

Annual Utility Report for FY07

FY08 Utility Budget

Introduction

Total utility expenditures in FY07 fell below FY06 by 4%, (\$338,137). The decrease is attributable to the first drop in WACOG (weighted average cost of gas) in four years. After increasing an average of 17% for each of the four years from July 1, 2002 to June 30, 2006, the WACOG for FY07 finished 26% below the FY06 rate. While this one factor contributed to a \$1.146 million surplus to the estimated budget, this outcome continues to underscore the problem with gas price volatility and market predictability.

Electricity use remained nearly unchanged at -1% to FY06, and the cost per kWh skyrocketed due to market deregulation that lifted a 10 year freeze on electrical rates in the State. While the WIU – Macomb rate increased 54% in January 2007, a five University consortium that includes WIU, was able to secure a rate through a retail electric provider at ~ \$0.02 per kWh less than the State auction rate in our customer class. Had WIU not joined the consortium the auction rate would have cost the University an additional \$521,000 in electrical expense for FY07.

Coal use increased by 5.8% as it approached the WIU environmental permitted production limits. The total tonnage of coal burned was the second highest in the last eleven consecutive years. Burning coal above the previous five year average tonnage resulted in an avoided natural gas cost of \$127,000, at the equivalent amount of gas needed to offset the additional coal used. The 2.8% cost increase per ton of coal was inflationary and had been anticipated in the budget.

Water consumption in FY07 was up a nominal 1.2% over FY06. An initial 4.1% increase in water rates was mostly anticipated, while a late fiscal year increase of 6% by the City of Macomb was not. The new rates could increase expenditures for water and sewer by \$57,000 in FY08.

Utility expenditures for the Quad Cities were lower than in past years due to lower natural gas costs. Little change was seen in consumption of energy or water at the Quad Cities campuses, although water rates did increase 3.8% while electrical rates remained virtually unchanged from FY06.

Weather Impacts and Operational Affects

Weather impacts appear to have increased energy consumption in FY07, contributing to an unadjusted EUI (Energy Utilization Index) of 220. This represents a 5.3% increase over the FY06 EUI of 209. EIU is measured as a MBTU per square foot per year. A BTU is a measure of energy that all utility and energy consumption may be converted to allow comparison of operations and energy efficiency between years. The “M” prefix denotes 1000 BTU units. Square foot is the gross square foot of campus facilities at WIU.

Heating and Cooling Degree Days are meteorological data kept by the National Oceanic and Atmospheric Administration (NOAA) which can be used to compare weather intensity differences between years. An evaluation of the degree day data shows that both FY06 and FY07 had 6% and 5% greater degree days respectively than the median annual degree days for the past eight years. The large increase in Cooling Degree days is significant to a higher EUI as cooling is more energy intensive than heating.

An operational impact which increases EUI is the larger amount of coal burned in the Plant from FY06 to FY07. One Heating Plant objective is to decrease energy costs by burning as much coal as the WIU EPA permit allows. However, producing steam in the WIU Heating Plant with coal is about 25% less efficient than with gas. This impact will increase EUI while decreasing the UCI (Utility Cost Index).

A weather and operationally adjusted EUI would be expected to decrease the range in campus EUI between years unless dramatic campus changes occur that affect campus energy intensity. Examples of changes that could impact EUI include energy management projects in buildings, a new and more efficient utility plant (decreases), or (increases) from new and higher energy intense buildings such as research labs.

Attempts to mathematically adjust the EUI for weather and operational impacts result in a reduced range in EUI from FY00 through FY07, of 177 - 194 (17 points - adjusted) compared to 176 - 220 (44 points - unadjusted). This is was the best minimal range that could be achieved mathematically and could be viewed as the probable operational efficiency range that WIU Plant assets and operators can achieve at this time. One significant operational impact not evaluated is the continued loss of efficiency due to aging and obsolescence of energy using and utility producing equipment such as chillers, HVAC equipment and controls as well as Heating Plant boilers and pumps.

The FY08 Budget Outlook

Total utility expenditures at the Western Illinois University Macomb and Quad Cities campuses for FY08 are estimated at \$9,968,242. The sharp increase of this estimate as compared with actual utility expenditures in FY07 is mostly due to a full year of the 54% electrical rate increase from deregulation as opposed to only six months in FY07. The budget is also conservatively built around natural gas rates that were experienced in FY06 as opposed to the four year low in FY07. The first two months of FY08 suggest that the gas rates used in the new FY08 budget are very conservative.

FY08 Utility Budget Estimate

Macomb Campus and Surrounding Areas

Electrical	\$ 4,465,875
Water & Sewer	\$ 1,020,780
Industrial Fuel	
Natural Gas	\$ 3,628,755
Coal	\$ 690,060
Fuel Oil	\$ 12,059
LPG Macomb Area	<u>\$ 15,871</u>
Total	\$ 9,833,400

Quad Cities Campuses

Deere Road Facility	\$ 91,163
River Front Campus	<u>\$ 43,679</u>
Total	\$ 134,842

Total for all Utilities FY06 Macomb and Quad Cities \$ 9,968,242

Comprehensive Three Year Comparison Reports (\$ X 1000)

	FY05	FY06	%CHG	FY07	%CHG
Electrical	\$2,861	\$2,884	<1%	\$3,265	+13.21%
Natural Gas	2,657	\$3,882	+46.1%	\$2,969	(-23.52%)
Water & Sewer	\$815	\$902	+10.6%	\$950	+5.39%
Coal	\$467	\$550	+17.8%	\$598	+8.74%
Total all Utilities	\$6,992	\$8,372	+19.7%	\$7,924	(-5.35%)

Energy Utilization Index (MBTU/SQFT/YR) & Utility Cost Index (\$/SQFT/YR)

	FY04	FY05	FY06	FY07
EUI	204	197	209	216
UCI	\$1.49	\$1.45	\$1.75	\$1.62

** (BTU) British Thermal Units is a standardized measure of energy. The M prefix = 1000 BTUS
 ** The UCI is a total Utility Cost Index of all utility costs divided by campus gross square foot area