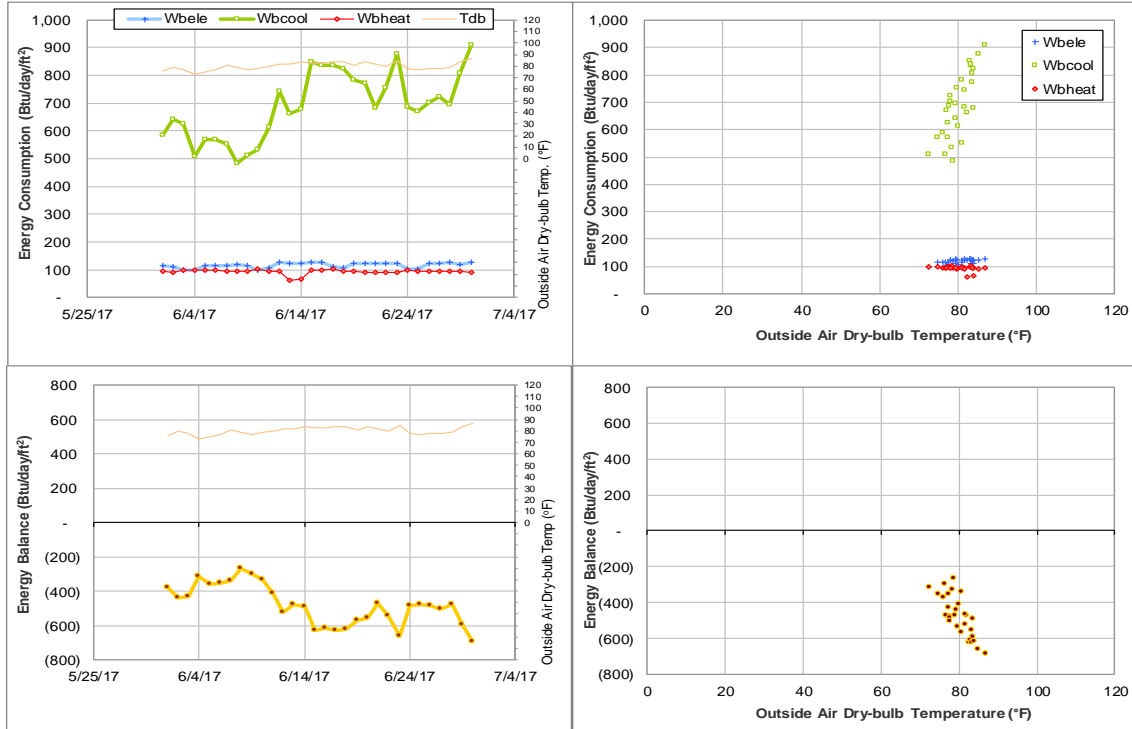


Figure IV-63 Reed-McDonald and Engineering Innovation Center TAMU BLDG # 436 and #499 Energy Balance Plot during June 2017

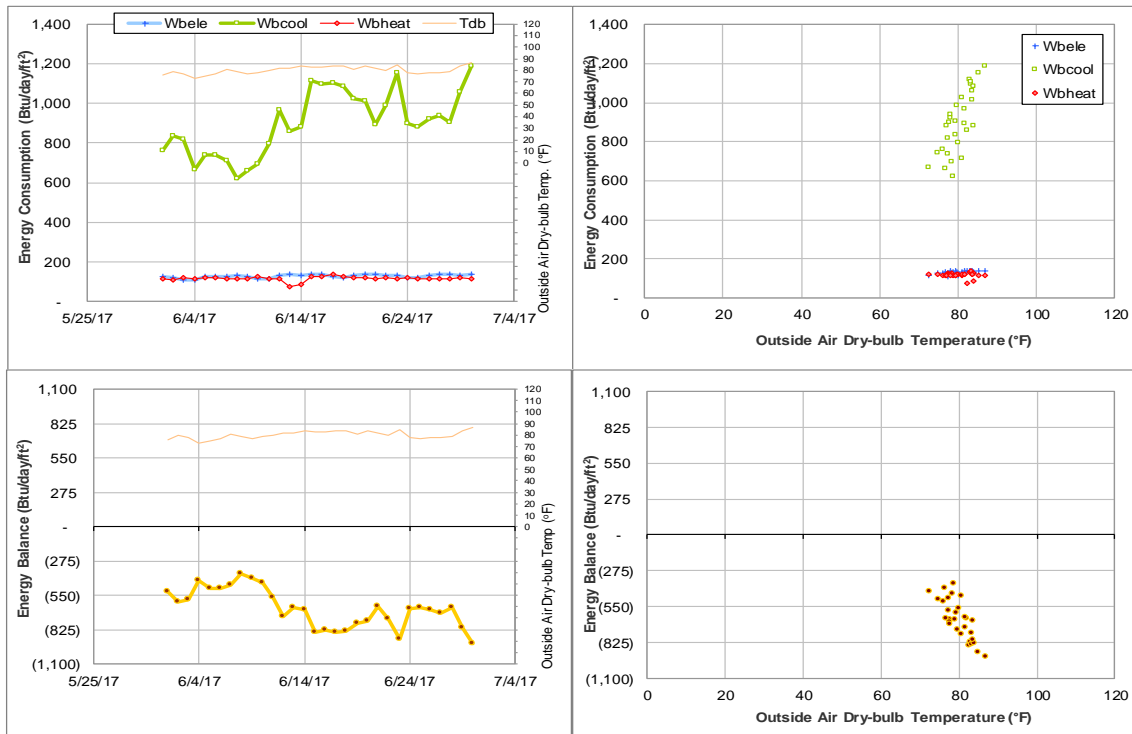


Figure IV-64 Reed-McDonald Building TAMU BLDG # 436 Energy Balance Plot during June 2017

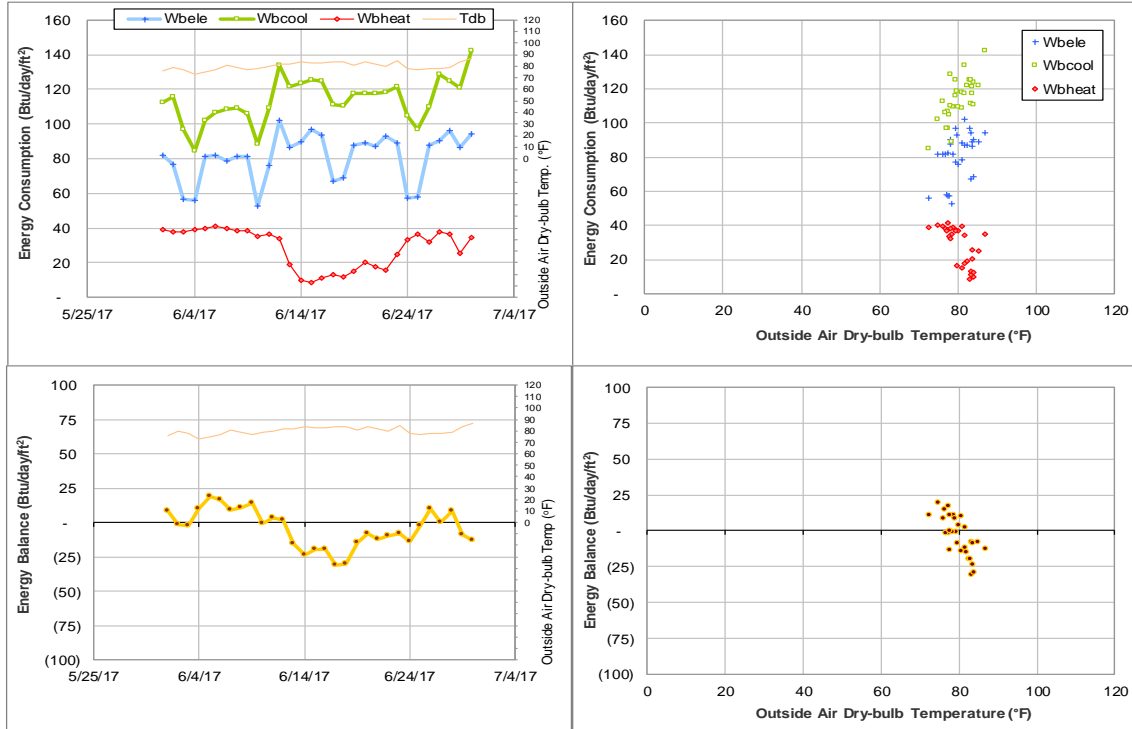


Figure IV-65 Engineering Innovation Center TAMU BLDG # 499 Energy Balance Plot during June 2017

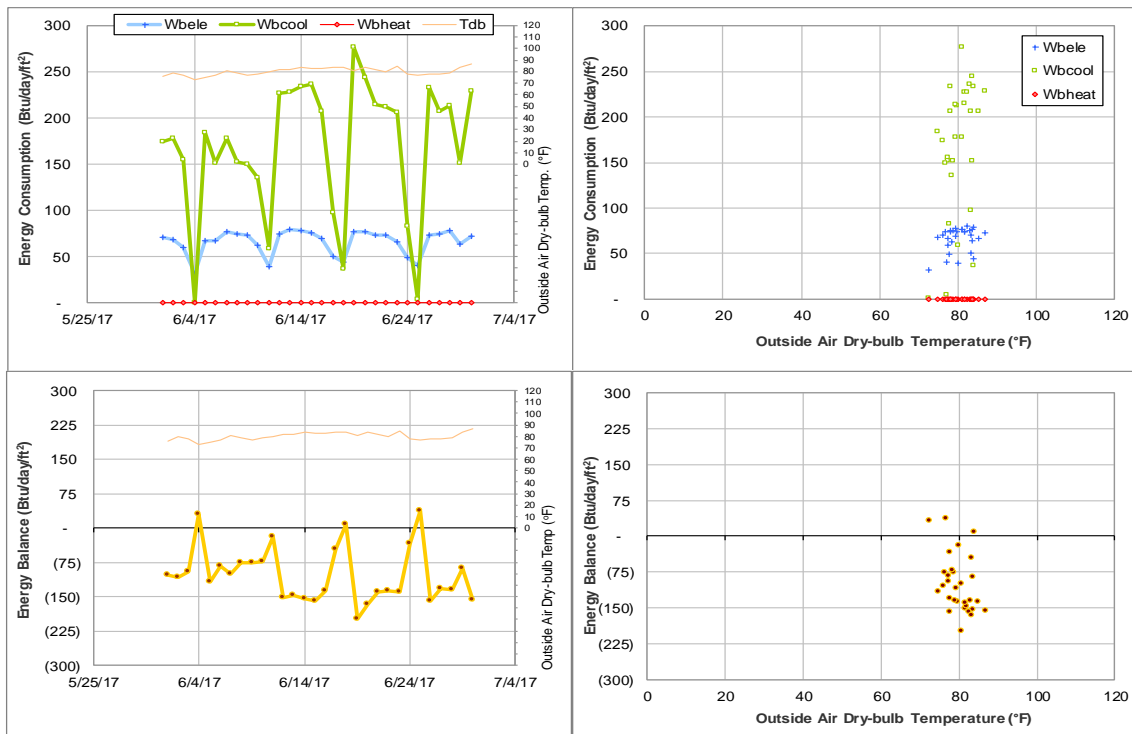


Figure IV-66 Harrington Education Center Classroom Building TAMU BLDG # 438 Energy Balance Plot during June 2017

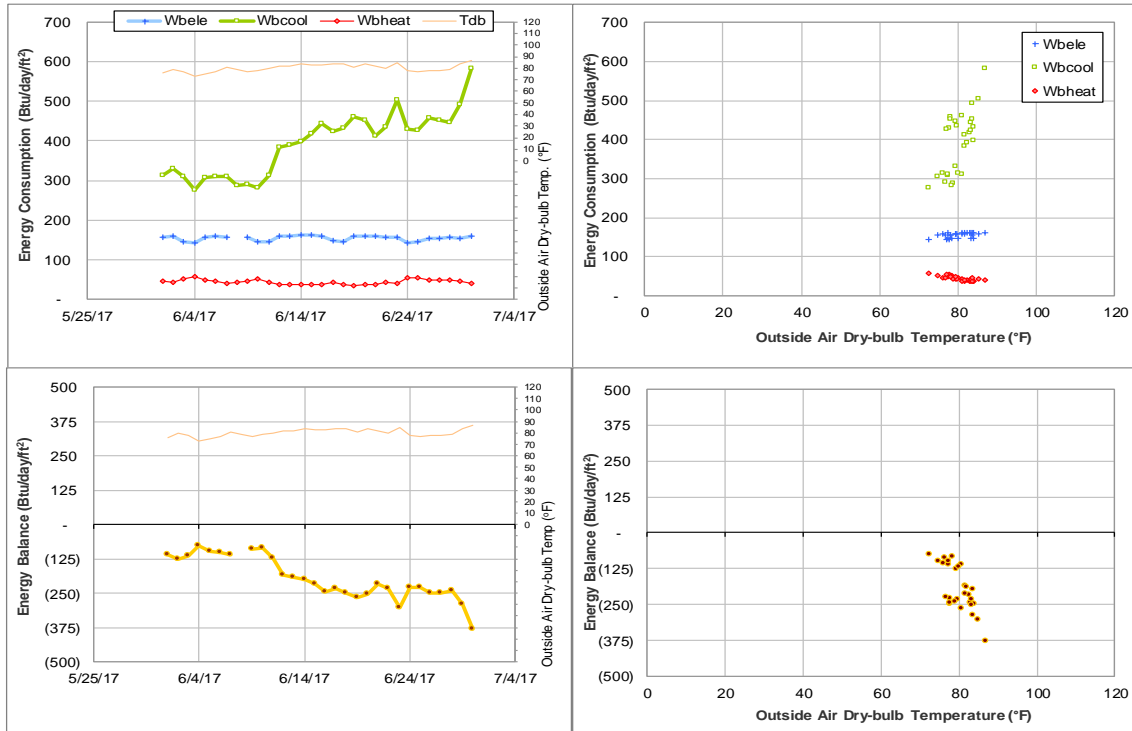


Figure IV-67 Oceanography & Meteorology Building TAMU BLDG # 443 Energy Balance Plot during June 2017

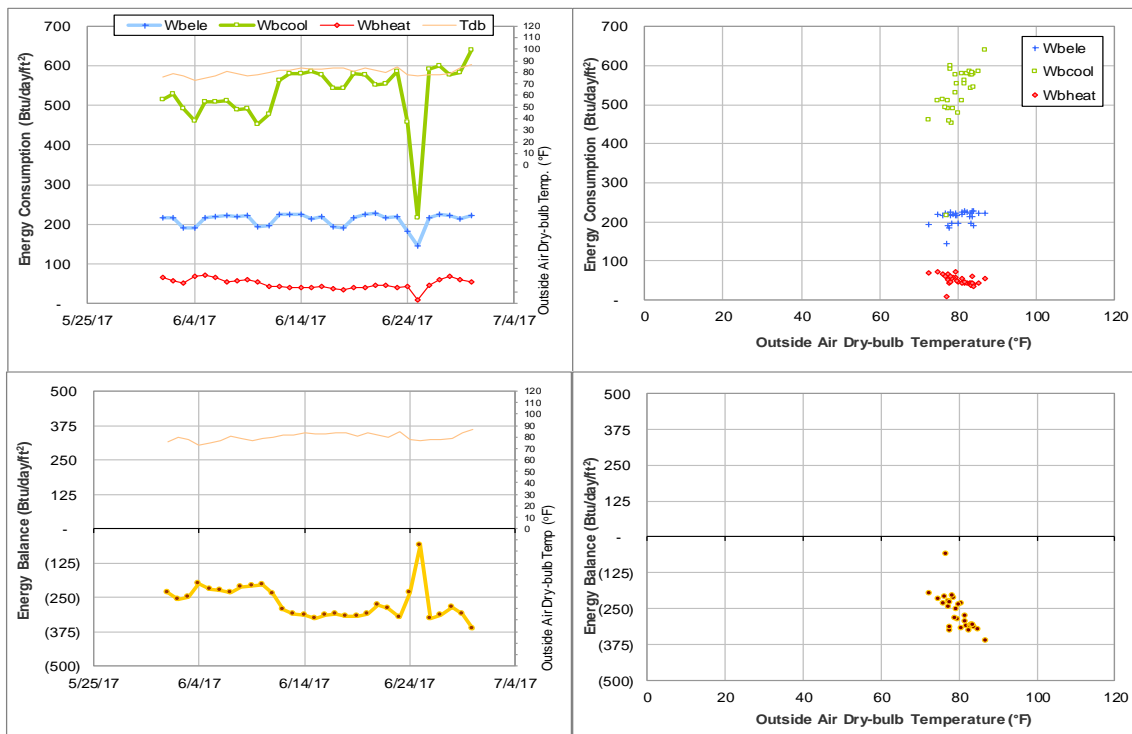


Figure IV-68 Peterson Building TAMU BLDG # 444 Energy Balance Plot during June 2017

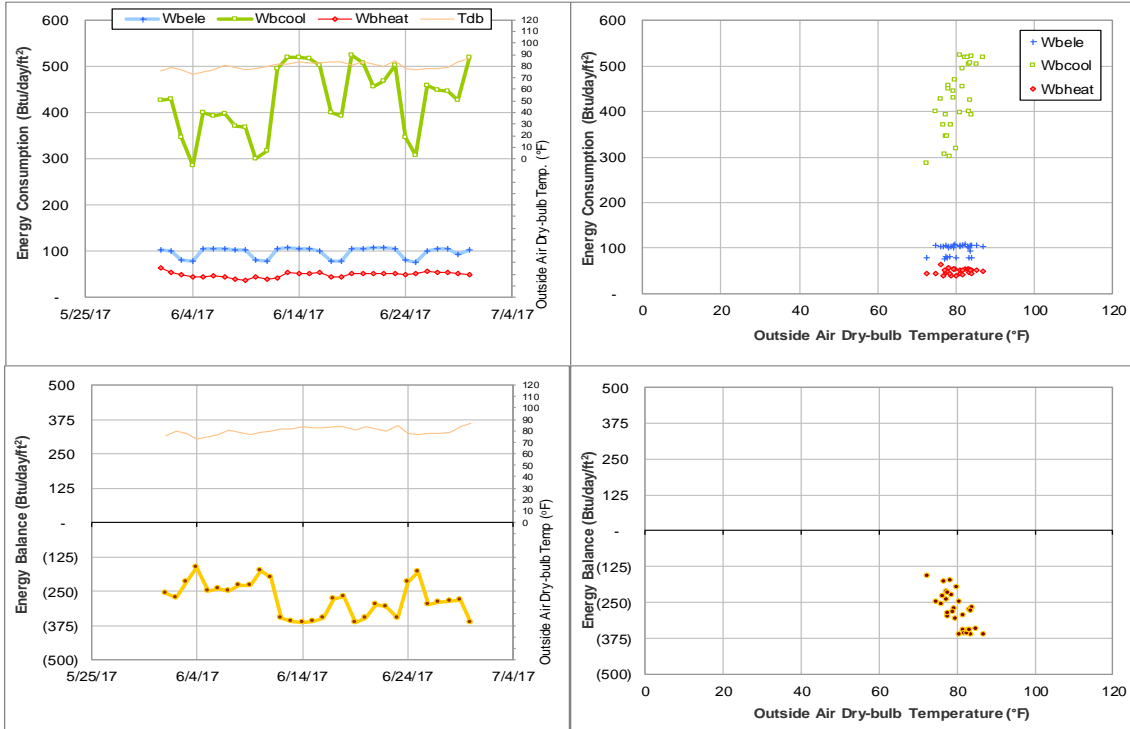


Figure IV-69 Teague Research Center and DPC Annex TAMU BLDG # 445 and #517 Energy Balance Plot during June 2017

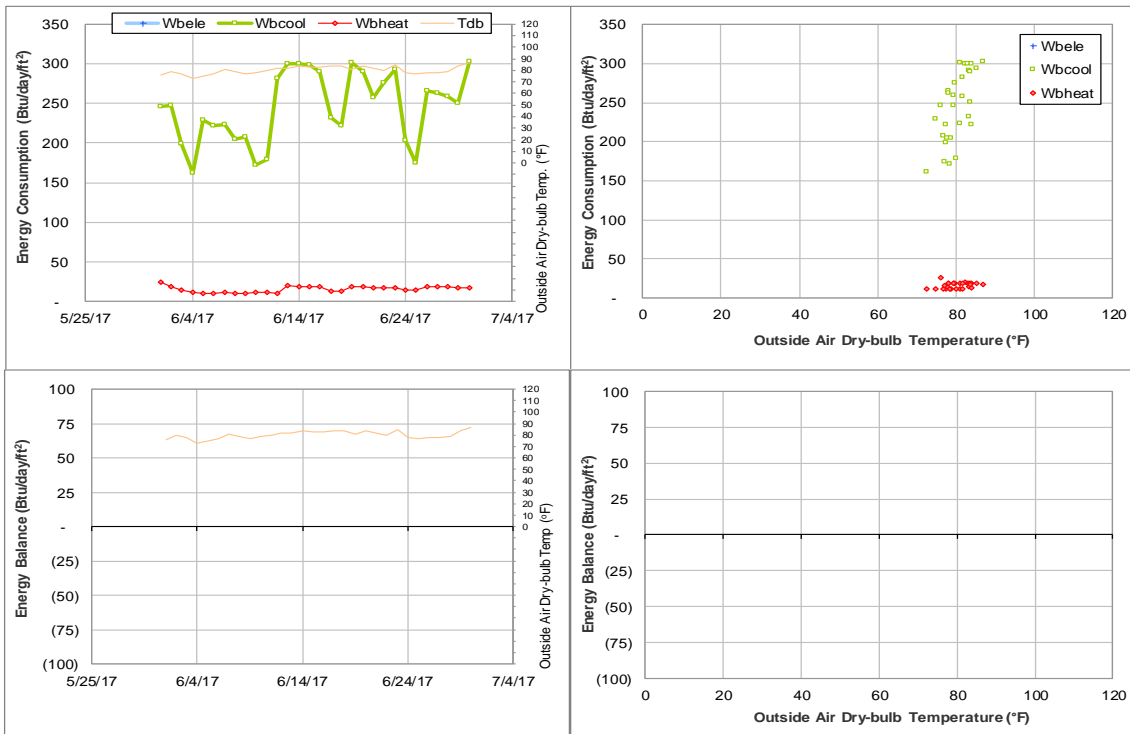


Figure IV-70 Teague Research Center TAMU BLDG # 445 Energy Balance Plot during June 2017

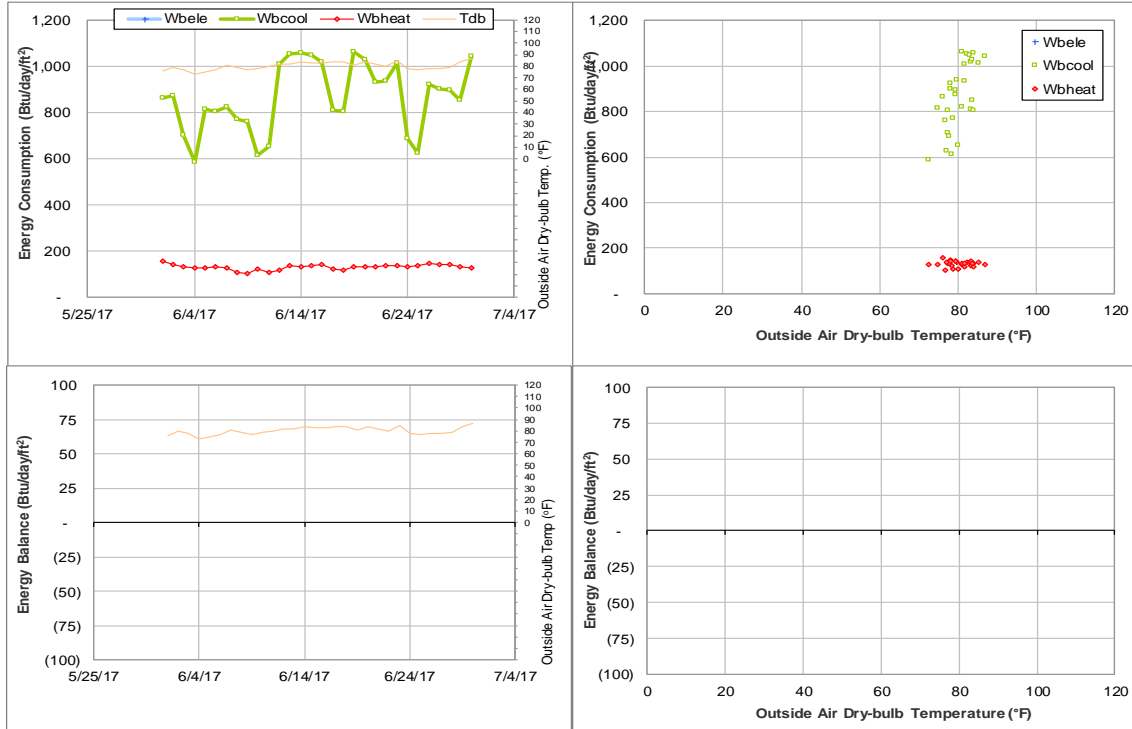


Figure IV-71 DPC Annex TAMU BLDG # 517 Energy Balance Plot during June 2017

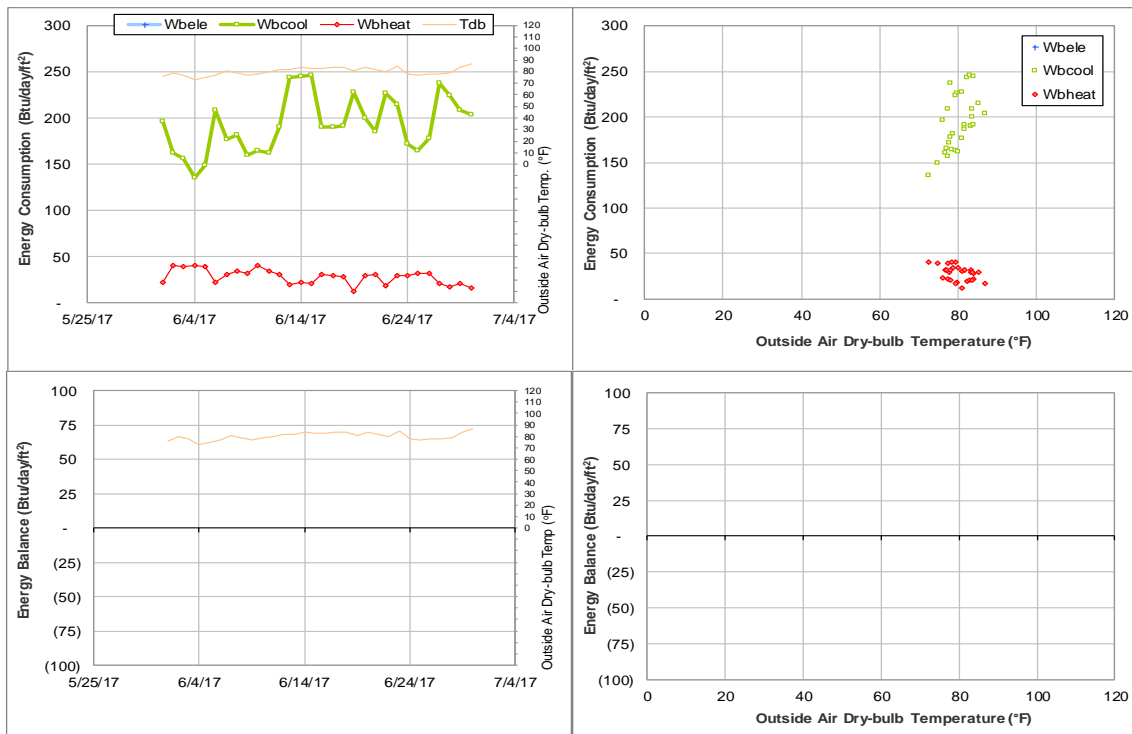


Figure IV-72 Rudder Tower and Theatre Complex TAMU BLDG # 446 Energy Balance Plot during June 2017

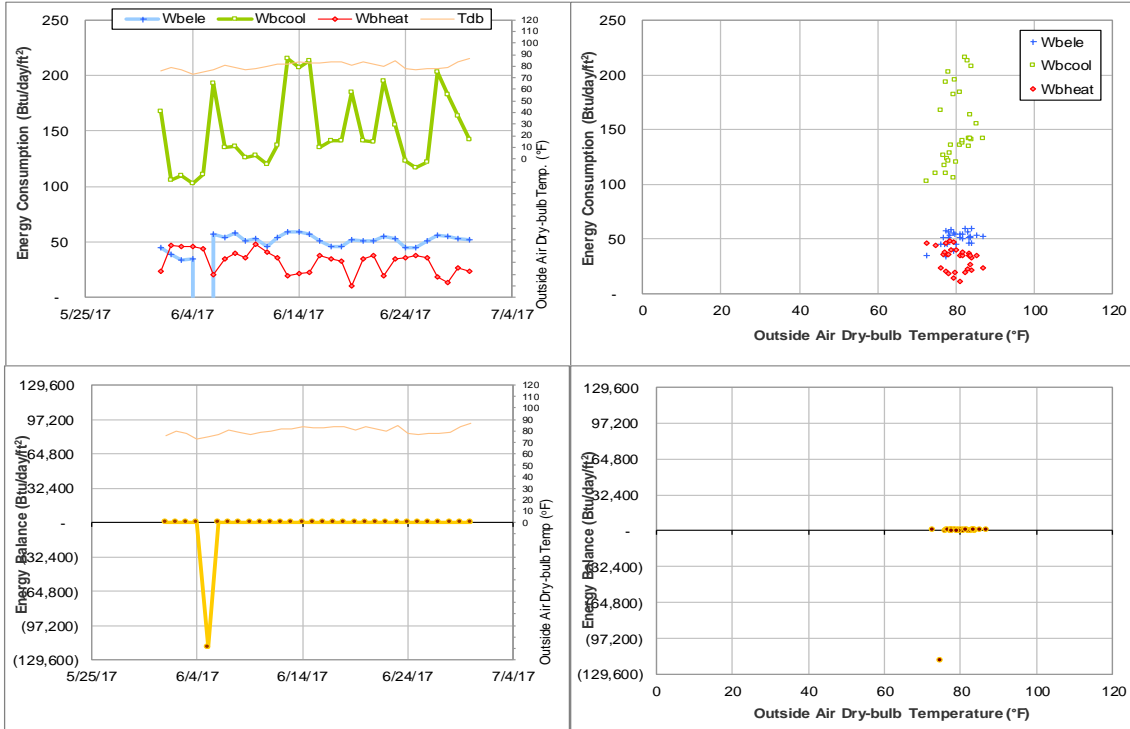


Figure IV-73 Rudder Theatre Complex TAMU BLDG # 446 Energy Balance Plot during June 2017

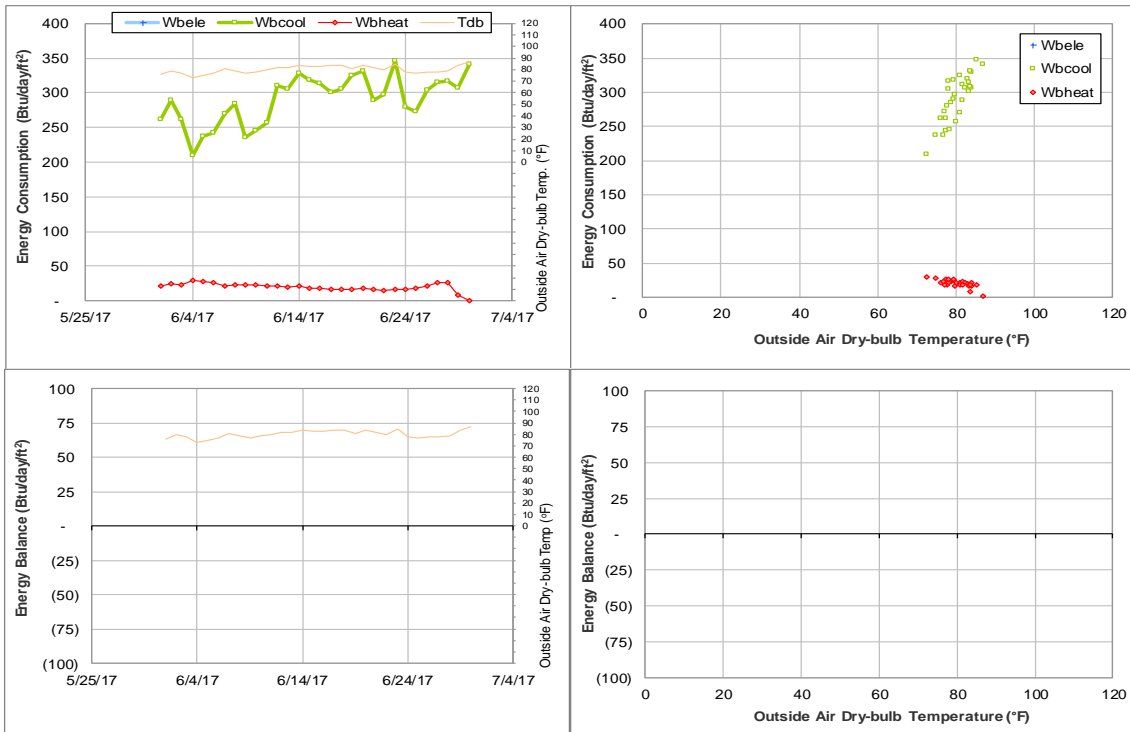


Figure IV-74 Rudder Tower TAMU BLDG # 446 Energy Balance Plot during June 2017

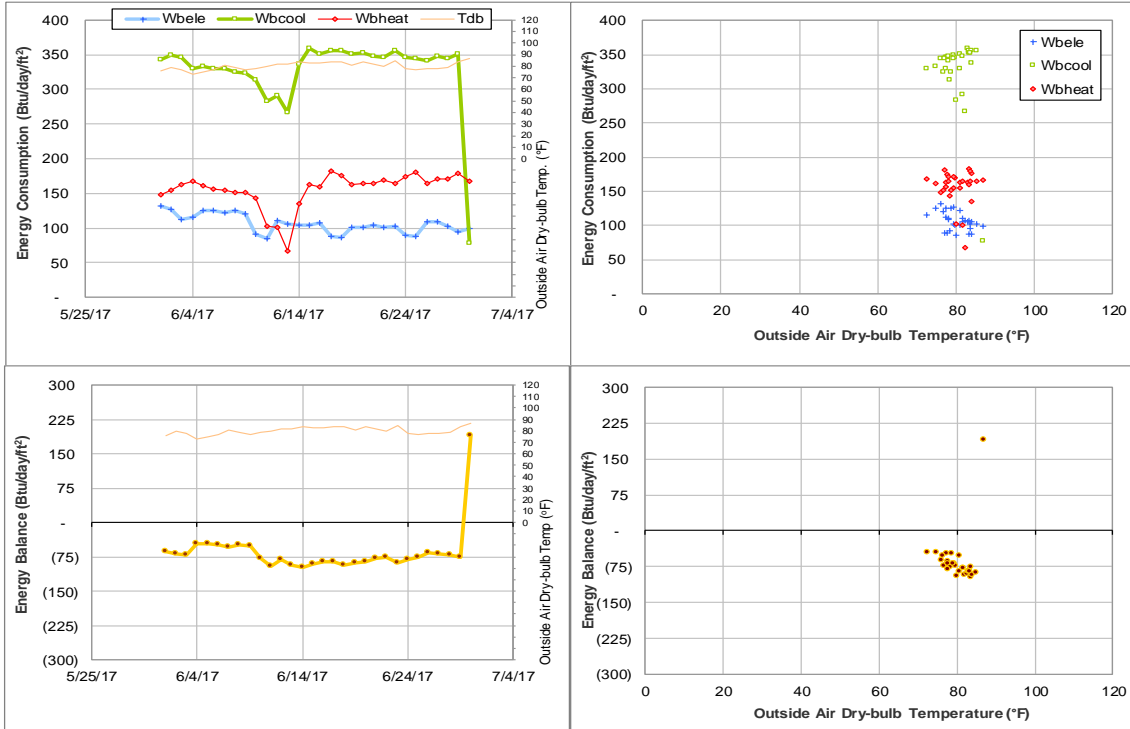


Figure IV-75 Adams Band Hall TAMU BLDG # 448 Energy Balance Plot during June 2017

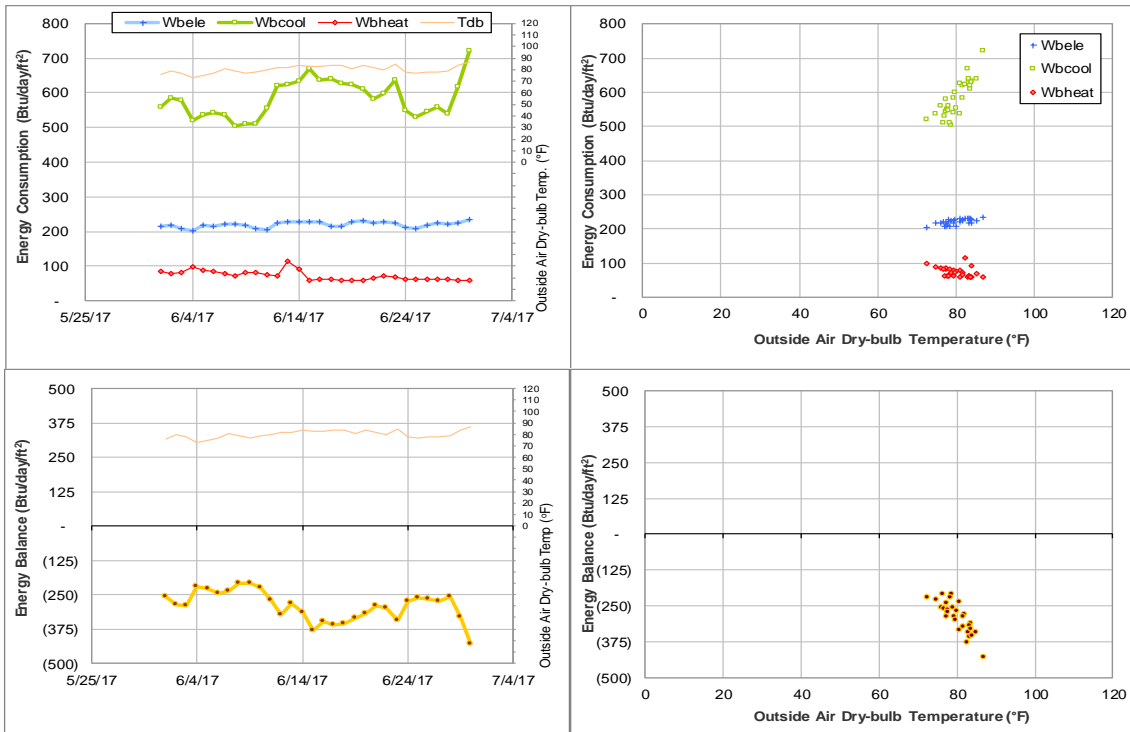


Figure IV-76 Biological Sciences Building - West TAMU BLDG # 449 Energy Balance Plot during June 2017

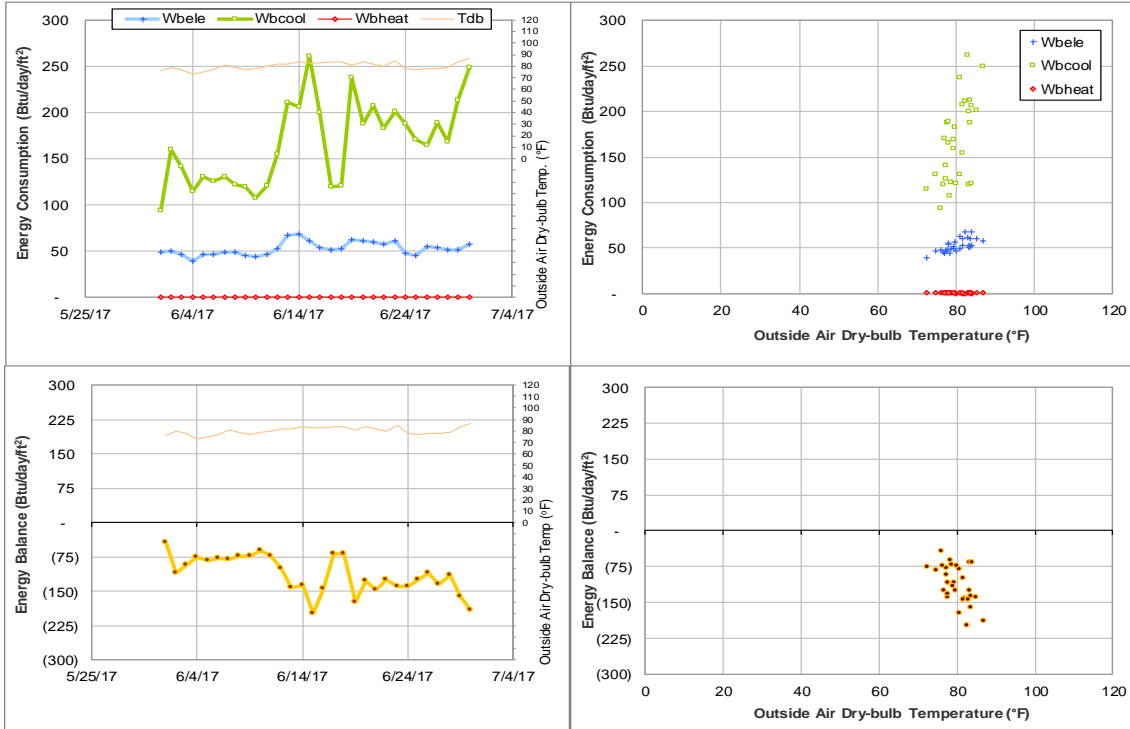


Figure IV-77 Duncan Dining Hall TAMU BLDG # 450 Energy Balance Plot during June 2017

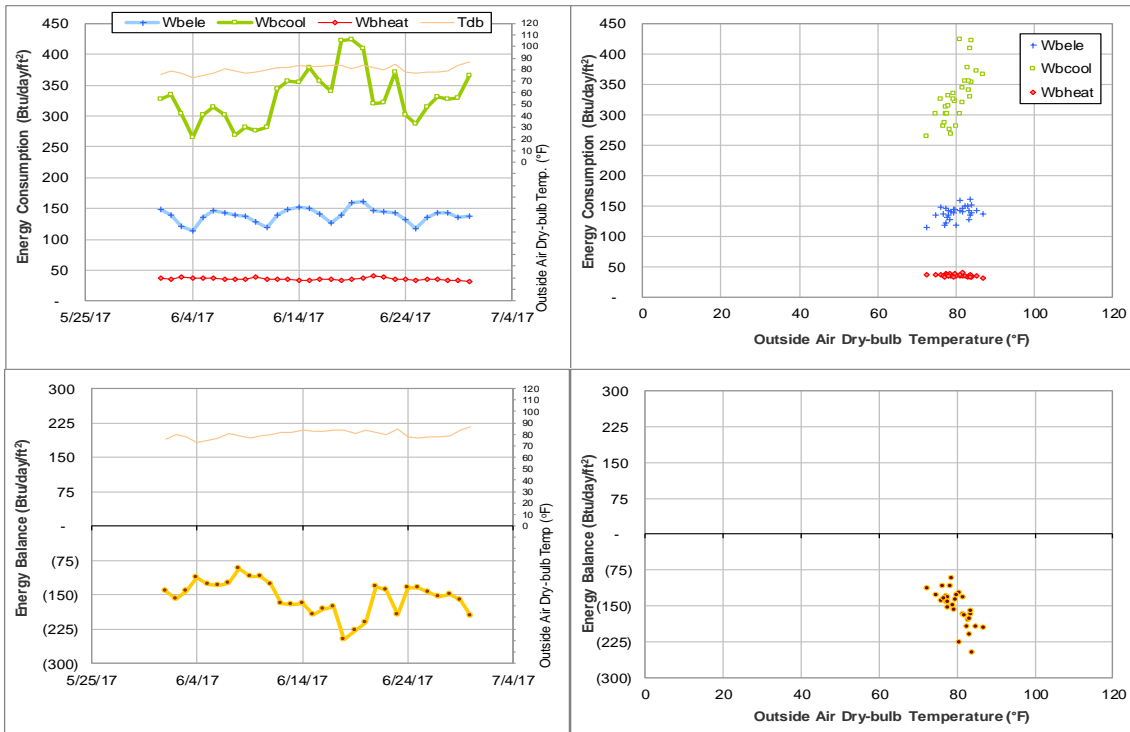


Figure IV-78 MSC TAMU BLDG # 454 Energy Balance Plot during June 2017

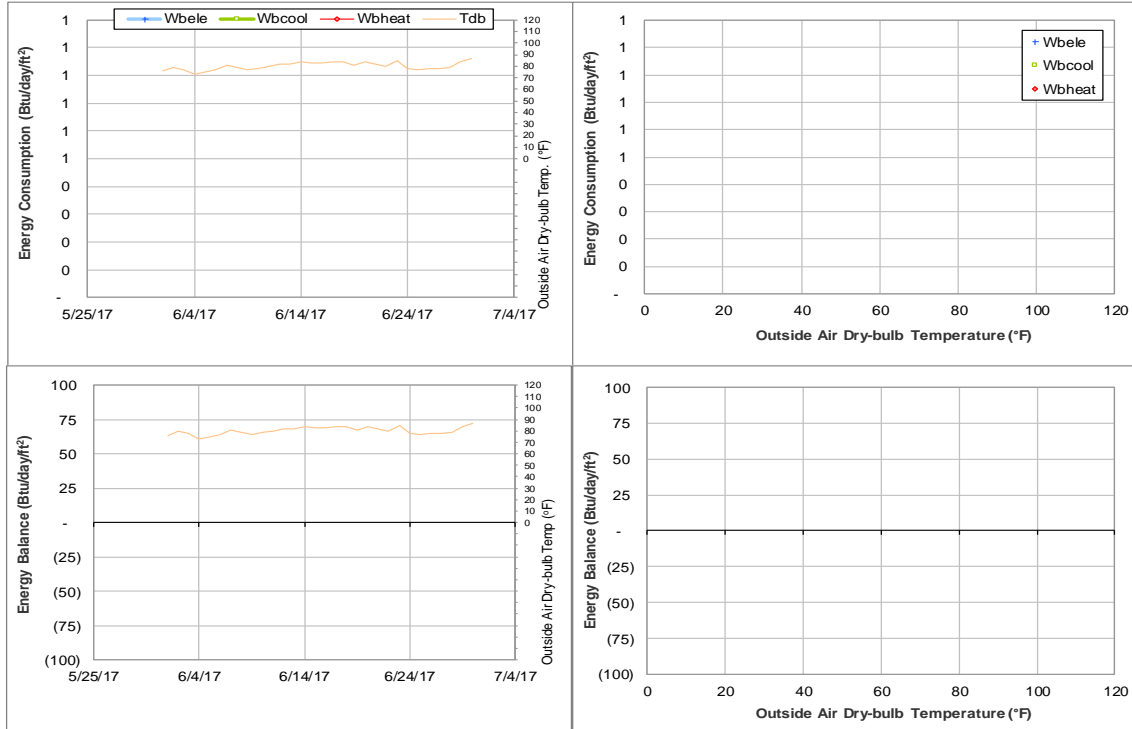


Figure IV-79 Military Sciences Building TAMU BLDG # 456 Energy Balance Plot during June 2017

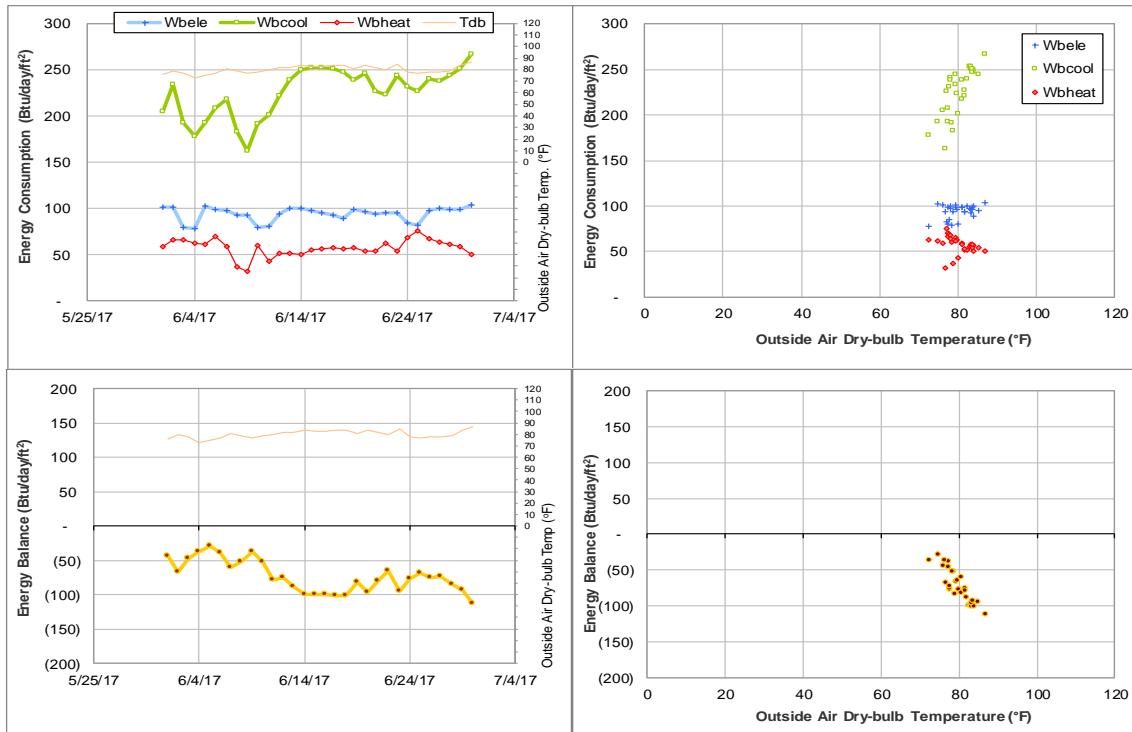


Figure IV-80 TAES Annex Building TAMU BLDG # 457 Energy Balance Plot during June 2017

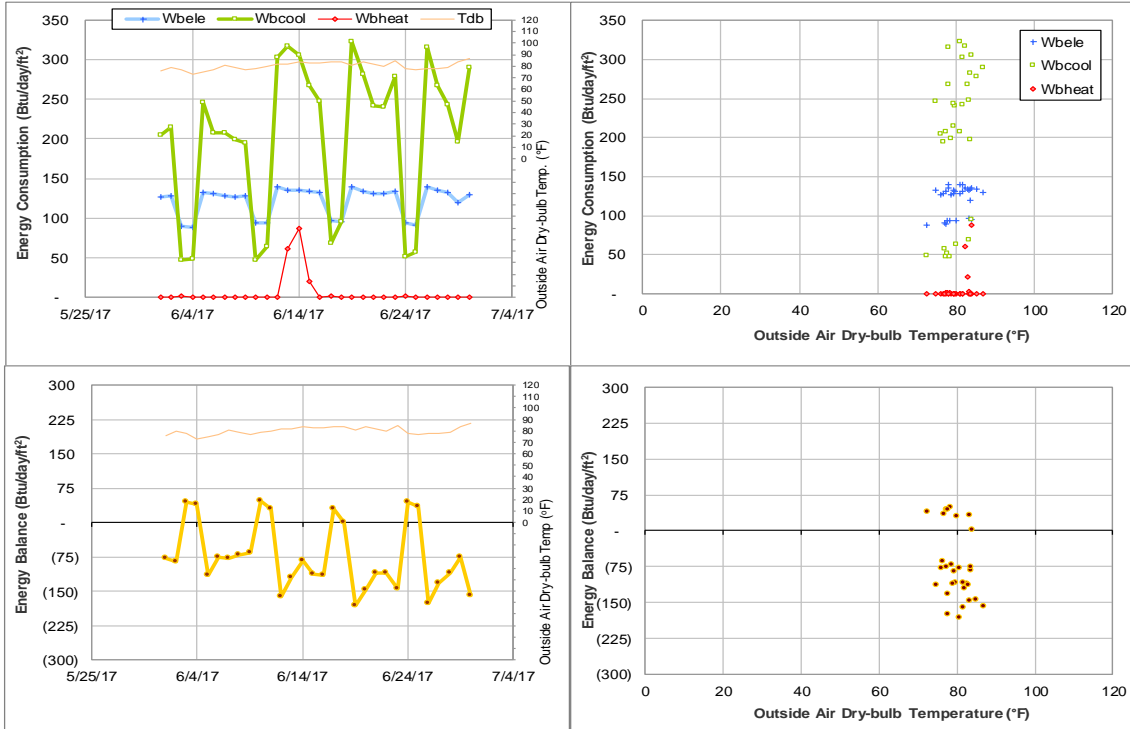


Figure IV-81 Coke Building TAMU BLDG # 461 Energy Balance Plot during June 2017

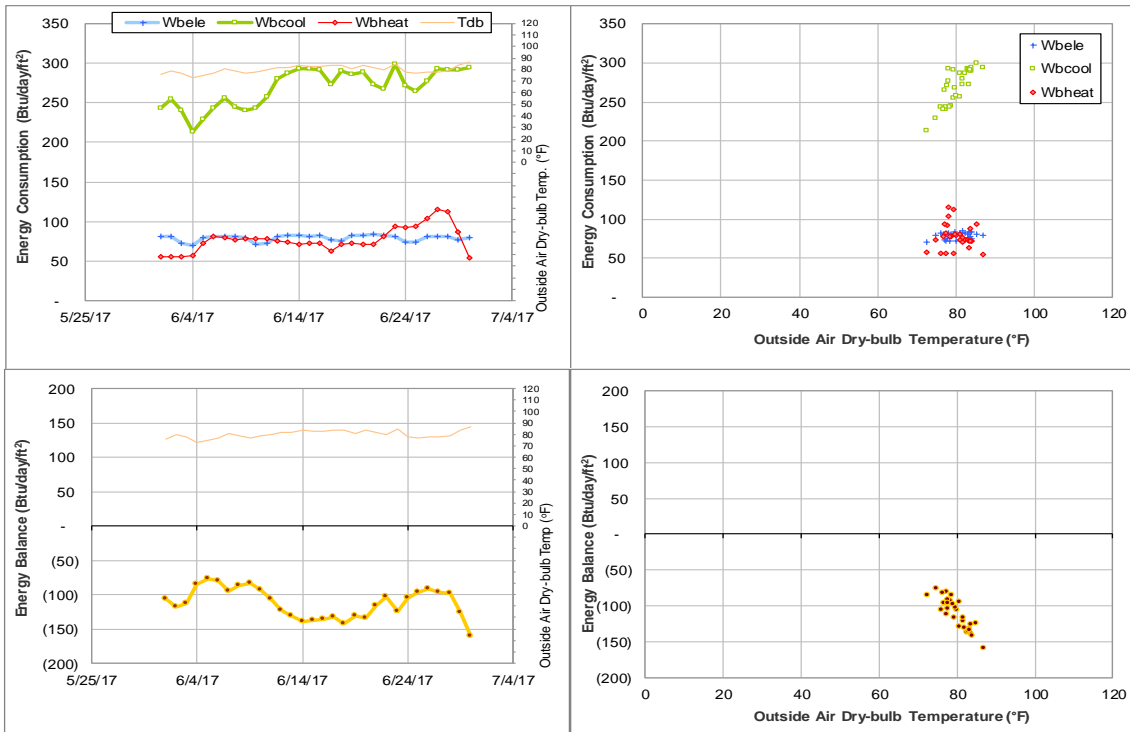


Figure IV-82 Academic Building TAMU BLDG # 462 Energy Balance Plot during June 2017

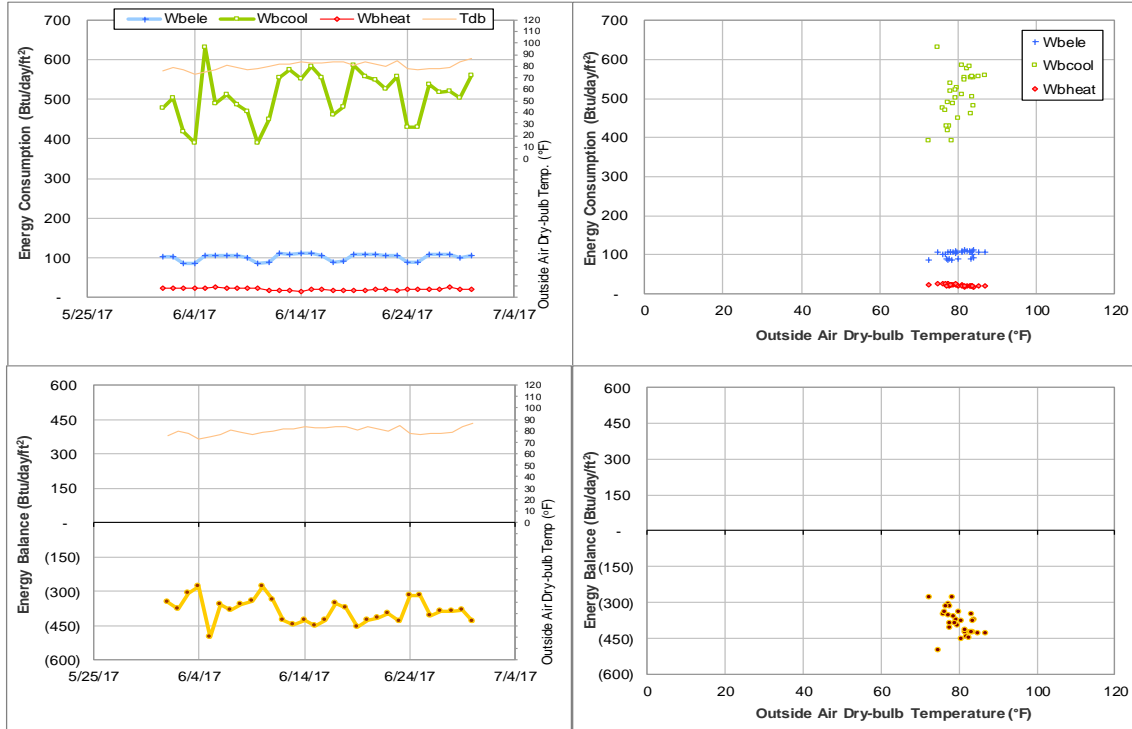


Figure IV-83 Psychology Building TAMU BLDG # 463 Energy Balance Plot during June 2017

