

OMB APPROVAL	
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**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>FERGUSON RANDALL C JR</u>  (Last) (First) (Middle) <u>C/O GREAT PLAINS ENERGY INCORPORATED</u> <u>1200 MAIN STREET</u>  (Street) <u>KANSAS CITY MO 64105</u>  (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>GREAT PLAINS ENERGY INC [ GXP ]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable)  <input checked="" type="checkbox"/> Director 10% Owner  Officer (give title below) Other (specify below)	
	3. Date of Earliest Transaction (Month/Day/Year) <u>06/01/2010</u>		
	4. If Amendment, Date of Original Filed (Month/Day/Year)		
6. Individual or Joint/Group Filing (Check Applicable Line)  <input checked="" type="checkbox"/> