Reported to the Board of Trustees
May 31, 2012

UNIVERSITY OF ILLINOIS
URBANA-CHAMPAIGN • CHICAGO • SPRINGFIELD

Natural Gas & Electricity Procurement Program

Status Report to the Board of Trustees

May 31, 2012

PROGRESS TO DATE

The procurement activity under the Board approved *Natural Gas Cost Management Policy* began in August 2008. At its March 2009 meeting, the Board approved the *Energy Cost Management Policy* ("Policy") to replace the *Natural Gas Cost Management Policy*. The new policy expanded purchasing authority to include other energy commodities (electricity and coal) and expanded the timeframe to a rolling three-year period.

Through March 2012 progress continues to be made in securing natural gas and electricity at a fixed price for fiscal years 2013-2015. All transactions have been reviewed by the Energy Management Committee ("Committee"). The University expects FY12 total fuel costs to be less than FY12 fuel budget at year end, in part due to the unseasonably warm weather experienced during this fiscal year.

NATURAL GAS

The natural gas transactions were executed using forward fixed-price purchase contracts with Sequent Energy Management. No futures contracts or other derivative products were employed. Recent refinements to the process governed by the *Energy Cost Management Policy* included new terminology that assists in clarifying the amounts of gas allowed to be hedged. The new term, Hedgeable Volumes, is campus specific. The term Hedgeable Volumes for the UIUC campus is defined as 75% of Must-Run natural gas for the operational month. The term Hedgeable Volumes for the UIC campus is defined as 55% of the Total Gas Requirements for the operational month. Table 1 below summarizes the Natural Gas hedging transactions through March 2012.

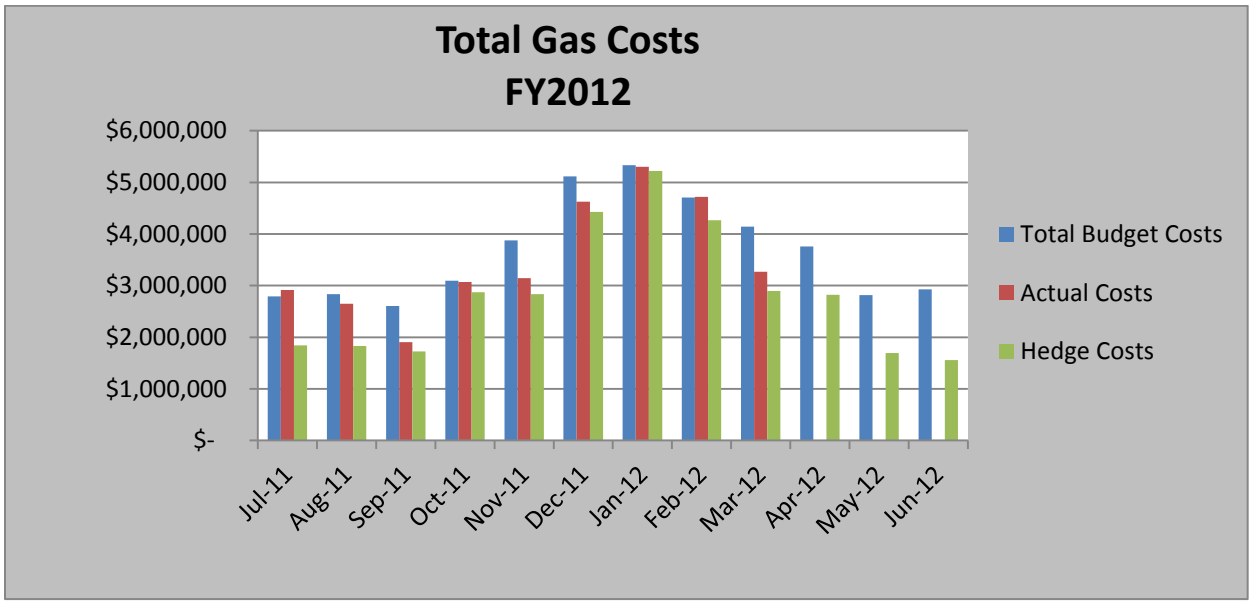
Table 1: Summary of Natural Gas Procurement Program

