

**Energy Savings Report
For Dallas County
July 2000 - June 2001**

Prepared by

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Mechanical Engineering Department
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College Station, TX 77843-3581**

September 2001

EXECUTIVE SUMMARY

This report presents the energy and dollar savings for the period July 2000 – June 2001 for 12 Dallas County facilities that have been retrofitted by Enershop. The savings for this period total \$745,046, which represent 73.2% of the audit estimated savings. The electric demand savings are \$261,517 and the electric usage savings are \$483,529 (see Table 1). The savings have improved somewhat from the previous report that included the billing periods for April - June 2000. The savings for the earlier period were 62.6% of the audit estimated savings (see Table 2) compared with 73.2% for the current period.

Table 1. Summary of cost savings for 12 Dallas County buildings for the period July-2000 to June-2001

	Consumption	Demand	Total of	Audit	Savings % of
	Savings	Savings	Savings	Estimated	Audit
	\$	\$	\$	Savings	Estimate
ADMINISTRATION BUILDING	\$4,464	\$2,808	\$7,272	\$12,699	57.3%
CLIFF HOUSE	\$3,156	(\$435)	\$2,722	\$3,940	69.1%
DECKER CORRECTIONAL CENTER	\$17,709	\$17,467	\$35,176	\$33,763	104.2%
FORENSIC SCIENCE BUILDING	\$3,073	\$4,741	\$7,814	\$31,057	25.2%
GEORGE ALLEN COURTS BUILDING	\$112,976	\$74,151	\$187,127	\$202,173	92.6%
HEALTH/HUMAN SERVICES COMPLEX	\$63,460	\$24,657	\$88,117	\$99,805	88.3%
INVESTMENT BUILDING	\$2,373	\$1,055	\$3,428	\$9,122	37.6%
LETOT CENTER	\$1,950	\$1,406	\$3,356	\$9,077	37.0%
LEW STERRETT COMPLEX	\$254,621	\$128,440	\$383,061	\$510,859	75.0%
NORTH DALLAS GOVERNMENT CENTER	(\$583)	\$1,101	\$518	\$13,543	3.8%
OAK CLIFF SUB-COURTHOUSE	\$5,977	\$3,413	\$9,390	\$15,992	58.7%
RECORDS (COMPLEX) BUILDING	\$14,352	\$2,712	\$17,064	\$75,121	22.7%
	\$483,529	\$261,517	\$745,046	\$1,017,151	73.2%

Table 2. Summary of cost savings for 12 Dallas County buildings for the period April to June of 2000

	Consumption	Demand	Total of	Audit	Savings % of
	Savings	Savings	Savings	Estimated	Audit
	\$	\$	\$	Savings	Estimate
ADMINISTRATION BUILDING	\$3,691	\$676	\$4,367	\$3,175	137.5%
CLIFF HOUSE	\$502	(\$440)	\$62	\$1,074	5.8%
DECKER CORRECTIONAL CENTER	\$3,478	\$2,743	\$6,222	\$8,441	73.7%
FORENSIC SCIENCE BUILDING	\$736	\$1,272	\$2,008	\$7,764	25.9%
GEORGE ALLEN COURTS BUILDING	\$18,794	\$9,759	\$28,553	\$50,543	56.5%
HEALTH/HUMAN SERVICES COMPLEX	\$15,708	\$11,951	\$27,659	\$24,951	110.9%
INVESTMENT BUILDING	\$896	\$511	\$1,407	\$2,281	61.7%
LETOT CENTER	\$318	(\$56)	\$262	\$2,269	11.5%
LEW STERRETT COMPLEX	\$57,421	\$21,640	\$79,061	\$127,715	61.9%
NORTH DALLAS GOVERNMENT CENTER	\$223	\$837	\$1,060	\$3,386	31.3%
OAK CLIFF SUB-COURTHOUSE	\$1,507	\$397	\$1,904	\$3,998	47.6%
RECORDS (COMPLEX) BUILDING	\$4,667	\$2,202	\$6,869	\$18,780	36.6%
	\$107,942	\$51,492	\$159,435	\$254,377	62.7%

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Records (Complex) Building

Energy and Demand Savings for July 2001 - June 2000

This report begins with a complete summary of the energy, demand and cost savings for each of the 12 sites being analyzed. This summary is followed by a two-page report for each site. The report concludes with an appendix that describes a comparison between analysis of the hourly data and of the monthly data for the Records Complex.

Table 3 separately shows the electricity use and savings, and the electric demand and savings in energy units and dollars for each of the 12 buildings. It also shows the total dollar savings for each building and compares these savings with the audit estimated savings. It can be seen that the savings for seven of the buildings range from 57.3% to 104.2% of the audit estimates, while the other five buildings have lower savings. However, the buildings with the largest expected savings are coming close to the estimates, so the total composite savings of \$745,046 for this group of buildings is 73.2% of the audit estimated savings.

Table 3. Summary of energy and cost savings for 12 Dallas County buildings for July 2000 through June 2001

	Electricity Use				Electric Demand				Total of Savings	Audit Estimated Savings	Savings % of Audit Estimate
	Use kWh	Use \$	Savings kWh	Savings \$	Demand kW	Demand \$	Savings kW	Savings \$			
ADMINISTRATION BUILDING	1,919,520	\$61,425	139,512	\$4,464	4,066	\$47,084	242	\$2,808	\$7,272	\$12,699	57.3%
CLIFF HOUSE	215,280	\$8,181	83,065	\$3,156	800	\$8,768	-40	(\$435)	\$2,722	\$3,940	69.1%
DECKER CORRECTIONAL CENTER	3,293,136	\$85,622	681,109	\$17,709	6,282	\$77,960	1,408	\$17,467	\$35,176	\$33,763	104.2%
FORENSIC SCIENCE BUILDING	1,119,360	\$29,103	118,174	\$3,073	2,104	\$26,111	382	\$4,741	\$7,814	\$31,057	25.2%
GEORGE ALLEN COURTS BUILDING	9,203,328	\$239,287	4,345,235	\$112,976	19,165	\$237,838	5,975	\$74,151	\$187,127	\$202,173	92.6%
HEALTH/HUMAN SERVICES COMPLEX	9,058,824	\$235,529	2,440,766	\$63,460	18,580	\$230,578	1,987	\$24,657	\$88,117	\$99,805	88.3%
INVESTMENT BUILDING	500,880	\$18,032	65,928	\$2,373	1,482	\$17,784	88	\$1,055	\$3,428	\$9,122	37.6%
LETOT CENTER	646,440	\$20,686	60,941	\$1,950	1,703	\$18,324	131	\$1,406	\$3,356	\$9,077	37.0%
LEW STERRETT COMPLEX	33,987,463	\$883,674	9,793,105	\$254,621	63,816	\$738,989	11,092	\$128,440	\$383,061	\$510,859	75.0%
NORTH DALLAS GOVERNMENT CENTER	1,034,376	\$26,894	-22,406	(\$583)	2,106	\$23,082	100	\$1,101	\$518	\$13,543	3.8%
OAK CLIFF SUB-COURTHOUSE	355,840	\$13,522	157,294	\$5,977	1,122	\$12,768	300	\$3,413	\$9,390	\$15,992	58.7%
RECORDS (COMPLEX) BUILDING	5,360,176	\$139,365	551,990	\$14,352	12,454	\$134,005	252	\$2,712	\$17,064	\$75,121	22.7%
	66,694,623	\$1,761,318	18,414,713	\$483,529	133,680	\$1,573,291	21,917	\$261,517	\$745,046	\$1,017,151	73.2%

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Jul-00 through Jun-01
 Summary of Measured Energy Consumption and Savings

Month	Electricity Use				Electric Demand				Water Savings	Total of Savings (\$)		
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	196,920	\$6,301	8,356	\$267	352	\$4,076	14	\$163	N.A.*	\$430	\$1,058	\$430
Aug-00	176,220	\$5,639	12,263	\$392	363	\$4,088	23	\$263	N.A.*	\$656	\$1,058	\$1,086
Sep-00	178,020	\$5,697	13,145	\$421	354	\$4,099	25	\$291	N.A.*	\$712	\$1,058	\$1,797
Oct-00	175,500	\$5,616	19,026	\$609	351	\$4,065	24	\$282	N.A.*	\$891	\$1,058	\$2,688
Nov-00	164,980	\$4,959	23,301	\$746	331	\$3,833	20	\$234	N.A.*	\$980	\$1,058	\$3,668
Dec-00	141,300	\$4,522	7,460	\$239	348	\$4,030	3	\$37	N.A.*	\$276	\$1,058	\$3,944
Jan-01	133,800	\$4,282	10,708	\$343	320	\$3,706	31	\$362	N.A.*	\$704	\$1,058	\$4,649
Feb-01	124,140	\$3,972	34,487	\$1,104	331	\$3,833	20	\$234	N.A.*	\$1,338	\$1,058	\$5,987
Mar-01	140,820	\$4,508	6,961	\$223	324	\$3,752	27	\$315	N.A.*	\$538	\$1,058	\$6,525
Apr-01	148,980	\$4,767	(1,243)	(\$40)	334	\$3,868	17	\$200	N.A.*	\$160	\$1,058	\$6,684
May-01	178,620	\$5,716	(1,405)	(\$45)	329	\$3,810	22	\$257	N.A.*	\$213	\$1,058	\$6,897
Jun-01	170,220	\$5,447	6,452	\$206	339	\$3,926	15	\$169	N.A.*	\$375	\$1,058	\$7,272
TOTAL	1,919,520	\$61,425	139,512	\$4,464	4,066	\$47,084	242	\$2,808	-	\$7,272	\$12,699	

Comments:

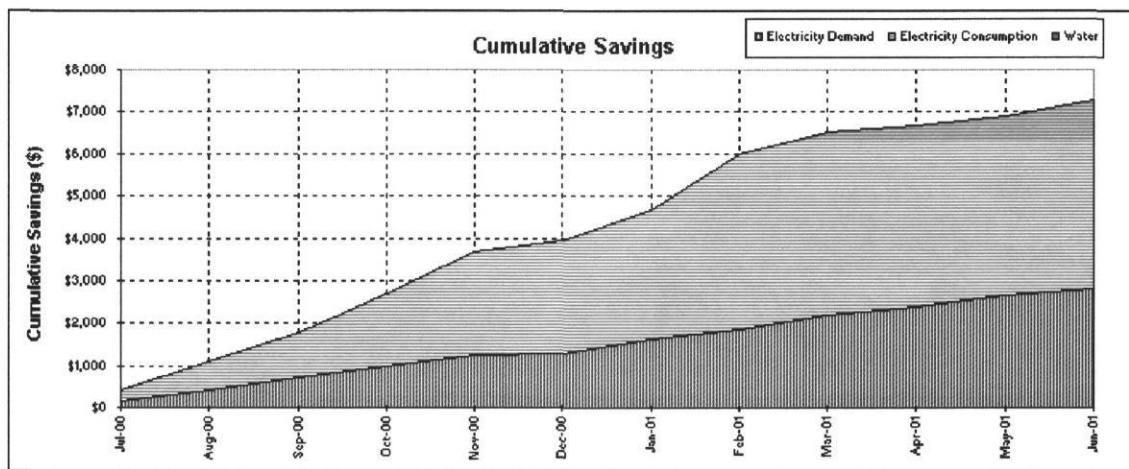
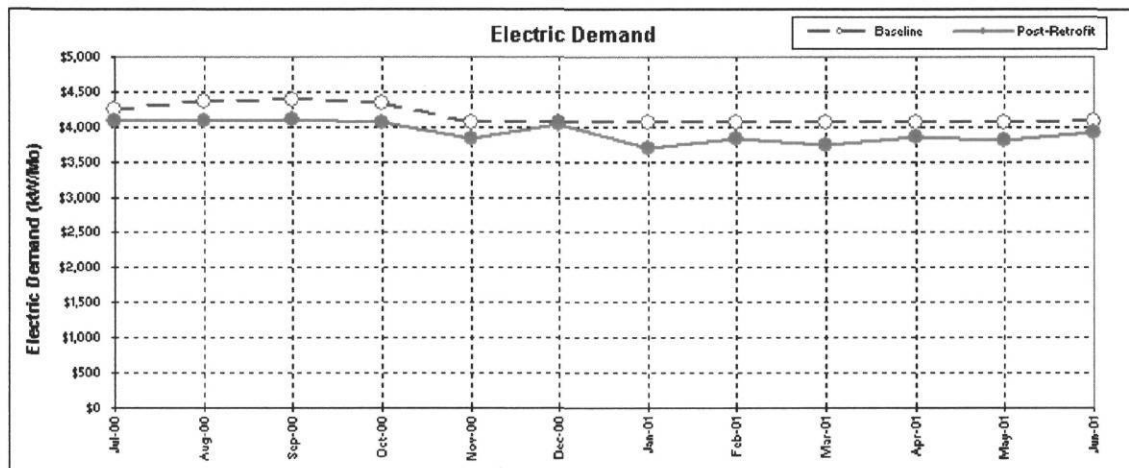
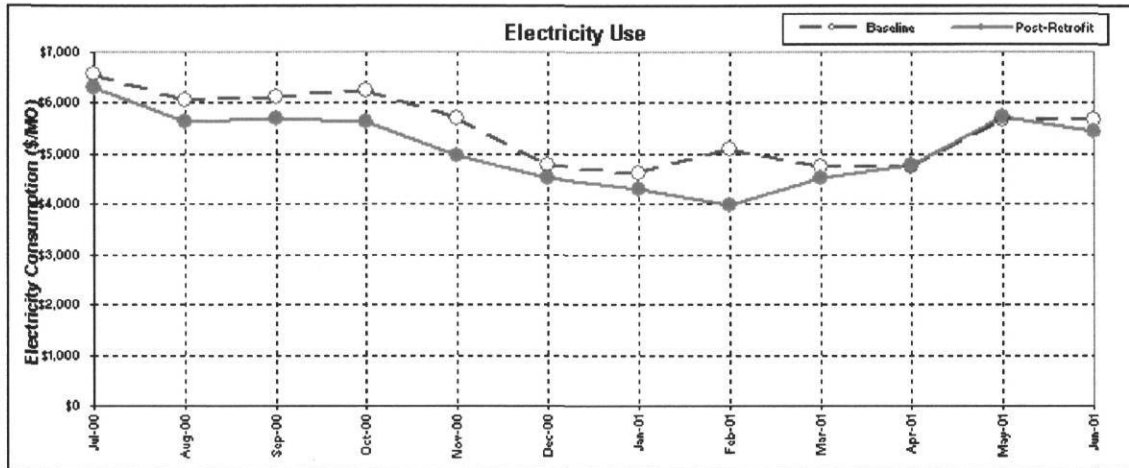
Avoided Costs \$0.032/kWh and 11.58/kV-Mo

"Month" indicates month bill paid. Consumption typically occurs during previous month or portions of two previous months

* N.A. means not applicable

Hourly profiles show that weekend usage of the building has increased sharply since before the retrofit. This has actually increased the savings realized from the lighting retrofit, but was not reflected in our original savings determination. The adjustment corresponds to 16 kWh/h on weekends, which is equivalent to 3325 kWh saved in each period assuming that 4 weekend have occurred in each period (8.66 days).

