

This preliminary prospectus supplement relates to an effective registration statement under the Securities Act of 1933, as amended, but is not complete and may be changed. This preliminary prospectus supplement and the accompanying prospectus are not offers to sell these securities and are not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Filed Pursuant to Rule 424(b)(5)
Registration Statement No. 333-159131

SUBJECT TO COMPLETION, DATED MAY 16, 2011

**Preliminary Prospectus Supplement
(To Prospectus Dated May 11, 2009)**

\$



GREAT PLAINS ENERGY

Great Plains Energy Incorporated

% Notes due

We will pay interest on the notes on _____ and _____ of each year, beginning _____. The notes will mature on _____. We may redeem the notes at any time in whole or from time to time in part at the price specified in this prospectus supplement.

The notes will be senior unsecured obligations of Great Plains Energy Incorporated exclusively (and not the obligation of any of our subsidiaries) and will rank equally with any existing and future senior unsecured indebtedness of Great Plains Energy Incorporated. The notes will not be listed on any securities exchange.

Investing in the notes involves risks that are described in the section entitled "Risk Factors" beginning on page S-9 of this prospectus supplement and beginning on page 3 of the accompanying prospectus.

	<u>Per Note</u>	<u>Total</u>
Public offering price(1)	%	\$
Underwriting discount	%	\$
Proceeds, before expenses, to Great Plains Energy Incorporated	%	\$

(1) Plus accrued interest from May , 2011, if settlement occurs after that date.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The notes will be ready for delivery in book-entry form only through The Depository Trust Company on or about May , 2011.

Joint Book-Running Managers

BofA Merrill Lynch

J.P. Morgan

Mitsubishi UFJ Securities

Senior Co-Manager

US Bancorp

Co-Manager

Valdés & Moreno, Inc.

May , 2011

TABLE OF CONTENTS

Prospectus Supplement

	<u>Page</u>
About this Prospectus Supplement	S-1
Cautionary Statements Regarding Certain Forward-Looking Information	S-1
Where You Can Find More Information	S-3
Prospectus Supplement Summary	S-4
Risk Factors	S-9
Use of Proceeds	S-11
Capitalization and Short-Term Debt	S-12
Description of the Notes	S-13
Underwriting (Conflicts of Interest)	S-17
Legal Matters	S-19
Experts	S-19

Prospectus

About this Prospectus	1
Cautionary Statements Regarding Certain Forward-Looking Information	1
Great Plains Energy Incorporated	3
Risk Factors	3
Ratio of Earnings to Fixed Charges	3
Use of Proceeds	4
Description of Debt Securities	4
Description of Common Stock	13
Description of Stock Purchase Contracts and Stock Purchase Units or Warrants for Stock	15
Book-Entry System	15
Plan of Distribution	18
Legal Matters	18
Experts	18
Where You Can Find More Information	19

ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, which describes the terms of the offering of the notes. The second part is the accompanying prospectus dated May 11, 2009, which we refer to as the “accompanying prospectus.” The accompanying prospectus contains a description of our debt securities and gives more general information, some of which may not apply to the notes.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus or in any written communication from us or any underwriter specifying the final terms of this offering. We have not, and the underwriters have not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the underwriters are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Before you invest in the notes, you should carefully read the registration statement (including the exhibits thereto) of which this prospectus supplement and the accompanying prospectus form a part, this prospectus supplement, the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and accompanying prospectus. The incorporated documents are described in this prospectus supplement under “Where You Can Find More Information.”

Unless the context otherwise requires or as otherwise indicated, when we refer to “Great Plains Energy,” the “Company,” “we,” “us” or “our” in this prospectus supplement or when we otherwise refer to ourselves in this prospectus supplement, we mean Great Plains Energy Incorporated and its consolidated subsidiaries.

CAUTIONARY STATEMENTS REGARDING CERTAIN FORWARD-LOOKING INFORMATION

This prospectus supplement, the accompanying prospectus and the documents incorporated or deemed incorporated by reference as described under the heading “Where You Can Find More Information” contain forward-looking statements that are not based on historical facts. In some cases, you can identify forward-looking statements by use of the words “may,” “should,” “expect,” “plan,” “anticipate,” “estimate,” “predict,” “potential,” or “continue.” Forward-looking statements include, but are not limited to, statements regarding the outcome of regulatory proceedings, cost estimates of capital projects and other matters affecting future operations. These forward-looking statements are based on assumptions, expectations, and assessments made by our management in light of their experience and their perception of historical trends, current conditions, expected future developments and other factors they believe to be appropriate. Any forward-looking statements are not guarantees of our future performance and are subject to risks and uncertainties, including those discussed under the heading “Risk Factors” in this prospectus supplement and in our other SEC filings. These risks and uncertainties could cause actual results, developments and business decisions to differ materially from those contemplated or implied by forward-looking statements. Consequently, you should recognize these statements for what they are and we caution you not to rely upon them as facts. We claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995 for all forward-looking statements. We disclaim any duty to update the forward-looking statements, which apply only as of the date of this prospectus. Some of the factors that may cause actual results, developments and business decisions to differ materially from those contemplated by these forward-looking statements include the following:

- 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 and the Company;

Table of Contents

- 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 subsidiaries of the Company 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;
- 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;
- the inherent uncertainties in estimating the effects of weather, economic conditions and other factors on customer consumption and financial results;
- 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 generation, transmission, distribution or other projects;
- the inherent risks associated with the ownership and operation of a nuclear facility including, but not limited to, environmental, health, safety, regulatory and financial risks;
- workforce risks, including, but not limited to, increased costs of retirement, healthcare and other benefits; and
- other risks and uncertainties.

This list of factors is not all-inclusive because it is not possible to predict all factors. You should also carefully consider the information referred to under the heading “Risk Factors” in this prospectus supplement and in our other SEC filings.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, and proxy statements and other information with the Securities and Exchange Commission (the "SEC") through the SEC's Electronic Data Gathering, Analysis and Retrieval system and these filings are publicly available through the SEC's website (<http://www.sec.gov>). You may read and copy such material at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330.

The SEC allows us to "incorporate by reference" into this prospectus supplement the information we file with it. This means that we can disclose important information to you by referring you to the documents containing the information. The information we incorporate by reference is considered to be included in and an important part of this prospectus supplement and should be read with the same care. Information that we file later with the SEC that is incorporated by reference into this prospectus supplement will automatically update and supersede this information. We are incorporating by reference into this prospectus supplement the following documents that we have filed with the SEC and any subsequent filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") (excluding information deemed to be furnished and not filed with the SEC) until the offering of the securities described in this prospectus supplement is completed:

- Our Annual Report on Form 10-K for the year ended December 31, 2010, filed with the SEC on February 25, 2011 (including information specifically incorporated by reference therein from our Definitive Proxy Statement on Schedule 14A, filed with the SEC on March 23, 2011);
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2011, filed with the SEC on May 3, 2011; and
- Our Current Reports on Form 8-K dated February 8, 2011 and filed February 11, 2011; March 10, 2011 and filed with the SEC on March 10, 2011 and amended April 14, 2011; April 1, 2011 and filed with the SEC on April 6, 2011; April 12, 2011 and filed with the SEC on April 15, 2011; May 3, 2011 and filed with the SEC on May 6, 2011; and May 11, 2011 and filed with the SEC on May 12, 2011.

Our website is www.greatplainsenergy.com. Information contained on our website is not incorporated herein except to the extent specifically so indicated. We make available, free of charge, on or through our website, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. In addition, we make available on or through our website all other reports, notifications and certifications filed electronically with the SEC. You may obtain a free copy of our filings with the SEC by writing or telephoning us at the following address: Great Plains Energy Incorporated, 1200 Main Street, Kansas City, Missouri 64105 (Telephone No.: (816) 556-2200), Attention: Corporate Secretary, or by contacting us on our website.

PROSPECTUS SUPPLEMENT SUMMARY

Our Company

Great Plains Energy Incorporated, a Missouri corporation incorporated in 2001 and headquartered in Kansas City, Missouri, is a public utility holding company and does not own or operate any significant assets other than the stock of its subsidiaries. Our wholly-owned direct subsidiaries with operations or active subsidiaries are as follows:

- Kansas City Power & Light Company (“KCP&L”) is an integrated, regulated electric utility that provides electricity to customers primarily in the states of Missouri and Kansas. KCP&L has one active wholly-owned subsidiary, Kansas City Power & Light Receivables Company.
- KCP&L Greater Missouri Operations Company (“GMO”) is an integrated, regulated electric utility that primarily provides electricity to customers in the state of Missouri. GMO also provides regulated steam service to certain customers in the St. Joseph, Missouri area. GMO wholly owns MPS Merchant Services, Inc., which has certain long-term natural gas contracts remaining from its former non-regulated trading operations.

Our principal executive offices are located at 1200 Main Street, Kansas City, Missouri 64105, and our telephone number is (816) 556-2200.

The Offering

The following summary contains basic information about the notes. It does not contain all the information that is important to you. For a more complete understanding of the notes, please refer to the section of this prospectus supplement entitled “Description of the Notes” and the section of the accompanying prospectus entitled “Description of Debt Securities.”

Issuer	Great Plains Energy Incorporated
Notes Offered	\$ aggregate principal amount of % Notes due .
Maturity	, .
Interest	The notes will bear interest from May , 2011 at the rate of % per year.
Interest Payment Dates	and of each year, beginning , .
Ranking	The notes will be our senior unsecured obligations. They will rank equal in right of payment with our existing and future senior unsecured obligations and will be senior in right of payment to any existing and future subordinated indebtedness. The notes will be effectively subordinated to any future secured indebtedness to the extent of the collateral securing that indebtedness and to all existing and future liabilities, including trade payables, of our subsidiaries. As of March 31, 2011, Great Plains Energy Incorporated had no outstanding secured indebtedness and our subsidiaries had outstanding \$5.2 billion of total liabilities (excluding intercompany indebtedness), which included approximately \$2.6 billion, including current maturities, of total long-term debt, excluding unused commitments and contractual obligations and other commitments.
Covenant	The supplemental indenture establishing the terms of the notes will contain a covenant that provides that if Great Plains Energy Incorporated itself incurs indebtedness for borrowed money secured by a lien on any shares of capital stock or other equity interests of any majority-owned subsidiary which Great Plains Energy Incorporated directly owns, we are required to secure the notes equally and ratably (or prior to) such indebtedness. See “Description of the Notes — Additional Covenant — Limitation on Liens” in this prospectus supplement.
Optional Redemption	<p>Prior to , 20 (the date that is three months prior to the maturity date of the notes), we may redeem the notes at any time in whole or from time to time in part at the “make-whole premium” indicated under the section entitled “Description of the Notes — Optional Redemption” in this prospectus supplement.</p> <p>On or after , 20 , we may redeem the notes at any time in whole or from time to time in part at a redemption price equal to 100% of the principal amount of the notes to be redeemed plus accrued and unpaid interest thereon. See “Description of the Notes — Optional Redemption” in this prospectus supplement.</p>
Further Issuances	We may create and issue further notes ranking equally and ratably with and having the same terms as the notes offered by this prospectus supplement. Any additional notes will, together with the

Use of Proceeds	<p>notes offered by this prospectus supplement, constitute a single series of notes under the indenture.</p> <p>We intend to use the net proceeds of this offering to make an intercompany loan to GMO, with the same maturity date and interest payment terms as the notes and with the same effective interest rate or rates as adjusted for any debt or underwriting discount, hedge amortization and other related issuance costs. GMO intends to use such funds to repay (i) all or a portion of the short-term borrowings under its revolving credit facility and (ii) all or a portion of the \$197 million aggregate principal amount of its 7.75% Senior Notes due June 15, 2011 at maturity. As of March 31, 2011, GMO had \$205.0 million of outstanding cash borrowings under its facility with a weighted-average interest rate of 3.06%. See “Use of Proceeds” in this prospectus supplement.</p>
Risk Factors	<p>See “Risk Factors” beginning on page S-9 of this prospectus supplement and page 3 of the accompanying prospectus and other information incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors you should carefully consider before deciding to invest in the notes.</p>
No Listing of the Notes	<p>We do not intend to make application to list the notes on any national securities exchange or to include them in any automated quotation system.</p>
FINRA Compliance	<p>Because certain of the underwriters may receive 5% of the net offering proceeds, a “conflict of interest” is deemed to exist under FINRA Rule 5121. Therefore, the offering will be made in compliance with such rule. See “Underwriting — Conflicts of Interest” in this prospectus supplement.</p>

Summary Consolidated Financial Data

The following consolidated summary financial data for the years ended December 31, 2010 through December 31, 2008 have been derived from our audited consolidated financial statements and related notes, incorporated by reference in this prospectus supplement and the accompanying prospectus. The income statement data for the year ended December 31, 2008 includes GMO's results of operations from the date of its acquisition, July 14, 2008. The income statement data for the years ended December 31, 2010 and December 31, 2009 includes GMO's results of operations for the full years. The following summary of consolidated financial data for the three months ended March 31, 2011 and March 31, 2010 has been derived from our unaudited consolidated financial statements and related notes, incorporated by reference in this prospectus supplement and the accompanying prospectus. The information set forth below is qualified in its entirety by reference to, and therefore, should be read together with, the relevant management's discussion and analysis of financial condition and results of operations, financial statements and related notes and other financial information incorporated by reference herein.