Thru 3/31/12 unless otherwise noted	FY2011	FY2012	FY2013	FY2014	FY2015
Volumes Committed to Date	5,423,247	5,221,348	4,225,963	3,204,372	1,769,777
Percent of Total Gas Budget Committed	90.3%	77.8%	73.8%	56.0%	30.9%
Landed Price (per mmbtu)	$ 7.10	$ 6.51	$ 6.18	$ 4.95	$ 4.71
Total $ Committed to Date (millions)	$ 38.51	$ 33.99	$ 26.13	$ 15.87	$ 8.33

[1]*Landed Price = field price + basis + Nicor Enerchange fee + NGPL fees.*

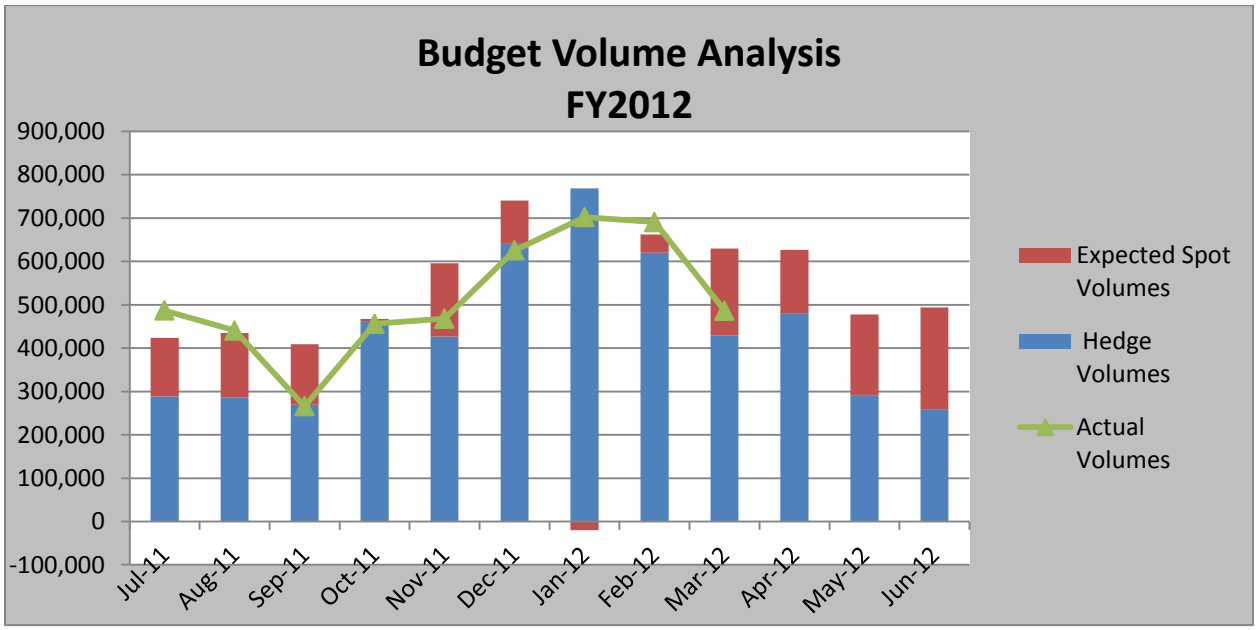
A graphical analysis of FY12 natural gas cost and volume activity is included on the following pages. FY13-FY15 activity is reported in Table 1 above. The graphs included in this report present the natural gas hedging pricing activity as directed by the Policy and the inherent impact of any changes to the demand forecast on the total procurement activity.

The Total Gas Costs Graph presents a comparison between the actual delivered cost of total gas required and the delivered cost of the hedge gas commitments providing a view of the financial impact of the Policy. The total gas budget is included to highlight the budget to actual results.