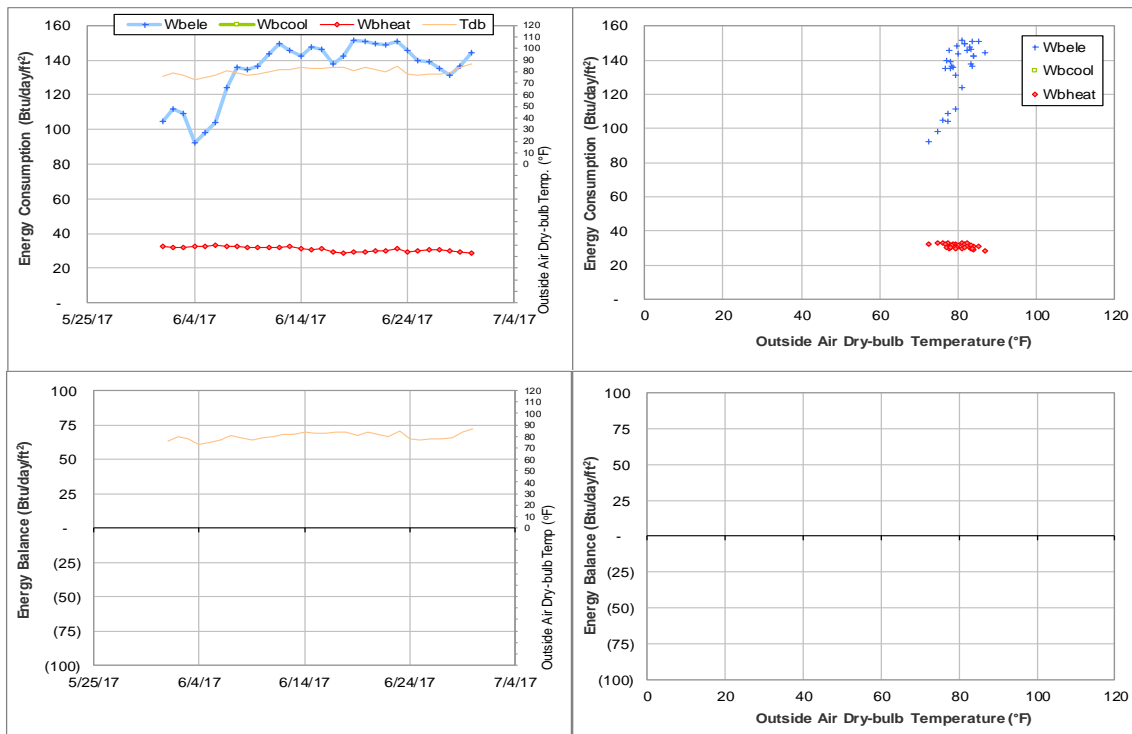


Figure IV-84 State Chemist Building TAMU BLDG # 464 Energy Balance Plot during June 2017

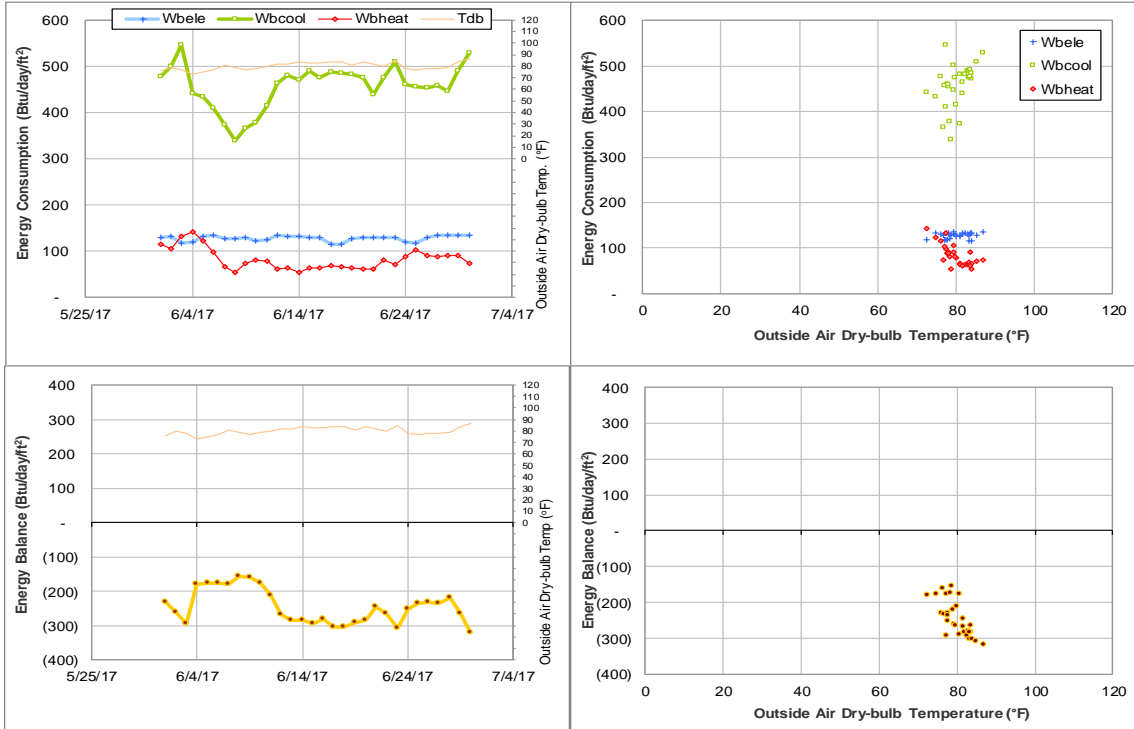


Figure IV-85 Butler Hall TAMU BLDG # 465 Energy Balance Plot during June 2017

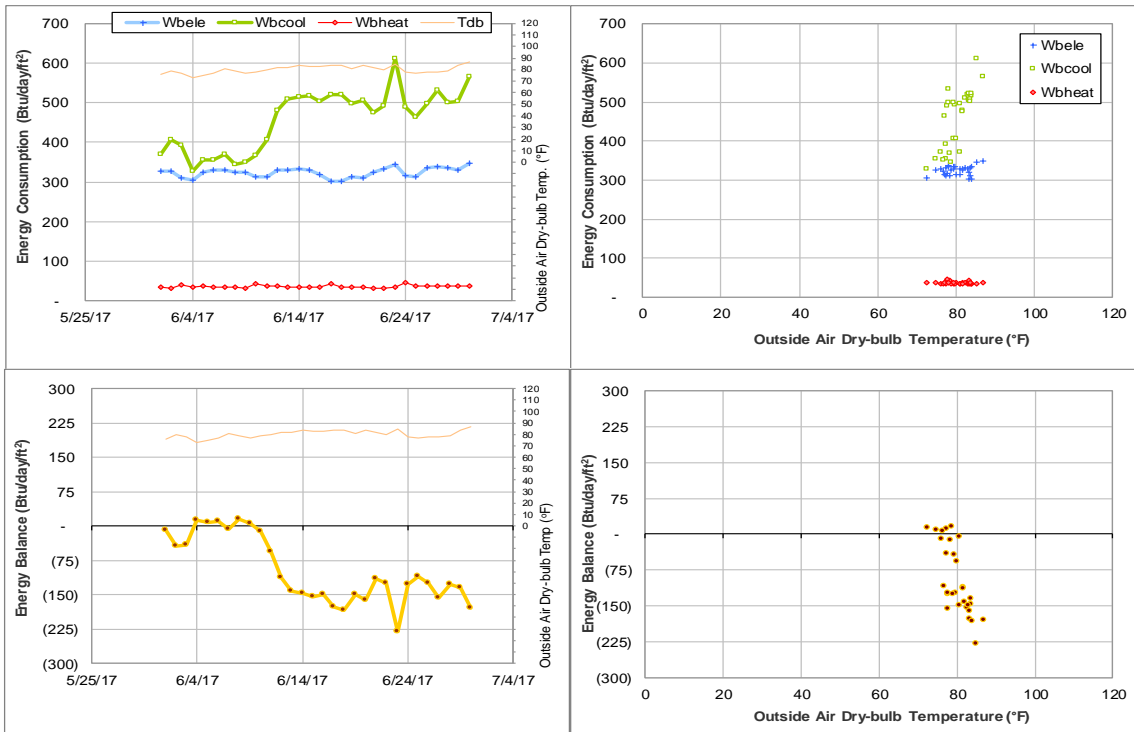


Figure IV-86 Biological Sciences Building - East TAMU BLDG # 467 Energy Balance Plot during June 2017

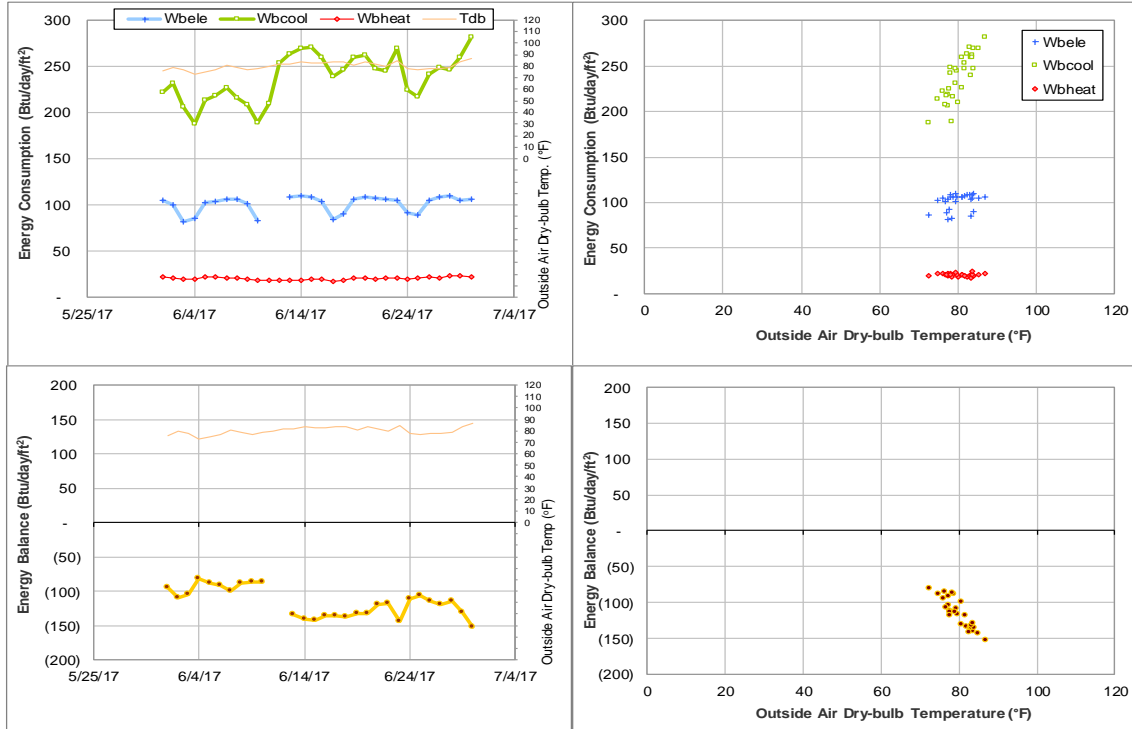


Figure IV-87 Evans Library TAMU BLDG # 468 Energy Balance Plot during June 2017

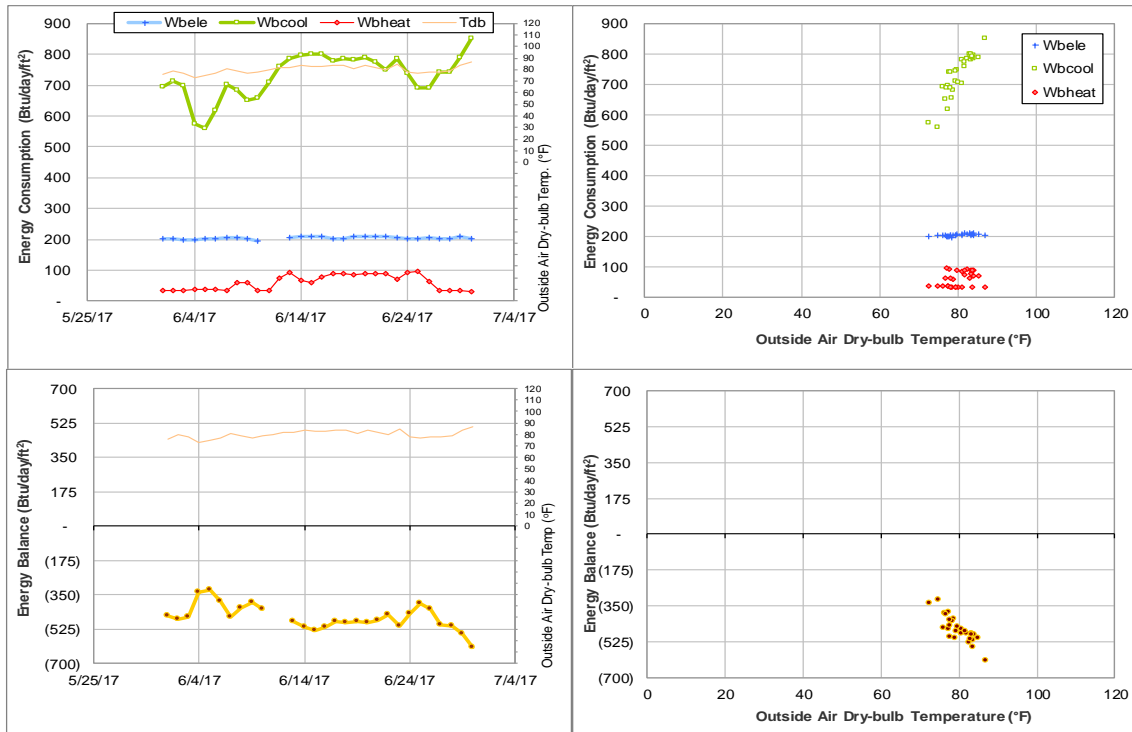


Figure IV-88 Central Campus Parking Garage TAMU BLDG # 469 Energy Balance Plot during June 2017

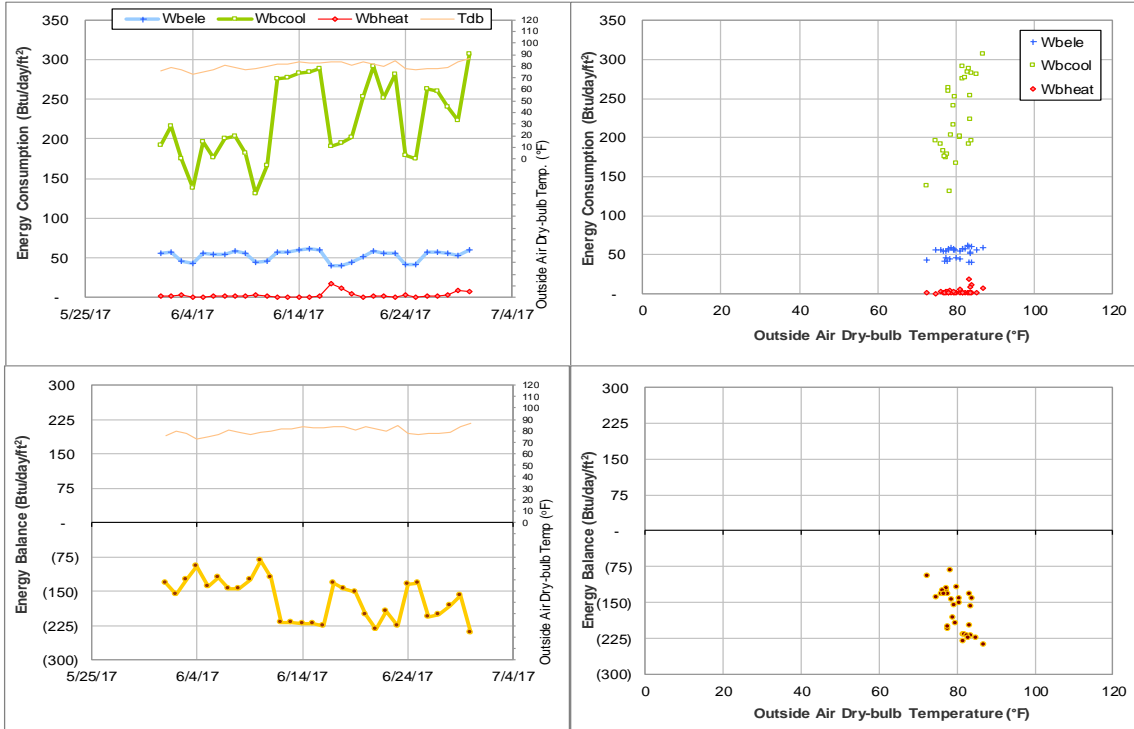


Figure IV-89 Glasscock History Bldg TAMU BLDG # 470 Energy Balance Plot during June 2017

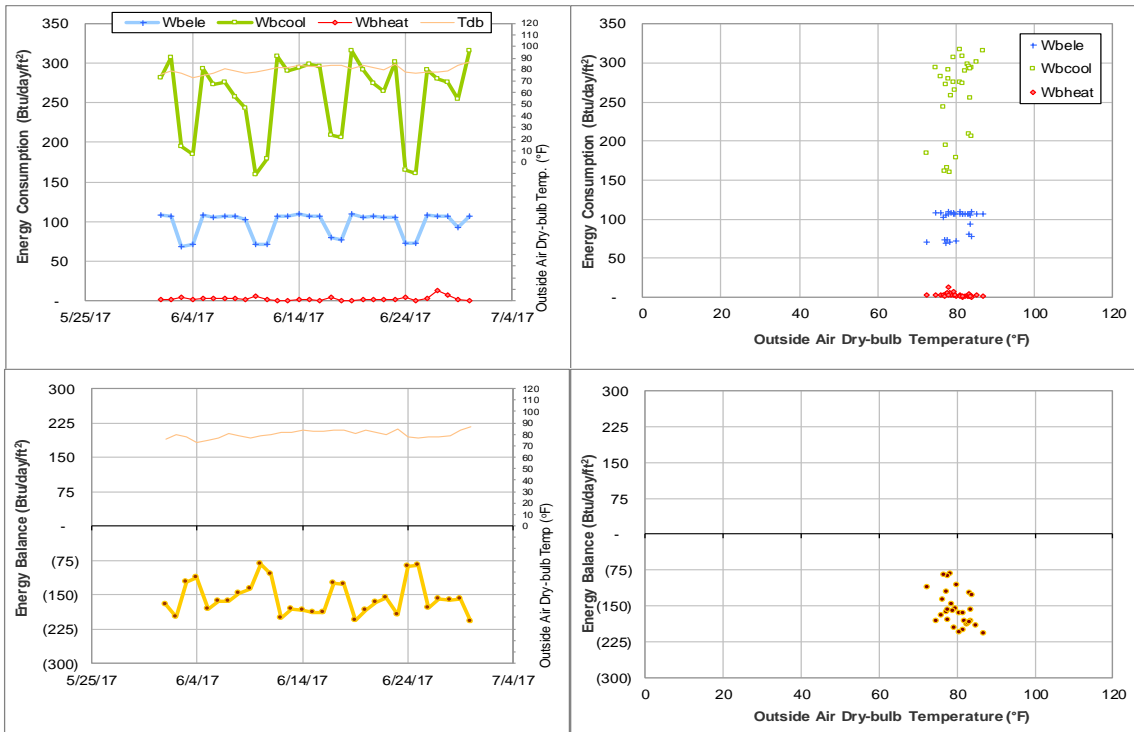


Figure IV-90 Pavilion TAMU BLDG # 471 Energy Balance Plot during June 2017

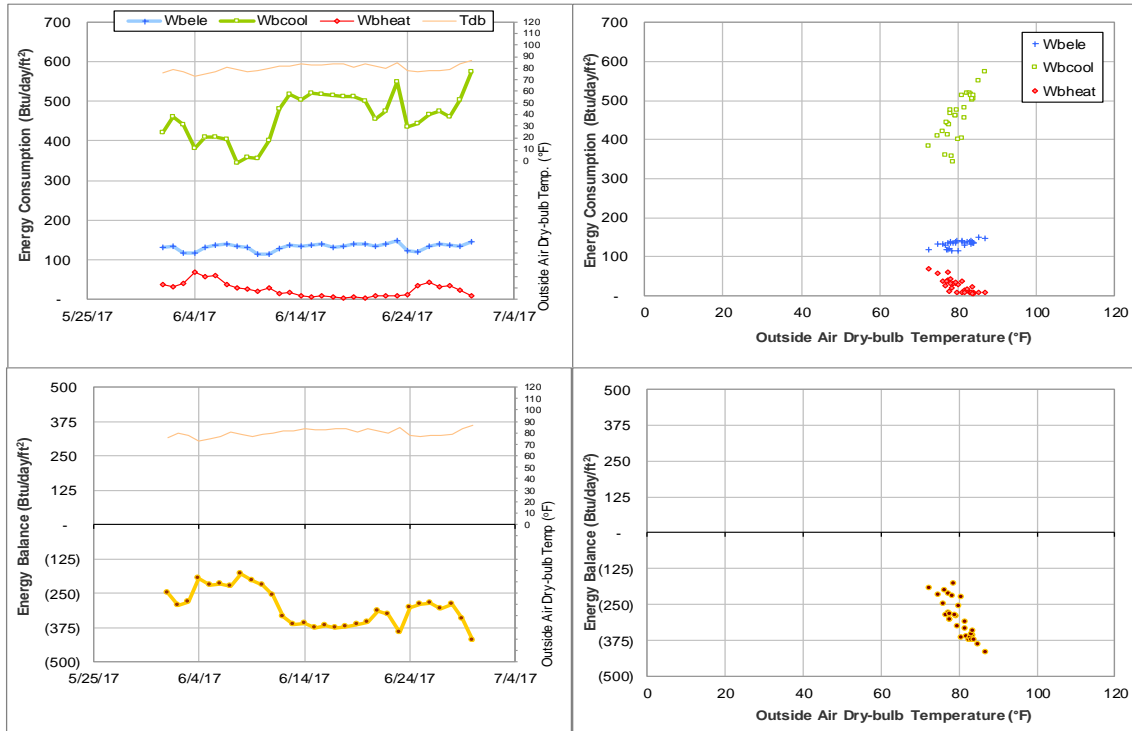


Figure IV-91 Animal Industries TAMU BLDG # 472 Energy Balance Plot during June 2017

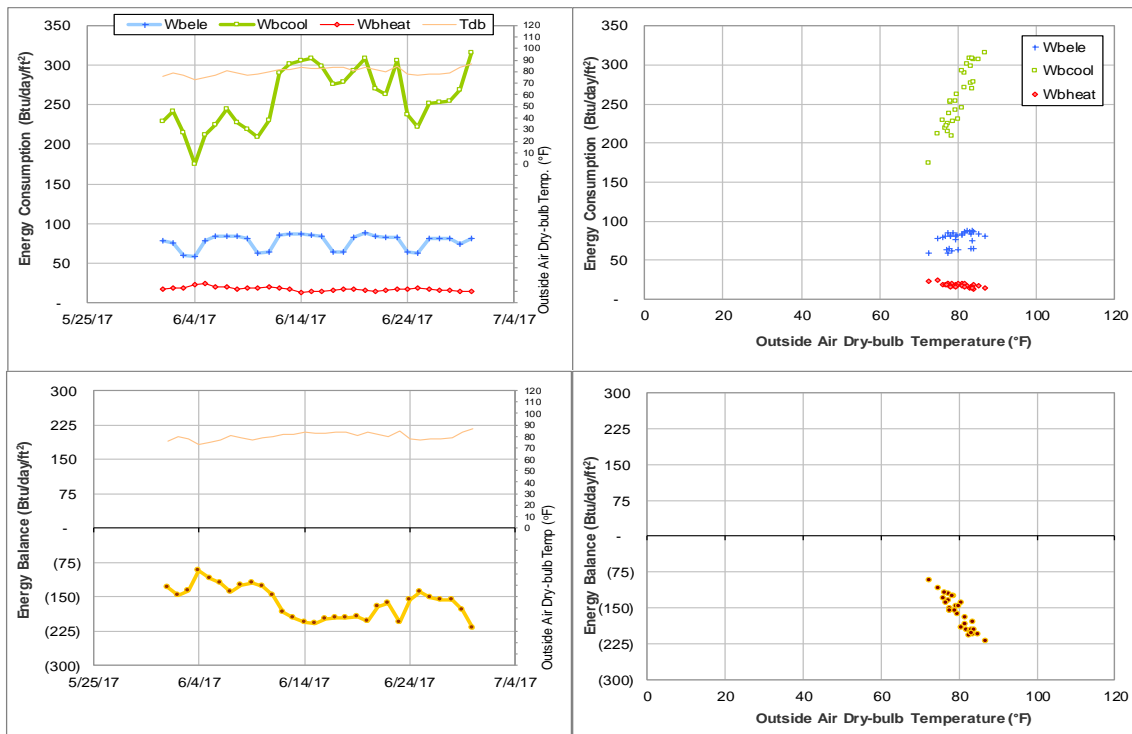


Figure IV-92 Williams Administration Building TAMU BLDG # 473 Energy Balance Plot during June 2017

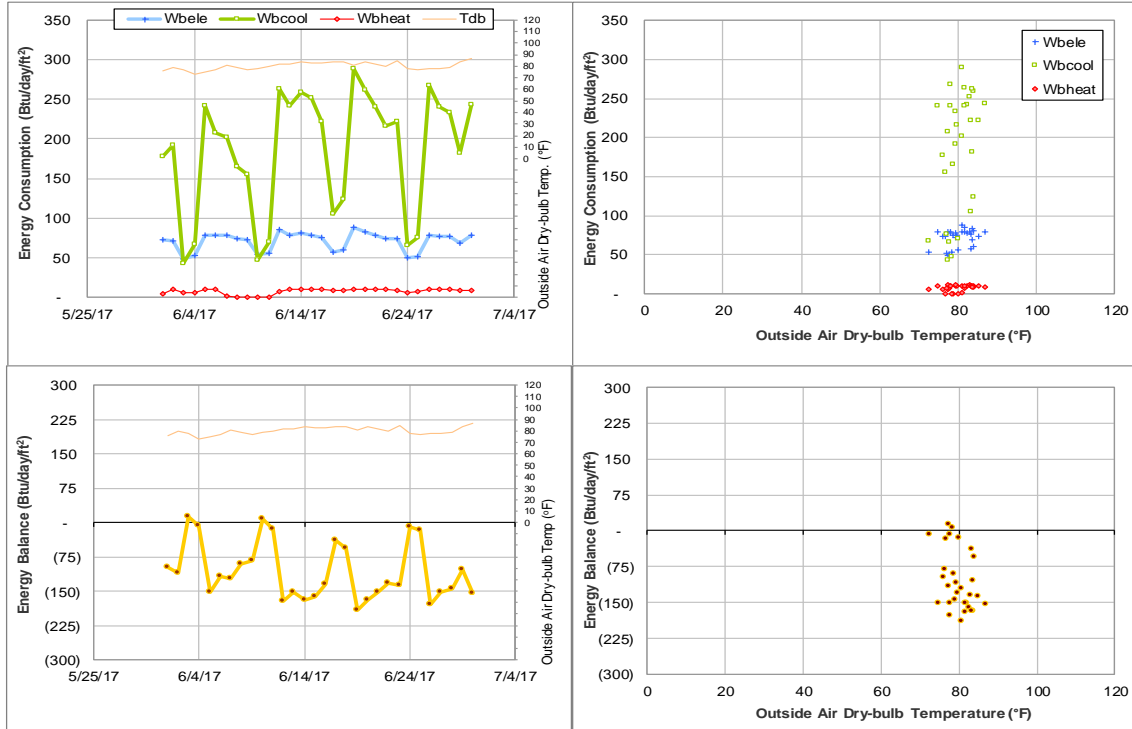


Figure IV-93 YMCA Building TAMU BLDG # 474 Energy Balance Plot during June 2017

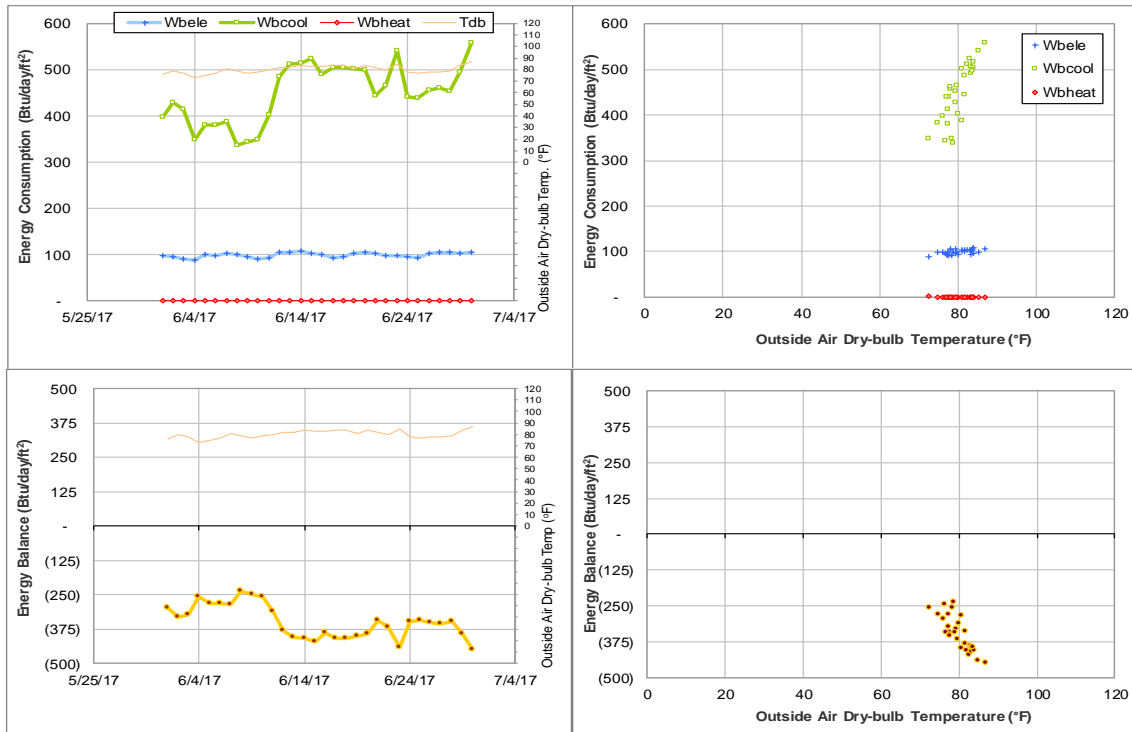


Figure IV-94 Francis Hall TAMU BLDG # 476 Energy Balance Plot during June 2017

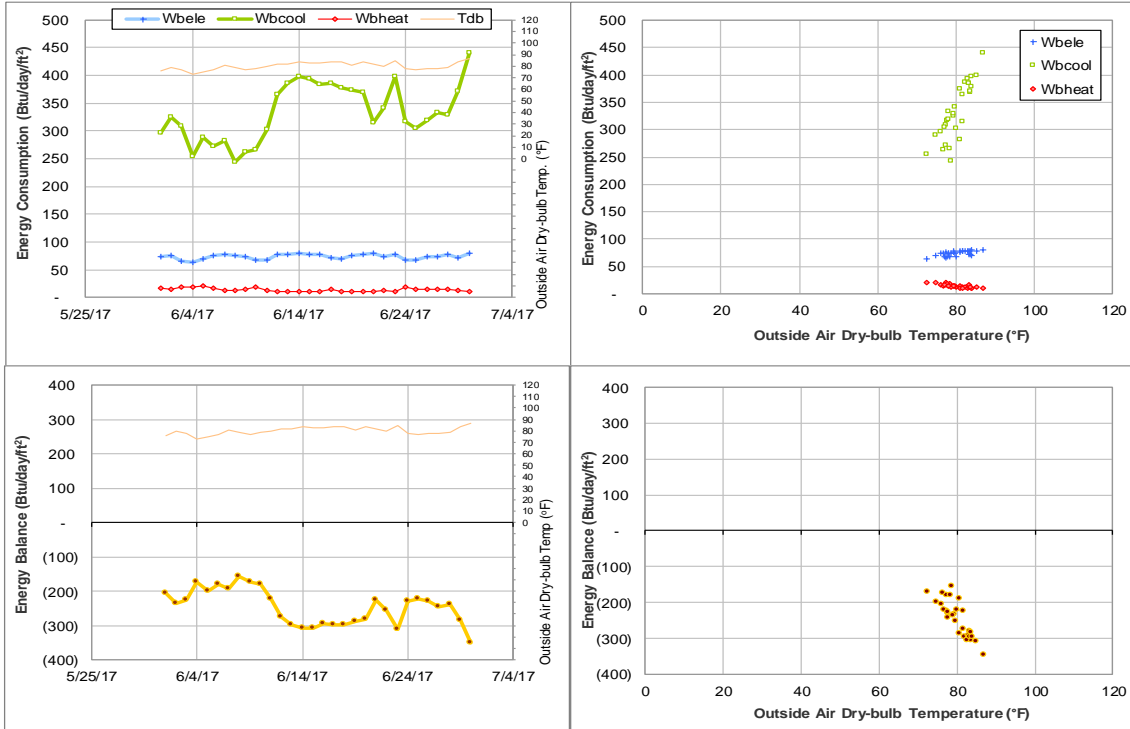


Figure IV-95 Anthropology Building TAMU BLDG # 477 Energy Balance Plot during June 2017

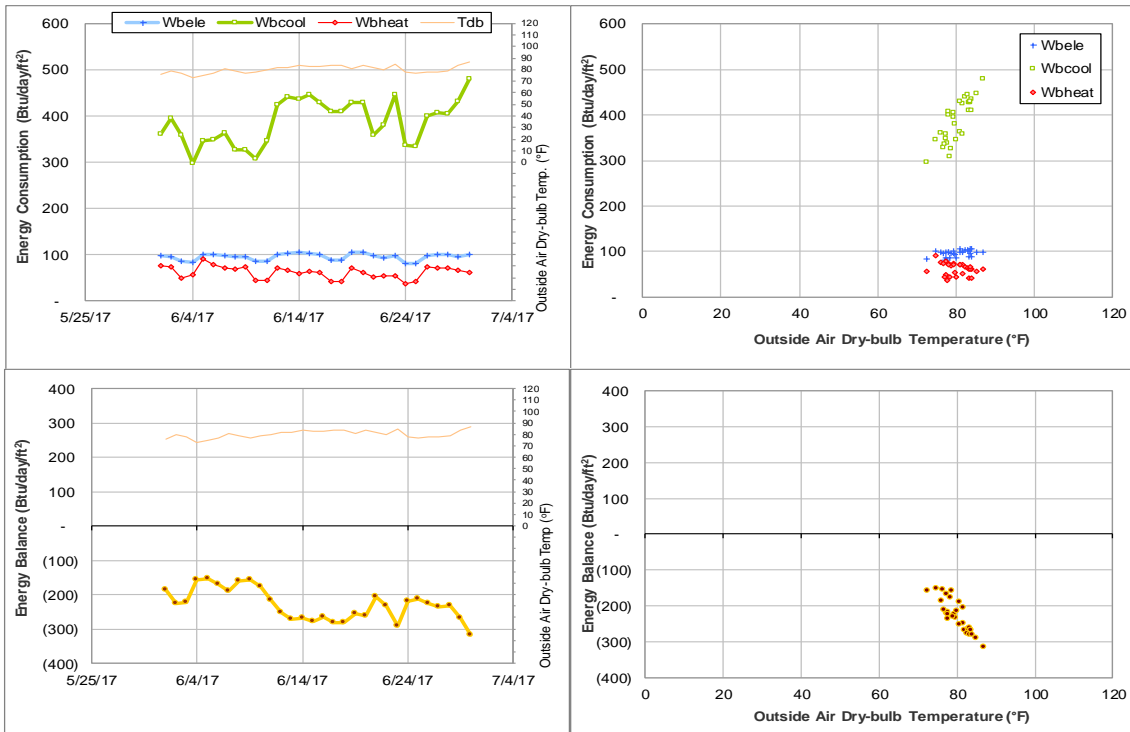


Figure IV-96 Scoates Hall TAMU BLDG # 478 Energy Balance Plot during June 2017

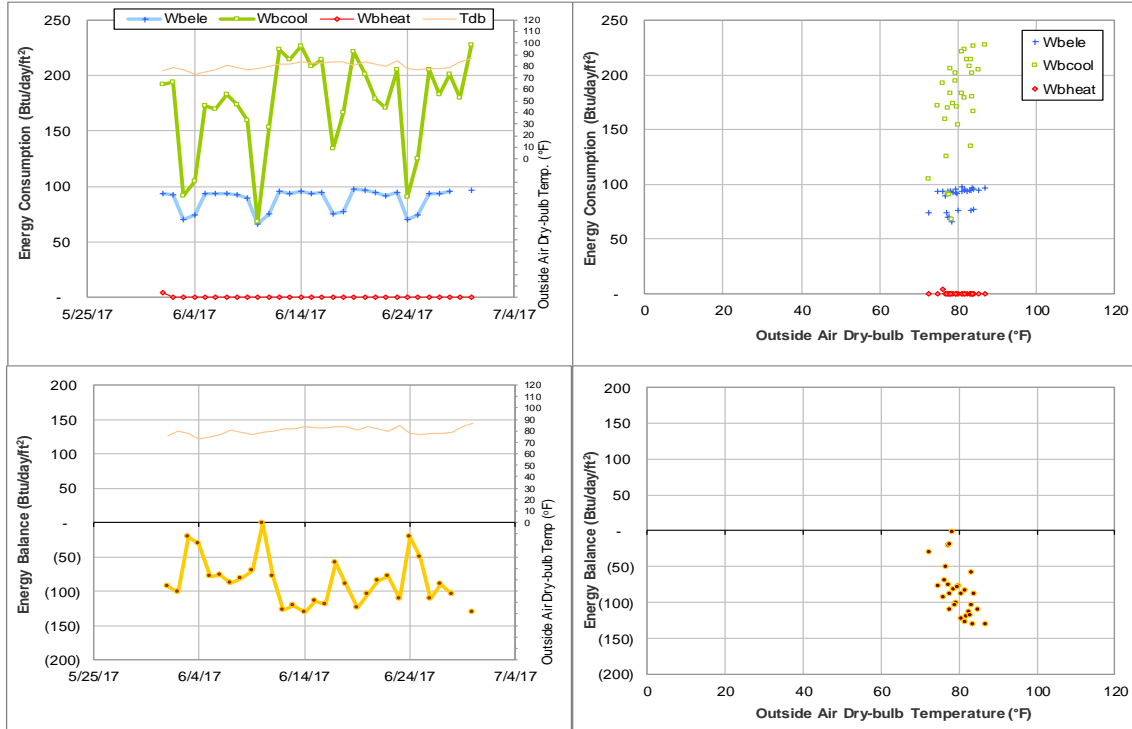


Figure IV-97 Bolton Hall TAMU BLDG # 480 Energy Balance Plot during June 2017

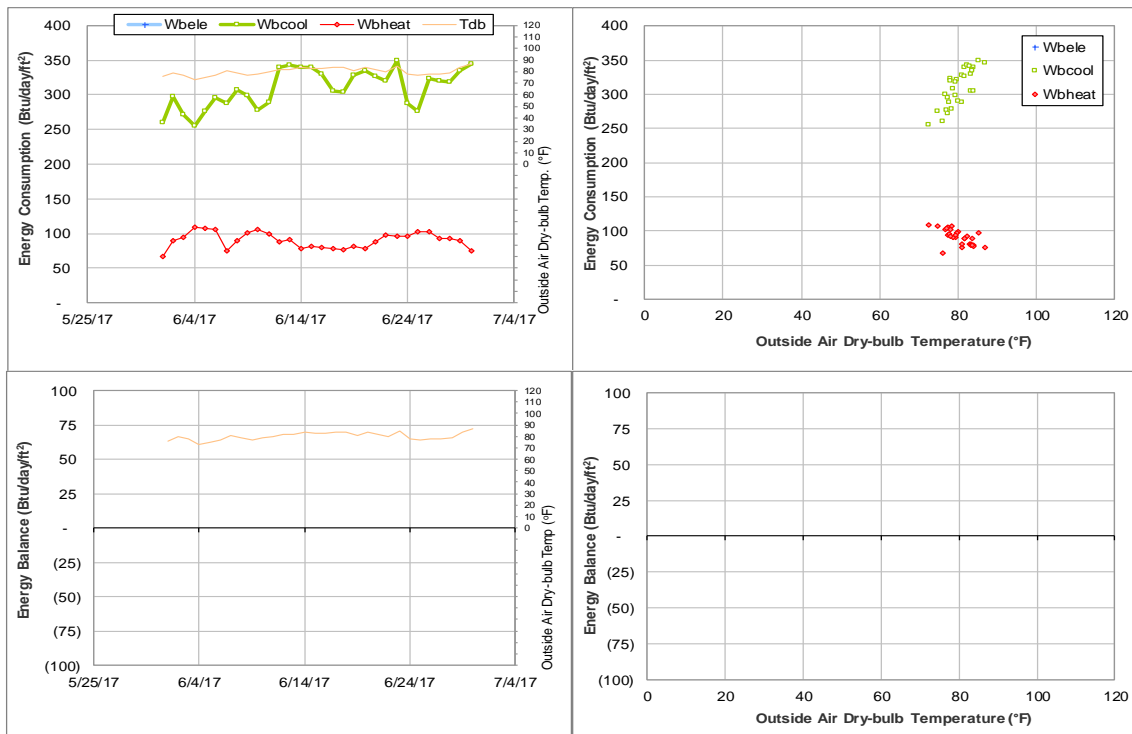


Figure IV-98 Heaton Hall TAMU BLDG # 481 Energy Balance Plot during June 2017

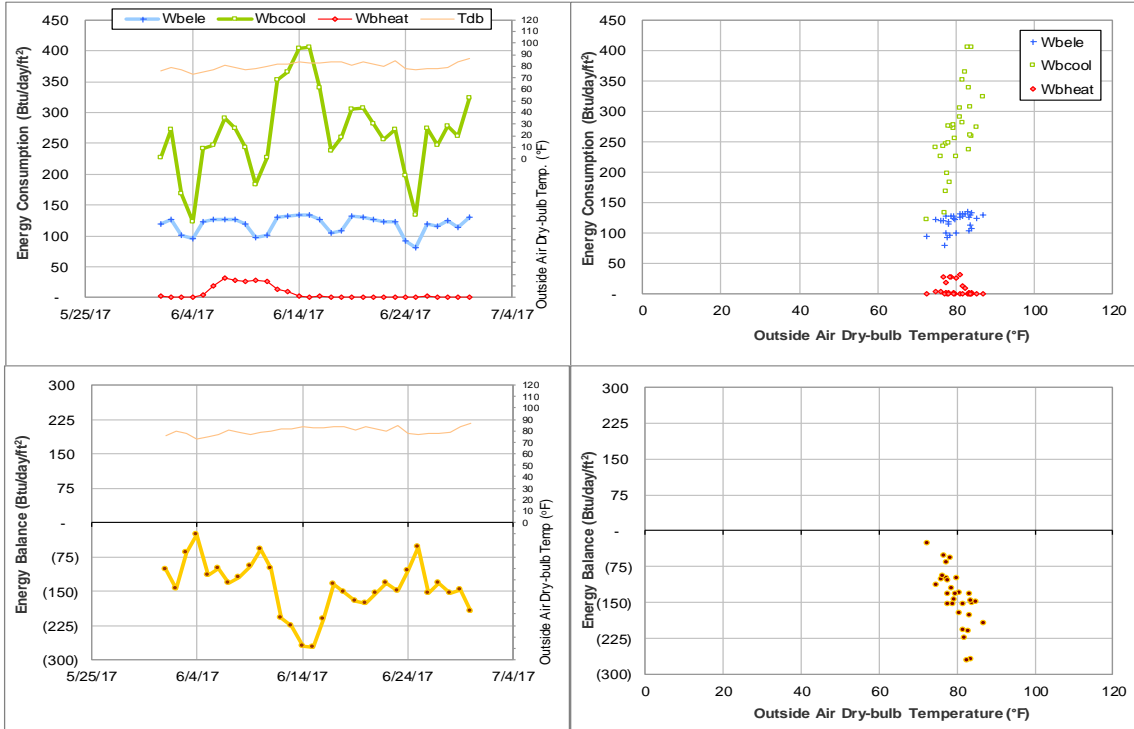


Figure IV-99 Fermier Hall TAMU BLDG # 482 Energy Balance Plot during June 2017

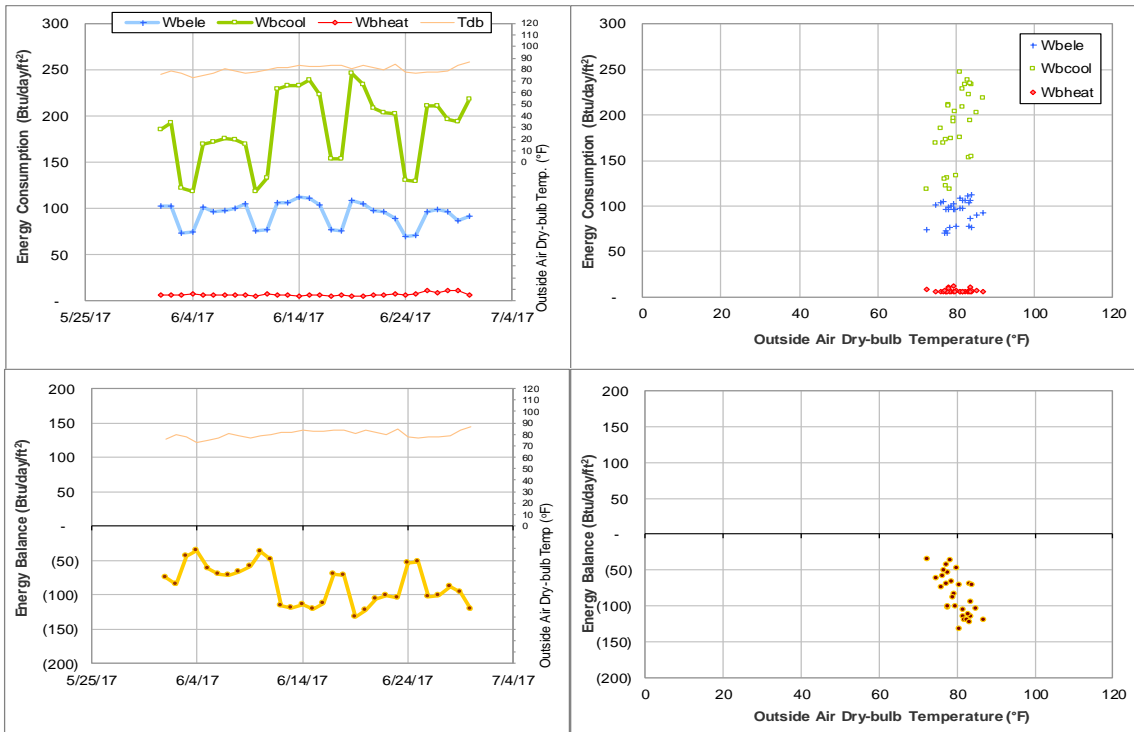


Figure IV-100 Thompson Hall TAMU BLDG # 483 Energy Balance Plot during June 2017

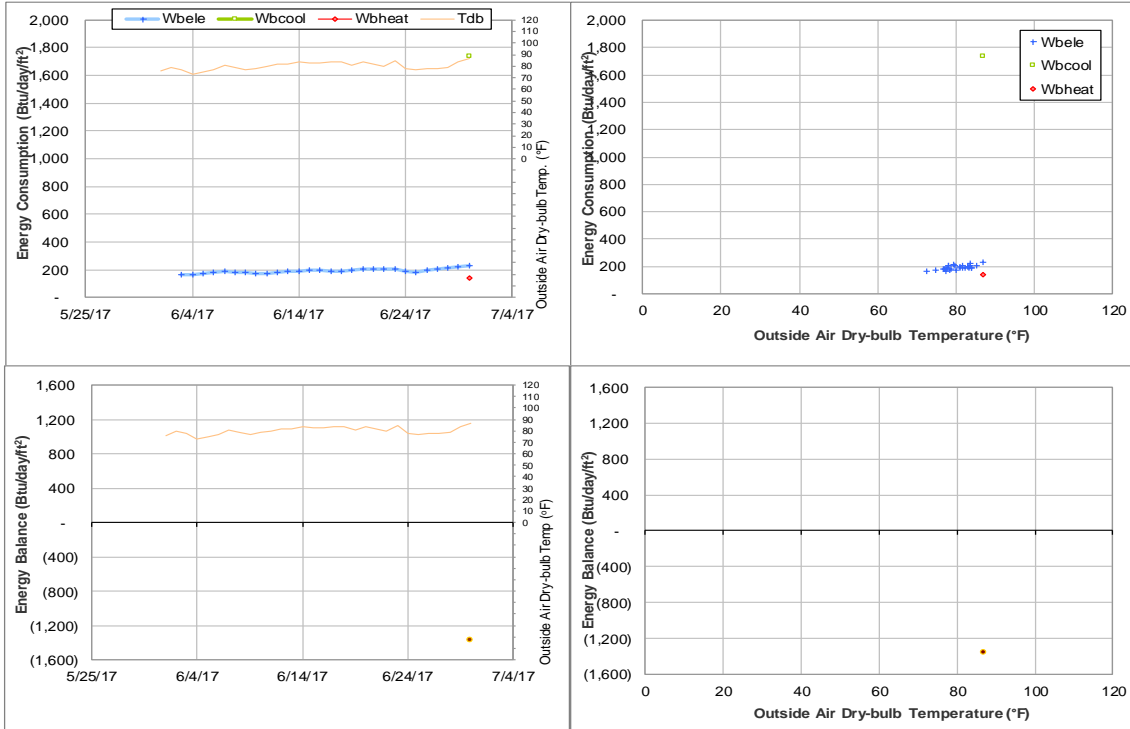


Figure IV-101 Chemistry Building TAMU BLDG # 484 Energy Balance Plot during June 2017

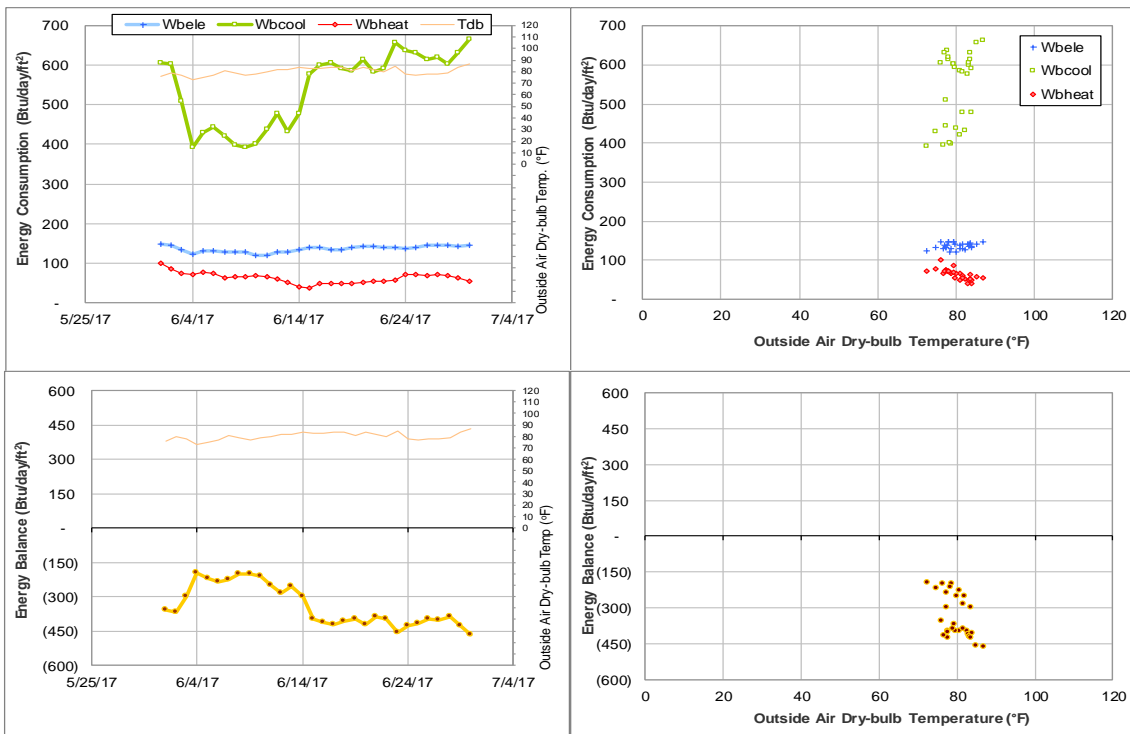


Figure IV-102 Halbouty Geosciences Building TAMU BLDG # 490 Energy Balance Plot during June 2017

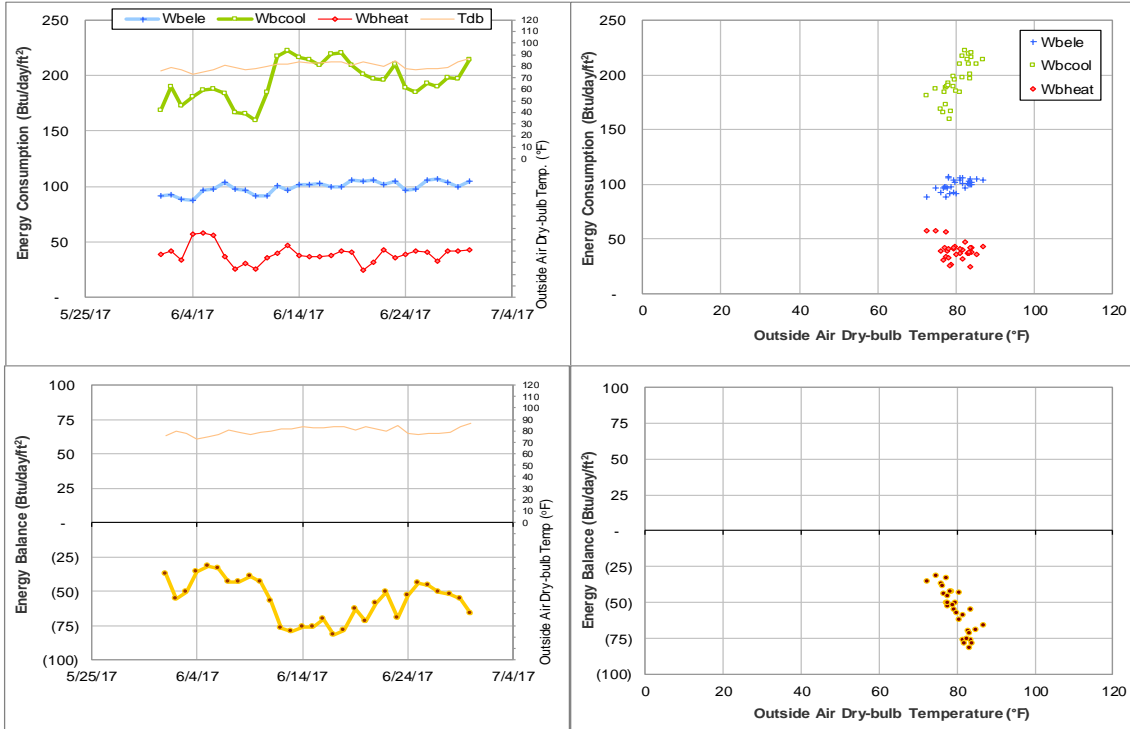


Figure IV-103 Civil Engineering Building TAMU BLDG # 492 Energy Balance Plot during June 2017

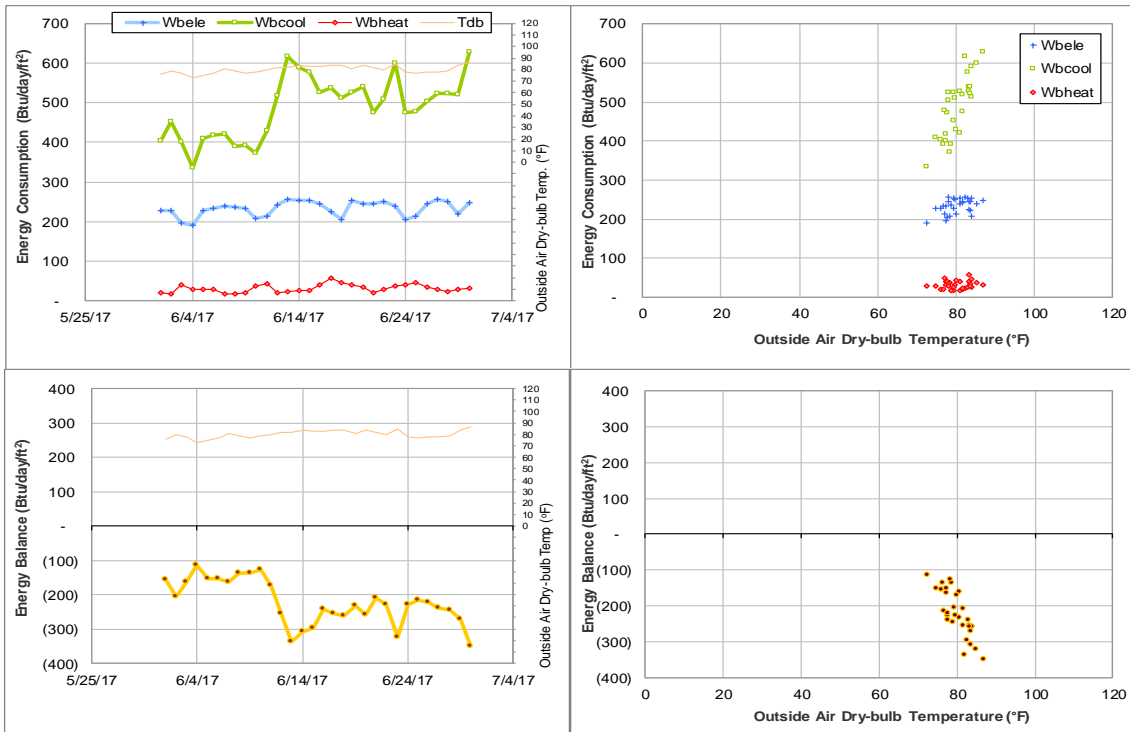


Figure IV-104 Sbisa Dining Hall TAMU BLDG # 495 Energy Balance Plot during June 2017

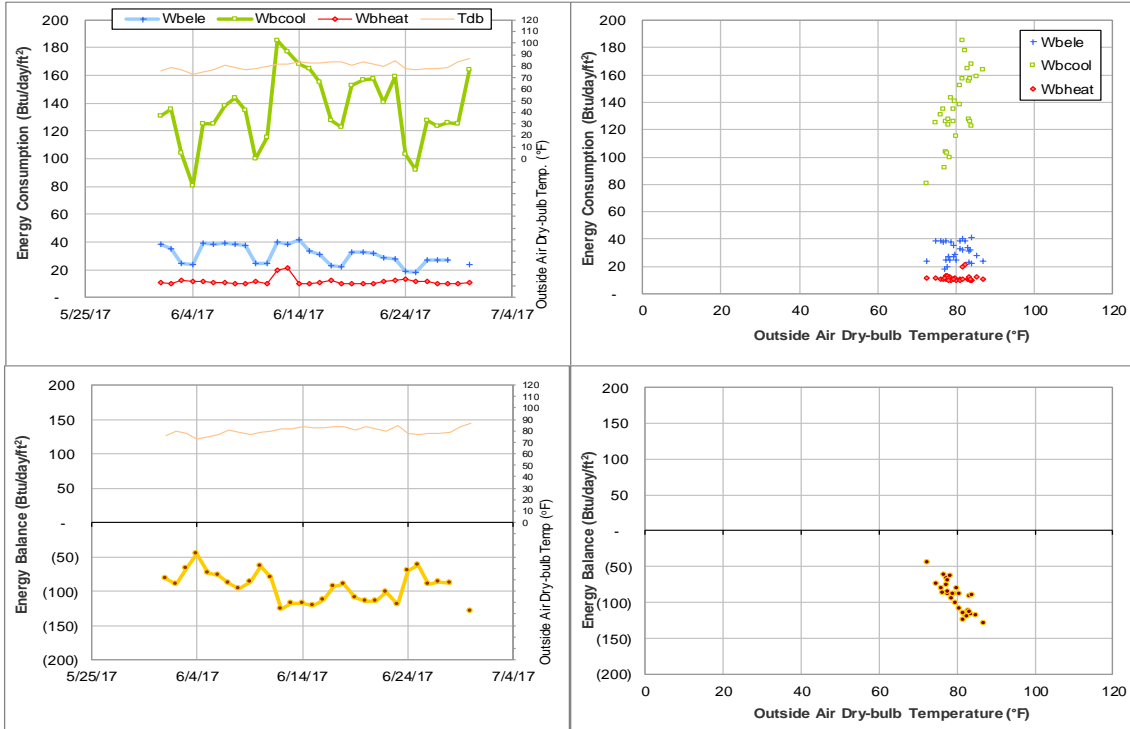


Figure IV-105 Utilities & Energy Services Central Office TAMU BLDG # 496 Energy Balance Plot during June 2017