	Three Months Ended		Year Ended December 31,		
	March 31, 2011	2010	2010	2009	2008
	(\$ in millions; except per share data)				
Income Statement Data:					
Operating revenues	\$ 492.9	\$ 506.9	\$2,255.5	\$1,965.0	\$1,670.1
Operating expenses	451.7	444.9	1,783.2	1,644.9	1,395.1
Operating income	\$ 41.2	\$ 62.0	\$ 472.3	\$ 320.1	\$ 275.0
Income from continuing operations	\$ 2.3	\$ 20.3	\$ 211.9	\$ 151.9	\$ 119.7
Income (loss) from discontinued operations, net of Income taxes	—	—	—	(1.5)	35.0
Net income	\$ 2.3	\$ 20.3	\$ 211.9	\$ 150.4	\$ 154.7
Less: Net (income) loss attributable to noncontrolling interest	0.1	—	(0.2)	(0.3)	(0.2)
Net income attributable to Great Plains Energy	\$ 2.4	\$ 20.3	\$ 211.7	\$ 150.1	\$ 154.5
Per Share Data:					
Average number of basic common shares outstanding	135.4	134.9	135.1	129.3	101.1
Average number of diluted common shares outstanding	138.2	136.6	136.9	129.8	101.2
Basic earnings (loss) per common share					
Continuing operations	\$ 0.02	\$ 0.15	\$ 1.55	\$ 1.16	\$ 1.16
Discontinued operations	—	—	—	(0.01)	0.35
Basic earnings per common share	\$ 0.02	\$ 0.15	\$ 1.55	\$ 1.15	\$ 1.51
Diluted earnings (loss) per common share					
Continuing operations	\$ 0.01	\$ 0.15	\$ 1.53	\$ 1.15	\$ 1.16
Discontinued operations	—	—	—	(0.01)	0.35
Diluted earnings per common share	\$ 0.01	\$ 0.15	\$ 1.53	\$ 1.14	\$ 1.51
Cash dividends declared per common share	\$0.2075	\$0.2075	\$ 0.83	\$ 0.83	\$ 1.66
Cash Flow Data:					
Cash flows from operating activities	\$ 37.0	\$ (8.8)	\$ 552.1	\$ 335.4	\$ 437.9
Cash flows from investing activities	(108.2)	(190.1)	(657.7)	(897.6)	(579.1)
Cash flows from financing activities	67.0	139.3	50.5	567.0	135.2
Other Financial Data:					
Depreciation and amortization	\$ 72.4	\$ 82.2	\$ 331.6	\$ 302.2	\$ 238.3
Amortization of:					
Nuclear fuel	5.8	6.1	25.1	16.1	14.5
Other	(0.3)	(1.9)	(4.7)	(10.1)	(1.9)
Utility capital expenditures	99.9	176.9	618.0	841.1	1,023.7

Ratios of Earnings to Fixed Charges

The following table sets forth our ratios of earnings to fixed charges for the periods indicated.

<u>Three Months Ended</u> <u>March 31,</u> <u>2011</u>	<u>Year Ended December 31,</u>				
<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>
(a)	2.28	1.81	2.26	2.53	3.50

(a) A \$2.3 million deficiency in earnings caused the ratio of earnings to fixed charges to be less than one-to-one coverage.

For purposes of computing the ratios of earnings to fixed charges: (i) earnings consist of income before deducting net provisions for income taxes and equity investment losses, and fixed charges; and (ii) fixed charges consist of interest on debt, amortization of debt discount, premium and expense, and the estimated interest component of lease payments and rentals.

RISK FACTORS

An investment in the notes is subject to various risks. These risks should be considered carefully with the information provided elsewhere and incorporated by reference in this prospectus supplement and the accompanying prospectus before deciding to invest in the notes. In addition to the risk factors set forth below, please read the information included or incorporated by reference under “Risk Factors” and “Cautionary Statements Regarding Certain Forward-Looking Information” in the accompanying prospectus, our Annual Report on Form 10-K for the year ended December 31, 2010 and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2011 for a description of additional uncertainties associated with our business, results of operations and financial condition and the forward-looking statements included or incorporated by reference in this prospectus supplement and the accompanying prospectus. As used in this section, “we,” “our,” “us” and the “Company” refer to Great Plains Energy Incorporated and not to any of its subsidiaries.

Indebtedness — Our indebtedness could adversely affect our ability to fulfill our obligations under the notes.

Our consolidated indebtedness and debt service obligations are significant. Our actual consolidated interest expense was \$184.8 million for the year ended December 31, 2010 and \$44.9 million for the three months ended March 31, 2011. A \$2.3 million deficiency in earnings caused the ratio of earnings to fixed charges to be less than one-to-one coverage for the three months ended March 31, 2011. As of March 31, 2011, our total consolidated long-term debt, including current maturities, was \$3.3 billion, excluding unused commitments and contractual obligations and other commitments, and our total shareholders’ equity was \$2.9 billion. Adjusted for this offering, as of March 31, 2011, our total consolidated long-term debt would have been \$ billion, our total stand-alone debt would have been \$ million and our total shareholders’ equity would have been unchanged. In addition, we issue guarantees and cause letters of credit to be issued under our credit agreement for the benefit of our subsidiaries and expect to have such guarantees and letters of credit outstanding from time to time in various aggregate amounts, which could be significant. We may incur additional short-term and long-term debt from time to time to finance the construction requirements of KCP&L and GMO, pension benefit plan funding requirements, working capital, capital expenditures or other general corporate purposes, subject to the restrictions contained in the credit agreement that governs our senior unsecured revolving credit facility and in any other agreements under which we incur debt.

The indenture governing the notes does not limit the amount of unsecured debt that we or our subsidiaries may incur. In general, the indenture also does not limit the amount of secured debt that we or our subsidiaries may incur. However, the supplemental indenture establishing the terms of the notes will contain a covenant that provides that if Great Plains Energy Incorporated itself incurs indebtedness for borrowed money secured by a lien on any shares of capital stock or other equity interests of any majority-owned subsidiary which Great Plains Energy Incorporated directly owns, we are required to secure the notes equally and ratably (or prior to) such indebtedness. The covenant does not apply to majority-owned subsidiaries indirectly owned by Great Plains Energy Incorporated through intermediate subsidiaries, and is subject to other significant exceptions. See “Description of the Notes — Additional Covenant — Limitation on Liens.”

The covenants contained in the indenture do not afford the holders of notes any protection in the event of a highly leveraged transaction or other transaction involving us that may adversely affect holders.

Our debt could have important consequences to holders of the notes, including the following:

- we are required to use a substantial portion of our consolidated cash flow from operations to pay principal and interest on our debt, thereby reducing the availability of our consolidated cash flow to fund the construction requirements of KCP&L and GMO, pension benefit plan funding requirements, working capital, capital expenditures and other general corporate requirements;
- if prevailing interest rates increase, our interest expense could increase because a small portion of GMO’s debt and any borrowings under KCP&L’s, GMO’s or our senior unsecured revolving credit facilities will bear interest at floating rates;

- our leverage increases our vulnerability to economic downturns, and adverse competitive and industry conditions could place us at a competitive disadvantage compared to those of our competitors that are less leveraged; and
- our debt service obligations could limit our flexibility in planning for, or reacting to, changes in our business and our industry and could limit our ability to pursue other business opportunities, borrow more money for operations or raise capital in the future and implement our business strategies.

Unsecured Obligations — Because the notes are not secured and are effectively subordinated to the rights of secured creditors, the notes will be subject to the prior claims of any secured creditors, and if a default occurs, we may not have sufficient funds to fulfill our obligations under the notes.

The notes are senior unsecured obligations and will rank equally with any future unsecured and unsubordinated debt and will be effectively junior to any future secured debt we may incur. The indenture governing the notes does not limit the amount of unsecured debt that we or our subsidiaries may incur or restrict us or our subsidiaries from entering into sale and leaseback transactions. In general, the indenture also does not limit the amount of secured debt that we or our subsidiaries may incur. However, the supplemental indenture establishing the terms of the notes will contain a covenant that provides that if Great Plains Energy Incorporated itself incurs indebtedness for borrowed money secured by a lien on any shares of capital stock or other equity interests of any majority-owned subsidiary which Great Plains Energy Incorporated directly owns, we are required to secure the notes equally and ratably (or prior to) such indebtedness. This covenant is limited in its restrictions and subject to significant exceptions. See “Description of the Notes — Additional Covenant — Limitation on Liens.”

If we or our subsidiaries incur any secured debt, our assets and those of our subsidiaries which secure such debt will be subject to prior claims by our and their respective secured creditors. In the event of our bankruptcy, insolvency, liquidation, reorganization, dissolution or other winding up, assets that secure debt will be available to pay obligations on the notes only after all debt secured by those assets has been repaid in full. Holders of the notes will participate in any remaining assets ratably with all of our unsecured and unsubordinated creditors, including trade creditors. If we incur any additional obligations that rank equally with the notes, including trade payables, the holders of those obligations will be entitled to share ratably with the holders of the notes in any proceeds distributed upon our bankruptcy, insolvency, liquidation, reorganization, dissolution or other winding up. This may have the effect of reducing the amount of proceeds paid to holders of the notes. If there are not sufficient assets remaining to pay all these creditors, all or a portion of the notes then outstanding would remain unpaid.

Structural Subordination — We depend upon dividends or other intercompany transfers from our subsidiaries to meet our obligations under the notes. Claims of creditors of these subsidiaries may have priority over claims by us with respect to the assets and earnings of these subsidiaries.

The notes will be direct unsecured obligations of Great Plains Energy Incorporated exclusively, and not the obligation of any subsidiaries. Great Plains Energy Incorporated is a holding company that derives substantially all of its income from its operating subsidiaries. As a result, our cash flows and consequent ability to service our debt and other liabilities, including the notes, are dependent upon the earnings of our subsidiaries and distribution of those earnings to us and other payments or distributions of funds by our subsidiaries to us, including payments of principal and interest under intercompany indebtedness. Our operating subsidiaries are separate and distinct legal entities and will have no obligation, contingent or otherwise, to pay any dividends or make any distributions (except for payments required pursuant to the terms of intercompany indebtedness) to us or otherwise pay amounts due with respect to the notes or to make specific funds available for such payments. In addition, none of these subsidiaries is guaranteeing the notes. All existing and future liabilities of our subsidiaries will be effectively senior to the notes. Our rights and the rights of any holder of the notes (or other of our creditors) to participate in the assets of any subsidiary upon that subsidiary’s liquidation, bankruptcy or recapitalization will be subject to the prior claims of that subsidiary’s creditors and preferred equity holders, if any, except to the extent we may be a creditor with recognized claims against such subsidiary.

In the event of our bankruptcy, insolvency, liquidation, reorganization, dissolution or other winding up, the holders of the notes may not receive any amounts with respect to the notes until after the payment in full of the claims of creditors and preferred equity holders, if any, of our subsidiaries.

As of March 31, 2011, our subsidiaries had \$5.2 billion of total liabilities, excluding intercompany indebtedness.

No Prior Market for the Notes — There is no prior market for the notes, and if a market develops, it may not be liquid and prices of the notes may vary.

We do not intend to list the notes on any national securities exchange or to seek their quotation on any automated dealer quotation system. We cannot assure holders of the notes that any liquid market for the notes will ever develop or be maintained. The underwriters have advised us that they currently intend to make a market in the notes following the offering. However, the underwriters have no obligation to make a market in the notes and they may stop at any time. Further, there can be no assurance as to the liquidity of any market that may develop for the notes, holders' ability to sell their notes or the price at which holders will be able to sell their notes. Future trading prices of the notes will depend on many factors, including prevailing interest rates, our financial condition and results of operations, the then-current ratings assigned to the notes and the market for similar securities. Any trading market that develops would be affected by many factors independent of and in addition to the foregoing, including:

- the time remaining to the maturity of the notes;
- the outstanding amount of the notes;
- the terms related to optional redemption of the notes; and
- the level, direction and volatility of market interest rates generally.

