

Electricity Monitoring Report  
September 2006  
ABC Building

Prepared By:



solution105  
consulting ltd.

November 22, 2006

## Executive Summary for September 2006

### Weather Information

Actual Heating Degree Days	159	<u>Variance</u>	
5-Year Average HTGDEG	211	-52	
Actual Cooling Degree Days	242		
5-Year Average CLGDEG	184	58	
Actual Average Maximum Temperature	18.0 °C		
5-Year Average Maximum Temperature	16.1 °C	1.9 °C	
YTD Actual HTGDEG	2,819		
YTD 5-Year Average HTGDEG	3,275	-456	
YTD Actual CLGDEG	1,802		
YTD 5-Year Average CLGDEG	1,530	272	
YTD Average Max. Temperature	13.1 °C		
YTD 5-Year Average Max. Temperature	11.3 °C	1.8 °C	

Edmonton City Centre Airport experienced warmer than normal weather for the month of September. The average maximum temperature was 1.9°C higher, there were a total of 159 heating degree days, versus the September average of 211 and there were a total of 242 cooling degree days, versus the September average of 184. Year-to-date, there have been 456 fewer heating degree days and 272 more cooling degree days than normal and the average maximum daily temperature has been 1.8°C higher than normal.

### Consumption Information

		<u>Variance</u>	<u>Percent</u>
Actual (load data)	185,417 kWh		
Budgeted (weather normalized)	178,105 kWh	7,312 kWh	4.1%
Weather Adjusted Model	182,868 kWh	2,550 kWh	1.4%
YTD Actual (load data)	1,773,033 kWh		
YTD Budgeted (weather normalized)	1,709,073 kWh	63,959 kWh	3.7%
YTD Weather Adjusted Model	1,710,901 kWh	62,131 kWh	3.6%
Reforecast to End of Fiscal	2,302,335 kWh		
Budgeted to End of Fiscal	2,238,376 kWh	63,959 kWh	2.9%

Monthly consumption levels for September were 7,312 kWh higher than what was budgeted. This represents a 4.1% deviation versus the budget. Monthly consumption levels for September were 2,550 kWh higher than what was predicted using our current model (after adjusting for weather). This represents a 1.4% deviation versus our model. Expected usage for the entire year is coming in 3.0% higher than what was budgeted.

## Executive Summary for September 2006 (continued)

### Cost Information (before taxes)

		<u>Variance</u>	<u>Percent</u>
Actual (load data)	\$17,308		
Budgeted (weather normalized)	\$15,336	\$1,972	12.9%
Weather Adjusted Model	\$17,029	\$279	1.6%
YTD Actual (load data)	\$159,515		
YTD Budgeted (weather normalized)	\$146,107	\$13,408	9.2%
YTD Weather Adjusted Model	\$154,355	\$5,160	3.3%
Reforecast to End of Fiscal	\$205,205		
Budgeted to End of Fiscal	\$191,520	\$13,685	7.1%

Calculated costs this month were \$1,972 higher than budgeted. This represents a 12.9% deviation versus the budget. Costs were \$279 higher than expected using our current usage model and the current utility rates. This represents a 1.6% deviation versus our model. Expected costs for the entire year are coming in 7.1% higher than what was budgeted.

### ABC Building Information

Based on a total area of 112,933 square feet, ABC Building has spent about 9.3 cents per kWh or 15.3 cents per square foot on electricity in September.

