

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 10-Q

[X] QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES  
EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2010

or

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES  
EXCHANGE ACT OF 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission File Number	Exact name of registrant as specified in charter, state of incorporation, address of principal executive offices and telephone number	I.R.S. Employer Identification Number
001-32206	<b>GREAT PLAINS ENERGY INCORPORATED</b> (A Missouri Corporation) 1200 Main Street Kansas City, Missouri 64105 (816) 556-2200 www.greatplainsenergy.com	43-1916803
000-51873	<b>KANSAS CITY POWER &amp; LIGHT COMPANY</b> (A Missouri Corporation) 1200 Main Street Kansas City, Missouri 64105 (816) 556-2200 www.kcpl.com	44-0308720

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Great Plains Energy Incorporated Yes  No  Kansas City Power & Light Company Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Great Plains Energy Incorporated Yes  No  Kansas City Power & Light Company Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Great Plains Energy Incorporated Large accelerated filer  Accelerated filer   
Non-accelerated filer  Smaller reporting company   
Kansas City Power & Light Company Large accelerated filer  Accelerated filer   
Non-accelerated filer  Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Great Plains Energy Incorporated Yes  No  Kansas City Power & Light Company Yes  No

On October 25, 2010, Great Plains Energy Incorporated had 135,649,422 shares of common stock outstanding. On October 25, 2010, Kansas City Power & Light Company had one share of common stock outstanding and held by Great Plains Energy Incorporated.

Kansas City Power & Light Company meets the conditions set forth in General Instruction (H)(1)(a) and (b) of Form 10-Q and is therefore filing this Form 10-Q with the reduced disclosure format.

KCPL Exhibit No. KCPL12b  
Date 3/4/11 Reporter JMB  
File No. ER-2010-0355  
ER-2010-0354

This combined Quarterly Report on Form 10-Q is being filed by Great Plains Energy Incorporated (Great Plains Energy) and Kansas City Power & Light Company (KCP&L). KCP&L is a wholly owned subsidiary of Great Plains Energy and represents a significant portion of its assets, liabilities, revenues, expenses and operations. Thus, all information contained in this report relates to, and is filed by, Great Plains Energy. Information that is specifically identified in this report as relating solely to Great Plains Energy, such as its financial statements and all information relating to Great Plains Energy's other operations, businesses and subsidiaries, including KCP&L Greater Missouri Operations Company (GMO), does not relate to, and is not filed by, KCP&L. KCP&L makes no representation as to that information. Neither Great Plains Energy nor its other subsidiaries have any obligation in respect of KCP&L's debt securities and holders of such securities should not consider Great Plains Energy's or its other subsidiaries' financial resources or results of operations in making a decision with respect to KCP&L's debt securities. Similarly, KCP&L has no obligation in respect of securities of Great Plains Energy or its other subsidiaries.

This report should be read in its entirety. No one section of the report deals with all aspects of the subject matter. It should be read in conjunction with the consolidated financial statements and related notes and with the management's discussion and analysis included in the 2009 Form 10-K for each of Great Plains Energy and KCP&L.

#### **CAUTIONARY STATEMENTS REGARDING CERTAIN FORWARD-LOOKING INFORMATION**

Statements made in this report that are not based on historical facts are forward-looking, may involve risks and uncertainties, and are intended to be as of the date when made. Forward-looking statements include, but are not limited to, the outcome of regulatory proceedings, cost estimates of the Comprehensive Energy Plan and other matters affecting future operations. In connection with the safe harbor provisions of the Private Securities Litigation Reform Act of 1995, the registrants are providing a number of important factors that could cause actual results to differ materially from the provided forward-looking information. These important factors include: future economic conditions in regional, national and international markets and their effects on sales, prices and costs, including but not limited to possible further deterioration in economic conditions and the timing and extent of any economic recovery; prices and availability of electricity in regional and national wholesale markets; market perception of the energy industry, Great Plains Energy and KCP&L; changes in business strategy, operations or development plans; effects of current or proposed state and federal legislative and regulatory actions or developments, including, but not limited to, deregulation, re-regulation and restructuring of the electric utility industry; decisions of regulators regarding rates the companies can charge for electricity; adverse changes in applicable laws, regulations, rules, principles or practices governing tax, accounting and environmental matters including, but not limited to, air and water quality; financial market conditions and performance including, but not limited to, changes in interest rates and credit spreads and in availability and cost of capital and the effects on nuclear decommissioning trust and pension plan assets and costs; impairments of long-lived assets or goodwill; credit ratings; inflation rates; effectiveness of risk management policies and procedures and the ability of counterparties to satisfy their contractual commitments; impact of terrorist acts; increased competition including, but not limited to, retail choice in the electric utility industry and the entry of new competitors; ability to carry out marketing and sales plans; weather conditions including, but not limited to, weather-related damage and their effects on sales, prices and costs; cost, availability, quality and deliverability of fuel; ability to achieve generation goals and the occurrence and duration of planned and unplanned generation outages; delays in the anticipated in-service dates and cost increases of additional generating capacity and environmental projects; nuclear operations; workforce risks, including, but not limited to, increased costs of retirement, healthcare and other benefits; the timing and amount of resulting synergy savings from the GMO acquisition; and other risks and uncertainties.