Great Plains Energy Incorporated, KCP&L, GMO and certain of their securities are rated by Moody's Investors Service, Inc. and Standard & Poor's Ratings Services. There is no assurance that such credit ratings will be issued or remain in effect for any given period of time or that such ratings will not be decreased, suspended or withdrawn entirely by the rating agencies, if, in each rating agency's judgment, circumstances so warrant. Any decrease, suspension or withdrawal of such ratings may have an adverse effect on the market price or marketability of debt securities issued by Great Plains Energy Incorporated, including the notes.

USE OF PROCEEDS

We estimate the net proceeds to us from the sale of the notes will be approximately \$ million, after deducting the underwriters' discounts and other expenses of the offering payable by us. We expect to use the net proceeds of this offering to make an intercompany loan to GMO, with the same maturity date and interest payment terms as the notes and with the same effective interest rate or rates, as adjusted for any debt or underwriting discount, hedge amortization and other related issuance costs. GMO expects to use such funds to repay (i) all or a portion of the short-term borrowings under its revolving credit facility and (ii) all or a portion of the \$197 million aggregate principal amount of its 7.75% Senior Notes due June 15, 2011 at maturity. As of March 31, 2011, GMO had \$205.0 million of outstanding cash borrowings under its facility with a weighted-average interest rate of 3.06%. Pending that use, we may invest the net proceeds from the offering in short-term marketable securities. Because certain of the underwriters may receive 5% of the net offering proceeds, a "conflict of interest" is deemed to exist under FINRA Rule 5121. Therefore, the offering will be made in compliance with such rule. See "Underwriting (Conflicts of Interest)" in this prospectus supplement.

CAPITALIZATION AND SHORT-TERM DEBT

The following table sets forth our consolidated capitalization as of March 31, 2011, and as adjusted to give effect to the issuance and sale of the notes and the use of proceeds from this offering as set forth under “Use of Proceeds” above. This table should be read in conjunction with our consolidated financial statements and related notes incorporated by reference in this prospectus supplement and the accompanying prospectus. See “Where You Can Find More Information” in this prospectus supplement.

	March 31, 2011	
	Actual	As Adjusted
	(\$ in millions)	
Short-term debt (includes current maturities)	\$1,076.4	\$
Long-term debt:		
Notes offered hereby	\$ —	\$
Unamortized discount	—	
Total consolidated KCP&L long-term debt	1,782.0	
Total consolidated GMO long-term debt	863.9	
Total Great Plains Energy Incorporated long-term debt	637.5	
Unamortized discount	(2.4)	
Total debt	3,281.0	
Less current debt	(473.6)	
Total long-term debt	<u>\$2,807.4</u>	<u>\$</u>
Equity:		
Total Common Shareholders’ Equity	\$2,864.1	\$
Noncontrolling Interest	1.1	
Total Preferred Shareholders’ Equity	39.0	
Total equity	<u>\$2,904.2</u>	<u>\$</u>
Total capitalization and short-term debt	<u>\$6,788.0</u>	<u>\$</u>

DESCRIPTION OF THE NOTES

The following description of the particular terms of the notes supplements and, to the extent inconsistent therewith, replaces the description of the general terms and provisions of the notes set forth in the accompanying prospectus under “Description of Debt Securities,” to which reference is hereby made. Whenever a defined term is referred to and not herein defined, the definition thereof is contained in the accompanying prospectus or in the indenture referred to therein. As used in this section, the terms “we,” “us,” “our,” or “Great Plains Energy” refer to Great Plains Energy Incorporated only and not to its subsidiaries.

The following description, together with the “Description of Debt Securities” in the accompanying prospectus, is a summary of the material provisions of the notes and the indenture and does not purport to be complete. This summary is subject to and is qualified by reference to all the provisions of the notes and the indenture, including the definition of certain terms used in the indenture. We urge you to read the indenture because it, and not this description, defines your rights as a holder of the notes.

General

The notes constitute a single series of debt securities to be issued pursuant to an indenture, dated as of June 1, 2004, between the Company and The Bank of New York Mellon Trust Company, N.A. (formerly The Bank of New York Trust Company, N.A.) (as successor to BNY Midwest Trust Company), as Trustee, as supplemented. The terms of the notes include those expressly set forth in the indenture and those made part of the indenture by reference to the Trust Indenture Act of 1939, as amended. The notes will initially be limited to \$ aggregate principal amount and will mature on .

The notes will bear interest at the rate per year set forth on the cover page of this prospectus supplement from the date of issuance or from the most recent interest payment date to which interest has been paid or provided for, payable semiannually in arrears on and of each year, beginning , to the persons in whose names the notes are registered at the close of business on the immediately preceding and , respectively, whether or not such day is a Business Day. Interest will be computed on the basis of a 360-day year comprised of twelve 30-day months (and for any partial periods shall be calculated on the basis of the number of days elapsed in a 360-day year of twelve 30-day months). If any date on which interest is payable on the notes is not a Business Day, then payment of the interest payable on that date will be made on the next succeeding day which is a Business Day (and without any additional interest or other payment in respect of any delay).

The notes will be direct unsecured obligations of Great Plains Energy exclusively, and not the obligation of any of our subsidiaries. The notes will (i) rank equally with our existing and future senior indebtedness, (ii) be effectively subordinated (with respect to underlying collateral) to any secured indebtedness that we may incur in the future, and (iii) be structurally subordinated to all existing and future liabilities, including trade payables, of our subsidiaries.

The notes will be issued only in registered form in minimum denominations of \$2,000 and in integral multiples of \$1,000.

We will initially offer \$ aggregate principal amount of notes. Subject to the terms of the indenture, we may, at any time, without consent of the holders of the notes, issue additional notes having the same ranking, interest rate, maturity and other terms (except for the initial public offering price and the issue date) as the notes being offered hereby; provided that such additional notes must be part of the same issue and fungible with the initially issued notes for U.S. federal income tax purposes. Any such additional notes, together with the notes offered hereby, will constitute a single series of notes under the indenture.

Optional Redemption

Prior to _____, 20 (the date that is three months prior to the maturity date of the notes), the notes will be redeemable at any time in whole or from time to time in part, at our option, each at a “make-whole premium” redemption price calculated by us equal to the greater of:

- 100% of the principal amount of the notes to be redeemed; and
- the sum of the present values of the remaining scheduled payments of principal and interest thereon (not including any portion of such payments of interest accrued as of the date of redemption), discounted to the date of redemption on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) at the Treasury Rate, plus _____ basis points,

plus, in each case, accrued and unpaid interest on the principal amount being redeemed to the date of redemption. Notwithstanding the foregoing, installments of interest on notes that are due and payable on interest payment dates falling on or prior to a redemption date will be payable on the interest payment date to the registered holders as of the close of business on the relevant record date according to the notes and the indenture.

On or after _____, 20 , the notes will be redeemable at any time in whole or from time to time in part, at our option, at a redemption price equal to 100% of the principal amount of the notes to be redeemed, plus accrued and unpaid interest on the principal amount being redeemed to the date of redemption.

“*Comparable Treasury Issue*” means the United States Treasury security selected by the Quotation Agent as having a maturity comparable to the remaining term of the notes to be redeemed that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the remaining term of such notes.

“*Comparable Treasury Price*” means, with respect to any redemption date,

- the average of four Reference Treasury Dealer Quotations for such redemption date, after excluding the highest and lowest such Reference Treasury Dealer Quotations, or
- if the Quotation Agent obtains fewer than four such Reference Treasury Dealer Quotations, the average of all such quotations, or
- if only one Reference Treasury Dealer Quotation is received, such quotation.

“*Quotation Agent*” means the Reference Treasury Dealer appointed by us.

“*Reference Treasury Dealer*” means

- each of J.P. Morgan Securities LLC and Merrill Lynch, Pierce, Fenner & Smith Incorporated or their affiliates, and their respective successors, unless either of them ceases to be a primary U.S. government securities dealer in the United States of America (“*Primary Treasury Dealer*”), in which case we will substitute therefore another Primary Treasury Dealer, and
- two other Primary Treasury Dealers that we select.

“*Reference Treasury Dealer Quotations*” means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Quotation Agent, of the bid and asked prices for the Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Quotation Agent by such Reference Treasury Dealer at 5:00 p.m., New York City time, on the third business day preceding such redemption date.

“*Treasury Rate*” means, with respect to any redemption date, the rate per annum equal to the semi-annual equivalent yield to maturity of the Comparable Treasury Issue, assuming a price for the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such redemption date.

Notice of any redemption will be mailed at least 30 days but not more than 60 days before the redemption date to each holder of the notes to be redeemed. Unless we default in payment of the redemption price, on and after the redemption date, interest will cease to accrue on the notes or portions thereof called for redemption. If less than all of the notes are to be redeemed, the particular notes or portions of such notes to be redeemed will be selected by The Depository Trust Company in such manner as it shall determine.

Notwithstanding the foregoing, any notice of redemption at our option may state that such redemption will be conditional upon receipt by the Trustee on or prior to the date fixed for such redemption, of money sufficient to pay the principal of and premium, if any, and interest on, such notes and that if such money has not been so received, such notice will be of no force and effect and we will not be required to redeem such notes.

Additional Covenant

Limitation on Liens

So long as any notes remain outstanding, we will not issue, assume, guarantee or permit to exist any indebtedness for borrowed money secured by a lien on any shares of capital stock or other equity interests of any majority-owned subsidiary, which shares of capital stock or other equity interests Great Plains Energy Incorporated itself now or hereafter directly owns, without effectively securing the notes equally and ratably with (or prior to) that indebtedness.

The foregoing limitation does not limit the following liens and indebtedness:

- any lien on shares of capital stock or other equity interests of an entity existing at the time that such entity becomes a majority-owned subsidiary;
- any lien on shares of capital stock or other equity interests created at the time Great Plains Energy Incorporated acquires those shares of capital stock or other equity interests, or within 270 days after that time, to secure all or a portion of the purchase price for those shares of capital stock or other equity interests;
- any lien on shares of capital stock or other equity interests in favor of the United States (or any State or territory thereof), any foreign country or any department, agency or instrumentality or political subdivision of those jurisdictions, to secure payment pursuant to any contract or statute;
- any lien on shares of capital stock or other equity interests arising in connection with court proceedings; provided that either: (1) the execution or enforcement of that lien is effectively stayed within 30 days after entry of the corresponding judgment (or the corresponding judgment has been discharged within that 30 day period) and the claims secured by that lien are being contested in good faith by appropriate proceedings; (2) the payment of that lien is covered in full by insurance and the insurance provider has not denied or contested coverage; or (3) so long as that lien is adequately bonded, any appropriate legal proceedings that have been duly initiated for the review of the corresponding judgment, decree or order have not been fully terminated or the periods within which those proceedings may be initiated have not expired;
- any lien on shares of capital stock or other equity interests in favor of Great Plains Energy Incorporated;
- any lien on shares of capital stock or other equity interests of any special purpose subsidiary formed for the sole and exclusive purpose of the acquisition, development, ownership or operation of an asset with indebtedness as to which there is no recourse to Great Plains Energy Incorporated or any of its affiliates other than such subsidiary;
- any lien on shares of capital stock or other equity interests of any special purpose, bankruptcy-remote subsidiary formed for the sole and exclusive purpose of engaging in activities in connection with the purchase, sale and financing of accounts receivable, payment intangibles, accounts or notes receivable and related rights and property in connection with and pursuant to a Permitted Securitization; and

- the replacement, extension or renewal of any lien referred to above, provided that: (1) the principal amount of indebtedness secured by those liens immediately after the replacement, extension or renewal may not exceed the principal amount of indebtedness secured by those liens immediately before the replacement, extension or renewal; and (2) the replacement, extension or renewal lien is limited to no more than the same proportion of the shares of capital stock or other equity interests as were covered by the lien that was replaced, extended or renewed.

A “Permitted Securitization” means any sale and/or contribution, or series of related sales and/or contributions, by Great Plains Energy Incorporated or any of its subsidiaries of accounts receivable, payment intangibles, notes receivable and related rights and property (collectively, “receivables”) or interests therein to a trust, corporation or other entity, where the purchase of such receivables or interests therein is funded in whole or in part by the incurrence or issuance by the purchaser or any successor purchaser of indebtedness or securities that are to receive payments from, or that represent interests in, the cash flow derived primarily from such receivables or interests therein.

Book-entry System

Upon issuance, the notes will be represented by one or more global securities deposited with, or on behalf of, The Depository Trust Company, as depository. The global securities representing the notes will be registered in the name of the depository or its nominee. Except under the circumstances described in the accompanying prospectus under “Book-Entry System,” the notes will not be issuable in definitive form. So long as the notes are represented by one or more global securities, the depository or its nominee will be considered the sole owner or holder of such notes for all purposes under the indenture, and the beneficial owners of such notes will be entitled only to those rights and benefits afforded to them in accordance with the depository’s regular operating procedures. The depository has confirmed to us, the underwriters and the Trustee that it intends to follow such procedures with respect to the notes. A further description of the depository’s procedures with respect to global securities is set forth in the accompanying prospectus under “Book-Entry System.”