Leased Space	112,933 sqft
Cost per kWh	\$0.0933
Cost per sqft	\$0.1533

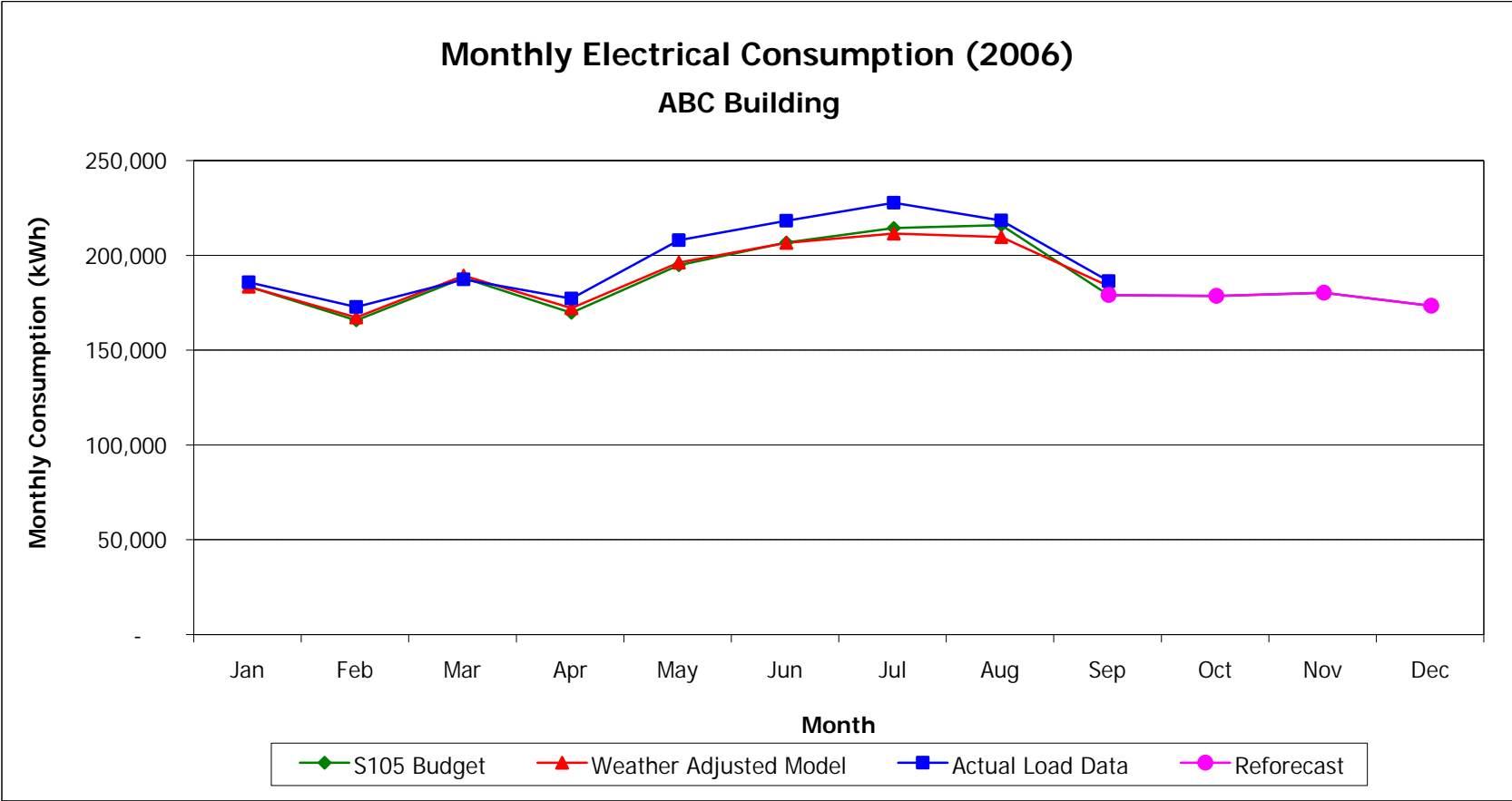
### Pool Price Information

The average pool price for the month of September was \$0.0825. This is \$0.0090 higher than last month's average of \$0.0735.

#### Average Pool Price Last 14 Months

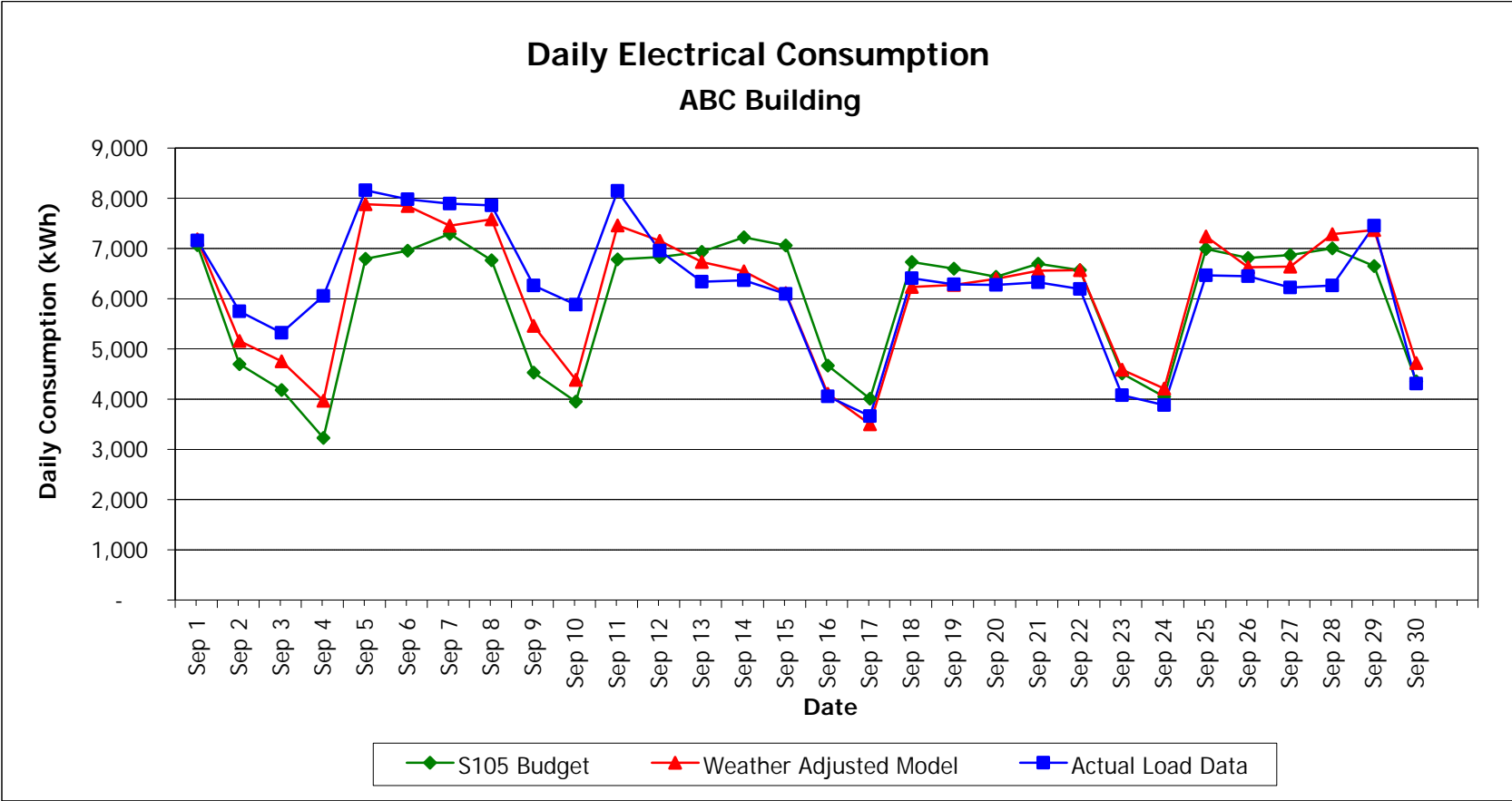
<u>Month</u>	<u>\$/kWh</u>	<u>Month</u>	<u>\$/kWh</u>
Aug-05	\$0.0883	Mar-06	\$0.0441
Sep-05	\$0.0743	Apr-06	\$0.0429
Oct-05	\$0.1220	May-06	\$0.0563
Nov-05	\$0.1248	Jun-06	\$0.0616
Dec-05	\$0.1030	Jul-06	\$0.1282
Jan-06	\$0.0721	Aug-06	\$0.0735
Feb-06	\$0.0541	Sep-06	\$0.0825