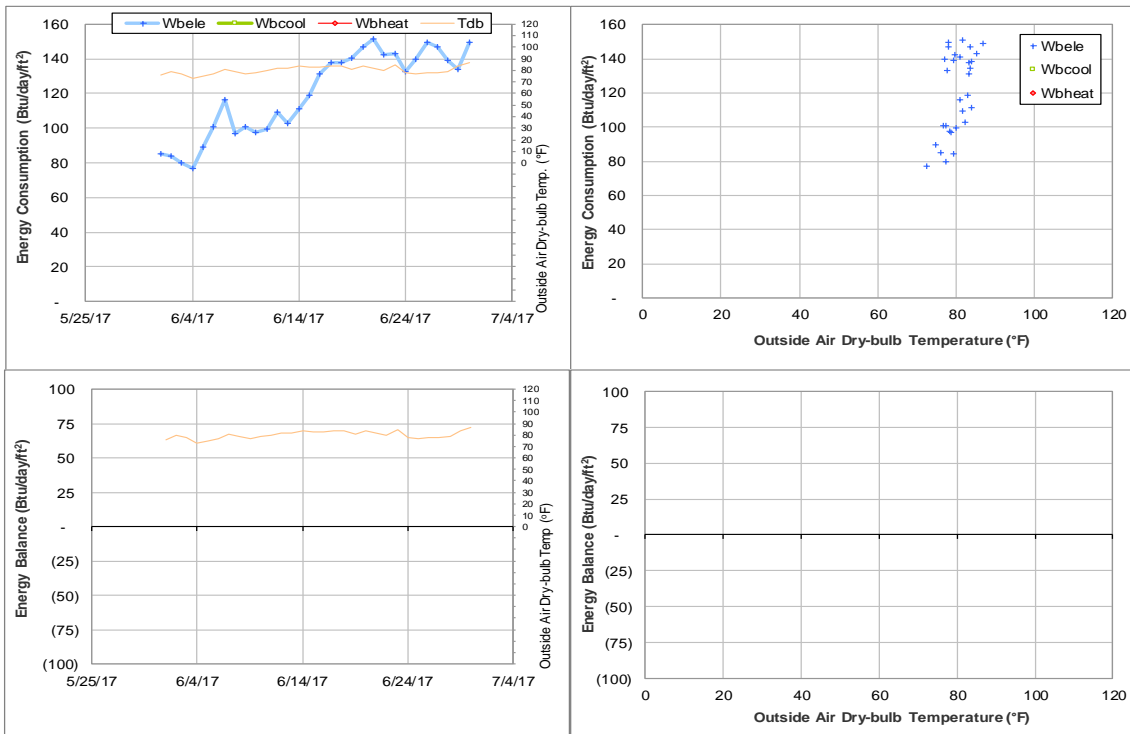


Figure IV-106 Concrete Materials Laboratory TAMU BLDG # 501 Energy Balance Plot during June 2017

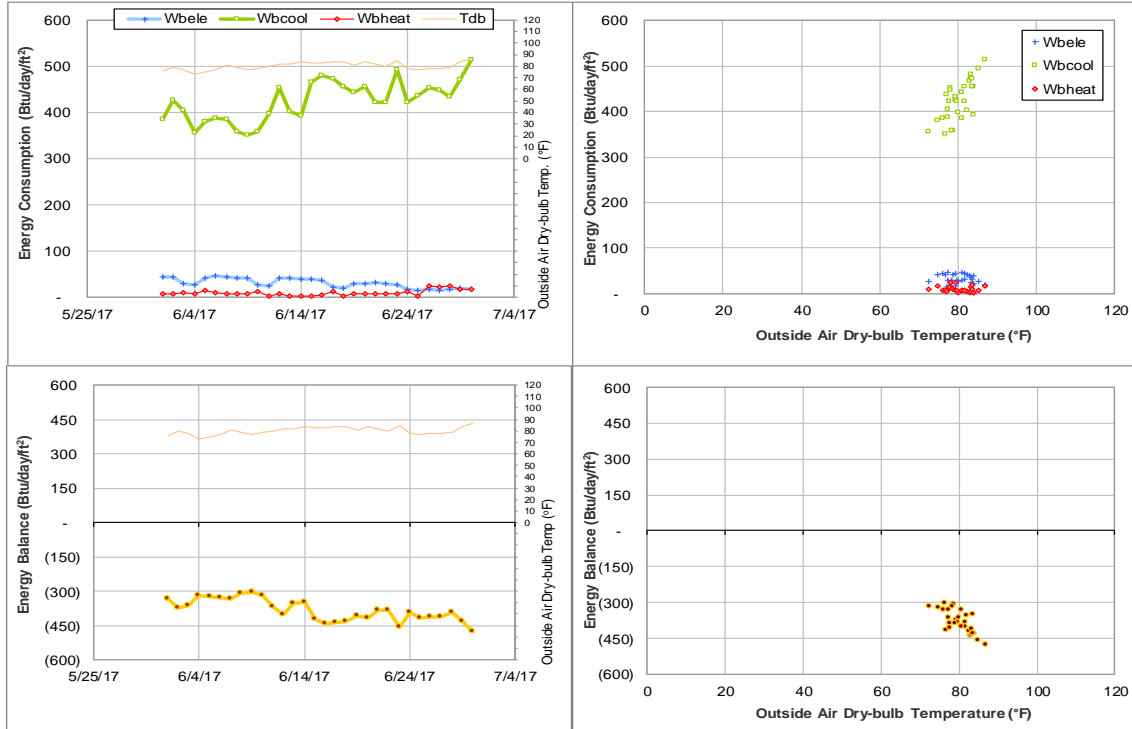


Figure IV-107 Nagle Hall TAMU BLDG # 506 Energy Balance Plot during June 2017

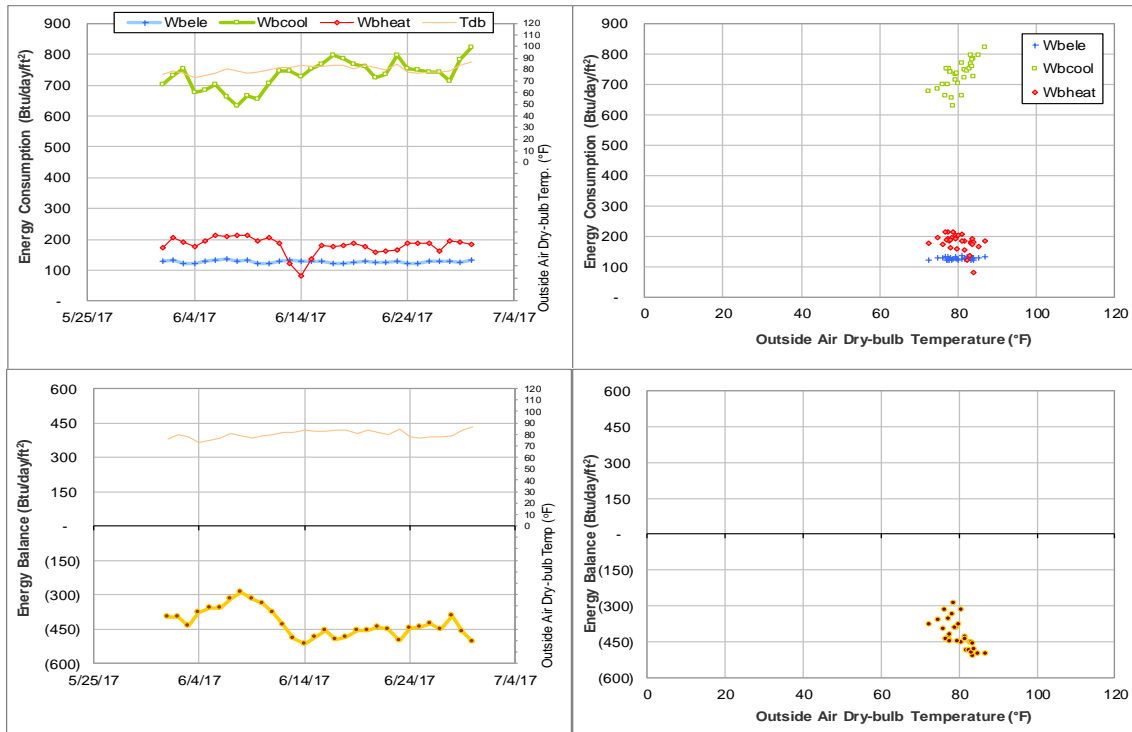


Figure IV-108 Veterinary Medical Science Building TAMU BLDG # 507 Energy Balance Plot during June 2017

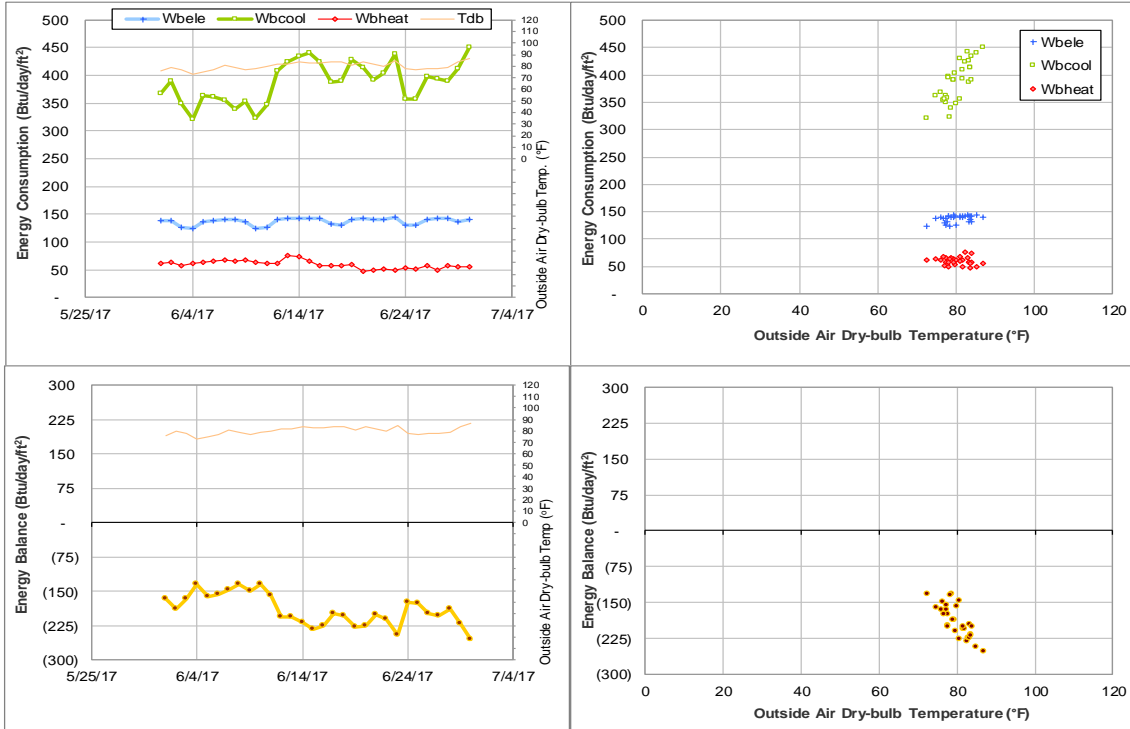


Figure IV-109 Veterinary Teaching Hospital and Med Adm TAMU BLDG # 508 and 1026 Energy Balance Plot during June 2017

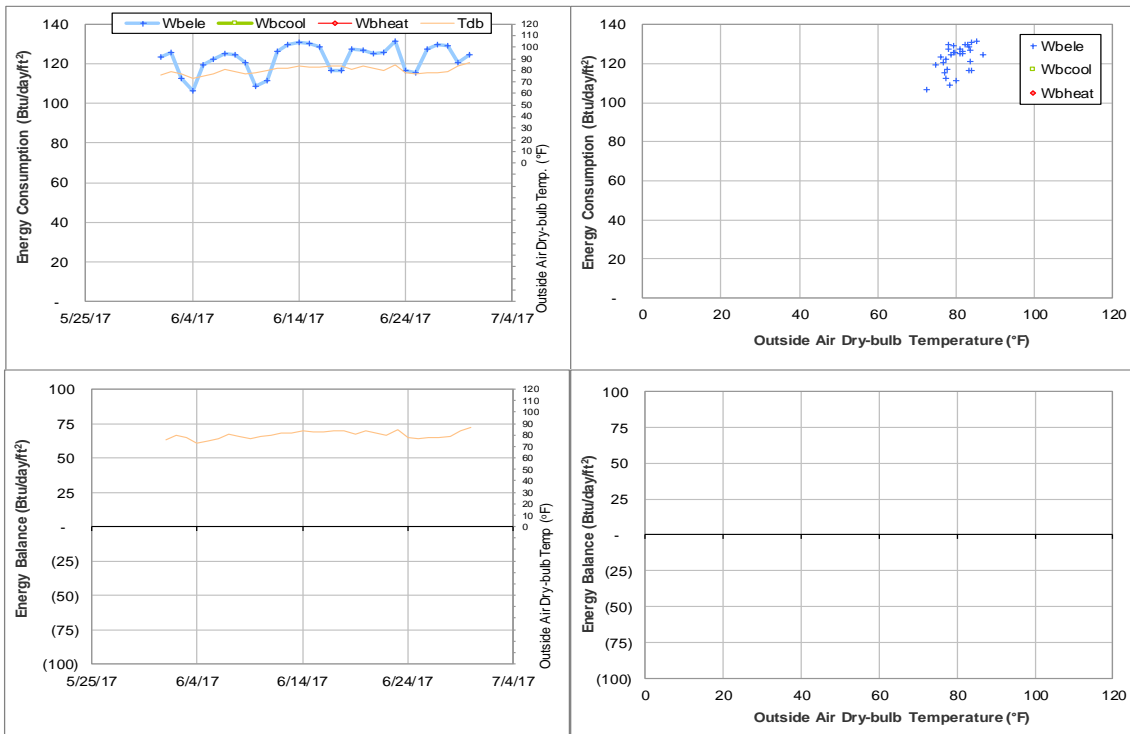


Figure IV-110 Veterinary Teaching Hospital TAMU BLDG # 508 Energy Balance Plot during June 2017

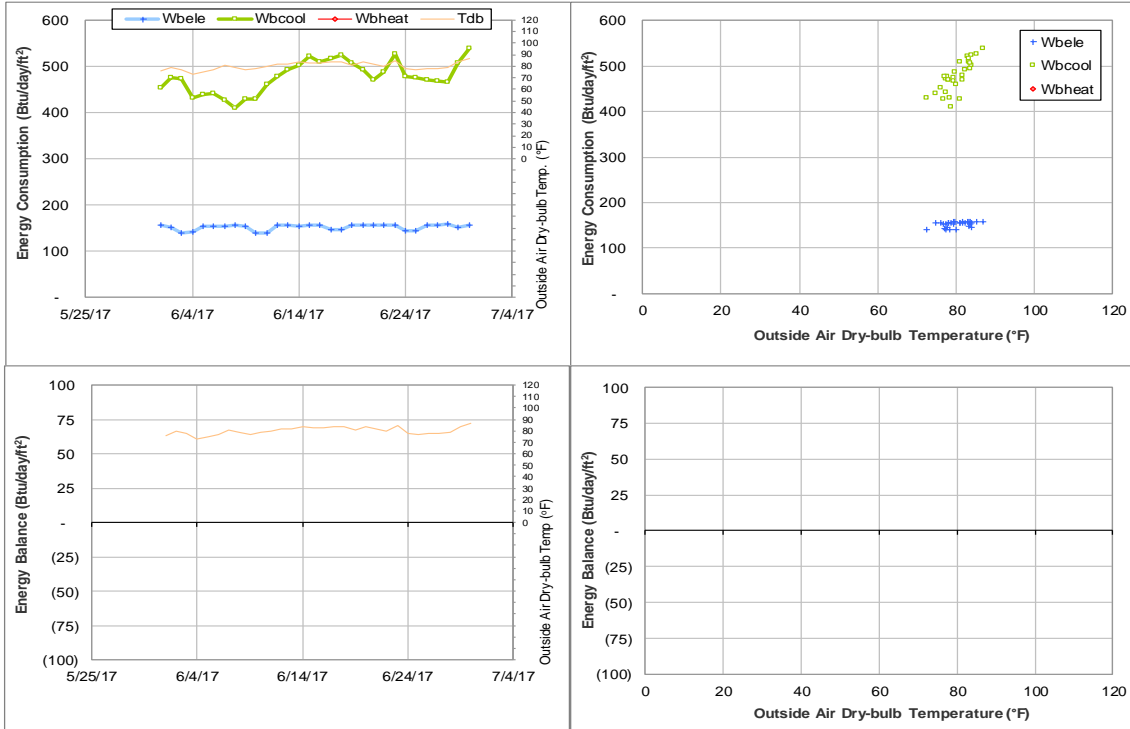


Figure IV-111 Veterinary Medicine Administration TAMU BLDG # 1026 Energy Balance Plot during June 2017

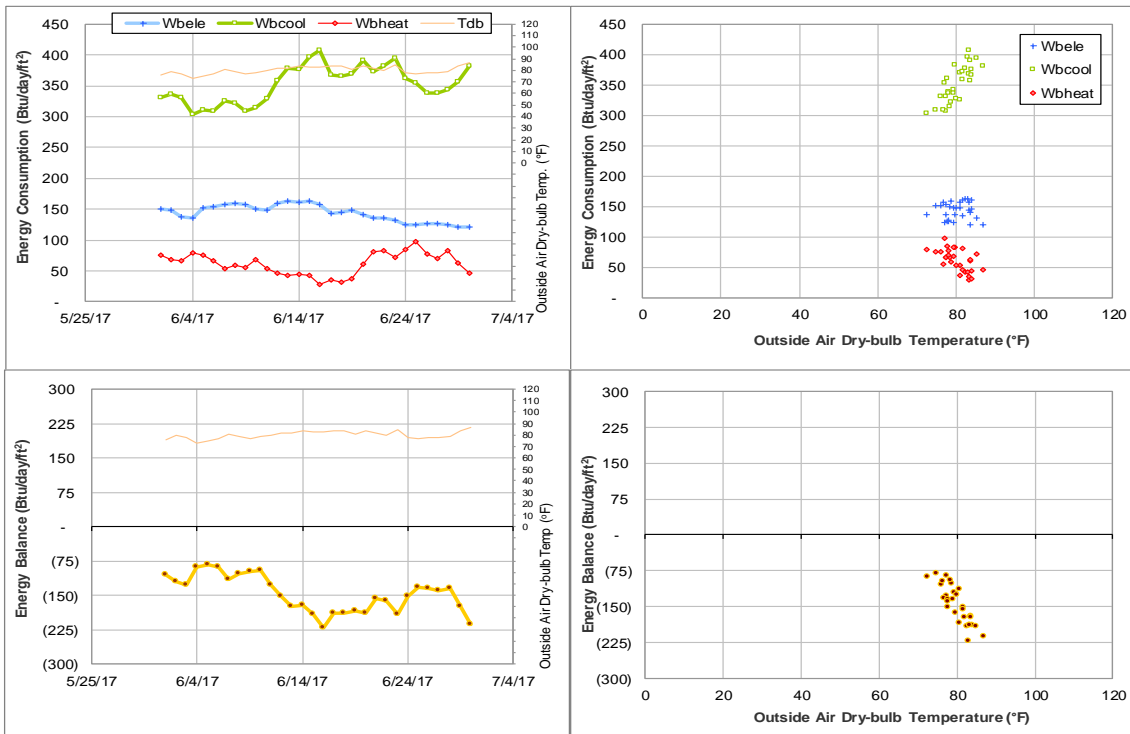


Figure IV-112 Heep Laboratory Building TAMU BLDG # 511 Energy Balance Plot during June 2017

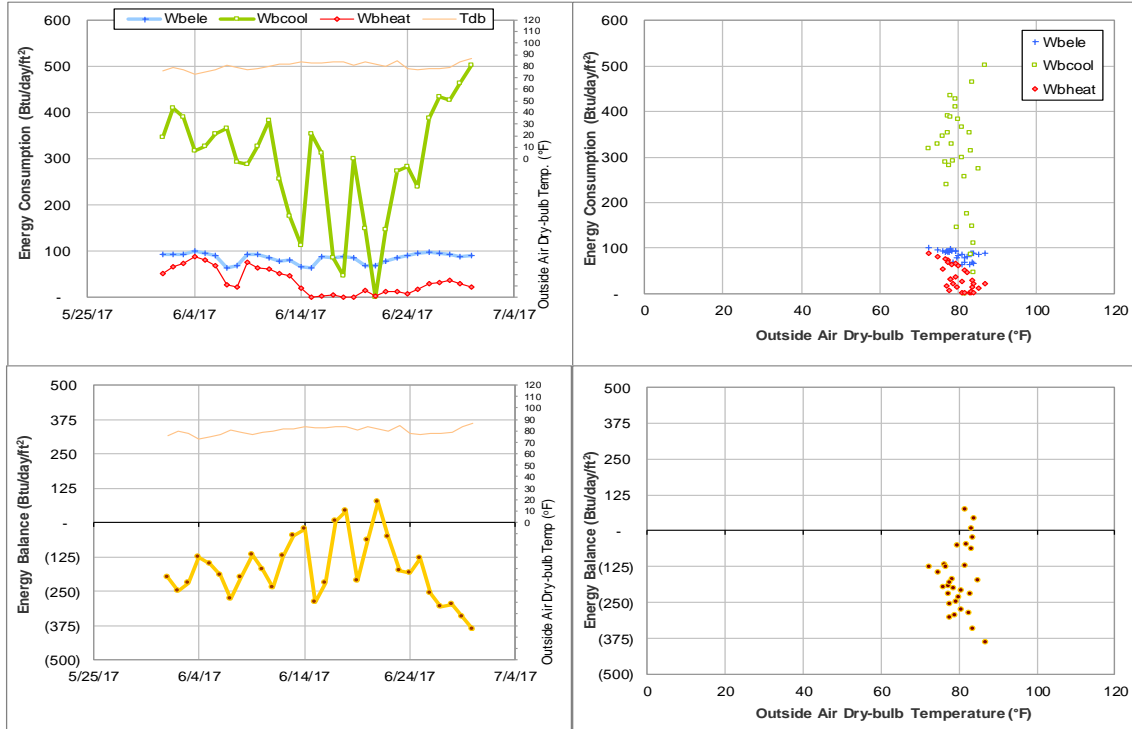


Figure IV-113 All Faiths Chapel TAMU BLDG # 512 Energy Balance Plot during June 2017

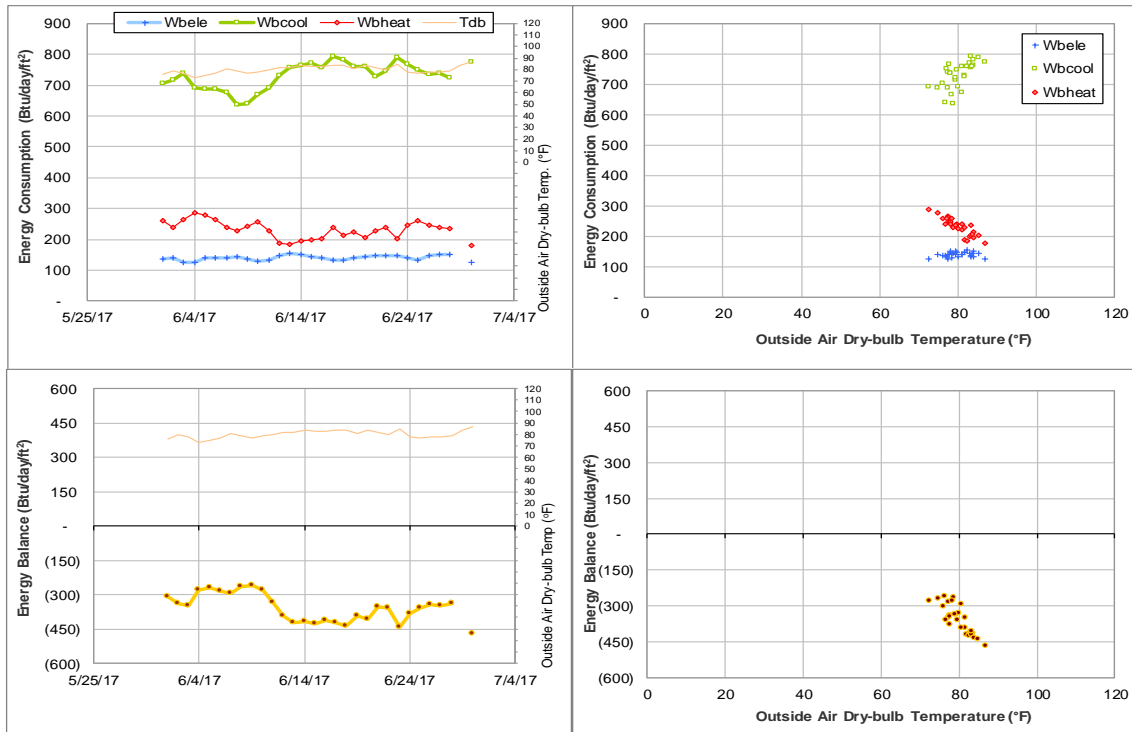


Figure IV-114 Doherty Building TAMU BLDG # 513 Energy Balance Plot during June 2017

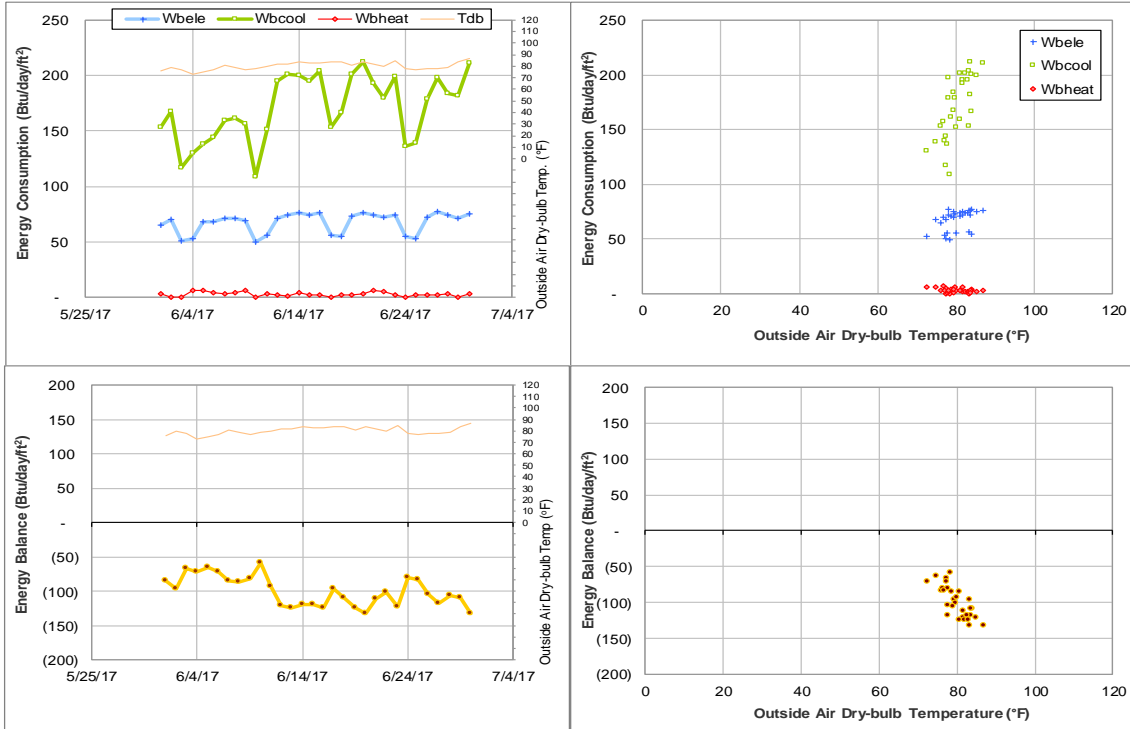


Figure IV-115 Munneryn Astronomy & Space Sciences Engineering TAMU BLDG # 514 Energy Balance Plot during June 2017

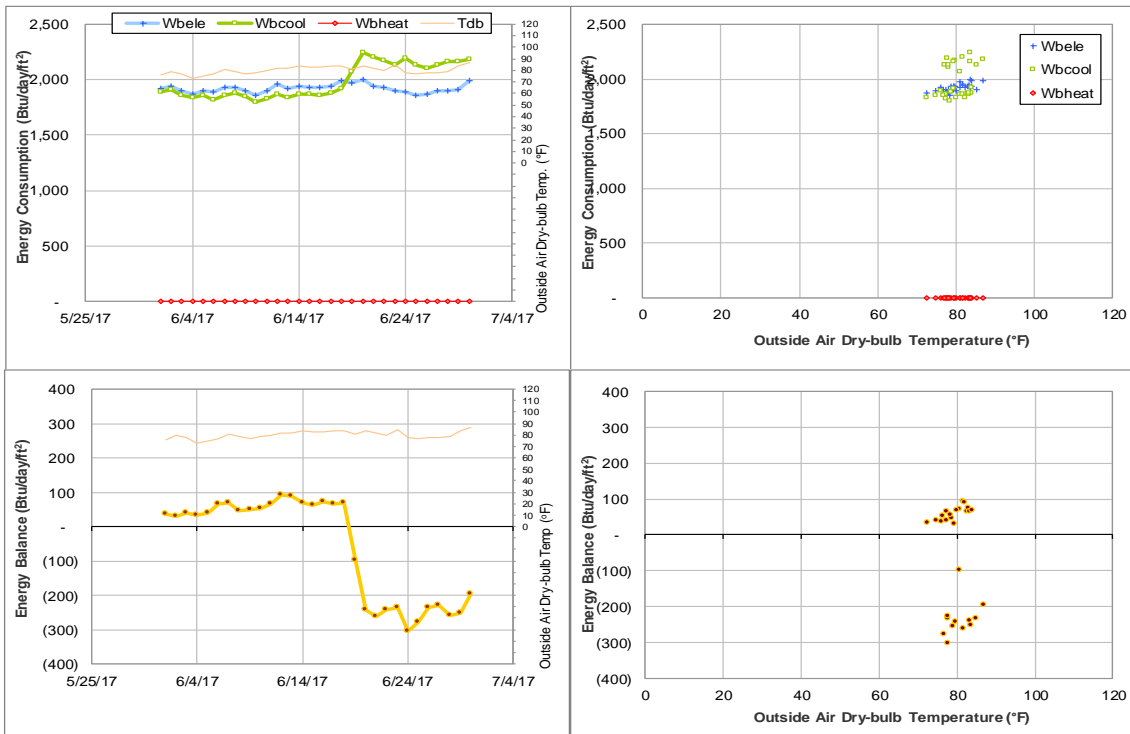


Figure IV-116 Computing Services Center TAMU BLDG # 516 Energy Balance Plot during June 2017

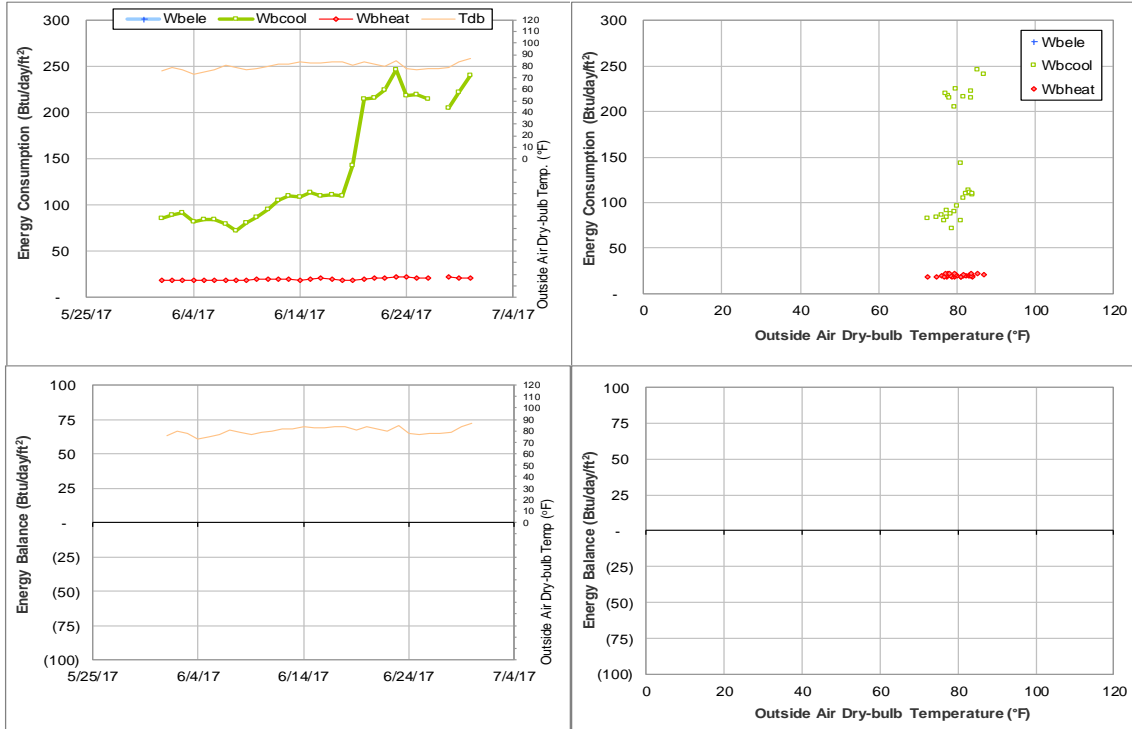


Figure IV-117 Zachry Engineering Center TAMU BLDG # 518 Energy Balance Plot during June 2017

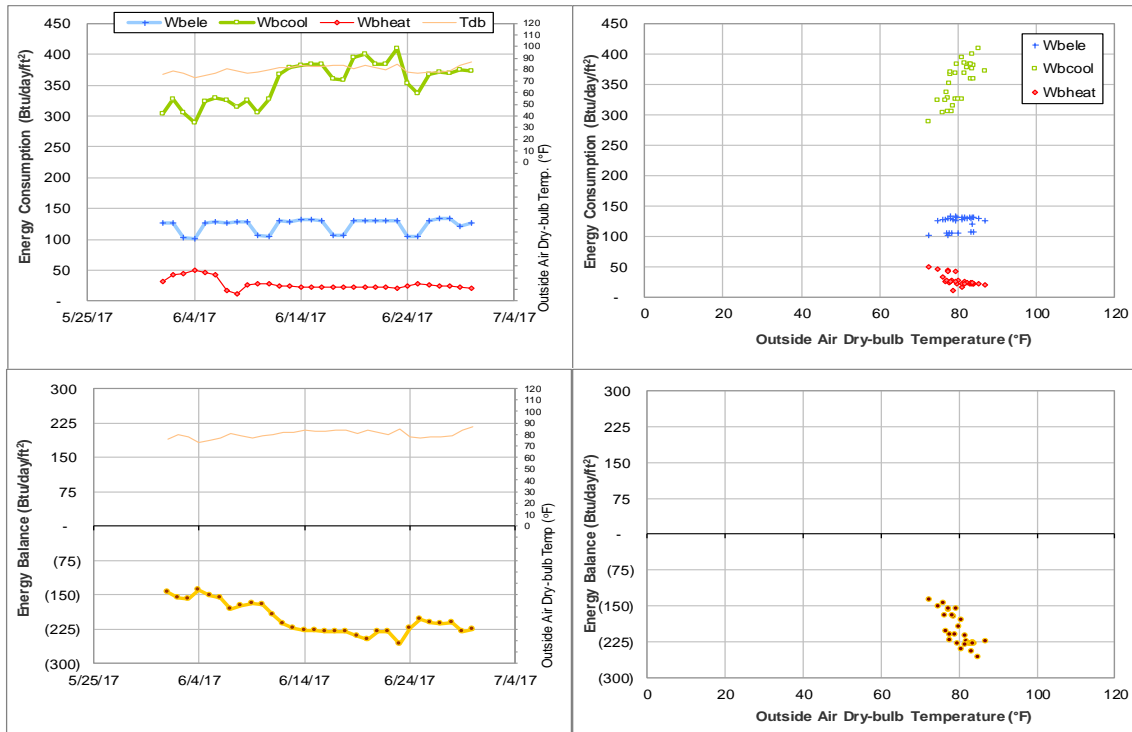


Figure IV-118 Beutel Health Center TAMU BLDG # 520 Energy Balance Plot during June 2017

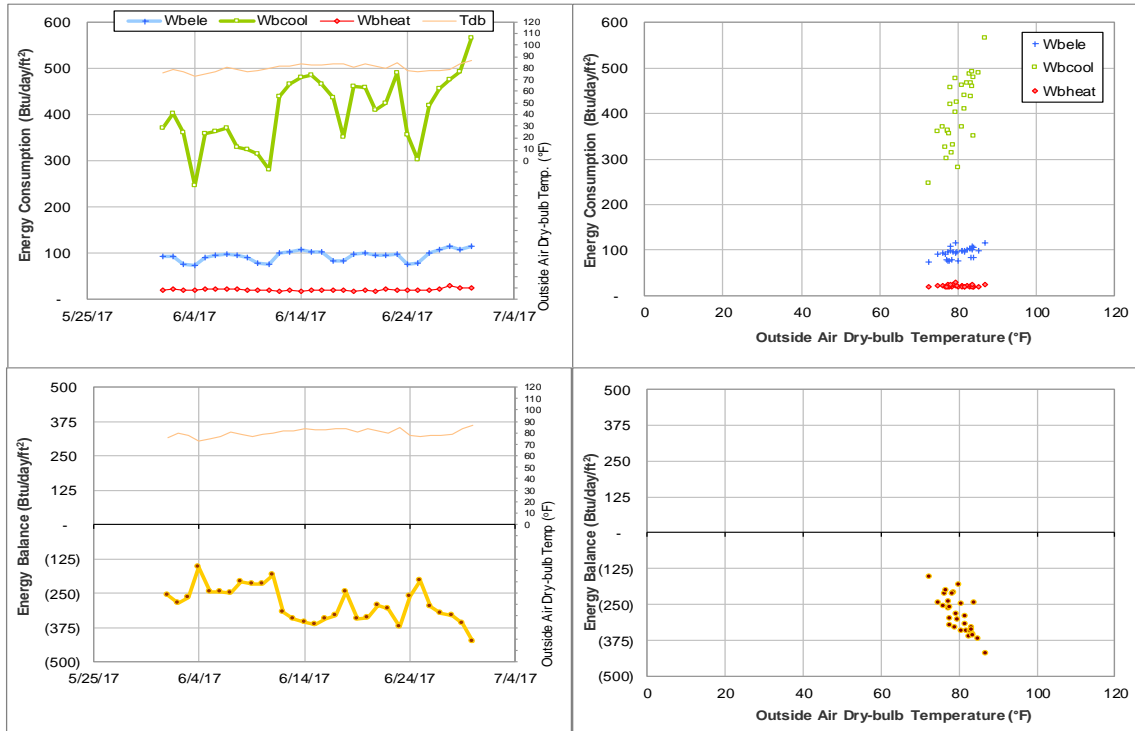


Figure IV-119 Heldenfels Hall TAMU BLDG # 521 Energy Balance Plot during June 2017

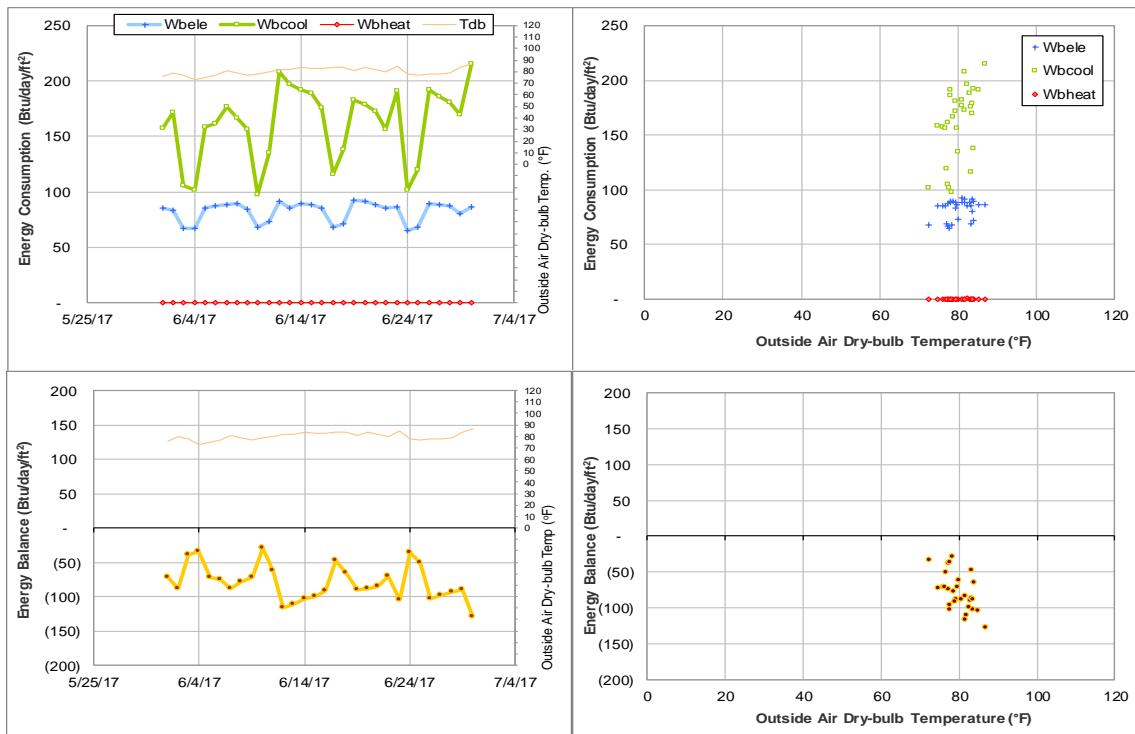


Figure IV-120 Blocker building TAMU BLDG # 524 Energy Balance Plot during June 2017

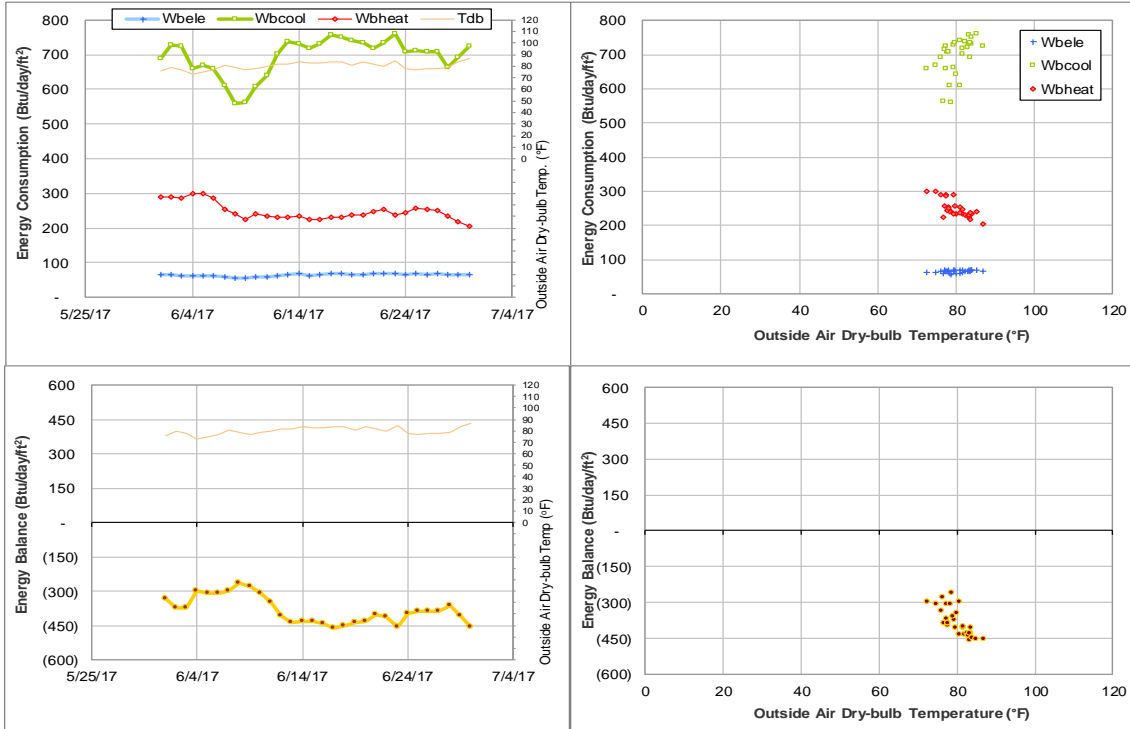


Figure IV-121 Clements Residence Hall TAMU BLDG # 548 Energy Balance Plot during June 2017

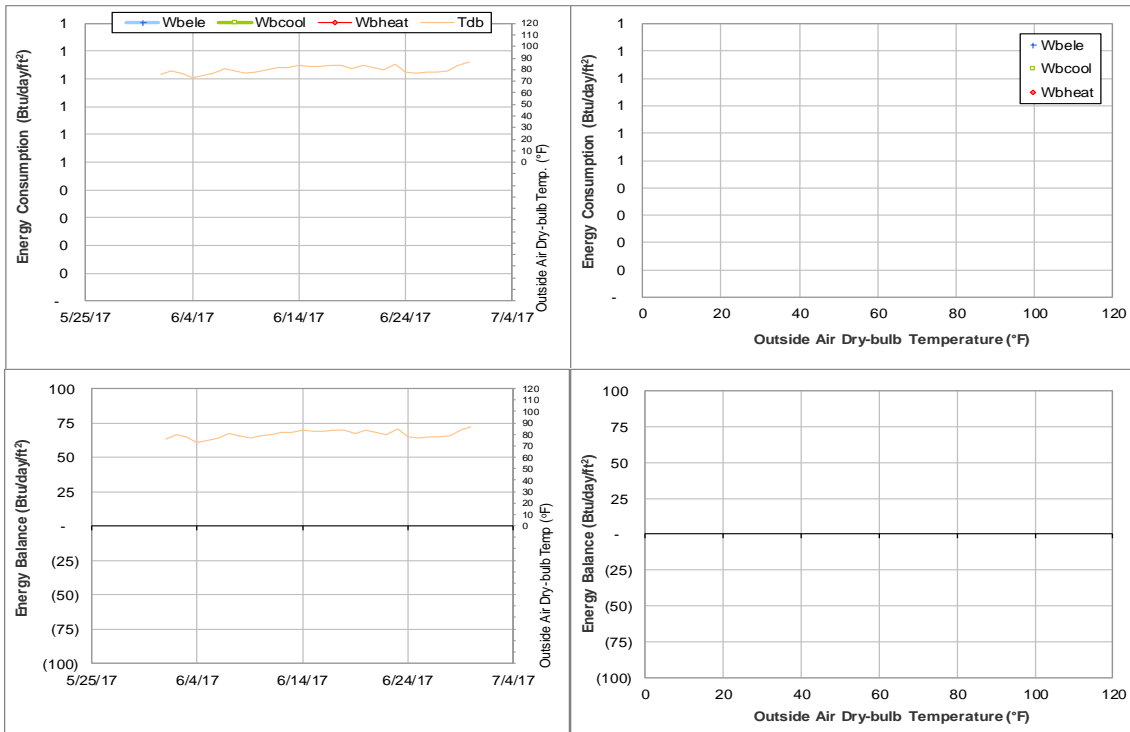


Figure IV-122 Haas Residence Hall TAMU BLDG # 549 Energy Balance Plot during June 2017

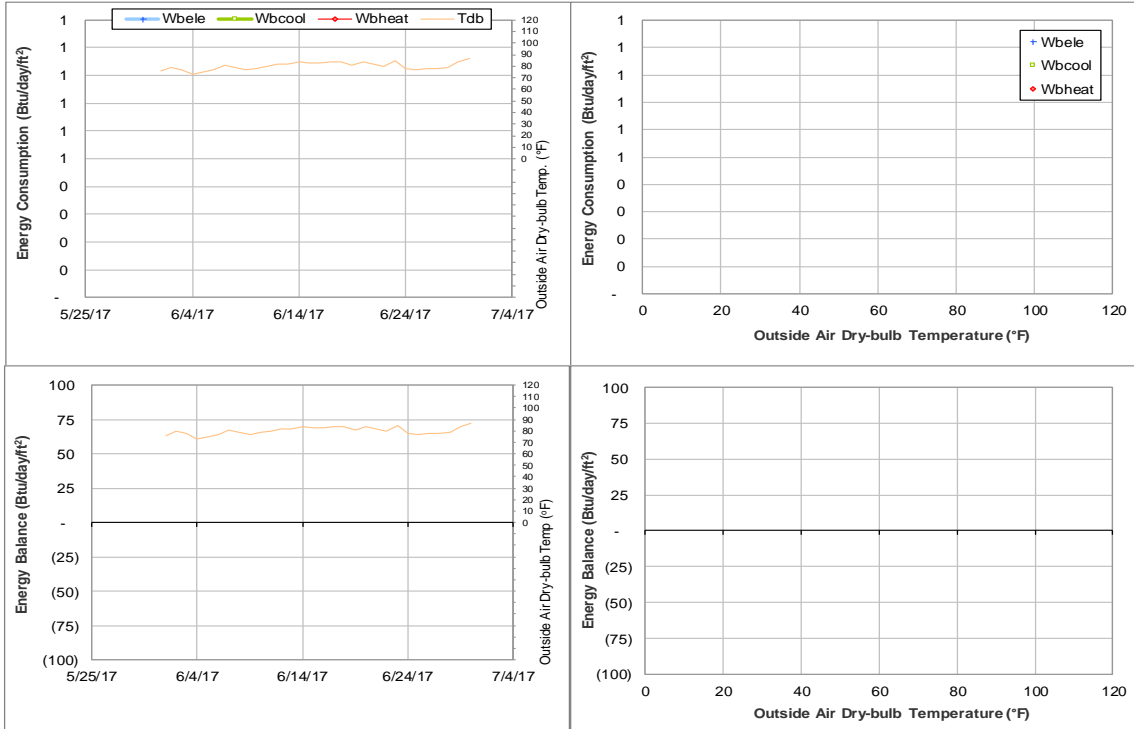


Figure IV-123 McFadden Residence Hall TAMU BLDG # 550 Energy Balance Plot during June 2017

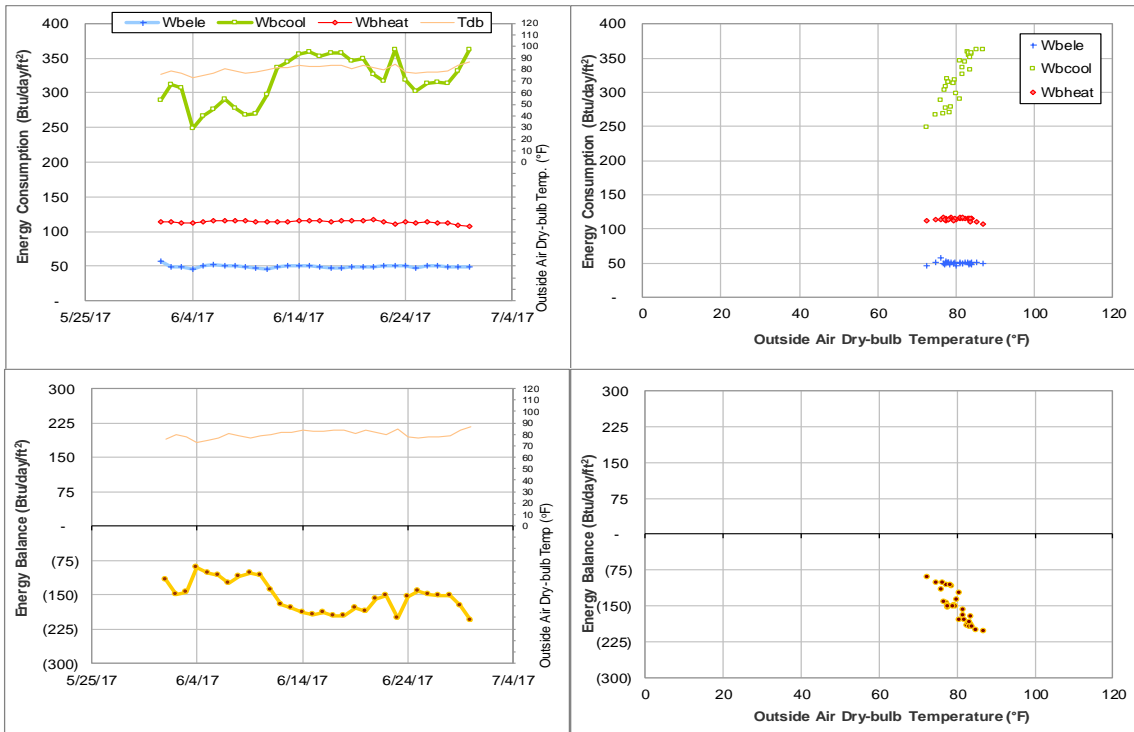


Figure IV-124 Neeley Residence Hall TAMU BLDG # 652 Energy Balance Plot during June 2017

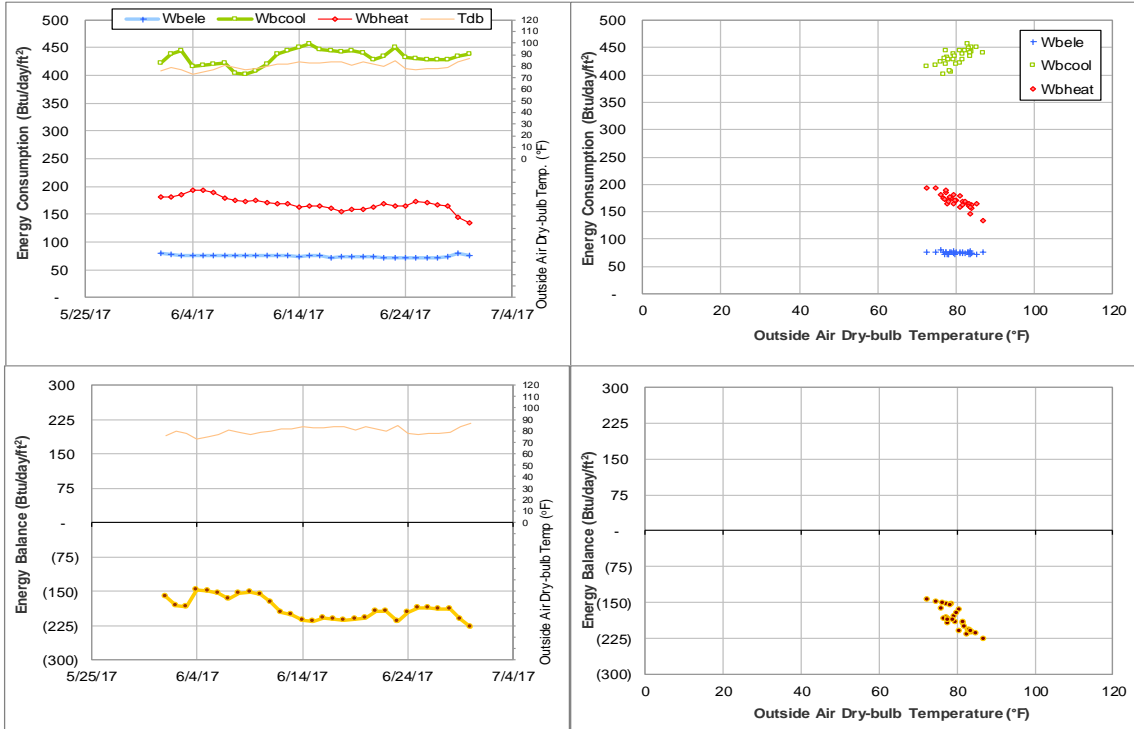


Figure IV-125 Hobby Residence Hall TAMU BLDG # 653 Energy Balance Plot during June 2017

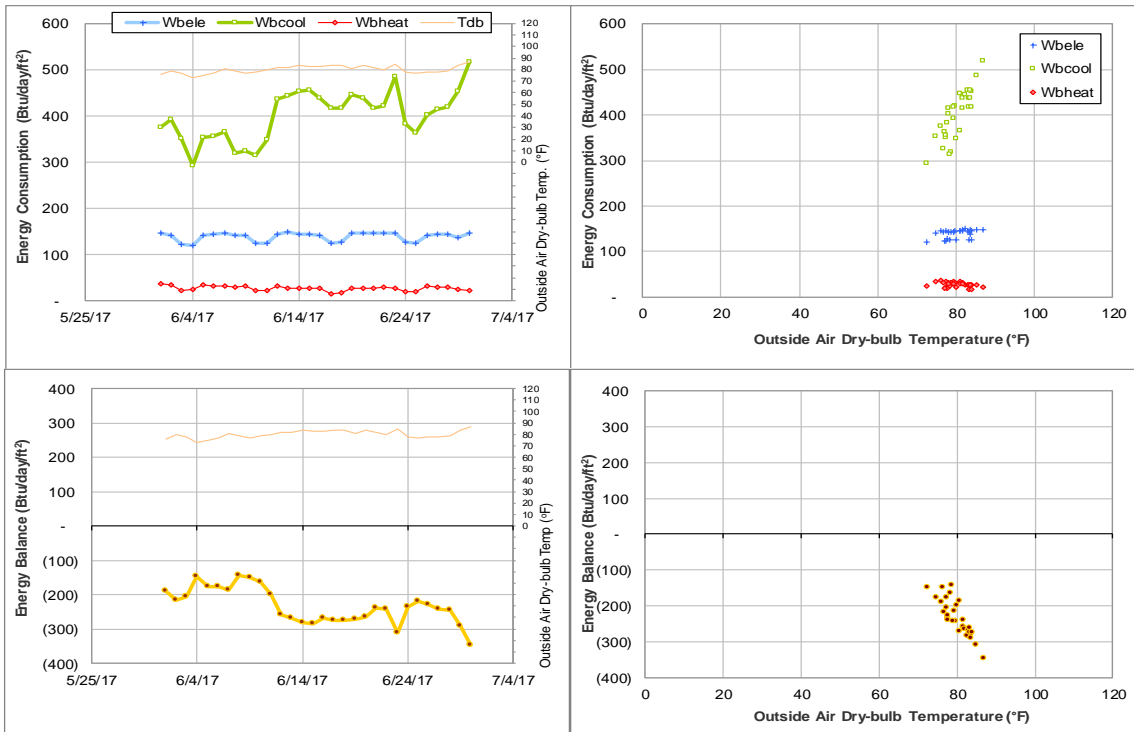


Figure IV-126 Wisenbaker Engineering Research Center TAMU BLDG # 682 Energy Balance Plot during June 2017