UNDERWRITING (CONFLICTS OF INTEREST)

Subject to the terms and conditions contained in an underwriting agreement, dated as of the date of this prospectus supplement between us and the underwriters named below, for whom J.P. Morgan Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated and Mitsubishi UFJ Securities (USA), Inc. are acting as representatives, we have agreed to sell to each underwriter, and each underwriter has severally agreed to purchase from us, the principal amount of notes that appears opposite its name in the table below:

<u>Underwriter</u>	<u>Principal Amount of Notes</u>
J.P. Morgan Securities LLC	\$
Merrill Lynch, Pierce, Fenner & Smith Incorporated	
Mitsubishi UFJ Securities (USA), Inc.	
U.S. Bancorp Investments, Inc.	
Valdés & Moreno, Inc.	
Total	\$

The underwriters are offering the notes subject to their acceptance of the notes from us and subject to prior sale. The underwriting agreement provides that the obligations of the several underwriters to pay for and accept delivery of the notes offered by this prospectus supplement are subject to certain conditions. The underwriters are obligated to take and pay for all of the notes offered by this prospectus supplement if any such notes are taken.

The underwriters initially propose to offer the notes to the public at the public offering price that appears on the cover page of this prospectus supplement. In addition, the underwriters may offer the notes to certain dealers at prices that represent a concession not in excess of % of the principal amount of the notes. Any underwriter may allow, and any such dealer may reallow, a concession not in excess of % of the principal amount of the notes to certain other dealers. After the initial offering of the notes, the underwriters may from time to time vary the offering prices and other selling terms. The underwriters may offer and sell notes through certain of their affiliates.

The following table shows the underwriting discount that we will pay to the underwriters in connection with the offering of the notes:

	<u>Paid by Us</u>
Per Note	%
Total	\$

Expenses associated with this offering to be paid by us, other than underwriting discounts, are estimated to be approximately \$.

We have also agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments which the underwriters may be required to make in respect of any such liabilities.

The notes are a new issue of securities, and there is currently no established trading market for the notes. We do not intend to apply for the notes to be listed on any securities exchange or to arrange for the notes to be quoted on any quotation system. The underwriters have advised us that they intend to make a market in the notes, but they are not obligated to do so. At their sole discretion, the underwriters may discontinue any market making in the notes at any time without notice. Accordingly, we cannot assure you that a liquid trading market will develop for the notes, that you will be able to sell your notes at a particular time or that the prices you receive when you sell will be favorable.

In connection with the offering of the notes, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the prices of the notes. Specifically, the underwriters may overallocate in connection with the offering of the notes, creating syndicate short positions. In addition, the underwriters may bid for and purchase notes in the open market to cover syndicate short positions or to stabilize the price of the notes. Finally, the underwriting syndicate may reclaim selling concessions allowed for distributing the notes in the offering if the syndicate repurchases previously distributed notes in syndicate covering transactions, stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market prices of the notes above independent market levels. The underwriters are not required to engage in any of these activities, and may end any of them at any time without notice.

Selling Restrictions

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a “Relevant Member State”), each underwriter has represented and agreed that with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State (the “Relevant Implementation Date”) it has not made and will not make an offer of notes which are the subject of the offering contemplated by this Prospectus to the public in that Relevant Member State other than:

- (a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- (b) to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the underwriters for any such offer; or
- (c) in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of notes shall require us or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an “offer of notes to the public” in relation to any notes in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the notes to be offered so as to enable an investor to decide to purchase or subscribe for the notes, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression “Prospectus Directive” means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State and the expression “2010 PD Amending Directive” means Directive 2010/73/EU.

United Kingdom

Each underwriter has represented and agreed that:

- (a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the “FSMA”)) received by it in connection with the issue or sale of the notes in circumstances in which Section 21(1) of the FSMA does not apply to us; and
- (b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Notes in, from or otherwise involving the United Kingdom.

Conflicts of Interest

The underwriters and their affiliates have provided and in the future may continue to provide investment banking, commercial banking and other financial services, including the provision of credit facilities, to us and

our affiliates in the ordinary course of business for which they have received and will receive customary compensation. Affiliates of certain of the underwriters are lenders under revolving credit agreements entered into separately with Great Plains Energy, KCP&L and GMO in August 2010. In connection with these arrangements, affiliates of J.P. Morgan Securities LLC acted as documentation agent and lender, affiliates of Merrill Lynch, Pierce, Fenner & Smith Incorporated acted as administrative agent, joint lead arranger and lender, affiliates of Mitsubishi UFJ Securities (USA), Inc. acted as syndication agent, joint lead arranger and lender and an affiliate of U.S. Bancorp Investments, Inc. acted as lender. A portion of the proceeds from this offering will be applied to pay all or a portion of the short-term borrowings under GMO's revolving credit facility.

Because affiliates of J.P. Morgan Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated, Mitsubishi UFJ Securities (USA), Inc. and U.S. Bancorp Investments, Inc. may each receive more than 5% of the net proceeds from the sales of the notes, a "conflict of interest" is deemed to exist under Rule 5121 of the Financial Industry Regulatory Authority ("FINRA"). Accordingly, this offering will be made in compliance with the applicable provisions of FINRA Rule 5121 and such underwriters will not sell any of the notes to discretionary accounts without the specific written approval of the account holder.

LEGAL MATTERS

Certain legal matters in connection with the offering of the notes will be passed upon for us by Mark English, Assistant General Counsel and Assistant Secretary and Dewey & LeBoeuf LLP, New York, New York. Certain legal matters will be passed upon for the underwriters by Davis Polk & Wardwell LLP, Menlo Park, California.

At May 1, 2011, Mr. English owned beneficially a number of shares of the Company's common stock, including restricted stock, and performance shares which may be paid in shares of common stock at a later date based on the Company's performance, which represented less than 0.1% of the total outstanding common stock.

EXPERTS

The consolidated financial statements, and the related financial statement schedules, incorporated in this prospectus supplement by reference from the Company's Annual Report on Form 10-K, and the effectiveness of Great Plains Energy Incorporated and its subsidiaries' internal control over financial reporting for the year ended December 31, 2010, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports which are incorporated herein by reference. Such financial statements and financial statement schedules have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

PROSPECTUS

Great Plains Energy Incorporated

Senior Debt Securities
Subordinated Debt Securities
Common Stock
Warrants
Stock Purchase Contracts
Stock Purchase Units

Great Plains Energy Incorporated (“Great Plains Energy”) may offer and sell, from time to time, these securities in one or more offerings. We may offer the securities simultaneously or at different times, in one or more separate series, in amounts, at prices and on terms to be determined at or prior to the time or times of sale.

This prospectus provides you with a general description of these securities. We will provide specific information about the offering and the terms of these securities in one or more supplements to this prospectus. The supplements may also add, update or change information contained in this prospectus. This prospectus may not be used to offer and sell our securities unless accompanied by a prospectus supplement. You should read this prospectus and the related prospectus supplements before you invest in these securities.

The common stock of Great Plains Energy Incorporated is listed on the New York Stock Exchange under the symbol “GXP.”

Our principal executive offices are located at 1201 Walnut Street, Kansas City, Missouri 64106-2124 and our telephone number is (816) 556-2200.

Investing in these securities involves risks. You should carefully consider the information referred to under the heading “Risk Factors” beginning on page 3 of this prospectus.

We may offer and sell these securities through one or more underwriters or agents. We will set forth in the related prospectus supplement the name of the underwriters or agents, the discount or commission received by them from us as compensation, our other expenses for the offering and sale of these securities and the net proceeds we receive from the sale. See “Plan of Distribution.”

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is May 11, 2009.

TABLE OF CONTENTS

	<u>Page</u>
<u>ABOUT THIS PROSPECTUS</u>	1
<u>CAUTIONARY STATEMENTS REGARDING CERTAIN FORWARD-LOOKING INFORMATION</u>	1
<u>GREAT PLAINS ENERGY INCORPORATED</u>	3
<u>RISK FACTORS</u>	3
<u>RATIO OF EARNINGS TO FIXED CHARGES</u>	3
<u>USE OF PROCEEDS</u>	4
<u>DESCRIPTION OF DEBT SECURITIES</u>	4
<u>DESCRIPTION OF COMMON STOCK</u>	13
<u>DESCRIPTION OF STOCK PURCHASE CONTRACTS AND STOCK PURCHASE UNITS OR WARRANTS FOR STOCK</u>	15
<u>BOOK-ENTRY SYSTEM</u>	15
<u>PLAN OF DISTRIBUTION</u>	18
<u>LEGAL MATTERS</u>	18
<u>EXPERTS</u>	18
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	19

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement filed with the Securities and Exchange Commission, or SEC, using a “shelf” registration process. By using this process, we may, from time to time, sell any combination of the securities described in this prospectus in one or more offerings. We may offer any of the following securities: senior debt securities or subordinated debt securities, each of which may be convertible into our common stock, common stock, stock purchase contracts and stock purchase units. We may also offer warrants to purchase shares of our common stock.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities, we will provide you with a supplement to this prospectus that will describe the specific terms of that offering. The prospectus supplement may also add, update or change the information contained in this prospectus. If there is any inconsistency between the information in this prospectus and the prospectus supplement, you should rely on the information in the prospectus supplement. The registration statement we filed with the SEC includes exhibits that provide more detail on descriptions of the matters discussed in this prospectus. Before you invest in our securities, you should carefully read the registration statement (including the exhibits) of which this prospectus forms a part, this prospectus, the applicable prospectus supplement and the documents incorporated by reference into this prospectus. The incorporated documents are described under “Where You Can Find More Information.”

You should rely only on the information contained or incorporated by reference in this prospectus and any prospectus supplement, or in any free writing prospectus. We have not, and the underwriters have not, authorized anyone to provide you with different information and neither we nor the underwriters of any offering of securities will authorize anyone else to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the underwriters are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, any prospectus supplement and the documents incorporated by reference is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

Unless the context otherwise requires or as otherwise indicated, when we refer to “Great Plains Energy,” the “Company,” “we,” “us” or “our” in this prospectus or when we otherwise refer to ourselves in this prospectus, we mean Great Plains Energy Incorporated and its subsidiaries, unless the context clearly indicates otherwise.

CAUTIONARY STATEMENTS REGARDING CERTAIN FORWARD-LOOKING INFORMATION

This prospectus and the documents incorporated or deemed incorporated by reference as described under the heading “Where You Can Find More Information” contain forward-looking statements that are not based on historical facts. In some cases, you can identify forward-looking statements by use of the words “may,” “should,” “expect,” “plan,” “anticipate,” “estimate,” “predict,” “potential,” or “continue.” Forward-looking statements include, but are not limited to, statements regarding the outcome of regulatory proceedings, cost estimates for our Comprehensive Energy Plan and other matters affecting future operations. These forward-looking statements are based on assumptions, expectations, and assessments made by our management in light of their experience and their perception of historical trends, current conditions, expected future developments and other factors they believe to be appropriate. Any forward-looking statements are not guarantees of our future performance and are subject to risks and uncertainties, including those discussed under the heading “Risk Factors” in this prospectus, in any prospectus supplement, and in our other SEC filings. These risks and uncertainties could cause actual results, developments and business decisions to differ materially from those contemplated or implied by forward-looking statements. Consequently, you should recognize these statements for what they are and we caution you not to rely upon them as facts. We claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995 for all forward-looking statements. We disclaim any duty to update the forward-looking statements, which apply only as of the date of this prospectus. Some of the factors that may cause actual results, developments and business

decisions to differ materially from those contemplated by these forward-looking statements include the following:

- 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 and the Company;
- 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 subsidiaries of the Company 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;
- 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 ability to successfully integrate the operations of Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company and the timing and amount of resulting synergy savings; and
- other risks and uncertainties.

This list of factors is not all-inclusive because it is not possible to predict all factors. You should also carefully consider the information contained under the heading “Risk Factors” in this prospectus, any prospectus supplement, and in our other SEC filings.