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Comments

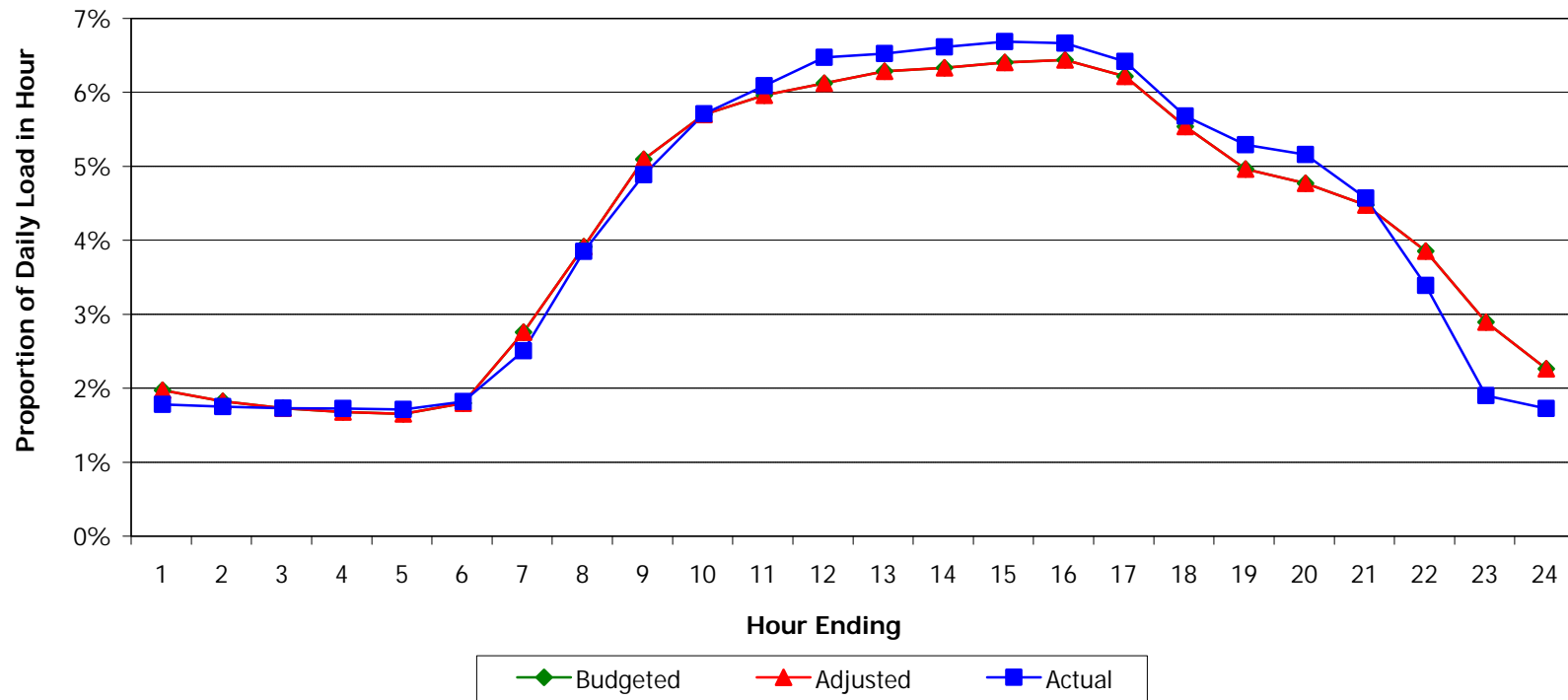
- Monthly consumption levels for September were 7,312 kWh higher than what was budgeted. This represents a 4.1% deviation versus the budget. Monthly consumption levels for September were 2,550 kWh higher than was predicted using our current model (after adjusting for weather). This represents a 1.4% deviation versus our model.
- Year-to-date, actual usage at ABC Building has been 63,959 kWh higher (3.7% higher) than budgeted and 62,131 kWh higher (3.6% higher) than expected from our weather-adjusted model.



Comments

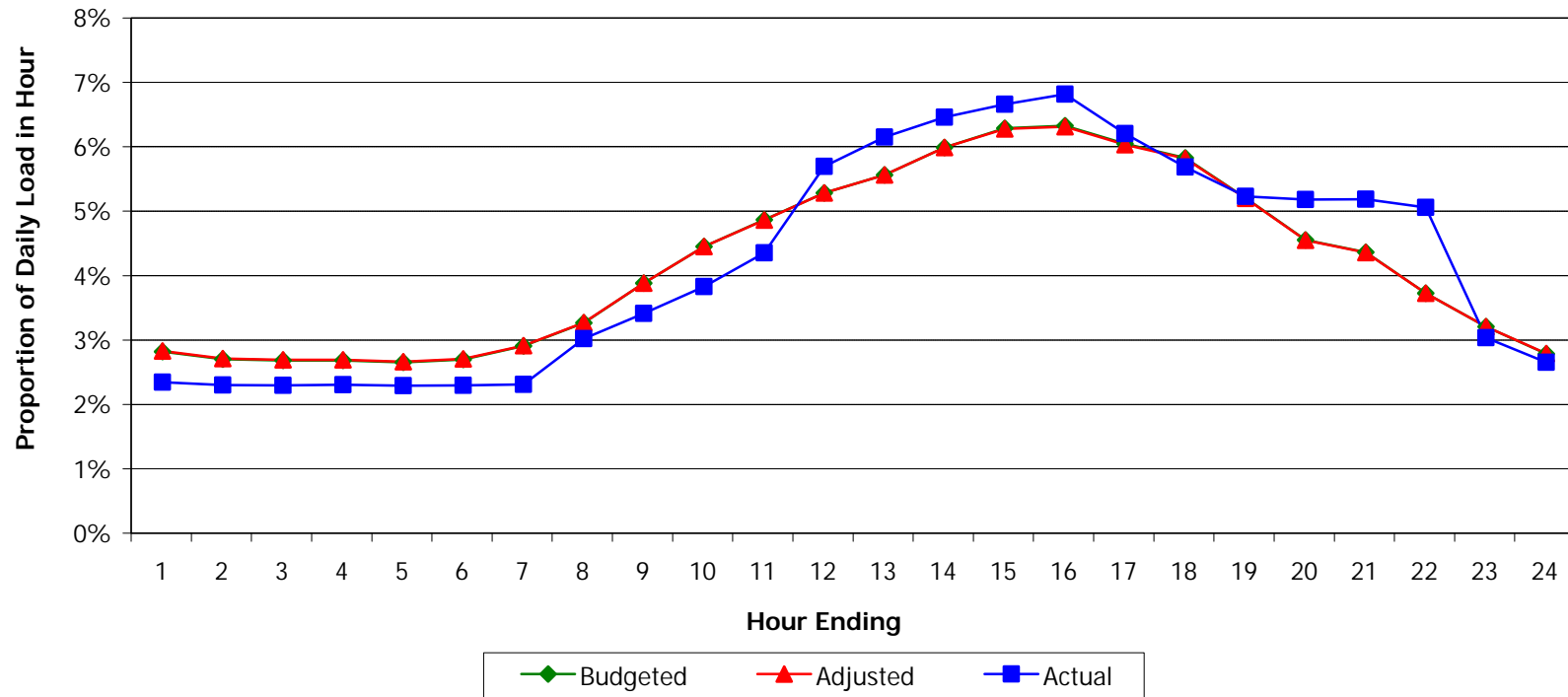
Daily consumption was generally predicted well by the model with not many variations.