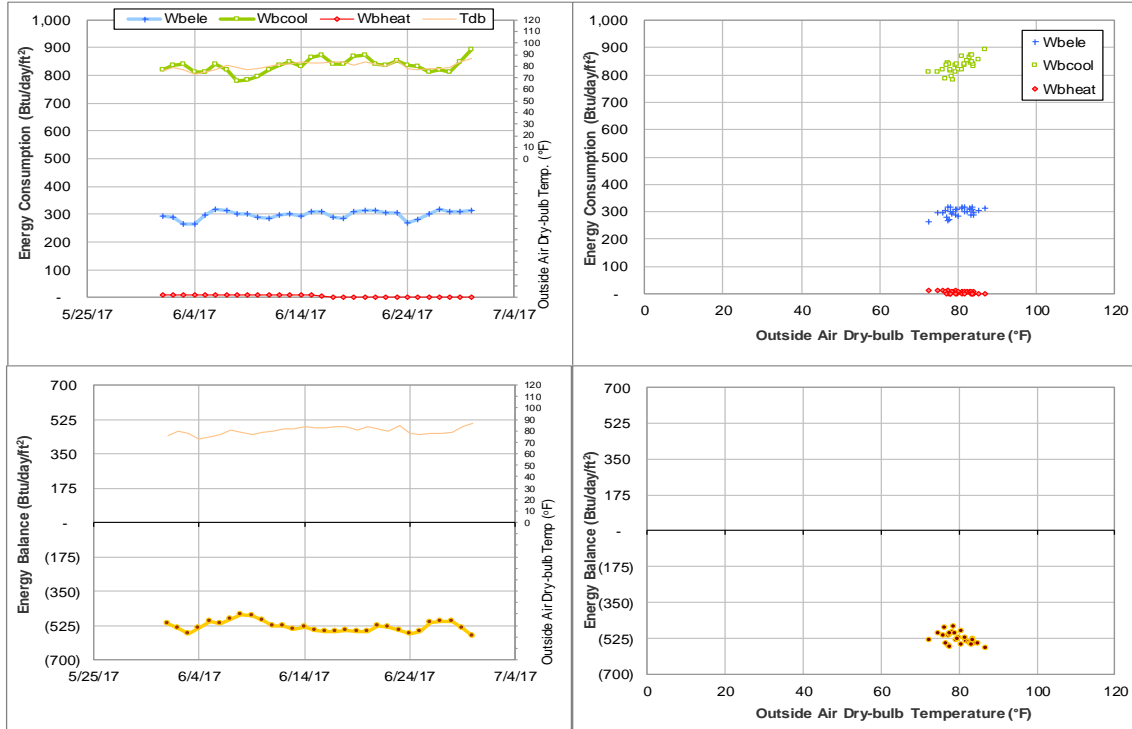


Figure IV-127 McNew Laboratory TAMU BLDG # 740 Energy Balance Plot during June 2017

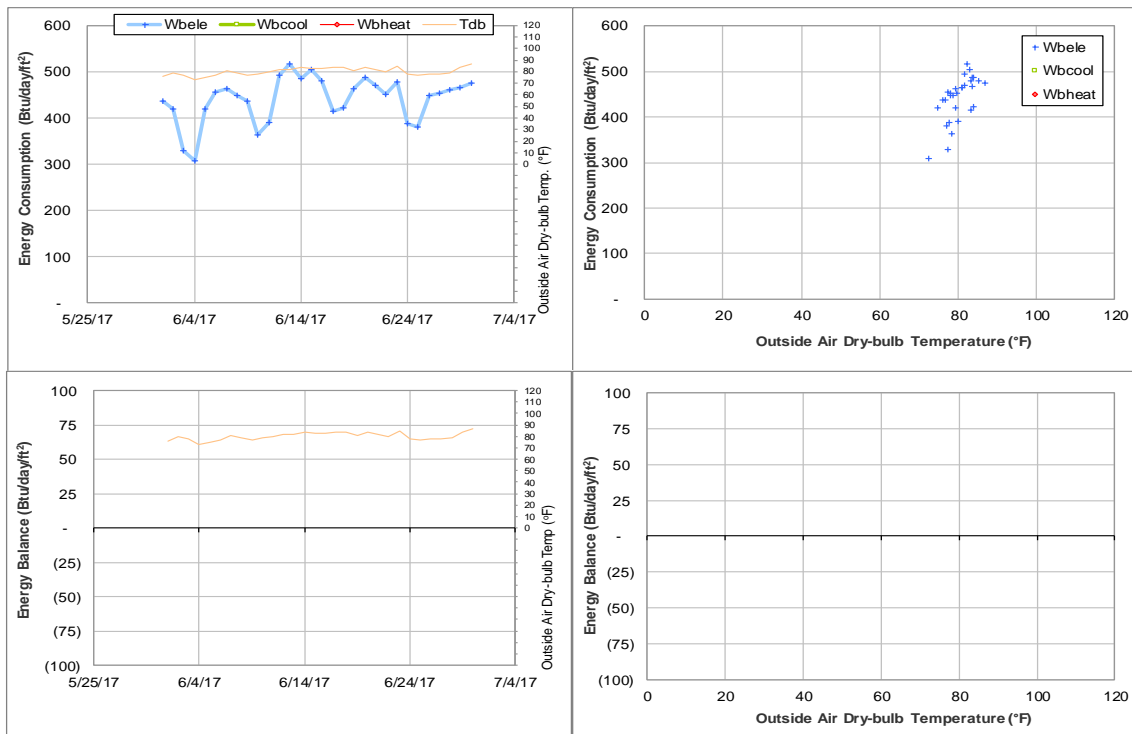


Figure IV-128 Soil Testing Labs TAMU BLDG # 806 Energy Balance Plot during June 2017

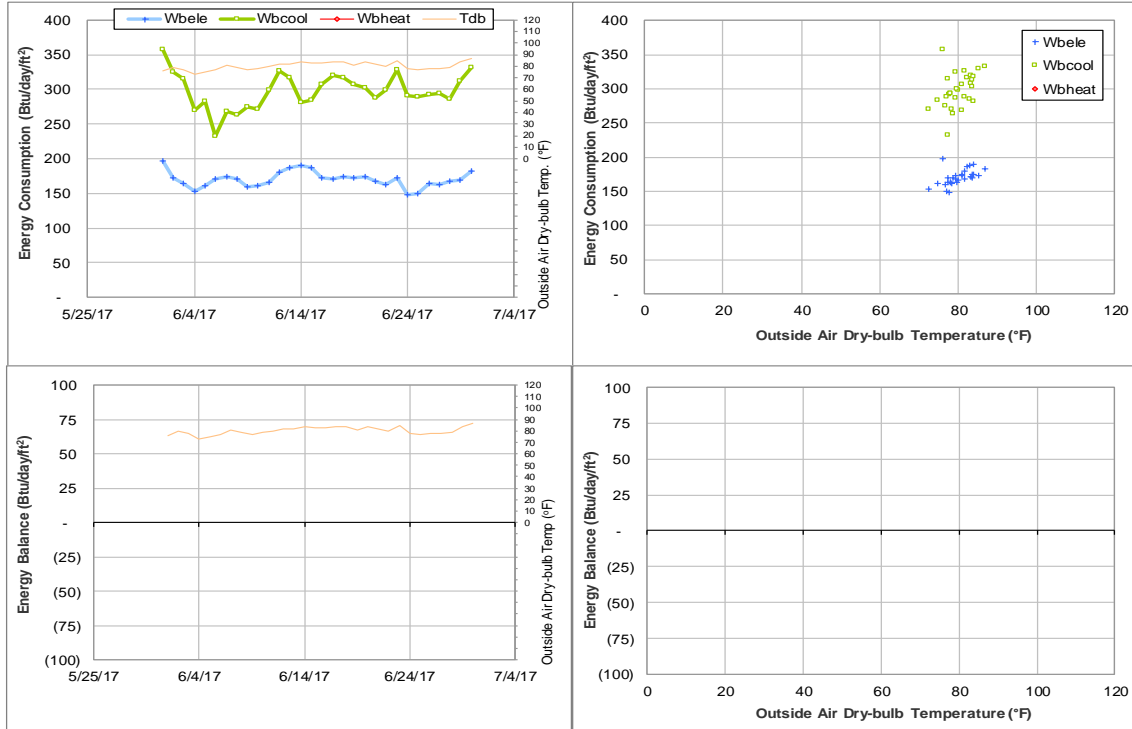


Figure IV-129 Entomology Research Lab TAMU BLDG # 815 Energy Balance Plot during June 2017

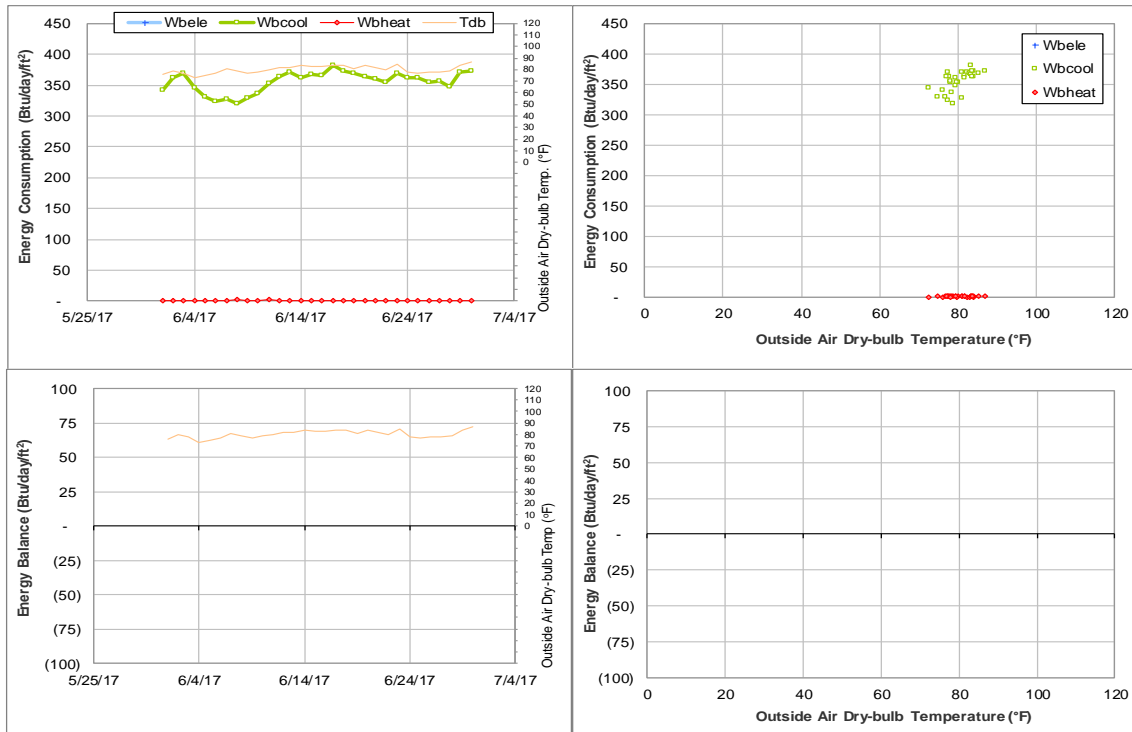


Figure IV-130 TVMC-Small Animal Building TAMU BLDG # 880 Energy Balance Plot during June 2017

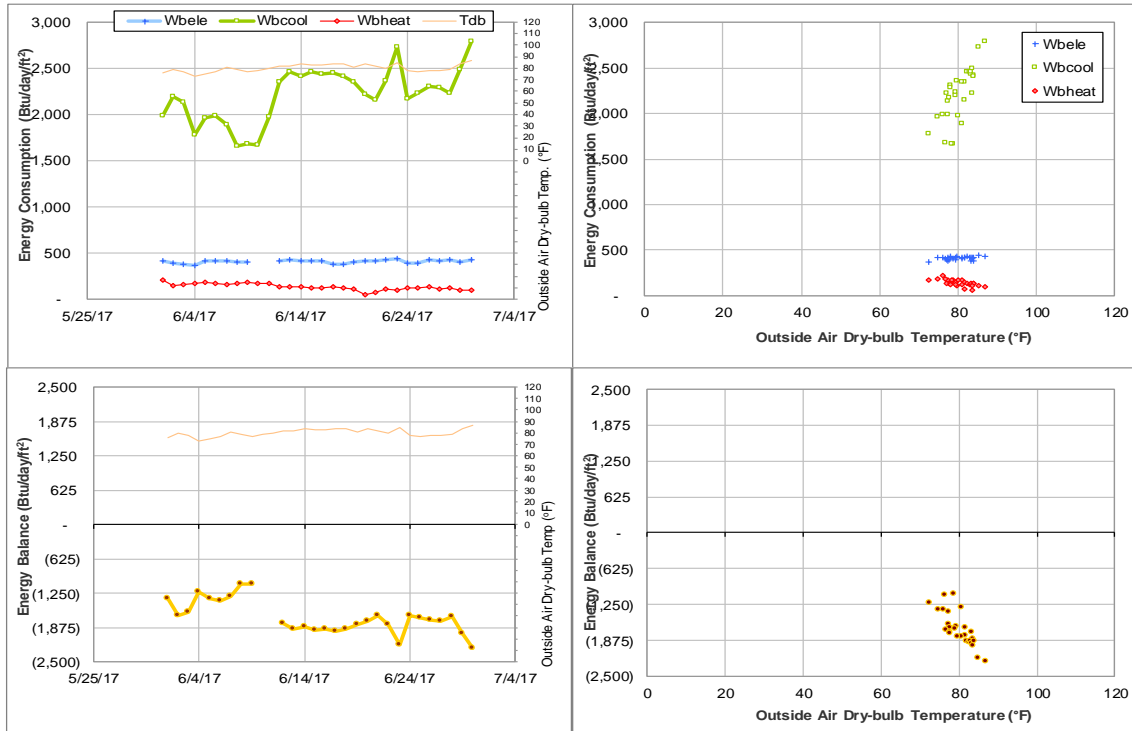


Figure IV-131 Laboratory Animal Care Building TAMU BLDG # 972 Energy Balance Plot during June 2017

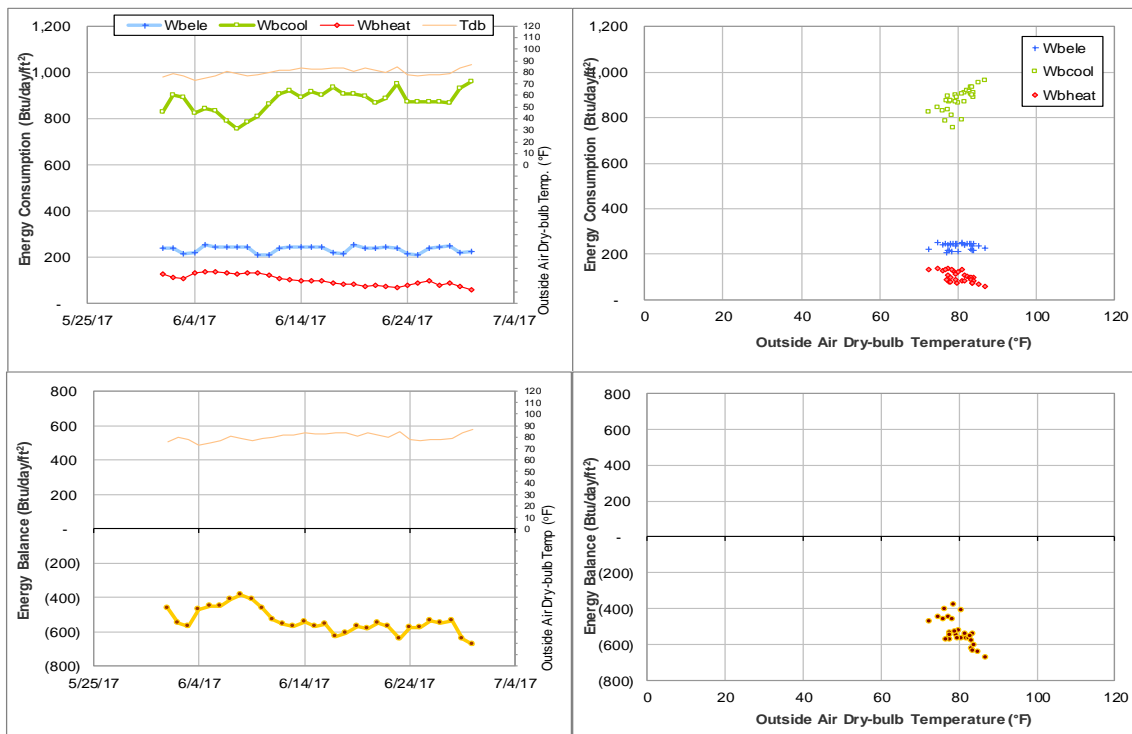


Figure IV-132 Vivarium III TAMU BLDG # 1020 Energy Balance Plot during June 2017

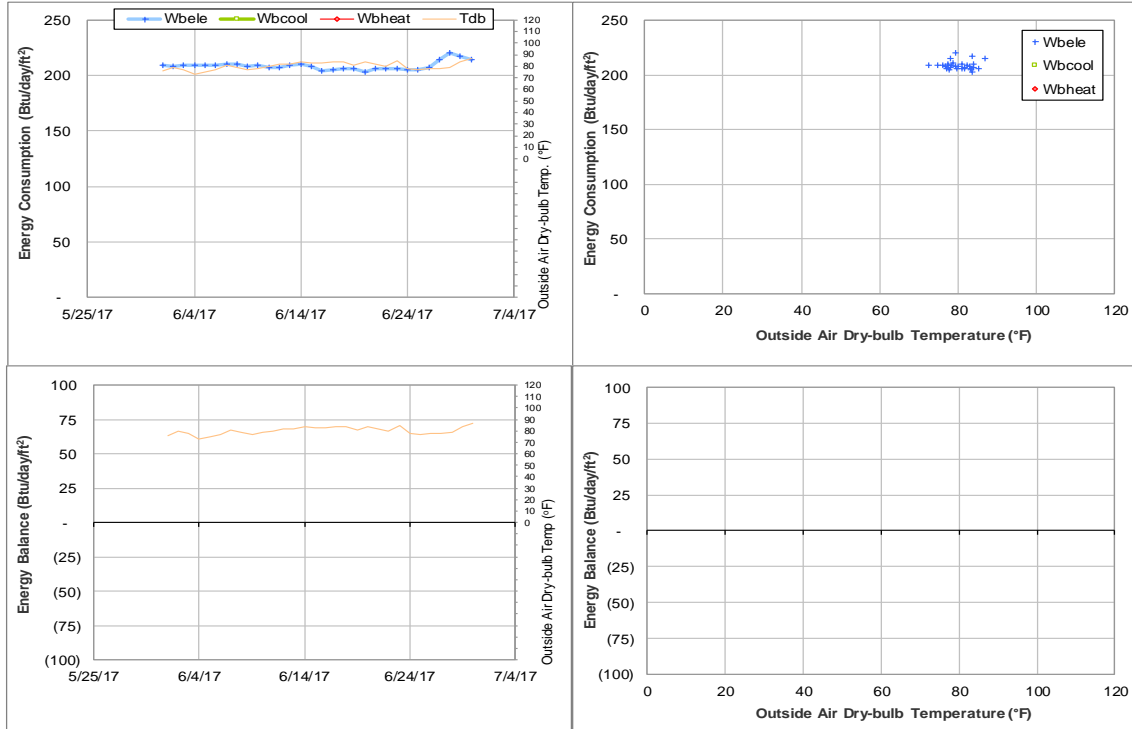


Figure IV-133 Texas Vet Med Diagnostic Lab TAMU BLDG # 1041 Energy Balance Plot during June 2017

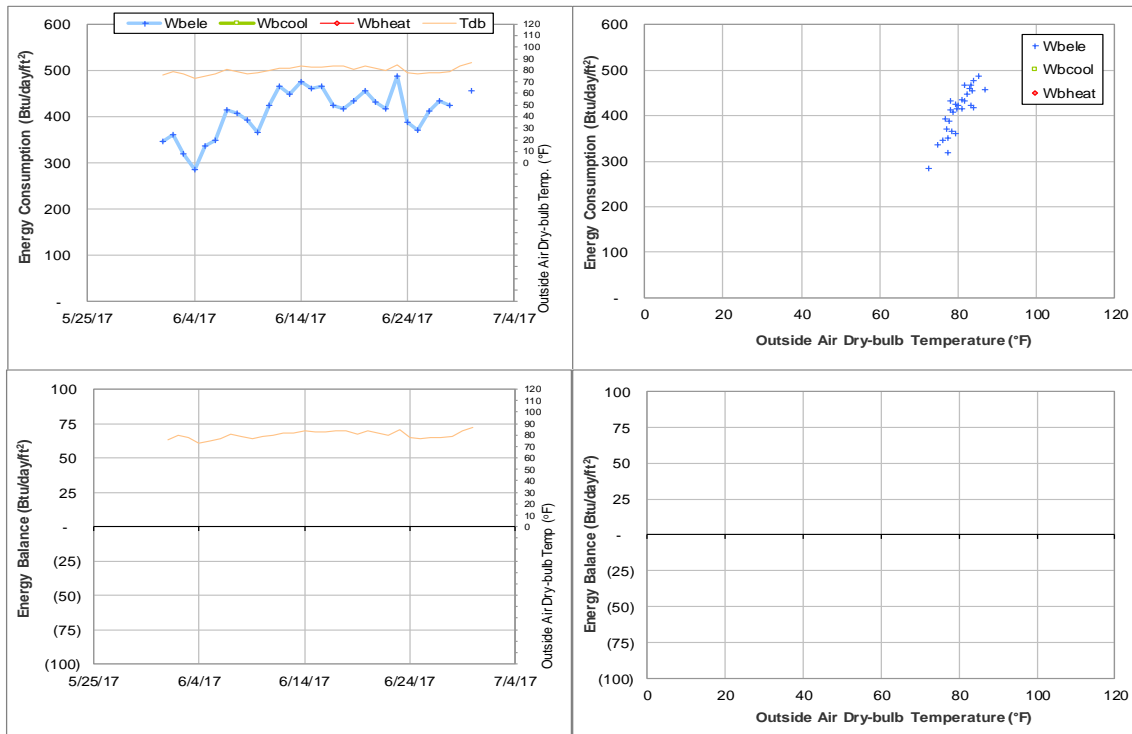


Figure IV-134 Forest Science Laboratory Building TAMU BLDG # 1042 Energy Balance Plot during June 2017

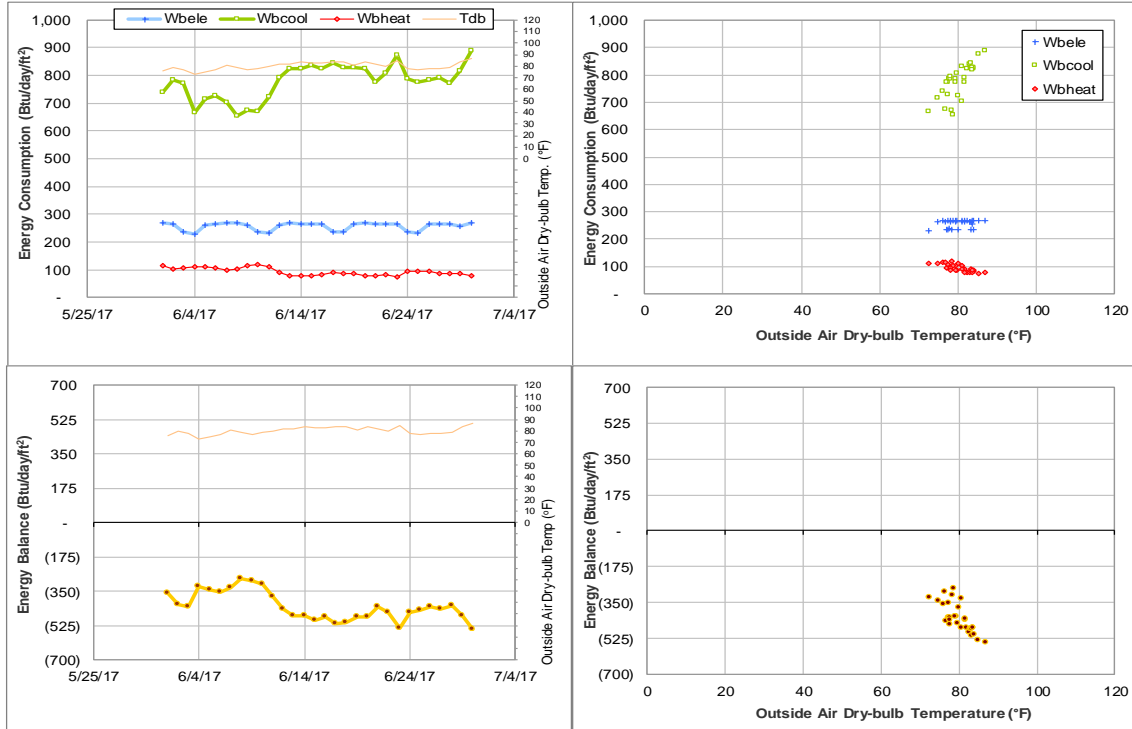


Figure IV-135 Veterinary Small Animal Hospital TAMU BLDG # 1085 Energy Balance Plot during June 2017

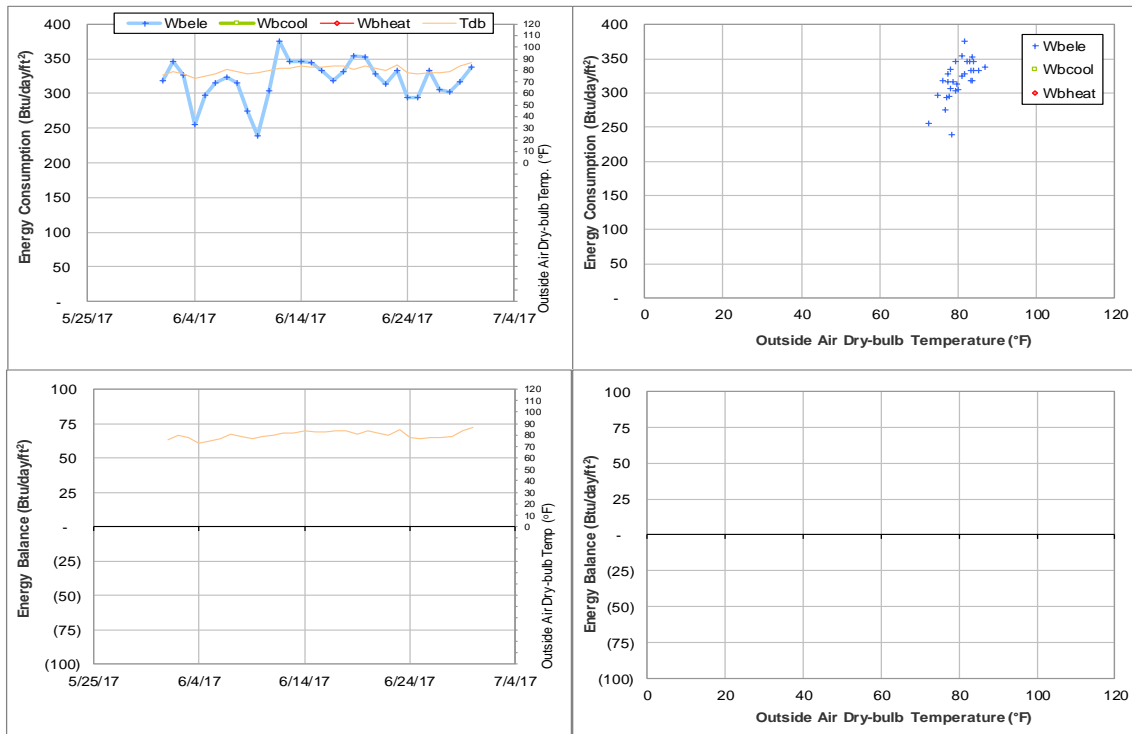


Figure IV-136 Utilities Energy Office Annex TAMU BLDG # 1089 Energy Balance Plot during June 2017

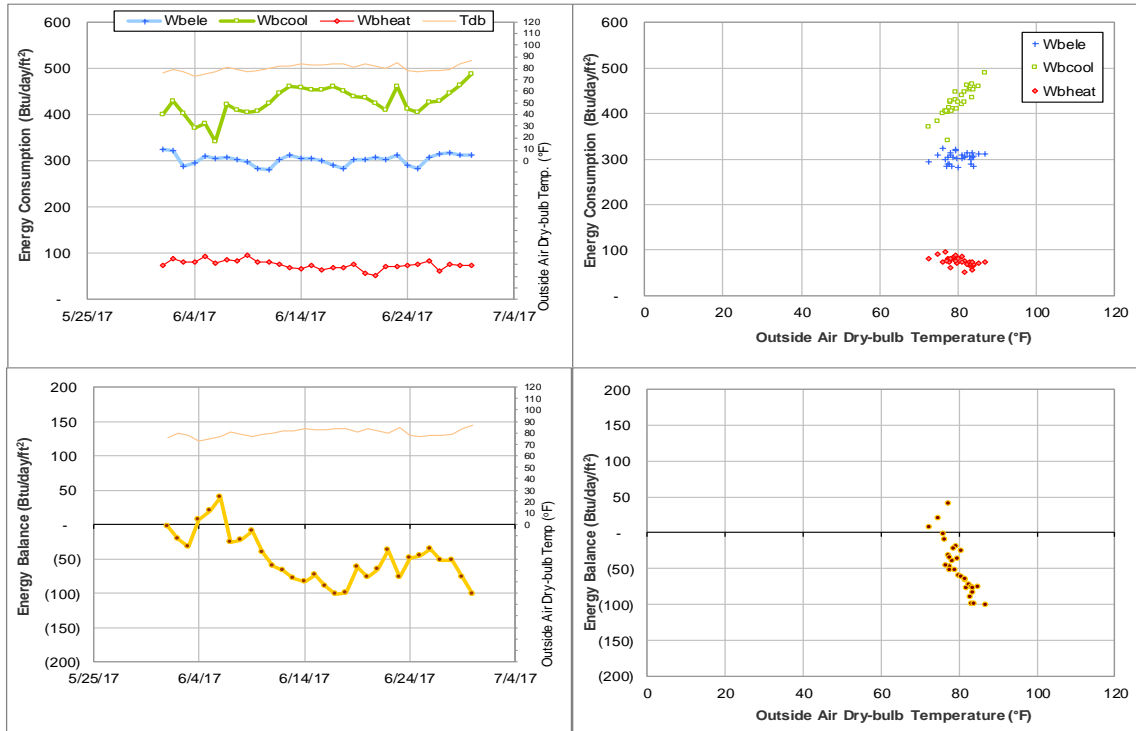


Figure IV-137 Biological Control Facility TAMU BLDG # 1146 Energy Balance Plot during June 2017

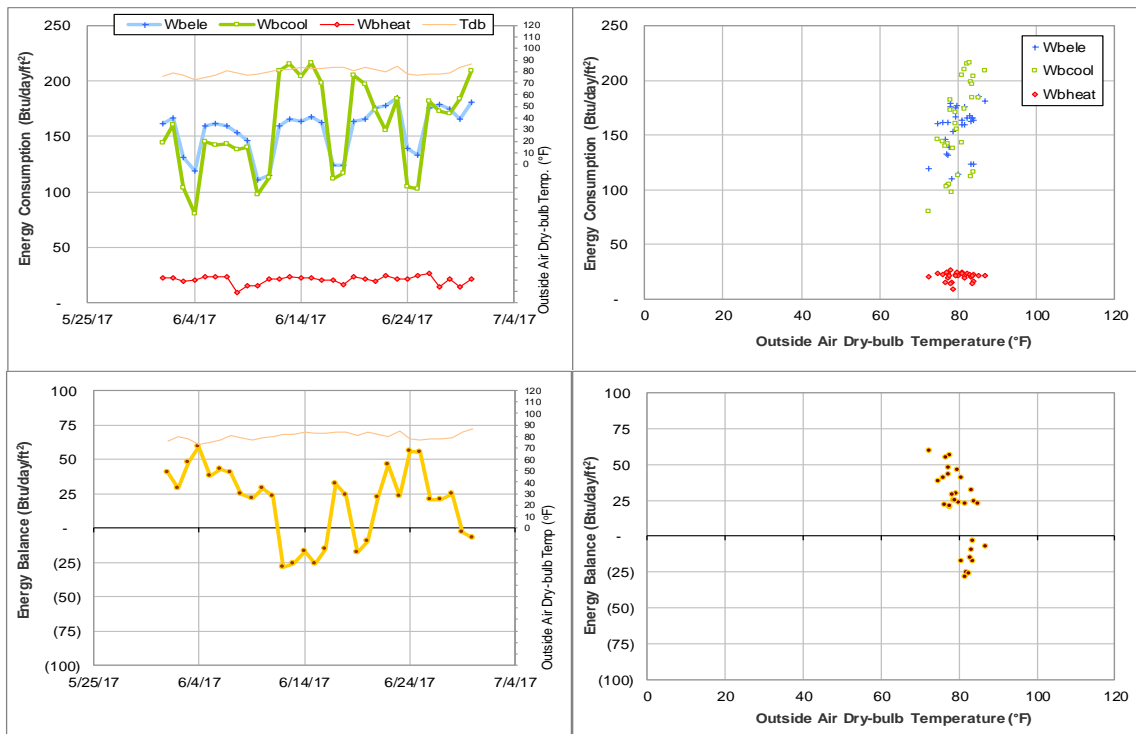


Figure IV-138 Physical Plant Administration & Shops TAMU BLDG # 1156 Energy Balance Plot during June 2017

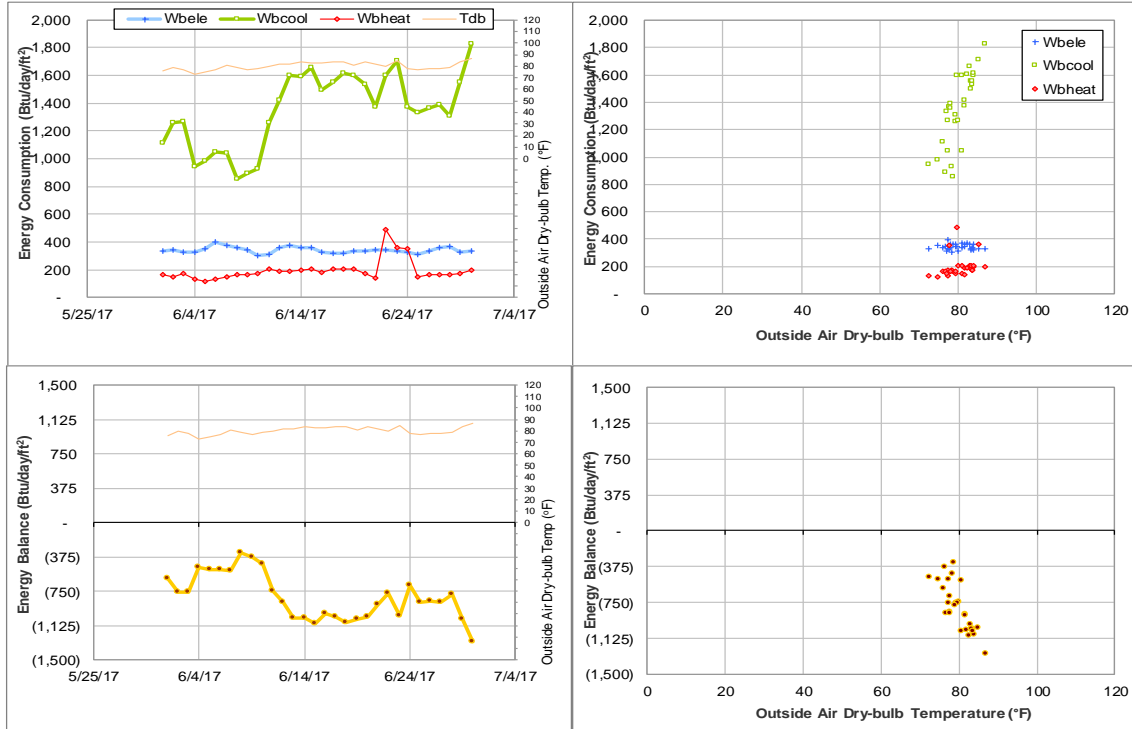


Figure IV-139 Veterinary Anatomic Pathology TAMU BLDG # 1184 Energy Balance Plot during June 2017

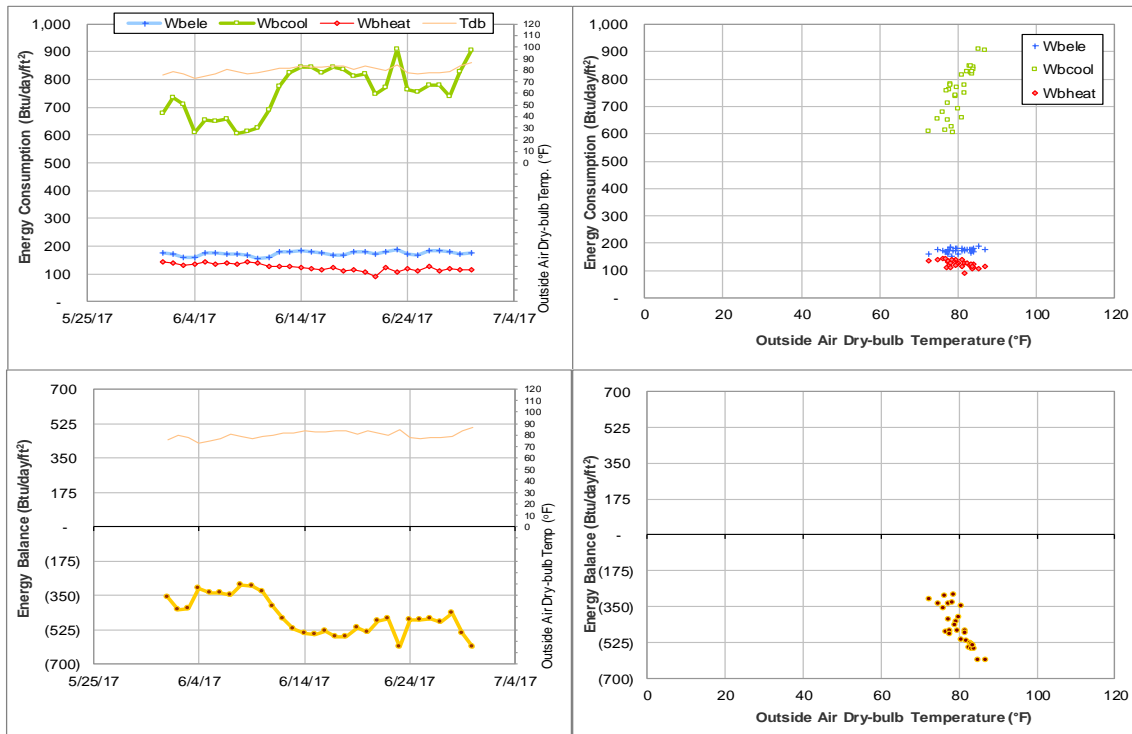


Figure IV-140 Veterinary Large Animal Hospital TAMU BLDG # 1194 Energy Balance Plot during June 2017

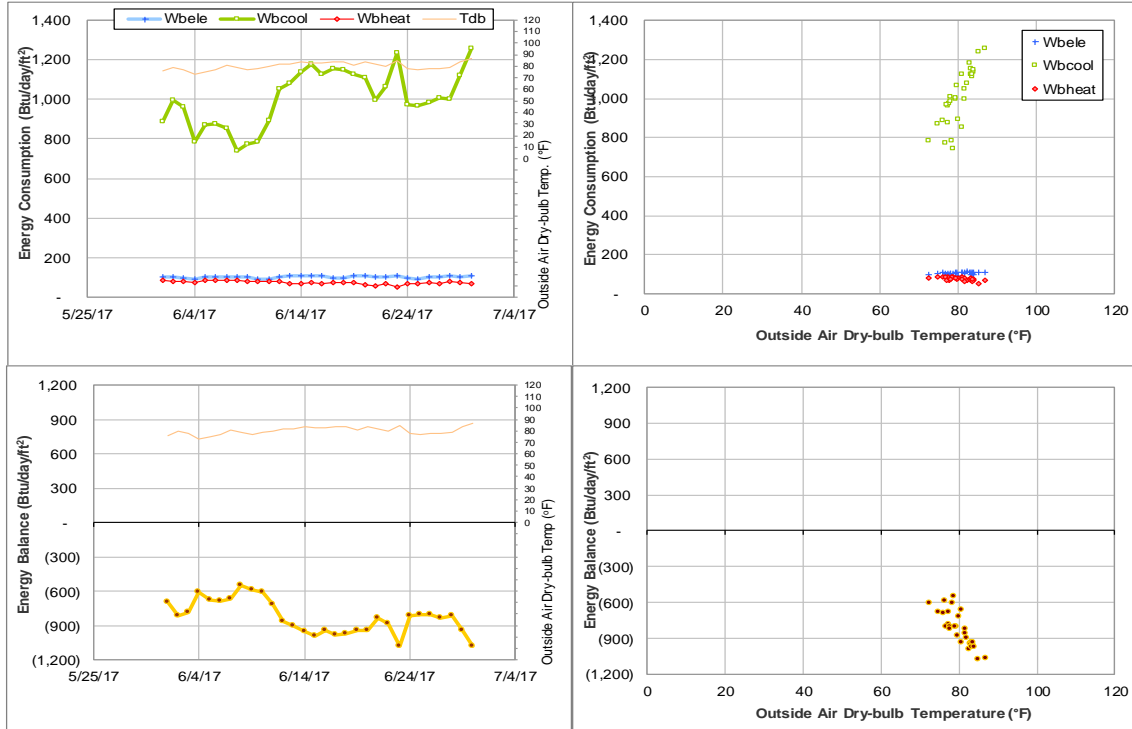


Figure IV-141 Veterinary Research Building TAMU BLDG # 1197 Energy Balance Plot during June 2017

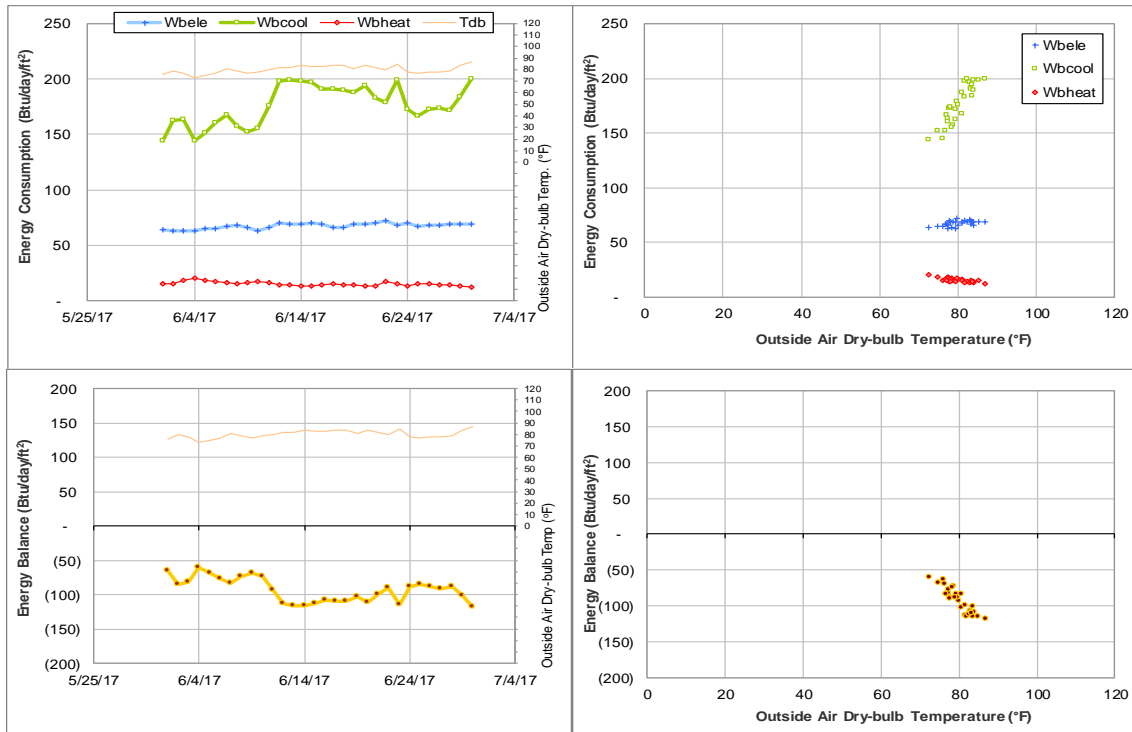


Figure IV-142 Hullabaloo Residence Hall TAMU BLDG # 1416 Energy Balance Plot during June 2017

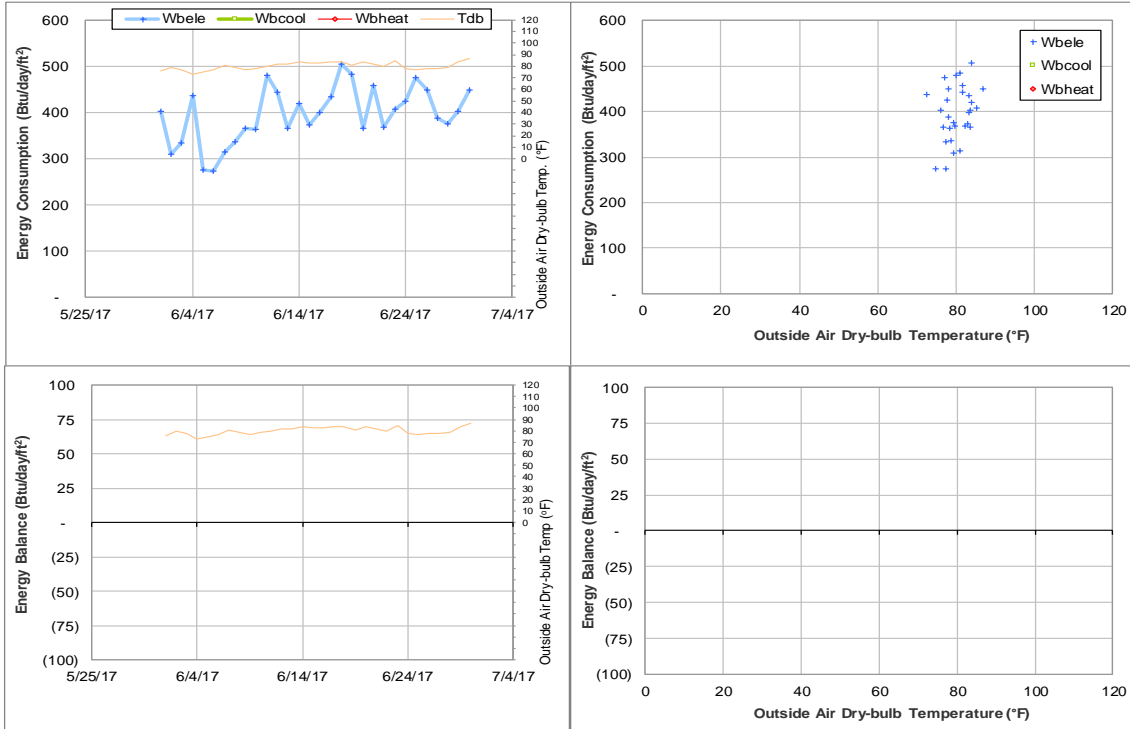


Figure IV-143 University Apartments - Laundry at the Gardens TAMU BLDG # 1450 Energy Balance Plot during June 2017

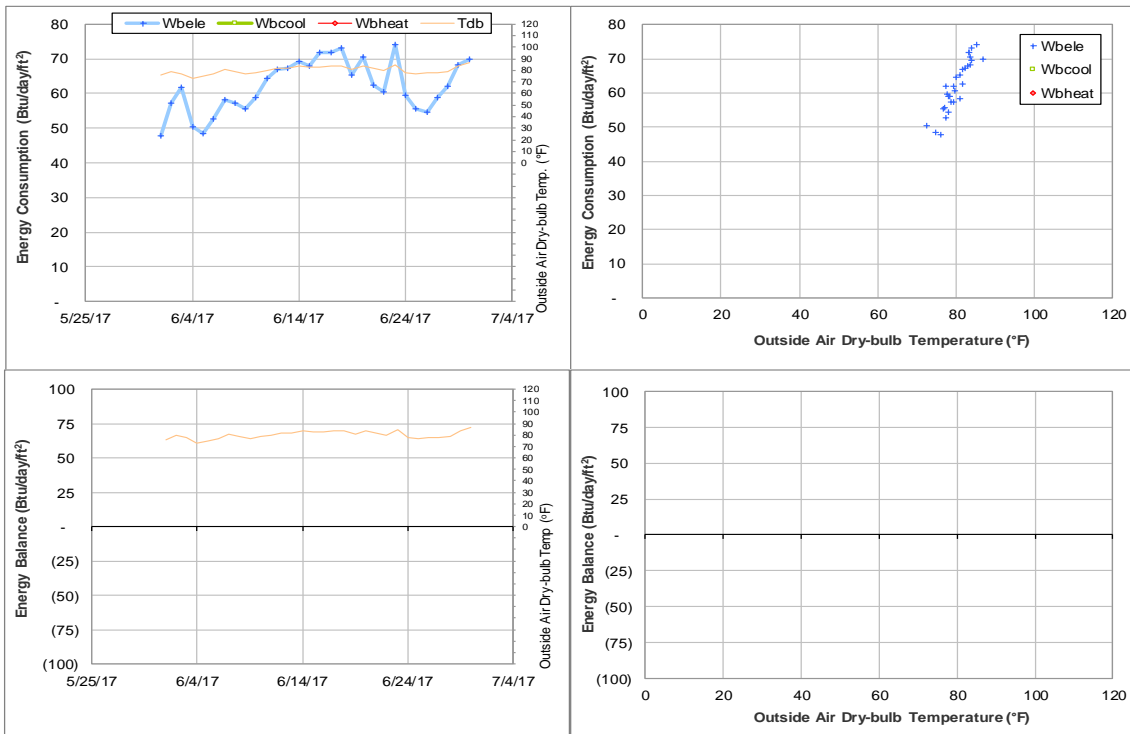


Figure IV-144 University Apartments - The Gardens J TAMU BLDG # 1451 Energy Balance Plot during June 2017

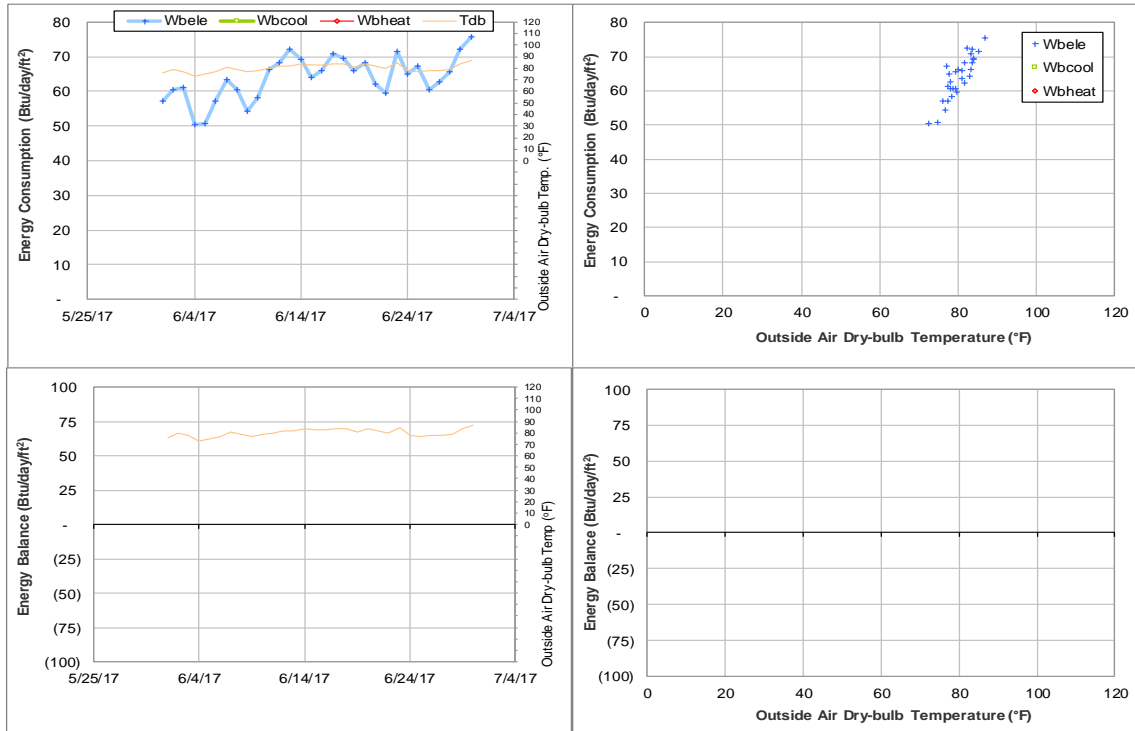


Figure IV-145 University Apartments - The Gardens K TAMU BLDG # 1452 Energy Balance Plot during June 2017

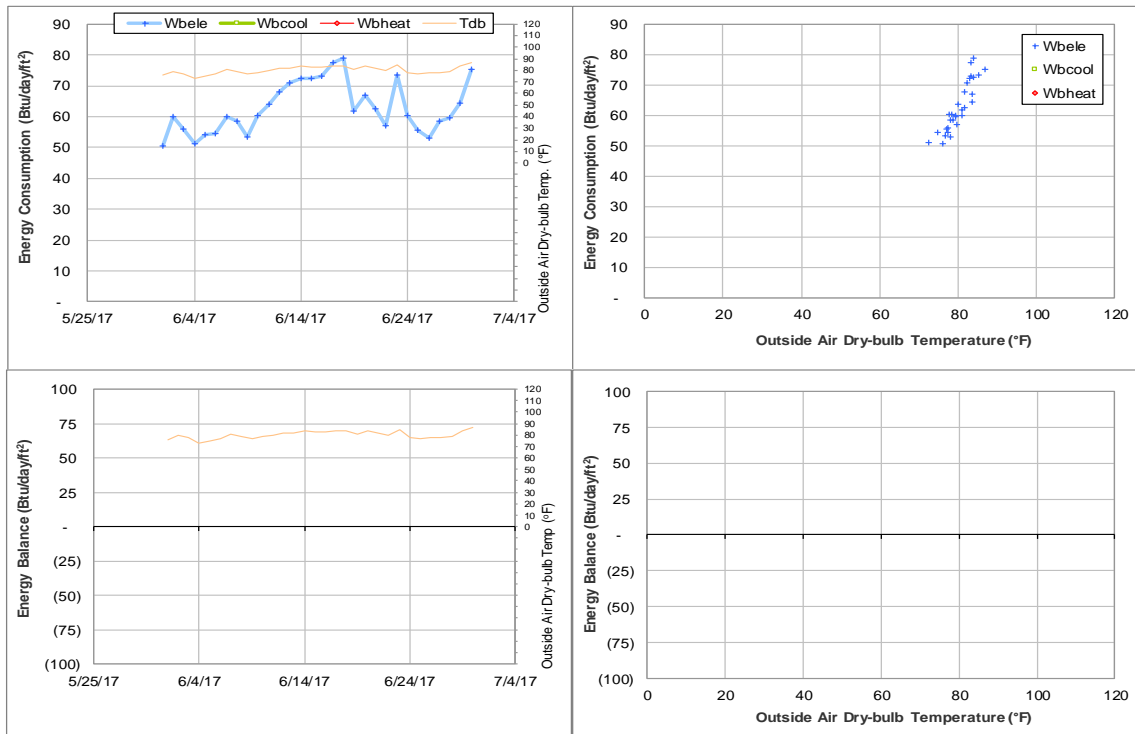


Figure IV-146 University Apartments - The Gardens L TAMU BLDG # 1453 Energy Balance Plot during June 2017

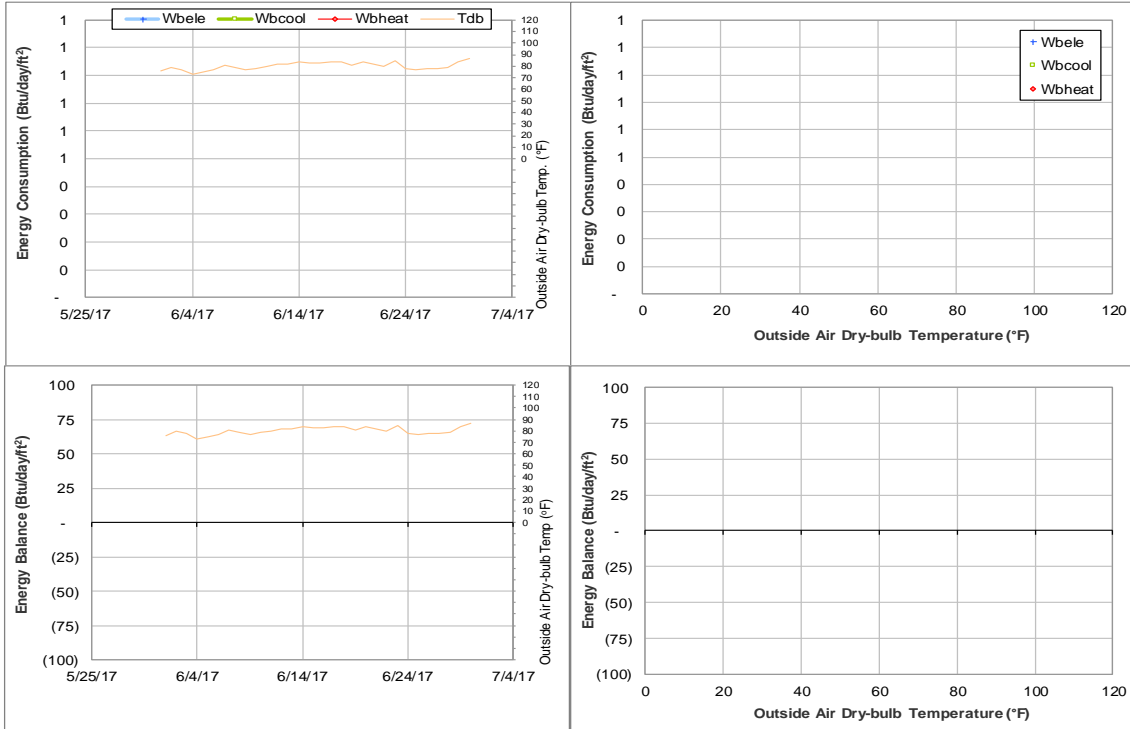


Figure IV-147 University Apartments - The Gardens F TAMU BLDG # 1454 Energy Balance Plot during June 2017

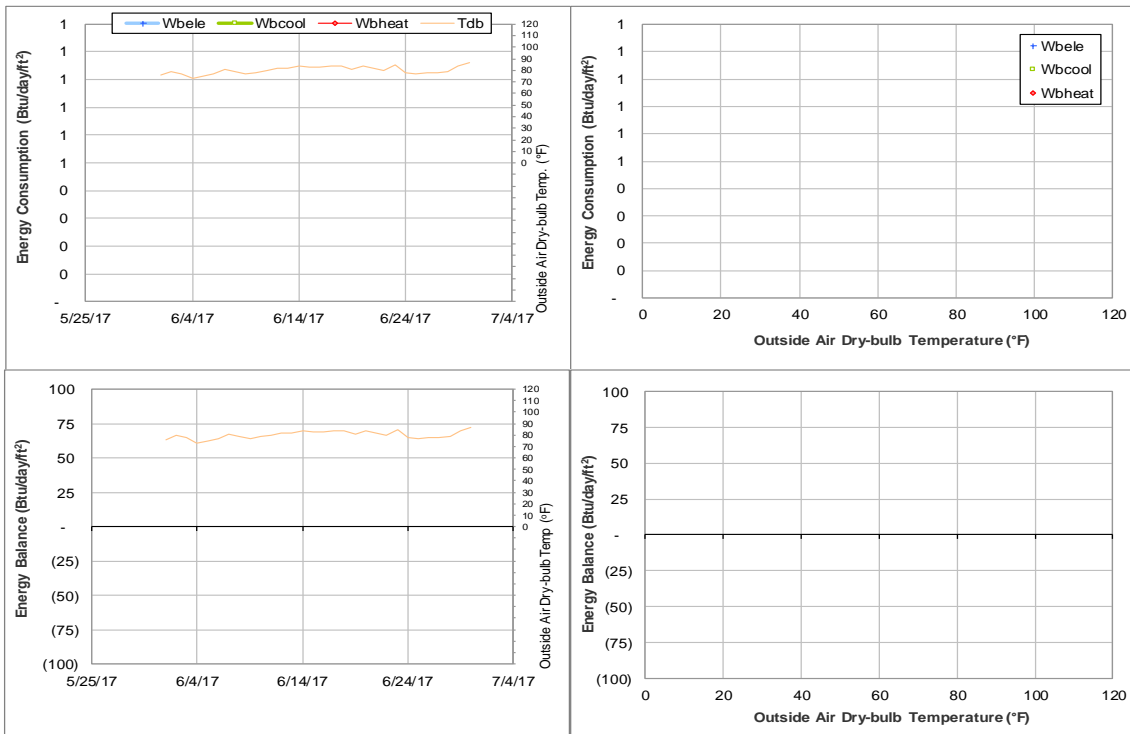


Figure IV-148 University Apartments - The Gardens G TAMU BLDG # 1455 Energy Balance Plot during June 2017