GREAT PLAINS ENERGY INCORPORATED

Great Plains Energy Incorporated, a Missouri corporation incorporated in 2001 and headquartered in Kansas City, Missouri, is a public utility holding company and does not own or operate any significant assets other than the stock of its subsidiaries. Our wholly owned direct subsidiaries with operations or active subsidiaries are as follows:

- Kansas City Power & Light Company (“KCP&L”) is an integrated, regulated electric utility that provides electricity to customers primarily in the states of Missouri and Kansas. KCP&L has one wholly owned subsidiary, Kansas City Power & Light Receivables Company (“Receivables Company”).
- KCP&L Greater Missouri Operations Company (“GMO”) is an integrated, regulated electric utility that primarily provides electricity to customers in the state of Missouri. GMO also provides regulated steam service to certain customers in the St. Joseph, Missouri area. GMO wholly owns MPS Merchant Services, Inc., which has certain long-term natural gas contracts remaining from its former non-regulated trading operations. Great Plains Energy acquired GMO on July 14, 2008.
- Great Plains Energy Services Incorporated (“Services”) obtains certain goods and third-party services for us and our subsidiaries. On December 16, 2008, Services employees were transferred to KCP&L.
- KLT Inc. is an intermediate holding company that primarily holds investments in affordable housing limited partnerships.

RISK FACTORS

Investing in our securities involves risks. Our business is influenced by many factors that are difficult to predict, involve uncertainties that may materially affect actual results and are often beyond our control. You should carefully consider the information under the heading “Risk Factors” in:

- any prospectus supplement relating to any securities we are offering;
- our annual report on Form 10-K for the fiscal year ended December 31, 2008, which is incorporated by reference into this prospectus; and
- documents we file with the SEC after the date of this prospectus and which are deemed incorporated by reference into this prospectus.

RATIO OF EARNINGS TO FIXED CHARGES

The following table shows our ratio of earnings to fixed charges for the periods indicated:

Three Months Ended	Fiscal Years Ended December 31,				
March 31, 2009	2008	2007	2006	2005	2004
(a)	2.26	2.53	3.50	3.09	2.77

(a) A \$4.5 million deficiency in earnings caused the ratio of earnings to fixed charges to be less than a one-to-one coverage.

For purposes of computing the ratios of earnings to fixed charges: (i) earnings consist of income before deducting net provisions for income taxes, adjustments for minority interests in subsidiaries and equity investment losses, and fixed charges; and (ii) fixed charges consist of interest on debt, amortization of debt discount, premium and expense, and the estimated interest component of lease payments and rentals.

USE OF PROCEEDS

Unless we inform you otherwise in a supplement to this prospectus, we anticipate using any net proceeds received by us from the issuance of any of the offered securities for general corporate purposes, including, among others:

- repayment of debt;
- repurchase, retirement or refinancing of other securities;
- funding of construction expenditures;
- investments in subsidiaries; and
- acquisitions.

Pending such uses, we may also invest the proceeds in certificates of deposit, United States government securities or certain other short-term interest-bearing securities. If we decide to use the net proceeds from a particular offering of securities for a specific purpose, we will describe that in the related prospectus supplement.

DESCRIPTION OF DEBT SECURITIES

General. The senior debt securities and the subordinated debt securities, which we refer to collectively as the debt securities, will represent unsecured obligations of Great Plains Energy Incorporated exclusively, and not the obligation of any of our subsidiaries. We may issue one or more series of debt securities directly to the public or as part of a stock purchase unit from time to time. We expect that each series of senior debt securities or subordinated debt securities will be issued as a new series of debt securities under one of two separate indentures, as each may be amended or supplemented from time to time. We will issue the senior debt securities in one or more series under the senior indenture that we have entered into with The Bank of New York Mellon Trust Company, N.A., as successor trustee. We will issue the subordinated debt securities in one or more series under a subordinated indenture between a trustee and us. The senior indenture, the form of the subordinated indenture and the form of any supplemental indenture or other instrument establishing the debt securities of a particular series are filed as exhibits to, or will be subsequently incorporated by reference in, the registration statement of which this prospectus is a part. Each indenture has been or will be qualified under the Trust Indenture Act of 1939 (“Trust Indenture Act”). The following summaries of certain provisions of the senior indenture, the subordinated indenture and the applicable debt securities do not purport to be complete and are subject to, and qualified in their entirety by, all of the provisions of the senior indenture or the subordinated indenture, as the case may be, and the applicable debt securities. We may also sell hybrid or novel securities now existing or developed in the future that combine certain features of the debt securities and other securities described in this prospectus.

We may authorize the issuance and provide for the terms of a series of debt securities by or pursuant to a resolution of our Board of Directors or any duly authorized committee thereof or pursuant to a supplemental indenture or to a company order, as described in the indentures. There will be no requirement under either the senior indenture or the subordinated indenture that our future issuances of debt securities be issued exclusively under either indenture. We will be free to employ other indentures or documentation containing provisions different from those included in either indenture or applicable to one or more issuances of senior debt securities or subordinated debt securities, as the case may be, in connection with future issuances of other debt securities. The senior indenture and the subordinated indenture will provide that the applicable debt securities will be issued in one or more series, may be issued at various times, may have differing maturity dates and may bear interest at differing rates. We need not issue all debt securities of one series at the same time and, unless otherwise provided, we may reopen a series, without the consent of the holders of the senior debt securities or the subordinated debt securities of that series, as the case may be, for issuances of additional senior debt securities or subordinated debt securities of that series, as applicable. One or more series of the debt securities may be issued with the same or various maturities at par, above par or at a discount. Debt securities bearing no interest or interest at a rate which, at the time of issuance, is below the market rate

(“Original Issue Discount Securities”) will be sold at a discount (which may be substantial) below their stated principal amount. Federal income tax consequences and other special considerations applicable to any such Original Issue Discount Securities will be described in the prospectus supplement relating thereto. Unless otherwise described in the applicable prospectus supplement, neither indenture described above will limit the aggregate amount of debt, including secured debt, we or our subsidiaries may incur. Both indentures will also permit us to merge or consolidate or to transfer our assets, subject to certain conditions (see “— Consolidation, Merger and Sale or Disposition of Assets” below).

Ranking. The debt securities will be direct unsecured obligations of Great Plains Energy Incorporated exclusively, and not the obligation of any of our subsidiaries. The senior debt securities will rank equally with all of Great Plains Energy Incorporated’s unsecured and unsubordinated debt and the subordinated debt securities will be junior in right of payment to our Senior Indebtedness (including senior debt securities), as described under the heading “— Subordination.” At March 31, 2009, Great Plains Energy Incorporated had approximately \$1,405.1 million of outstanding Senior Indebtedness (as defined below) (including guarantees of \$1,297.1 million of GMO indebtedness) and no subordinated indebtedness.

Great Plains Energy Incorporated is a holding company that derives substantially all of its income from its operating subsidiaries. As a result, our cash flows and consequent ability to service our debt, including the debt securities, are dependent upon the earnings of our subsidiaries and distribution of those earnings to us and other payments or distributions of funds by our subsidiaries to us, including payments of principal and interest under intercompany indebtedness. Our operating subsidiaries are separate and distinct legal entities and will have no obligation, contingent or otherwise, to pay any dividends or make any other distributions (except for payments required pursuant to the terms of intercompany indebtedness) to us or to otherwise pay amounts due with respect to the debt securities or to make specific funds available for such payments. Furthermore, except to the extent we have a priority or equal claim against our subsidiaries as a creditor, the debt securities will be effectively subordinated to debt at the subsidiary level because, as the common shareholder of our subsidiaries, we will be subject to the prior claims of creditors of our subsidiaries. At March 31, 2009, our subsidiaries had approximately \$3,296.9 million of aggregate outstanding debt (including debt guaranteed by Great Plains Energy Incorporated).

Provisions of a Particular Series. The prospectus supplement applicable to each issuance of debt securities will specify, among other things:

- the title and any limitation on aggregate principal amount of the debt securities;
- the original issue date of the debt securities;
- the date or dates on which the principal of any of the debt securities is payable;
- the fixed or variable interest rate or rates, or method of calculation of such rate or rates, for the debt securities, and the date from which interest will accrue;
- the terms, if any, regarding the optional or mandatory redemption of any debt securities, including the redemption date or dates, if any, and the price or prices applicable to such redemption;
- the denominations in which such debt securities will be issuable;
- the period or periods within which, the price or prices at which and the terms and conditions upon which any debt securities may be repaid, in whole or in part, at the option of the holder thereof;
- our obligation, if any, to redeem, purchase, or repay the debt securities pursuant to any sinking fund or analogous provision or at the option of a holder thereof and the period or periods within which, the price or prices at which, and the terms and conditions upon which the debt securities shall be redeemed, purchased, or repaid pursuant to such obligation;
- whether the debt securities are to be issued in whole or in part in the form of one of more global securities and, if so, the identity of the depository for such global security or global securities;
- the place or places where the principal of, and premium, if any, and interest, if any, shall be payable;

Table of Contents

- any addition, deletion or modification to the events of default applicable to that series of debt securities and the covenants for the benefit of the holders of that series;
- any restrictions on the declaration of dividends or the requirement to maintain certain asset ratios or the creation and maintenance of reserves;
- any remarketing features of the debt securities;
- any collateral, security, assurance, or guarantee for the debt security;
- if other than the principal amount thereof, the portion of the principal amount of the debt securities payable upon declaration of acceleration of the maturity of the debt securities;
- the securities exchange(s), if any, on which the debt securities will be listed;
- the terms, if any, pursuant to which debt securities may be converted into or exchanged for shares of our capital stock or other securities;
- any interest deferral or extension provisions;
- the applicability of or any change in the subordination provisions for a series of debt securities;
- the terms of any warrants we may issue to purchase debt securities; and
- any other terms of the debt securities not inconsistent with the provisions of the applicable indenture.

Subordination. The subordinated debt securities will be subordinate and junior in right of payment to all of our Senior Indebtedness, as defined below.

In the event:

- of any bankruptcy, insolvency, receivership or other proceedings or any dissolution, winding-up, liquidation or reorganization, whether voluntary or involuntary, of Great Plains Energy Incorporated,
- that a default shall have occurred with respect to the payment of principal of or interest on or other monetary amounts due and payable on any Senior Indebtedness, and such default continues beyond any applicable grace period and shall not have been cured, waiver or ceased to exist, or
- any other default has occurred and continues without cure or waiver (after the expiration of any applicable grace period) pursuant to which the holders of Senior Indebtedness are permitted to accelerate the maturity of such Senior Indebtedness,

then all Senior Indebtedness must be paid, or provision for such payment be made, in full before the holders of the subordinated debt securities are entitled to receive or retain any payment (including redemption and sinking fund payments).

In addition, upon the maturity of the principal of any Senior Indebtedness by lapse of time, acceleration or otherwise, all matured principal of and interest and premium, if any, on such Senior Indebtedness, must be paid in full before any payment of principal of, premium, if any, or interest on, the subordinated debt securities may be made or before any subordinated debt securities can be acquired by Great Plains Energy Incorporated.

Upon the payment in full of all Senior Indebtedness, the rights of the holders of the subordinated debt securities will be subrogated to the rights of the holders of Senior Indebtedness to receive payments or distributions applicable to Senior Indebtedness until all amounts owing on the subordinated debt securities are paid in full. If provided in the applicable prospectus supplement, limited subordination periods may apply in the event of non-payment defaults relating to Senior Indebtedness in situations where there has not been an acceleration of Senior Indebtedness.

As defined in the subordinated indenture, the term “Senior Indebtedness” means:

(1) obligations (other than non-recourse obligations, the indebtedness issued under, and subject to the subordination provisions of, the subordinated indenture and other obligations which are either effectively by their terms or expressly made subordinate to or *pari passu* with the subordinated debt securities) of, or

guaranteed (except to the extent our payment obligations under any such guarantee are effectively by their terms or expressly made subordinate to or *pari passu* with the subordinated debt securities) or assumed by, us for

- borrowed money (including both senior and subordinated indebtedness for borrowed money (other than the subordinated debt securities and other indebtedness which is effectively by its terms or expressly made subordinate to or *pari passu* with the subordinated debt securities)); or
- the payment of money relating to any lease which is capitalized on our balance sheet in accordance with generally accepted accounting principles as in effect from time to time;

(2) indebtedness evidenced by bonds, debentures, notes or other similar instruments issued by us (other than such instruments that are effectively by their terms or expressly made subordinate to or *pari passu* with the subordinated debt securities),

and in each case, amendments, renewals, extensions, modifications and refundings of any such indebtedness or obligations with Senior Indebtedness, whether existing as of the date of the subordinated indenture or subsequently incurred by us.

However, trade accounts payable and accrued liabilities arising in the ordinary course of business will not be Senior Indebtedness.

The subordinated indenture will not limit the aggregate amount of Senior Indebtedness that we may issue. At March 31, 2009, the outstanding Senior Indebtedness of Great Plains Energy Incorporated totaled approximately \$1,405.1 million (including guarantees of \$1,297.1 million of GMO indebtedness).