### Weekday Hourly Profile September 2006

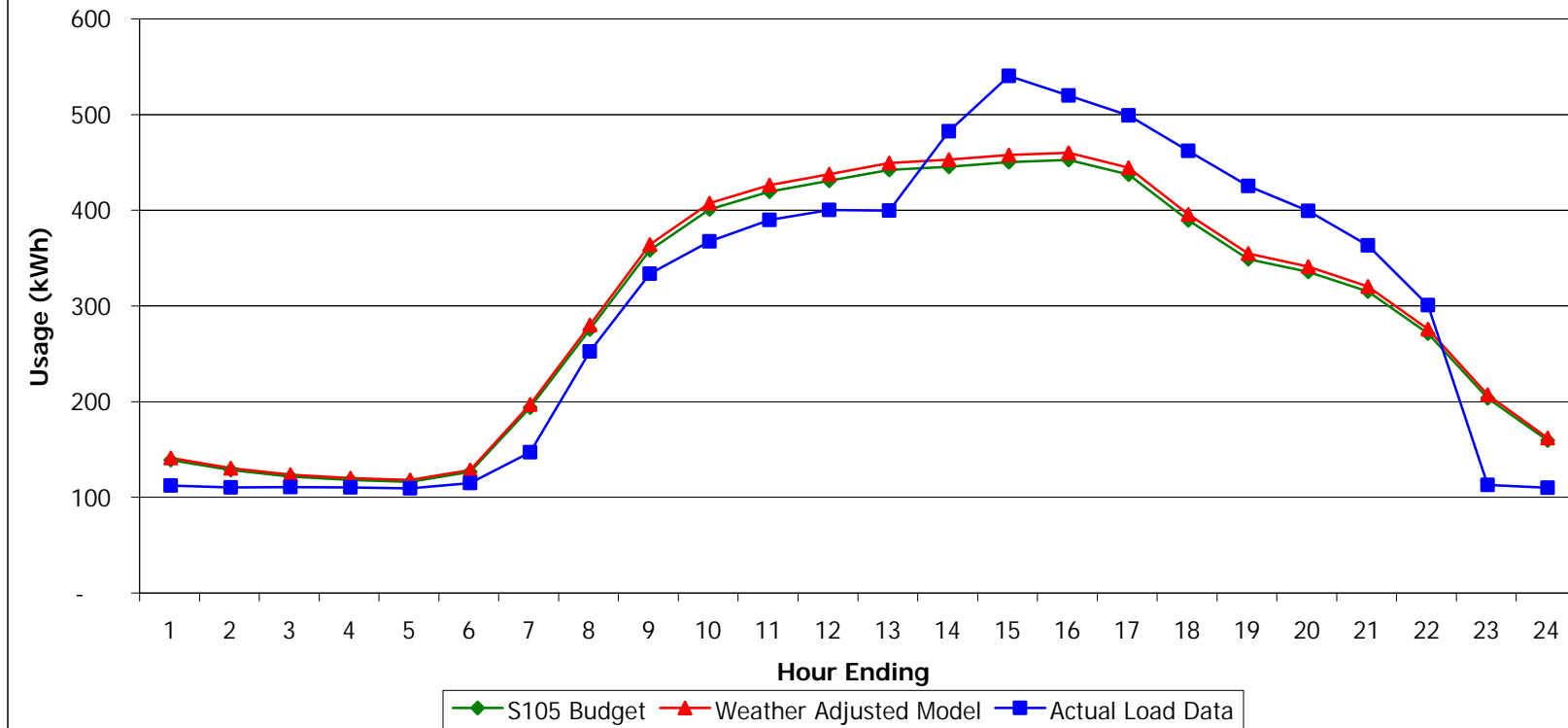


## Weekend Hourly Profile

September 2006



### Hourly Load for Friday, September 01, 2006



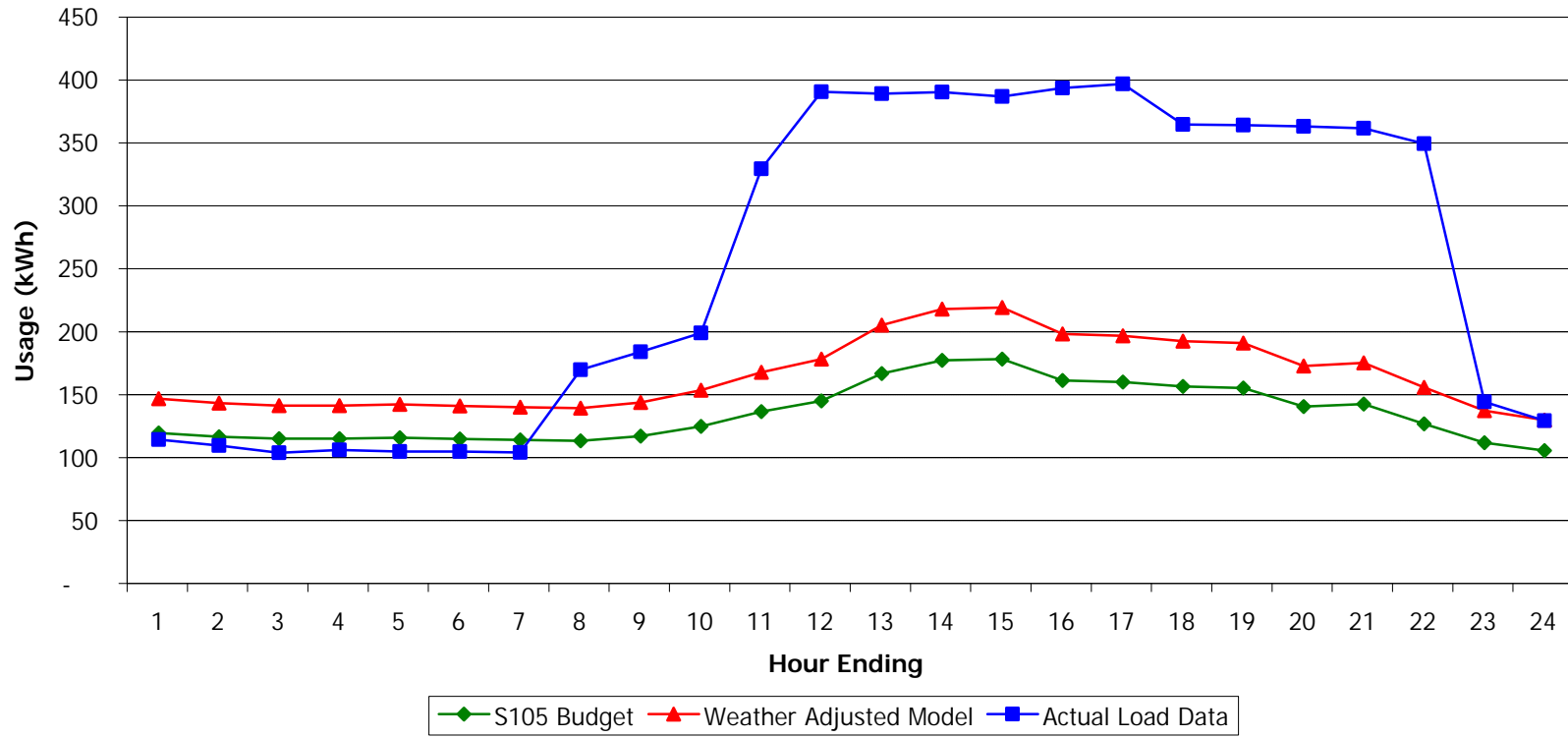
#### Comments

Consumption for the first 11 days of September were above the forecast; this is likely due to the increased temperatures causing the chilling units to work harder.