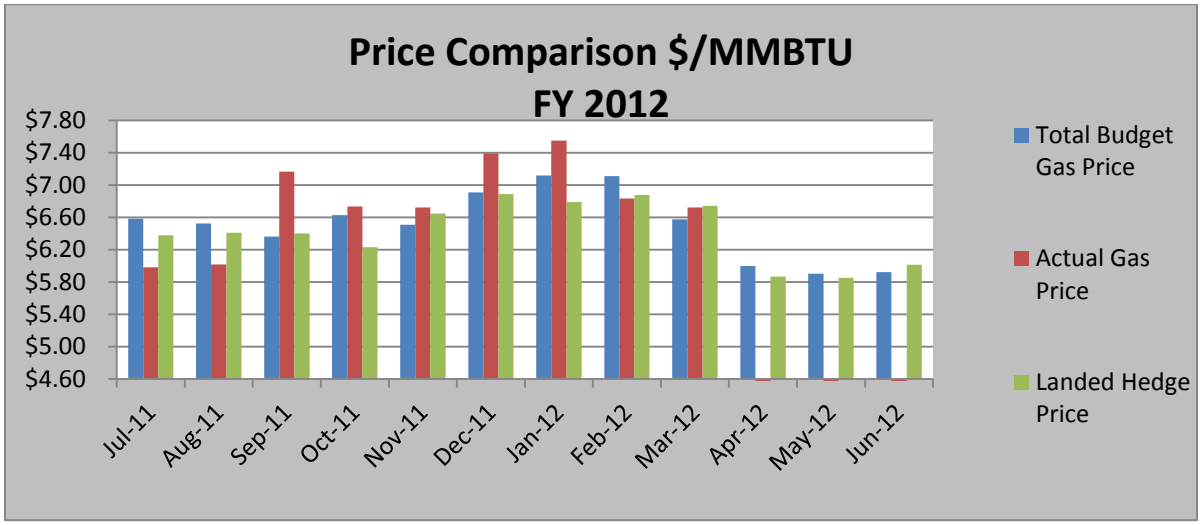
- *Total Budget is defined as all natural gas anticipated to be consumed during each month.*
- *Natural gas transactions continue to result in below budget costs through March 2012.*
- *Total Budget Costs through March 2012 is $34.5m with Actual Costs equaling $31.6m providing an 8% favorable variance.*

The Budget Volume Analysis Graph presents the total gas volumes budgeted, separated between hedge gas commitments and the amount of expected spot purchases required to meet the University's total natural gas requirements. The graph is intended to provide a view of the gas hedging activity as directed by the Policy and the inherent impact of any changes to the demand forecast on the total procurement activity. Actual volumes consumed are included to highlight the budget to actual results.



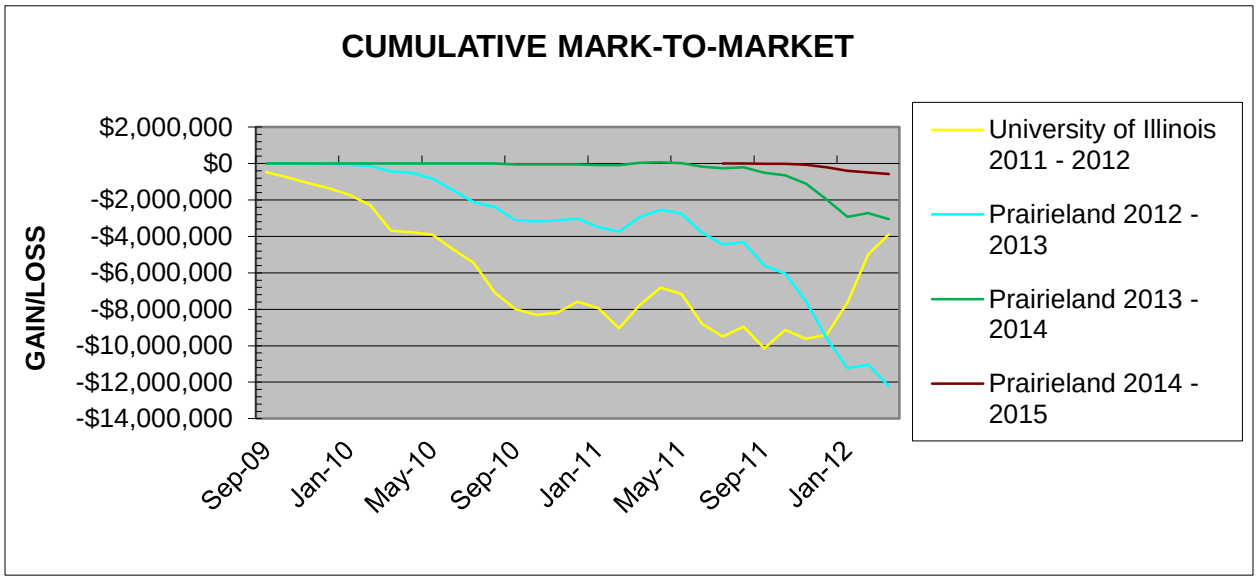
- *Hedge Volumes plus Expected Spot Volumes is defined as all natural gas anticipated to be consumed during each month.*
- *Differences between Hedged Volumes and Actual Volumes is a result of purchases or sales made in the spot market to satisfy the natural gas requirements. Asset availability also affects the variance.*
- *Actual volumes burned through March 2012 are approximately 10% less than budget.*