Registration, Transfer and Exchange. Unless otherwise indicated in the applicable prospectus supplement, each series of debt securities will initially be issued in the form of one or more global securities, in registered form, without coupons, as described under “Book-Entry System.” The global securities will be registered in the name of a depository, or its nominee, and deposited with, or on behalf of, the depository. Except in the circumstances described under “Book-Entry System,” owners of beneficial interests in a global security will not be entitled to have debt securities registered in their names, will not receive or be entitled to receive physical delivery of any debt securities and will not be considered the registered holders thereof under the applicable indenture.

Debt securities of any series will be exchangeable for other debt securities of the same series of any authorized denominations and of a like aggregate principal amount and tenor. Subject to the terms of the applicable indenture and the limitations applicable to global securities, debt securities may be presented for exchange or registration of transfer-duly endorsed or accompanied by a duly executed instrument of transfer-at the office of any transfer agent we may designate for such purpose, without service charge but upon payment of any taxes and other governmental charges, and upon satisfaction of such other reasonable requirements as are described in the applicable indenture.

Unless otherwise indicated in the applicable prospectus supplement, the transfer agent will be the trustee under the applicable indenture. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

Payment and Paying Agents. Principal of and interest and premium, if any, on debt securities issued in the form of global securities will be paid in the manner described under “Book-Entry System” or as otherwise set forth in the applicable prospectus supplement.

Unless otherwise indicated in the applicable prospectus supplement, the principal of and any premium and interest on debt securities of a particular series in the form of certificated securities will be payable at the office of the applicable trustee or at the authorized office of any paying agent or paying agents upon presentation and surrender of such debt securities. We may at any time designate additional paying agents or rescind the designation of any paying agent or approve a change in the office through which any paying agent

acts, except that we will be required to maintain a paying agent in each place of payment for the debt securities of a particular series. Unless otherwise indicated in the applicable prospectus supplement, interest on the debt securities of a particular series, other than interest at maturity, that are in the form of certificated securities will be paid by check payable in clearinghouse funds mailed to the person entitled thereto at such person's address as it appears on the register for such debt securities maintained by the applicable trustee. All monies we pay to a trustee or a paying agent for the payment of the principal of, and premium or interest, if any, on, any debt security which remain unclaimed at the end of two years after such principal, premium or interest shall have become due and payable will be repaid to us, and the holder of such debt security thereafter may look only to us for payment thereof. However, any such payment shall be subject to escheat pursuant to state abandoned property laws.

Redemption. Any terms for the optional or mandatory redemption of the debt securities will be set forth in the applicable prospectus supplement. Unless otherwise indicated in the applicable prospectus supplement, debt securities that are redeemable by us will be redeemable only upon notice by mail not less than 30 nor more than 60 days prior to the date fixed for redemption, and, if less than all the debt securities of a series are to be redeemed, the particular debt securities to be redeemed will be selected by such method as shall be provided for any particular series, or in the absence of any such provision, by the trustee in such manner as it shall deem fair and appropriate.

Any notice of redemption at our option may state that such redemption will be conditional upon receipt by the trustee or the paying agent or agents, on or prior to the date fixed for such redemption, of money sufficient to pay the principal of and premium, if any, and interest on, such debt securities and that if such money has not been so received, such notice will be of no force and effect and we will not be required to redeem such debt securities.

Consolidation, Merger and Sale or Disposition of Assets. We may, without the consent of the holders of any debt securities, consolidate with or merge into any other corporation or sell, transfer or otherwise dispose of our properties as or substantially as an entirety to any person, provided that:

- the successor or transferee corporation or the person which receives such properties pursuant to such sale, transfer or other disposition is a corporation organized and existing under the laws of the United States of America, any state thereof or the District of Columbia;
- the successor or transferee corporation or the person which receives such properties pursuant to such sale, transfer or other disposition assumes by supplemental indenture the due and punctual payment of the principal of and premium and interest, if any, on all the debt securities outstanding under each indenture and the performance of every covenant of each indenture to be performed or observed by us;
- we have delivered to the trustees for such debt securities an officer's certificate and an opinion of counsel as will be provided in each of the indentures; and
- immediately after giving effect to the transaction, no event of default (see "— Events of Default") or event that, after notice or lapse of time, or both, would become an event of default, shall have occurred and be continuing.

Upon any such consolidation, merger, sale, transfer or other disposition of our properties (except transfers related to a lease of our properties) as or substantially as an entirety, the successor corporation formed by such consolidation or into which we are merged or the person to which such sale, transfer or other disposition is made shall succeed to, and be substituted for, and may exercise every right and power of, us under the applicable indenture with the same effect as if such successor corporation or person had been named as us therein, and we will be released from all obligations under the applicable indenture.

Modification. Without the consent of any holder of debt securities, the trustee for such debt securities and we may enter into one or more supplemental indentures for any of the following purposes:

- to supply omissions, cure any ambiguity or inconsistency or correct or supplement any defective or inconsistent provision, which actions, in each case, are not inconsistent with the applicable indenture or prejudicial to the interests of the holders of debt securities of any series in any material respect;

Table of Contents

- to change or eliminate any provision of the applicable indenture, provided that any such change or elimination will become effective with respect to such series only when there is no debt security of such series outstanding created prior to the execution of such supplemental indenture which is entitled to the benefit of such provision, or such change or elimination is applicable only to debt securities of such series issued after the effective date of such change or elimination;
- to establish the form or terms of debt securities of any series as permitted by the applicable indenture;
- to evidence the assumption of our covenants in the applicable indenture and the debt securities by any permitted successor;
- to grant to or confer upon the trustee for any debt securities for the benefit of the holders of such debt securities, any additional rights, remedies, powers or authority;
- to permit the trustee for any debt securities to comply with any duties imposed upon it by law;
- to specify further the duties and responsibilities of, and to define further the relationship among, the trustee for any debt securities, any authenticating agent and any paying agent, and to evidence the succession of a successor trustee as permitted under the applicable indenture;
- to add to our covenants for the benefit of the holders of all or any series of outstanding debt securities, to add to the security of all debt securities, to surrender any right or power conferred upon us by the applicable indenture or to add any additional events of default with respect to all or any series of outstanding debt securities; and
- to make any other change that is not prejudicial to the holders of any debt securities.

The senior indenture provides that, except as provided above, the consent of the holders of a majority in aggregate principal amount of the senior debt securities of all series then outstanding, considered as one class, is required for the purpose of adding any provisions to, or changing in any manner, or eliminating any of the provisions of, the senior indenture pursuant to one or more supplemental indentures or of modifying or waiving in any manner the rights of the holders of the senior debt securities; provided, however, that if less than all of the series of senior debt securities outstanding are directly affected by a proposed supplemental indenture, then the consent only of the holders of a majority in aggregate principal amount of the outstanding senior debt securities of all series so directly affected, considered as one class, will be required.

The subordinated indenture will provide that, except as provided above, the consent of the holders of (i) a majority in aggregate principal amount of debt securities of all series then outstanding under the subordinated indenture that are subject to the subordination provision of the subordinated indenture, considered as one class and (ii) a majority in aggregate principal amount of debt securities of all series then outstanding under the subordinated indenture that are not subject to the subordination provision of the subordinated indenture, considered as one class, is required for the purpose of adding any provisions to, or changing in any manner, or eliminating any of the provisions of, the subordinated indenture pursuant to one or more supplemental indentures or of modifying or waiving in any manner the rights of the holders of the debt securities issued under the subordinated indenture; provided, however, that if less all series of debt securities outstanding under the subordinated indenture are directly affected by a proposed supplemental indenture, then the consent only of the holders of (i) a majority in aggregate principal amount of outstanding debt securities issued under the subordinated indenture of all series so directly affected that are subject to the subordination provisions of the subordinated indenture, considered as one class, and (ii) a majority in aggregate principal amount of outstanding debt securities issued under the subordinated indenture of all series so directly affected that are not subject to the subordination provisions of the subordinated indenture, considered as one class, will be required.

Notwithstanding the foregoing, no such amendment or modification may, without the consent of each holder of outstanding debt securities affected thereby:

- change the maturity date of the principal of any debt security;
- reduce the principal amount of, or premium payable on, any debt security;

- reduce the rate of interest or change the method of calculating such rate, or extend the time of payment of interest, on any debt security;
- change the coin or currency of any payment of principal of, or any premium or interest on any debt security;
- change the date on which any debt security may be redeemed;
- adversely affect the rights of a holder to institute suit for the enforcement of any payment of principal of or any premium or interest on any debt security; or
- modify the foregoing requirements or reduce the percentage of outstanding debt securities necessary to modify or amend the applicable indenture or to waive events of default.

A supplemental indenture which changes or eliminates any covenant or other provision of the applicable indenture or any other supplemental indenture which has expressly been included solely for the benefit of one or more series of debt securities, or which modifies the rights of the holders of debt securities of such series with respect to such covenant or provision, will be deemed not to affect the rights under the applicable indenture of the holders of the debt securities of any other series.

Events of Default. Unless specifically deleted in a supplemental indenture or company order under which a series of debt securities is issued, or modified in any such supplemental indenture or company order, each of the following will constitute an event of default under the senior indenture or the subordinated indenture with respect to senior debt securities or subordinated debt securities, as the case may be, of any series:

- failure to pay principal of or premium, if any, on any debt security of such series, as the case may be, within one day after the same becomes due and payable;
- failure to pay interest on the debt securities of such series within 30 days after the same becomes due and payable;
- failure to observe or perform any of our other covenants or agreements in the applicable indenture (other than a covenant or agreement solely for the benefit of one or more series of debt securities other than such series) for 60 days after written notice to us by the trustee or to us and the trustee by the holders of at least 33% in aggregate principal amount of the outstanding debt securities of such series;
- certain events of bankruptcy, insolvency, reorganization, assignment or receivership; or
- any other event of default specified in the applicable prospectus supplement with respect to debt securities of a particular series.

Additional events of default with respect to a particular series of debt securities may be specified in a supplemental indenture or resolution of the Board of Directors establishing that series.

No event of default with respect to the debt securities of a particular series necessarily constitutes an event of default with respect to the debt securities of any other series issued under the applicable indenture.

If an event of default with respect to any series of debt securities occurs and is continuing, then either the trustee for such series or the holders of a majority in aggregate principal amount of the outstanding debt securities of such series, by notice in writing, may declare the principal amount of and interest on all of the debt securities of such series to be due and payable immediately; provided, however, that if an event of default occurs and is continuing with respect to more than one series of debt securities under a particular indenture, the trustee for such series or the holders of a majority in aggregate principal amount of the outstanding debt securities of all such series, considered as one class, may make such declaration of acceleration and not the holders of the debt securities of any one of such series.

At any time after an acceleration with respect to the debt securities of any series has been declared, but before a judgment or decree for the payment of the money due has been obtained, the event or events of default giving rise to such acceleration will be waived, and the acceleration will be rescinded and annulled, if:

- we pay or deposit with the trustee for such series a sum sufficient to pay all matured installments of interest on all debt securities of such series, the principal of and premium, if any, on the debt securities of such series which have become due otherwise than by acceleration and interest thereon at the rate or rates specified in such debt securities, interest upon overdue installments of interest at the rate or rates specified in such debt securities, to the extent that payment of such interest is lawful, and all amounts due to the trustee for such series under the applicable indenture; and
- any other event or events of default with respect to the debt securities of such series, other than the nonpayment of the principal of and accrued interest on the debt securities of such series which has become due solely by such acceleration, have been cured or waived as provided in the applicable indenture.

However, no such waiver or rescission and annulment shall extend to or shall affect any subsequent default or impair any related right.

Subject to the provisions of the applicable indenture relating to the duties of the trustee in case an event of default shall occur and be continuing, the trustee generally will be under no obligation to exercise any of its rights or powers under the applicable indenture at the request or direction of any of the holders unless such holders have offered to the trustee reasonable security or indemnity satisfactory to it. Subject to such provisions for the indemnification of the trustee and certain other limitations contained in the applicable indenture, the holders of a majority in aggregate principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or of exercising any trust or power conferred on the trustee, with respect to the debt securities of that series; provided, however, that if an event of default occurs and is continuing with respect to more than one series of debt securities, the holders of a majority in aggregate principal amount of the outstanding debt securities of all those series, considered as one class, will have the right to make such direction, and not the holders of the debt securities of any one series. Any direction provided by the holders shall not be in conflict with any rule of law or with the senior indenture or the subordinated indenture, as the case may be, and will not involve the trustee in personal liability in circumstances where reasonable indemnity would not, in the trustee's sole discretion, be adequate and the trustee may take any other action it deems proper that is not inconsistent with such direction.