The rest of the month was predicted well by the model with not many variations.

The first two weekends of the month experienced higher consumption than the last two weekends. This is also likely due to warmer temperatures causing chilling units to work harder.

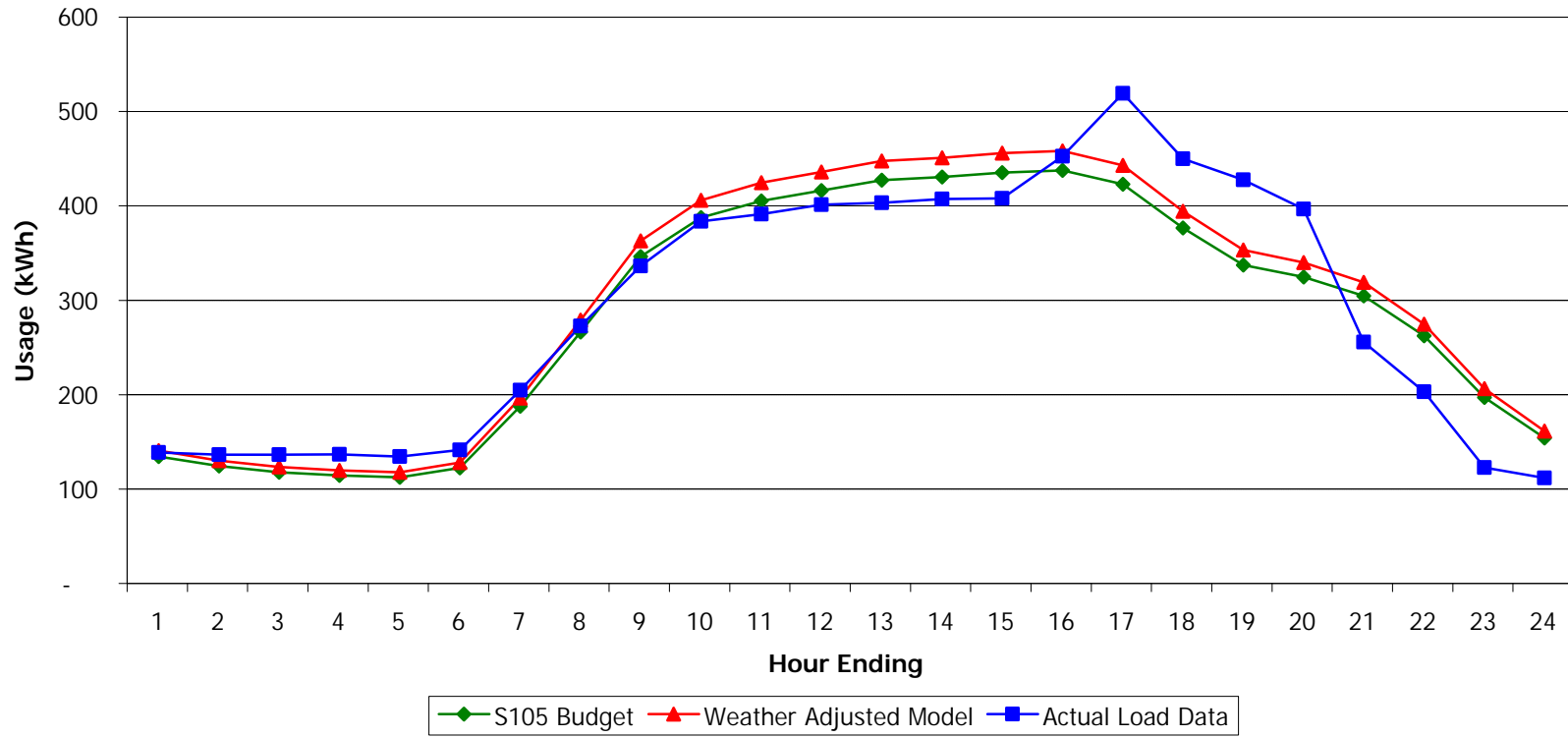
### Hourly Load for Monday, September 04, 2006