The Price Comparison $/MMBTU Graph presents a comparison between the per-unit delivered cost of the hedge gas commitments and the actual per-unit delivered cost of total gas burned (hedge purchases plus spot purchases) providing a view of the impact of the spot market transactions on the effective per-unit price of natural gas. The total gas budget price is included to highlight the budget to actual results. Although the per unit price through March 2012 is slightly higher (see graph notes) total costs are below budget by almost $3.0m.



- *The Total Budget Gas Price is defined as the blended price of the hedging activity and the expected spot purchases.*
- *Differences between Hedge Price and Actual Gas Price is a result of purchases or sales made in the spot market to satisfy the natural gas requirements. Asset availability also affects the variance.*
- *The Actual Gas Price is less than Hedge Price in some months due to daily spot prices being less than hedged price.*
- *The average Total Budget price of natural gas for FY 2012 is $6.56/mmbtu while the average Actual Gas Price through March 2012 is $6.84/mmbtu. This higher actual price per unit is due in part to the unseasonably warm weather which has decreased the volumes required which in turn has caused hedged gas to be sold back at a lower price than the original purchase price.*

The Cumulative Mark to Market Graph provides a review of the cumulative difference between the market price of natural gas and the forward contract prices paid by the University for all open contracts as of March 2012.



- *Mark to Market depicts the unrealized cumulative difference between the market price and the hedge price. The university initiated its hedging program when prices were relatively high versus today's prices but as the program continues the difference is decreasing.*

ELECTRICITY

The electricity transactions were executed using fixed price block purchases with American Electric Power Service Corp and Exelon Generation. Fixed price block purchases of electricity have been contracted for delivery during fiscal years 2012-2014 as outlined in Table 2 below. No futures contracts or other derivative products were employed.

Block Electricity Purchasing Activity through March 31, 2012	**FY2012**		**FY2013**		**FY2014**	
	UIUC	UIC	UIUC	UIC	UIUC	UIC
Volumes Committed to Date (mwh)	105,900	109,967	87,256	76,190	21,088	9,509
% of Forecasted Electric Load	24.56%	34.42%	20.73%	23.85%	5.01%	2.98%
Total Dollars Committed (millions)	$3.19	$3.64	$2.68	$2.59	$0.77	$0.37
Block Price for Committed Volumes ($/mwh)	$30.09	$33.08	$30.75	$34.02	$36.44	$38.60