The holders of a majority in aggregate principal amount of the outstanding debt securities of any series may waive any past default or event of default under the applicable indenture on behalf of all holders of debt securities of that series with respect to the debt securities of that series, except a default in the payment of principal of or any premium or interest on such debt securities. No holder of debt securities of any series may institute any proceeding with respect to the applicable indenture, or for the appointment of a receiver or a trustee, or for any other remedy, unless such holder has previously given to the trustee for such series written notice of a continuing event of default with respect to the debt securities of such series, the holders of a majority in aggregate principal amount of the outstanding debt securities of all series in respect of which an event of default has occurred and is continuing, considered as one class, have made written request to the trustee for such series to institute such proceeding and have offered reasonable indemnity, and the trustee for such series has failed to institute such proceeding within 60 days after such notice, request and offer. Furthermore, no holder of debt securities of any series will be entitled to institute any such action if and to the extent that such action would disturb or prejudice the rights of other holders of those debt securities.

Notwithstanding the foregoing, each holder of debt securities of any series has the right, which is absolute and unconditional, to receive payment of the principal of and premium and interest, if any, on such debt securities when due and to institute suit for the enforcement of any such payment, and such rights may not be impaired without the consent of that holder of debt securities.

The trustee, within 90 days after the occurrence of a default actually known to the trustee with respect to the debt securities of any series, is required to give the holders of the debt securities of that series notice of such default, unless cured or waived, but, except in the case of default in the payment of principal of, or premium, if any, or interest on the debt securities of that series, the trustee may withhold such notice if it determines in good faith that it is in the interest of such holders to do so. We will be required to deliver to the trustees for the debt securities each year a certificate as to whether or not, to the knowledge of the officers signing such certificate, we are in compliance with all conditions and covenants under the applicable indenture, determined without regard to any period of grace or requirement of notice under such indenture.

Conversion Rights. Any resolution of the Board of Directors or supplemental indenture establishing a series of debt securities may provide for conversion rights. We will describe in the applicable prospectus supplement the particular terms and conditions, if any, on which debt securities may be convertible into other securities. These terms will include the conversion rate, the conversion period, provisions as to whether conversion will be at our option or the option of the holder, events requiring an adjustment of the conversion rate and provisions affecting conversion in the event of the redemption of the debt securities. If we issue convertible debt securities, we will need to supplement the indenture to add applicable provisions regarding conversion.

Defeasance. Unless the applicable prospectus supplement states otherwise, we may elect either:

(1) to defease and be discharged from any and all obligations in respect of the debt securities of any series then outstanding under the applicable indenture (except for certain obligations to register the transfer or exchange of the debt securities of such series, replace stolen, lost or mutilated debt securities, maintain paying agencies and hold monies for payment in trust); or

(2) to be released from the obligations of the senior indenture with respect to the senior debt securities of any series or the subordinated indenture with respect to the subordinated debt securities of any series under any covenants applicable to the debt securities of such series which are subject to covenant defeasance as described in the applicable indenture, supplemental indenture or other instrument establishing such series.

In the case of either (1) or (2), the following conditions, among others, must be met:

- we will be required to deposit, in trust, with the applicable trustee money or U.S. government obligations, which through the payment of interest on those obligations and principal of those obligations in accordance with their terms will provide money, in an amount sufficient, without reinvestment, to pay all the principal of, premium, if any, and interest on the notes of such series on the dates payments are due (which may include one or more redemption dates designated by us),
- no event of default or event which with the giving of notice or lapse of time, or both, would become an event of default under the applicable indenture must have occurred and be continuing on the date of the deposit, and 91 days must have passed after the deposit has been made and, during that period, certain events of default must not have occurred and be continuing as of the end of that period,
- the deposit must not cause the applicable trustee to have any conflicting interest with respect to our other securities,
- we must have delivered an opinion of counsel to the effect that the holders will not recognize income, gain or loss for federal income tax purposes (and, in the case of paragraph (1) above, such opinion of counsel must be based on a ruling of the Internal Revenue Service or other change in applicable federal income tax law) as a result of the deposit or defeasance and will be subject to federal income tax in the same amounts, in the same manner and at the same times as if the deposit and defeasance had not occurred, and
- we must have delivered an officer's certificate to the trustee as provided in the applicable indenture.

We may exercise our defeasance option under paragraph (1) with respect to notes of any series notwithstanding our prior exercise of our covenant defeasance option under paragraph (2). If we exercise our defeasance option

under paragraph (1) for debt securities of any series, payment of the debt securities of such series may not be accelerated because of a subsequent event of default. If we exercise our covenant defeasance option for debt securities of any series, payment of the debt securities of such series may not be accelerated by reference to a subsequent breach of any of the covenants noted under paragraph (2) above. In the event we fail to comply with our remaining obligations with respect to the debt securities of any series under the applicable indenture after exercising our covenant defeasance option and the debt securities of such series are declared due and payable because of the subsequent occurrence of any event of default, the amount of money and U.S. government obligations on deposit with the applicable trustee may be insufficient to pay amounts due on the debt securities of such series at the time of the acceleration resulting from that event of default. However, we will remain liable for those payments.

Resignation or Removal of Trustee. The trustee may resign at any time upon written notice to us specifying the day upon which the resignation is to take effect and such resignation will take effect immediately upon the later of the appointment of a successor trustee and such specified day. The trustee may be removed at any time with respect to debt securities of any series by an instrument or concurrent instruments in writing filed with the trustee and signed by the holders, or their attorneys-in-fact, of a majority in aggregate principal amount of that series of debt securities then outstanding. In addition, so long as no event of default or event which, with the giving of notice or lapse of time or both, would become an event of default has occurred and is continuing, we may remove the trustee upon notice to the holder of each debt security outstanding and the trustee, and appointment of a successor trustee.

Concerning the Trustee for Senior Debt Securities. As of March 31, 2009, The Bank of New York Mellon Trust Company, N.A., which is the trustee under the senior indenture, and its affiliates were the trustees for \$100.0 million of our unsecured debt, and \$1,378.7 million of KCP&L's secured and unsecured debt (including Environmental Improvement Revenue Refunding debt issued by certain governmental entities), under several separate indentures. In addition, an affiliate of The Bank of New York Mellon Trust Company, N.A. is one of the lenders under separate credit agreements with us, KCP&L and GMO and is the trustee under a KCP&L nuclear decommissioning fund trust. Affiliates of The Bank of New York Mellon Trust Company, N.A. also perform other services for, and transact other banking business with our affiliates and us in the normal course and may do so in the future. Each indenture will provide that our obligations to compensate the trustee and reimburse the trustee for expenses, disbursements and advances will be secured by a lien prior to that of the applicable debt securities upon the property and funds held or collected by the trustee as such, except funds held in trust for the benefit of holders of particular debt securities.

Governing Law. The senior indenture is, and any senior debt securities will be, governed by New York law. The subordinated indenture and any subordinated debt securities will be governed by New York law.

DESCRIPTION OF COMMON STOCK

General. The following descriptions of our common stock and the relevant provisions of our Articles of Incorporation and by-laws are summaries and are qualified by references to our Articles of Incorporation and by-laws which have been previously filed with the SEC and are exhibits to this registration statement, of which this prospectus is a part, as well as the applicable Missouri General and Business Corporation Law.

Under our Articles of Incorporation, we are authorized to issue 262,962,000 shares of stock, divided into classes as follows:

- 390,000 shares of Cumulative Preferred Stock with a par value of \$100;
- 1,572,000 shares of Cumulative No Par Preferred Stock with no par value;
- 11,000,000 shares of Preference Stock with no par value; and
- 250,000,000 shares of Common Stock with no par value.

At May 1, 2009, 390,000 shares of Cumulative Preferred Stock and 123,201,106 shares of common stock were outstanding. No shares of Cumulative No Par Preferred Stock or Preference Stock are currently

outstanding but such shares may be issued from time to time in accordance with the Articles of Incorporation. The voting powers, designations, preferences, rights and qualifications, limitations, or restrictions of any series of Preference Stock are set by our Board of Directors when it is issued.

Dividend Rights and Limitations. The holders of our common stock are entitled to receive such dividends as our Board of Directors may from time to time declare, subject to any rights of the holders of our preferred and preference stock. Our ability to pay dividends depends primarily upon the ability of our subsidiaries to pay dividends or otherwise transfer funds to us.

Except as otherwise authorized by consent of the holders of at least two-thirds of the total number of shares of the total outstanding shares of Cumulative Preferred Stock and Cumulative No Par Preferred Stock, we may not pay or declare any dividends on common stock, other than dividends payable in common stock, or make any distributions on, or purchase or otherwise acquire for value, any shares of common stock if, after giving effect thereto, the aggregate amount expended for such purposes during the 12 months then ended (a) exceeds 50% of net income available for dividends on Preference Stock and common stock for the preceding 12 months, in case the total of Preference Stock and common stock equity would be reduced to less than 20% of total capitalization, or (b) exceeds 75% of such net income in case such equity would be reduced to between 20% and 25% of total capitalization, or (c) except to the extent permitted in subparagraphs (a) and (b), would reduce such equity below 25% of total capitalization.

Subject to certain limited exceptions, no dividends may be declared or paid on common stock and no common stock may be purchased or redeemed or otherwise retired for consideration (a) unless all past and current dividends on Cumulative Preferred Stock and Cumulative No Par Preferred Stock have been paid or set apart for payment and (b) except to the extent of retained earnings (earned surplus).

Voting Rights. Except as otherwise provided by law and subject to the voting rights of the outstanding Cumulative Preferred Stock, Cumulative No Par Preferred Stock, and Preference Stock, the holders of our common stock have the exclusive right to vote for all general purposes and for the election of directors through cumulative voting. This means each shareholder has a total vote equal to the number of shares they own multiplied by the number of directors to be elected. These votes may be divided among all nominees equally or may be voted for one or more of the nominees either in equal or unequal amounts. The nominees with the highest number of votes are elected.

The consent of specified percentages of holders of outstanding shares of Cumulative Preferred Stock and Cumulative No Par Preferred Stock is required to authorize certain actions which may affect their interests; and if, at any time, dividends on any of the outstanding shares of Cumulative Preferred Stock and Cumulative No Par Preferred Stock shall be in default in an amount equivalent to four or more full quarterly dividends, the holders of outstanding shares of all preferred stock, voting as a single class, shall be entitled (voting cumulatively) to elect the smallest number of directors necessary to constitute a majority of the full Board of Directors, which right shall continue in effect until all dividend arrearages shall have been paid.

Liquidation Rights. In the event of any dissolution or liquidation of Great Plains Energy Incorporated, after there shall have been paid to or set aside for the holders of shares of outstanding Cumulative Preferred Stock, Cumulative No Par Preferred Stock, and Preference Stock the full preferential amounts to which they are respectively entitled, the holders of outstanding shares of common stock shall be entitled to receive pro rata, according to the number of shares held by each, the remaining assets available for distribution.

Miscellaneous. The outstanding shares of common stock are, and the shares of common stock sold hereunder will be, upon payment for them, fully paid and nonassessable. The holders of our common stock are not entitled to any preemptive or preferential rights to subscribe for or purchase any part of any new or additional issue of stock or securities convertible into stock. Our common stock does not contain any sinking fund provisions, redemption provisions or conversion rights.

Transfer Agent and Registrar. Computershare Trust Company, N.A. acts as transfer agent and registrar for our common stock.

Business Combinations. The affirmative vote of the holders of at least 80% of the outstanding shares of common stock is required for the approval or authorization of certain business combinations with interested shareholders; provided, however, that such 80% voting requirement shall not be applicable if:

- the business combination shall have been approved by a majority of the continuing directors; or
- the cash or the fair market value of the property, securities, or other consideration to be received per share by holders of the common stock in such business combination is not less than the highest per-share price paid by or on behalf of the acquiror for any shares of common stock during the five-year period preceding the announcement of the business combination.

Listing. The common stock of Great Plains Energy Incorporated is listed on the New York Stock Exchange under the symbol “GXP.”

DESCRIPTION OF STOCK PURCHASE CONTRACTS AND STOCK PURCHASE UNITS OR WARRANTS FOR STOCK

We may issue stock purchase contracts, including contracts obligating holders to purchase from us, and obligating us to sell to the holders shares of our common stock at a future date or dates. We may fix the price and the number of shares of common stock subject to the stock purchase contract at the time we issue the stock purchase contracts or we may provide that the price and number of shares of common stock will be determined by reference to a specific formula set forth in the stock purchase contracts. The stock purchase contracts may be issued separately or as part of units, often known as stock purchase units, consisting of a stock purchase contract and:

- our senior debt securities or subordinated debt securities,
- debt obligations of third parties, including U.S. treasury securities,

securing the holders’ obligations to purchase the common stock under the stock purchase contracts. The stock purchase contracts may require us to make periodic payments to the holders of the stock purchase units or vice versa, and these payments may be unsecured or prefunded on some basis. The stock purchase contracts may require holders to secure their obligations under those contracts in a specified manner and, in certain circumstances, we may deliver newly issued prepaid stock purchase contracts, often known as prepaid securities, upon release to a holder of any collateral securing such holder’s obligation under the original stock purchase contract.