This list of factors is not all-inclusive because it is not possible to predict all factors. Part II Item 1A Risk Factors included in this report, together with the risk factors included in the 2009 Form 10-K for each of Great Plains Energy and KCP&L under Part I Item 1A, should be carefully read for further understanding of potential risks for each of Great Plains Energy and KCP&L. Other sections of this report and other periodic reports filed by each of Great Plains Energy and KCP&L with the Securities and Exchange Commission (SEC) should also be read for more information regarding risk factors. Each forward-looking statement speaks only as of the date of the particular statement. Great Plains Energy and KCP&L undertake no obligation to publicly update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

## GLOSSARY OF TERMS

The following is a glossary of frequently used abbreviations or acronyms that are found throughout this report.

Abbreviation or Acronym	Definition
AFUDC	Allowance for Funds Used During Construction
ARO	Asset Retirement Obligation
BART	Best available retrofit technology
Board	Great Plains Energy Board of Directors
CAIR	Clean Air Interstate Rule
CAMR	Clean Air Mercury Rule
Clean Air Act	Clean Air Act Amendments of 1990
CO <sub>2</sub>	Carbon dioxide
Collaboration Agreement	Agreement among KCP&L, the Sierra Club and the Concerned Citizens of Platte County
Company	Great Plains Energy Incorporated and its subsidiaries
Companies	Great Plains Energy Incorporated and its consolidated subsidiaries and KCP&L and its consolidated subsidiaries
DOE	Department of Energy
ECA	Energy Cost Adjustment
EIRR	Environmental Improvement Revenue Refunding
EPA	Environmental Protection Agency
EPS	Earnings per common share
ERISA	Employee Retirement Income Security Act of 1974, as amended
FAC	Fuel Adjustment Clause
FASB	Financial Accounting Standards Board
FERC	The Federal Energy Regulatory Commission
FGIC	Financial Guaranty Insurance Company
FSS	Forward Starting Swaps
GAAP	Generally Accepted Accounting Principles
GMO	KCP&L Greater Missouri Operations Company, a wholly owned subsidiary of Great Plains Energy as of July 14, 2008
Great Plains Energy	Great Plains Energy Incorporated and its subsidiaries
ISO	Independent System Operator
KCC	The State Corporation Commission of the State of Kansas
KCP&L	Kansas City Power & Light Company, a wholly owned subsidiary of Great Plains Energy
KDHE	Kansas Department of Health and Environment
KLT Inc.	KLT Inc., a wholly owned subsidiary of Great Plains Energy
KW	Kilowatt
kWh	Kilowatt hour
MACT	Maximum achievable control technology
MD&A	Management's Discussion and Analysis of Financial Condition and Results of Operations
MDNR	Missouri Department of Natural Resources
MGP	Manufactured gas plant
MISO	Midwest Independent Transmission System Operator, Inc.
MPS Merchant	MPS Merchant Services, Inc., a wholly owned subsidiary of GMO
MPSC	Public Service Commission of the State of Missouri
MW	Megawatt
MWh	Megawatt hour
NERC	North American Electric Reliability Corporation
NEIL	Nuclear Electric Insurance Limited