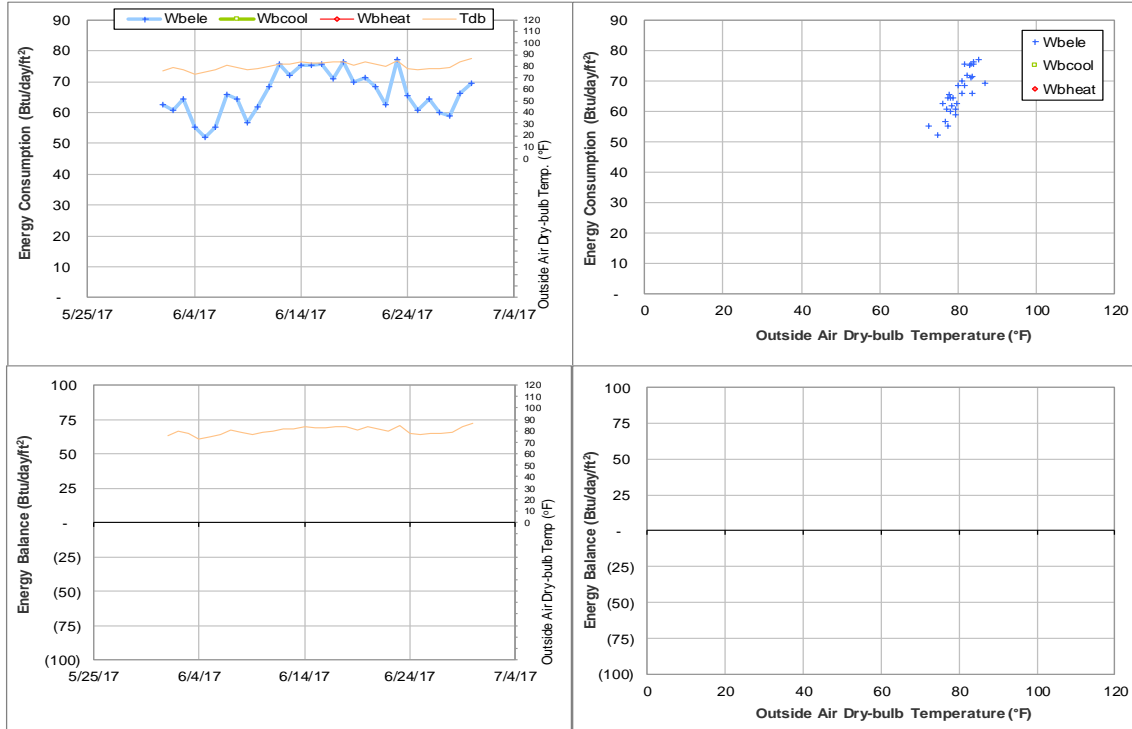


Figure IV-149 University Apartments - The Gardens H TAMU BLDG # 1456 Energy Balance Plot during June 2017

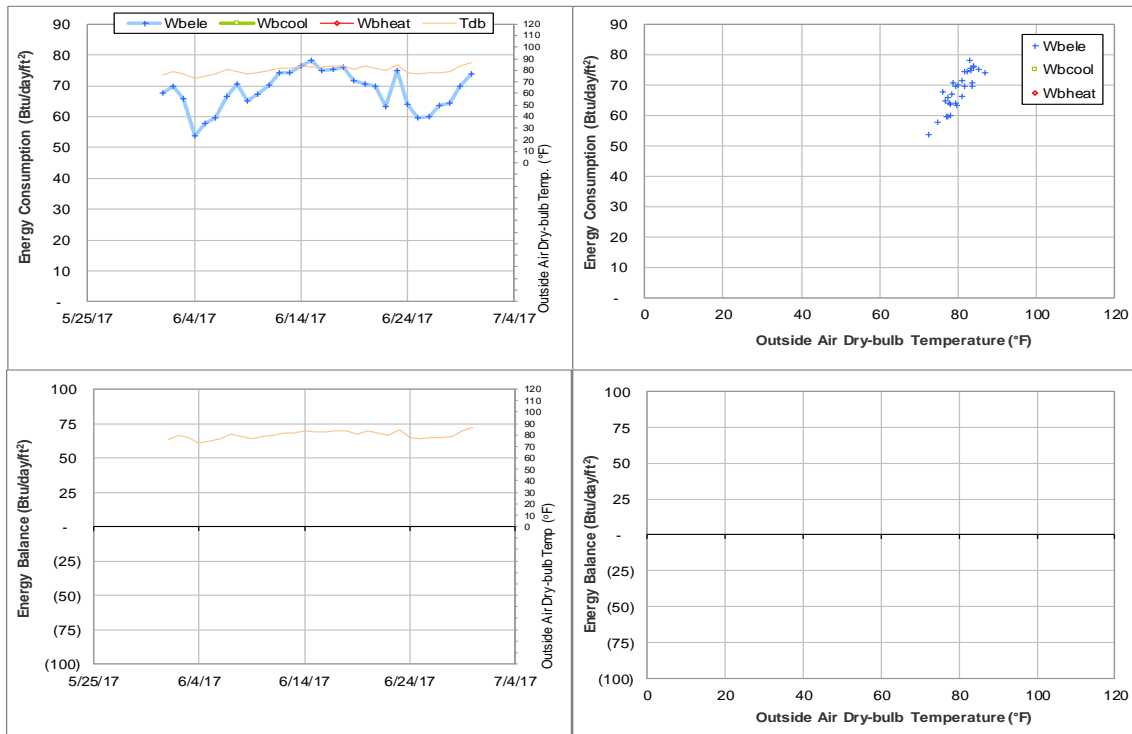


Figure IV-150 University Apartments - The Gardens M TAMU BLDG # 1457 Energy Balance Plot during June 2017

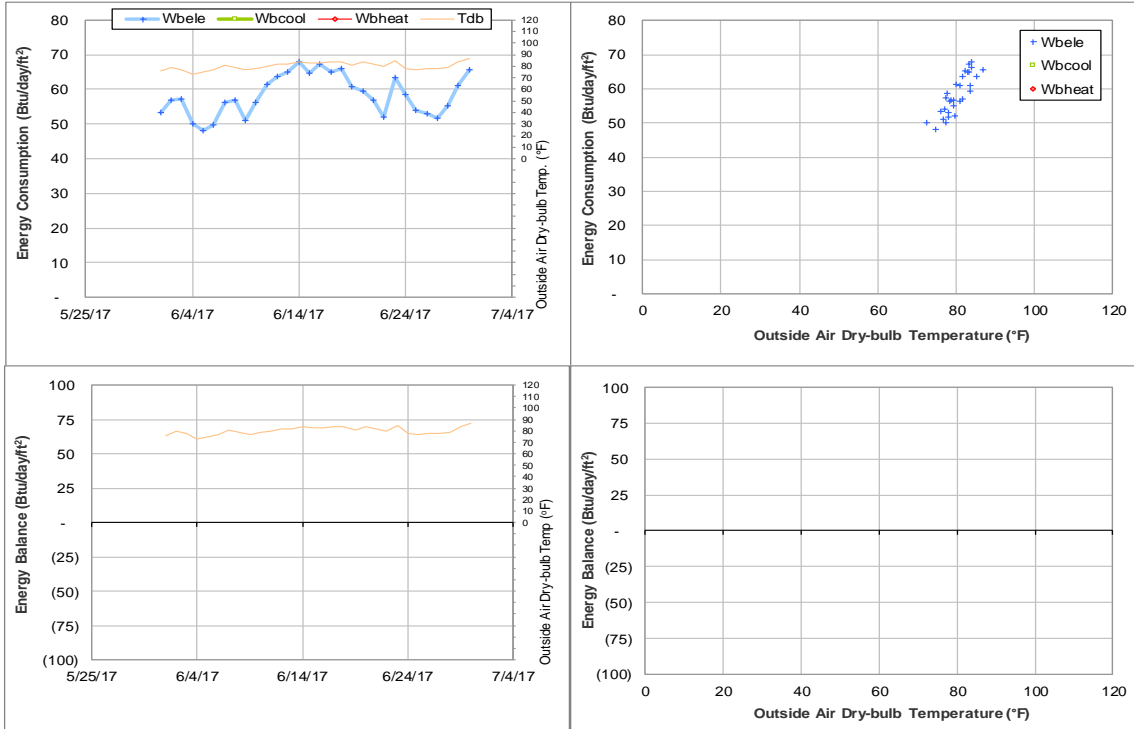


Figure IV-151 University Apartments - The Gardens N TAMU BLDG # 1458 Energy Balance Plot during June 2017

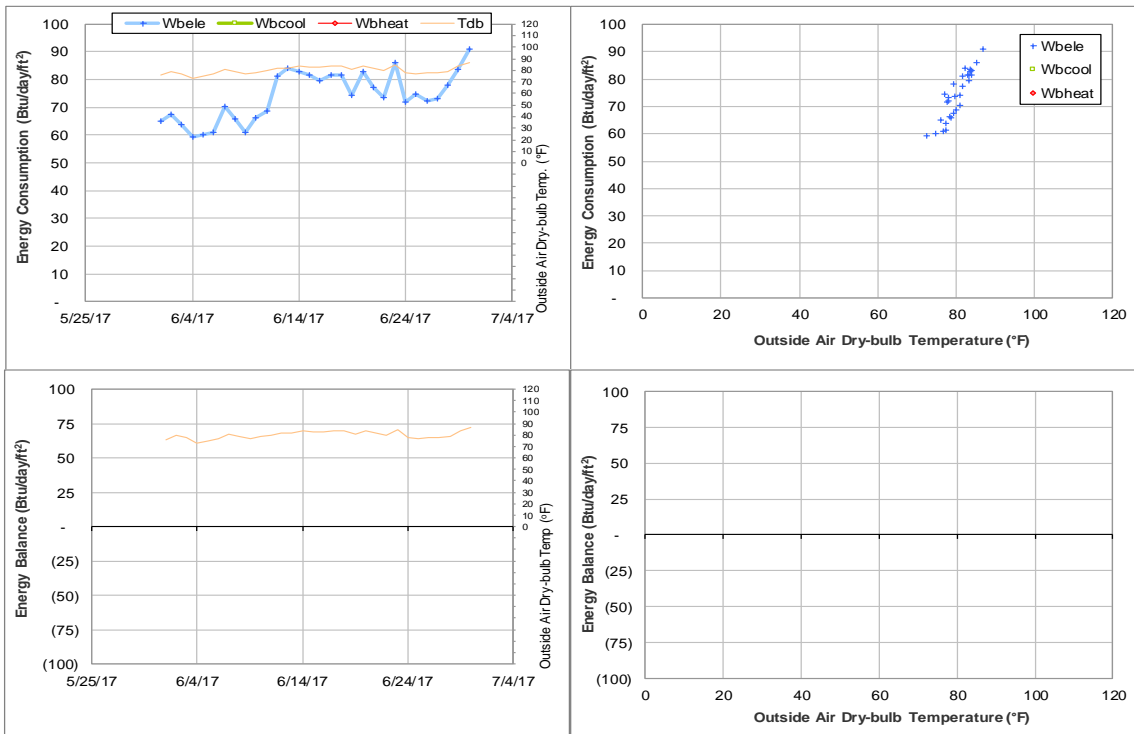


Figure IV-152 University Apartments - The Gardens P TAMU BLDG # 1459 Energy Balance Plot during June 2017

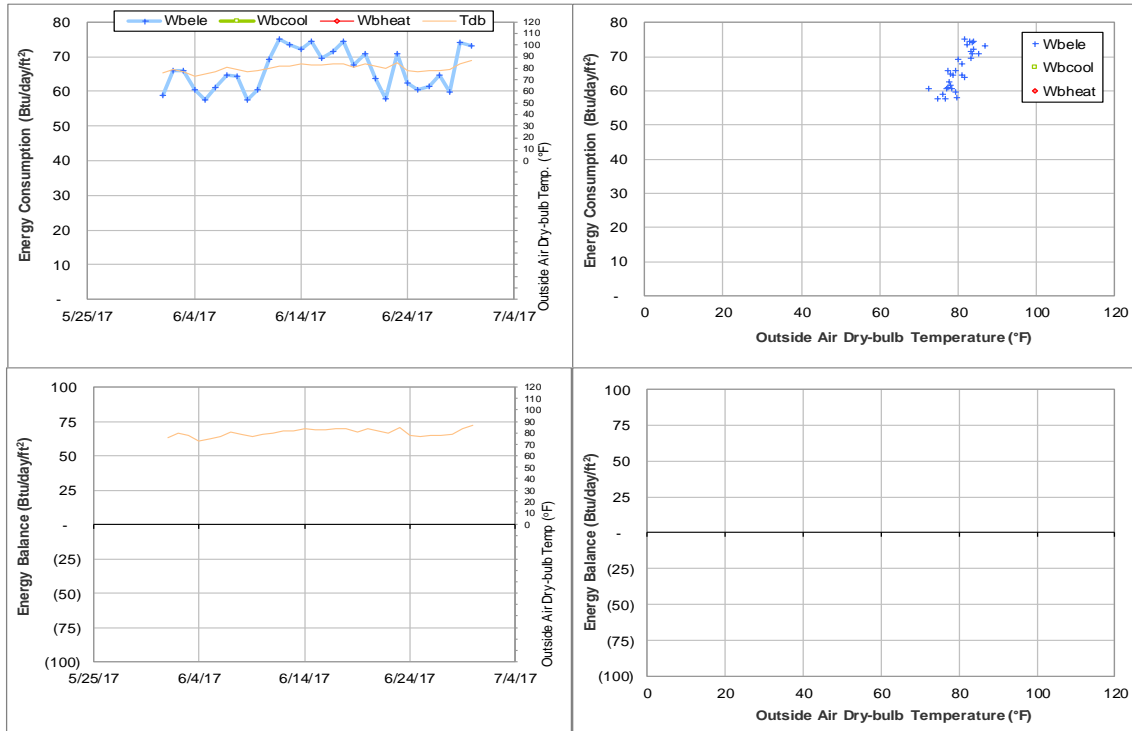


Figure IV-153 University Apartments - The Gardens Q TAMU BLDG # 1460 Energy Balance Plot during June 2017

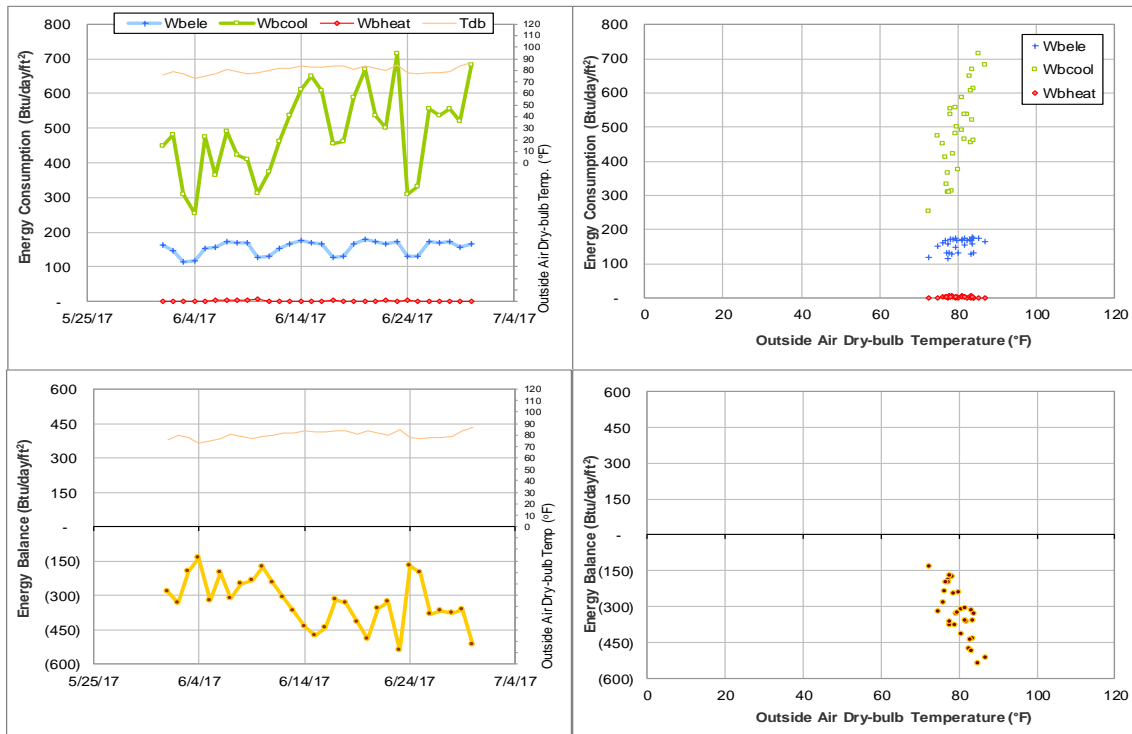


Figure IV-154 Utilities & Energy Services Business Office TAMU BLDG # 1497 Energy Balance Plot during June 2017

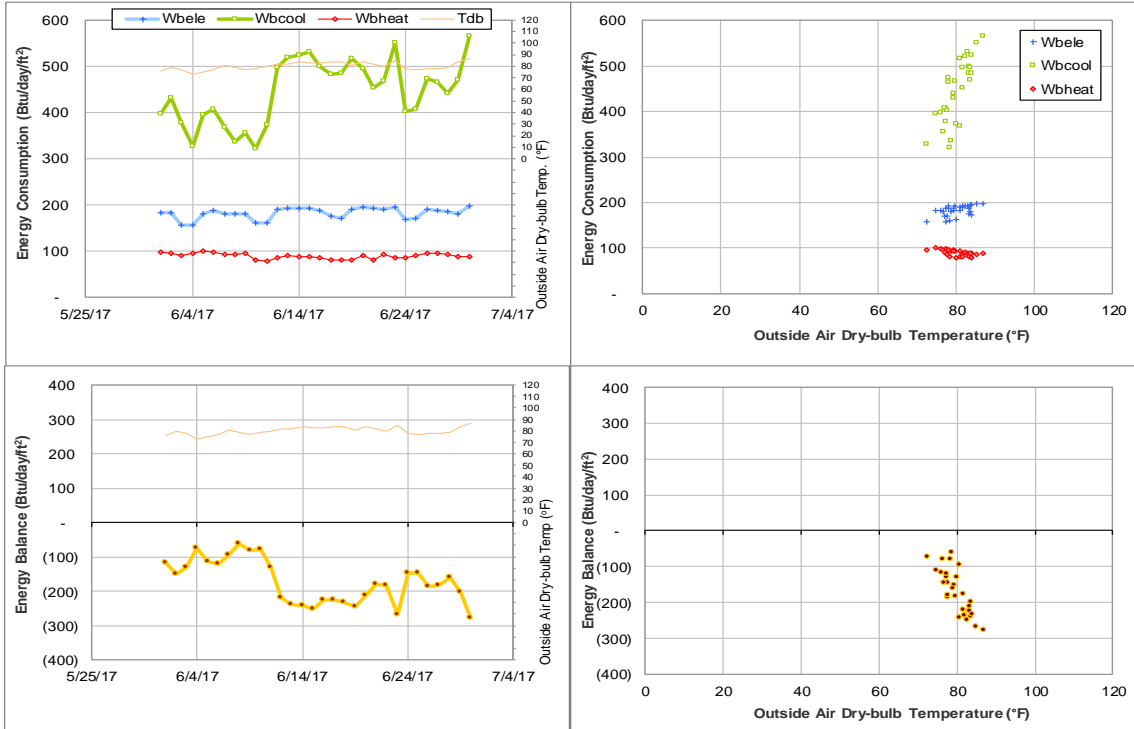


Figure IV-155 Kleberg Center TAMU BLDG # 1501 Energy Balance Plot during June 2017

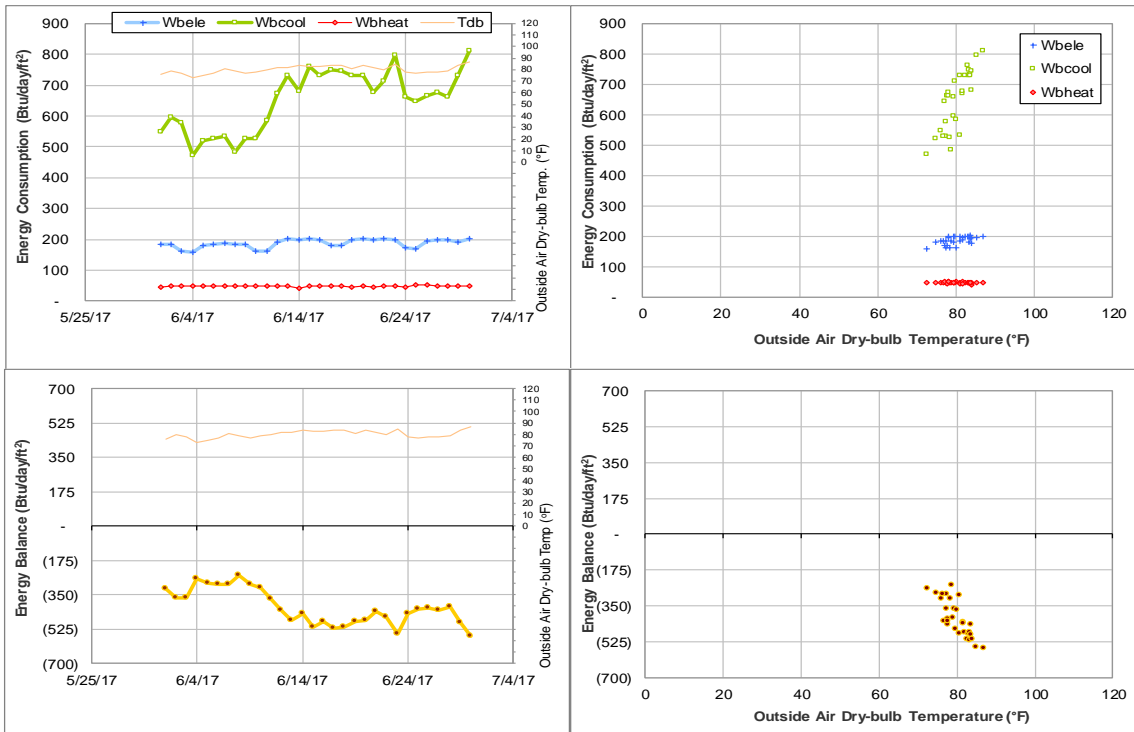


Figure IV-156 Heep Center TAMU BLDG # 1502 Energy Balance Plot during June 2017

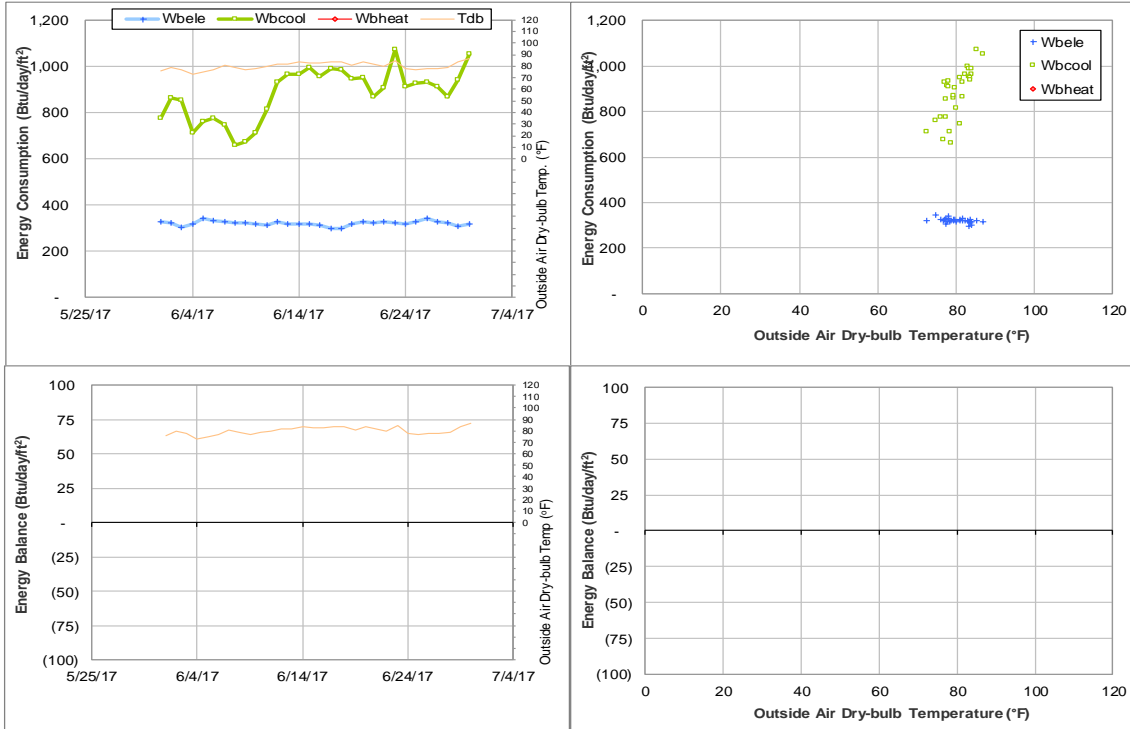


Figure IV-157 Cater-Mattil Hall TAMU BLDG # 1503 Energy Balance Plot during June 2017

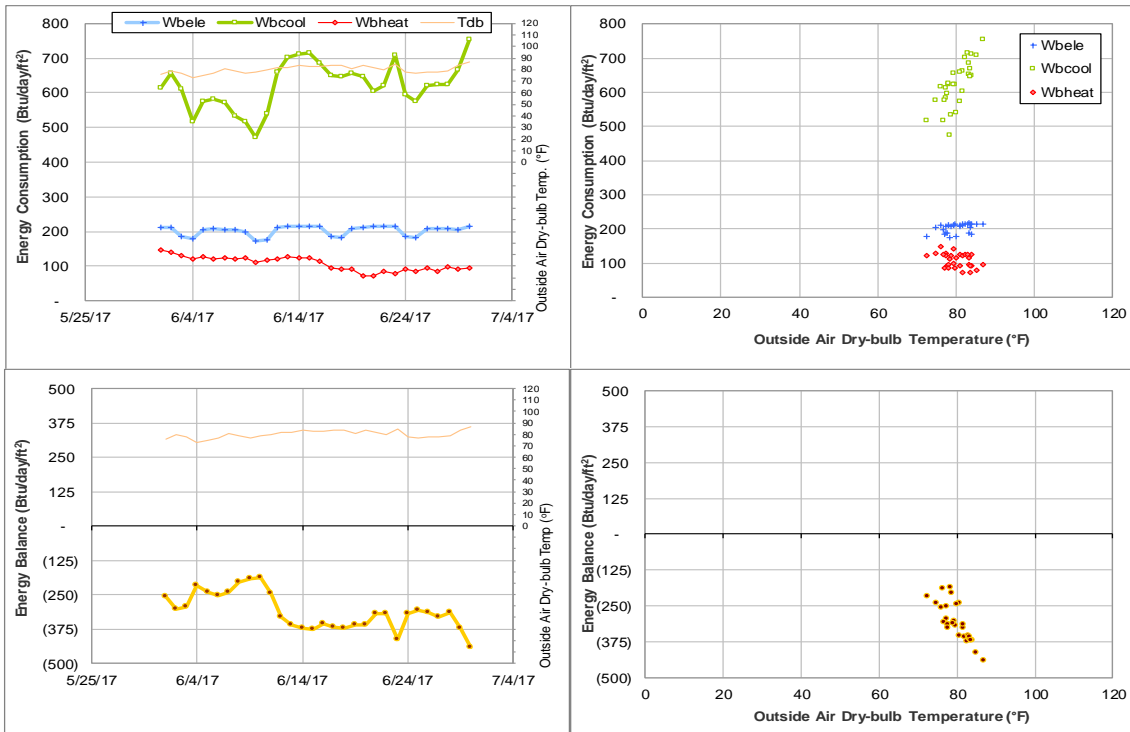


Figure IV-158 Reynolds Medical Sciences Building TAMU BLDG # 1504 Energy Balance Plot during June 2017

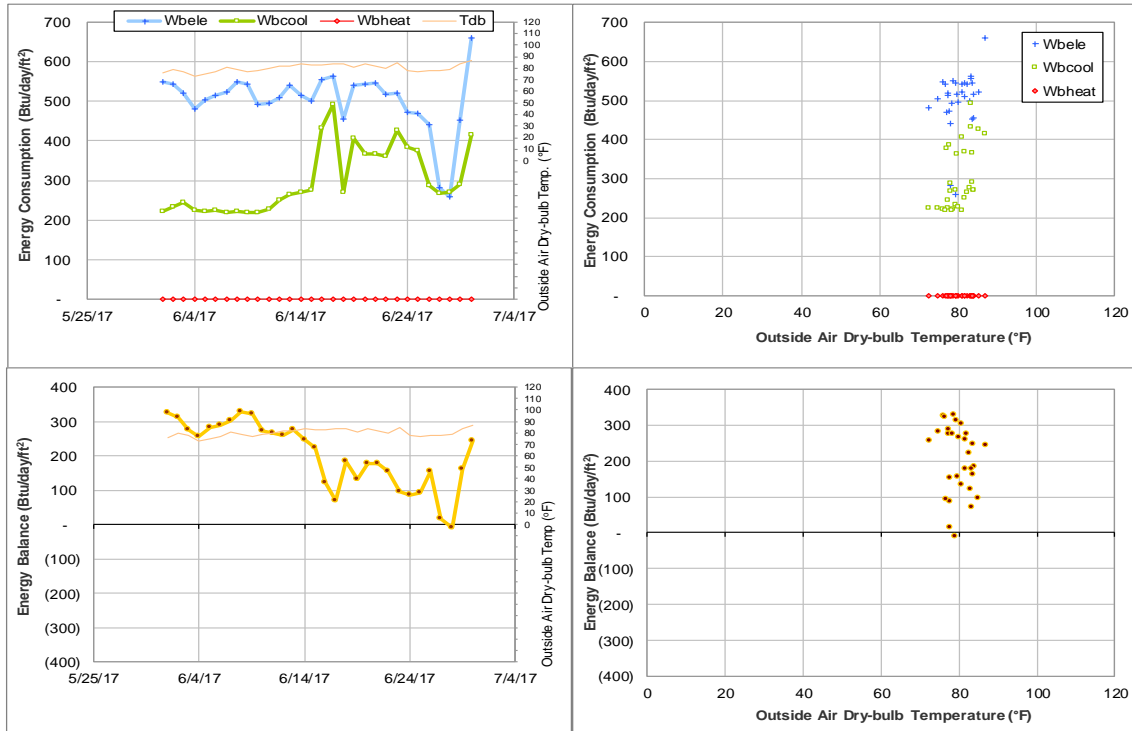


Figure IV-159 Rosenthal Meat Science & Technology Center TAMU BLDG # 1505 Energy Balance Plot during June 2017

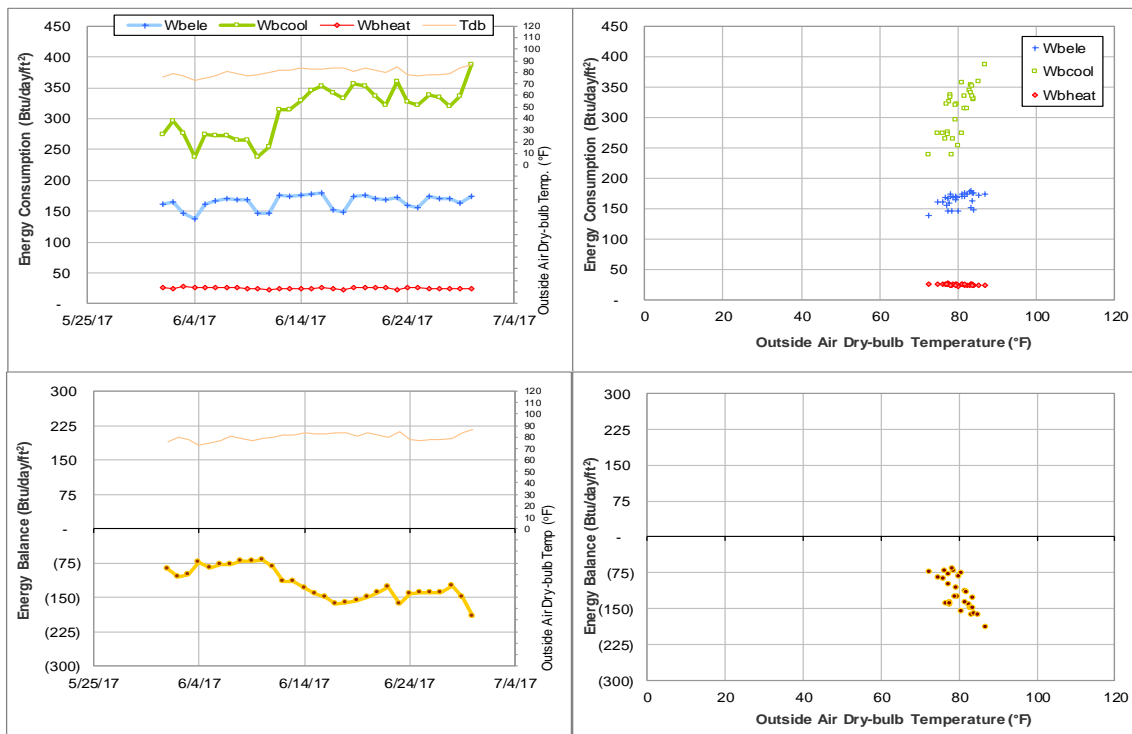


Figure IV-160 Horticulture-Forest Science Building TAMU BLDG # 1506 Energy Balance Plot during June 2017

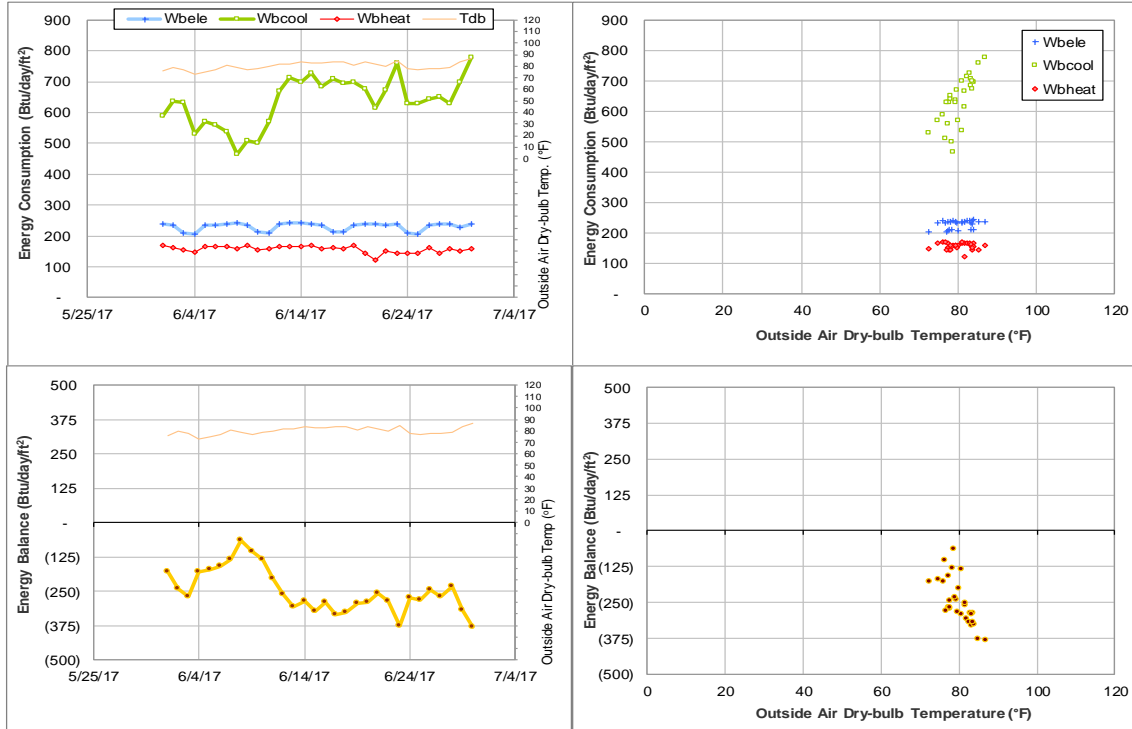


Figure IV-161 Biochemistry-Biophysics Building TAMU BLDG # 1507 Energy Balance Plot during June 2017

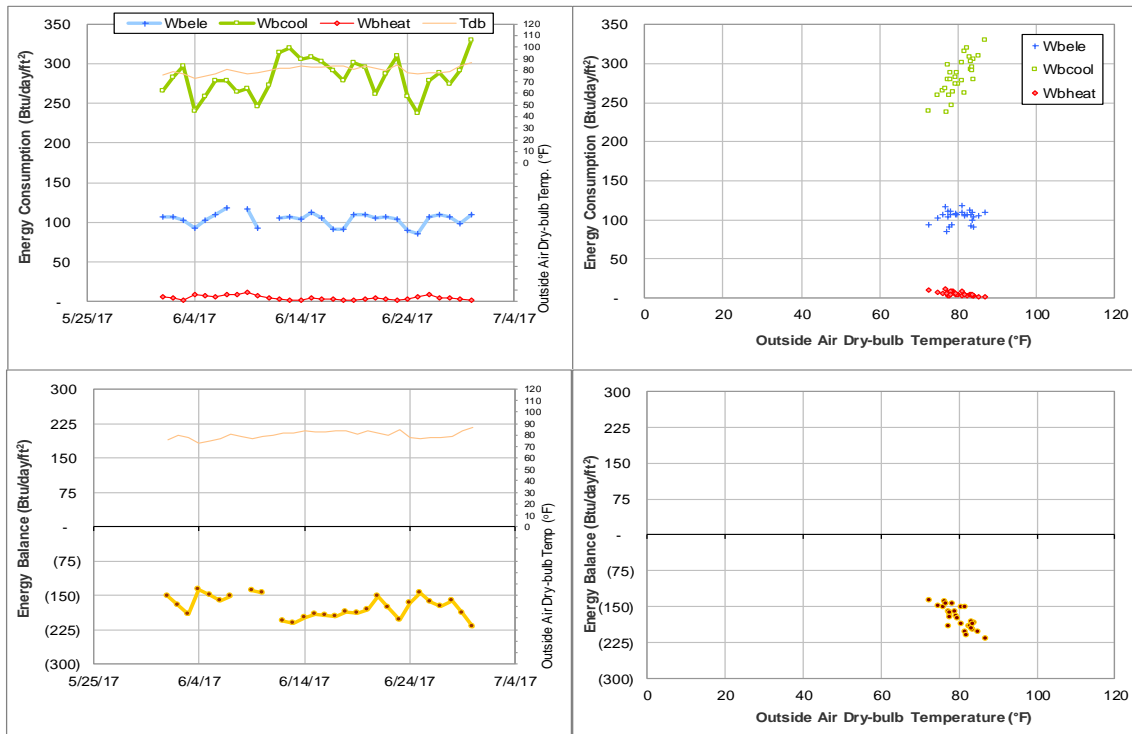


Figure IV-162 Price Hobgood Ag. Engineering Research Lab TAMU BLDG # 1508 Energy Balance Plot during June 2017

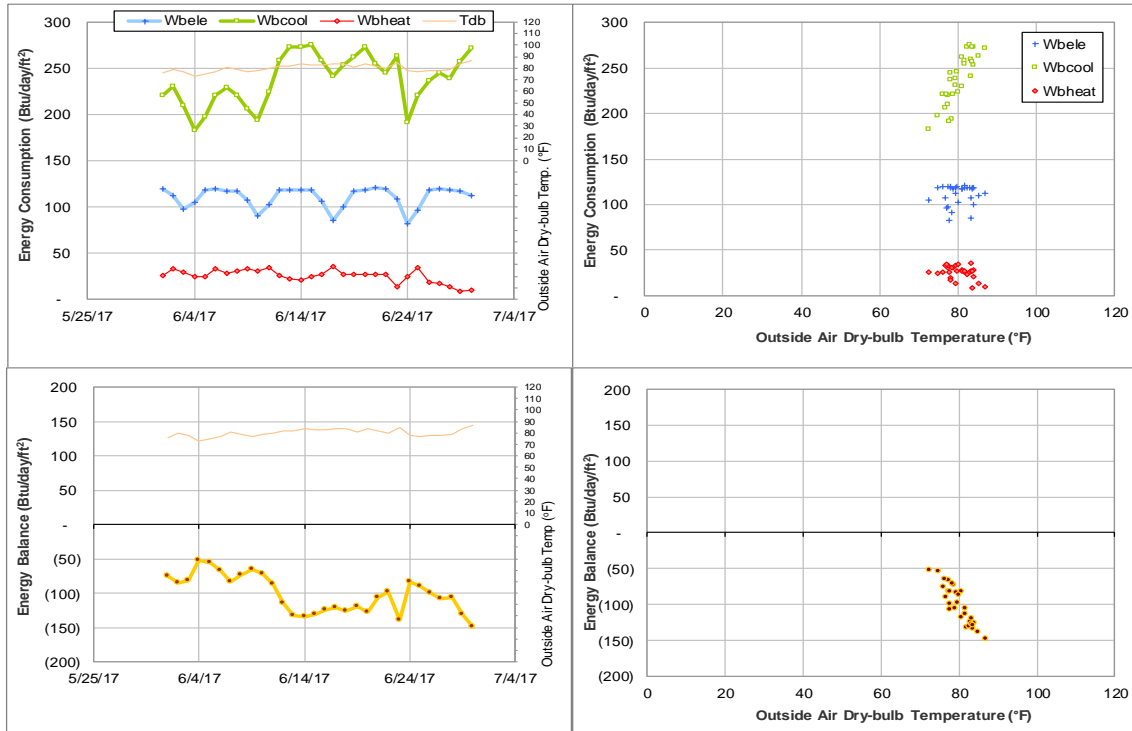


Figure IV-163 Medical Sciences Library TAMU BLDG # 1509 Energy Balance Plot during June 2017

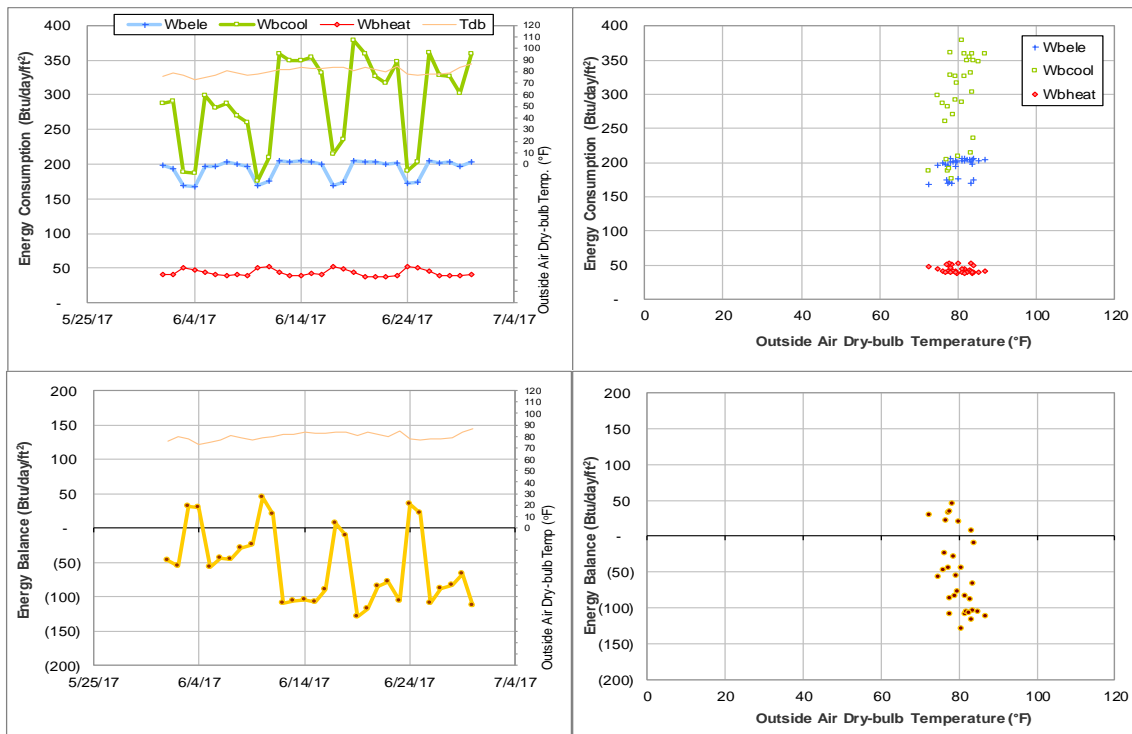


Figure IV-164 Wehner Building TAMU BLDG # 1510 Energy Balance Plot during June 2017

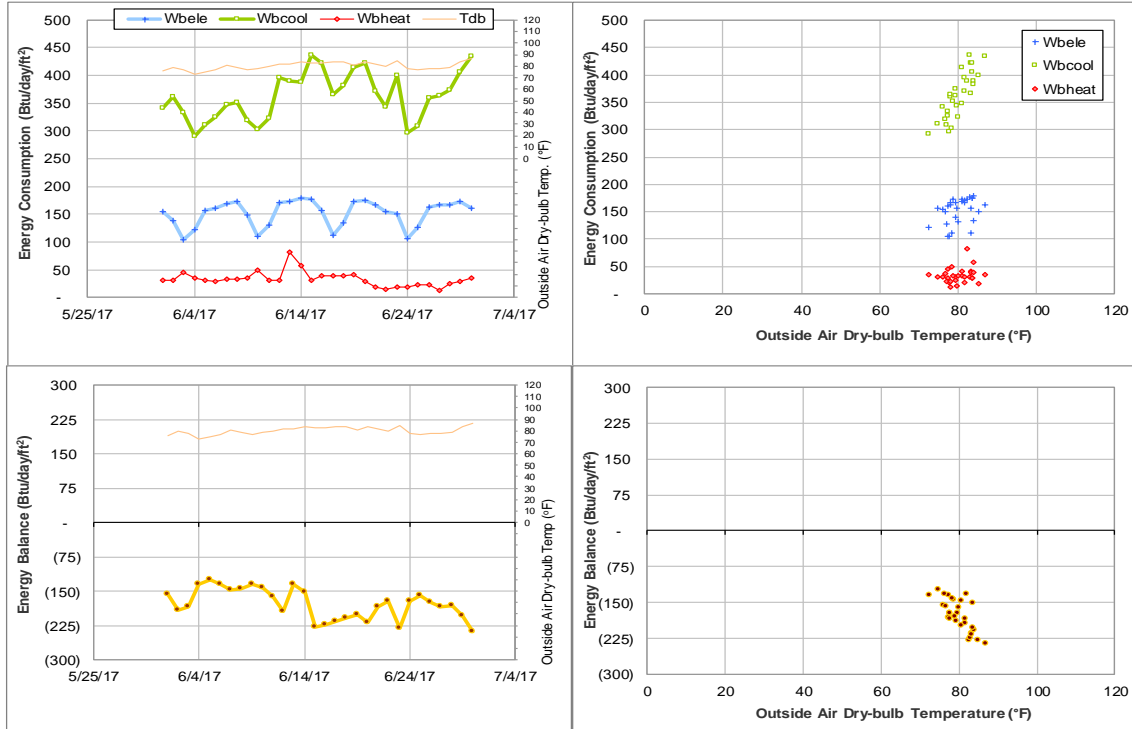


Figure IV-165 West Campus Library Facility TAMU BLDG # 1511 Energy Balance Plot during June 2017

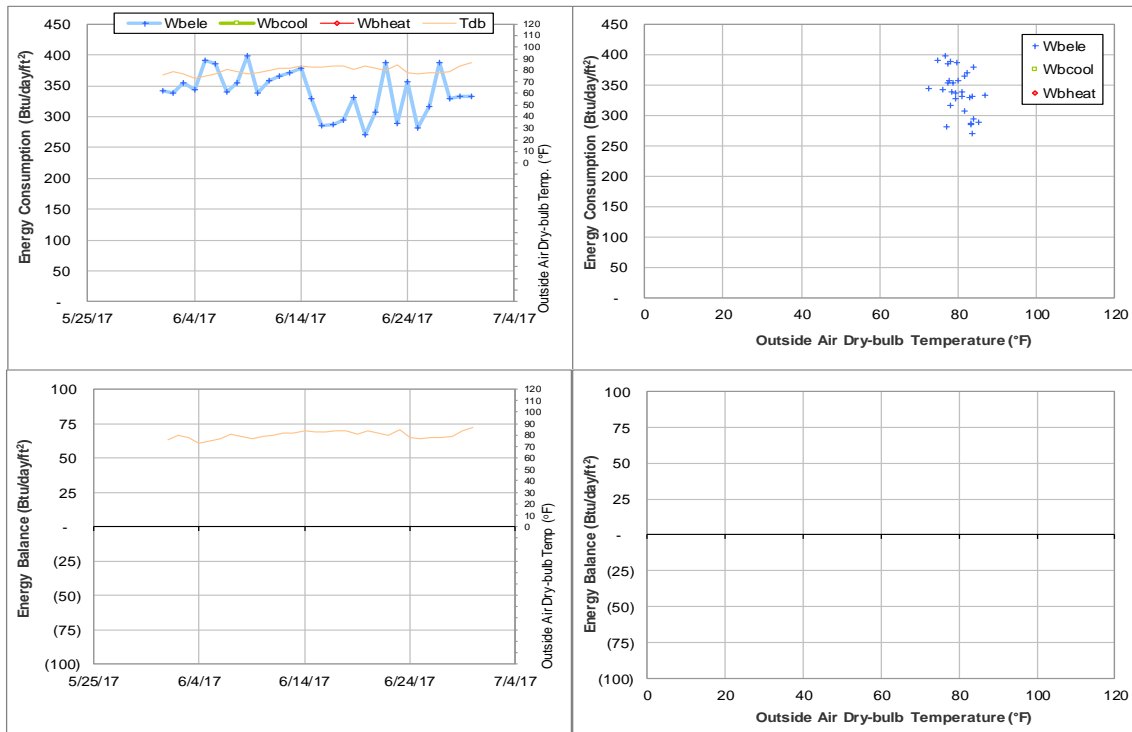


Figure IV-166 Southern Crop Improvement Greenhouse TAMU BLDG # 1512 Energy Balance Plot during June 2017

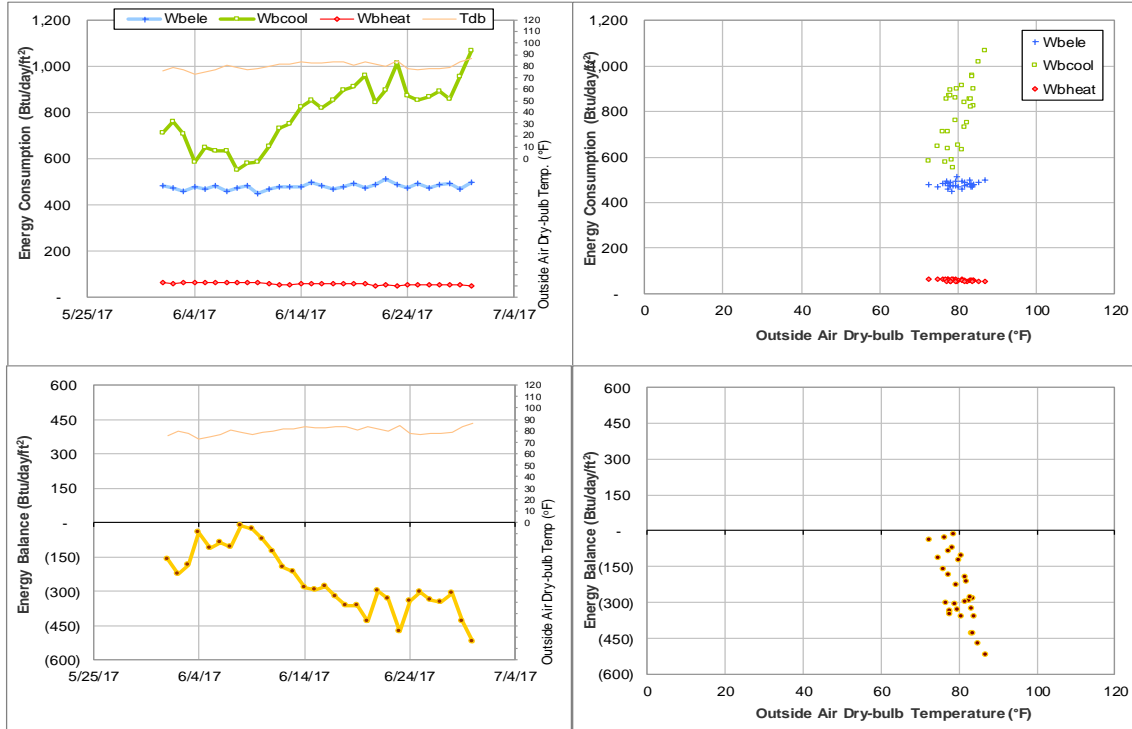


Figure IV-167 Borlaug Center for Southern Crop Improvement TAMU BLDG # 1513 Energy Balance Plot during June 2017

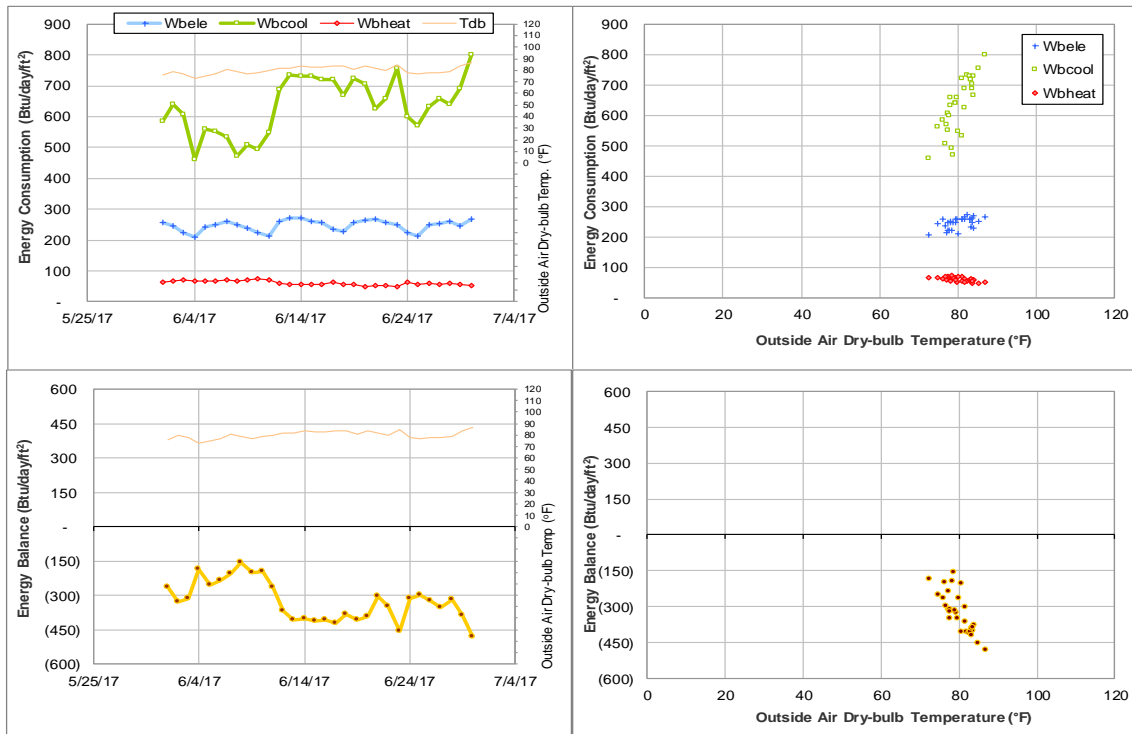


Figure IV-168 TX School of Rural Public Health TAMU BLDG # 1518 Energy Balance Plot during June 2017

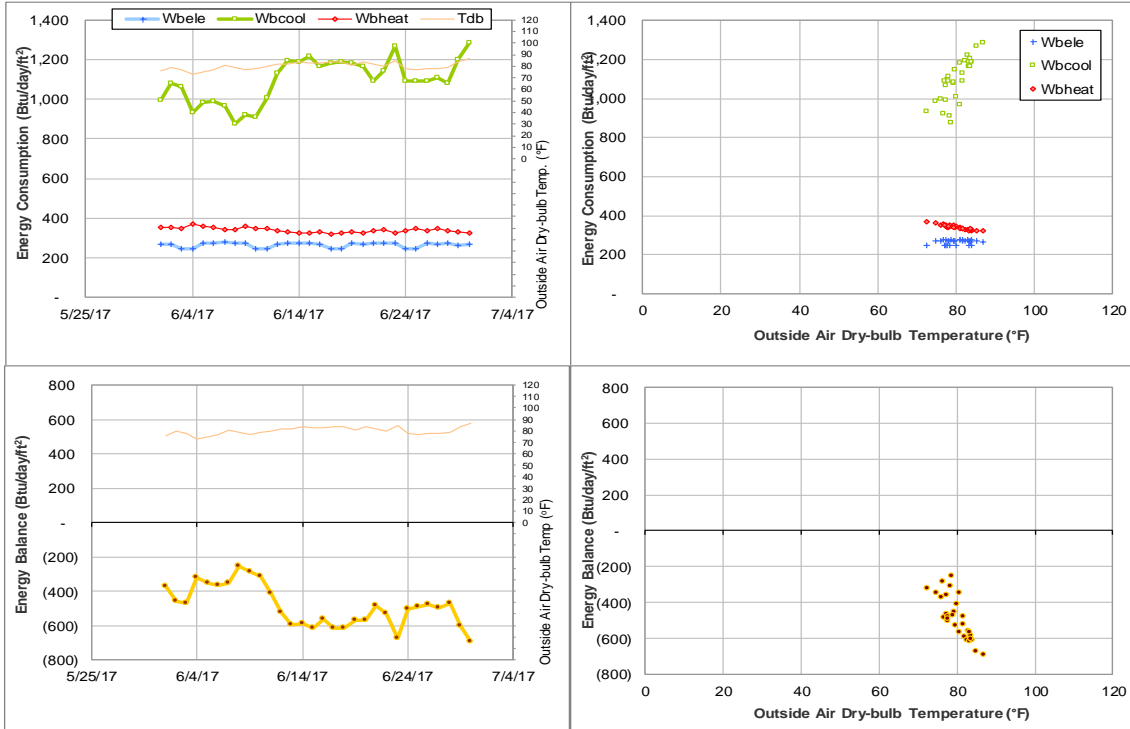


Figure IV-169 Nuclear Magnetic Resonance Facility TAMU BLDG # 1525 Energy Balance Plot during June 2017

