

## Executive Summary

Pursuant to Executive Order RP 49, the Texas Commission on Environmental Quality (TCEQ) submitted its initial Energy Savings Plan in December 2005, detailing a number of measures that the agency will be implementing to reduce energy consumption. This quarterly update provides the current status of the energy conservation efforts identified in the initial Plan.

The TCEQ has established a goal of reducing its energy consumption by 5 percent over the next five years. This quarterly update includes summaries of total electricity and fleet fuel consumption, and an update on the status of progress towards reaching the agency's 5-percent energy savings goal.

Data from the first quarter of 2007 shows that the total electricity and fleet fuel consumption total available for the first quarter are below annual total averages. Although electricity consumption for the month of January 2007 was about 4 percent above baseline monthly averages, total electricity consumption is almost 3 percent below annual total averages. Fleet fuel consumption levels for January and February 2007, are both below baseline monthly averages, with total fleet fuel consumption almost 13 percent below annual total averages.

### TCEQ Second Quarter 2006 Energy Consumption Update

	Jan 2007 Consumption	Percentage of Monthly Average +/-	Feb 2007 Consumption	Percentage of Monthly Average +/-	March 2007 Consumption	Percentage of Monthly Average +/-	2007 Total Consumption (To Date)	Total Consumption Percentage +/-
Electricity	1,193,834 kWh	+4.1%	1,016,846 kWh	-11.3%	1,128,731 kWh	-1.6%	3,339,411 kWh	-2.9%
Fleet Fuels	18,549 gallons	-19.9%	21,844 gallons	-5.6%	N/A <sup>1</sup>	N/A <sup>1</sup>	40,393 gallons <sup>2</sup>	-12.8%

<sup>1</sup> Total fleet fuel consumption is not available for March 2007. With the transition to a new system for tracking fleet fuel consumption, accurate fleet fuel reports for the previous month are not calculated until the 20<sup>th</sup> of each month.

<sup>2</sup> "Total Consumption (To Date)" for Fleet Fuels only includes data from January-February 2007 because data for the month of March is not yet available.

During the first quarter of 2007, the TCEQ also implemented two additional energy savings measures in addition to other ongoing projects.

To help reduce electricity consumption on the Park 35 campus, the agency installed occupancy sensors in a total of 35 common areas located in Buildings A through E. These occupancy sensors will help to ensure that lights do not remain on in unoccupied common areas.

The TCEQ also produced and distributed color inserts for all of the agency fleet vehicles that are flexible fuel capable. The goal of these inserts is to encourage employees to use fuels blended with 85 percent ethanol (E85), by increasing employee awareness of which agency fleet vehicles are flexible fuel. By increasing the use of E85, the agency can also decrease its consumption of gasoline in agency vehicles.

Over the next three months, the TCEQ will be implementing a number of additional measures aimed at helping to accomplish its energy savings goals. Through these measures, the TCEQ will work to:

- ✓ Identify heating, ventilating, and air conditioning (HVAC) units with a Seasonal Energy Efficiency Ratio (SEER) rating of at least 12 to replace existing units in Building B of the Park 35 Campus;
- ✓ Continue to work with the Texas Building and Procurement Commission (TBPC) to complete the work order already submitted to lower all water heaters to 120 degrees;
- ✓ Evaluate the feasibility of replacing task lights included in modular furniture to T-8 fluorescent bulbs instead of T-12 fluorescent bulbs; and
- ✓ Evaluate the feasibility of installing motion sensors to control task lights included in modular furniture used at the Park 35 Campus.

The next quarterly update will be submitted July 15, 2007. This update will include energy consumption data from the second quarter along with any data missing from the first quarter update, along with an update on any additional measures implemented during the second quarter of 2007.

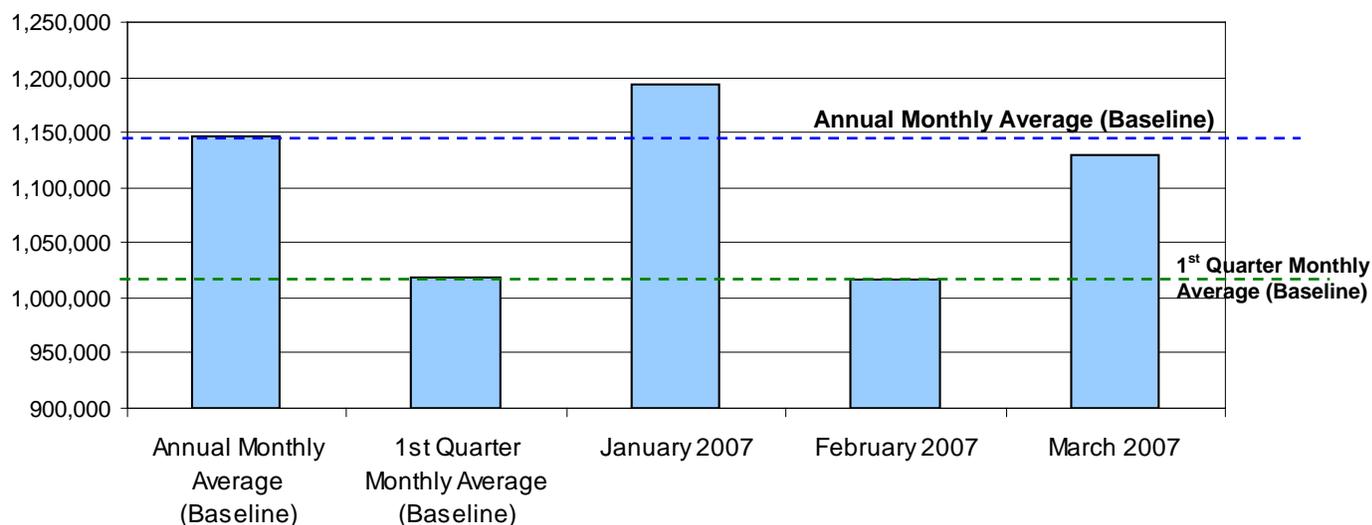
This update and other quarterly updates will be posted on the TCEQ external Web site for public review and comment, along with the original Energy Savings Plan at:

<http://www.tceq.state.tx.us/admin/support-services/tceq-energy-savings-plan.html>

## TCEQ Electricity Consumption Update

Data on electricity consumption for the first quarter of 2007 is provided below.