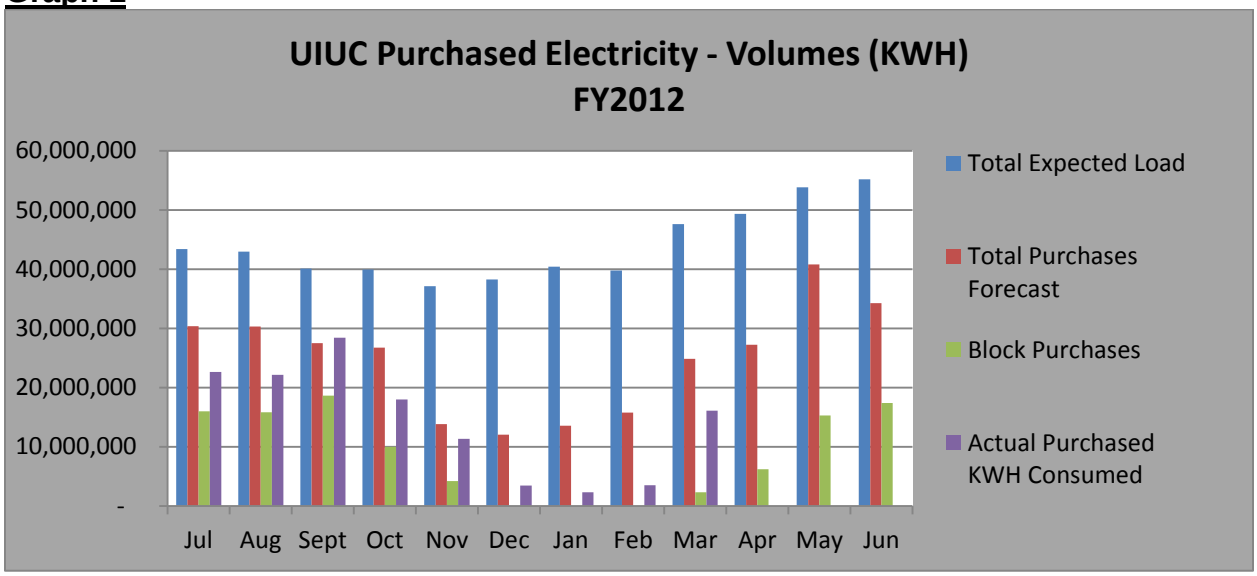
Table 2: Summary of Electricity Procurement Program

A graphical analysis of FY12 electricity cost and volume activity is included in the following pages. FY13-FY14 activity is reported in the above Table 2. These campus specific graphs present the power hedging activity as directed by the Policy and the inherent impact of any changes to the demand forecast on the total procurement activity. The graphs are presented as campus specific in order to replicate the procurement transactions which are campus specific.

Graph 1 and Graph 2 present the results of all purchased electricity transactions for FY12 through March 2012. This now includes the electricity requirements of the Bluewaters Petascale Computer at UIUC. The total expected electricity load, the total load expected to be purchased and of that forecast how much has been purchased with fixed price block purchases are identified. Actual volumes consumed are included to highlight the budget to actual results.

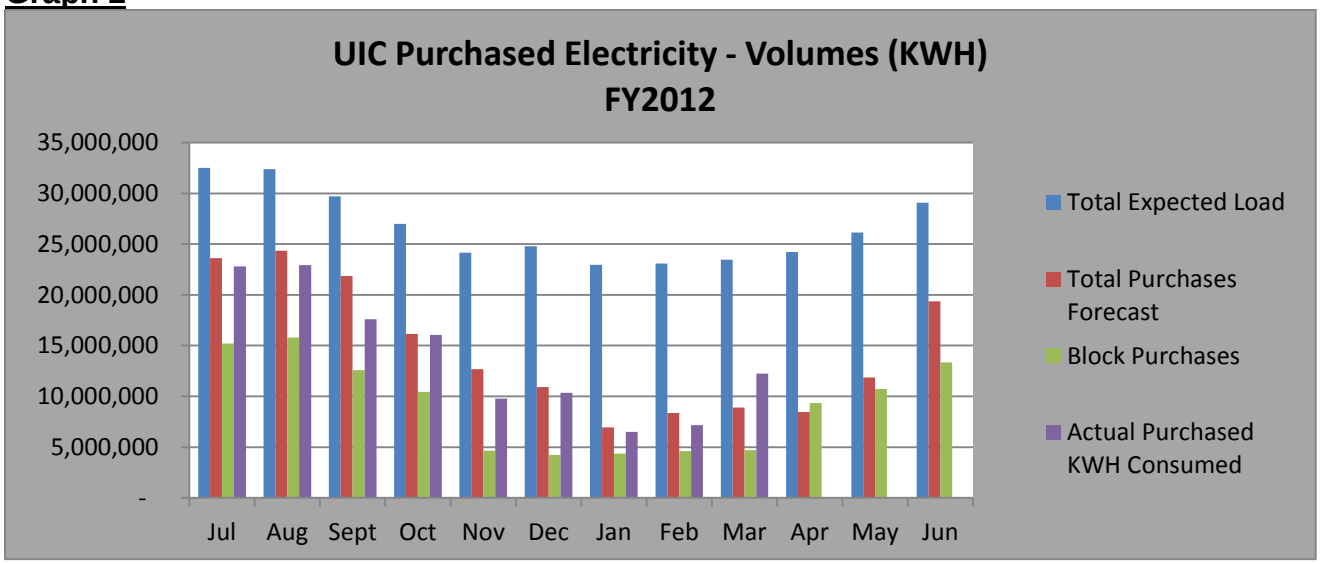
Graph 3 and Graph 4 present the results of all purchased electricity transactions for FY12 through March 2012. The costs of the total load expected to be purchased and the actual cost of volumes purchased electricity are included to highlight the budget to actual results.

Graph 1



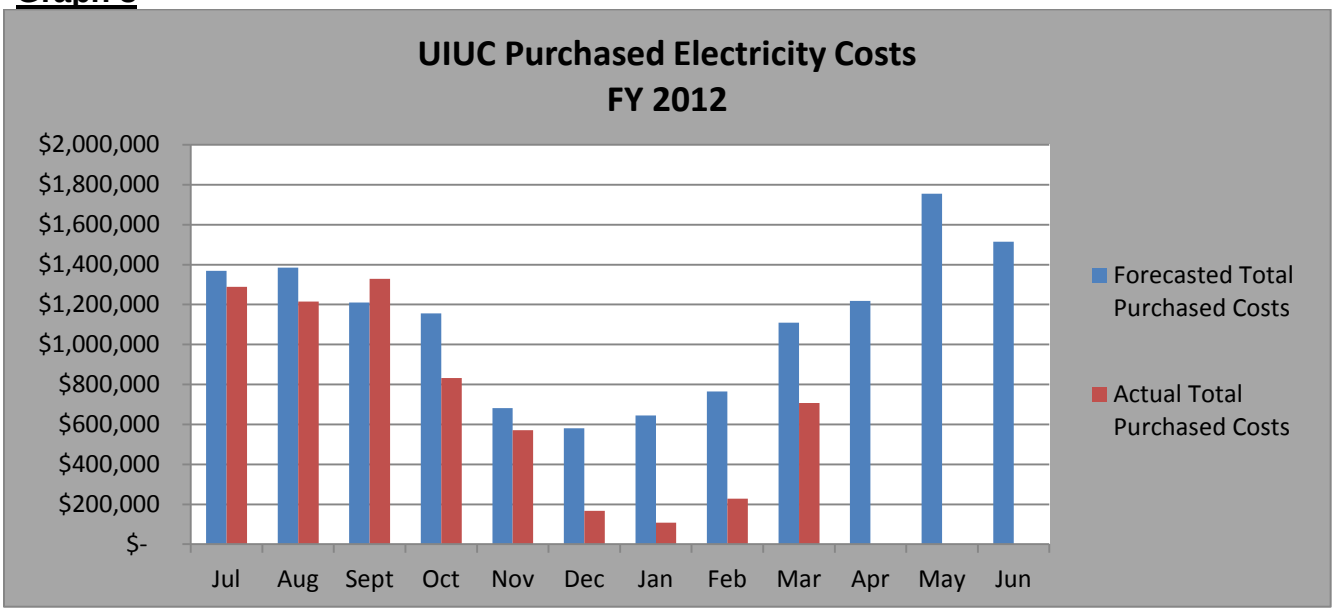
- *Differences between Block Purchases and Total Purchases Forecast is a result of purchases that are expected to be made in the spot market to satisfy the campus electricity requirements based on the operating plans.*
- *Actual consumption of purchased electricity through March 2012 is approximately 34% less than budgeted purchased electricity.*