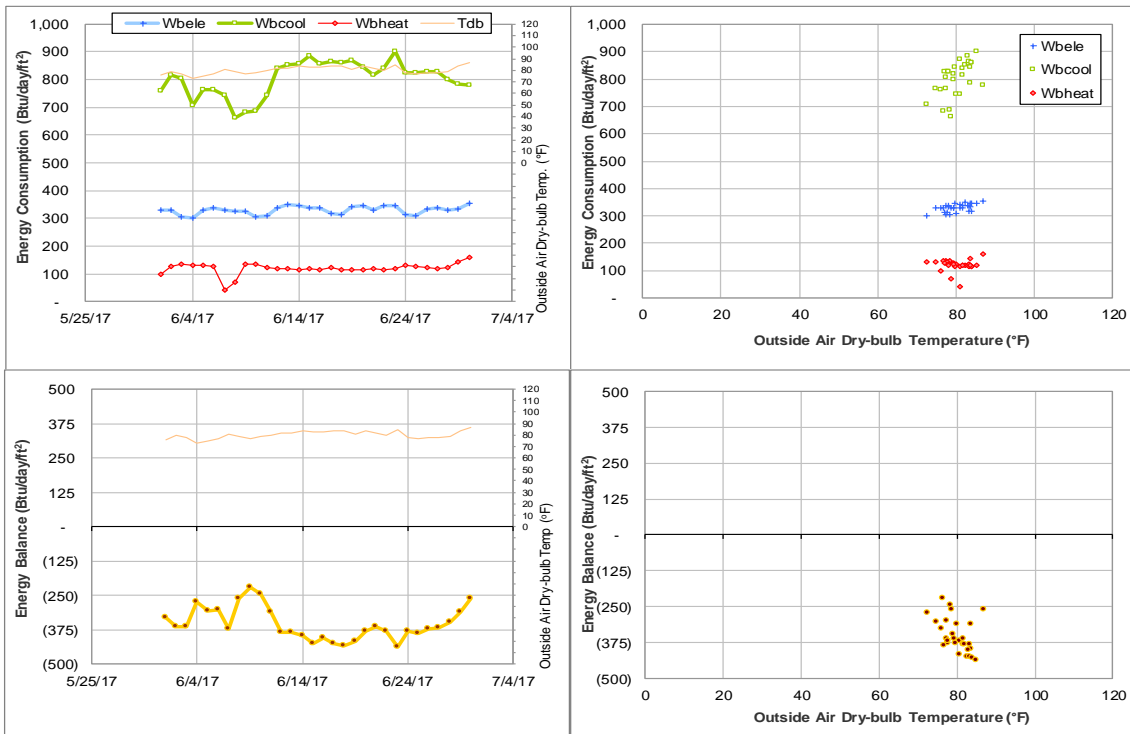


Figure IV-170 Interdisciplinary Life Sciences Building TAMU BLDG # 1530 Energy Balance Plot during June 2017

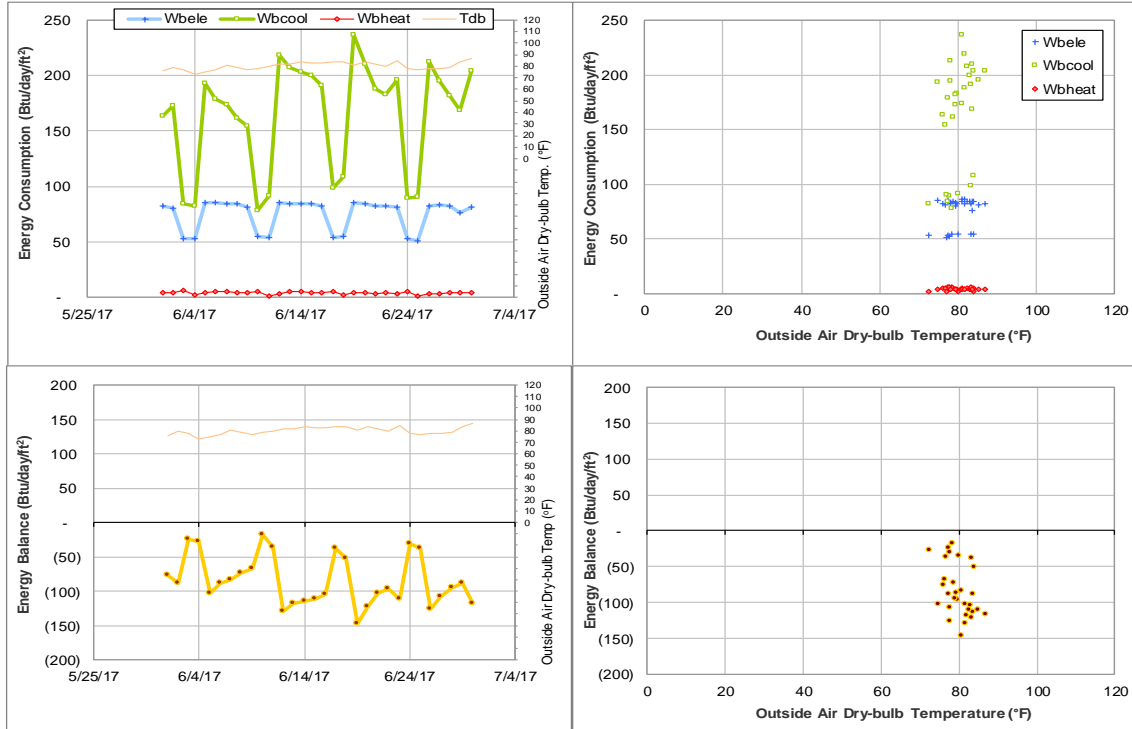


Figure IV-171 Agriculture and Life Sciences Building TAMU BLDG # 1535 Energy Balance Plot during June 2017

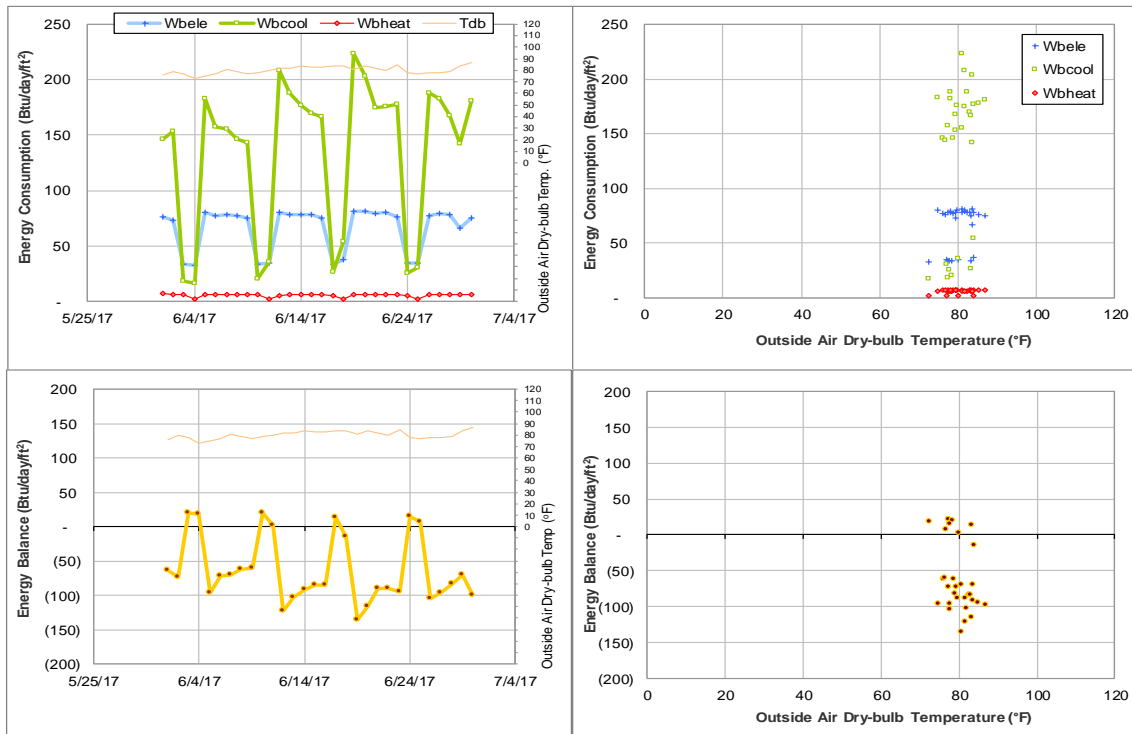


Figure IV-172 AgriLife Services Building TAMU BLDG # 1536 Energy Balance Plot during June 2017

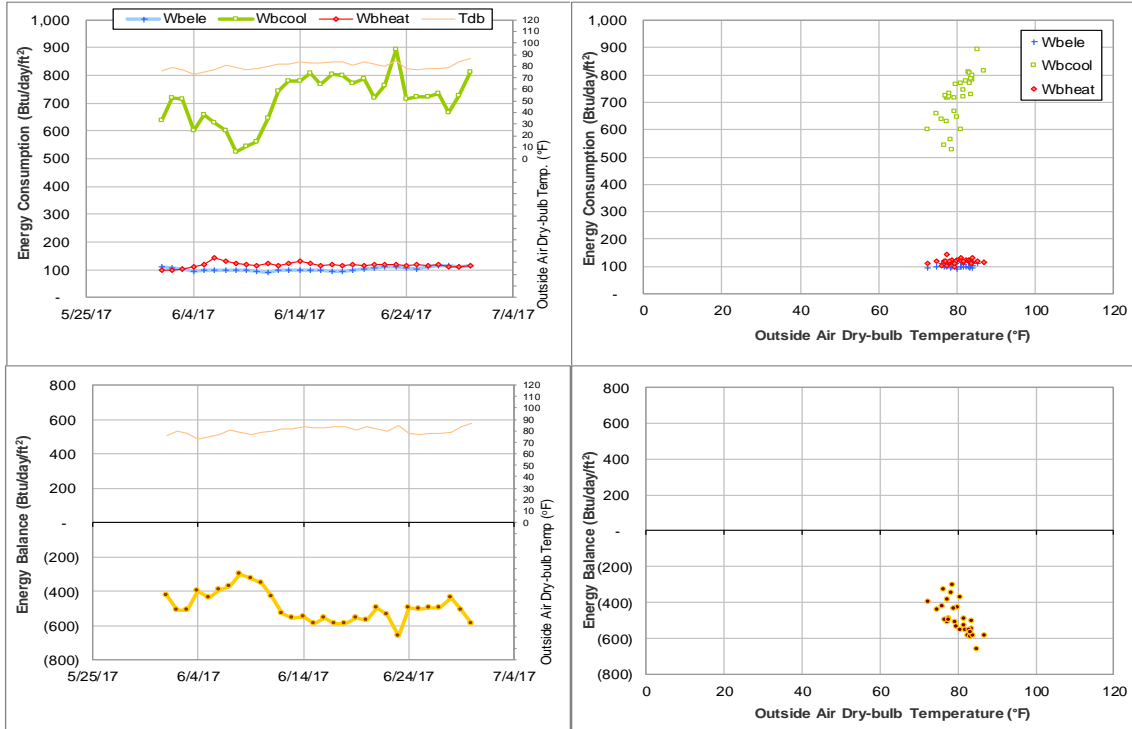


Figure IV-173 Agriculture Public Building TAMU BLDG # 1537 Energy Balance Plot during June 2017

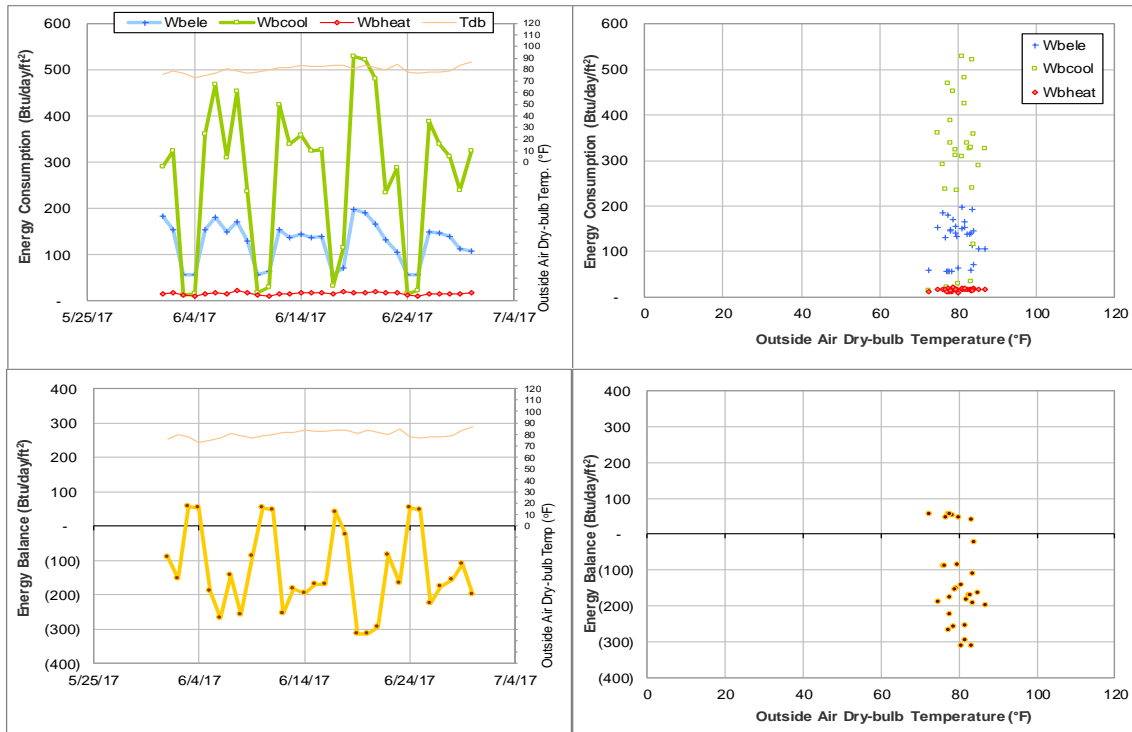


Figure IV-174 Agriculture Program Visitors Center TAMU BLDG # 1538 Energy Balance Plot during June 2017

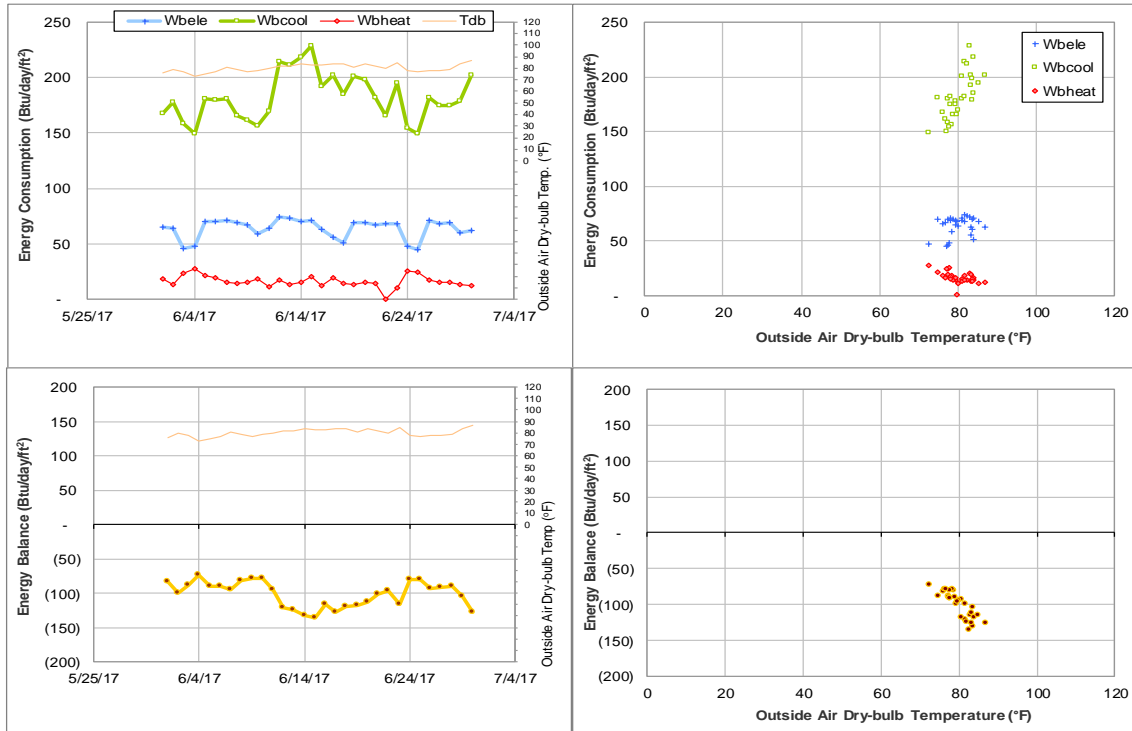


Figure IV-175 Physical Education Activity Program Building TAMU BLDG # 1540 Energy Balance Plot during June 2017

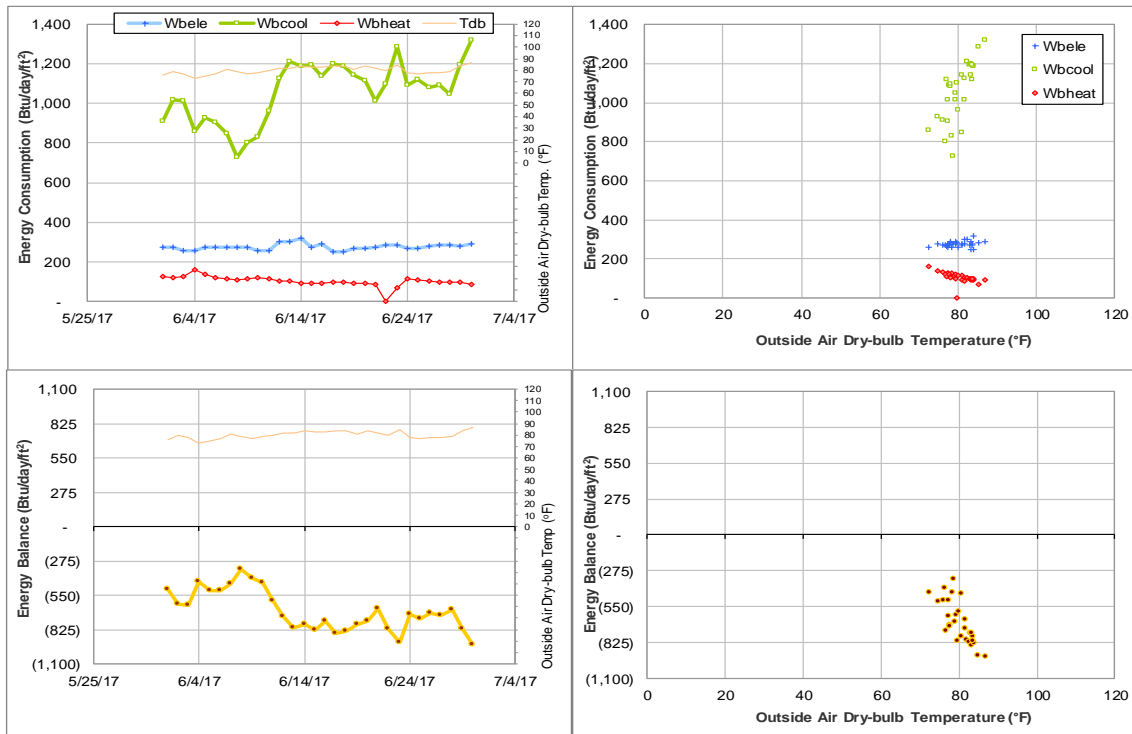


Figure IV-176 Human Clinical Research Building TAMU BLDG # 1542 Energy Balance Plot during June 2017

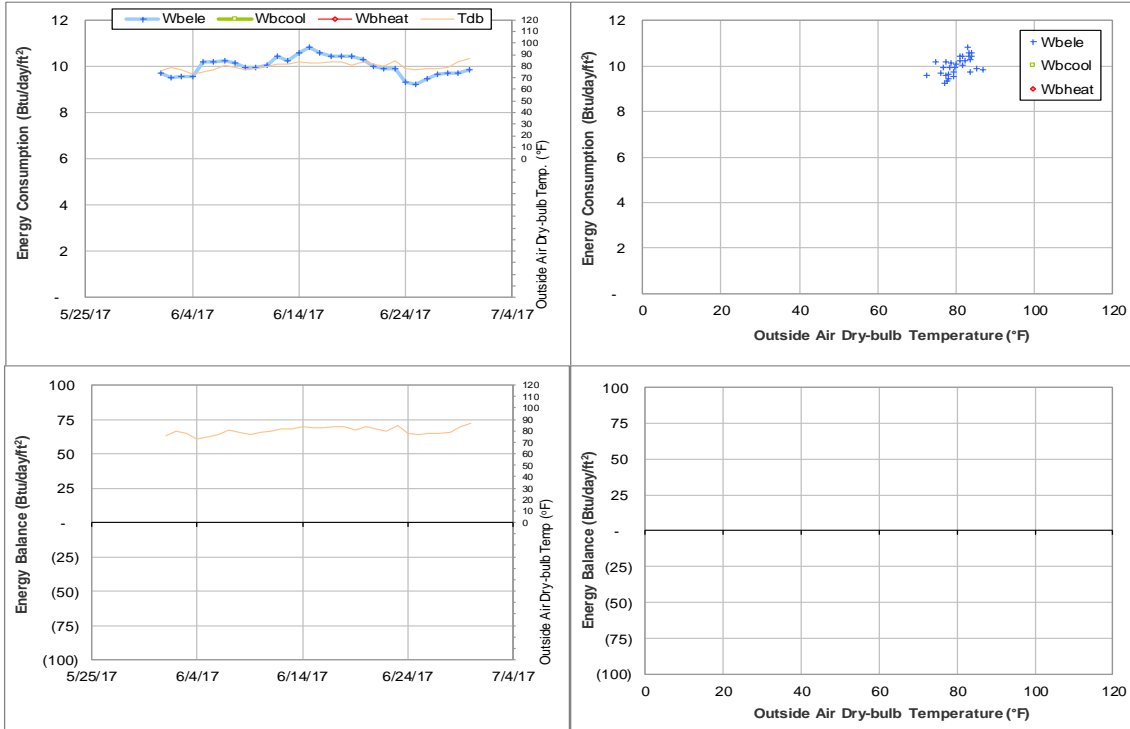


Figure IV-177 Cain Garage TAMU BLDG # 1544 Energy Balance Plot during June 2017

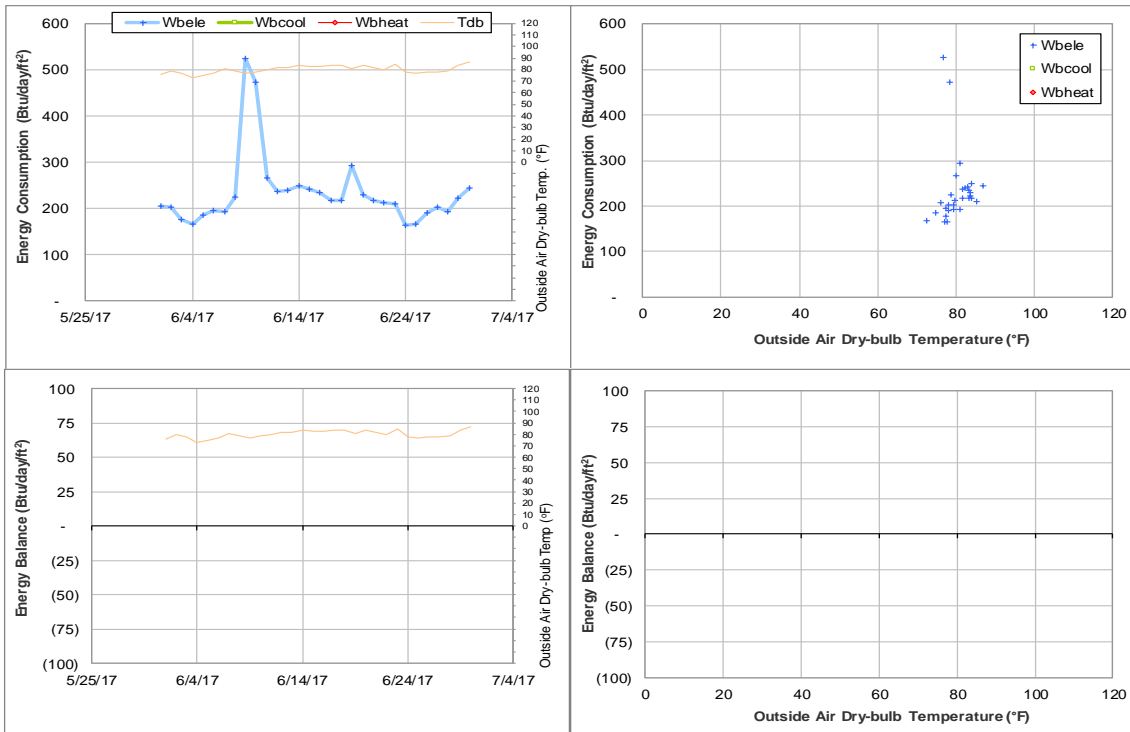


Figure IV-178 Olsen Field at Bluebell Park TAMU BLDG # 1550 Energy Balance Plot during June 2017

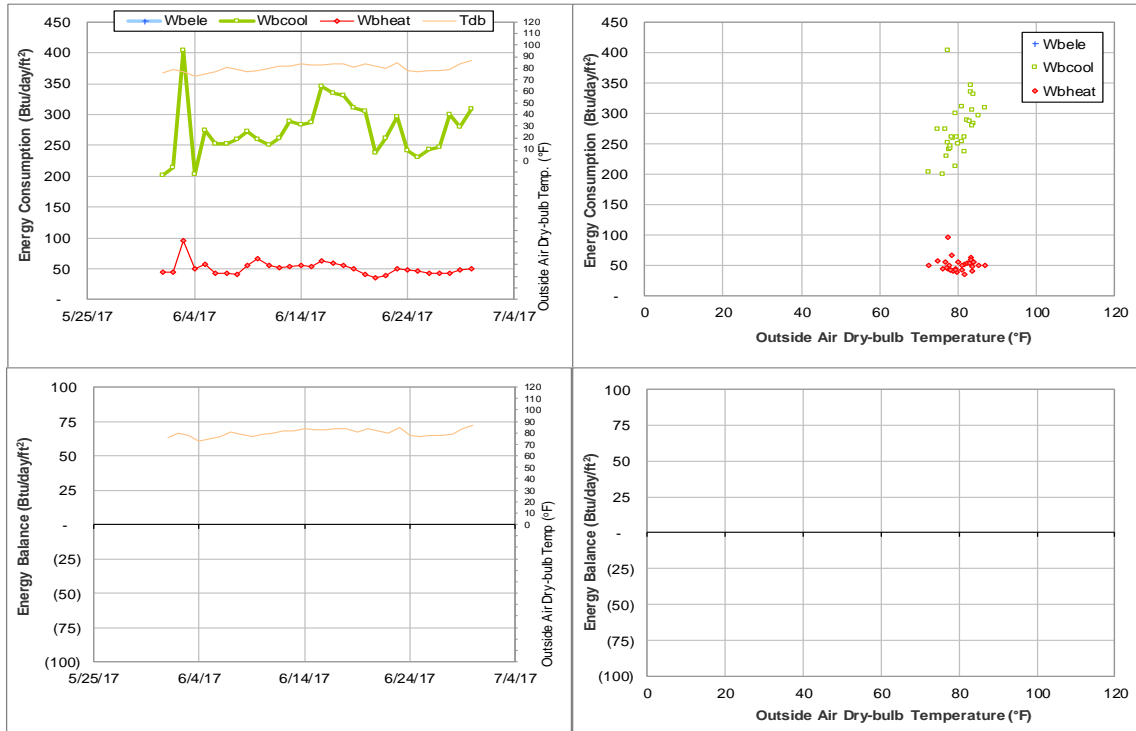


Figure IV-179 Reed Arena and Cox-McFerrin Center TAMU BLDG # 1554 and 1558 Energy Balance Plot during June 2017

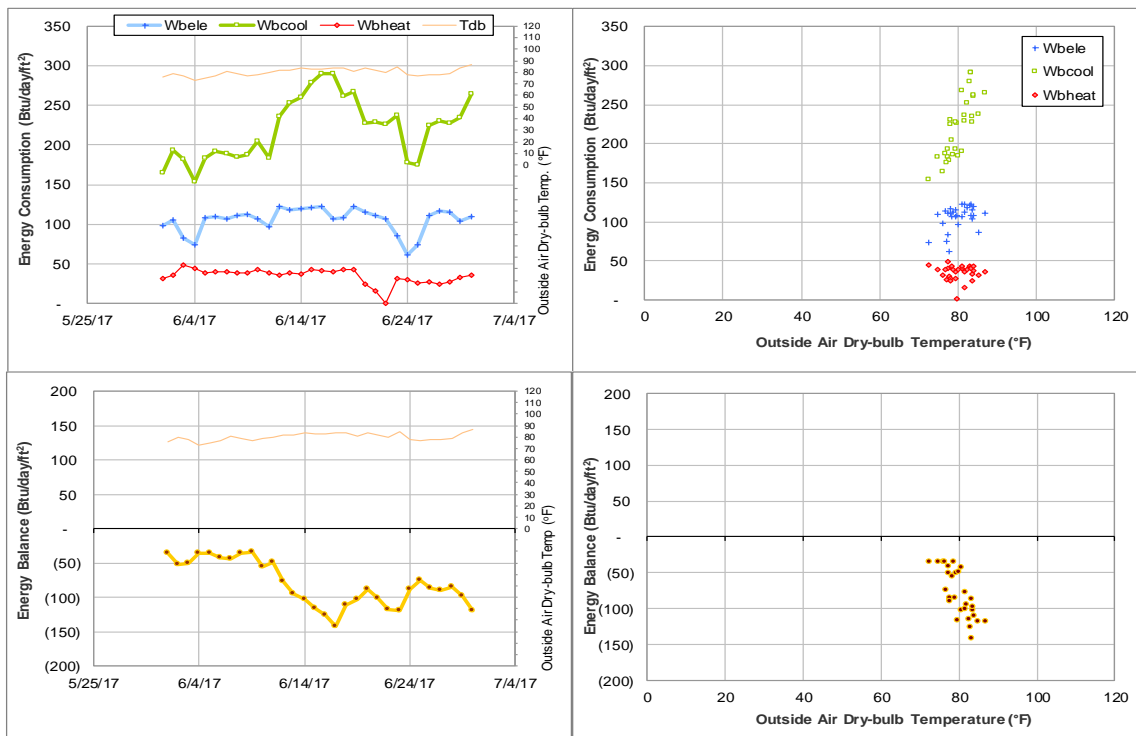


Figure IV-180 Cox-McFerrin Center for Aggie Basketball TAMU BLDG # 1558 Energy Balance Plot during June 2017

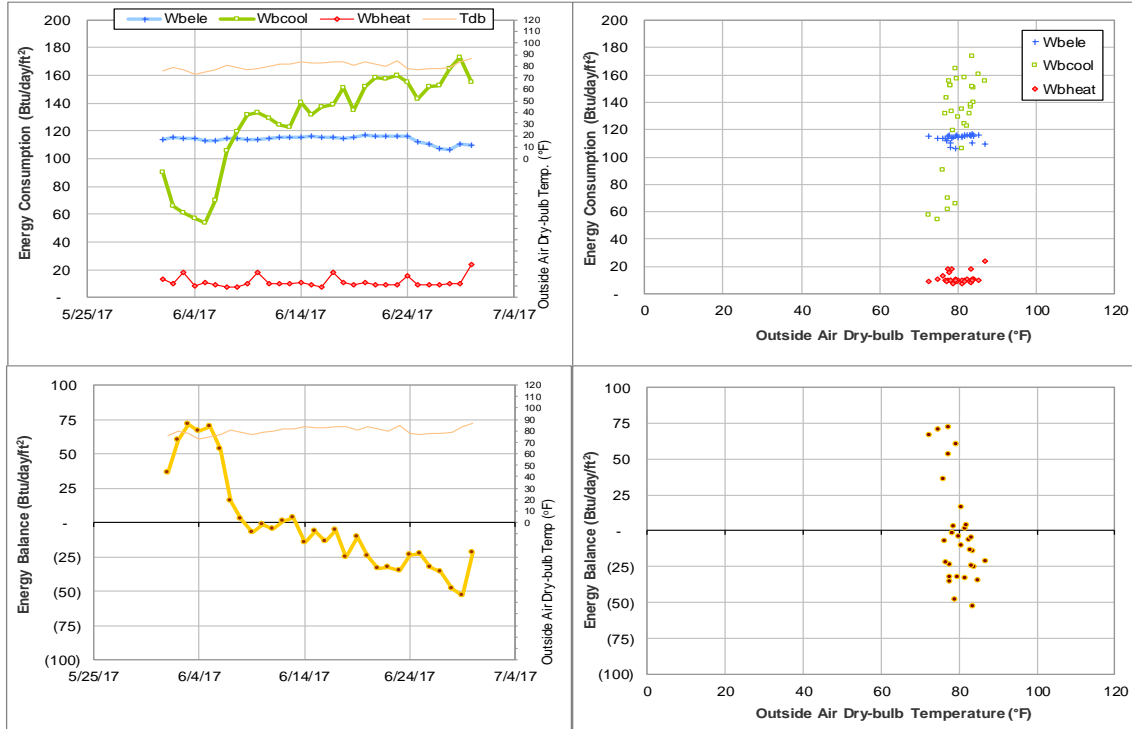


Figure IV-181 West Campus Parking Garage TAMU BLDG # 1559 Energy Balance Plot during June 2017

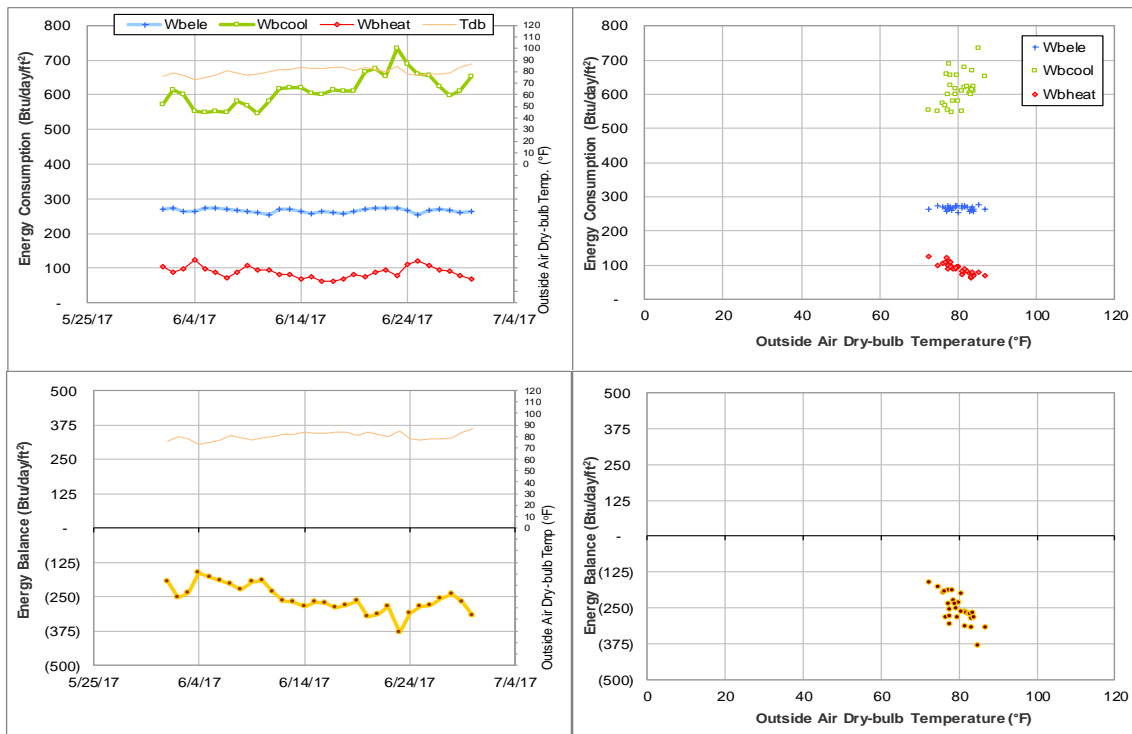


Figure IV-182 Student Recreation Center TAMU BLDG # 1560 Energy Balance Plot during June 2017

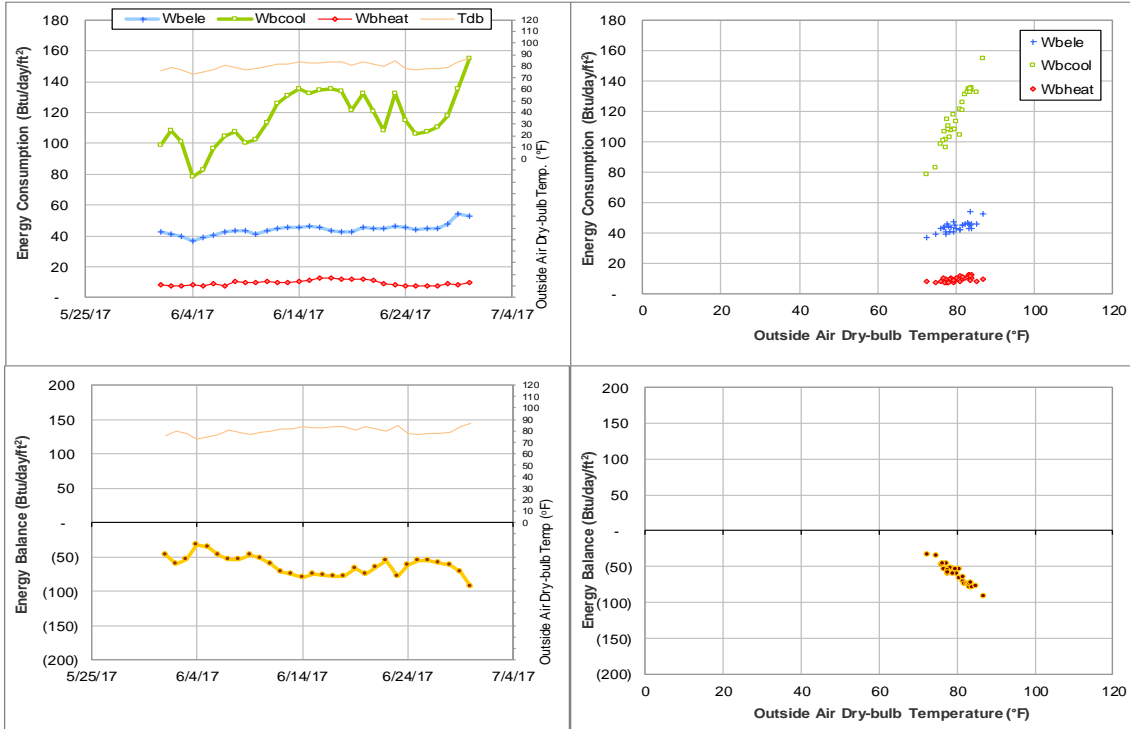


Figure IV-183 White Creek Apartment 1 and White Creek Apts Activity Center TAMU BLDG # 1589 Energy Balance Plot during June 2017

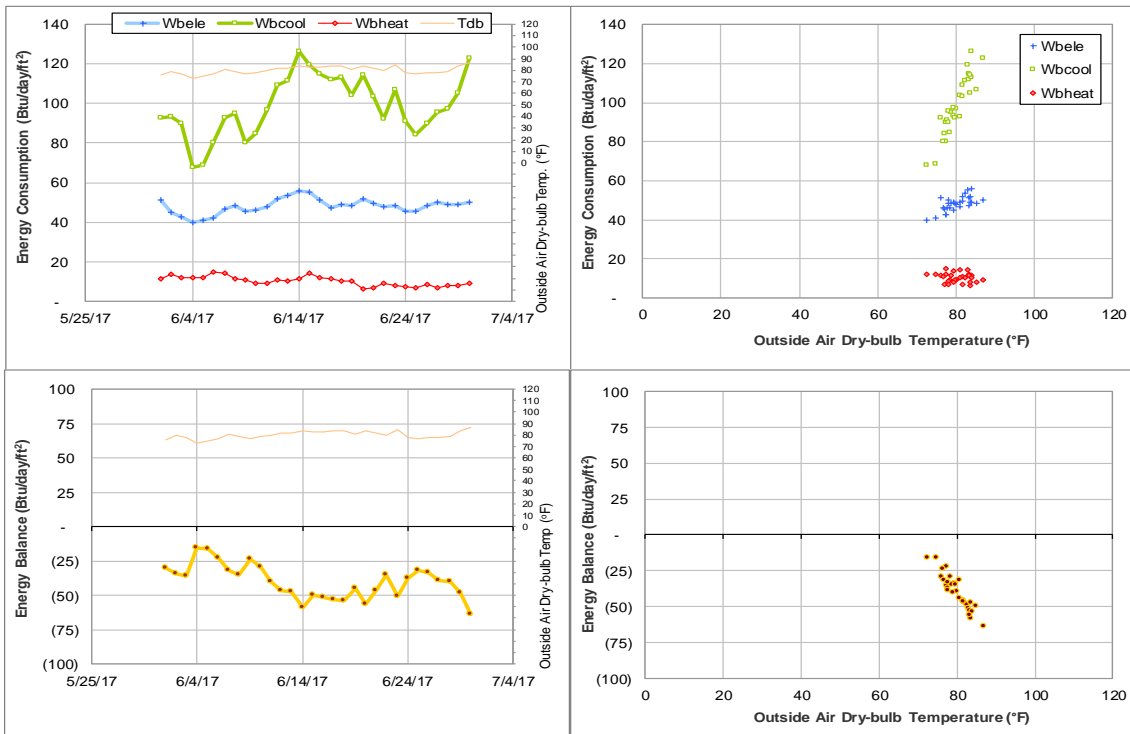


Figure IV-184 White Creek Apartment 2 TAMU BLDG # 1591 Energy Balance Plot during June 2017

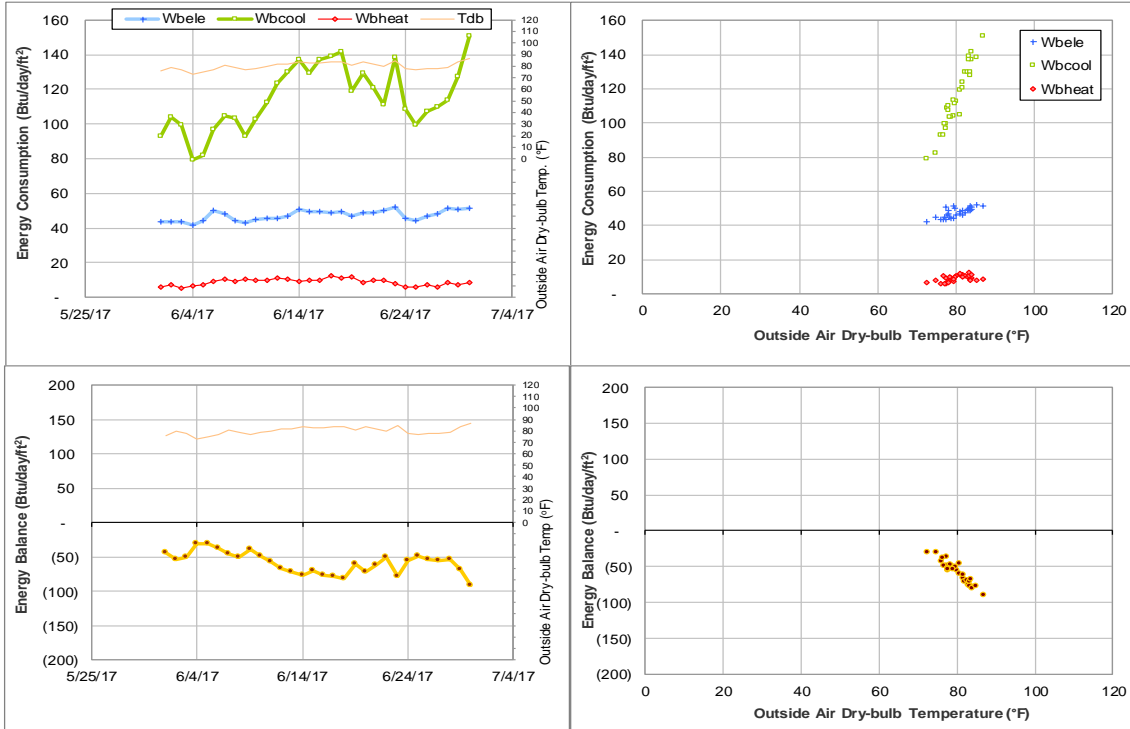


Figure IV-185 White Creek Apartment 3 TAMU BLDG # 1592 Energy Balance Plot during June 2017

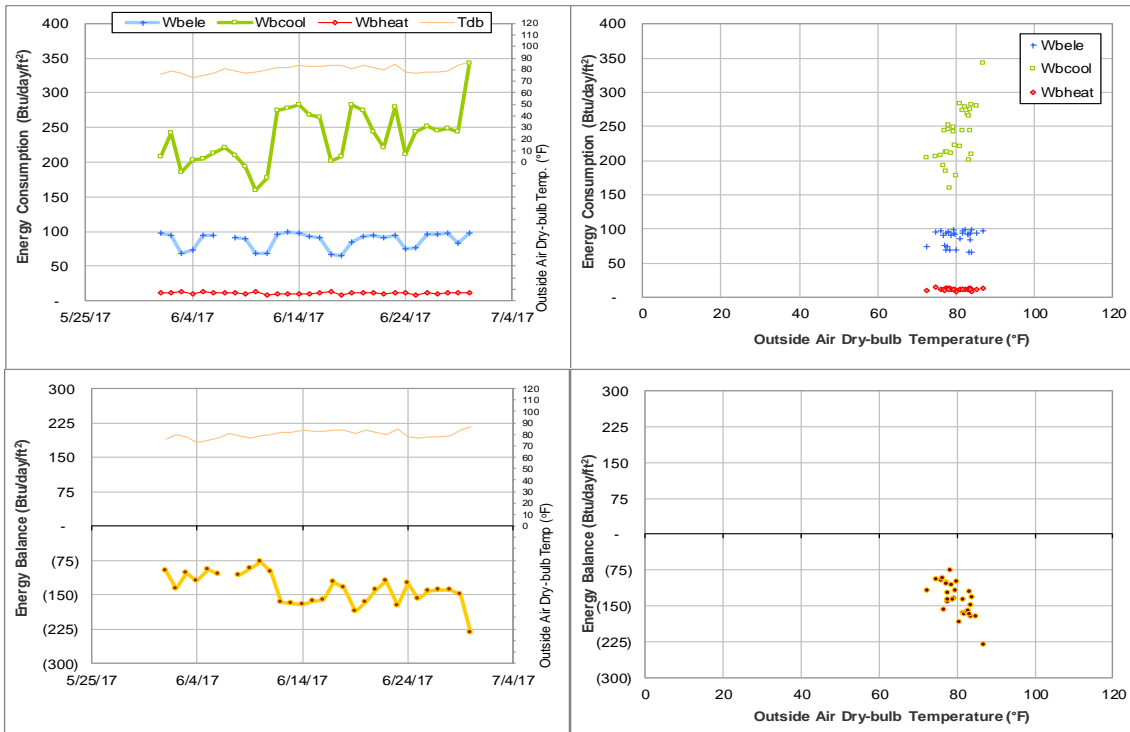


Figure IV-186 Gilchrist TTI Building TAMU BLDG # 1600 Energy Balance Plot during June 2017

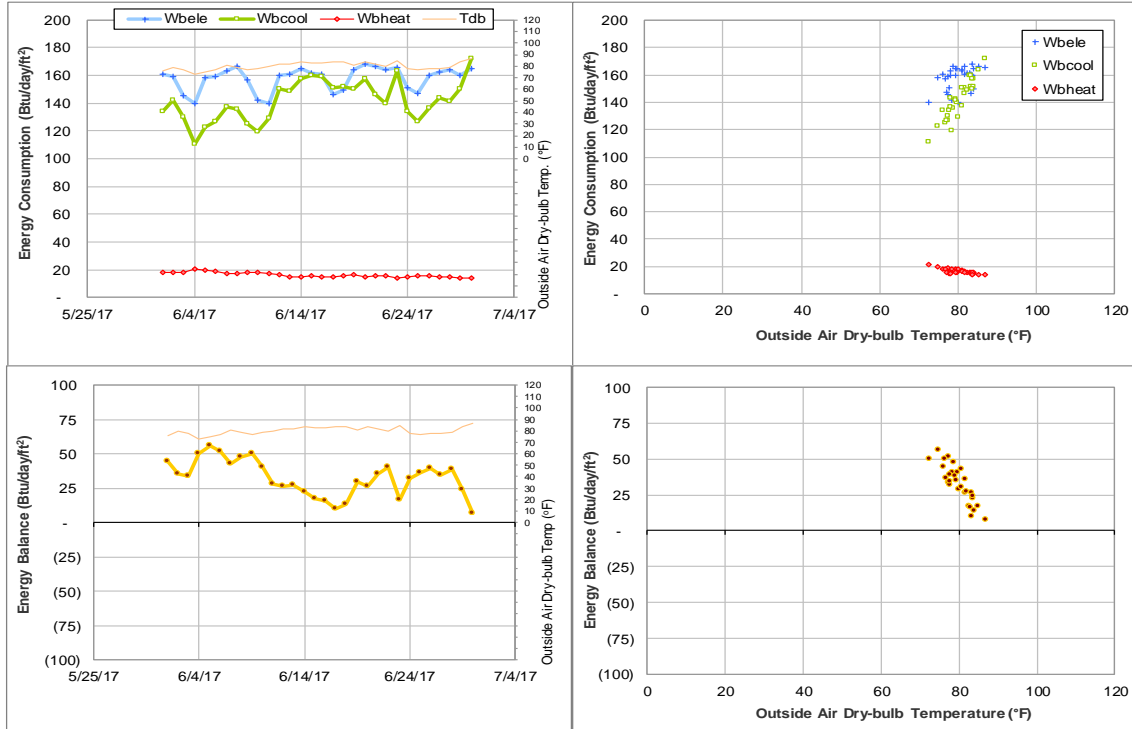


Figure IV-187 International Ocean Discovery Building TAMU BLDG # 1601 Energy Balance Plot during June 2017

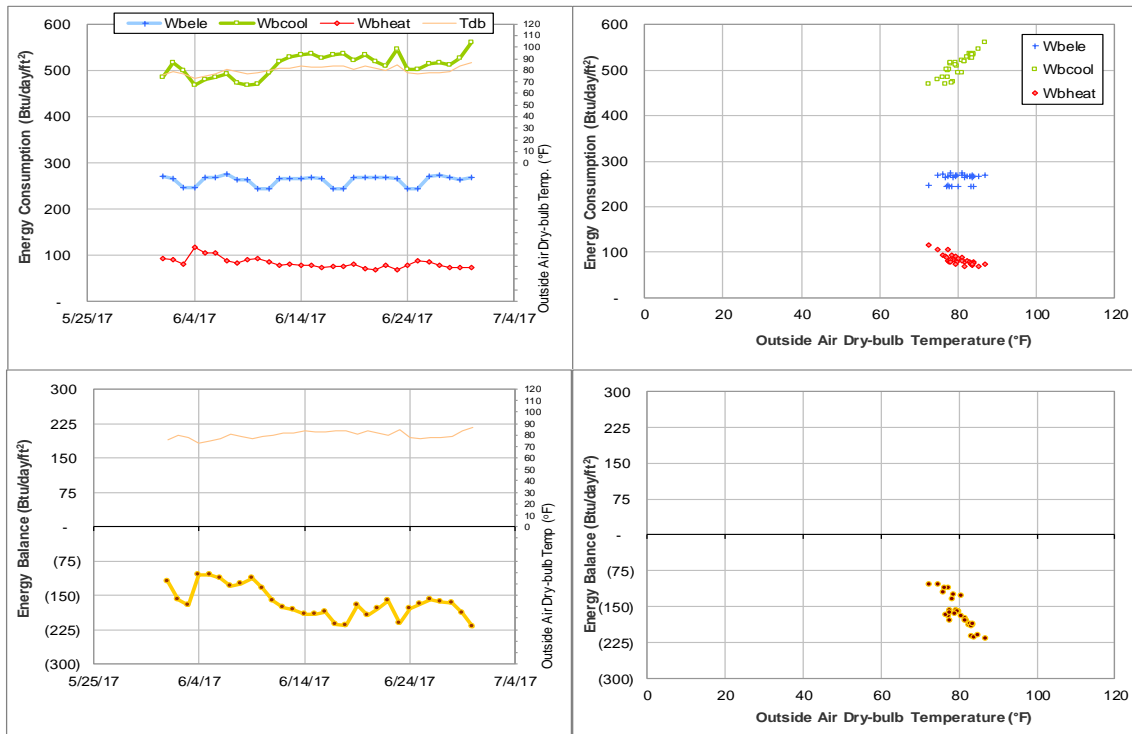


Figure IV-188 Offshore Technology Research Center TAMU BLDG # 1604 Energy Balance Plot during June 2017

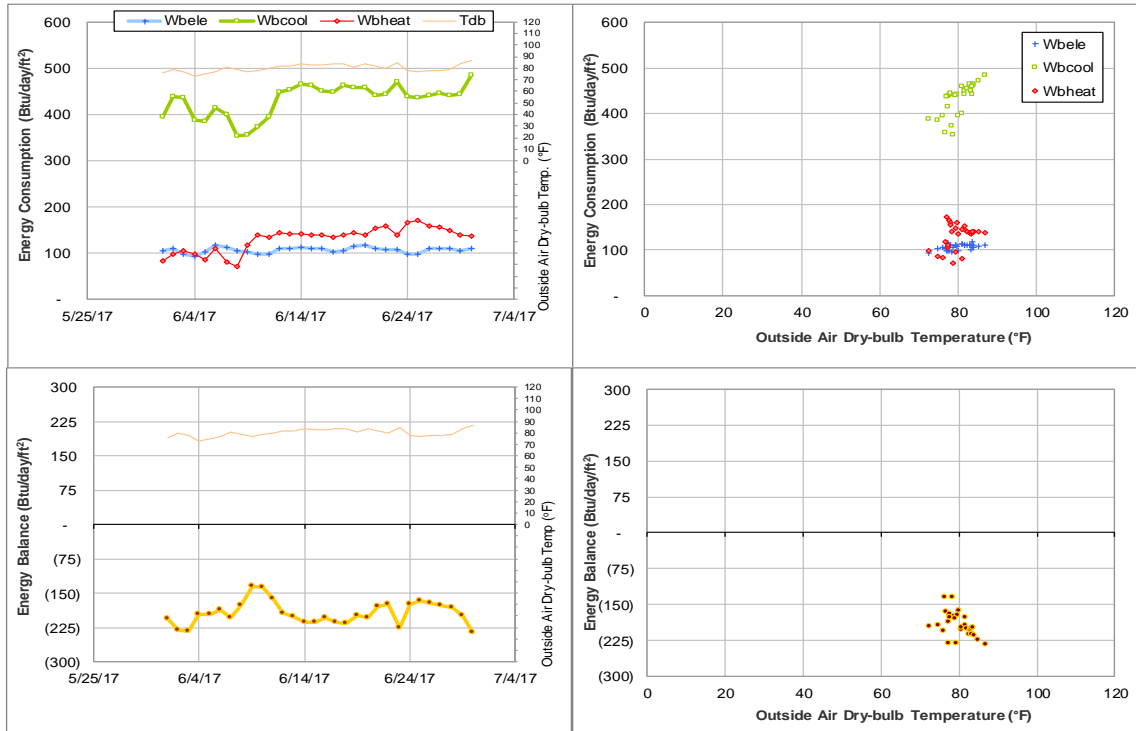


Figure IV-189 George Bush Presidential Library & Museum TAMU BLDG # 1606 Energy Balance Plot during June 2017

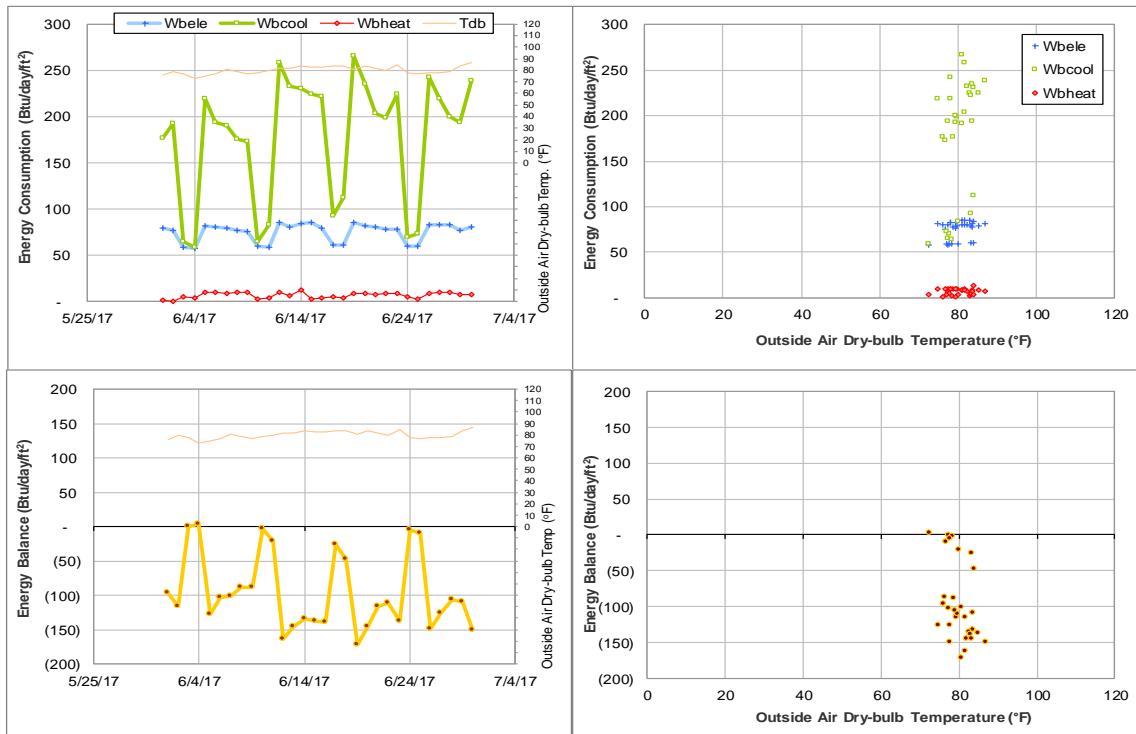


Figure IV-190 Allen Building TAMU BLDG # 1607 Energy Balance Plot during June 2017