### CY 2007 First Quarter Electricity Consumption



As the graph above shows, electricity consumption for the month of January 2007 (1,193,834 kWh) exceeded the monthly average consumption for first quarter months, while electricity consumption in March 2007 (1,128,731 kWh) exceeded both the annual monthly average and the monthly average consumption for first quarter months. Electricity consumption for the month of

February 2007 (1,016,846 kWh) was below both the baseline annual monthly average and the monthly average for first quarter months.

## **TCEQ Fleet Update**

Data for total fleet fuel consumption is currently only available for January and February 2007. The total fleet fuel consumption data for March 2007 will be provided in the second quarter Energy Savings update.

### **TCEQ Fleet Fuel Consumption: First Quarter CY 2007 (in gallons)**

	<b>January 2007</b>	<b>February 2007</b>	<b>March 2007<sup>1</sup></b>	<b>Annual Monthly Avg. Baseline</b>	<b>1st Quarter Avg. Baseline</b>
Gas/Diesel	15,279 gallons	18,026 gallons	N/A	17,250 gallons	16,400 gallons
LPG	3,270 gallons	3,859 gallons	N/A	5,900 gallons	7,200 gallons
<b>Total</b>	18,549 gallons	21,884 gallons	N/A	23,150 gallons	23,600 gallons

<sup>1</sup> Data for total fleet fuel consumption is not yet available for March 2007. Fleet fuel consumption data for the month of March will be included in the Energy Savings Update for second quarter months.

Total fleet fuel consumption for both January and February 2007 was below both the annual monthly average consumption and the average monthly consumption for first quarter months.

Fleet fuel consumption for January 2007 (18,549 gallons) was almost 20 percent below the baseline monthly average, while fuel consumption for February 2007 (21,884 gallons) was almost 6 percent below the baseline monthly average. The combined total fleet fuel consumption for these two months is approximately 13 percent below the average total annual consumption.

## **Additional TCEQ Energy Savings Efforts First Quarter 2007**

### **Common Area Occupancy Sensors**

During the first quarter of 2007, the TCEQ installed occupancy sensors in a total of 35 common areas located in Buildings A through E on the Park 35 campus. These installations were scheduled to take place between March 27 and March 30.

Generally, occupancy sensors will decrease electricity consumption in areas that are commonly unoccupied. However, the actual energy savings that will result from the installation of occupancy sensors will depend largely on how a given common area is used and how often lights are currently left on.

A study conducted in 2001 and funded by the U.S. Environmental Protection Agency found that on average, an occupancy sensor with a 20-minute delay will reduce energy consumption in a “break room” by an average of 17 percent, by 39 percent in a “conference room,” and by 47 percent in a “restroom.” The occupancy sensors installed in Buildings A through E on the Park 35 campus were installed primarily in rooms designated as conference rooms, as well as several designated break rooms, and one designated training room.

## **E85 Vehicle Inserts**

During the first quarter of 2007, the TCEQ placed color inserts into all of the log books that accompany each agency vehicle when it is checked out. These inserts encourage employees to use fuels blended with 85 percent ethanol (E85).

Staff believes many employees are not aware that they can use E85 when they are refueling flexible fuel vehicles in the agency fleet. As an increasing number of E85 stations come online, it is hoped that this insert will help to increase awareness of which agency fleet vehicles are flexible fuel, helping to decrease consumption of gasoline in the process.

A copy of the E85 insert is included in this update as Appendix A.

## **TCEQ Energy Savings Goals Second Quarter 2007**

During the second quarter of 2007, the TCEQ plans to implement a number of specific measures aimed at helping to accomplish energy savings goals. The July quarterly update will include the status of these efforts along with available data on second quarter energy consumption.

Through these measures, the TCEQ will work to:

- ✓ Identify heating, ventilating, and air conditioning (HVAC) units with a Seasonal Energy Efficiency Ratio (SEER) rating of at least 12 to replace existing units in Building B of the Park 35 Campus. The efficiency of central air-conditioning units is governed by U.S. law and regulated by the U.S. Department of Energy. Every air-conditioning unit is assigned a SEER efficiency rating, with a higher SEER value signifying a unit with a higher efficiency.
- ✓ Continue to work with the Texas Building and Procurement Commission (TBPC) to complete the work order already submitted to lower all water heaters to 120 degrees. It is estimated that for each 10 degree reduction in water temperature, it can reduce energy consumption by between 3 and 5 percent. Although some manufacturers set water heater thermostats at 140 degrees, most uses will typically only require that the water heater is set at 120 degrees.
- ✓ Evaluate the feasibility of replacing task lights included in modular furniture to T-8 fluorescent bulbs instead of T-12 fluorescent bulbs. The traditional tube-type fluorescent lamps are usually identified as T12 or T8 (12/8 or 8/8 of an inch tube diameter, respectively). Because they are smaller, T8 fluorescent light bulbs will require less energy to operate.
- ✓ Evaluate the feasibility of installing motion sensors to control task lights included in modular furniture used at the Park 35 Campus.



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**Appendix A**  
**E85 Vehicle Inserts**