**Abbreviation or Acronym****Definition**

NO <sub>x</sub>	Nitrogen oxide
NPNS	Normal purchases and normal sales
NRC	Nuclear Regulatory Commission
NYMEX	New York Mercantile Exchange
OCI	Other Comprehensive Income
PCB	Polychlorinated biphenyls
PPA	Pension Protection Act of 2006
PRB	Powder River Basin
QCA	Quarterly Cost Adjustment
Receivables Company	Kansas City Power & Light Receivables Company, a wholly owned subsidiary of KCP&L
RTO	Regional Transmission Organization
SCR	Selective catalytic reduction
SEC	Securities and Exchange Commission
SERP	Supplemental Executive Retirement Plan
Services	Great Plains Energy Services Incorporated, a wholly owned subsidiary of Great Plains Energy
SO <sub>2</sub>	Sulfur dioxide
SPP	Southwest Power Pool, Inc.
Syncora	Syncora Guarantee Inc.
T - Lock	Treasury Lock
WCNOC	Wolf Creek Nuclear Operating Corporation
Westar	Westar Energy, Inc., a Kansas utility company
Wolf Creek	Wolf Creek Generating Station

**PART I – FINANCIAL INFORMATION**  
**ITEM 1. FINANCIAL STATEMENTS**

**Great Plains Energy Incorporated**

Unaudited Consolidated Balance Sheets  
Unaudited Consolidated Statements of Income  
Unaudited Consolidated Statements of Cash Flows  
Unaudited Consolidated Statements of Common Shareholders' Equity  
Unaudited Consolidated Statements of Comprehensive Income

**Kansas City Power & Light Company**

Unaudited Consolidated Balance Sheets  
Unaudited Consolidated Statements of Income  
Unaudited Consolidated Statements of Cash Flows  
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Unaudited Consolidated Statements of Comprehensive Income

Combined Notes to Unaudited Consolidated Financial Statements for Great Plains Energy Incorporated and Kansas City Power & Light Company

Note 1: Summary of Significant Accounting Policies  
Note 2: Supplemental Cash Flow Information  
Note 3: Receivables  
Note 4: Assets Held For Sale  
Note 5: Nuclear Plant  
Note 6: Regulatory Matters  
Note 7: Pension Plans and Other Employee Benefits  
Note 8: Equity Compensation  
Note 9: Short-Term Borrowings and Short-Term Bank Lines of Credit  
Note 10: Long-Term Debt  
Note 11: Commitments and Contingencies  
Note 12: Legal Proceedings  
Note 13: Related Party Transactions and Relationships  
Note 14: Derivative Instruments  
Note 15: Fair Value Measurements  
Note 16: Taxes  
Note 17: Segments and Related Information  
Note 18: Discontinued Operations  
Note 19: Goodwill

**GREAT PLAINS ENERGY INCORPORATED**  
**Consolidated Balance Sheets**  
(Unaudited)

	September 30 2010	December 31 2009
(millions, except share amounts)		
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 7.6	\$ 65.9
Funds on deposit	4.4	4.4
Receivables, net	274.6	230.5
Accounts receivable pledged as collateral	95.0	-
Fuel inventories, at average cost	80.1	85.0
Materials and supplies, at average cost	131.3	121.3
Deferred refueling outage costs	11.5	19.5
Refundable income taxes	15.3	13.5
Deferred income taxes	42.9	36.8
Assets held for sale (Note 4)	18.8	19.4
Derivative instruments	1.1	1.5
Prepaid expenses and other assets	10.7	14.7
Total	<u>693.3</u>	<u>612.5</u>
<b>Utility Plant, at Original Cost</b>		
Electric	10,352.8	8,849.0
Less-accumulated depreciation	3,959.2	3,774.5
Net utility plant in service	6,393.6	5,074.5
Construction work in progress	350.9	1,508.4
Nuclear fuel, net of amortization of \$125.7 and \$106.0	80.2	68.2
Total	<u>6,824.7</u>	<u>6,651.1</u>
<b>Investments and Other Assets</b>		
Affordable housing limited partnerships	11.5	13.2
Nuclear decommissioning trust fund	120.7	112.5
Regulatory assets	888.8	822.2
Goodwill	169.0	169.0
Derivative instruments	8.1	7.9
Other	83.0	94.4
Total	<u>1,281.1</u>	<u>1,219.2</u>
Total	<u>\$ 8,799.1</u>	<u>\$ 8,482.8</u>

The accompanying Notes to Consolidated Financial Statements are an integral part of these statements.

**GREAT PLAINS ENERGY INCORPORATED**  
**Consolidated Balance Sheets**  
(Unaudited)

	September 30 2010	December 31 2009
(millions, except share amounts)		
<b>LIABILITIES AND CAPITALIZATION</b>		
<b>Current Liabilities</b>		
Notes payable	\$ 22.0	\$ 252.0
Collateralized note payable	95.0	-
Commercial paper	209.5	186.6
Current maturities of long-term debt	335.7	1.3
Accounts payable	172.4	315.0
Accrued taxes	86.8	27.9
Accrued interest	70.5	72.5
Accrued compensation and benefits	44.1	45.1
Pension and post-retirement liability	4.7	4.6
Derivative instruments	25.1	0.3
Other	35.4	53.0
Total	<u>1,101.2</u>	<u>958.3</u>
<b>Deferred Credits and Other Liabilities</b>		
Deferred income taxes	544.3	381.9
Deferred tax credits	134.5	140.5
Asset retirement obligations	139.1	132.6
Pension and post-retirement liability	439.6	440.4
Regulatory liabilities	249.5	237.8
Derivative instruments	-	0.5
Other	135.3	145.1
Total	<u>1,642.3</u>	<u>1,478.8</u>
<b>Capitalization</b>		
Great Plains Energy common shareholders' equity		
Common stock-250,000,000 shares authorized without par value		
136,036,530 and 135,636,538 shares issued, stated value	2,322.5	2,313.7
Retained earnings	660.0	529.2
Treasury stock-385,419 and 213,423 shares, at cost	(8.6)	(5.5)
Accumulated other comprehensive loss	(59.8)	(44.9)
Total	<u>2,914.1</u>	<u>2,792.5</u>
Noncontrolling interest	1.2	1.2
Cumulative preferred stock \$100 par value		
3.80% - 100,000 shares issued	10.0	10.0
4.50% - 100,000 shares issued	10.0	10.0
4.20% - 70,000 shares issued	7.0	7.0
4.35% - 120,000 shares issued	12.0	12.0
Total	<u>39.0</u>	<u>39.0</u>
Long-term debt (Note 10)	3,101.3	3,213.0
Total	<u>6,055.6</u>	<u>6,045.7</u>
<b>Commitments and Contingencies (Note 11)</b>		
Total	<u>\$ 8,799.1</u>	<u>\$ 8,482.8</u>

The accompanying Notes to Consolidated Financial Statements are an integral part of these statements.

The following table summarizes all outstanding and exercisable stock options as of September 30, 2010.

<b>Outstanding and Exercisable Options</b>			
<b>Exercise Price Range</b>	<b>Number of Shares</b>	<b>Weighted Average Remaining Contractual Life in Years</b>	<b>Weighted Average Exercise Price</b>
\$23.91 - \$27.73	203,656	1.2	\$ 24.51
\$181.11	3,998	0.3	181.11
\$221.82 - \$251.86	6,358	0.6	222.33
<b>Total</b>	<b>214,012</b>	<b>1.1</b>	<b>33.32</b>

## 9. SHORT-TERM BORROWINGS AND SHORT-TERM BANK LINES OF CREDIT

### Great Plains Energy's \$200 Million Revolving Credit Facility

In August 2010, Great Plains Energy entered into a new \$200 million revolving credit facility with a group of banks that expires in August 2013. The facility replaced a \$400 million revolving credit facility with a group of banks that would have expired in May 2011 and was sized based on expected short-term debt requirements over the facility's term. The facility's terms permit transfers of unused commitments between this facility and the KCP&L and GMO facilities discussed below, with the total amount of the facility not exceeding \$400 million at any one time. A default by Great Plains Energy or any of its significant subsidiaries on other indebtedness totaling more than \$50.0 million is a default under the facility. Under the terms of this facility, Great Plains Energy is required to maintain a consolidated indebtedness to consolidated capitalization ratio, as defined in the facility, not greater than 0.65 to 1.00 at all times. At September 30, 2010, Great Plains Energy was in compliance with this covenant. At September 30, 2010, Great Plains Energy had \$22.0 million of outstanding cash borrowings with a weighted-average interest rate of 3.06% and had issued letters of credit totaling \$15.8 million under the credit facility. At December 31, 2009, Great Plains Energy had \$20.0 million of outstanding cash borrowings with a weighted-average interest rate of 0.68% and had issued letters of credit totaling \$25.4 million under the credit facility.

### KCP&L's \$600 Million Revolving Credit Facility

In August 2010, KCP&L entered into a new \$600 million revolving credit facility with a group of banks to provide support for its issuance of commercial paper and other general corporate purposes that expires in August 2013. The facility replaced a \$600 million facility with a group of banks that would have expired in May 2011. Great Plains Energy and KCP&L may transfer up to \$200 million of unused commitments between Great Plains Energy's and KCP&L's facilities. A default by KCP&L on other indebtedness totaling more than \$50.0 million is a default under the facility. Under the terms of this facility, KCP&L is required to maintain a consolidated indebtedness to consolidated capitalization ratio, as defined in the facility, not greater than 0.65 to 1.00 at all times. At September 30, 2010, KCP&L was in compliance with this covenant. At September 30, 2010, KCP&L had \$209.5 million of commercial paper outstanding, at a weighted-average interest rate of 0.41%, \$24.4 million of letters of credit outstanding and no outstanding cash borrowings under the facility. At December 31, 2009, KCP&L had \$186.6 million of commercial paper outstanding, at a weighted-average interest rate of 0.58%, \$20.9 million of letters of credit outstanding and no outstanding cash borrowings under the facility.

### GMO's \$450 Million Revolving Credit Facility

In August 2010, GMO entered into a new \$450 million revolving credit facility with a group of banks that expires in August 2013. The facility replaced a \$400 million revolving credit facility with a group of banks that would have expired in September 2011 and was sized based on expected short-term debt requirements over the facility's term. Great Plains Energy and GMO may transfer up to \$200 million of unused commitments between Great Plains Energy's and GMO's facilities. A default by GMO, Great Plains Energy or any of its significant subsidiaries on other indebtedness totaling more than \$50.0 million is a default under the facility. Under the terms of this facility, GMO is required to maintain a consolidated indebtedness to consolidated capitalization

ratio, as defined in the facility, not greater than 0.65 to 1.00 at all times. At September 30, 2010, GMO was in compliance with this covenant. At September 30, 2010, GMO had no outstanding cash borrowings and had issued letters of credit totaling \$13.2 million under the credit facility. At December 31, 2009, GMO had \$232.0 million of outstanding cash borrowings with a weighted-average interest rate of 1.50%, and had issued letters of credit totaling \$13.2 million under the credit facility.

#### 10. LONG-TERM DEBT

Great Plains Energy's and KCP&L's long-term debt is detailed in the following table.

	Year Due	September 30 2010	December 31 2009
<b>KCP&amp;L</b>			
		(millions)	
General Mortgage Bonds			
4.90%* EIRR bonds	2012-2035	\$ 158.8	\$ 158.8
7.15% Series 2009A (8.59% rate**)	2019	400.0	400.0
4.65% EIRR Series 2005	2035	50.0	50.0
5.125% EIRR Series 2007A-1	2035	63.3	63.3
2.625% EIRR Series 2007A-2	2035	10.0	10.0
5.375% EIRR Series 2007B	2035	73.2	73.2
Senior Notes			
6.50% Series	2011	150.0	150.0
5.85% Series (5.72% rate**)	2017	250.0	250.0
6.375% Series (7.49% rate**)	2018	350.0	350.0
6.05% Series (5.78% rate**)	2035	250.0	250.0
EIRR Bonds			
4.90% Series 2008	2038	23.4	23.4
Other	2011-2018	3.3	3.5
Current maturities		(0.3)	(0.2)
Unamortized discount		(2.0)	(2.1)
Total KCP&L		1,779.7	1,779.9
<b>Other Great Plains Energy</b>			
GMO First Mortgage Bonds			
9.44% Series	2011-2021	12.4	13.5
GMO Pollution Control Bonds			
5.85% SJLP Pollution Control	2013	5.6	5.6
0.289%*** Wamego Series 1996	2026	7.3	7.3
0.937%*** State Environmental 1993	2028	5.0	5.0
GMO Senior Notes			
7.95% Series	2011	137.3	137.3
7.75% Series	2011	197.0	197.0
11.875% Series	2012	500.0	500.0
8.27% Series	2021	80.9	80.9
Fair Value Adjustment		58.6	84.5
GMO Medium Term Notes			
7.16% Series	2013	6.0	6.0
7.33% Series	2023	3.0	3.0
7.17% Series	2023	7.0	7.0
Great Plains Energy 2.75% Senior Notes (3.67% rate**)	2013	250.0	-
Great Plains Energy 6.875% Senior Notes (7.33% rate**)	2017	100.0	100.0
Great Plains Energy 10.00% Equity Units Subordinated Notes	2042	287.5	287.5
Current maturities		(335.4)	(1.1)
Unamortized discount		(0.6)	(0.4)
Total Great Plains Energy excluding current maturities		\$ 3,101.3	\$ 3,213.0

\* Weighted-average interest rates at September 30, 2010

\*\* Rate after amortizing gains/losses recognized in OCI on settlements of interest rate hedging instruments

\*\*\* Variable rate

**Fair Value of Long-Term Debt**

Fair value of long-term debt is based on quoted market prices, with the incremental borrowing rate for similar debt used to determine fair value if quoted market prices were not available. At September 30, 2010, and December 31, 2009, the book value of Great Plains Energy's long-term debt, including current maturities, was \$3.4 billion and \$3.2 billion, respectively. At September 30, 2010, and December 31, 2009, the fair value of Great Plains Energy's long-term debt, including current maturities, was \$3.8 billion and \$3.4 billion, respectively. At September 30, 2010, and December 31, 2009, the book value of KCP&L's long-term debt, including current maturities, was \$1.8 billion. At September 30, 2010, and December 31, 2009, the fair value of KCP&L's long-term debt, including current maturities, was \$2.0 billion and \$1.9 billion, respectively.

**Amortization of Debt Expense**

Great Plains Energy's and KCP&L's amortization of debt expense is detailed in the following table.

	Three Months Ended September 30		Year to Date September 30	
	2010	2009	2010	2009
	(millions)			
KCP&L	\$ 0.7	\$ 0.5	\$ 1.8	\$ 1.5
Other Great Plains Energy	1.2	0.8	2.5	1.7
<b>Total Great Plains Energy</b>	<b>\$ 1.9</b>	<b>\$ 1.3</b>	<b>\$ 4.3</b>	<b>\$ 3.2</b>

**KCP&L EIRR Bonds**

In March 2010, KCP&L remarketed its 5.00% EIRR Series 2007A-2 general mortgage bonds maturing in 2035 totaling \$10.0 million to a new fixed rate of 2.625% from April 1, 2010, through March 31, 2011.

**Great Plains Energy Senior Notes**

In August 2010, Great Plains Energy issued \$250.0 million of 2.75% unsecured Senior Notes, maturing in 2013. As a result of amortizing the loss recognized in Other Comprehensive Income (OCI) on Great Plains Energy's Forward Starting Swaps (FSS), the effective interest rate is 3.67%.

**11. COMMITMENTS AND CONTINGENCIES****Environmental Matters**

Great Plains Energy and KCP&L are subject to extensive regulation by federal, state and local authorities with regard to environmental matters primarily through their utility operations. In addition to imposing extensive and continuing compliance obligations, laws, regulations and permits authorize the imposition of substantial penalties for noncompliance, including fines, injunctive relief and other sanctions. The cost of complying with current and future environmental requirements is expected to be material to Great Plains Energy and KCP&L. Failure to comply with environmental requirements or to timely recover environmental costs through rates could have a material adverse effect on Great Plains Energy and KCP&L.

The following discussion groups environmental and certain associated matters into the broad categories of air and climate change, water, solid waste and remediation.

**Air and Climate Change**

The Clean Air Act and associated regulations enacted by the Environmental Protection Agency (EPA) form a comprehensive program to preserve air quality. States are required to establish regulations and programs to address all requirements of the Clean Air Act and have the flexibility to enact more stringent requirements. All of Great Plains Energy's and KCP&L's generating facilities, and certain of their other facilities, are subject to the Clean Air Act.

Great Plains Energy's and KCP&L's current estimate of capital expenditures (exclusive of AFUDC and property taxes) to comply with the currently effective Clean Air Interstate Rule (CAIR) and with the best available retrofit technology (BART) rule is approximately \$1 billion. As discussed below, CAIR has been remanded to the EPA, but remains in effect until the EPA issues final rules consistent with the court's order or until the court takes further action. In July 2010, the EPA proposed regulations to replace CAIR. However, due to uncertainties regarding the proposal (discussed below), it is not possible to predict what the final rules may be, when the rules may be issued, or the costs associated with such rules. The actual cost of compliance with any future rules, and with BART, may be significantly different from the cost estimate provided.

The potential capital costs of the Collaboration Agreement provisions (discussed below) relating to NO<sub>x</sub>, SO<sub>2</sub> and particulate emission limits at the LaCygne generating station are within the disclosed overall capital cost estimate. However, the estimated capital costs do not reflect potential costs relating to requirements enacted in the future, including potential requirements regarding climate change and control of mercury emissions (discussed below), and also do not reflect costs relating to additional wind generation, energy efficiency and other CO<sub>2</sub> emission offsets contemplated by the Collaboration Agreement or that may be required under the Missouri or Kansas renewable energy standards, which are discussed below. The estimate does not reflect the non-capital costs the Companies incur on an ongoing basis to comply with environmental laws, which may increase in the future due to the implementation of KCP&L's Comprehensive Energy Plan and the Companies' ongoing compliance with current or future environmental laws. KCP&L expects to seek recovery of the costs associated with the Collaboration Agreement and the Companies expect to seek recovery of the costs associated with environmental requirements through rate increases; however, there can be no assurance that such rate increases would be granted. The Companies may be subject to materially adverse rate treatment in response to competitive, economic, political, legislative or regulatory pressures and/or public perception of the Companies' environmental reputation.

#### *Clean Air Interstate Rule (CAIR) and Transport Rule*

The CAIR requires reductions in SO<sub>2</sub> and NO<sub>x</sub> emissions in 28 states, including Missouri. The reduction in both SO<sub>2</sub> and NO<sub>x</sub> emissions is set to be accomplished through establishment of permanent statewide caps for NO<sub>x</sub> effective January 1, 2009, and SO<sub>2</sub> effective January 1, 2010. More restrictive caps are scheduled to become effective January 1, 2015. Great Plains Energy's and KCP&L's fossil fuel-fired plants located in Missouri are subject to CAIR, while their fossil fuel-fired plants in Kansas are not.

On July 11, 2008, the D.C. Circuit Court of Appeals vacated CAIR in its entirety and remanded the matter to the EPA to promulgate a new rule consistent with its opinion. On December 23, 2008, the Court issued an order remanding CAIR to the EPA to revise the rule consistent with its July 2008 order. The CAIR thus remains in effect pending future EPA or court action, including the proposed Transport Rule discussed below.

CAIR currently establishes a market-based cap-and-trade program with an emission allowance allocation. Facilities demonstrate compliance with CAIR by holding sufficient allowances for each ton of SO<sub>2</sub> and NO<sub>x</sub> emitted in any given year. KCP&L and GMO are currently allowed to utilize unused SO<sub>2</sub> emission allowances that they have either accumulated during previous years of the Acid Rain Program or purchased to meet the more stringent CAIR requirements. At September 30, 2010, KCP&L had accumulated unused SO<sub>2</sub> emission allowances sufficient to support over 135,000 tons of SO<sub>2</sub> emissions (enough to support expected requirements under the current CAIR for the foreseeable future) under the provisions of the Acid Rain program, which are recorded in inventory at zero cost. KCP&L is permitted to sell excess SO<sub>2</sub> emission allowances in accordance with KCP&L's Comprehensive Energy Plan as approved by the MPSC and KCC. At September 30, 2010, GMO had accumulated unused SO<sub>2</sub> emission allowances sufficient to support just over 18,000 tons of SO<sub>2</sub> emissions (enough to support expected requirements under the current CAIR through 2011), which it has received under the Acid Rain Program or purchased, which are recorded in inventory at average cost. KCP&L and GMO purchase NO<sub>x</sub> allowances as needed.

**ITEM 6. EXHIBITS**

The documents listed below are being, or have been, filed, furnished or submitted on behalf of Great Plains Energy and KCP&L.