ADMINISTRATION BUILDING



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CLIFF HOUSE
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Jul-00 through Jun-01
Summary of Measured Energy Consumption and Savings

Month	Electricity Use				Electric Demand				Water Savings	Total of Savings (\$)		
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	20,960	\$796	13,430	\$510	90	\$966	(12)	(\$137)	N.A.*	\$374	\$358	\$374
Aug-00	20,000	\$760	25,876	\$983	80	\$877	11	\$117	N.A.*	\$1,100	\$358	\$1,474
Sep-00	15,040	\$572	29,343	\$1,115	80	\$877	9	\$104	N.A.*	\$1,219	\$358	\$2,693
Oct-00	32,960	\$1,252	5,422	\$206	106	\$1,162	(11)	(\$116)	N.A.*	\$90	\$358	\$2,784
Nov-00	22,960	\$872	834	\$32	78	\$855	(3)	(\$31)	N.A.*	\$0	\$358	\$2,784
Dec-00	18,000	\$684	1,535	\$58	64	\$701	(3)	(\$35)	N.A.*	\$23	\$358	\$2,907
Jan-01	18,000	\$684	(241)	(\$9)	62	\$680	(13)	(\$147)	N.A.*	(\$156)	\$358	\$2,651
Feb-01	14,240	\$541	4,111	\$156	62	\$680	(13)	(\$147)	N.A.*	\$9	\$358	\$2,661
Mar-01	22,400	\$851	(5,233)	(\$199)	57	\$625	(2)	(\$24)	N.A.*	(\$223)	\$358	\$2,438
Apr-01	15,600	\$593	1,567	\$60	57	\$625	(3)	(\$37)	N.A.*	\$23	\$358	\$2,461
May-01	15,120	\$575	6,418	\$244	64	\$701	2	\$17	N.A.*	\$261	\$358	\$2,722
Jun-01	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*	N.A.*
TOTAL	215,280	\$8,181	\$3,065	\$3,156	800	\$8,768	-40	(\$435)	-	\$2,722	\$3,940	

Comments:

Avoided Costs \$0.038/kWh and 10.96/kV-Mo

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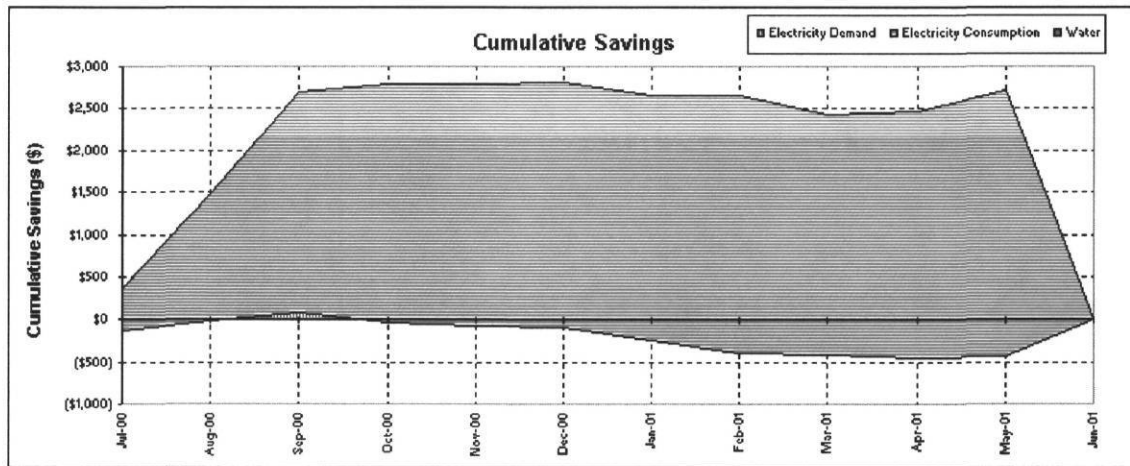
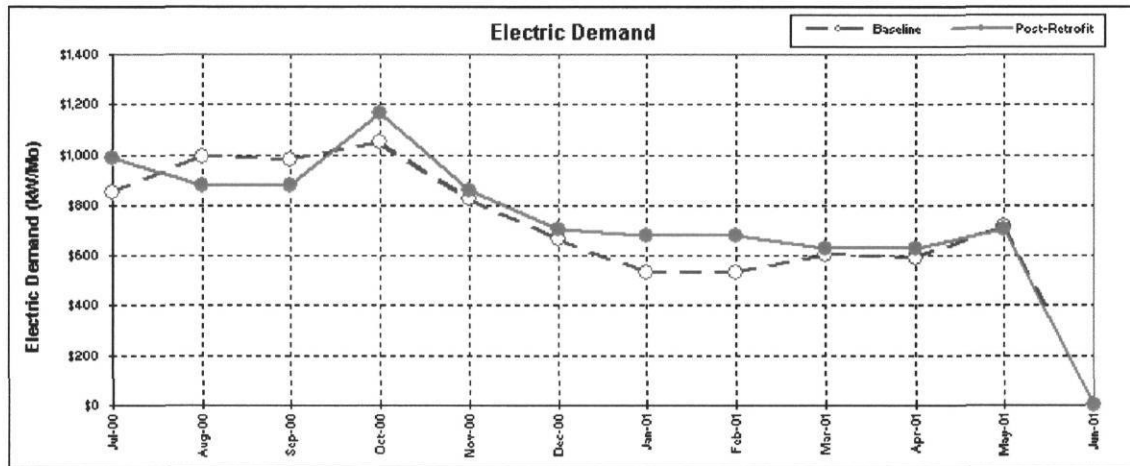
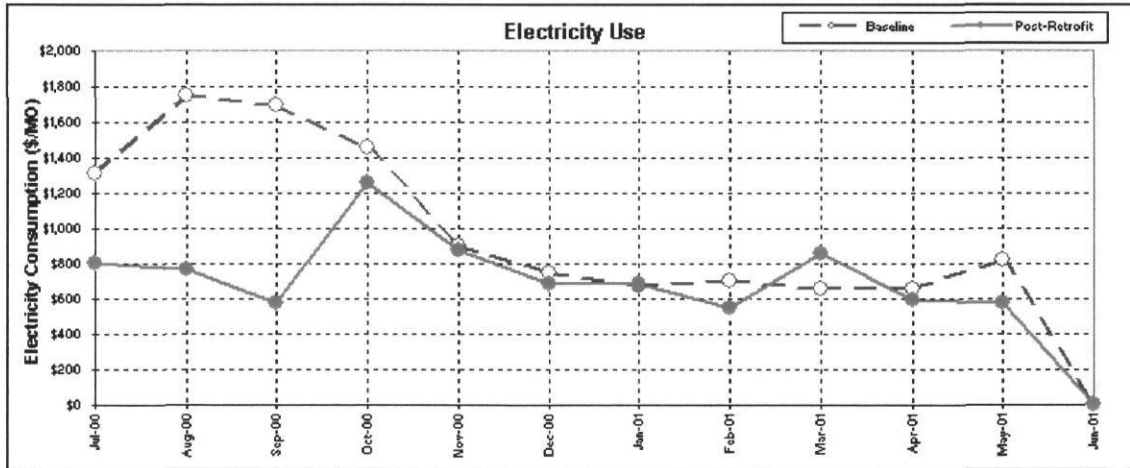
Electric bill for Jun-01 is not available

CLIFF HOUSE

Energy Systems Laboratory
Texas Engineering Experiment Station

Dallas County Energy Consumption Report

Texas A&M University
College Station, TX



CLIFF HOUSE

DECKER CORRECTIONAL CENTER
Dallas County

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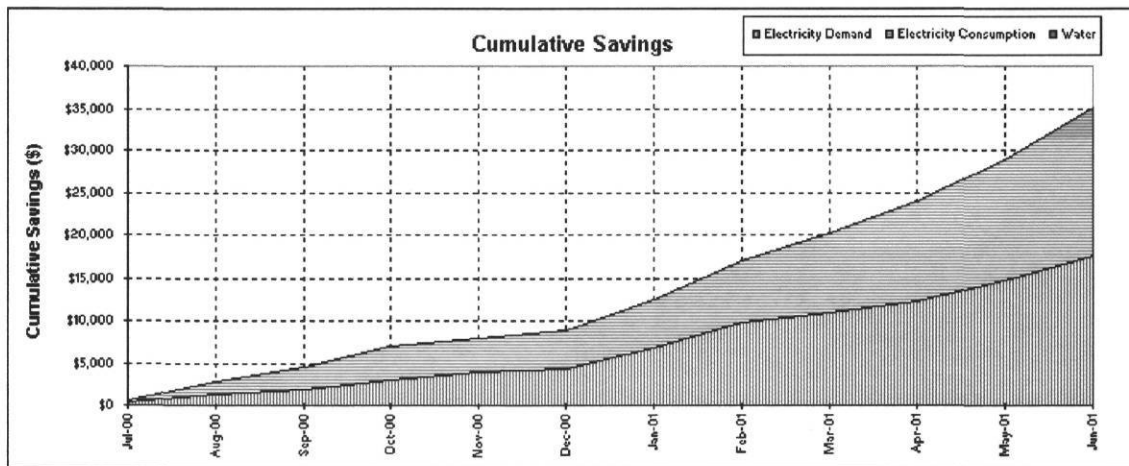
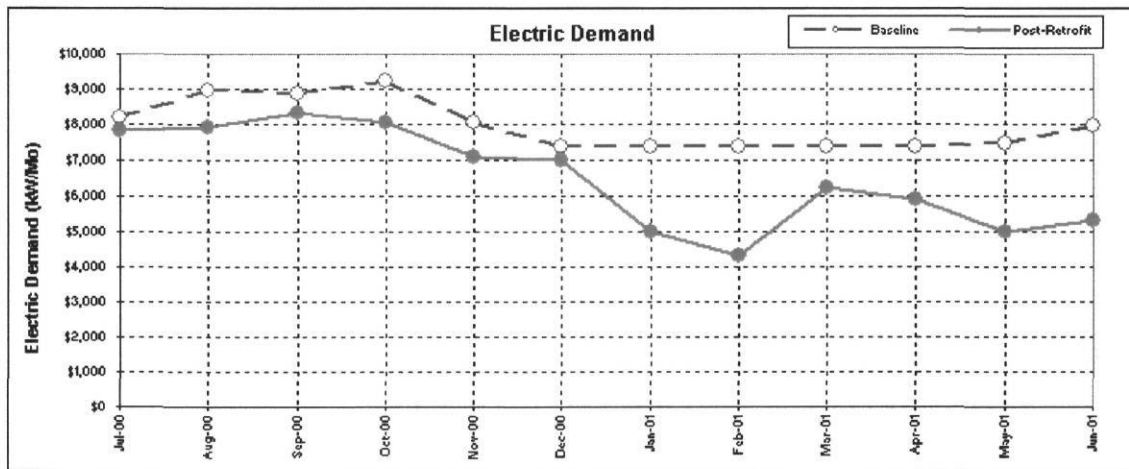
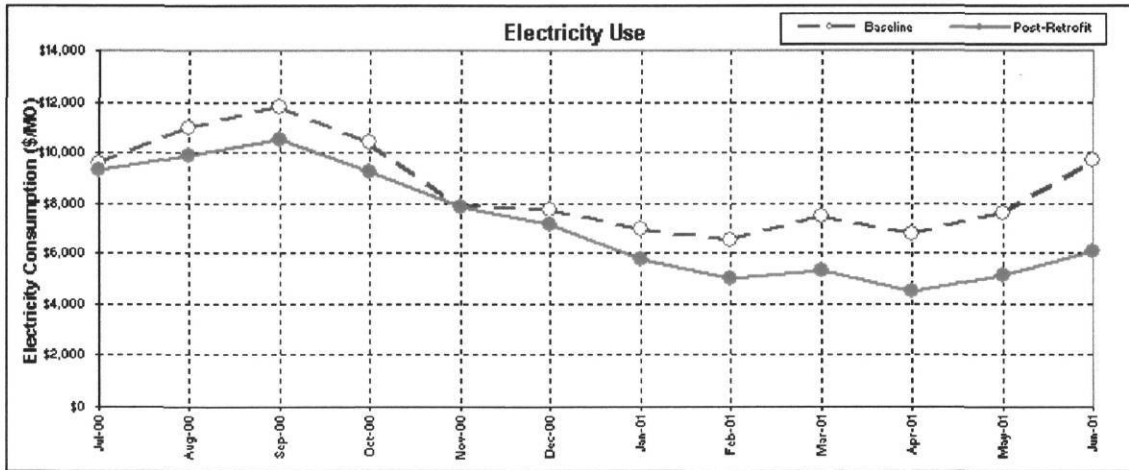
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Month	Electricity Use				Demand kW	Electric Demand			Water Savings	Total of Savings (\$)		
	Use kWh	\$	Savings kWh	\$		Savings kW	\$	\$		Monthly Savings	Estimated	Audit
Jul-00	357,372	\$9,292	10,026	\$261	631	\$7,831	28	\$343	N.A.*	\$603	\$2,814	\$603
Aug-00	379,296	\$9,862	43,334	\$1,127	638	\$7,918	83	\$1,031	N.A.*	\$2,157	\$2,814	\$2,761
Sep-00	403,272	\$10,485	49,237	\$1,280	669	\$8,302	46	\$575	N.A.*	\$1,856	\$2,814	\$4,616
Oct-00	354,564	\$9,219	46,134	\$1,199	650	\$8,067	94	\$1,163	N.A.*	\$2,363	\$2,814	\$6,979
Nov-00	301,968	\$7,851	902	\$23	572	\$7,089	75	\$934	N.A.*	\$958	\$2,814	\$7,937
Dec-00	274,536	\$7,138	21,571	\$561	564	\$6,999	28	\$347	N.A.*	\$908	\$2,814	\$8,845
Jan-01	221,508	\$5,759	47,681	\$1,240	403	\$5,001	189	\$2,345	N.A.*	\$3,585	\$2,814	\$12,430
Feb-01	192,888	\$5,015	58,355	\$1,517	348	\$4,319	244	\$3,028	N.A.*	\$4,545	\$2,814	\$16,975
Mar-01	203,796	\$5,299	83,338	\$2,167	502	\$6,230	90	\$1,117	N.A.*	\$3,284	\$2,814	\$20,259
Apr-01	173,340	\$4,507	86,876	\$2,259	475	\$5,895	117	\$1,452	N.A.*	\$3,711	\$2,814	\$23,970
May-01	197,856	\$5,144	93,512	\$2,431	403	\$5,001	199	\$2,468	N.A.*	\$4,899	\$2,814	\$28,869
Jun-01	232,740	\$6,051	140,144	\$3,644	427	\$5,299	215	\$2,663	N.A.*	\$6,307	\$2,814	\$35,176
TOTAL	3,293,136	\$85,622	681,109	\$17,709	6,282	\$77,960	1,408	\$17,467	-	\$35,176	\$33,763	