Comments

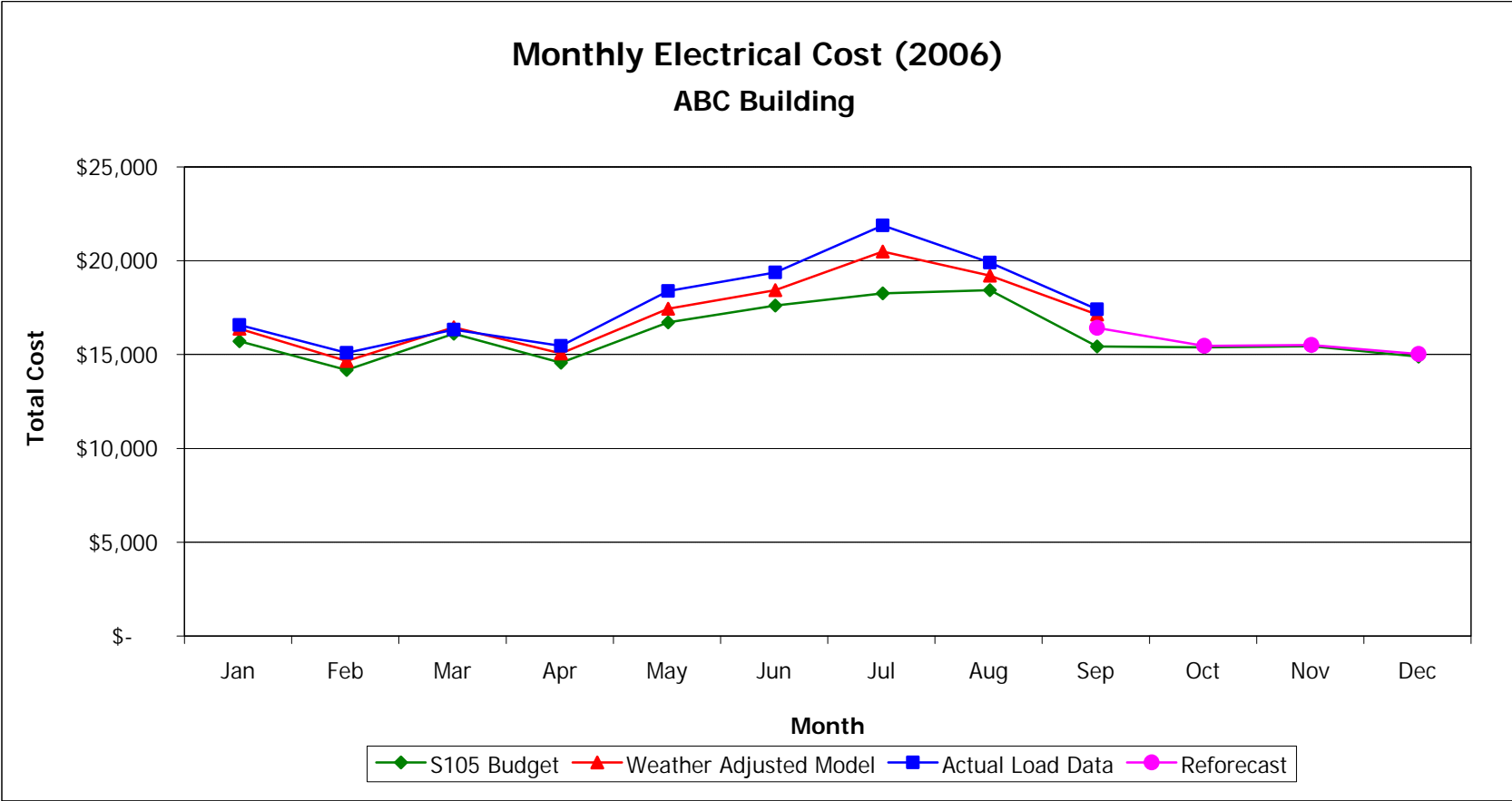
There is an increase in consumption during work hours on this holiday Monday. It appears as if this site was partially active while the model predicted a weekend level of activity.

### Hourly Load for Tuesday, September 12, 2006



Comments

From this day forward, consumption is predicted well by the model. The period of warm temperatures dropped off and the chilling units likely began to operate at their normal level.