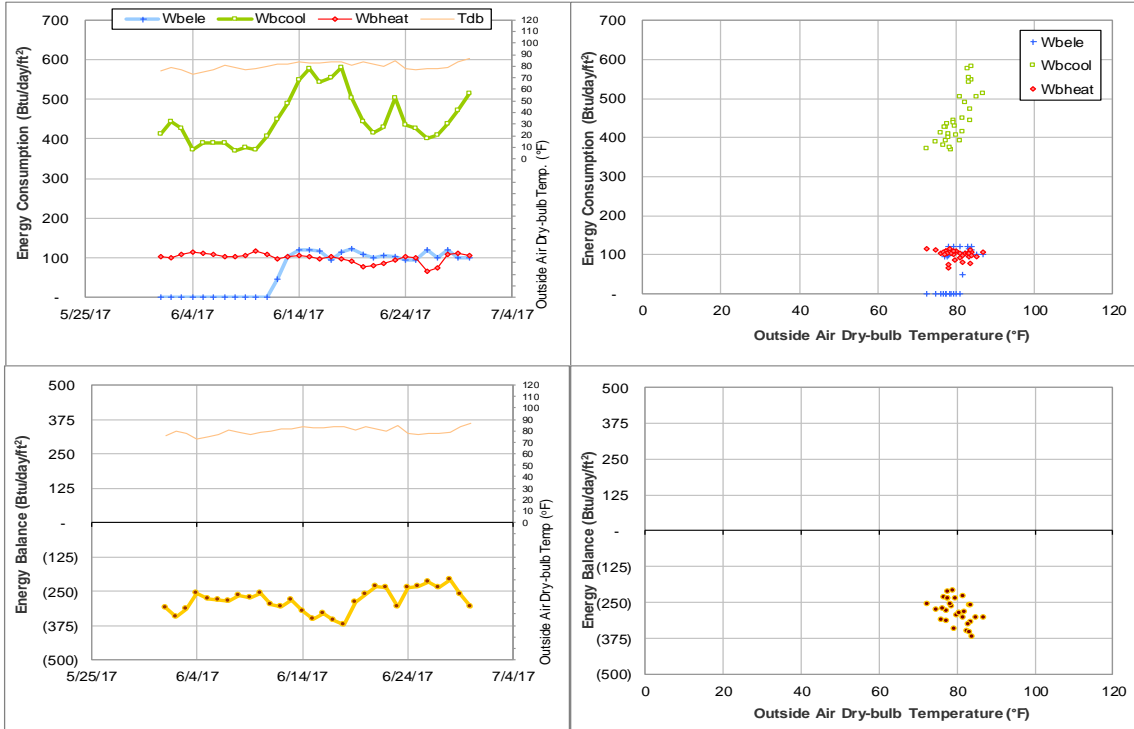


Figure IV-191 Annenberg Presidential Conference Center TAMU BLDG # 1608 Energy Balance Plot during June 2017

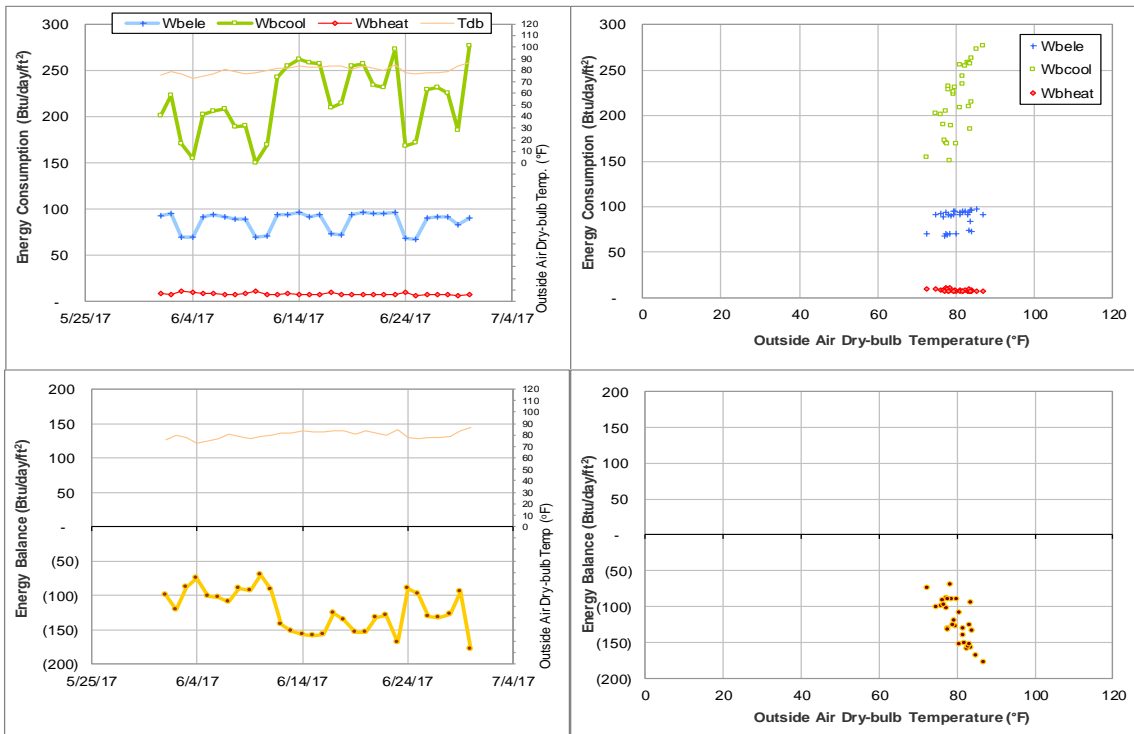


Figure IV-192 TTI Headquarters TAMU BLDG # 1609 Energy Balance Plot during June 2017

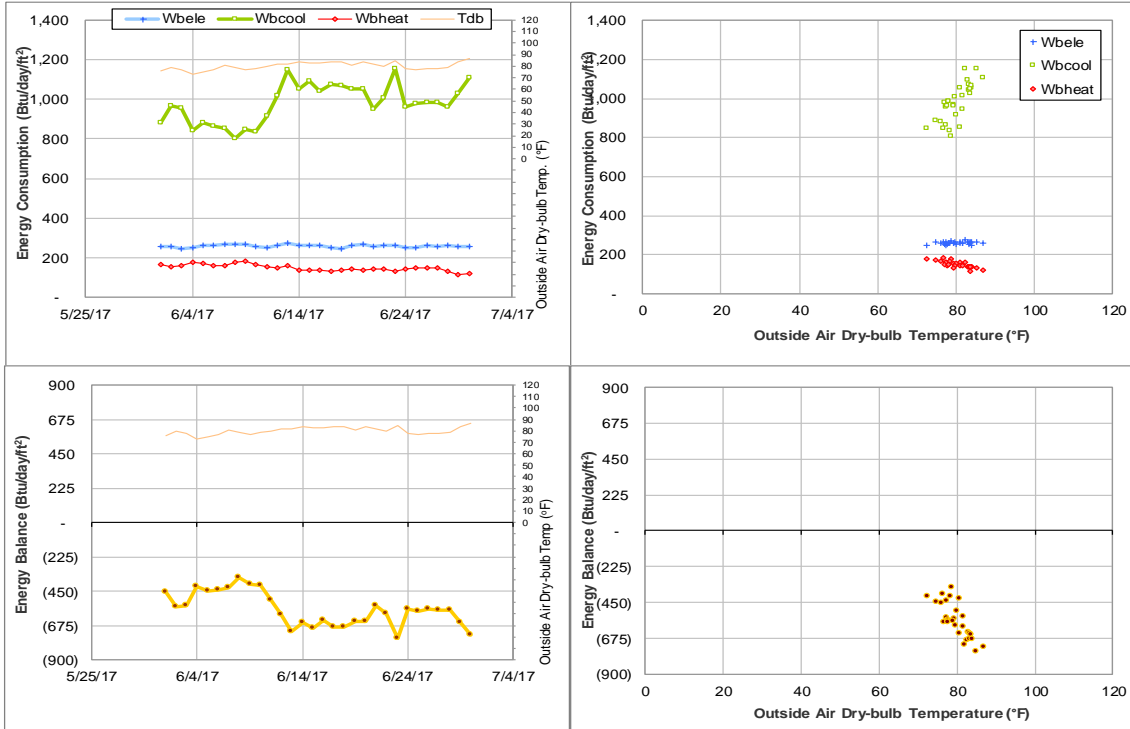


Figure IV-193 Engineering Research Building TAMU BLDG # 1611 Energy Balance Plot during June 2017

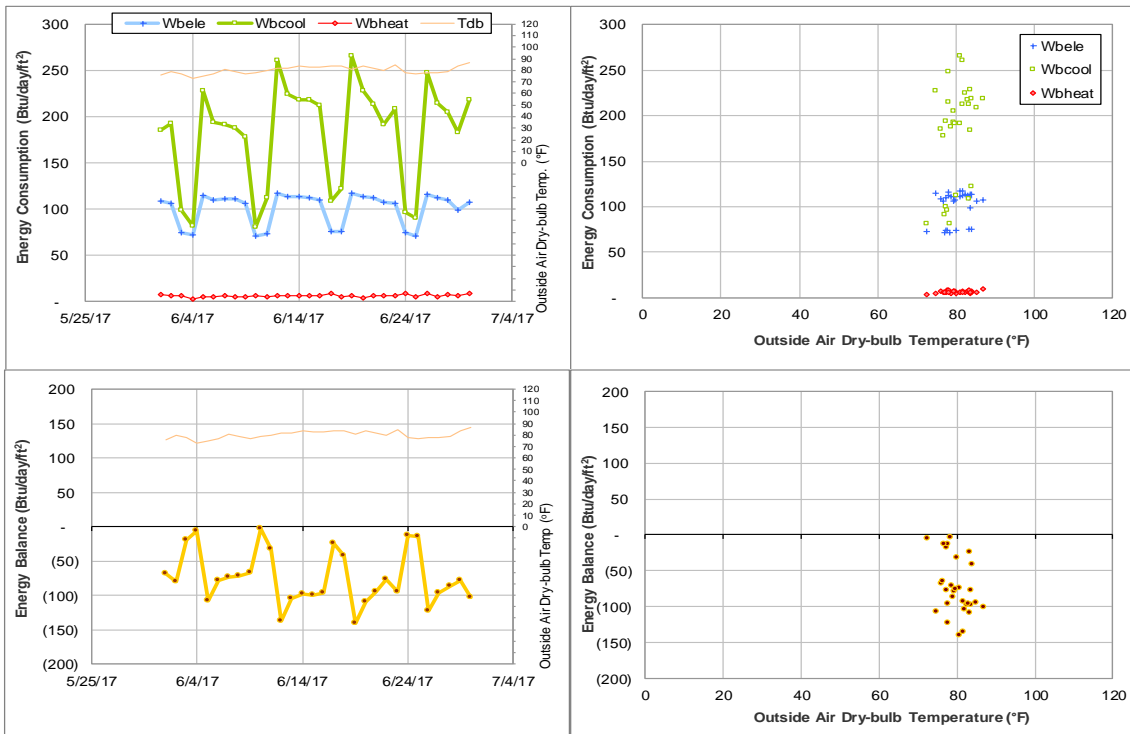


Figure IV-194 General Services Complex TAMU BLDG # 1800 Energy Balance Plot during June 2017

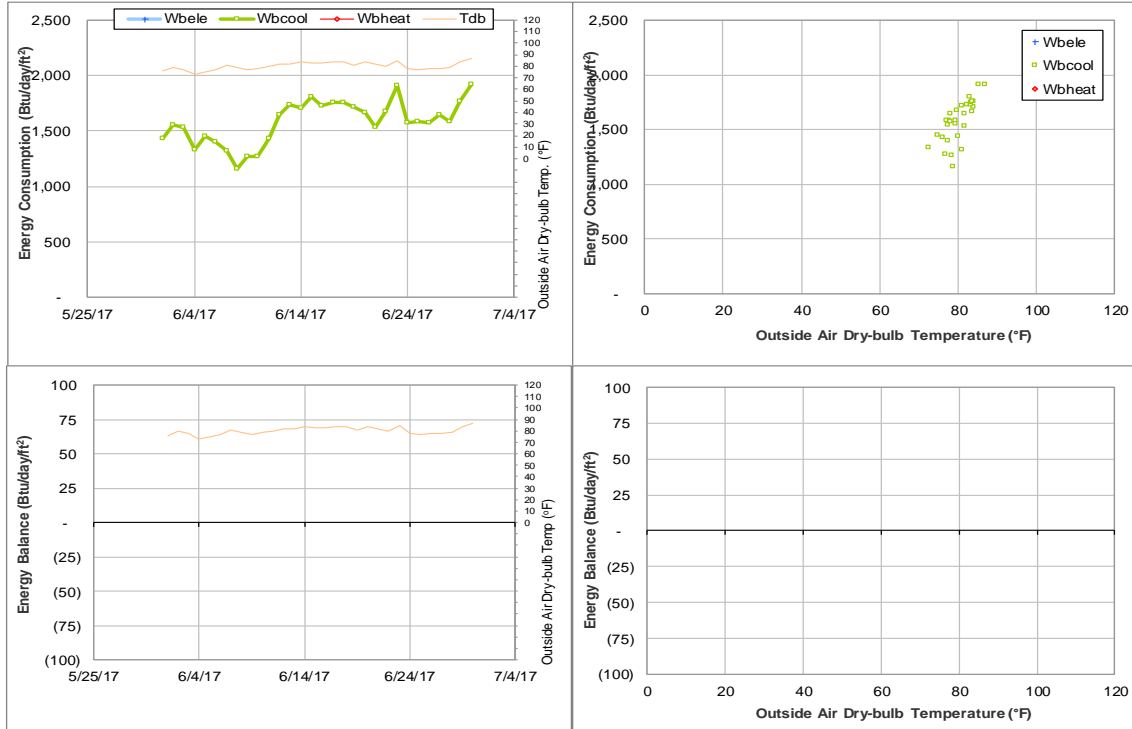


Figure IV-195 New TVMDL TAMU BLDG # 1809 Energy Balance Plot during June 2017

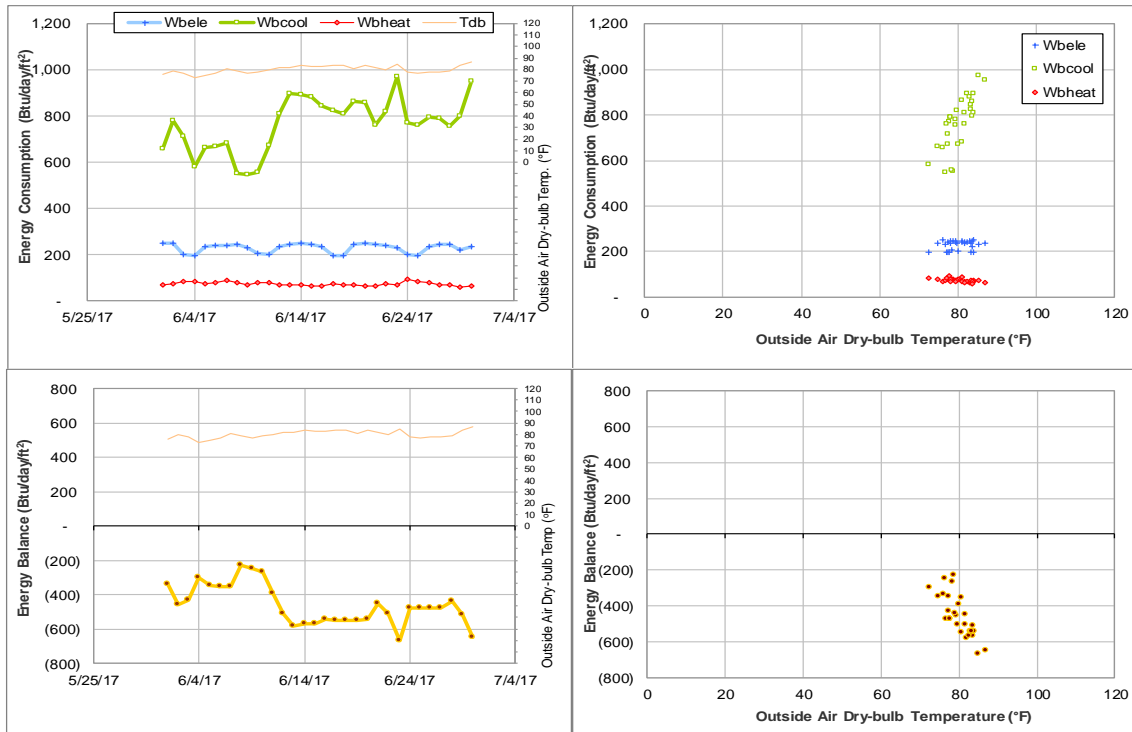


Figure IV-196 Office of the State Chemist Building TAMU BLDG # 1810 Energy Balance Plot during June 2017

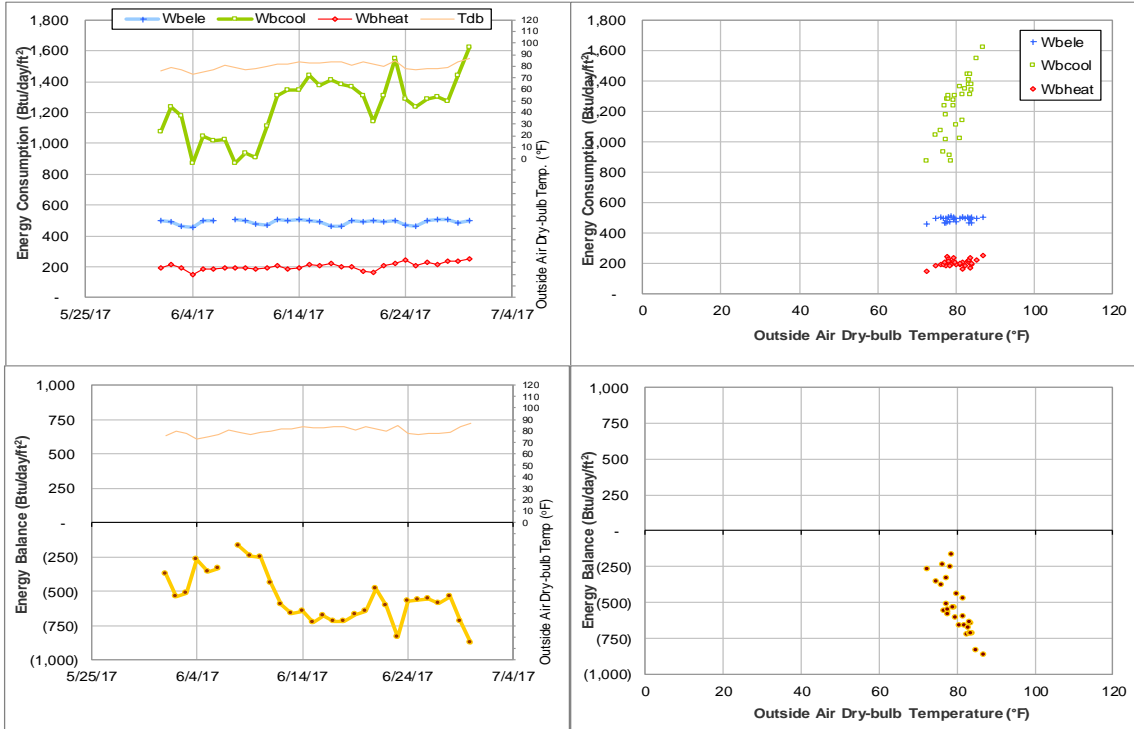


Figure IV-197 Vet Med Research Bldg Addition TAMU BLDG # 1811 Energy Balance Plot during June 2017

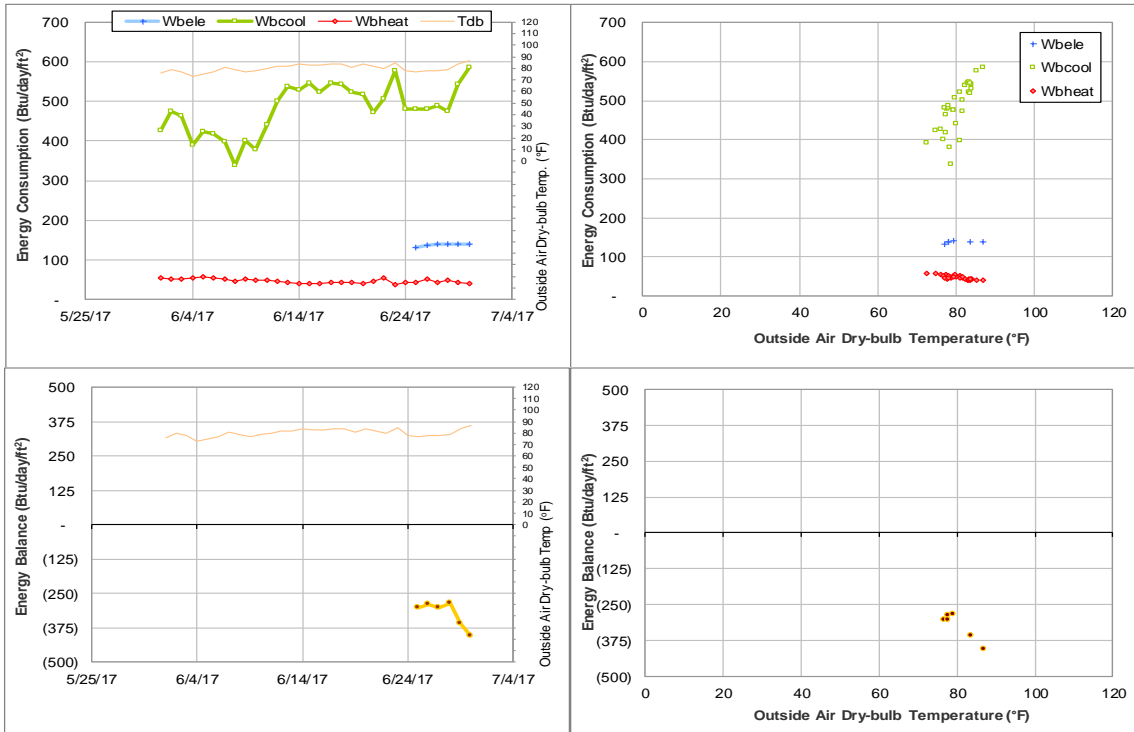


Figure IV-198 Veterinary Medicine Building 1, 2, and 3 TAMU BLDG # 1812 Energy Balance Plot during June 2017

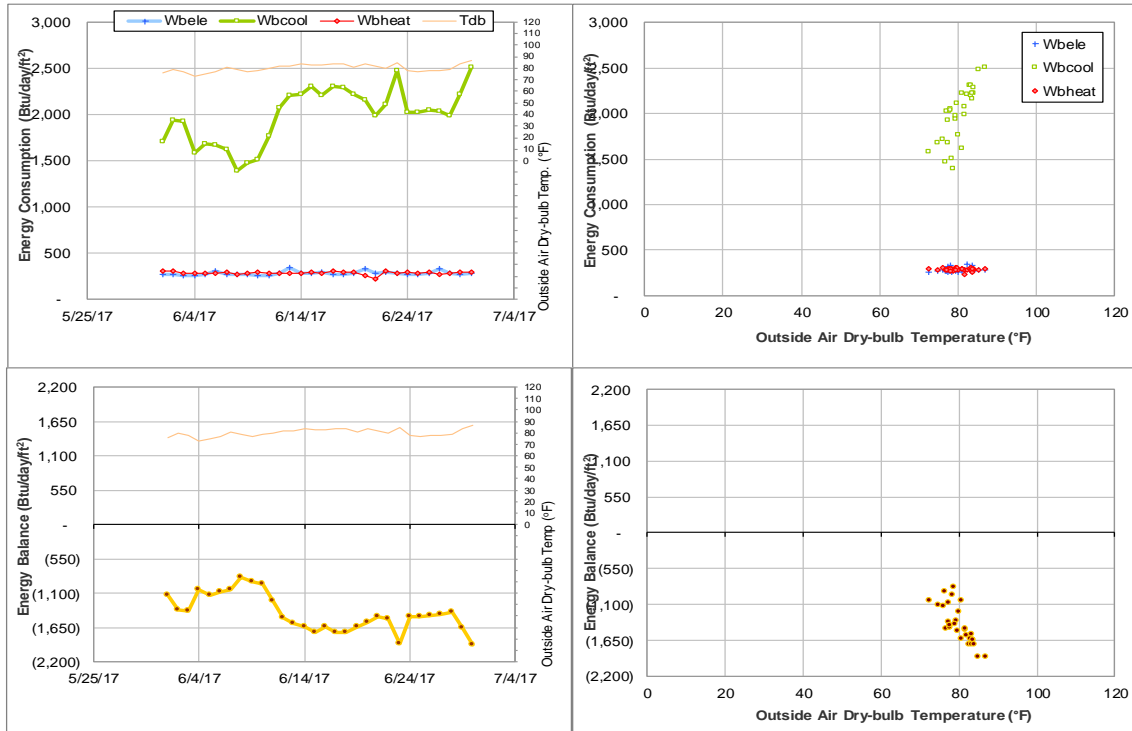


Figure IV-199 Texas Institute for Genomic Medicine TAMU BLDG # 1900 Energy Balance Plot during June 2017

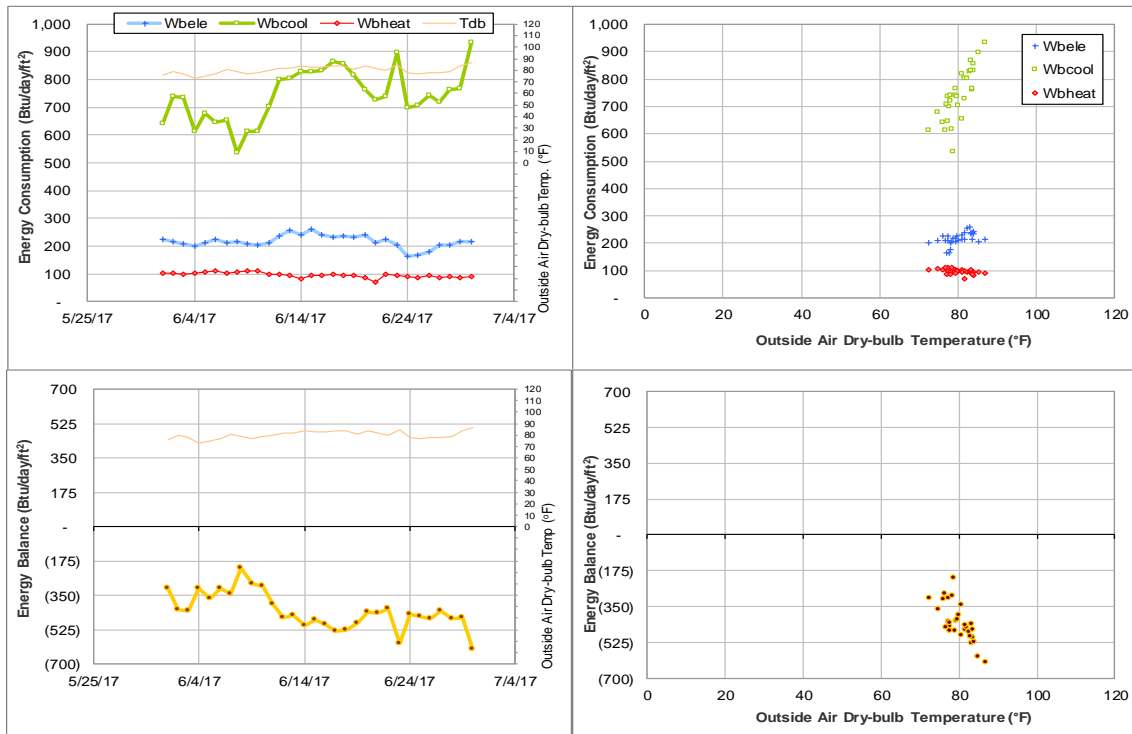


Figure IV-200 Texas A&M Institute for Preclinical Studies A TAMU BLDG # 1904 Energy Balance Plot during June 2017

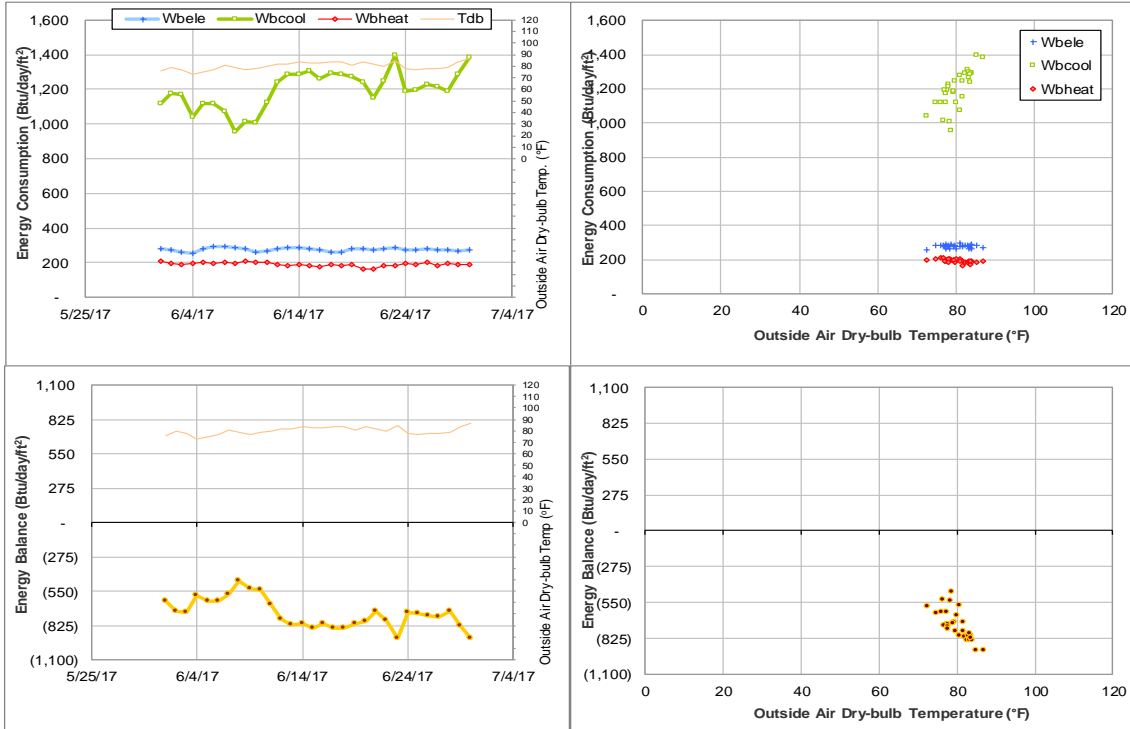


Figure IV-201 National Center for Therapeutics Manufacturing TAMU BLDG # 1910 Energy Balance Plot during June 2017

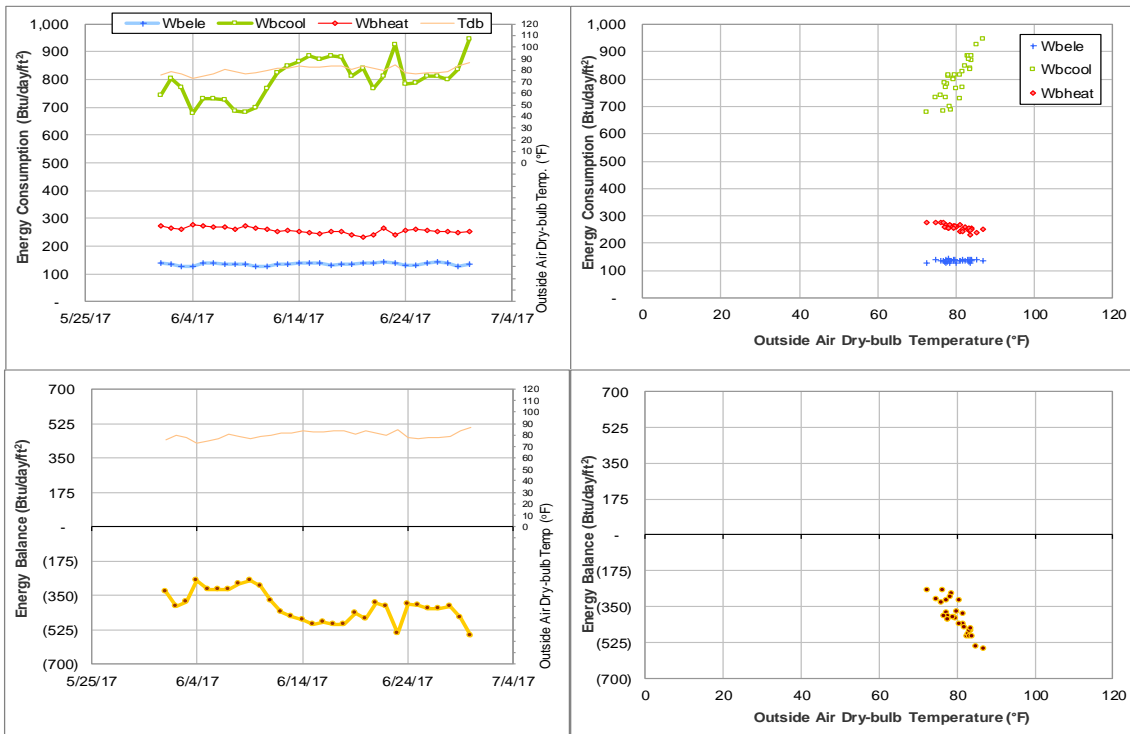


Figure IV-202 Multi-Species Research Building TAMU BLDG # 1911 Energy Balance Plot during June 2017

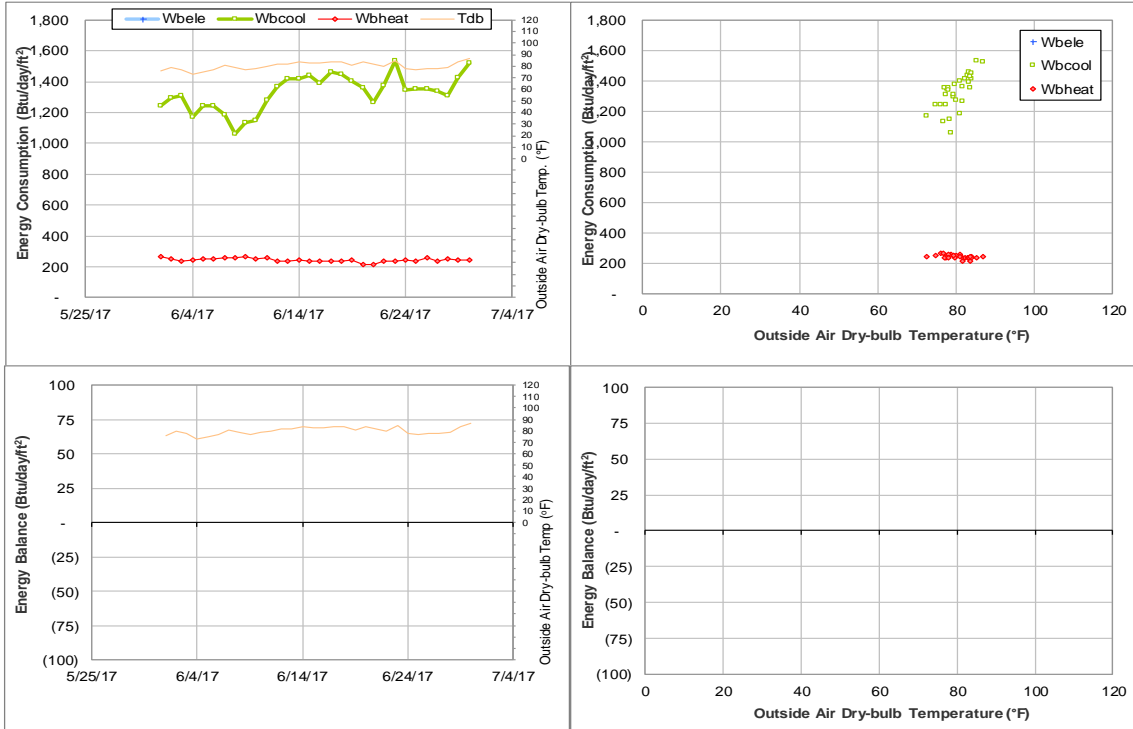


Figure IV-203 NCTM Manufacturing Building TAMU BLDG # 10226 Energy Balance Plot during June 2017

**V. Energy Balance Plots with Filled-in data for June
2017 Consumption**

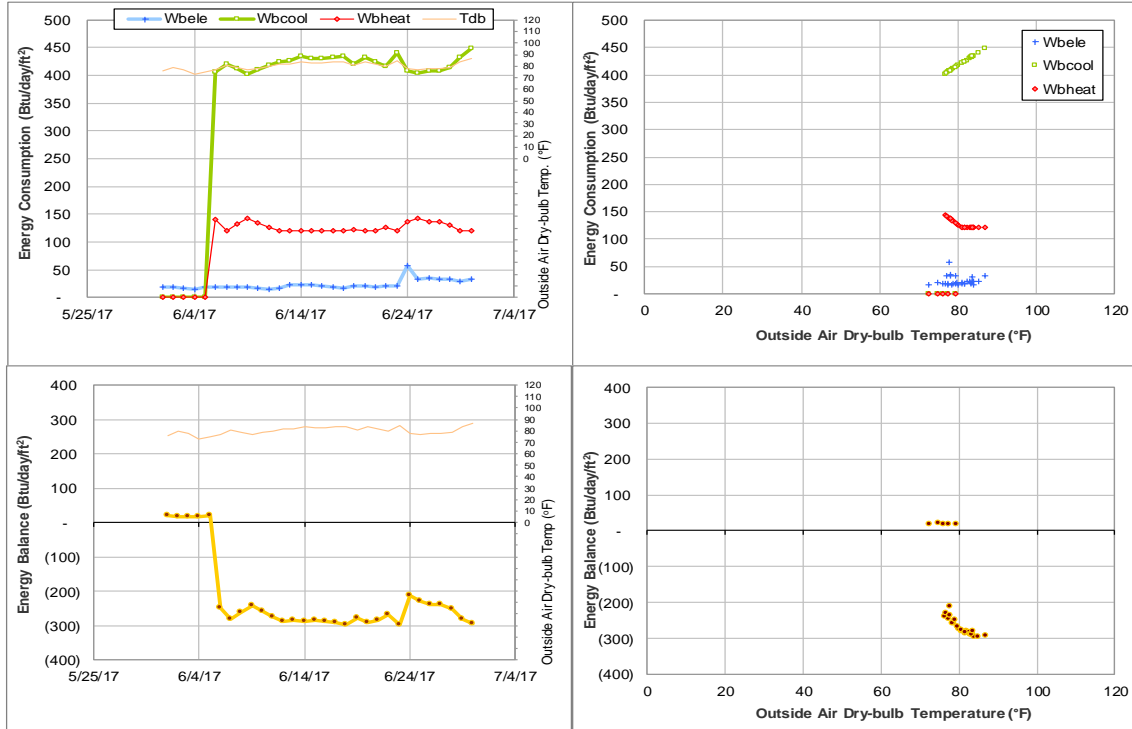


Figure V-1 Rudder Residence Hall TAMU BLDG # 291 Energy Balance Plot during June 2017

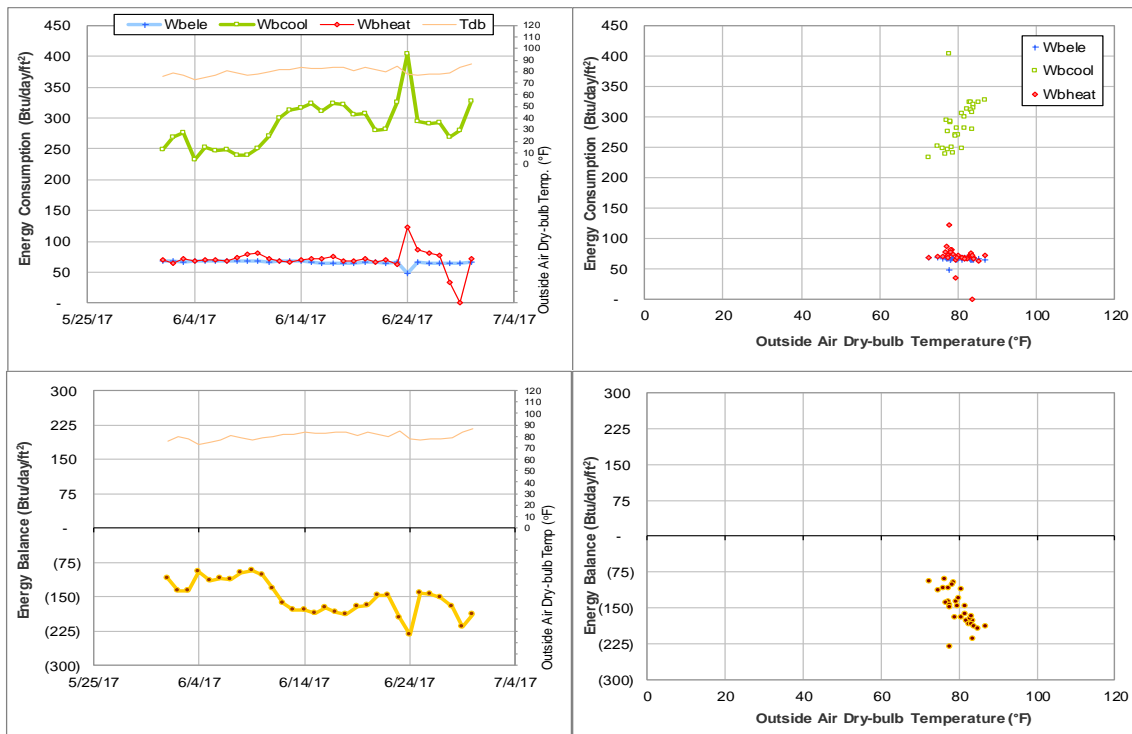


Figure V-2 Eppright Residence Hall TAMU BLDG # 292 Energy Balance Plot during June 2017

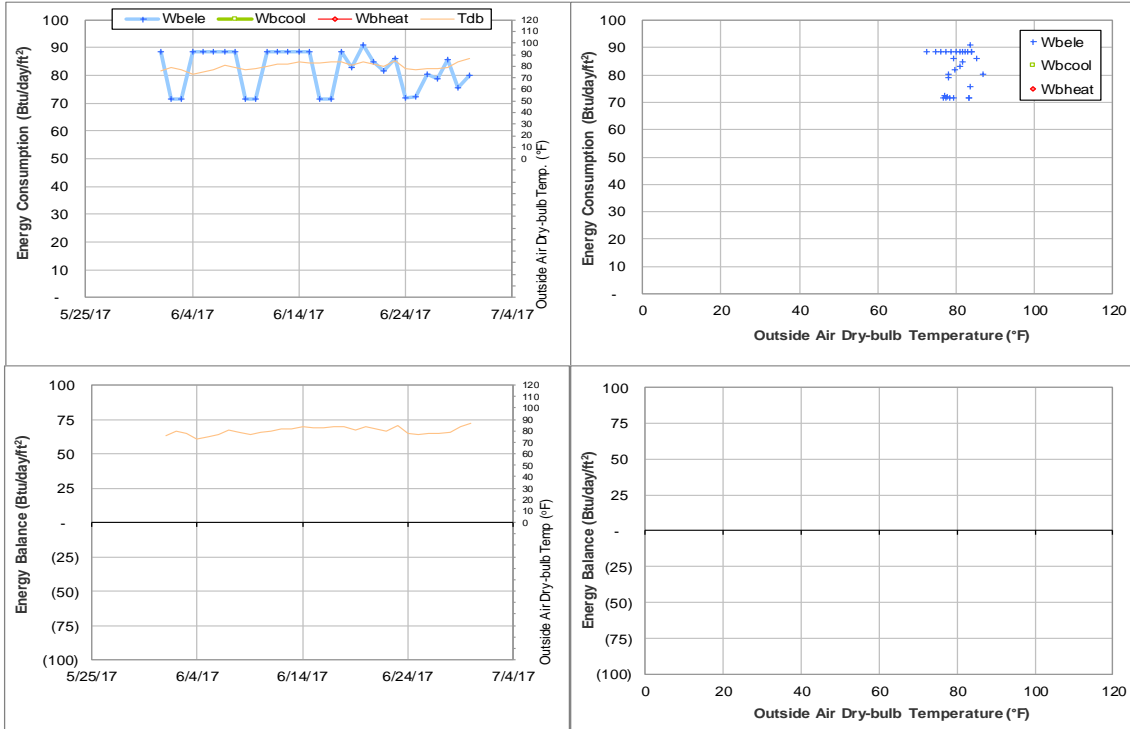


Figure V-3 Architecture Building B TAMU BLDG # 359 Energy Balance Plot during June 2017

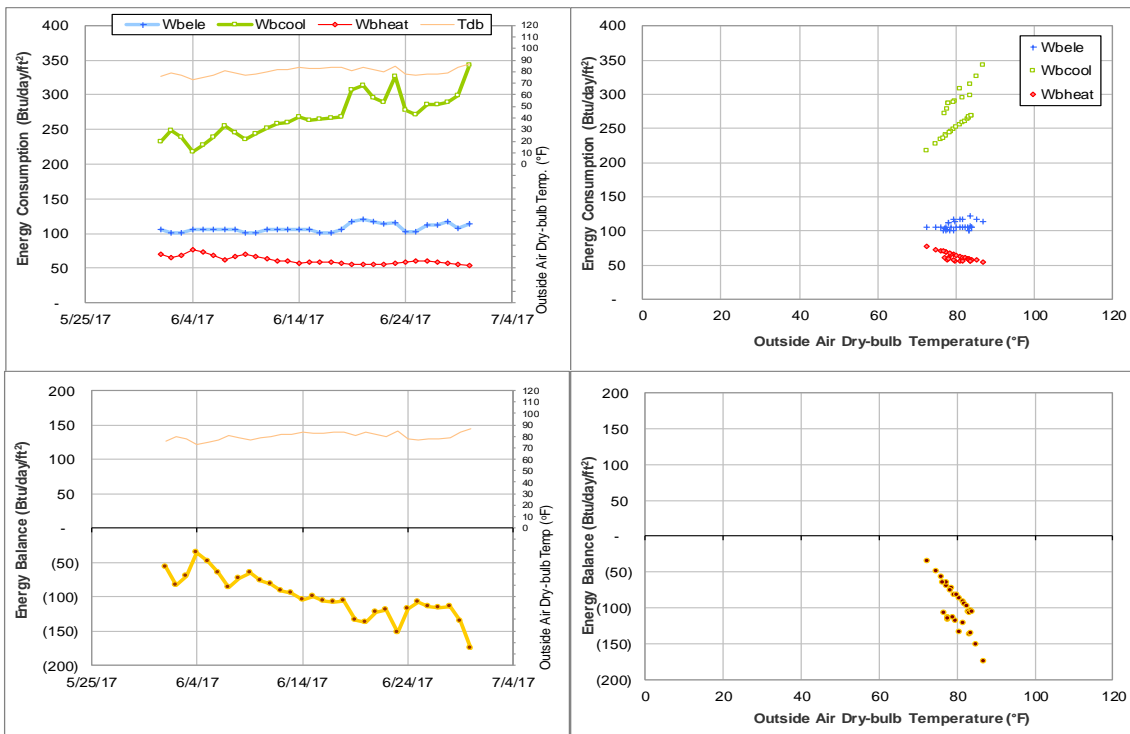


Figure V-4 Architecture Building B&C TAMU BLDG # 359 Energy Balance Plot during June 2017

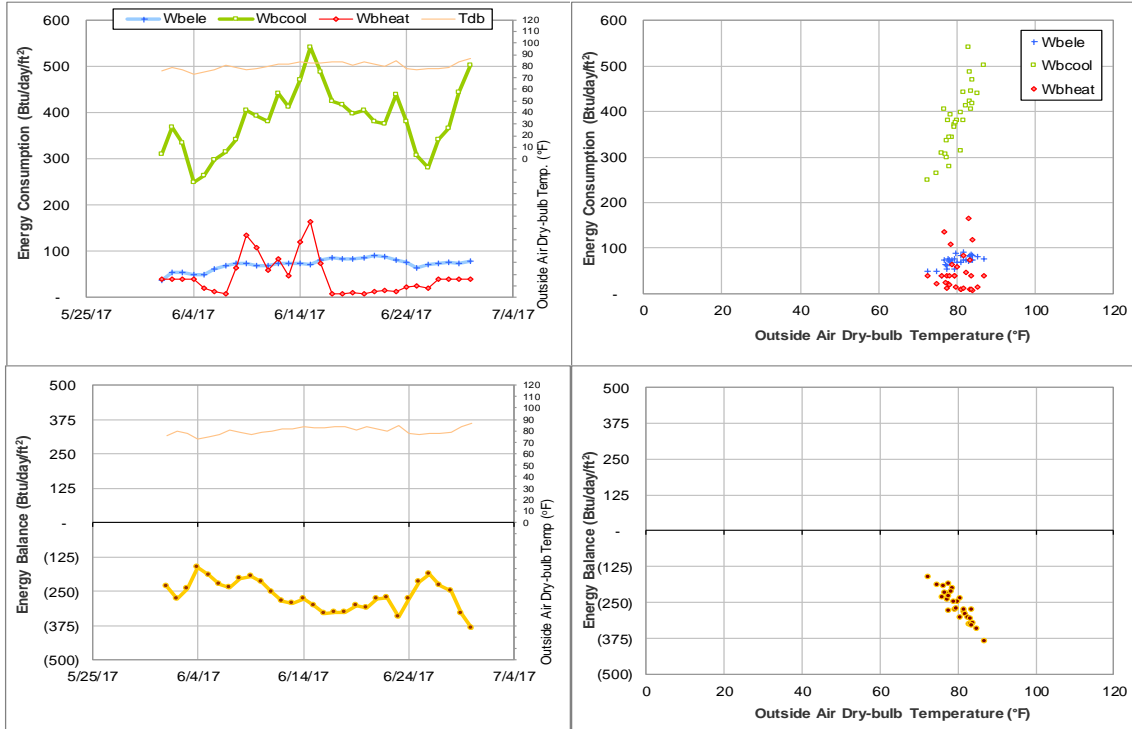


Figure V-5 Whitley Hall - Dorm 9 TAMU BLDG # 408 Energy Balance Plot during June 2017

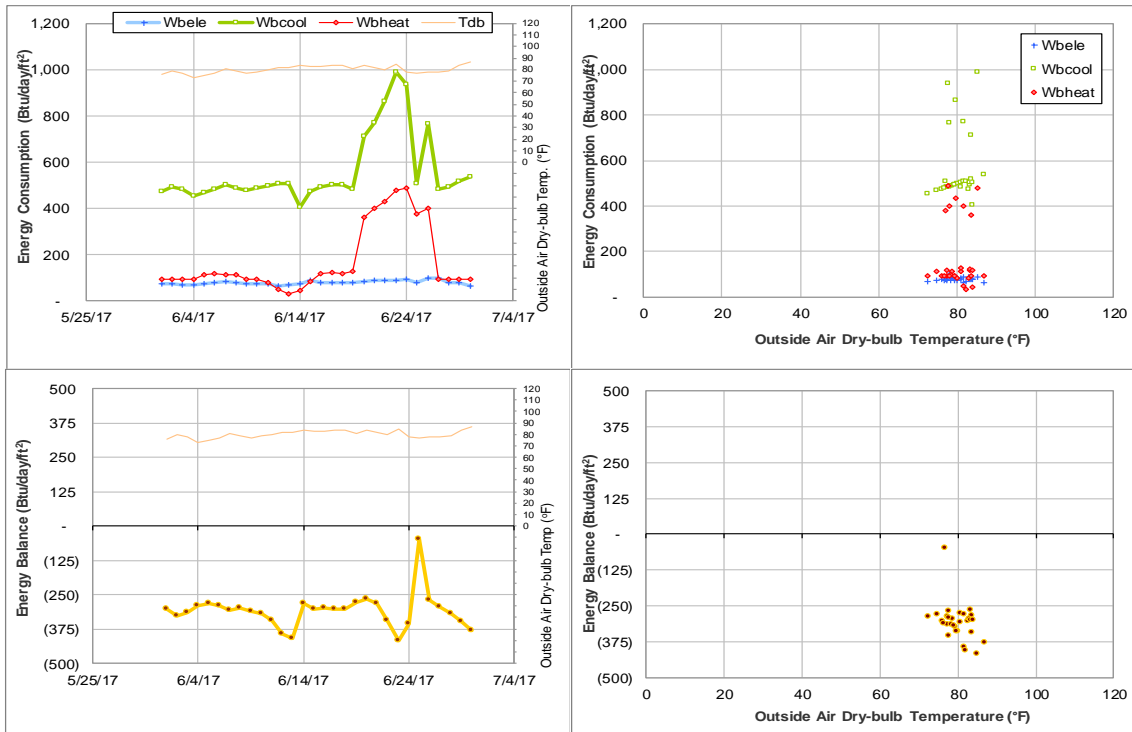


Figure V-6 White Hall - Dorm 10 TAMU BLDG # 409 Energy Balance Plot during June 2017

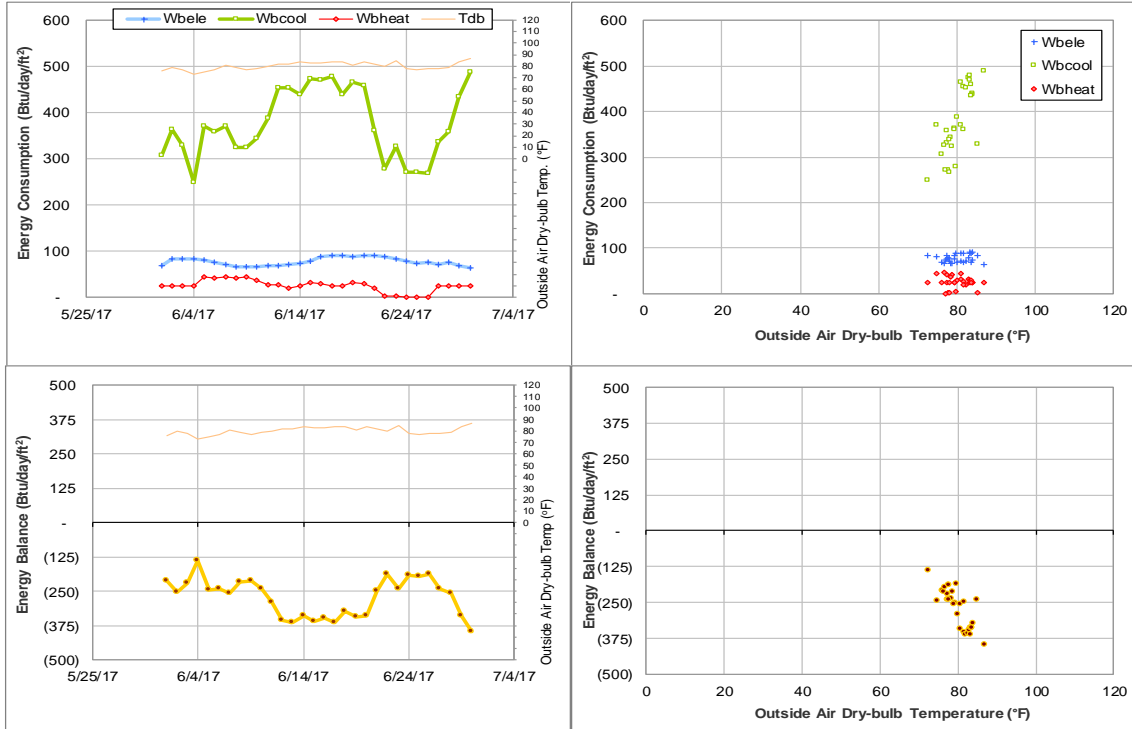


Figure V-7 Harrington Hall - Dorm 11 TAMU BLDG # 410 Energy Balance Plot during June 2017

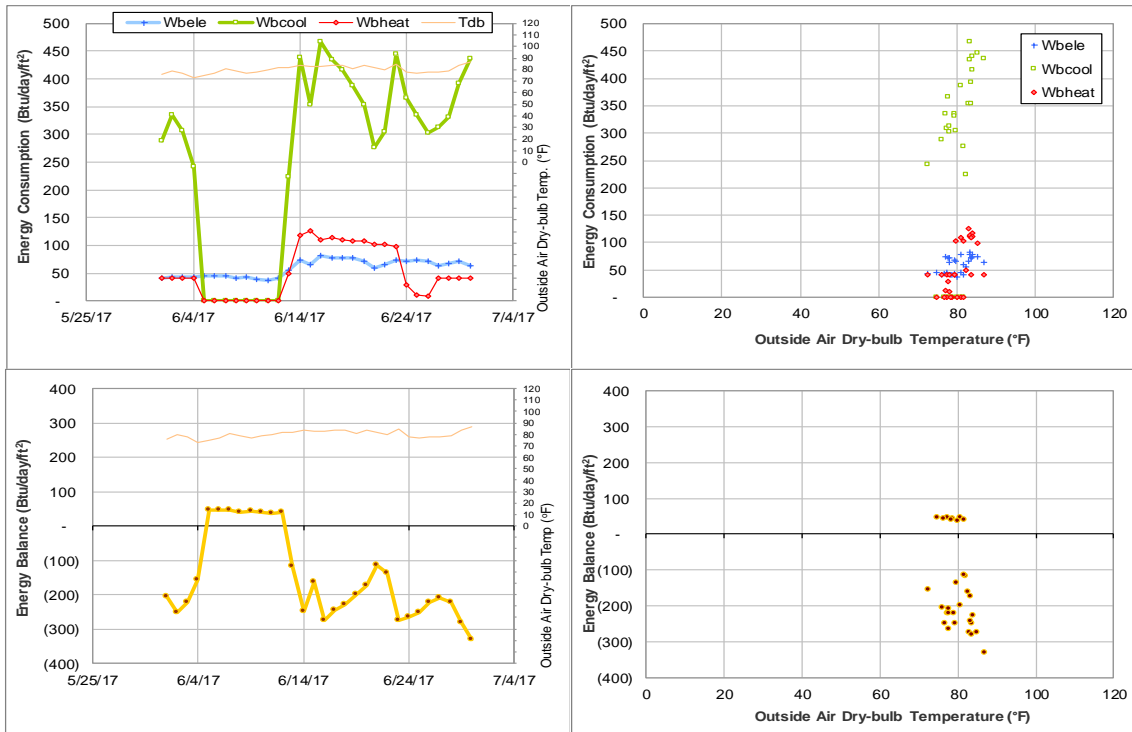


Figure V-8 Utay Hall - Dorm 12 TAMU BLDG # 411 Energy Balance Plot during June 2017

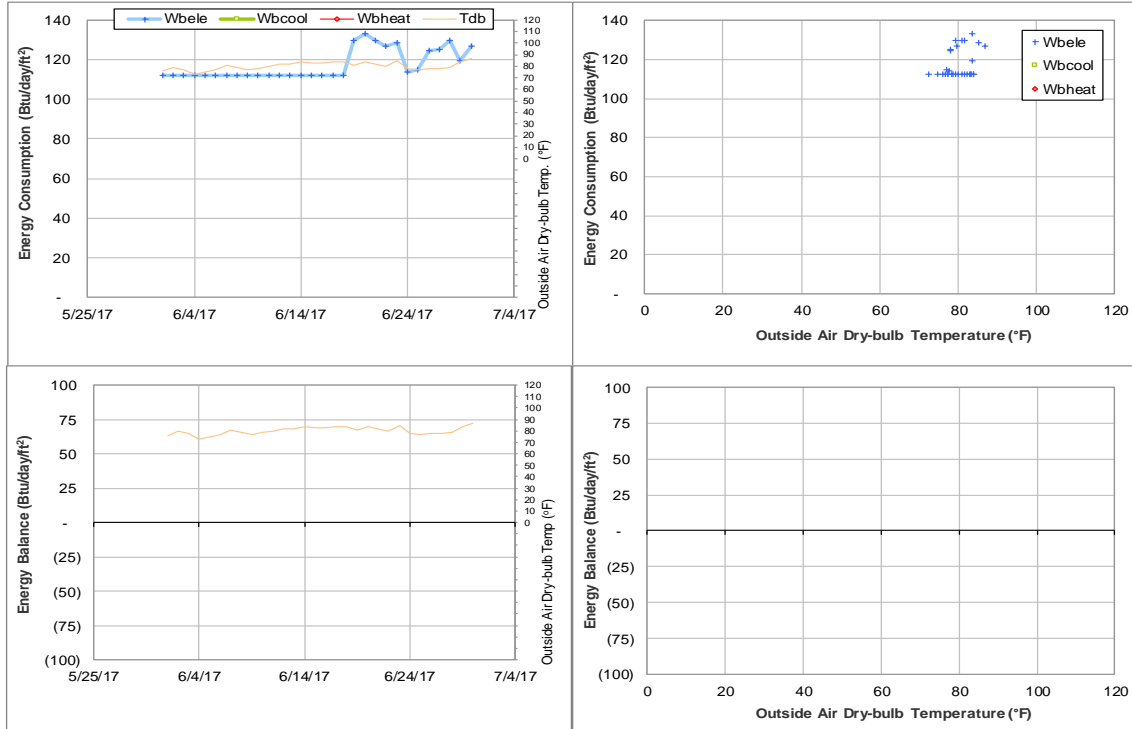


Figure V-9 Architecture Building C TAMU BLDG # 432 Energy Balance Plot during June 2017

