

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): April 8, 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 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 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 8.01 Other Events

KCP&L has a 55% ownership interest, and GMO has an 18% ownership interest, in Iatan No. 2, an estimated 850MW coal-fired electric generating unit currently under construction. Great Plains Energy and KCP&L (the "Companies") previously announced a shift in the anticipated in-service date for Iatan No. 2 from late summer 2010 to the fall of 2010 and the commencement of a cost and schedule reforecast process as the project enters the startup phase.

Based on the results of the reforecast process, the Companies currently project a fourth quarter 2010 in-service date for Iatan No. 2. The current and previous cost estimate ranges are shown in the following table. Consistent with the Companies' Iatan No. 2 cost estimate disclosures in their 2008 and 2009 Form 10-Ks, the cost estimate ranges do not include allowance for funds used during construction or the cost of common facilities that will be used by both Iatan No. 1 and Iatan No. 2.

	Current Estimate Range			Previous Estimate Range (millions)			Change		
Great Plains Energy (73% share)	\$ 1,222	-	\$ 1,251	\$ 1,153	-	\$ 1,201	\$ 69	-	\$ 50
KCP&L (55% share)	919	-	941	868	-	904	51	-	37

The increase in the cost estimate ranges is primarily due to the shift in the expected in-service date, the impact of lower wholesale prices on expected test power revenues that offset construction cost, and a level of contingency the Companies consider appropriate in light of recent start-up events encountered at other coal plants under construction.

KCP&L currently expects that the rates to be set in its pending Kansas rate case will be effective in the late fourth quarter of 2010 or early first quarter of 2011. KCP&L and GMO expect to file rate cases in Missouri in May 2010 and that new rates will be effective early in the second quarter of 2011. Management expects to provide additional detail with regard to these filings in the Companies' first quarter 2010 10-Qs and earnings release, which are expected to be issued after market close on May 6, 2010, and in the first quarter 2010 earnings conference call and webcast expected to be held on May 7, 2010.

Item 7.01 Regulation FD Disclosure

The information contained in Item 8.01 above is incorporated by reference herein. Great Plains Energy does not expect these reforecast process results to impact its announced 2010 earnings guidance of \$1.20 - \$1.40 per share.

The information under this Item 7.01 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 7.01 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.

Forward-Looking Statements:

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 planning 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, retirement compensation and benefits costs; 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 or annual report on Form 10-K filed with the Securities and Exchange Commission. Any forward-looking statement speaks only as of the date on which such statement is made. 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.

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

KANSAS CITY POWER & LIGHT COMPANY

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

Date: April 8, 2010.