Comments:

- * Avoided Costs \$0.026/kWh and 12.41/kW-Mo
- "Month" indicates month bill paid. Consumption typically occurs during previous month or portions of two previous months
- * N.A. means not applicable



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Month	Electricity Use				Demand kW	Electric Demand				Water Savings	Total of Savings (\$)		
	Use kWh	\$	Savings kWh	\$		\$	kW	\$	\$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	93,360	\$2,427	12,034	\$313	178	\$2,209	29	\$362	N.A.*	\$675	\$2,588	\$675	
Aug-00	95,280	\$2,477	13,514	\$351	170	\$2,110	37	\$461	N.A.*	\$813	\$2,588	\$1,488	
Sep-00	86,160	\$2,240	12,435	\$323	166	\$2,060	41	\$511	N.A.*	\$834	\$2,588	\$2,322	
Oct-00	90,000	\$2,340	11,995	\$312	170	\$2,110	37	\$461	N.A.*	\$773	\$2,588	\$3,095	
Nov-00	86,880	\$2,258	11,715	\$305	178	\$2,209	29	\$362	N.A.*	\$667	\$2,588	\$3,761	
Dec-00	94,080	\$2,446	11,314	\$294	173	\$2,147	34	\$424	N.A.*	\$718	\$2,588	\$4,480	
Jan-01	95,280	\$2,477	6,715	\$175	175	\$2,172	32	\$398	N.A.*	\$574	\$2,588	\$5,054	
Feb-01	102,000	\$2,652	10,194	\$265	178	\$2,209	29	\$362	N.A.*	\$627	\$2,588	\$5,681	
Mar-01	92,880	\$2,415	5,715	\$149	182	\$2,259	25	\$312	N.A.*	\$461	\$2,588	\$6,142	
Apr-01	92,400	\$2,402	6,195	\$161	178	\$2,209	29	\$362	N.A.*	\$523	\$2,588	\$6,665	
May-01	92,400	\$2,402	6,195	\$161	178	\$2,209	29	\$362	N.A.*	\$523	\$2,588	\$7,188	
Jun-01	98,640	\$2,565	10,154	\$264	178	\$2,209	29	\$362	N.A.*	\$626	\$2,588	\$7,814	
TOTAL	1,119,360	\$29,103	118,174	\$3,073	2,104	\$26,111	382	\$4,741	-	\$7,814	\$31,057		

Comments:

Avoided Costs \$0.026/kWh and 12.41/kW-Mo

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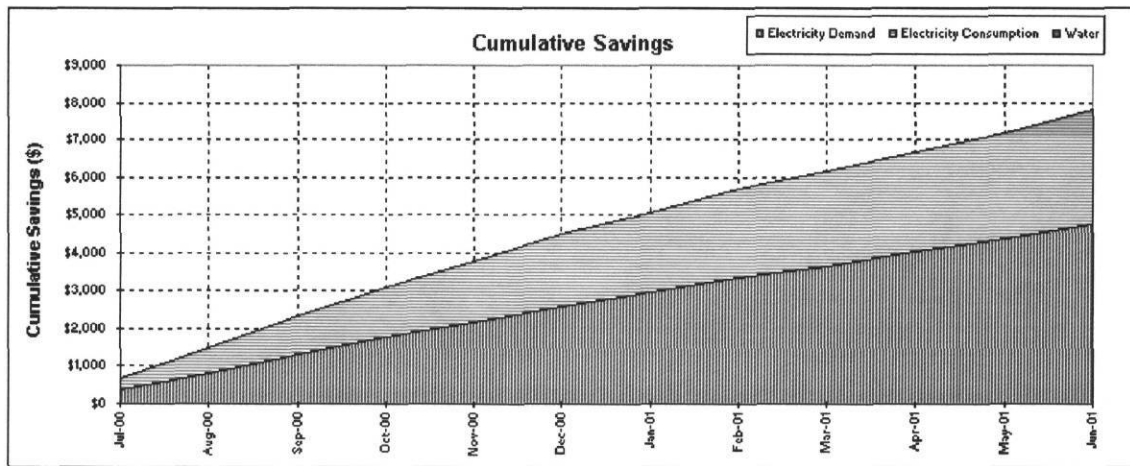
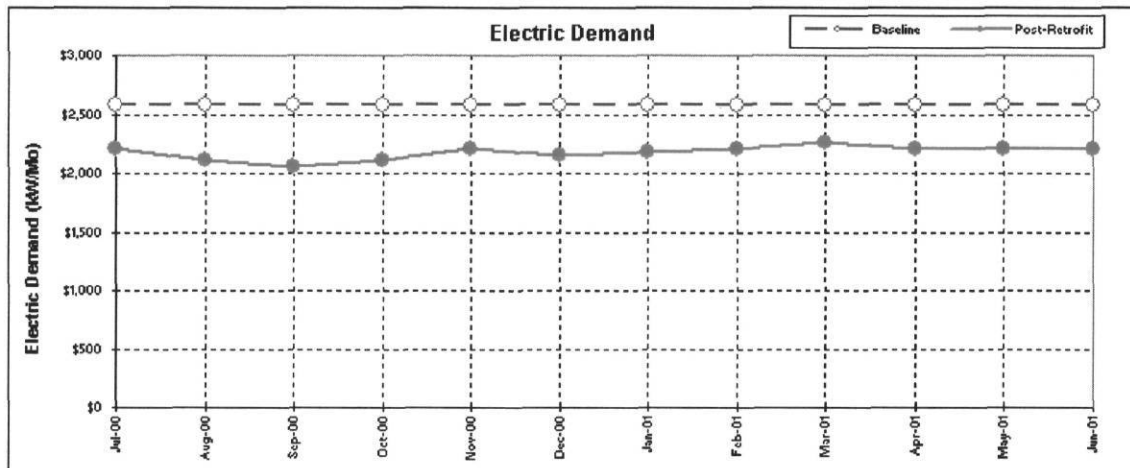
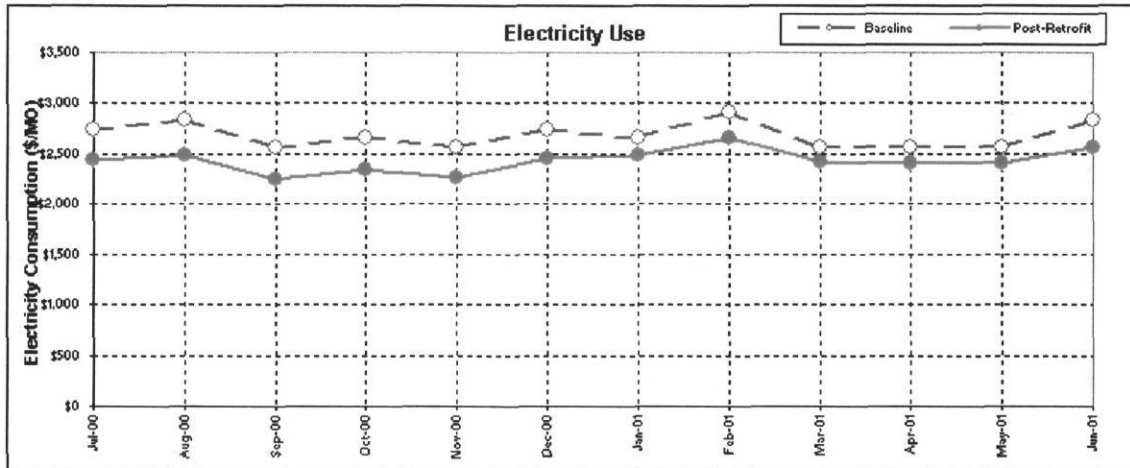
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GEORGE ALLEN COURTS BUILDING

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Jul-00 through Jun-01

Summary of Measured Energy Consumption and Savings

Month	Electricity Use				Electric Demand				Water Savings	Total of Savings (\$)		
	Use kWh	Savings \$	Use kWh	Savings \$	Demand kW	Savings \$	Demand kW	Savings \$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	1,007,136	\$26,186	215,321	\$5,598	1,840	\$22,834	286	\$3,546	N.A.*	\$9,145	\$16,848	\$9,145
Aug-00	1,071,936	\$27,870	293,470	\$7,630	1,786	\$22,164	424	\$5,266	N.A.*	\$12,897	\$16,848	\$22,041
Sep-00	933,696	\$24,276	323,759	\$8,418	1,754	\$21,767	449	\$5,576	N.A.*	\$13,994	\$16,848	\$36,035
Oct-00	865,152	\$22,494	414,053	\$10,765	1,774	\$22,015	465	\$5,765	N.A.*	\$16,531	\$16,848	\$52,566
Nov-00	749,376	\$19,484	415,605	\$10,806	1,581	\$19,620	566	\$7,023	N.A.*	\$17,829	\$16,848	\$70,395
Dec-00	648,576	\$16,863	346,793	\$9,017	1,567	\$19,446	467	\$5,797	N.A.*	\$14,814	\$16,848	\$85,208
Jan-01	526,176	\$13,681	385,657	\$10,027	1,290	\$16,009	714	\$8,855	N.A.*	\$18,882	\$16,848	\$104,090
Feb-01	630,144	\$16,384	477,081	\$12,404	1,472	\$18,268	532	\$6,596	N.A.*	\$19,000	\$16,848	\$123,091
Mar-01	618,048	\$16,069	358,916	\$9,332	1,475	\$18,305	529	\$6,559	N.A.*	\$15,891	\$16,848	\$138,981
Apr-01	629,280	\$16,361	326,990	\$8,502	1,492	\$18,516	512	\$6,348	N.A.*	\$14,850	\$16,848	\$153,831
May-01	765,216	\$19,896	390,806	\$10,161	1,541	\$19,124	521	\$6,470	N.A.*	\$16,631	\$16,848	\$170,462
Jun-01	758,592	\$19,723	396,786	\$10,316	1,593	\$19,769	512	\$6,349	N.A.*	\$16,666	\$16,848	\$187,127
TOTAL	9,203,328	\$239,287	4,345,235	\$112,976	19,165	\$237,938	5,975	\$74,161	-	\$187,127	\$202,173	

Comments:

Avoided Costs \$0.026/MWh and 12.41/MW-Mo

"Month" indicates month bill paid. Consumption typically occurs during previous month or portions of two previous months

* N.A. means not applicable

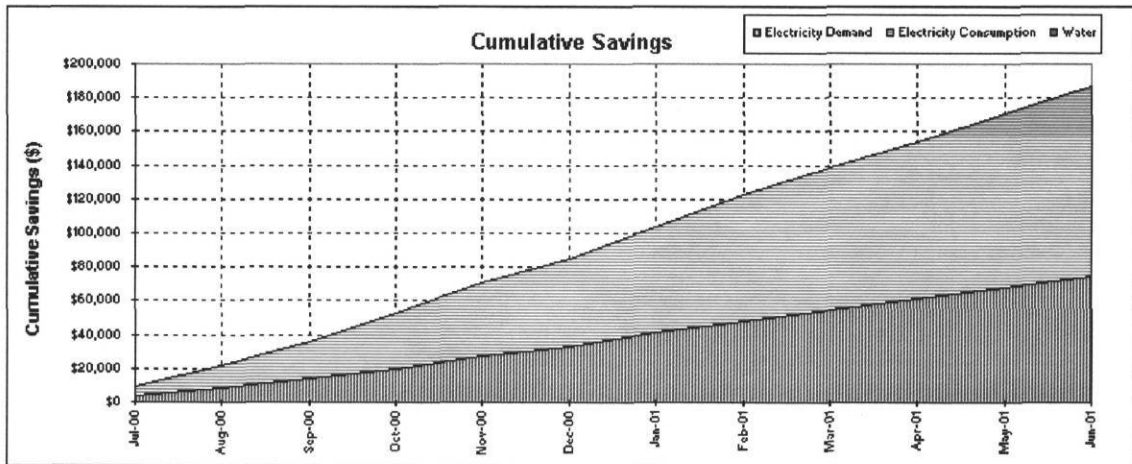
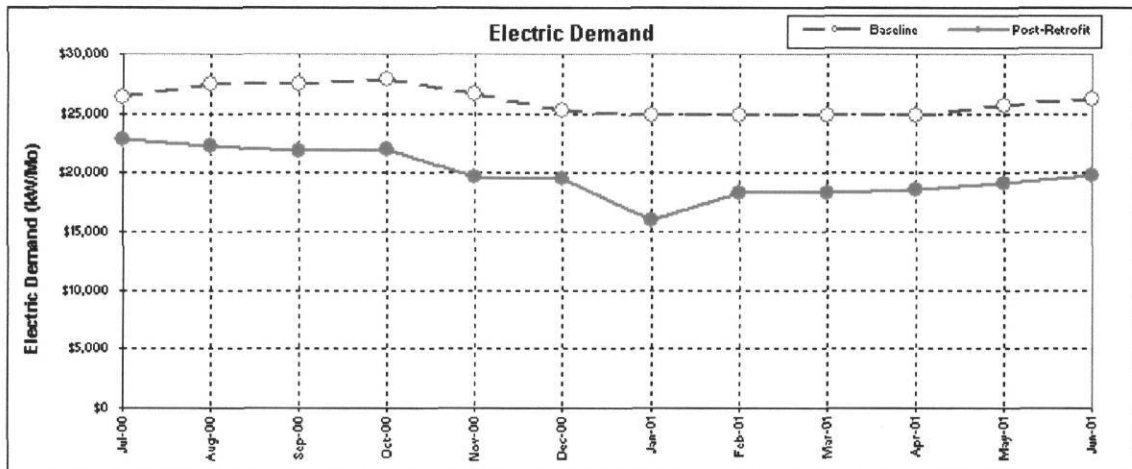
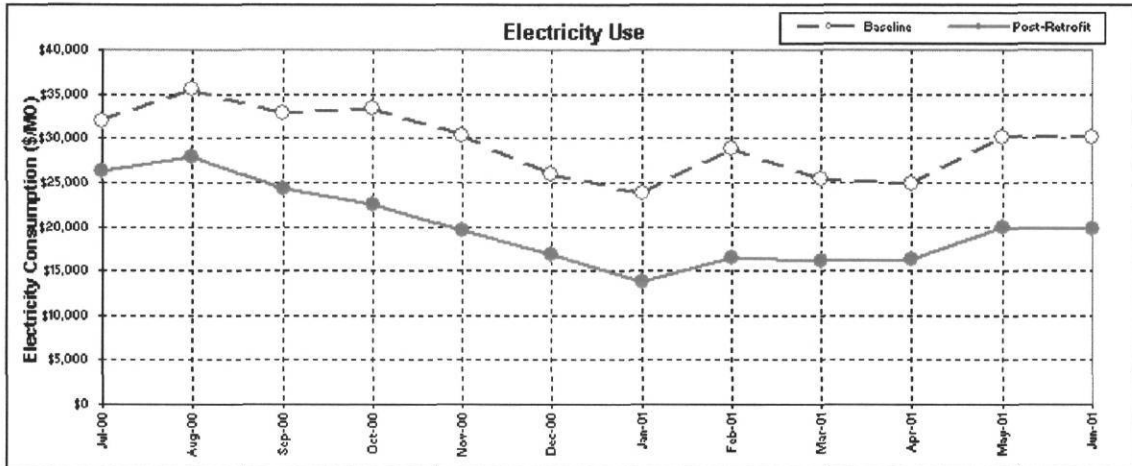
Hourly profiles show that the lighting retrofit was initially saving over 300 kW. However, there has been subsequent addition of approximately 150 kW of 24-7 load in the building. The actual savings presented in this report include this adjustment.

GEORGE ALLEN COURTS BUILDING

Energy Systems Laboratory
Texas Engineering Experiment Station

Dallas County Energy Consumption Report

Texas A&M University
College Station, TX



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Jul-00 through Jun-01

Summary of Measured Energy Consumption and Savings

Month	Electricity Use				Electric Demand				Water Savings	Total of Savings (\$)		
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	722,520	\$18,786	210,073	\$5,462	1,421	\$17,635	300	\$3,728	N.A.*	\$9,190	\$8,317	\$9,190
Aug-00	790,776	\$20,560	279,771	\$7,274	1,421	\$17,635	335	\$4,152	N.A.*	\$11,426	\$8,317	\$20,616
Sep-00	803,520	\$20,892	282,264	\$7,339	1,391	\$17,262	378	\$4,694	N.A.*	\$12,033	\$8,317	\$32,648
Oct-00	757,080	\$19,684	260,574	\$6,775	1,419	\$17,610	320	\$3,965	N.A.*	\$10,740	\$8,317	\$43,388
Nov-00	713,880	\$18,561	194,707	\$5,062	1,469	\$18,230	229	\$2,839	N.A.*	\$7,902	\$8,317	\$51,290
Dec-00	755,784	\$19,650	222,275	\$5,779	1,369	\$16,989	329	\$4,080	N.A.*	\$9,859	\$8,317	\$61,149
Jan-01	787,104	\$20,465	102,040	\$2,653	1,750	\$21,718	(52)	(\$648)	N.A.*	\$2,005	\$8,317	\$63,154
Feb-01	756,864	\$19,678	102,642	\$2,669	1,458	\$18,094	240	\$2,976	N.A.*	\$5,644	\$8,317	\$68,798
Mar-01	771,552	\$20,060	147,230	\$3,828	1,456	\$18,069	242	\$3,000	N.A.*	\$6,828	\$8,317	\$75,627
Apr-01	670,680	\$17,438	188,826	\$4,909	2,667	\$33,097	(969)	(\$12,028)	N.A.*	(\$7,119)	\$8,317	\$68,508
May-01	738,936	\$19,212	181,459	\$4,718	1,372	\$17,027	326	\$4,043	N.A.*	\$8,761	\$8,317	\$77,269
Jun-01	790,128	\$20,543	268,903	\$6,991	1,387	\$17,213	311	\$3,857	N.A.*	\$10,848	\$8,317	\$88,117
TOTAL	9,058,824	\$235,529	2,440,766	\$63,460	18,580	\$230,578	1,987	\$24,657	-	\$88,117	\$99,805	

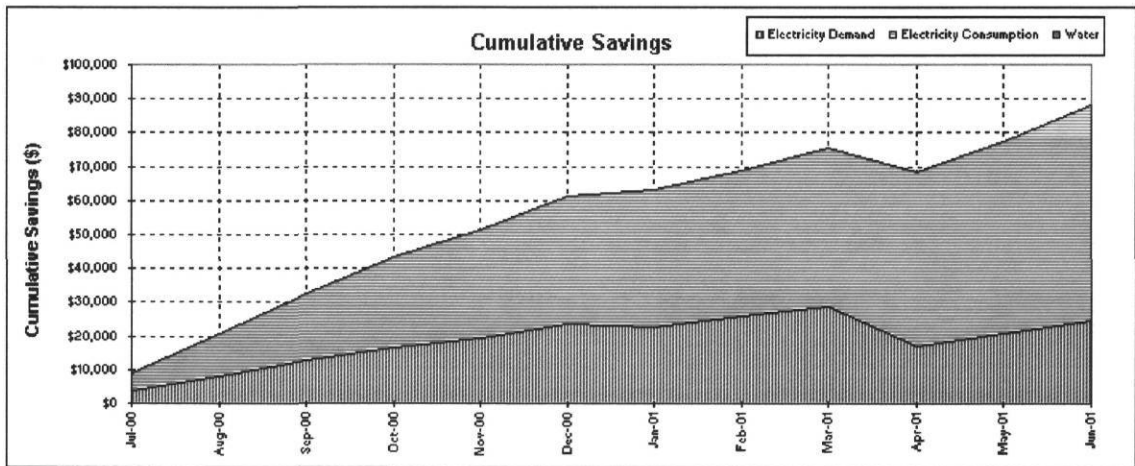
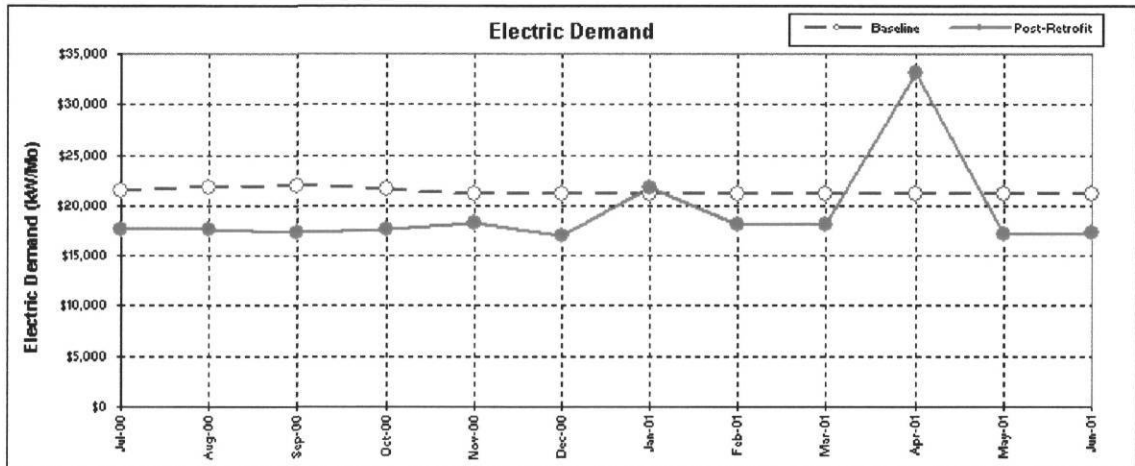
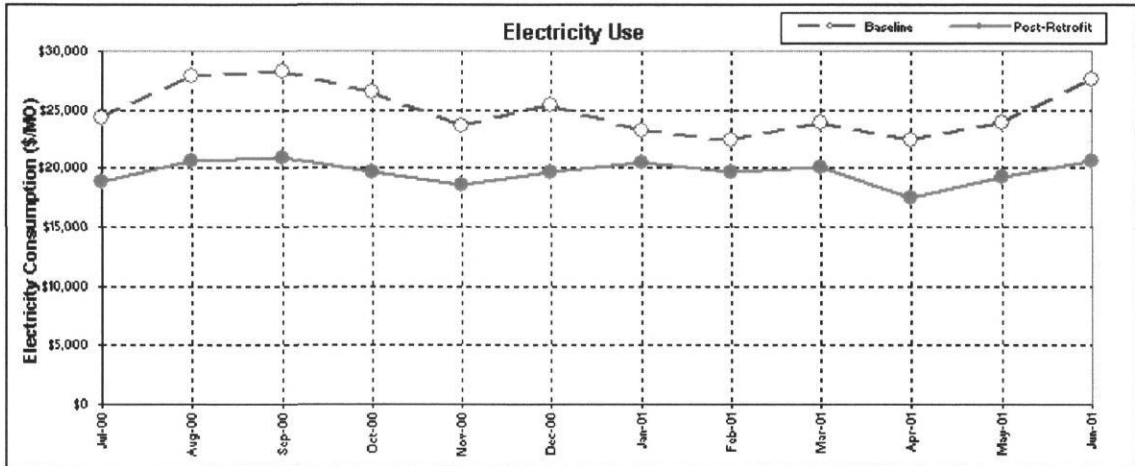
Comments:

* Avoided Costs \$0.026/kWh and 12.41/kW-Mo

"Month" indicates month bill paid. Consumption typically occurs during previous month or portions of two previous months

* N.A. means not applicable

On both hourly profiles for weekends and weekdays, it appears that a 24-7 load of approximately 200kW has been added between May 99 and May 00. This report include the respective adjustments.



INVESTMENT BUILDING

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Jul-00 through Jun-01
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Month	Electricity Use				Electric Demand				Water Savings	Total of Savings (\$)		
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	46,080	\$1,659	10,360	\$373	134	\$1,608	(2)	(\$26)	N.A.*	\$347	\$760	\$347
Aug-00	50,880	\$1,832	17,298	\$623	118	\$1,416	19	\$223	N.A.*	\$846	\$760	\$1,192
Sep-00	50,880	\$1,832	13,807	\$497	137	\$1,644	(1)	(\$10)	N.A.*	\$487	\$760	\$1,679
Oct-00	51,600	\$1,858	7,539	\$271	127	\$1,524	11	\$136	N.A.*	\$407	\$760	\$2,086
Nov-00	38,160	\$1,374	5,262	\$189	120	\$1,440	11	\$131	N.A.*	\$321	\$760	\$2,407
Dec-00	39,120	\$1,408	(189)	(\$7)	125	\$1,500	3	\$31	N.A.*	\$24	\$760	\$2,431
Jan-01	31,920	\$1,149	2,292	\$83	120	\$1,440	8	\$91	N.A.*	\$174	\$760	\$2,605
Feb-01	30,000	\$1,080	4,212	\$152	118	\$1,416	10	\$115	N.A.*	\$267	\$760	\$2,872
Mar-01	46,320	\$1,668	(9,749)	(\$351)	113	\$1,356	15	\$175	N.A.*	(\$176)	\$760	\$2,696
Apr-01	42,000	\$1,512	(7,788)	(\$280)	113	\$1,356	15	\$175	N.A.*	(\$105)	\$760	\$2,591
May-01	32,400	\$1,166	9,885	\$366	130	\$1,560	(2)	(\$29)	N.A.*	\$327	\$760	\$2,918
Jun-01	41,520	\$1,495	12,999	\$468	127	\$1,524	4	\$42	N.A.*	\$510	\$760	\$3,428
TOTAL	500,880	\$18,832	65,928	\$2,373	1,482	\$17,784	88	\$1,055	-	\$3,428	\$9,122	

Comments:

* Avoided Costs \$0.026/kWh and 12.00/kW-Mo

"Month" indicates month bill paid. Consumption typically occurs during previous month or portions of two previous months

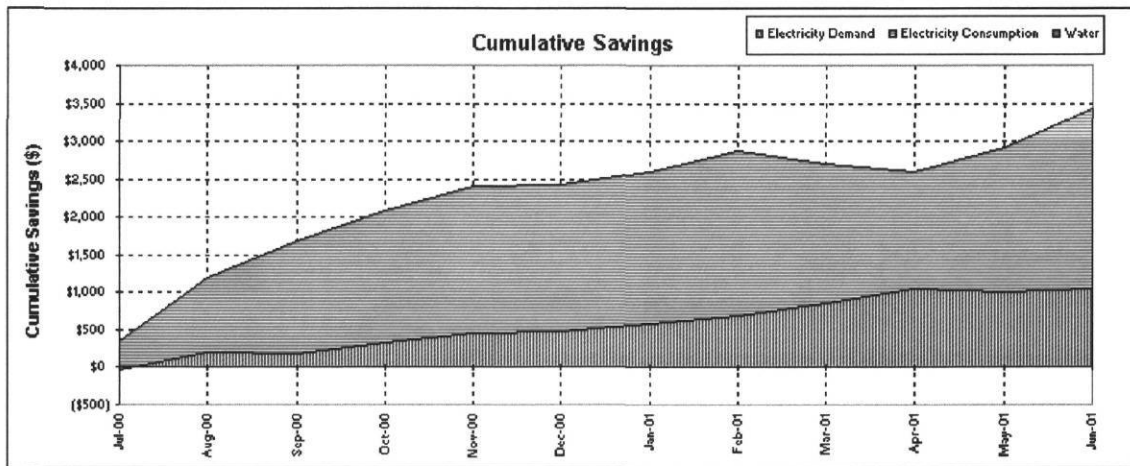
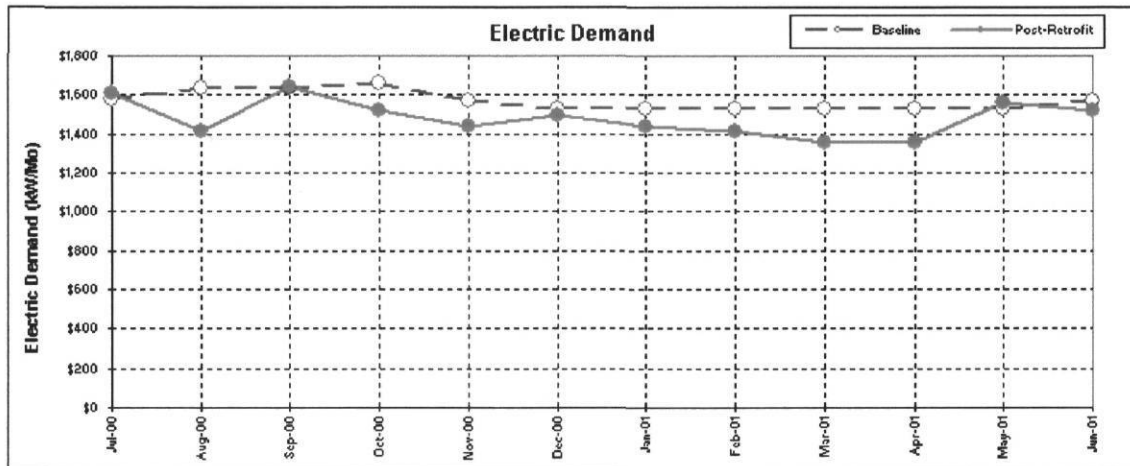
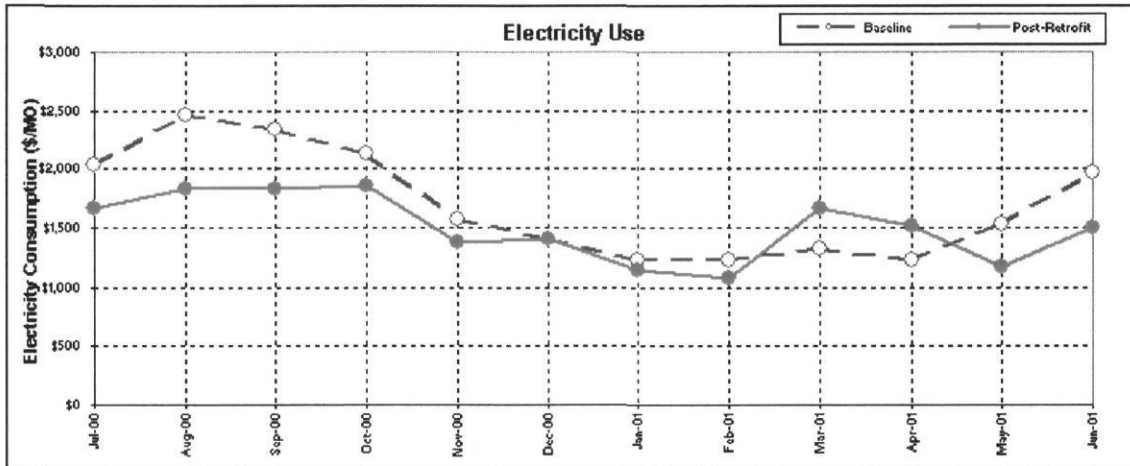
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INVESTMENT BUILDING

Energy Systems Laboratory
 Texas Engineering Experiment Station

Dallas County Energy Consumption Report

Texas A&M University
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Jul-00 through Jun-01
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Month	Electricity Use				Electric Demand				Water Savings	Total of Savings (\$)		
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	83,580	\$2,675	(7,692)	(\$246)	162	\$1,743	(23)	(\$247)	N.A.*	(\$493)	\$756	(\$493)
Aug-00	78,060	\$2,498	(4,348)	(\$139)	160	\$1,722	14	\$152	N.A.*	\$13	\$756	(\$480)
Sep-00	59,520	\$1,905	16,589	\$531	157	\$1,689	46	\$498	N.A.*	\$1,029	\$756	\$549
Oct-00	55,200	\$1,766	30,316	\$970	155	\$1,668	72	\$771	N.A.*	\$1,742	\$756	\$2,291
Nov-00	54,720	\$1,751	6,266	\$201	152	\$1,636	(1)	(\$14)	N.A.*	\$187	\$756	\$2,477
Dec-00	51,660	\$1,653	5,264	\$168	131	\$1,410	3	\$35	N.A.*	\$203	\$756	\$2,681
Jan-01	44,220	\$1,415	(521)	(\$17)	130	\$1,399	4	\$46	N.A.*	\$29	\$756	\$2,710
Feb-01	42,240	\$1,352	93	\$3	130	\$1,399	4	\$46	N.A.*	\$49	\$756	\$2,759
Mar-01	42,000	\$1,344	(2,398)	(\$77)	130	\$1,399	4	\$46	N.A.*	(\$31)	\$756	\$2,728
Apr-01	40,680	\$1,302	3,338	\$107	130	\$1,399	4	\$46	N.A.*	\$153	\$756	\$2,880
May-01	42,720	\$1,367	5,986	\$192	130	\$1,399	4	\$46	N.A.*	\$237	\$756	\$3,117
Jun-01	51,840	\$1,659	8,037	\$257	136	\$1,463	(2)	(\$19)	N.A.*	\$238	\$756	\$3,356
TOTAL	646,440	\$20,686	60,941	\$1,950	1,703	\$18,324	131	\$1,406	-	\$3,356	\$9,077	

Comments:

*Avoided Costs \$0.032/kWh and 10.76/kW-Mo

"Month" indicates month bill paid. Consumption typically occurs during previous month or portions of two previous months

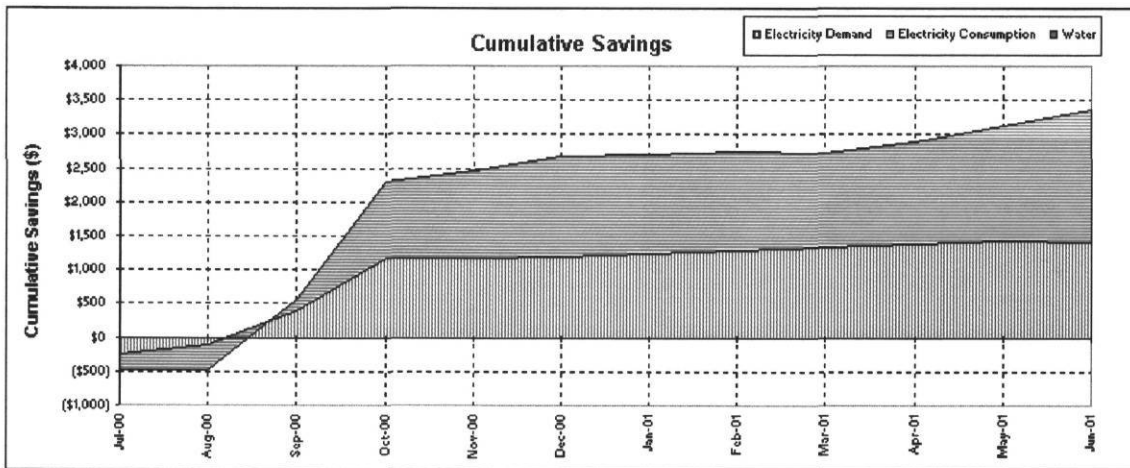
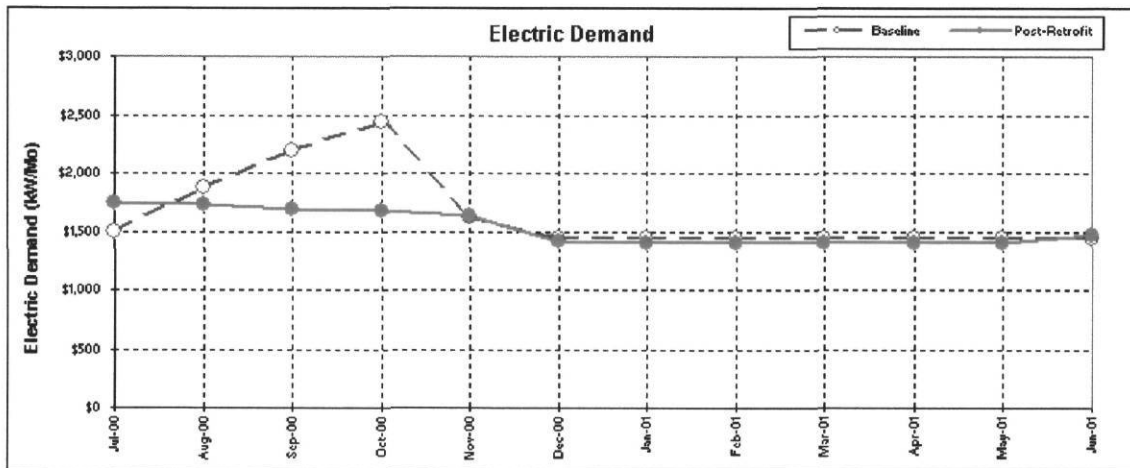
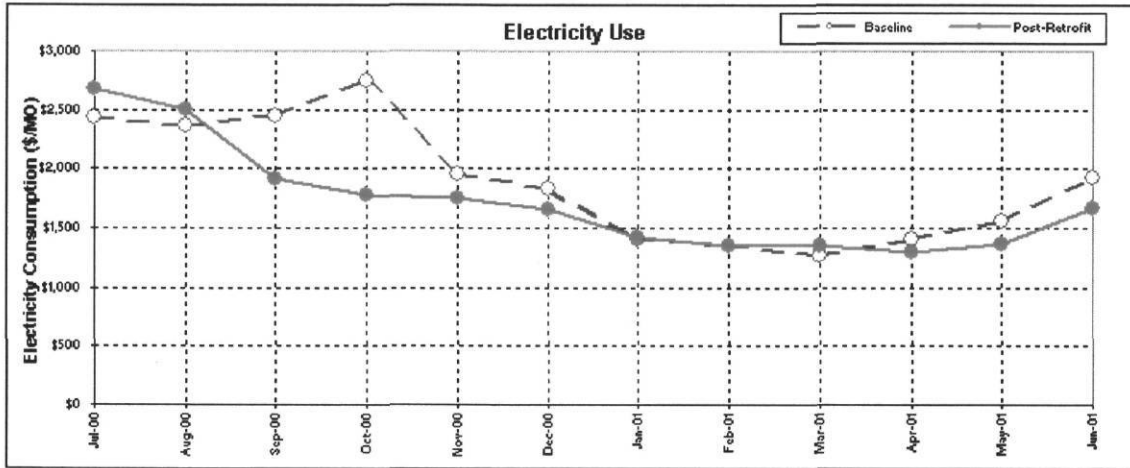
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LETOT CENTER

Energy Systems Laboratory
Texas Engineering Experiment Station

Dallas County Energy Consumption Report

Texas A&M University
College Station, TX



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Jul-00 through Jun-01
Summary of Measured Energy Consumption and Savings

Month	Electricity Use				Electric Demand				Water Savings	Total of Savings (\$)		
	Use kWh	Savings \$	Use kWh	Savings \$	Demand kW	Savings \$	Demand kW	Savings \$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	3,150,720	\$81,918	742,469	\$19,304	5,481	\$63,470	1,172	\$13,566	N.A.*	\$32,871	\$42,572	\$32,871
Aug-00	3,275,604	\$85,166	1,063,291	\$27,646	5,889	\$68,195	1,082	\$12,527	N.A.*	\$40,172	\$42,572	\$73,043
Sep-00	3,160,339	\$82,169	1,438,736	\$37,407	5,979	\$69,237	1,106	\$12,808	N.A.*	\$50,215	\$42,572	\$123,258
Oct-00	3,133,656	\$81,475	1,044,750	\$27,163	5,778	\$66,909	1,029	\$11,913	N.A.*	\$38,077	\$42,572	\$162,334
Nov-00	2,454,840	\$63,826	966,163	\$25,120	5,797	\$67,129	356	\$4,128	N.A.*	\$29,248	\$42,572	\$191,583
Dec-00	2,999,628	\$77,990	446,291	\$11,604	5,039	\$58,352	827	\$9,579	N.A.*	\$21,182	\$42,572	\$212,765
Jan-01	2,720,808	\$70,741	411,845	\$10,708	4,783	\$55,387	912	\$10,563	N.A.*	\$21,271	\$42,572	\$234,036
Feb-01	2,285,892	\$59,433	637,918	\$16,586	4,887	\$56,591	786	\$9,098	N.A.*	\$25,684	\$42,572	\$259,720
Mar-01	2,721,276	\$70,753	620,221	\$16,126	5,239	\$60,668	563	\$6,525	N.A.*	\$22,651	\$42,572	\$282,371
Apr-01	2,391,264	\$62,173	636,968	\$16,561	4,783	\$55,387	1,056	\$12,234	N.A.*	\$28,795	\$42,572	\$311,166
May-01	2,618,928	\$68,092	759,453	\$19,746	5,253	\$60,830	785	\$8,854	N.A.*	\$28,600	\$42,572	\$339,766
Jun-01	3,074,508	\$79,937	1,025,000	\$26,650	4,908	\$56,835	1,437	\$16,645	N.A.*	\$43,295	\$42,572	\$383,061
TOTAL	33,987,463	\$883,674	9,793,105	\$254,621	63,816	\$738,988	11,092	\$128,440	-	\$383,061	\$510,859	

Comments:

*Avoided Costs \$0.026/kWh and 11.58/MV-Mo

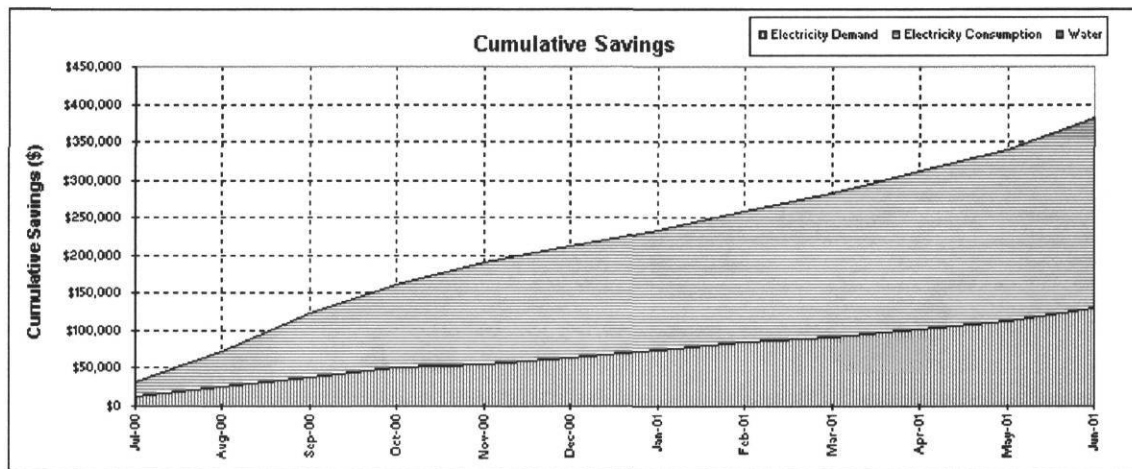
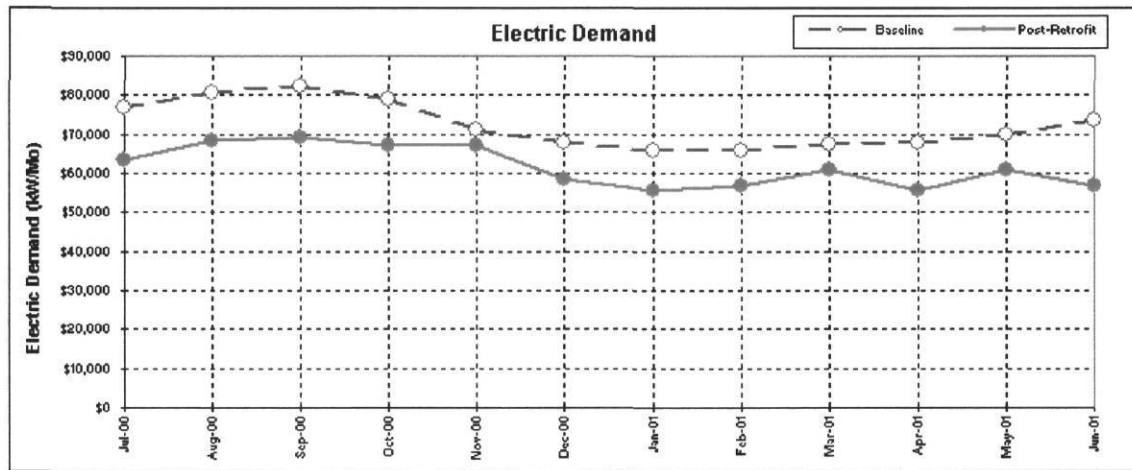
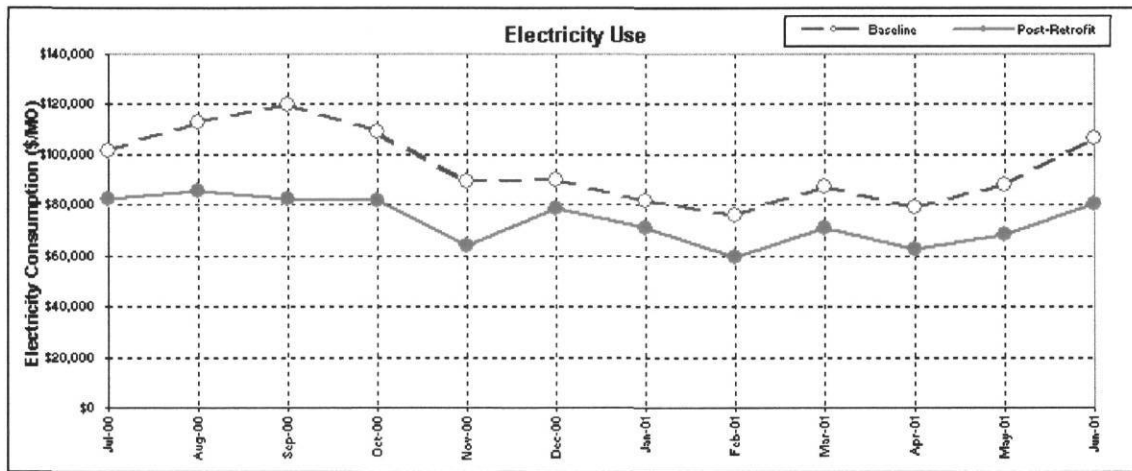
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The electric demand baseline is based on billed demand.

A combined model that includes both electricity and gas consumption is used as a baseline model for energy consumption.

The model uses a cost-equivalent conversion factor of 96.92 kWh/MCF.



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Jul-00 through Jun-01
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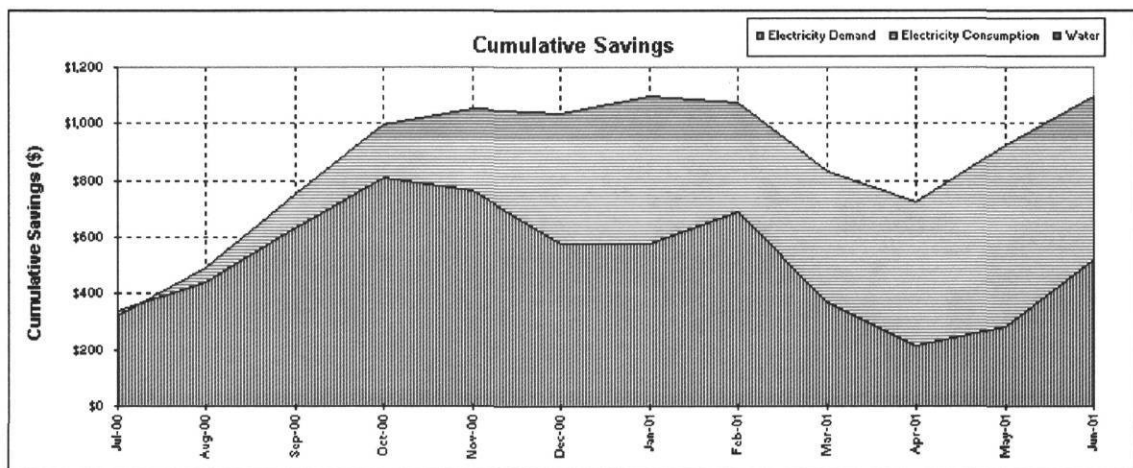
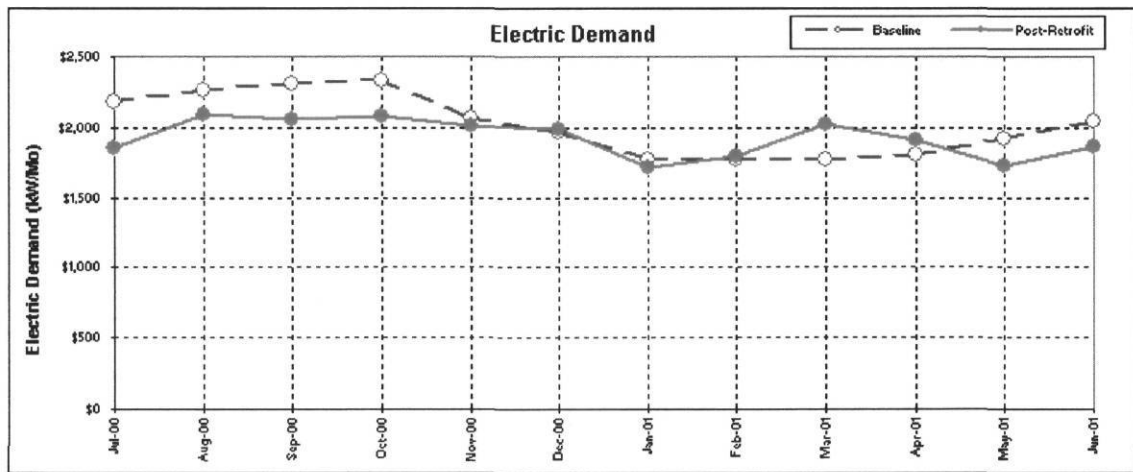
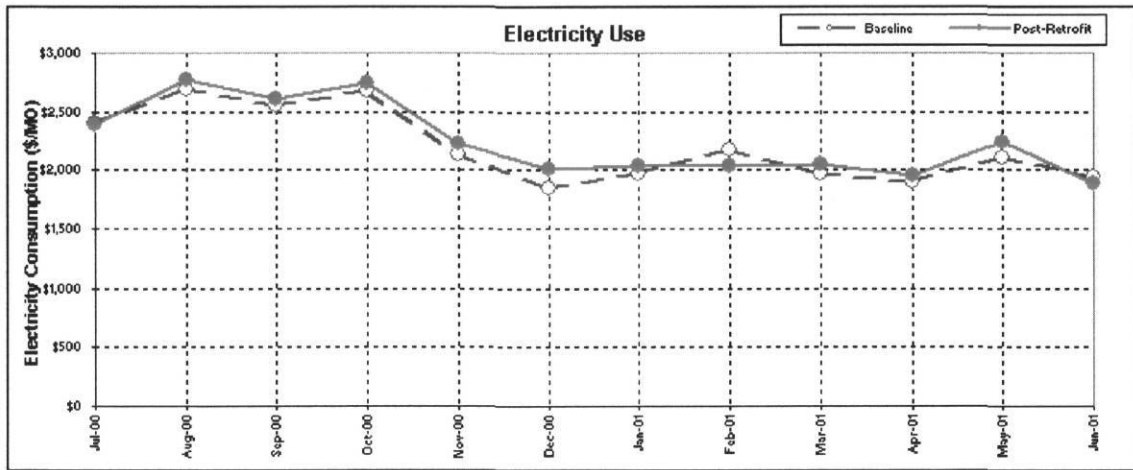
Month	Electricity Use				Demand kW	Electric Demand			Water Savings	Total of Savings (\$)		
	Use kWh	\$	Savings kWh	\$		\$	kW	\$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	91,704	\$2,384	593	\$15	169	\$1,852	30	\$325	N.A.*	\$340	\$1,129	\$340
Aug-00	106,308	\$2,764	(2,729)	(\$71)	191	\$2,093	16	\$170	N.A.*	\$99	\$1,129	\$439
Sep-00	100,296	\$2,608	(2,456)	(\$64)	187	\$2,050	24	\$259	N.A.*	\$196	\$1,129	\$635
Oct-00	105,300	\$2,738	(2,650)	(\$69)	190	\$2,062	22	\$242	N.A.*	\$174	\$1,129	\$808
Nov-00	85,728	\$2,229	(3,888)	(\$101)	183	\$2,006	5	\$59	N.A.*	(\$42)	\$1,129	\$766
Dec-00	77,184	\$2,007	(6,550)	(\$170)	181	\$1,984	(2)	(\$20)	N.A.*	(\$190)	\$1,129	\$576
Jan-01	78,120	\$2,031	(2,441)	(\$63)	156	\$1,710	6	\$63	N.A.*	(\$0)	\$1,129	\$576
Feb-01	77,952	\$2,027	5,295	\$138	164	\$1,797	(2)	(\$25)	N.A.*	\$113	\$1,129	\$689
Mar-01	78,732	\$2,047	(3,053)	(\$79)	184	\$2,017	(22)	(\$244)	N.A.*	(\$323)	\$1,129	\$365
Apr-01	74,784	\$1,944	(1,628)	(\$42)	174	\$1,907	(10)	(\$107)	N.A.*	(\$149)	\$1,129	\$216
May-01	85,800	\$2,231	(5,076)	(\$132)	157	\$1,721	18	\$198	N.A.*	\$66	\$1,129	\$282
Jun-01	72,468	\$1,884	2,177	\$57	170	\$1,863	16	\$179	N.A.*	\$236	\$1,129	\$518
TOTAL	1,034,376	\$26,894	(22,406)	(\$583)	2,106	\$23,082	100	\$1,101	-	\$518	\$13,543	

Comments:

*Avoided Costs \$0.026/kWh and 10.96/kW-Mo

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OAK CLIFF SUB-COURTHOUSE

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Jul-00 through Jun-01

Summary of Measured Energy Consumption and Savings

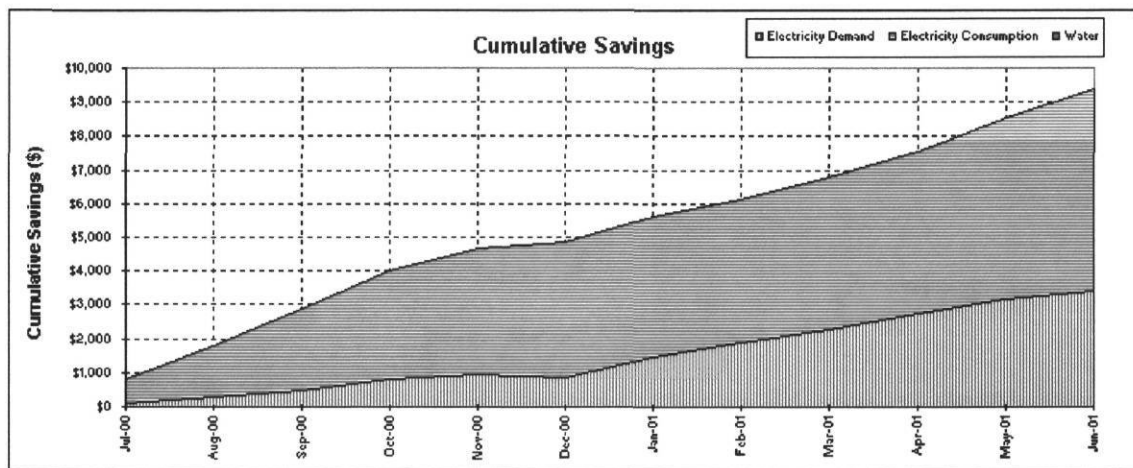
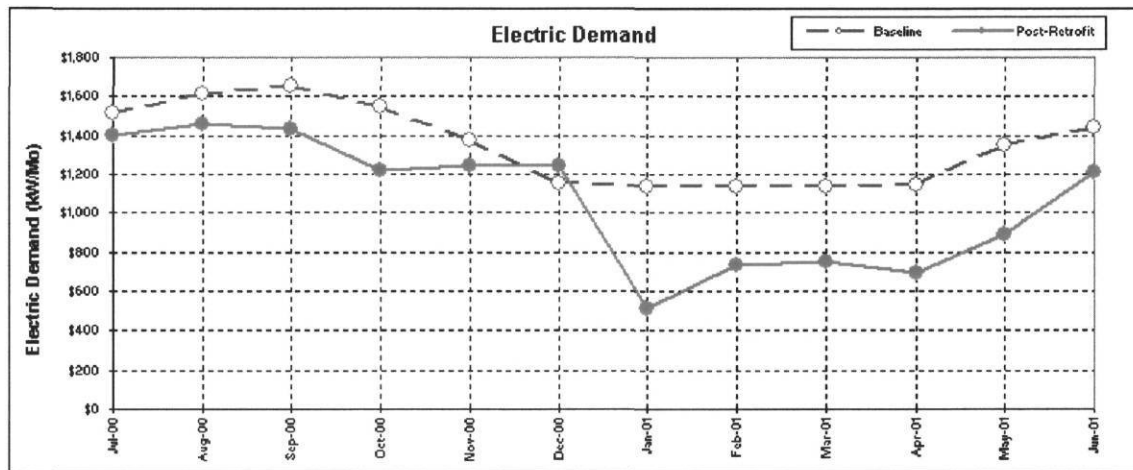
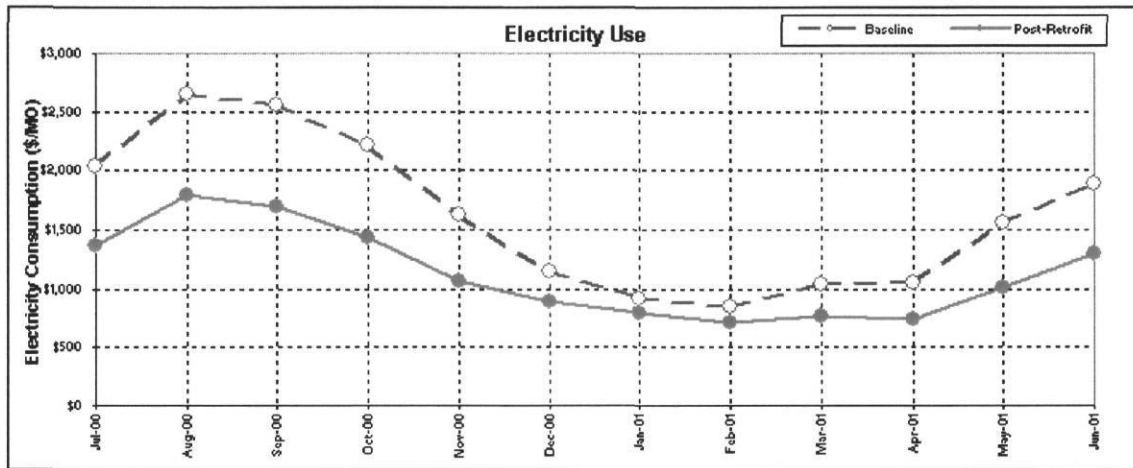
Month	Electricity Use				Electric Demand				Water Savings	Total of Savings (\$)		
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	35,840	\$1,362	17,662	\$671	123	\$1,400	10	\$113	N.A.*	\$784	\$1,333	\$784
Aug-00	47,040	\$1,788	22,727	\$864	128	\$1,457	14	\$155	N.A.*	\$1,019	\$1,333	\$1,803
Sep-00	44,480	\$1,690	22,555	\$857	126	\$1,434	19	\$217	N.A.*	\$1,074	\$1,333	\$2,877
Oct-00	37,600	\$1,429	20,676	\$786	107	\$1,218	28	\$324	N.A.*	\$1,110	\$1,333	\$3,987
Nov-00	28,000	\$1,064	14,734	\$560	108	\$1,240	12	\$134	N.A.*	\$694	\$1,333	\$4,681
Dec-00	23,360	\$888	6,614	\$251	109	\$1,240	(8)	(\$91)	N.A.*	\$160	\$1,333	\$4,841
Jan-01	20,800	\$790	3,348	\$127	45	\$512	55	\$625	N.A.*	\$752	\$1,333	\$5,593
Feb-01	18,720	\$711	3,496	\$133	64	\$728	36	\$409	N.A.*	\$542	\$1,333	\$6,135
Mar-01	20,000	\$760	7,118	\$270	66	\$751	34	\$386	N.A.*	\$657	\$1,333	\$6,792
Apr-01	19,360	\$736	8,418	\$320	61	\$694	39	\$449	N.A.*	\$769	\$1,333	\$7,561
May-01	26,720	\$1,015	14,222	\$540	78	\$888	40	\$458	N.A.*	\$898	\$1,333	\$8,559
Jun-01	33,320	\$1,269	15,722	\$597	106	\$1,206	21	\$234	N.A.*	\$932	\$1,333	\$9,390
TOTAL	355,840	\$13,522	157,294	\$5,977	1,122	\$12,768	300	\$3,413	-	\$9,390	\$15,992	

Comments:

Avoided Costs \$0.038/kWh and 11.38/kV-Mo

"Month" indicates month bill paid. Consumption typically occurs during previous month or portions of two previous months

* N.A. means not applicable



RECORDS (COMPLEX) BUILDING
Dallas County

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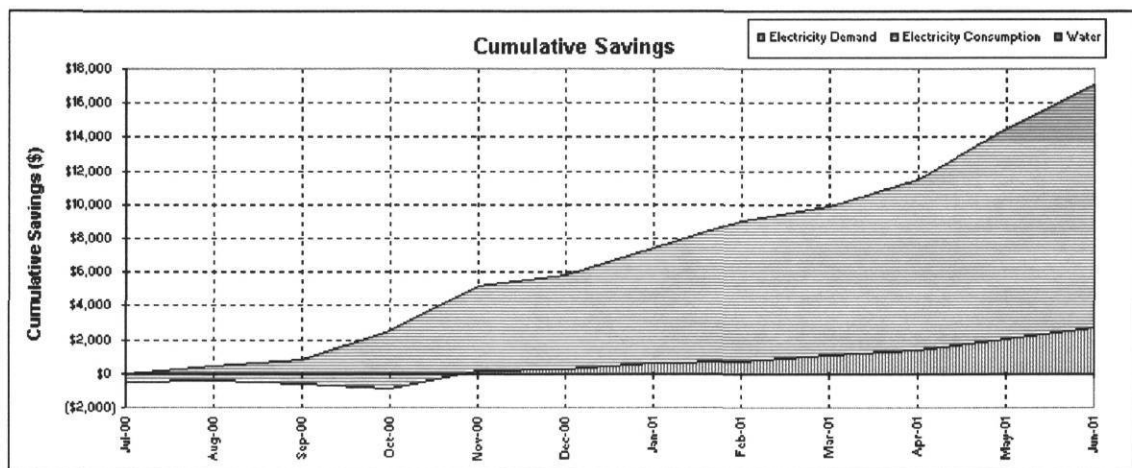
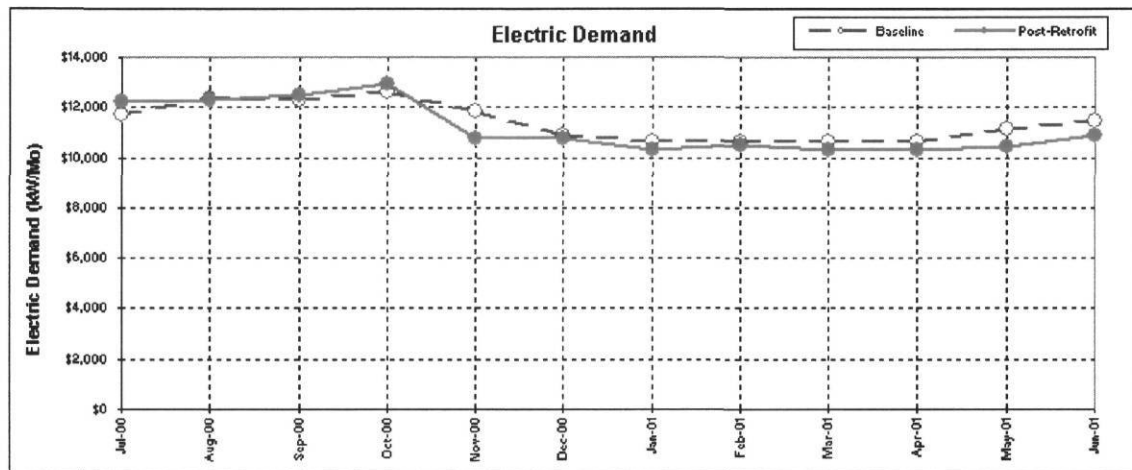
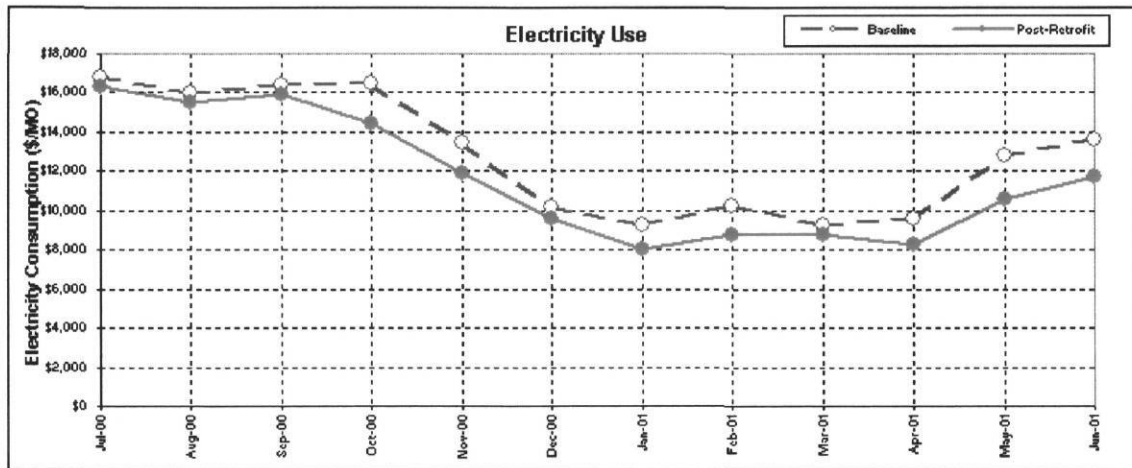
Jul-00 through Jun-01
Summary of Measured Energy Consumption and Savings

Month	Electricity Use				Electric Demand				Water Savings	Total of Savings (\$)		
	Use kWh	\$	Savings kWh	\$	Demand kW	\$	Savings kW	\$		Monthly Savings	Audit Estimated	Cumulative Savings
Jul-00	625,296	\$16,258	18,675	\$486	1,135	\$12,213	(47)	(\$509)	N.A.*	(\$23)	\$6,260	(\$23)
Aug-00	595,728	\$15,489	16,458	\$428	1,141	\$12,277	8	\$88	N.A.*	\$516	\$6,260	\$493
Sep-00	611,136	\$15,890	17,195	\$447	1,158	\$12,460	(14)	(\$155)	N.A.*	\$292	\$6,260	\$785
Oct-00	553,632	\$14,394	77,606	\$2,018	1,199	\$12,901	(27)	(\$295)	N.A.*	\$1,723	\$6,260	\$2,508
Nov-00	455,440	\$11,841	60,669	\$1,577	1,001	\$10,771	98	\$1,053	N.A.*	\$2,631	\$6,260	\$5,139
Dec-00	366,768	\$9,536	23,600	\$614	1,000	\$10,760	9	\$101	N.A.*	\$715	\$6,260	\$5,853
Jan-01	307,104	\$7,985	49,988	\$1,300	958	\$10,308	29	\$314	N.A.*	\$1,613	\$6,260	\$7,467
Feb-01	337,248	\$8,768	55,553	\$1,444	972	\$10,459	15	\$163	N.A.*	\$1,607	\$6,260	\$9,074
Mar-01	337,488	\$8,775	19,604	\$510	958	\$10,308	29	\$314	N.A.*	\$823	\$6,260	\$9,897
Apr-01	316,512	\$8,229	50,365	\$1,309	958	\$10,308	29	\$314	N.A.*	\$1,623	\$6,260	\$11,520
May-01	405,120	\$10,533	87,237	\$2,268	966	\$10,394	66	\$708	N.A.*	\$2,976	\$6,260	\$14,496
Jun-01	448,704	\$11,666	75,042	\$1,951	1,008	\$10,846	57	\$617	N.A.*	\$2,568	\$6,260	\$17,064
TOTAL	5,360,176	\$139,365	551,990	\$14,352	12,454	\$134,885	252	\$2,712	-	\$17,864	\$75,121	

Comments:

- * Avoided Costs \$0.026/kWh and 12.41/kW-Mo
- "Month" indicates month bill paid. Consumption typically occurs during previous month or portions of two previous months
- * N.A. means not applicable

RECORDS (COMPLEX) BUILDING



APPENDIX

Records Complex Building (Site 952) Dallas County

As found in the earlier analysis for April 2000 - June 2000, the consumption reduction determined from analysis of the utility bills is quite close to that determined from analysis of the hourly data. The following table shows that the savings for electricity use determined from the utility bills for July 2000 - June 2001 (\$14,352) are very similar to the savings for lighting (\$14,191) that are obtained from the hourly data. The savings from cooling are about 15% (\$2,114) of the savings obtained from the model based on the monthly bills. The combined savings obtained from the hourly data, are greater than those obtained from the bills (\$16,064 > \$14,352). The total savings obtained from the hourly whole building data for electricity are very close to those found separately for cooling plus lighting are very close (\$16,064 vs \$16,305).

The savings for demand determined from the hourly data are \$6,295 vs \$1,493 as determined from the utility measured demand. The amount determined from the hourly data is again much higher than that found from the billing data, consistent with the earlier findings for April 2000 - June 2000 using the two different methodologies. It is still our opinion that the higher value is a better measure of the demand reduction due to the lighting retrofit.

However, the combined consumption and demand savings of \$22,330 (\$16,305 from Cooling and lighting + \$6,295 from demand) is still only 29.7% of the audit estimate of \$75,121 per year.

