

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

Current Report

Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): August 5, 2010

Commission File Number	Registrant, State of Incorporation, Address and Telephone Number	I.R.S. Employer Identification Number
001-32206	GREAT PLAINS ENERGY INCORPORATED (A Missouri Corporation) 1200 Main Street Kansas City, Missouri 64105 (816) 556-2200 NOT APPLICABLE (Former name or former address, if changed since last report)	43-1916803
000-51873	KANSAS CITY POWER & LIGHT COMPANY (A Missouri Corporation) 1200 Main Street Kansas City, Missouri 64105 (816) 556-2200 NOT APPLICABLE (Former name or former address, if changed since last report)	44-0308720

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

This combined Current Report on Form 8-K is being furnished 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 furnished 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 furnished by, KCP&L. KCP&L makes no representation as to that information. Neither Great Plains Energy nor GMO has any obligation in respect of KCP&L's debt securities and holders of such securities should not consider Great Plains Energy's or GMO's 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 GMO.

Item 2.02 Results of Operations and Financial Condition

On August 5, 2010, Great Plains Energy issued a press release announcing first quarter 2010 results and increasing 2010 earnings guidance. A copy of the press release is attached as Exhibit 99.1.

The press release contains information regarding KCP&L. Accordingly, information in the press release relating to KCP&L is also being furnished on behalf of KCP&L.

The information under this Item 2.02 and in Exhibit 99.1 hereto is being furnished and shall not be deemed filed for the purpose of Section 18 of the Securities Exchange Act of 1934, as amended. The information under this Item 2.02 and Exhibit 99.1 hereto shall not be deemed incorporated by reference into any registration statement or other document pursuant to the Securities Act of 1933, as amended, unless otherwise expressly indicated in such registration statement or other document.

Item 9.01 Financial Statements and Exhibits

(d) Exhibit No.

99.1

Press release issued by Great Plains Energy Incorporated on August 5, 2010 (furnished and not deemed filed for the purpose of Section 18 of the Securities Exchange Act of 1934, as amended).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

GREAT PLAINS ENERGY INCORPORATED

/s/ Michael W. Cline
Michael W. Cline
Vice President-Investor Relations and Treasurer and Corporate Secretary

KANSAS CITY POWER & LIGHT COMPANY

/s/ Michael W. Cline
Michael W. Cline
Vice President-Investor Relations and Treasurer and Corporate Secretary

Date: August 5, 2010.

Exhibit Index

Exhibit No.	Title
99.1	Press release issued by Great Plains Energy Incorporated on August 5, 2010 (furnished and not deemed filed for the purpose of Section 18 of the Securities Exchange Act of 1934, as amended).

**GREAT PLAINS ENERGY REPORTS SECOND QUARTER
2010 RESULTS**

Kansas City, Mo. (August 5, 2010) — Great Plains Energy (NYSE: GXP) today announced second quarter 2010 earnings of \$63.9 million or \$0.47 per share of common stock outstanding, compared with second quarter 2009 earnings of \$33.3 million or \$0.26 per share. The improved results were driven by new retail rates that took effect in the third quarter of 2009 and much warmer weather than in the 2009 second quarter.

The Company also announced an increase in its 2010 earnings per share guidance range to \$1.30 to \$1.50 per share from the previous level of \$1.20 to \$1.40 per share. The increase corresponds to the approximate impact of favorable weather on the Company's year-to-date earnings. For the first six months of 2010, weather accounted for over 70% of the increase in retail sales volume and contributed about \$28 million in incremental revenues compared to the same period in 2009.

“Our Company has executed effectively and delivered better operational and financial performance in the first half of 2010 than the same period last year,” stated Mike Chesser, Chairman and CEO. “Weather, however, has played a significant role in our improved financial results and is the key driver of our guidance increase. Although we have seen some improvement in weather-normalized demand, we remain cautious about the economy. As we look forward, key areas of focus are maintaining strong operations in our core business and the successful completion of Iatan 2, an asset that will help meet the energy needs of our region for decades.”

Chesser continued, “Achieving fair outcomes in our current rate cases in Kansas and Missouri, including a reasonable return on our sizable investment in Iatan 2, will be key to further strengthen our overall financial position, enhance our credit profile and deliver value to shareholders, while continuing to provide excellent customer service at rates well below the national average.”

The Company's customer service was recognized earlier this month when J.D. Power and Associates announced the results of its 2010 Electric Utility Residential Customer Satisfaction StudySM. In the study, KCP&L ranked third among Midwest large utilities and was tied for ninth among all U.S. large utilities. In February 2010, the Company received the highest rating among Midwest large utilities in J.D. Power's business customer survey.

GREAT PLAINS ENERGY INCORPORATED
Consolidated Earnings and Earnings Per Share
Three Months Ended June 30
(Unaudited)

	Earnings		Earnings per Great Plains Energy Share	
	2010	2009	2010	2009
	(millions)			
Electric Utility	\$ 71.7	\$ 42.8	\$ 0.53	\$ 0.33
Other	(7.3)	(5.9)	(0.06)	(0.05)
Income from continuing operations	64.4	36.9	0.47	0.28
Strategic Energy discontinued operations	-	(3.1)	-	(0.02)
Net income	64.4	33.8	0.47	0.26
Less: Net income attributable to noncontrolling interest	(0.1)	(0.1)	-	-
Net income attributable to Great Plains Energy	64.3	33.7	0.47	0.26
Preferred dividends	(0.4)	(0.4)	-	-
Earnings available for common shareholders	\$ 63.9	\$ 33.3	\$ 0.47	\$ 0.26

Great Plains Energy Second Quarter:

Improved second quarter 2010 earnings compared to 2009 were attributable to a \$28.9 million increase in net income in the Company's Electric Utility segment, which includes Kansas City Power & Light ("KCP&L") and the regulated utility operations of KCP&L Greater Missouri Operations ("GMO"). This was primarily driven by a \$64.0 million increase in gross margin (a non-GAAP financial measure described in Attachment A) partially offset by a nearly \$15 million increase in operating expenses and an approximate \$8 million increase in depreciation and amortization.

Average shares of common stock outstanding increased 6 percent to 136.6 million shares primarily as a result of shares issued in the May 2009 public offering, which resulted in dilution of \$0.03 per share.

Great Plains Energy continued to maintain a strong liquidity position during the quarter. As of June 30, 2010, approximately \$759 million of available capacity remained on the Company's \$1.4 billion of revolving credit facilities. The Company anticipates replacing its current revolving credit lines with new facilities totaling \$1.25 billion in August 2010.

Great Plains Energy Year-to-Date:

For the first six months of 2010, earnings were \$83.8 million or \$0.61 per share, compared to \$54.6 million or \$0.44 per share for the same period last year.

GREAT PLAINS ENERGY INCORPORATED
Consolidated Earnings and Earnings Per Share
Year to Date June 30
(Unaudited)

	Earnings		Earnings per Great Plains Energy Share	
	2010	2009	2010	2009
	(millions)			
Electric Utility	\$ 96.6	\$ 50.2	\$ 0.71	\$ 0.41
Other	(11.9)	8.4	(0.09)	0.07
Income from continuing operations	84.7	58.6	0.62	0.48
Strategic Energy discontinued operations	-	(3.1)	-	(0.03)
Net income	84.7	55.5	0.62	0.45
Less: Net income attributable to noncontrolling interest	(0.1)	(0.1)	-	-
Net income attributable to Great Plains Energy	84.6	55.4	0.62	0.45
Preferred dividends	(0.8)	(0.8)	(0.01)	(0.01)
Earnings available for common shareholders	\$ 83.8	\$ 54.6	\$ 0.61	\$ 0.44

Key factors influencing the first six months of 2010 compared to the previous year included the following:

- A \$46.4 million increase in Electric Utility segment net income primarily driven by a \$129.6 million increase in gross margin partially offset by an almost \$29 million increase in operating expenses and an approximate \$21 million increase in depreciation and amortization; and
- A \$20.3 million decrease in Other segment results, attributable primarily to a \$16 million tax benefit at GMO in 2009 and \$7.0 million of additional after-tax interest expense from the Equity Units issued by Great Plains Energy in May 2009.

Average shares of common stock outstanding increased 10 percent to 136.6 million shares primarily as a result of shares issued in the 2009 public offering, which resulted in dilution of \$0.07 per share.

Electric Utility Segment Second Quarter:

Quarterly net income for the Electric Utility segment was \$71.7 million or \$0.53 per share compared to \$42.8 million or \$0.33 per share in 2009.

Key drivers influencing the segment results included the following:

- A \$64.0 million, or 19 percent, increase in gross margin primarily due to an approximate \$51 million increase in revenues from new retail rates, which became effective on August 1, 2009 in Kansas and September 1, 2009 in Missouri;
- An increase in operating expense of \$14.8 million primarily driven by planned plant outages and increased gross receipts and property taxes; and
- An increase in depreciation and amortization of \$7.6 million largely resulting from additional regulatory amortization pursuant to KCP&L's 2009 rate cases.

Retail megawatt hour (MWh) sales increased approximately 3 percent in the 2010 quarter. About 90 percent of the increase was due to warmer weather and about 10 percent resulted from higher weather-normalized demand:

- Cooling degree days in the region were 28 percent higher than the second quarter of 2009 and June was the hottest such month in the region since 1988. Weather drove an increase of about \$16 million in retail revenues compared to the 2009 quarter.
 - o Compared to normal, the positive revenue impact from weather in the 2010 quarter was approximately \$22 million; and
- Weather-normalized retail customer demand improved 0.3 percent driven entirely by usage per customer in the industrial segment. Weather-normalized consumption rose 9.3 percent in the industrial segment and declined 0.2 percent and 1.8 percent in the residential and commercial segments, respectively. Combined increased weather-normalized demand contributed an approximate \$1.5 million increase to retail revenue.

Generation fleet availability in 2010's second quarter improved significantly compared to the 2009 period, when Iatan 1 was off-line until mid-April to complete an environmental upgrade and unit overhaul and brief forced outages occurred at two other KCP&L coal plants and the Wolf Creek nuclear unit.

	Three Months Ended	
	June 30	
	2010	2009
Equivalent Availability - Coal Fleet	84%	79%
Capacity Factor - Coal Fleet	76%	71%
Equivalent Availability - Wolf Creek	100%	97%
Capacity Factor - Wolf Creek	100%	97%
Equivalent Availability - Total GPE (Coal and Nuclear)	87%	82%
Capacity Factor - Total GPE (Coal and Nuclear)	80%	75%

Electric Utility Segment Year-to-Date:

Year-to-date net income for the Electric Utility segment was \$96.6 million or \$0.71 per share compared to \$50.2 million or \$0.41 per share in 2009.

The segment's gross margin improved nearly \$130 million as a result of new retail rates, favorable weather and improved weather-normalized retail demand. These benefits were partially offset by an approximate \$29 million increase in operating expenses due primarily to scheduled plant outages and higher general taxes and a roughly \$21 million increase in depreciation and amortization.

Retail MWh sales increased approximately 4 percent in the 2010 year-to-date period as a result of both favorable weather and increased customer usage. Favorable weather accounted for over

seventy percent of the sales volume increase and an increase of about \$28 million in retail revenue. Compared to normal, the impact of weather on retail revenue for the first six months was about \$31 million.

The remaining increase in MWh sales in the year-to-date period was the result of increased weather-normalized customer usage, which increased about 1.1 percent and contributed additional revenue of about \$7 million. The primary driver of increased usage was in the industrial sector, up roughly 6 percent as a result of a gradually improving economy in the Kansas City region. The residential sector also contributed to the higher sales volume. Residential sales gains of approximately 2 percent were the result of strong gains of 3.5 percent in the first quarter triggered primarily by increased reliance on electric heat. This impact was dampened by a slight decline in residential demand in the second quarter as previously noted.

Coal plant availability in 2010's first six months improved significantly compared to the 2009 period when Iatan 1 was off-line until mid-April to complete an environmental upgrade and unit overhaul and Sibley 3 was out of service for roughly half of the first quarter to complete an environmental upgrade. In addition, these improved results reflect the benefits of a number of operational improvement programs in the Company's generation fleet.

	Year to Date	
	June 30	
	2010	2009
Equivalent Availability - Coal Fleet	81%	72%
Capacity Factor - Coal Fleet	74%	64%
Equivalent Availability - Wolf Creek	96%	98%
Capacity Factor - Wolf Creek	98%	99%
Equivalent Availability - Total GPE (Coal and Nuclear)	83%	75%
Capacity Factor - Total GPE (Coal and Nuclear)	77%	69%

Other Segment Second Quarter and Year-to-Date:

Results for the Other segment primarily include unallocated corporate charges, GMO non-regulated operations, non-controlling interest and preferred dividends. For the 2010 second quarter, the Other segment generated a loss of \$7.8 million or \$0.06 per share compared to a loss of \$6.4 million or \$0.05 per share in 2009.

For the first six months of 2010, Other segment generated a loss of \$12.8 million or \$0.10 per share compared to earnings of \$7.5 million or \$0.06 per share in 2009. The 2010 year-to-date results reflect \$7.0 million of additional after-tax interest expense from the Equity Units issued in May 2009, while results for the 2009 year-to-date period included a \$16.0 million tax benefit from a 2003-2004 tax audit settlement at GMO.