Graph 2



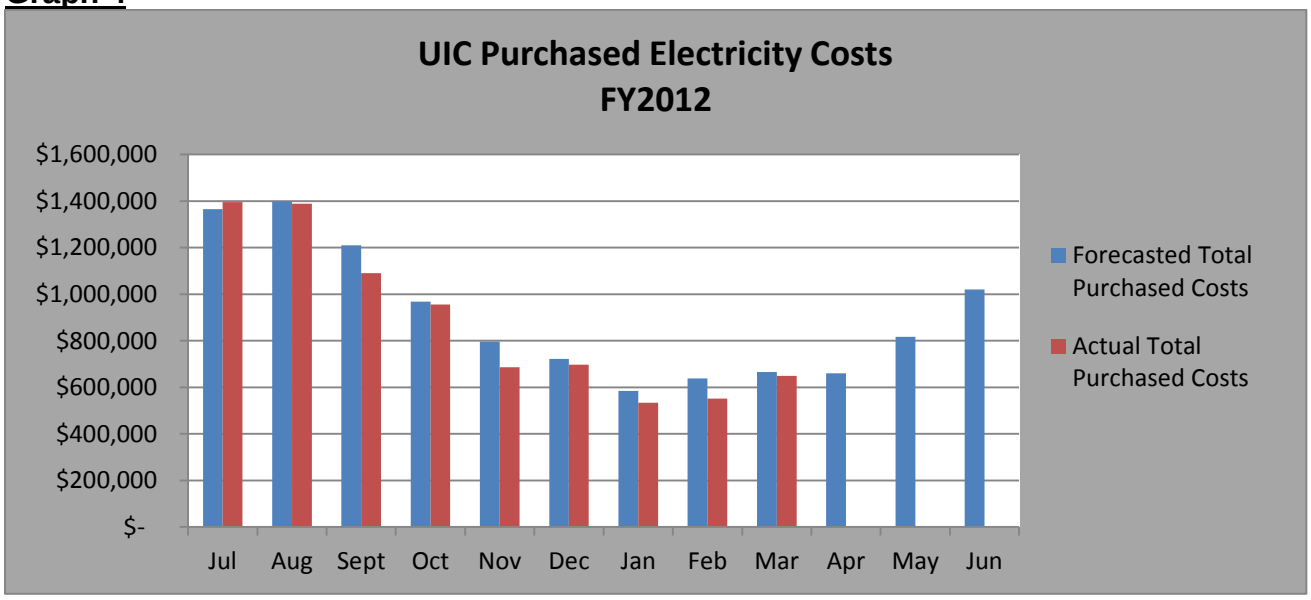
- *Differences between Block Purchases and Total Purchases Forecast is a result of purchases that are expected to be made in the spot market to satisfy the campus electricity requirements based on the operating plans.*
- *Actual consumption of purchased electricity through March 2012 is approximately 6% less than budgeted purchased electricity.*

Graph 3



- *Actual costs of purchased electricity through March 2012 are approximately 27% below budgeted purchases.*
- *The Mark to Market position for UIUC is slightly unfavorable by approximately $1.0m or 24%.*

Graph 4



- *Actual costs of purchased electricity through March 2012 are approximately 5% less than budgeted purchases.*
- *The Mark to Market position is slightly unfavorable by approximately $600k or 20%.*

PREVIOUSLY SUPPLIED BACKGROUND INFORMATION

OVERVIEW

At the September 2008 meeting of the Board of Trustees, Walter Knorr, Vice President/Chief Financial Officer and Comptroller, presented and received approval of the *Natural Gas Cost Management Policy*. Among other things, the policy authorized natural gas purchases for fiscal years 2010 and 2011, with certain restrictions. At its March 2009 meeting, the Board approved the *Energy Cost Management Policy* to replace the *Natural Gas Cost Management Policy*. The new policy expanded purchasing authority to include other energy commodities (electricity and coal) and expanded the timeframe to a rolling three-year period.