The applicable prospectus supplement will describe the terms of the stock purchase contracts or stock purchase units, including, if applicable, collateral or depository arrangements. The description in the applicable prospectus supplement will not contain all of the information you may find useful and reference will be made to the stock purchase contracts or stock purchase units and, if applicable, the collateral or depository arrangement relating to the stock purchase contracts or stock purchase units.

We may also issue warrants to purchase our common stock with the terms of such warrants and any related warrant agreement between us and a warrant agent being described in a prospectus supplement.

BOOK-ENTRY SYSTEM

Unless otherwise indicated in the applicable prospectus supplement, each series of debt securities will initially be issued in the form of one or more global securities, in registered form, without coupons. The global security will be deposited with, or on behalf of, the depository, and registered in the name of the depository or a nominee of the depository. Unless otherwise indicated in the applicable prospectus supplement, the depository for any global securities will be The Depository Trust Company, or DTC.

So long as the depository, or its nominee, is the registered owner of a global security, such depository or such nominee, as the case may be, will be considered the owner of such global security for all purposes under the applicable indenture, including for any notices and voting. Except in limited circumstances, the owners of

beneficial interests in a global security will not be entitled to have securities registered in their names, will not receive or be entitled to receive physical delivery of any such securities and will not be considered the registered holder thereof under the applicable indenture. Accordingly, each person holding a beneficial interest in a global security must rely on the procedures of the depository and, if such person is not a direct participant, on procedures of the direct participant through which such person holds its interest, to exercise any of the rights of a registered owner of such security.

Except as otherwise provided in any applicable prospectus supplement, global securities may be exchanged in whole for certificated securities only if the depository notifies us that it is unwilling or unable to continue as depository for the global securities or the depository has ceased to be a clearing agency registered under the Exchange Act and, in either case, we thereupon fail to appoint a successor depository within 90 days. We may decide to discontinue use of the system of book-entry-only transfers through DTC (or a successor securities depository), subject to DTC's procedures.

In any such case, we have agreed to notify the applicable trustee in writing that, upon surrender by the direct participants and indirect participants of their interest in such global securities, certificated securities representing the applicable securities will be issued to each person that such direct participants and indirect participants and the depository identify as being the beneficial owner of such securities.

The following is based solely on information furnished by DTC:

DTC will act as depository for the global securities. The global securities will be issued as fully-registered securities registered in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC. One fully-registered global security certificate will be issued for each issue of the global securities, each in the aggregate principal amount of such issue and will be deposited with DTC. If, however, the aggregate principal amount of any issue of a series of debt securities exceeds \$500 million, one certificate will be issued with respect to each \$500 million of principal amount and an additional certificate will be issued with respect to any remaining principal amount of such series. DTC is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934. DTC holds securities that its direct participants deposit with DTC. DTC also facilitates the post-trade settlement among direct participants of sales and other securities transactions, in deposited securities through electronic computerized book-entry transfers and pledges between direct participants' accounts, thereby eliminating the need for physical movement of securities certificates.

Direct participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is a wholly-owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies and clearing corporations that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly, which are referred to as indirect participants and, together with the direct participants, the participants. The rules applicable to DTC and its participants are on file with the SEC.

Purchases of global securities under the DTC system must be made by or through direct participants, who will receive a credit for the global securities on DTC's records. The ownership interest of each actual purchaser of each global security, or beneficial owner, is in turn to be recorded on the direct and indirect participants' records. Beneficial owners will not receive written confirmation from DTC of their purchase. Beneficial owners, however, are expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the direct or indirect participant through which the beneficial owner entered into the transaction. Transfers of ownership interests in the global securities are to be accomplished by entries made on the books of direct and indirect participants acting on behalf of beneficial

owners. Beneficial owners will not receive certificates representing their ownership interests in the global securities, except in the event that use of the book-entry system for the global securities is discontinued.

To facilitate subsequent transfers, all global securities deposited by direct participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of global securities with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual beneficial owners of the global securities; DTC's records reflect only the identity of the direct participants to whose accounts such global securities are credited which may or may not be the beneficial owners. The direct and indirect participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to direct participants, by direct participants to indirect participants, and by direct participants and indirect participants to beneficial owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial owners of global securities may wish to take certain steps to augment transmission to them of notices of significant events with respect to the global securities, such as redemptions, tenders, defaults, and proposed amendments to the security documents. For example, beneficial owners of global securities may wish to ascertain that the nominee holding the global securities for their benefit has agreed to obtain and transmit notices to beneficial owners, in the alternative, beneficial owners may wish to provide their names and addresses to the registrar and request that copies of the notices be provided directly to them.

If the global securities are redeemable, redemption notices shall be sent to DTC. If less than all of the global securities are being redeemed, DTC's practice is to determine by lot the amount of the interest of each direct participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the global securities unless authorized by a direct participant in accordance with DTC's procedures. Under its usual procedures, DTC mails an omnibus proxy to us as soon as possible after the record date. The omnibus proxy assigns Cede & Co.'s consenting or voting rights to those direct participants whose accounts the global securities are credited on the record date, identified in a listing attached to the omnibus proxy.

Principal, distributions, interest and premium payments, if any, on the global securities will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit direct participants' accounts upon DTC's receipt of funds and corresponding detail information from us or the trustee for such securities, on payable date in accordance with their respective holdings shown on DTC's records. Payments by participants to beneficial owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such participant and not of DTC, the trustee for such securities, or us, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal, distributions, interest and premium, if any, on any of the aforementioned securities represented by global securities to DTC is the responsibility of the appropriate trustee and us. Disbursement of such payments to direct participants shall be the responsibility of DTC, and disbursement of such payments to the beneficial owners shall be the responsibility of the participants.

The information in this section concerning DTC and DTC's book-entry system has been obtained from sources, including DTC, that we believe to be reliable, but we take no responsibility for the accuracy thereof.

The underwriters, dealers or agents of any of the securities may be direct participants of DTC.

None of the trustees, us or any agent for payment on or registration of transfer or exchange of any global security will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial interests in such global security or for maintaining, supervising or reviewing any records relating to such beneficial interests.

PLAN OF DISTRIBUTION

We may sell the securities in one or more of the following ways from time to time: (i) to underwriters for resale to the public or to institutional investors; (ii) directly to institutional investors; or (iii) through agents to the public or to institutional investors. The prospectus supplement with respect to each series of securities will set forth the terms of the offering of such securities, including the name or names of any underwriters or agents, the purchase price of such securities, and the proceeds to us from such sale, any underwriting discounts or agency fees and other items constituting underwriters' or agents' compensation, any initial public offering price, any discounts or concessions allowed or reallocated or paid to dealers and any securities exchange on which such securities may be listed.

If underwriters participate in the sale, such securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The securities may be offered to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more of those firms. The specific managing underwriter or underwriters, if any, will be named in the prospectus supplement relating to the particular securities together with the members of the underwriting syndicate, if any.

Unless otherwise set forth in the applicable prospectus supplement, the obligations of the underwriters to purchase any series of securities will be subject to certain conditions precedent and the underwriters will be obligated to purchase all of such securities being offered, if any are purchased.

We may sell the securities directly or through agents we designate from time to time. The applicable prospectus supplement will set forth the name of any agent involved in the offer or sale of the securities in respect of which such prospectus supplement is delivered and any commissions payable by us to such agent. Unless otherwise indicated in the applicable prospectus supplement, any agent will be acting on a best efforts basis for the period of its appointment.

Underwriters and agents may be entitled under agreements entered into with us to indemnification against certain civil liabilities, including liabilities under the Securities Act of 1933, as amended. Underwriters and agents may engage in transactions with, or perform services for, us in the ordinary course of business.

Each series of securities will be a new issue of securities and will have no established trading market. Any underwriters to whom securities are sold for public offering and sale may make a market in such securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice. The securities may or may not be listed on a national securities exchange.

LEGAL MATTERS

Legal matters with respect to the securities offered under this prospectus will be passed upon for us by Mark English, Assistant General Counsel and Assistant Secretary and Dewey & LeBoeuf LLP. Davis Polk & Wardwell will pass on certain matters for the underwriters, dealers, purchasers, or agents. At May 1, 2009, Mr. English owned beneficially a number of shares of the Company's common stock, including restricted stock, and performance shares which may be paid in shares of common stock at a later date based on the Company's performance, which represented less than 0.1% of the total outstanding common stock.

EXPERTS

The consolidated financial statements, and the related financial statement schedules, incorporated by reference in this prospectus from the Great Plains Energy Incorporated and subsidiaries Annual Report on Form 10-K for the year ended December 31, 2008, and the effectiveness of Great Plains Energy Incorporated and subsidiaries internal control over financial reporting have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports, which are incorporated herein by reference (which reports (1) express an unqualified opinion on the consolidated financial statements and financial statement schedules and include an explanatory paragraph regarding the adoption of new accounting

standards, and (2) express an unqualified opinion on the effectiveness of internal control over financial reporting). Such consolidated financial statements and financial schedules have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

The consolidated financial statements of Aquila, Inc. as of December 31, 2007 and 2006, and for each of the years in the three-year period ended December 31, 2007, have been incorporated by reference herein and in the registration statement, in reliance upon the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing. The audit report refers to the adoption of Financial Accounting Standards Board (FASB) Interpretation No. 48, Accounting for Uncertainty in Income Taxes — an interpretation of FASB Statement No. 109, Accounting for Income Taxes, and FASB Staff Position (FSP) AUG AIR-1, Accounting for Planned Major Maintenance Activities.

Great Plains Energy Incorporated has agreed to indemnify and hold KPMG LLP harmless against and from any and all legal costs and expenses incurred by KPMG LLP in successful defense of any legal action or proceeding that arises as a result of KPMG LLP's consent to the incorporation by reference of its audit report on Aquila, Inc.'s past financial statements incorporated by reference in this registration statement.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, and proxy statements and other information with the SEC through the SEC's Electronic Data Gathering, Analysis and Retrieval system and these filings are publicly available through the SEC's website (<http://www.sec.gov>). You may read and copy such material at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330.

The SEC allows us to "incorporate by reference" into this prospectus the information we file with them. This means that we can disclose important information to you by referring you to the documents containing the information. The information we incorporate by reference is considered to be included in and an important part of this prospectus and should be read with the same care. Information that we file later with the SEC that is incorporated by reference into this prospectus will automatically update and supersede this information. We are incorporating by reference into this prospectus the following documents that we have filed with the SEC and any subsequent filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 (excluding information deemed to be furnished and not filed with the SEC) until the offering of the securities described in this prospectus is completed:

- Our Annual Report on Form 10-K for the year ended December 31, 2008, filed with the SEC on February 27, 2009;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2009, filed with the SEC on May 11, 2009;
- Our Current Report on Form 8-K/A dated August 13, 2008 and filed with the SEC on August 14, 2008 (only with respect to the historical financial statements of Aquila, Inc. (now known as KCP&L Greater Missouri Operations Company, or "GMO") listed in Item 9.01(a) and set forth in Exhibit 99.1 thereto); and
- Our Current Reports on Form 8-K dated January 27, 2009 and filed with the SEC on January 28, 2009; February 10, 2009 (Item 8.01 only) and filed with the SEC on February 10, 2009; February 9, 2009 and filed with the SEC on February 13, 2009; March 6, 2009 and filed with the SEC on March 12, 2009; March 18, 2009 (Item 8.01 only) and filed with the SEC on March 19, 2009; March 19, 2009 and filed with the SEC on March 24, 2009; April 16, 2009 and filed with the SEC on April 22, 2009; April 21, 2009 and filed with the SEC on April 21, 2009; April 24, 2009 and filed with the SEC on April 30, 2009; and May 11, 2009 (reporting Items 8.01 and 9.01) and filed with the SEC on May 11, 2009.

Table of Contents

Our website is www.greatplainsenergy.com. Information contained on our website is not incorporated herein. We make available, free of charge, on or through our website, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. In addition, we make available on or through our website all other reports, notifications and certifications filed electronically with the SEC. You may obtain a free copy of our filings with the SEC by writing or telephoning us at the following address: Great Plains Energy Incorporated, 1201 Walnut Street, Kansas City, Missouri 64106-2124 (Telephone No.: 816-556-2200) Attention: Corporate Secretary, or by contacting us on our website.



GREAT PLAINS ENERGY

Great Plains Energy Incorporated

% Notes due

PROSPECTUS SUPPLEMENT

May , 2011

Joint Book-Running Managers

BofA Merrill Lynch

J.P. Morgan

Mitsubishi UFJ Securities

Senior Co-Manager

US Bancorp

Co-Manager

Valdés & Moreno, Inc.