Table 1. Electricity Savings for the Records Complex through June 2001 from Different Data

				Savings Based on Hourly Whole Building Data		Savings Based on Utility Bills		Cooling Savings Based on Chilled Consumption		Lighting Savings Based on difference between Whole Building and Cooling consumption		Cooling + Lighting
Month No.	Day	Year	TdbMEAN (°F)	Measured Total Cons kWh	Savings \$	Measured Total Cons kWh	Savings \$	Measured Total Cons kWh	Savings \$	Measured Total Cons kWh	Savings \$	Savings \$
6	24	1999	79.1	554,371	\$553	556,608	\$529	108,127	(\$143)	448,342	\$643	\$500
7	26	1999	84.5	571,099	\$2,190	569,328	\$2,287	121,182	\$95	449,933	\$2,098	\$2,193
8	24	1999	90.3	558,343	\$1,970	560,352	\$1,979	126,612	\$39	431,731	\$1,937	\$1,975
9	23	1999	83.9	595,305	\$388	608,256	\$98	128,451	(\$337)	466,926	\$726	\$389
10	22	1999	68.3	467,292	\$373	451,776	\$783	88,451	(\$443)	378,841	\$814	\$371
11	23	1999	65.4	470,397	\$1,020	590,400	(\$2,101)	85,166	(\$377)	385,213	\$1,394	\$1,017
12	21	1999	54.6	293,266	\$2,089	171,888	\$5,218	13,396	\$560	279,869	\$1,522	\$2,082
1	24	2000	53.3	348,906	\$2,434	349,584	\$2,380	12,039	\$683	336,868	\$1,743	\$2,426
2	23	2000	50.6	338,854	\$1,009	337,728	\$844	18,417	\$218	320,799	\$924	\$1,142
3	23	2000	60.1	363,710	\$1,596	363,408	\$1,589	41,841	\$222	321,869	\$1,369	\$1,591
4	24	2000	66.4	433,898	\$2,159	436,416	\$2,095	65,981	\$193	367,907	\$1,964	\$2,157
5	24	2000	73.3	497,634	\$958	497,424	\$982	97,811	(\$273)	399,824	\$1,229	\$957
6	26	2000	80.3	626,268	\$420	625,296	\$486	134,516	(\$473)	492,025	\$887	\$414
7	25	2000	86.8	589,766	\$531	595,728	\$428	122,476	(\$85)	466,252	\$647	\$562
8	23	2000	89.1	614,962	\$290	611,136	\$447	119,361	\$150	493,478	\$200	\$350
9	22	2000	86.6	555,237	\$1,923	553,632	\$2,018	120,799	\$46	434,478	\$1,880	\$1,926
10	23	2000	68.4	446,832	\$1,794	455,440	\$1,577	73,233	\$90	373,802	\$1,697	\$1,787
11	20	2000	57.3	367,229	\$622	366,768	\$614	43,160	(\$44)	324,070	\$660	\$616
12	20	2000	44.6	308,058	\$1,810	307,104	\$1,300	4,194	\$462	303,721	\$1,368	\$1,829
1	22	2001	38.7	337,144	\$2,036	337,248	\$1,444	530	\$614	337,487	\$1,416	\$2,030
2	21	2001	47.8	335,852	\$1,087	337,488	\$510	15,616	\$165	320,233	\$938	\$1,103
3	22	2001	51.9	316,357	\$1,348	316,512	\$1,309	10,452	\$488	305,906	\$1,002	\$1,490
4	23	2001	63.2	405,786	\$2,258	405,120	\$2,268	46,166	\$473	359,620	\$1,781	\$2,254
5	23	2001	71.8	448,339	\$1,945	448,704	\$1,951	74,287	\$230	374,053	\$1,714	\$1,944
Total < May 24, 2000				5,493,075	\$16,740	5,493,168	\$16,683	907,474	\$438	4,588,122	\$16,362	\$16,800
Total > May 24, 2000				5,351,831	\$16,064	5,360,176	\$14,352	764,792	\$2,114	4,585,124	\$14,191	\$16,305
Total				10,844,907	\$32,804	10,853,344	\$31,035	1,672,266	\$2,552	9,173,246	\$30,553	\$33,105

Table 2. Demand Savings for Records Complex through June 2001 Based on Different Data

					Based on hourly data (TdbMAX)		Billed Demand (TdbMAX)		Utility Measured Demand (TdbMEAN)		Cooling Demand (TdbMAX)		Lighting Demand (TdbMAX)		Cooling + Lighting
Month No.	Day	Year	TdbMEAN (°F)	TdbMAX (°F)	Measure d Demand kW	Savings \$	Measure d Demand kW	Savings \$	Measure d Demand kW	Savings \$	Measure d Demand kW	Savings \$	Measure d Demand kW	Savings \$	Savings \$
6	24	1999	79.1	94.0	1,053	(\$87)	1,092	(\$106)	1,092	\$140	239	(\$407)	790	\$789	\$382
7	26	1999	84.5	101.0	979	\$1,278	1,073	\$519	1,073	\$689	227	(\$95)	782	\$1,242	\$1,147
8	24	1999	90.3	106.0	1,036	\$1,067	1,060	\$960	1,060	\$1,194	245	(\$154)	813	\$1,172	\$1,018
9	23	1999	83.9	106.0	1,071	\$685	1,073	\$820	1,073	\$656	241	(\$102)	832	\$971	\$869
10	22	1999	68.3	92.0	960	\$764	1,025	\$494	1,025	\$183	196	\$4	790	\$678	\$682
11	23	1999	65.4	86.0	851	\$1,457	975	\$671	975	\$538	163	\$209	711	\$1,220	\$1,429
12	21	1999	54.6	79.0	899	\$371	1,054	(\$600)	1,054	(\$1,001)	221	(\$471)	678	\$1,208	\$736
1	24	2000	53.3	82.0	788	\$1,806	950	\$699	793	\$1,732	160	\$181	654	\$1,614	\$1,795
2	23	2000	50.6	82.0	830	\$1,352	950	\$699	858	\$1,033	175	\$24	696	\$1,163	\$1,187
3	23	2000	60.1	82.0	847	\$1,176	950	\$699	910	\$893	187	(\$104)	667	\$1,475	\$1,371
4	24	2000	66.4	87.0	923	\$758	966	\$828	966	\$689	201	(\$183)	722	\$1,156	\$973
5	24	2000	73.3	95.0	995	\$629	1,025	\$675	1,025	\$495	216	(\$125)	803	\$699	\$574
6	26	2000	80.3	95.0	1,053	(\$1)	1,135	(\$509)	1,135	(\$253)	254	(\$535)	837	\$332	(\$203)
7	25	2000	86.8	106.0	1,127	\$86	1,141	\$88	1,160	(\$104)	288	(\$614)	879	\$458	(\$156)
8	23	2000	89.1	105.0	1,177	(\$527)	1,158	(\$155)	1,198	(\$367)	315	(\$932)	997	(\$860)	(\$1,792)
9	22	2000	86.6	110.0	1,185	(\$211)	1,199	(\$295)	1,202	(\$574)	318	(\$830)	867	\$801	(\$28)
10	23	2000	68.4	97.0	955	\$1,214	1,001	\$1,053	1,001	\$439	212	(\$31)	759	\$1,276	\$1,245
11	20	2000	57.3	81.0	938	\$108	1,000	\$101	1,000	(\$259)	208	(\$333)	769	\$319	(\$14)
12	20	2000	44.6	69.0	823	\$1,111	958	\$314	883	\$759	164	\$143	696	\$880	\$1,023
1	22	2001	38.7	66.0	789	\$1,473	972	\$163	972	(\$199)	109	\$727	680	\$1,057	\$1,785
2	21	2001	47.8	76.0	866	\$646	958	\$314	941	\$135	145	\$344	721	\$615	\$959
3	22	2001	51.9	73.0	825	\$1,091	958	\$314	874	\$855	139	\$411	700	\$838	\$1,249
4	23	2001	63.2	85.0	914	\$690	966	\$708	966	\$485	207	(\$302)	751	\$728	\$426
5	23	2001	71.8	91.0	966	\$616	1,008	\$617	1,008	\$576	236	(\$453)	787	\$661	\$208
Total before May 24, 2000					11,232	\$11,255	12,193	\$6,358	11,904	\$7,241	2,471	(\$1,223)	8,938	\$13,386	\$12,163
Total after May 24, 2000					11,617	\$6,295	12,454	\$2,712	12,340	\$1,493	2,594	(\$2,404)	9,444	\$7,107	\$4,703
Total					22,849	\$17,550	24,647	\$9,071	24,244	\$8,734	5,065	(\$3,628)	18,382	\$20,493	\$16,866

Appendix - Additional Analysis of the Records Complex delivered earlier for the period April 2000 through June 2000.

Records Complex Building (Site 952) Dallas County

The Audit Estimated savings of the Records Complex for the period of April, 2000 through June, 2000 are \$18,780, but total savings found in the Savings Report for this period were only \$6,869, or 36.6% of audit estimated savings. \$4,667 of the measured savings are from reductions in electricity consumption, and \$2,202 is from demand reduction.

The savings noted were obtained from comparison of the measured kWh consumption and kW demand as recorded on the utility bills with the baseline consumption, normalized for weather changes. Additional analysis has examined the hourly whole building consumption and demand data as well as the hourly cooling consumption and demand. In addition the hourly difference between the whole building consumption and the cooling consumption has been examined as representing the consumption which is primarily lighting and plug loads, and hence does not depend on temperature. These savings have been determined for periods coinciding with the utility billing periods for June 1999 - May 2000.

The electric consumption savings determined from the three different approaches agree within \$120 out of over \$16,700. On the other hand the demand savings determined from the hourly data are more than \$ 4000 greater than those determined from the utility data. The total kWh measured by the two meters agree to within 0.002%. The 60-minute data will normally be 1-3% lower than 15-minute demand, but several months have 15-minute demand that is 5-15% higher than the 60-minute demand. The reasons for this are unknown, but are not likely to be due to lighting fluctuations.

The details of this analysis are shown in Tables 3 and 4.

Table 3. Electricity Savings for the Records Complex from Different Data

Month No.	Day	Year	Temp. (°F)	Savings Based on Hourly Whole Building Data		Savings Based on Utility Bills		Cooling Savings Based on Chilled Consumption		Lighting Savings Based on difference between Whole Building and Cooling consumption		Cooling + Lighting Savings
				Measured Total Cons kWh	Savings \$	Measured Total Cons kWh	Savings \$	Measured Total Cons kWh	Savings \$	Measured Total Cons kWh	Savings \$	
6	24	1999	79.09	554,371.20	553.14	556,608	529.00	108,127	-142.5	448,342	642.6	500.0
7	26	1999	84.49	571,099.20	2,189.86	569,328	2,286.99	121,182	95.3	449,933	2,097.7	2,193.0
8	24	1999	90.29	558,342.72	1,970.26	560,352	1,978.73	126,612	38.7	431,731	1,936.7	1,975.4
9	23	1999	83.91	595,304.64	388.03	608,256	97.71	128,451	-336.6	466,926	725.9	389.3
10	22	1999	68.29	467,291.52	373.22	451,776	782.68	88,451	-443.2	378,841	814.2	370.9
11	23	1999	65.44	470,397.12	1,020.26	590,400	-2,100.96	85,166	-376.9	385,213	1,394.0	1,017.2
12	21	1999	54.63	293,265.60	2,088.87	171,888	5,217.76	13,396	560.2	279,869	1,522.0	2,082.2
1	24	2000	53.26	348,906.24	2,434.20	349,584	2,379.91	12,039	682.5	336,868	1,743.0	2,425.6
2	23	2000	50.64	338,854.08	1,009.29	337,728	844.01	18,417	218.1	320,799	923.7	1,141.7
3	23	2000	60.13	363,710.40	1,595.69	363,408	1,589.33	41,841	221.8	321,869	1,368.9	1,590.6
4	24	2000	66.40	433,898.41	2,159.44	436,416	2,095.47	65,981	192.7	367,907	1,963.8	2,156.5
5	24	2000	73.34	497,634.24	957.52	497,424	982.23	97,811	-272.5	399,824	1,229.4	956.9
Total				5,493,075.37	16,739.77	5,493,168	16,682.88	907,473	437.4	4,588,121	16,361.9	16,799.3

Table 3 shows electricity consumption savings determined as follows:

- 1) From the hourly whole building electric data
- 2) From the utility billing data.
- 3) Cooling savings determined from hourly chiller consumption data.
- 4) "Lighting" savings determined from the difference between the hourly whole building data and the chilled consumption data.
- 5) Cooling + Lighting savings are the sum of the individual savings.

The information shown in specific columns is as follows:

- Columns 1-3 show the ending date of the utility billing period;
- Column 4 shows the mean ambient temperature during the billing period;
- Columns 5-6 show the consumption (kWh) and the consumption cost savings determined from the hourly data collected at the building;
- Columns 7-8 show the consumption (kWh) and the consumption cost savings based on the utility bills;
- Columns 9-10 show the cooling consumption (kWh) and cost savings based on the hourly data;
- Columns 11-12 show the "lighting" consumption (kWh) (actually whole building electric minus cooling) and savings;
- Column 13 shows the sum of the cooling and "lighting" savings as determined from the hourly data.

Table 4. Demand Savings for Records Complex Based on Different Data

Month No.	Day	Year	Mean Temp. (°F)	Max. Temp. (°F)	Based on Hourly Data		Billed Demand		Utility Measured Demand		Cooling Demand		Lighting Demand		Cooling+ Lighting
					Measured Demand kW	Savings \$	Measured Demand kW	Savings \$	Measured Demand kW	Savings \$	Measured Demand kW	Savings \$	Measured Demand kW	Savings \$	Savings \$
6	24	1999	79.09	94.0	1,053	-87.4	1,092	-106.47	1,092	139.88	239	-406.7	790	788.5	381.8
7	26	1999	84.49	101.0	979	1,278.3	1,073	519.21	1,073	688.64	227	-94.7	782	1,241.9	1,147.2
8	24	1999	90.29	106.0	1,036	1,067.0	1,060	959.97	1,060	1,194.36	245	-153.9	813	1,171.8	1,017.9
9	23	1999	83.91	106.0	1,071	684.8	1,073	820.09	1,073	656.36	241	-102.2	832	971.0	868.8
10	22	1999	68.29	92.0	960	764.0	1,025	494.10	1,025	182.92	196	4.3	790	677.9	682.2
11	23	1999	65.44	86.0	851	1,457.3	975	671.04	975	538.00	163	208.7	711	1,220.4	1,429.7
12	21	1999	54.63	79.0	899	370.6	1,054	-600.23	1,054	-1,000.68	221	-471.3	678	1,207.7	736.4
1	24	2000	53.26	82.0	788	1,806.0	950	699.34	793	1,732.36	160	180.8	654	1,614.0	1,794.8
2	23	2000	50.64	82.0	830	1,351.5	950	699.34	858	1,032.96	175	23.7	696	1,163.2	1,186.8
3	23	2000	60.13	82.0	847	1,175.9	950	699.34	910	893.08	187	-104.4	667	1,475.0	1,370.6
4	24	2000	66.40	87.0	923	757.9	966	828.06	966	688.64	201	-182.9	722	1,156.1	973.7
5	24	2000	73.34	95.0	995	628.8	1,025	674.63	1,025	494.96	216	-124.8	803	698.8	573.9
Total					11,231	11,254.5	12,193	6,358.40	11,904	7,241.5	2,469	-1,223.4	8,936	13,386.1	12,162.7

Table 4 shows the corresponding quantities for demand with one important difference. The billed demand for January – March is higher than the measured demand due to the demand ratchet, hence savings were also examined using the utility measured demand as well.

The columns show the following specific information:

- Columns 1-3 show the ending date of the utility billing period;
- Columns 4-5 show the maximum and the mean ambient temperature during the billing period;
- Columns 6-7 show the peak demand and the demand cost savings determined from the hourly data collected at the building;
- Columns 8-9 show the demand charged on the utility bills and the savings as determined from this data;
- Columns 10-11 show the demand measured by the utility (which sometimes differs from billed demand due to the ratchet clause) and the savings based on measured demand;
- Columns 12-13 show the cooling demand and savings based on the hourly data;
- Columns 14-15 show the "lighting" demand (actually whole building electric minus cooling) and savings;
- Column 16 shows the sum of the cooling and "lighting" savings as determined from the hourly data.