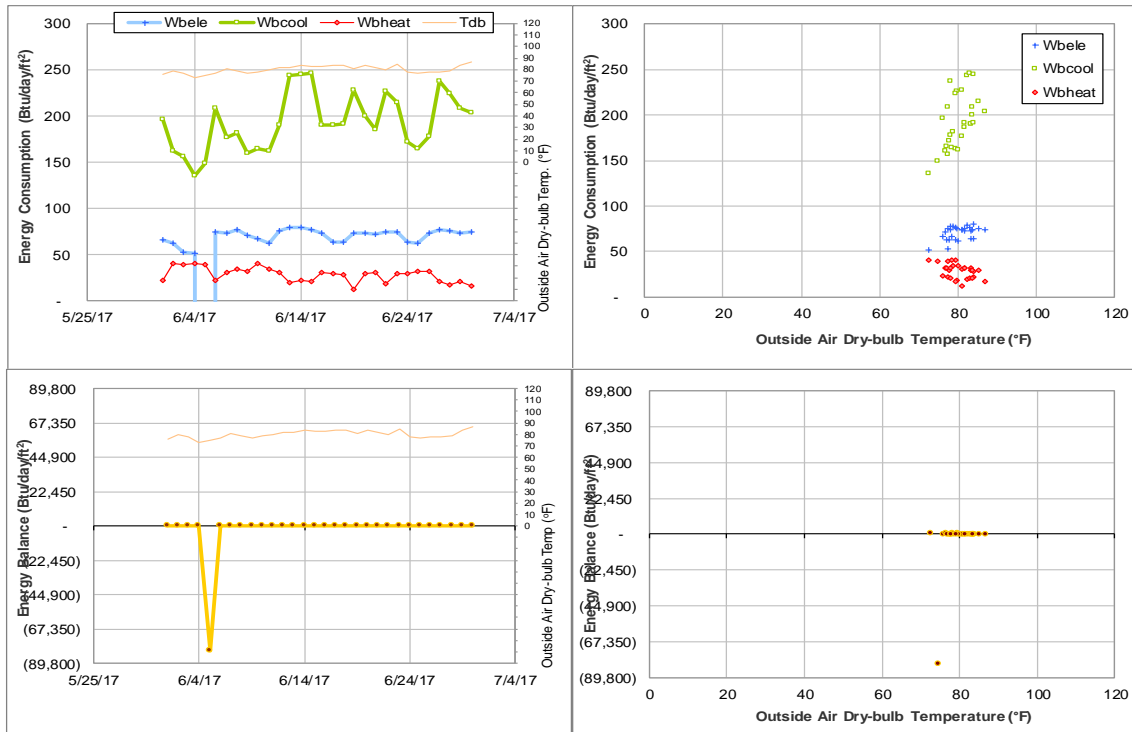


Figure V-10 Rudder Tower and Theatre Complex TAMU BLDG # 446 Energy Balance Plot during June 2017

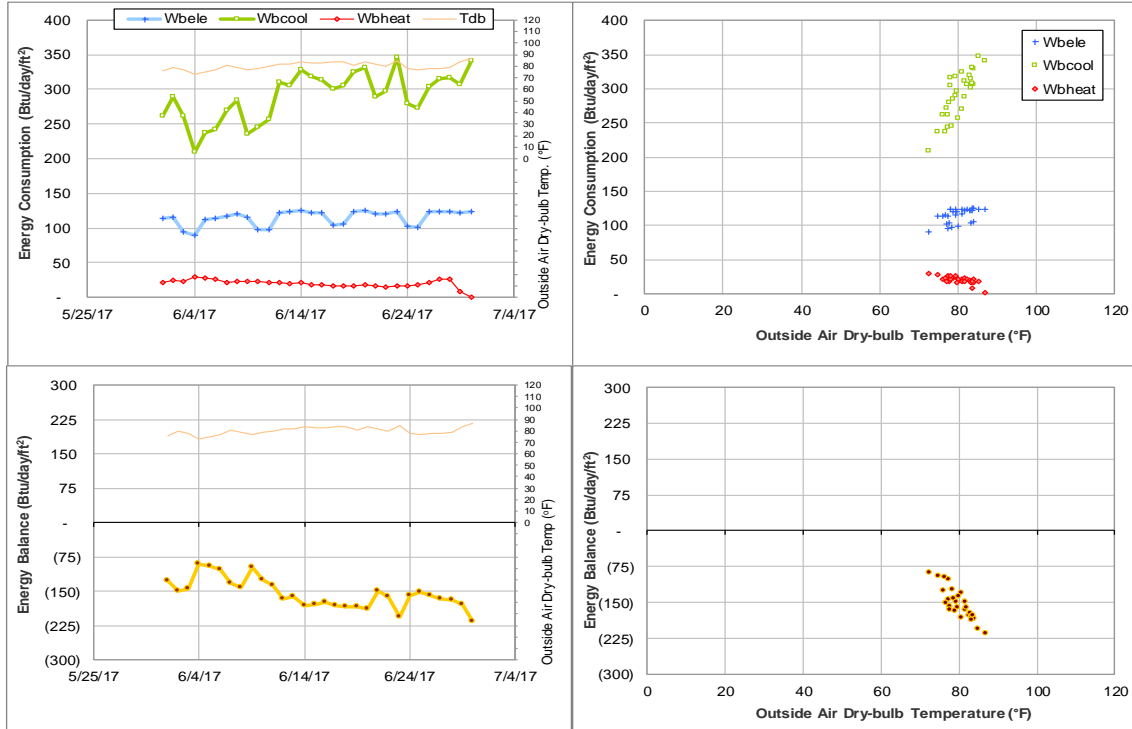


Figure V-11 Rudder Tower TAMU BLDG # 446 Energy Balance Plot during June 2017

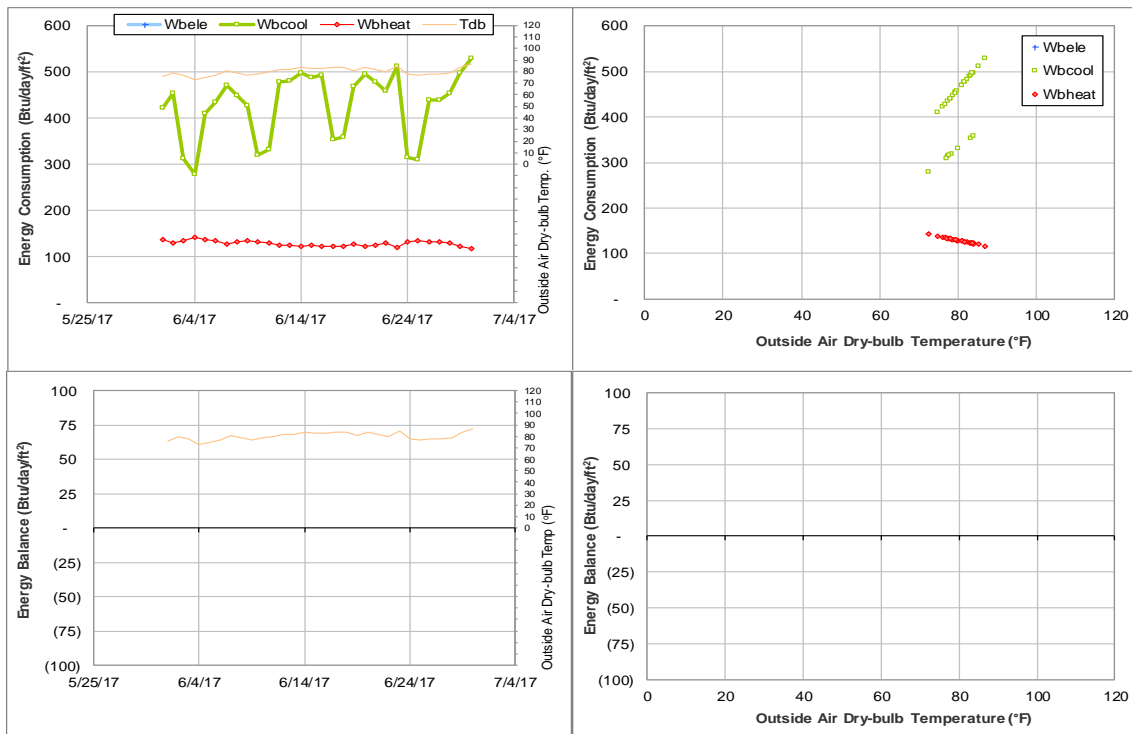


Figure V-12 Military Sciences Building TAMU BLDG # 456 Energy Balance Plot during June 2017

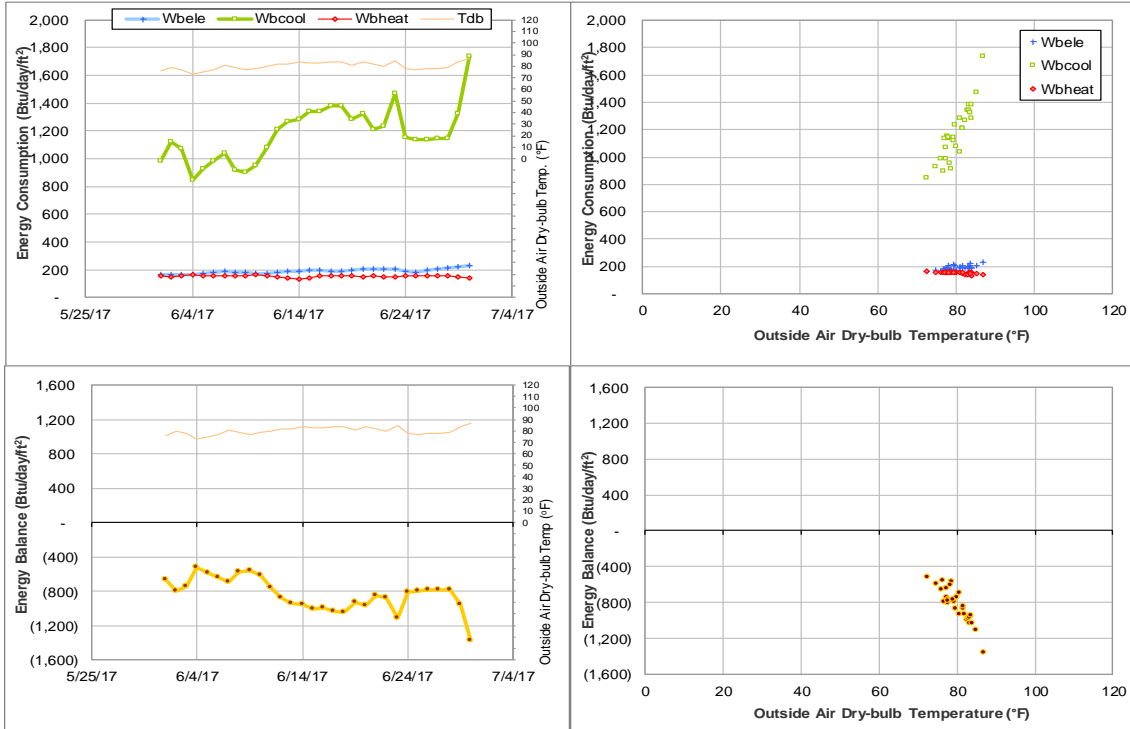


Figure V-13 Chemistry Building TAMU BLDG # 484 Energy Balance Plot during June 2017

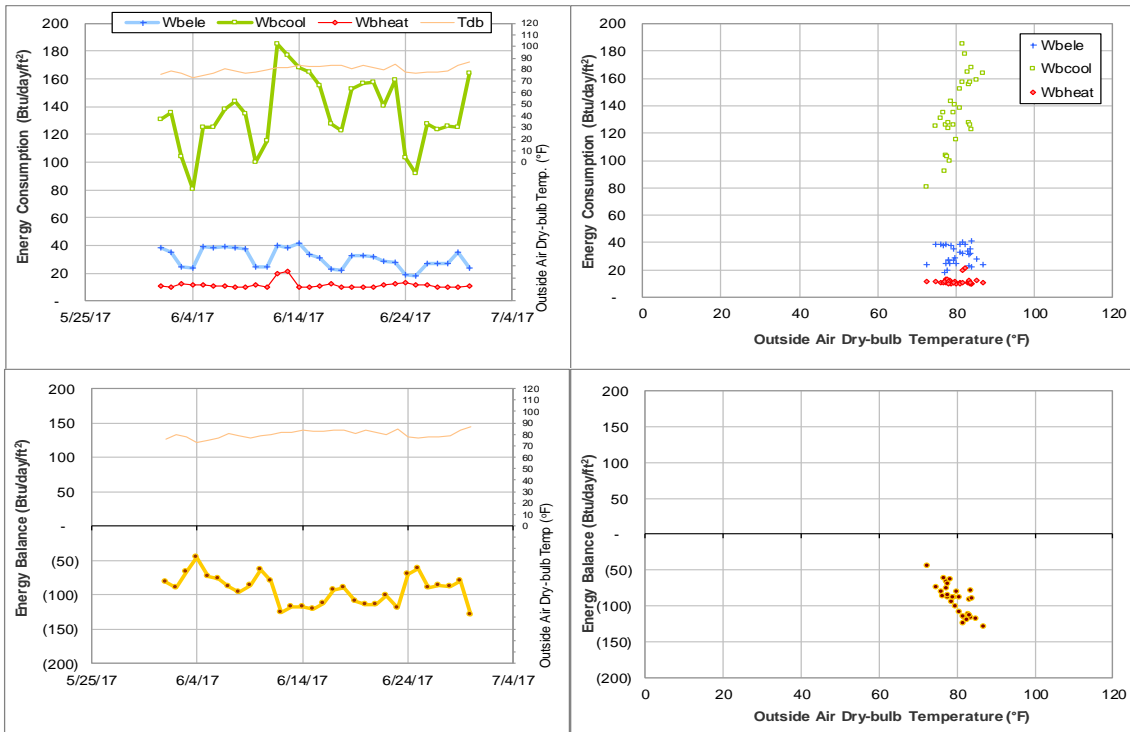


Figure V-14 Utilities & Energy Services Central Office TAMU BLDG # 496 Energy Balance Plot during June 2017

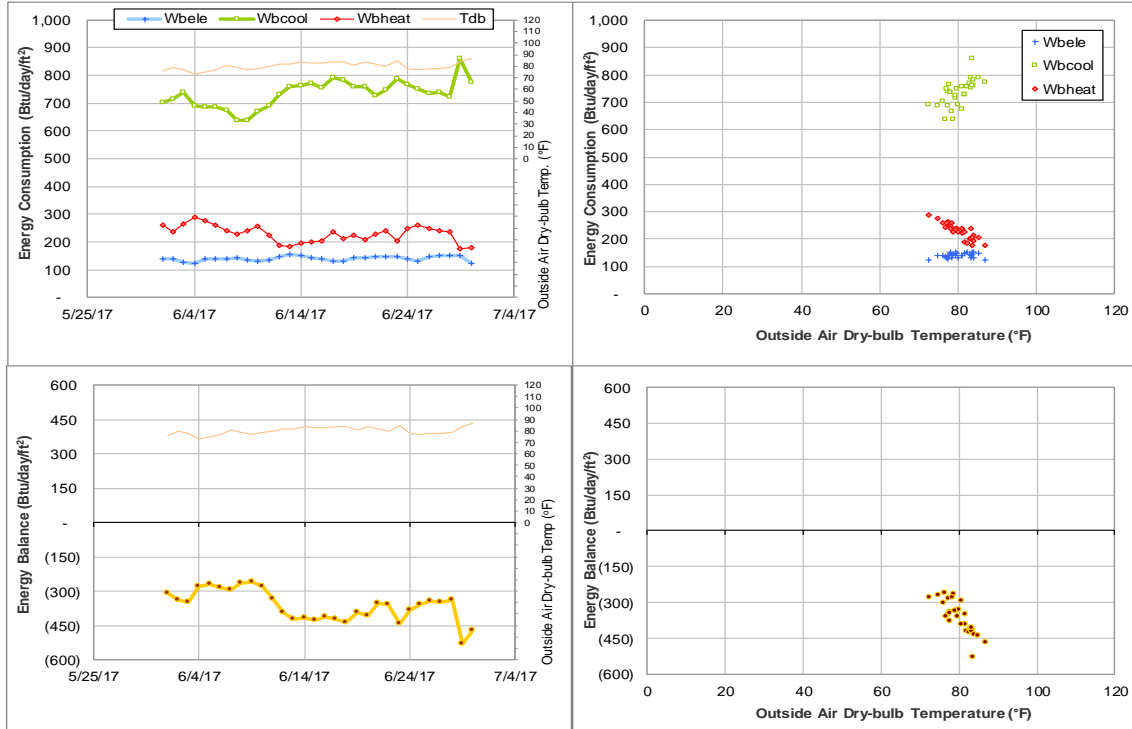


Figure V-15 Doherty Building TAMU BLDG # 513 Energy Balance Plot during June 2017

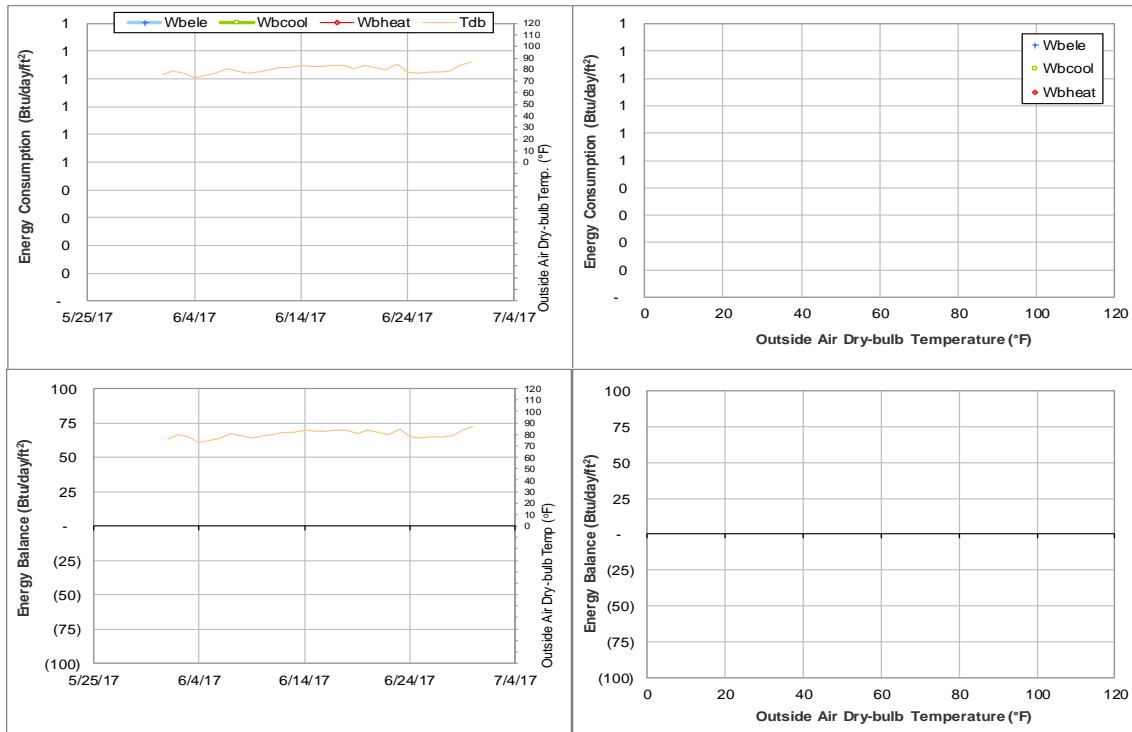


Figure V-16 Haas Residence Hall TAMU BLDG # 549 Energy Balance Plot during June 2017

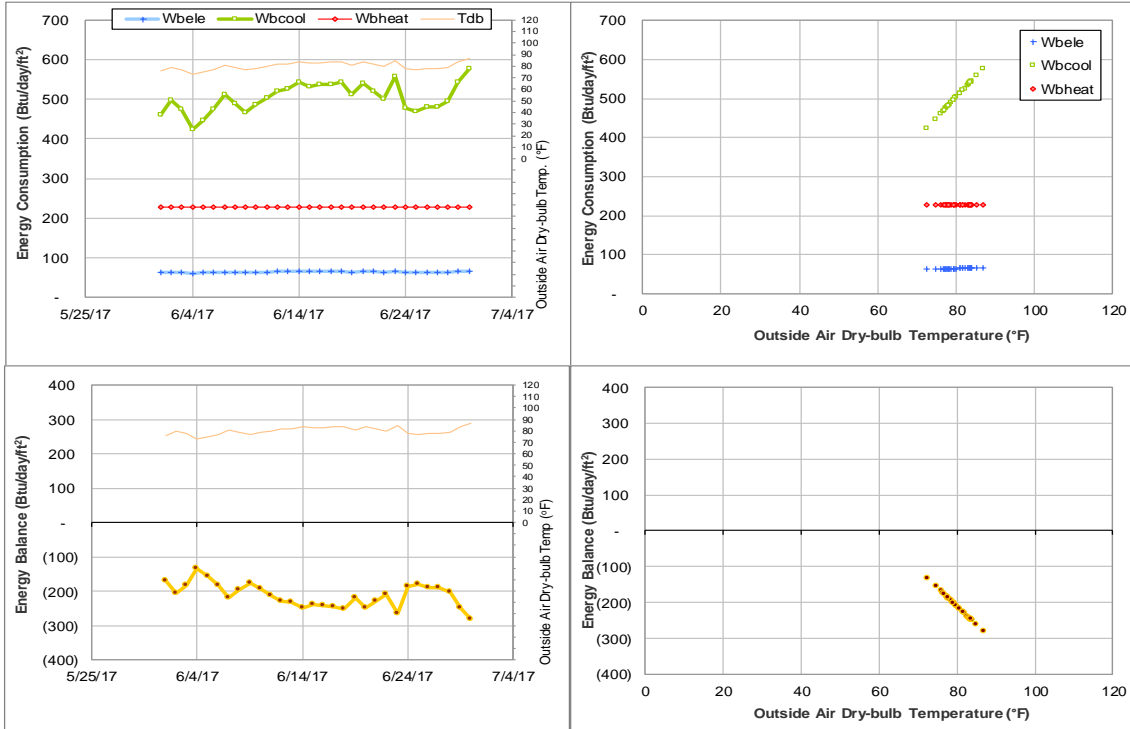


Figure V-17 McFadden Residence Hall TAMU BLDG # 550 Energy Balance Plot during June 2017

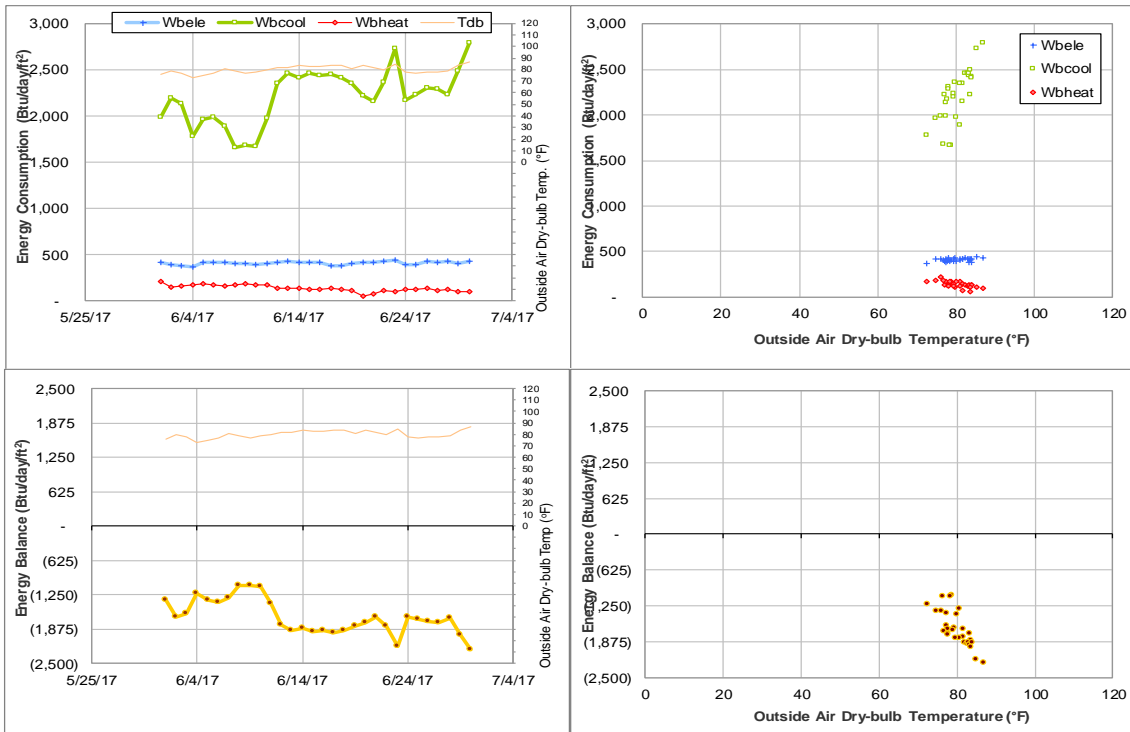


Figure V-18 Laboratory Animal Care Building TAMU BLDG # 972 Energy Balance Plot during June 2017

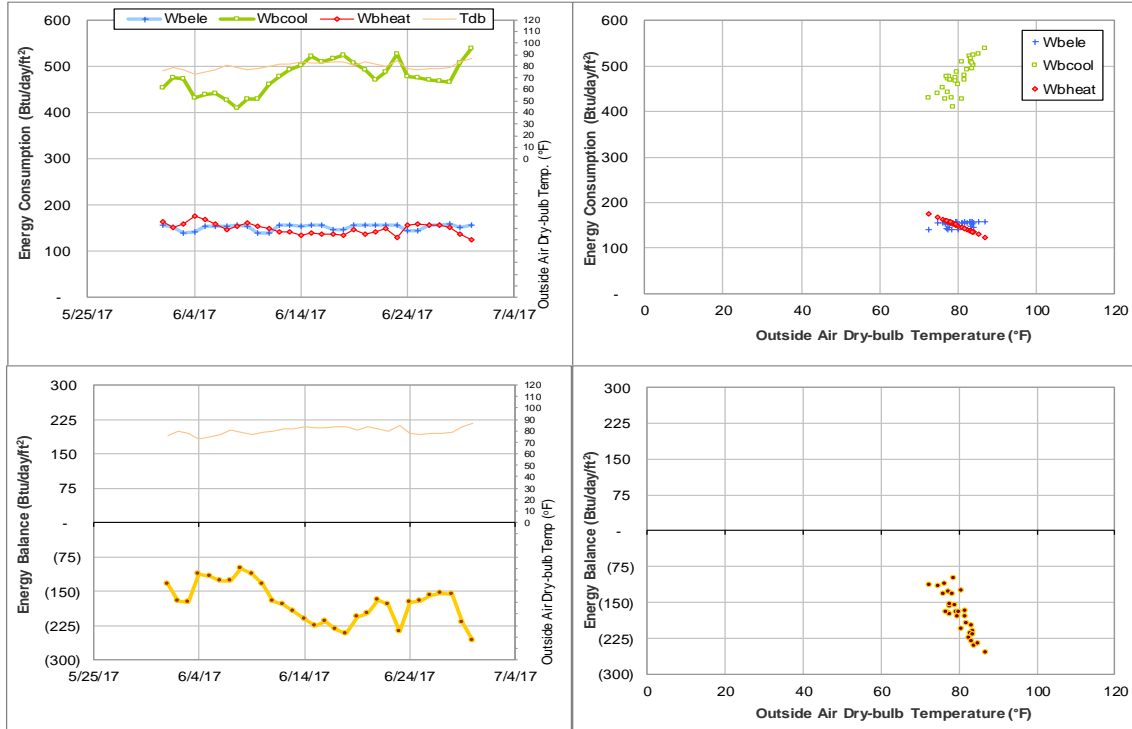


Figure V-19 Veterinary Medicine Administration TAMU BLDG # 1026 Energy Balance Plot during June 2017

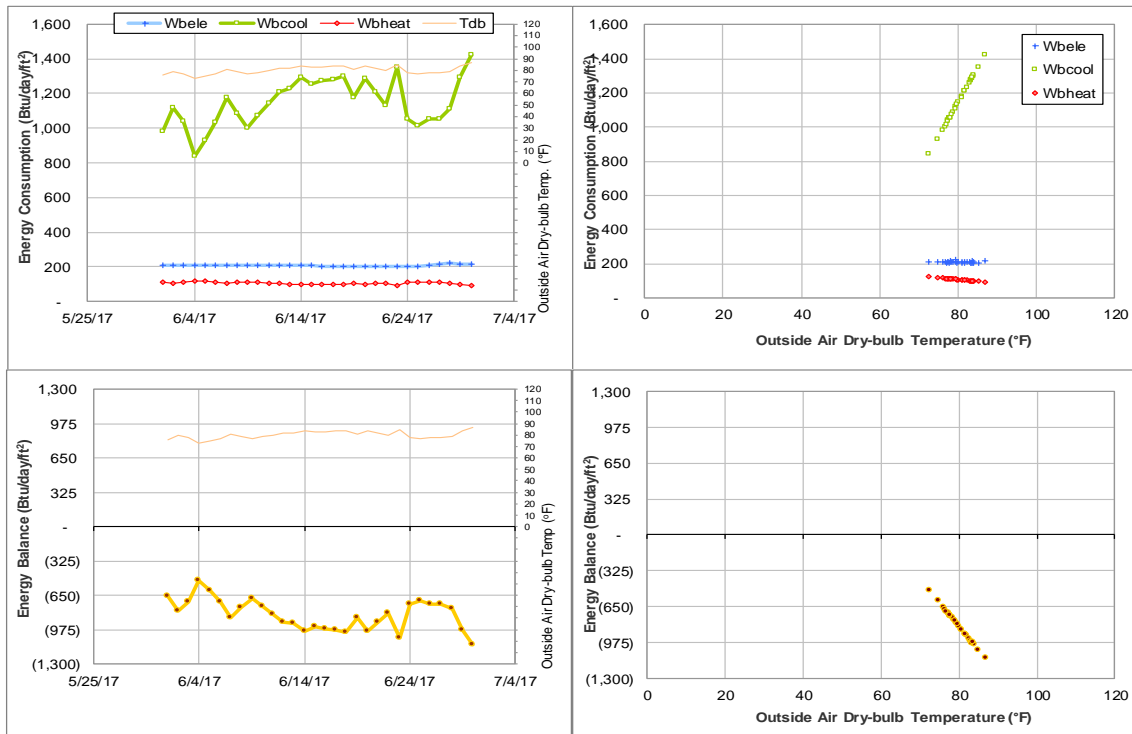


Figure V-20 Texas Vet Med Diagnostic Lab TAMU BLDG # 1041 Energy Balance Plot during June 2017

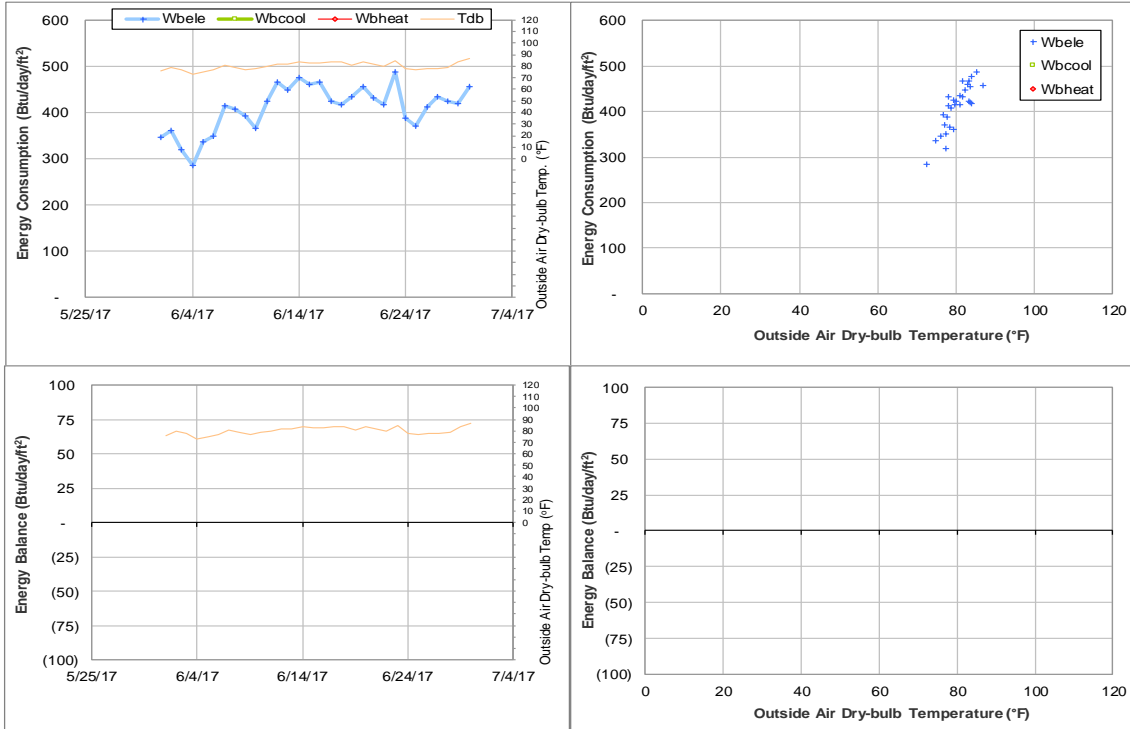


Figure V-21 Forest Science Laboratory Building TAMU BLDG # 1042 Energy Balance Plot during June 2017

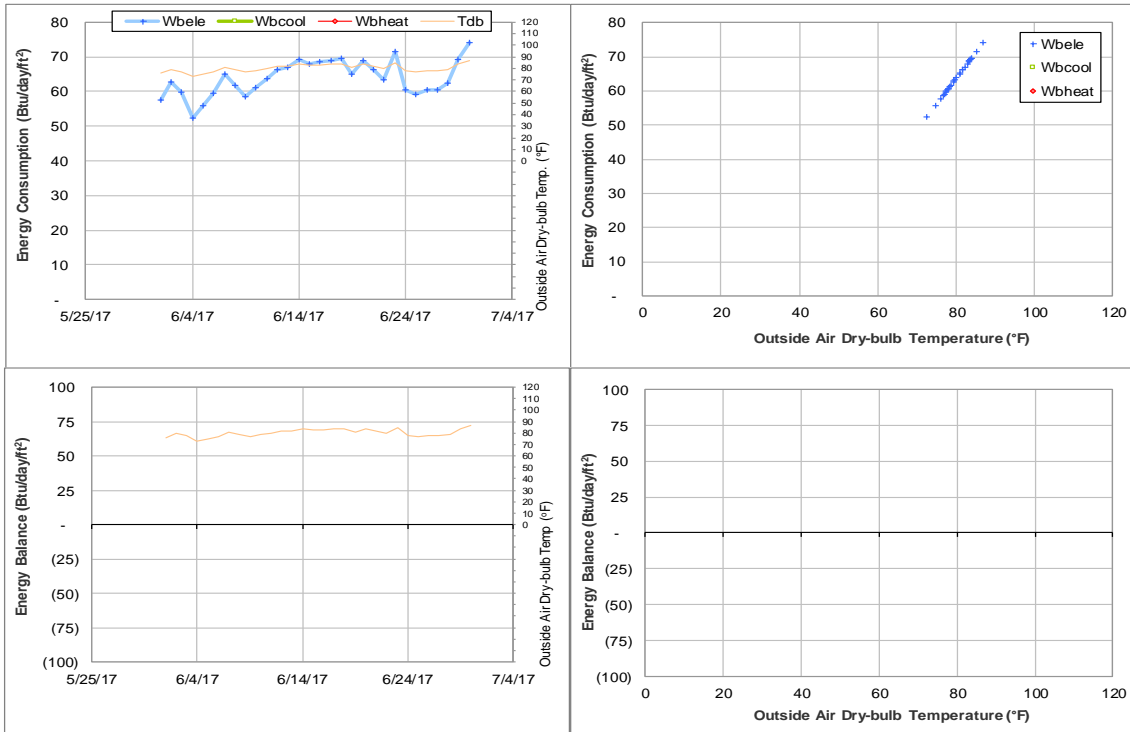


Figure V-22 University Apartments - The Gardens F TAMU BLDG # 1454 Energy Balance Plot during June 2017

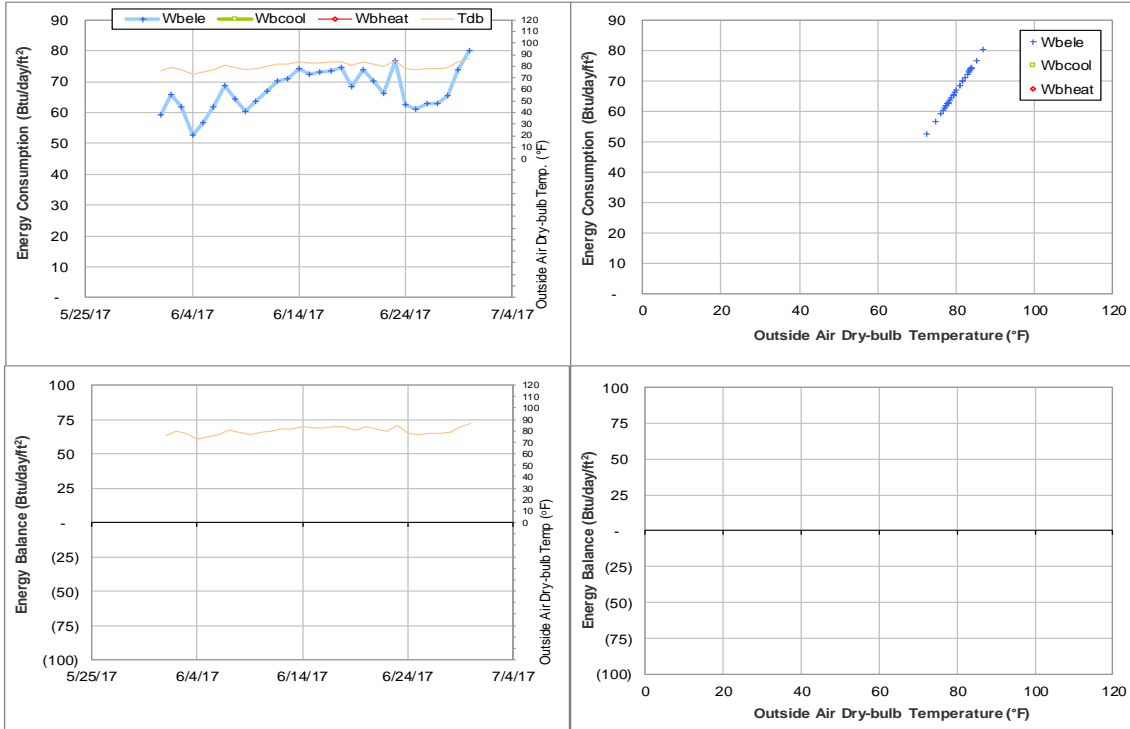


Figure V-23 University Apartments - The Gardens G TAMU BLDG # 1455 Energy Balance Plot during June 2017

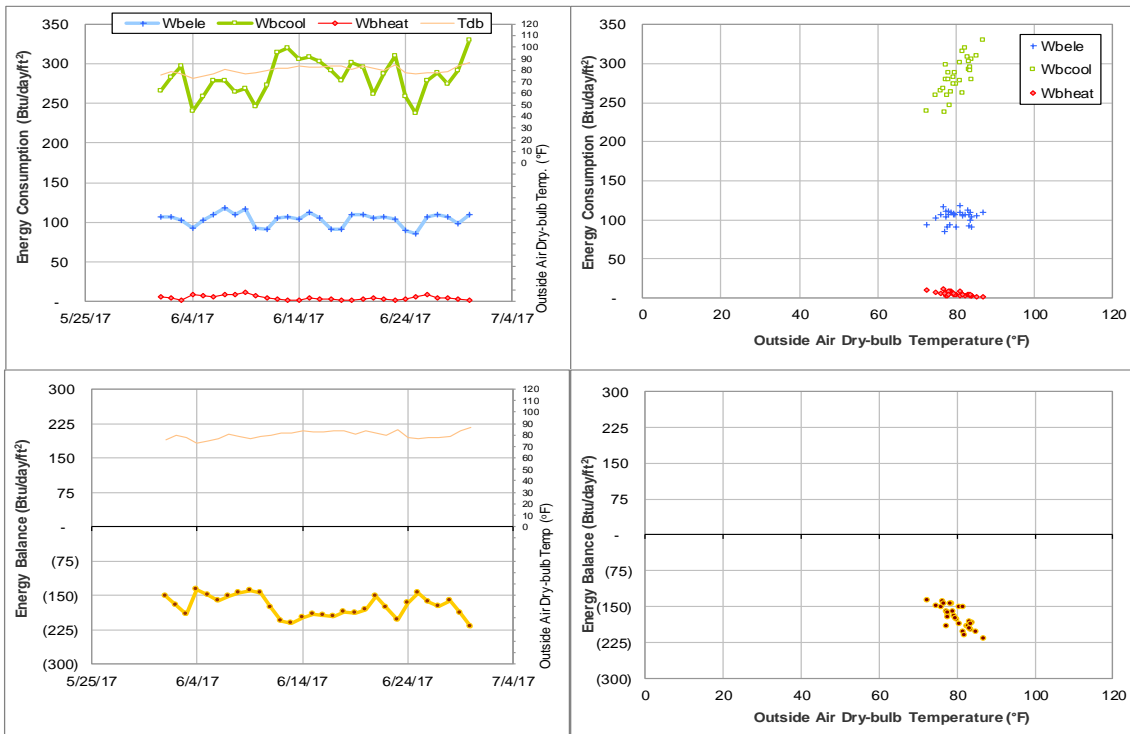


Figure V-24 Price Hobgood Ag. Engineering Research Lab TAMU BLDG # 1508 Energy Balance Plot during June 2017

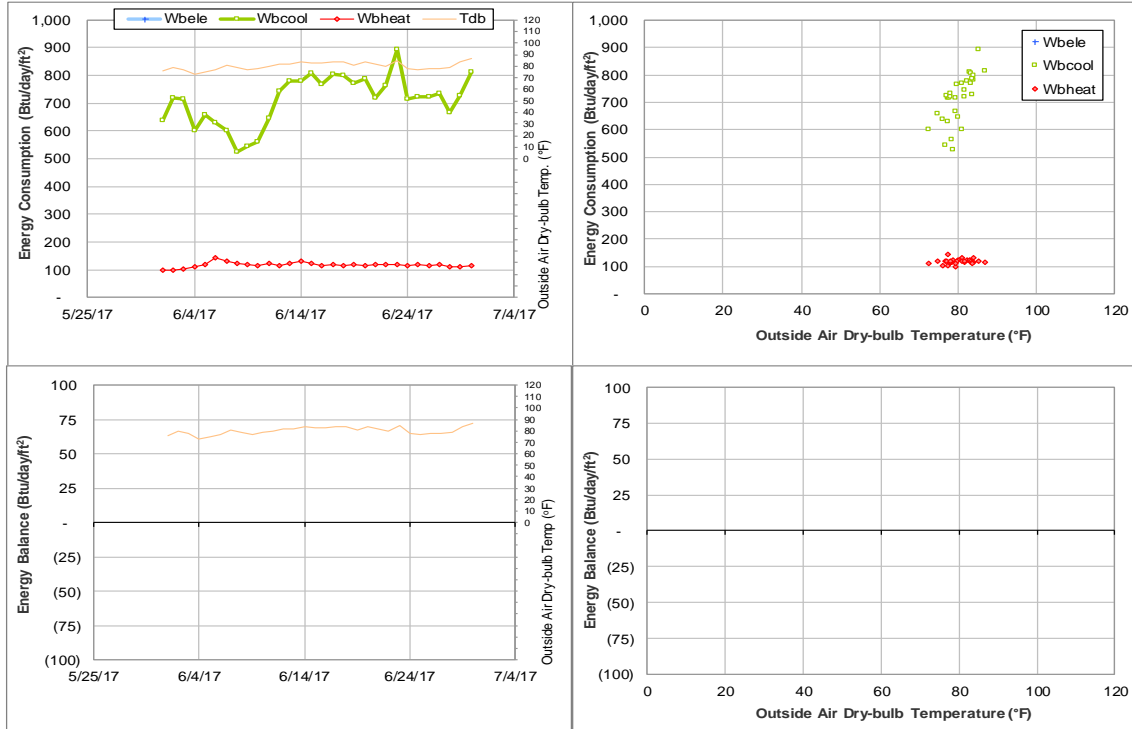


Figure V-25 Agriculture Public Building TAMU BLDG # 1537 Energy Balance Plot during June 2017

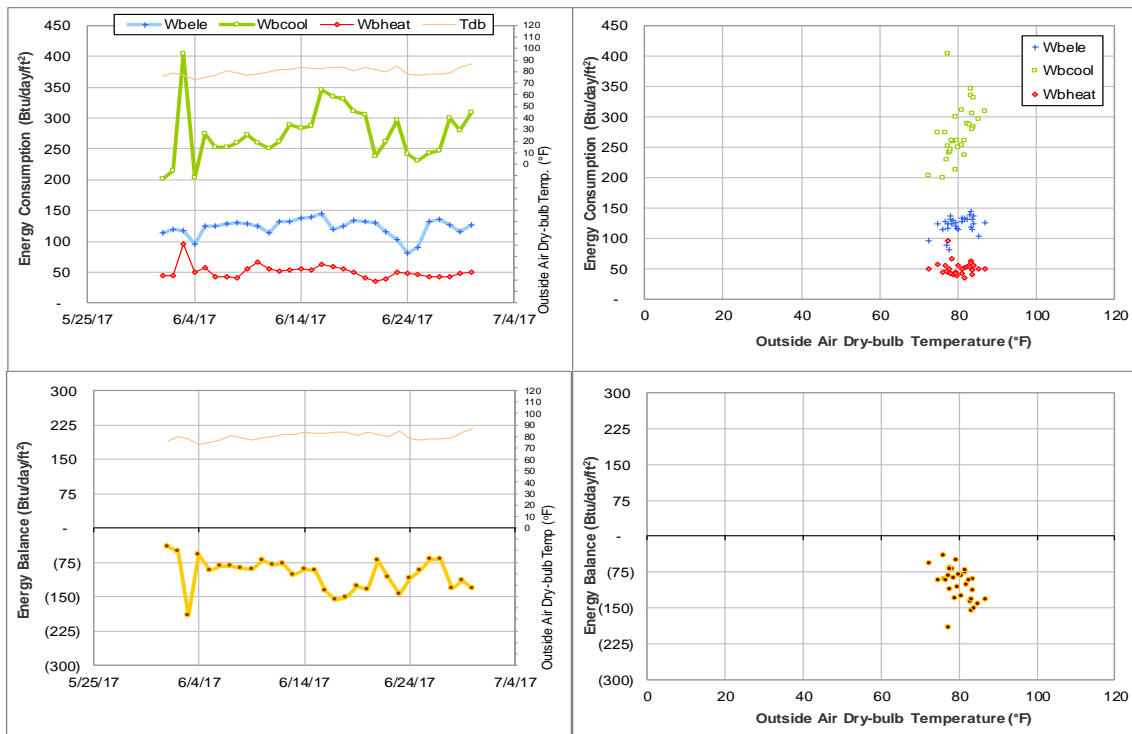


Figure V-26 Reed Arena and Cox-McFerrin Center TAMU BLDG # 1554 Energy Balance Plot during June 2017

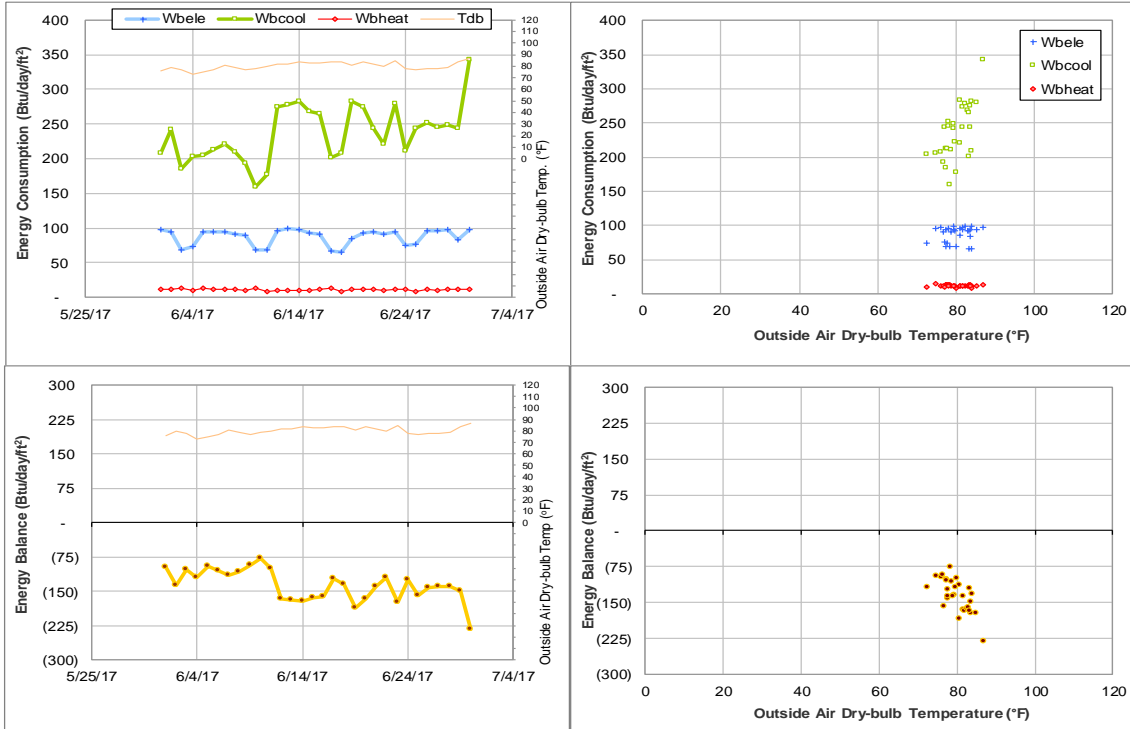


Figure V-27 Gilchrist TTI Building TAMU BLDG # 1600 Energy Balance Plot during June 2017

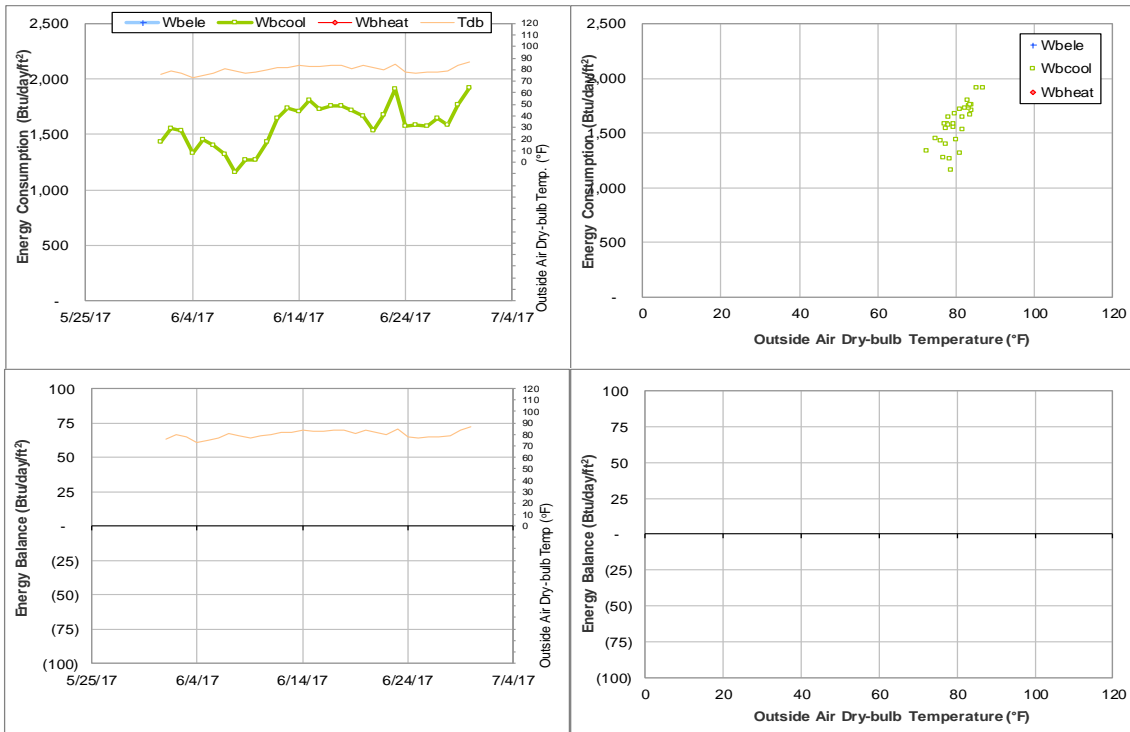


Figure V-28 New TVMDL TAMU BLDG # 1809 Energy Balance Plot during June 2017

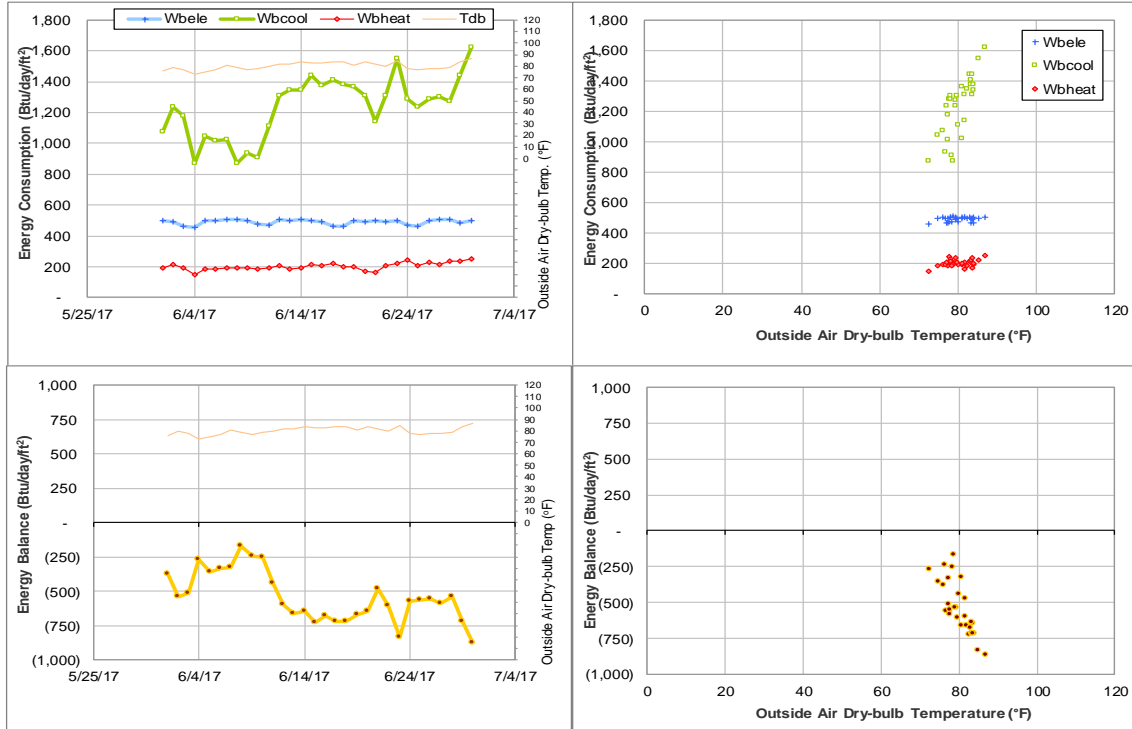


Figure V-29 Vet Med Research Bldg Addition TAMU BLDG # 1811 Energy Balance Plot during June 2017

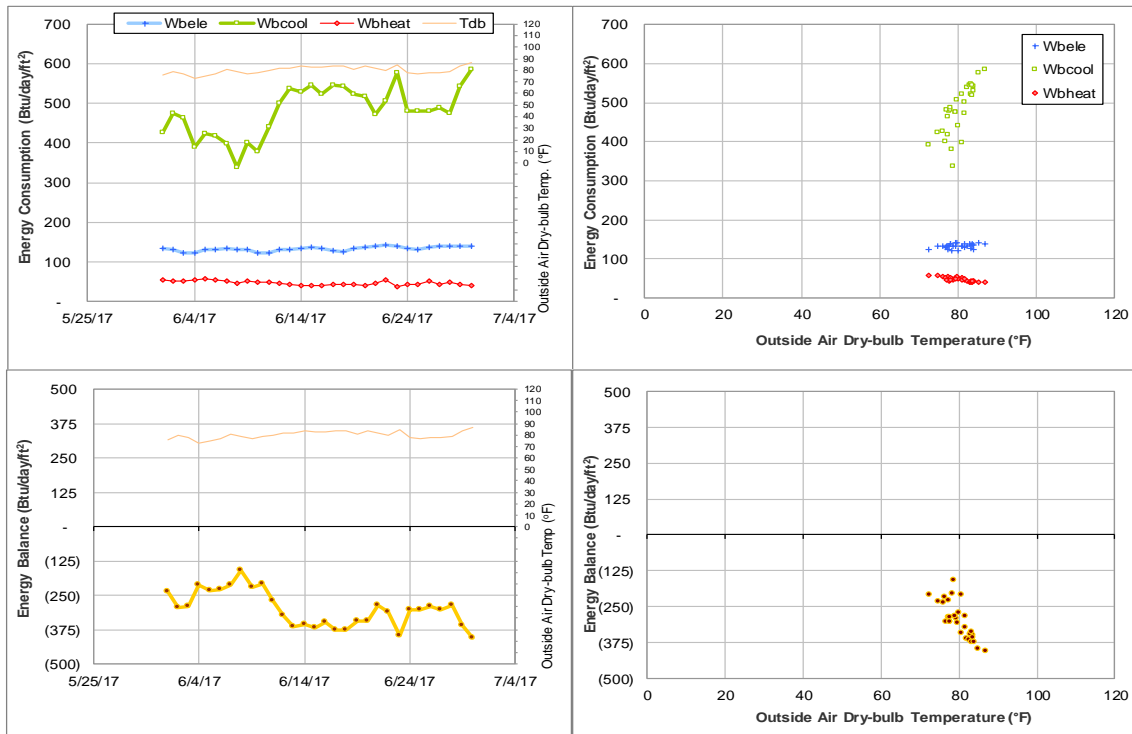


Figure V-30 Veterinary Medicine Building 1, 2, and 3 TAMU BLDG # 1812 Energy Balance Plot during June 2017

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 June 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: July 2017

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