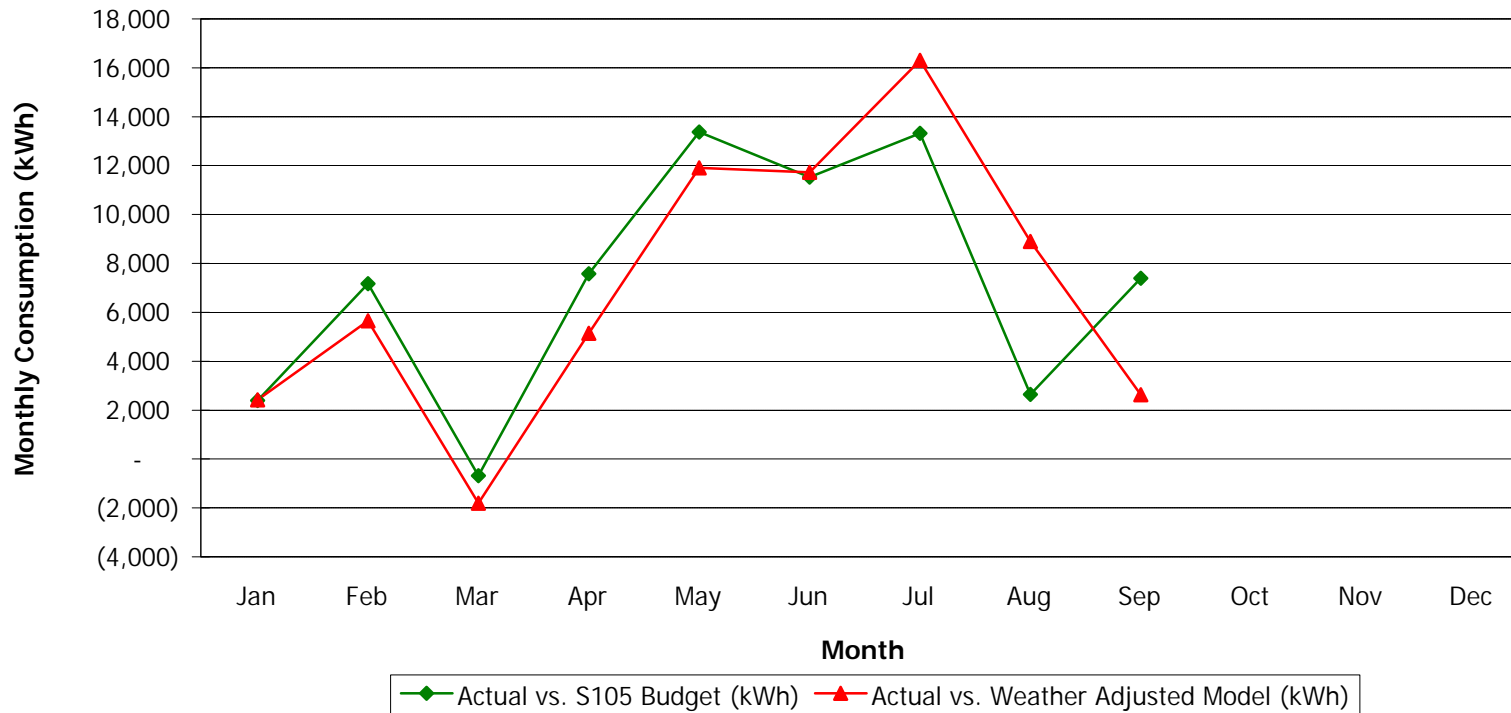


Comments

- Calculated costs this month were \$1,972 lower than budgeted. This represents a 12.9% deviation versus the budget.
- Costs were \$279 lower than expected using our current usage model and the current utility rates. This represents a 1.6% deviation versus our model. Expected costs for the entire year are coming in 7.1% higher than what was budgeted.
- Year-to-Date, pre-tax costs at ABC Building have been \$13,408 (9.2% higher) than budgeted and \$5,160 (3.3% higher) than expected from our weather adjusted model (using actual utility rates).