Exhibit Number	Description of Document	Registrant(s)
4.1	* Third Supplemental Indenture dated as of August 13, 2010 between Great Plains Energy Incorporated and The Bank of New York Mellon Trust Company, N.A., as trustee (Exhibit 4.1 to Form 8-K filed on August 13, 2010).	Great Plains Energy
10.1	Credit Agreement dated as of August 9, 2010 among Great Plains Energy Incorporated, Certain Lenders, Bank of America, N.A., as Administrative Agent, and Union Bank, N.A. and Wells Fargo Bank, National Association, as Syndication Agents, Barclays Bank PLC and U.S. Bank National Association, as Documentation Agents, Banc of America Securities LLC, Union Bank, N.A. and Wells Fargo Securities, LLC as Joint Lead Arrangers and Joint Book Managers.	Great Plains Energy
10.2	Credit Agreement dated as of August 9, 2010 among Kansas City Power & Light Company, Certain Lenders, Bank of America, N.A., as Administrative Agent, and Union Bank, N.A. and Wells Fargo Bank, National Association, as Syndication Agents, JPMorgan Chase Bank, N.A. and The Bank of Nova Scotia, as Documentation Agents, Banc of America Securities LLC, Union Bank, N.A. and Wells Fargo Securities, LLC as Joint Lead Arrangers and Joint Book Managers.	Great Plains Energy KCP&L
10.3	Credit Agreement dated as of August 9, 2010 among KCP&L Greater Missouri Operations Company, Certain Lenders, Bank of America, N.A., as Administrative Agent, and Union Bank, N.A. and Wells Fargo Bank, National Association, as Syndication Agents, The Royal Bank of Scotland PLC and BNP Paribas, as Documentation Agents, Banc of America Securities LLC, Union Bank, N.A. and Wells Fargo Securities, LLC as Joint Lead Arrangers and Joint Book Managers.	Great Plains Energy
10.4	+ Consulting Services Assignment and Assumption Agreement between John R. Marshall and Coastal Partners Inc. (Exhibit 10.2 to Form 10-Q for the quarter ended June 30, 2010).	Great Plains Energy KCP&L
12.1	Computation of Ratio of Earnings to Fixed Charges.	Great Plains Energy
12.2	Computation of Ratio of Earnings to Fixed Charges.	KCP&L
31.1	Rule 13a-14(a)/15d-14(a) Certifications of Michael J. Chesser.	Great Plains Energy
31.2	Rule 13a-14(a)/15d-14(a) Certifications of James C. Shay.	Great Plains Energy
31.3	Rule 13a-14(a)/15d-14(a) Certifications of Michael J. Chesser.	KCP&L
31.4	Rule 13a-14(a)/15d-14(a) Certifications of James C. Shay.	KCP&L
32.1	** Section 1350 Certifications.	Great Plains Energy
32.2	** Section 1350 Certifications.	KCP&L

101.INS	** XBRL Instance Document.	Great Plains Energy KCP&L
101.SCH	** XBRL Taxonomy Extension Schema Document.	Great Plains Energy KCP&L
101.CAL	** XBRL Taxonomy Extension Calculation Linkbase Document.	Great Plains Energy KCP&L
101.DEF	** XBRL Taxonomy Extension Definition Linkbase Document.	Great Plains Energy KCP&L
101.LAB	** XBRL Taxonomy Extension Labels Linkbase Document.	Great Plains Energy KCP&L
101.PRE	** XBRL Taxonomy Extension Presentation Linkbase Document.	Great Plains Energy KCP&L

\*Filed with the SEC as an exhibit to prior SEC filings and is incorporated herein by reference and made a part hereof. The SEC filing and the exhibit number of the document so filed, and incorporated herein by reference, is stated in parenthesis in the description of such exhibit.

\*\*Furnished and shall not be deemed filed for the purpose of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Such document shall not be incorporated by reference into any registration statement or other document pursuant to the Exchange Act or the Securities Act of 1933, as amended, unless otherwise indicated in such registration statement or other document.

+ Indicates management contract or compensatory plan or arrangement.

Copies of any of the exhibits filed with the SEC in connection with this document may be obtained from the registrants upon written request.

The registrants agree to furnish to the SEC upon request any instrument with respect to long-term debt as to which the total amount of securities authorized does not exceed 10% of total assets of such registrant and its subsidiaries on a consolidated basis.

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, Great Plains Energy Incorporated and Kansas City Power & Light Company have duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

**GREAT PLAINS ENERGY INCORPORATED**

Dated: October 28, 2010

By: /s/ Michael J. Chesser  
(Michael J. Chesser)  
(Chief Executive Officer)

Dated: October 28, 2010

By: /s/ Lori A. Wright  
(Lori A. Wright)  
(Principal Accounting Officer)

**KANSAS CITY POWER & LIGHT COMPANY**

Dated: October 28, 2010

By: /s/ Michael J. Chesser  
(Michael J. Chesser)  
(Chief Executive Officer)

Dated: October 28, 2010

By: /s/ Lori A. Wright  
(Lori A. Wright)  
(Principal Accounting Officer)