A strategy for procuring natural gas and electricity within the policy framework was developed with assistance from our external advisors, Nicor Enerchange, Brubaker and Associates, Inc., and Larry Altenbaumer. The primary objectives of the strategy are to provide budget certainty and to stabilize the price of purchased fuel/energy to the University.

The strategy has three primary components - (i) a rolling 36-month series of regularly timed purchases, (ii) budget management for the 36 months, and (iii) an opportunistic purchase program based on aggressive pricing targets.

i. The program is designed to even out over time the University's exposure to the spot market and the risk of price spikes; it functions similarly to a "dollar-cost averaging" investment strategy.

ii. The 36 month term provides a high degree of budget certainty (financial risk management) for the fiscal budget periods affected by allowing purchases up to 95% for the first 12 months, 90% for the second 12 months, and 85% for the third 12 months of the natural gas required to meet the University's thermal load. *(See addition of definition, Hedgeable Volumes, on page 1 under Natural Gas Section)*

iii. The opportunistic purchases program incorporates a capability to increase purchases for a particular period. Consideration is based on variances between currently available market pricing and the established budgeted target price coupled with consideration of levels of actual committed purchases relative to target purchase commitments levels for the specified period.

BACKGROUND ON SUPPLIERS

- **Natural Gas Supply –** The forward purchase contracts for natural gas are with Nicor Enerchange, who stands between the University and the originating field suppliers. Nicor Enerchange is contractually responsible for covering damages if it fails to deliver the nominated amount of gas to

the University's specified delivery points under an existing agreement with the University that runs through June 2016. Nicor Enerchange is owned by Nicor, Inc. In December 2010, Nicor, Inc. was purchased by AGL Resources, Inc., an energy services holding company whose principal business is the distribution of natural gas in six states. Based on customer count, over 2.3m, AGL is the largest natural gas distributor in the Southeast and mid-Atlantic regions.

- **Natural Gas Transportation** – The natural gas referred to above is transported between the gas fields and the University by Natural Gas Pipeline Company of America ("NGPL"). NGPL owns in whole or in part over 10,000 miles of interstate pipelines and is a subsidiary of Kinder Morgan (one of the largest pipeline transportation and energy storage companies in North America with approximately 37,000 miles of pipelines). The two firm transportation agreements between the University and NGPL expire April 30, 2015 (MDQ of 5,000 MMBTU/day) and June 30, 2015 (MDQ of 10,000 MMBTU/day). The Peoples Gas Light and Coke Company, a regulated local gas distribution company, provides transportation from the Chicago City Gate to the UIC campus and storage services under a contract which expires June 30, 2015.
- **Power Supply –** Fixed price block purchases of electricity are transacted under a Master Power Purchase and Sale Agreement ("MPSSA") between American Electric Power Service Corp. ("AEP") and under a MPPSA with Exelon Generation for fiscal years 2011-2014. AEP, the parent, owns over 39,000 megawatts of generating capacity in the U.S. and a 39,000-mile transmission network that includes 2,116 miles of 765 kilovolt transmission lines. Exelon Generation has one of the industry's largest portfolios of electricity generation capacity, with a nationwide reach in the Midwest and Mid-Atlantic. It is the largest owner/operator of nuclear plants in the United States. Exelon, the parent company, has U.S. Generating Resources/Capacity of 31,003 megawatts (2009).
- **Power Delivery –** Delivery of the contracted block purchases is provided by AmerenIP to the UIUC campus and by Commonwealth Edison to the UIC campus.

The creditworthiness of these suppliers is monitored regularly to review their financial positions and to ensure counterparties do not become a risk to the University. This monitoring is consistent with the requirements of the *Derivatives Use Policy* approved by the Board of Trustees in July 2010.