## Variation in Forecasted Consumption (versus Actual Usage)

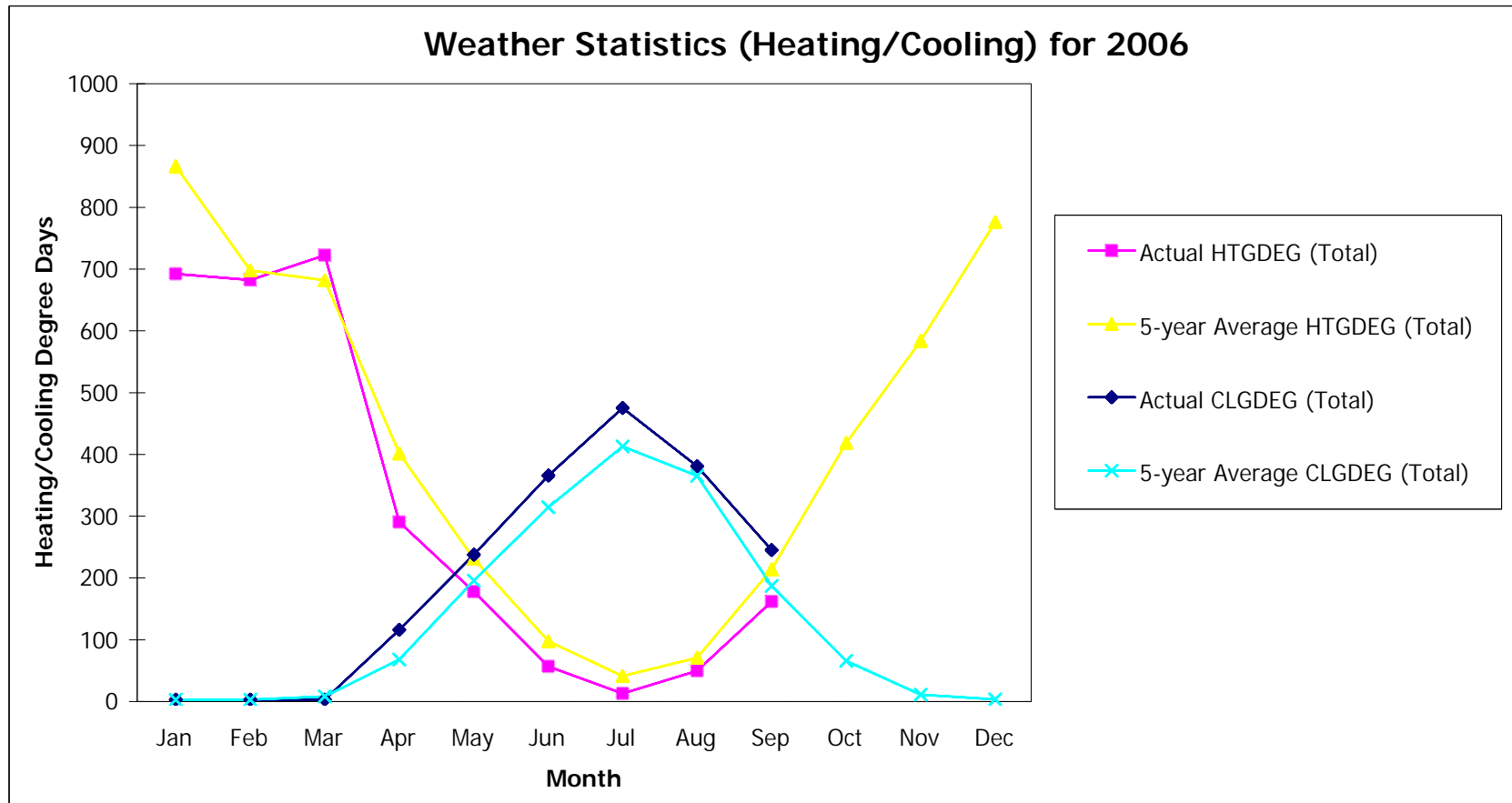
### ABC Building



#### Comments

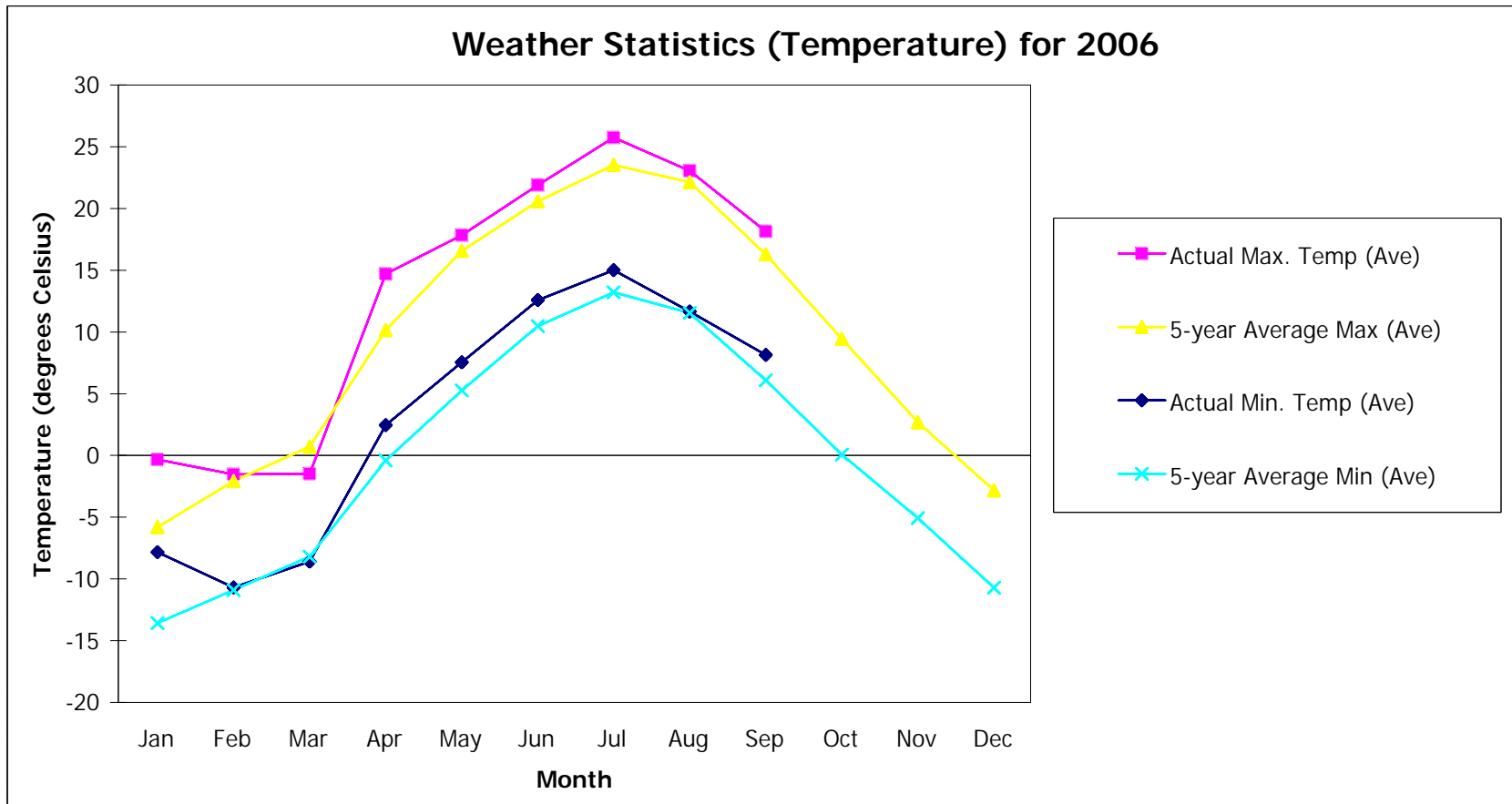
- The graph above plots the difference between actual usage and modeled/budgeted usage.
- Consumption for ABC Building was 7,312 kWh higher than budgeted in September. This represents a 4.1% deviation from the budget.
- Using our weather-adjusted model, consumption at ABC Building was 2,550 kWh higher than expected, a difference of 1.4%.
- Year-to-date, consumption at ABC Building has been 63,959 kWh higher, or 3.7% higher, than budgeted.
- Year-to-date, consumption at this site has been 62,131 kWh higher, or 3.6% higher, than predicted by our weather-adjusted model.

## Weather Statistics (Heating/Cooling) for 2006



### Comments

- Edmonton City Centre Airport experienced warmer weather than usual this September.
- There were 159 heating degree days - compared to the usual 211.
- The maximum daily temperature averaged 18.0°C - compared with the 5-year average of 16.1°C.
- The minimum daily temperature averaged 8.0°C - compared with the 5-year average of 5.9°C.
- There were 242 cooling degree days - compared to the usual 184.
- Year to date, there have been 456 fewer heating degree days and 272 more cooling degree days than normal.



Comments

- Edmonton City Centre Airport experienced warmer weather than usual this September.
- There were 159 heating degree days - compared to the usual 211.
- The maximum daily temperature averaged 18.0°C - compared with the 5-year average of 16.1°C.
- The minimum daily temperature averaged 8.0°C - compared with the 5-year average of 5.9°C.
- There were 242 cooling degree days - compared to the usual 184.
- Year to date, Edmonton City Centre Airport has been 1.8°C warmer than normal based on average maximum daily temperatures and 1.9°C warmer than normal based on average minimum daily temperatures

## ABC Building - Electrical Summary for 2006

	200601 Jan	200602 Feb	200603 Mar	200604 Apr	200605 May	200606 Jun	200607 Jul	200608 Aug	200609 Sep	200610 Oct	200611 Nov	200612 Dec	Total
Days	31	28	31	30	31	30	31	31	30	31	30	31	365
<b>BUDGET</b>													
Consumption( kWh)	182,453	164,715	187,152	168,713	193,740	205,819	213,470	214,905	178,105	177,566	179,344	172,393	2,238,376
Billing Demand	536	536	536	536	564	562	582	596	583	558	536	536	596
Total Cost	\$ 15,603	\$ 14,074	\$ 16,006	\$ 14,461	\$ 16,621	\$ 17,516	\$ 18,156	\$ 18,335	\$ 15,336	\$ 15,282	\$ 15,345	\$ 14,786	\$191,520
											<b>Reforecast</b>		
<b>METER</b>													
Consumption( kWh)	184,763	171,805	186,383	176,199	207,026	217,265	226,709	217,465	185,417	177,566	179,344	172,393	2,302,335
Billing Demand	536	536	536	536	568	589	601	605	591	512	512	512	605
Total Cost	\$ 16,478	\$ 14,985	\$ 16,228	\$ 15,361	\$ 18,285	\$ 19,274	\$ 21,788	\$ 19,809	\$ 17,308	\$ 15,356	\$ 15,407	\$ 14,928	\$205,205
<b>ADJUSTED</b>													
Consumption( kWh)	182,428	166,232	188,271	171,145	195,202	205,622	210,485	208,648	182,868				1,710,901
Billing Demand	536	536	536	536	568	589	601	605	591				605
Total Cost	\$ 16,270	\$ 14,560	\$ 16,350	\$ 14,954	\$ 17,346	\$ 18,338	\$ 20,395	\$ 19,112	\$ 17,029				\$ 154,355

Consumption - This value is the kWh usage at the meter, not adjusted for line losses or primary metering factors

Total Cost - This value refers to costs before taxes