Regulatory Update

KCP&L filed a rate request in December 2009 with the Kansas Corporation Commission (“KCC”), requesting a revenue increase of \$55.2 million, and KCP&L and GMO filed rate requests with the Missouri Public Service Commission in June 2010 requesting a total revenue increase of \$190 million. The KCC staff’s case filed in June recommended a rate reduction of \$9.1 million. The main differences between KCP&L’s and the KCC staff’s positions are return on equity, staff’s proposed disallowances of certain Iatan 2 costs, and depreciation rate differences. The outcome of the rate requests will likely be different than either the Company’s or staff’s positions. In the event Iatan 2 cost disallowances were approved by either commission, the amount of the disallowances would be recognized as an impairment loss with a corresponding write-down of utility plant. Great Plains Energy’s earnings guidance does not reflect any possible disallowances that may result from current rate proceedings. A decision in the Kansas case is expected by the end of the year, and decisions in the Missouri cases are expected in the second quarter of 2011.

The Company has posted its 2010 Second Quarter Form 10-Q, as well as supplemental financial information related to the second quarter on its website, www.greatplainsenergy.com.

Earnings Webcast Information:

An earnings conference call and webcast is scheduled for **9:00 a.m. EDT Friday, August 6, 2010**, to review the Company's second quarter and year-to-date 2010 financial results and business outlook.

A live audio webcast of the conference call, presentation slides, supplemental financial information, and the earnings press release will be available on the investor relations page of Great Plains Energy's website at www.greatplainsenergy.com.

The conference call may be accessed by dialing 877-791-9323 (U.S./Canada) or 706-758-1332 (international) five to ten minutes prior to the scheduled start time. The confirmation code is 74589848. The call will also be webcast and may be accessed in a listen-only mode at www.greatplainsenergy.com.

A replay and transcript of the call will be available later in the day by accessing the investor relations section of the company's website. A telephonic replay of the conference call will also be available for one week following the call by dialing 800-642-1687 (U.S./Canada) or 706-645-9291 (international). The confirmation code is 74589848.

About The Companies:

Headquartered in Kansas City, Mo., Great Plains Energy Incorporated (NYSE: GXP) is the holding company of Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company, two of the leading regulated providers of electricity in the Midwest. Kansas City Power & Light and KCP&L Greater Missouri Operations use KCP&L as a brand name. More information about the companies is available on the Internet at: www.greatplainsenergy.com or www.kcpl.com.

Forward-Looking Statements:

Statements made in this release 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, Great Plains Energy and KCP&L 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. Other risk factors are detailed from time to time in Great Plains Energy's and KCP&L's most recent quarterly report on Form 10-Q and annual report on Form 10-K filed with the Securities and Exchange Commission. 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.

Great Plains Energy Contacts:

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Media: Katie McDonald, Director of Corporate Communications, 816-556-2365, katie.mcdonald@kcpl.com

Attachment A

Gross margin is a financial measure that is not calculated in accordance with generally accepted accounting principles (GAAP). Gross margin, as used by Great Plains Energy, is defined as operating revenues less fuel, purchased power and transmission of electricity by others. The Company's expense for fuel, purchased power and transmission of electricity by others, offset by wholesale sales margin, is subject to recovery through cost adjustment mechanisms, except for KCP&L's Missouri retail operations. As a result, operating revenues increase or decrease in relation to a significant portion of these expenses. Management believes that gross margin provides a more meaningful basis for evaluating the Electric Utility segment's operations across periods than operating revenues because gross margin excludes the revenue effect of fluctuations in these expenses. Gross margin is used internally to measure performance against budget and in reports for management and the Board of Directors. The Company's definition of gross margin may differ from similar terms used by other companies. A reconciliation to GAAP operating revenues is provided in the table below.

Great Plains Energy Incorporated
Reconciliation of Gross Margin to Operating Revenues
(Unaudited)

	Three Months Ended		Year to Date	
	June 30		June 30	
	2010	2009	2010	2009
	(millions)		(millions)	
Operating revenues	\$ 552.0	\$ 480.5	\$ 1,058.9	\$ 899.7
Fuel	(104.1)	(96.8)	(205.9)	(184.4)
Purchased power	(37.9)	(37.6)	(103.4)	(94.8)
Transmission of electricity by others	(7.2)	(7.3)	(12.8)	(13.3)
Gross margin	<u>\$ 402.8</u>	<u>\$ 338.8</u>	<u>\$ 736.8</u>	<u>\$ 607.2</u>

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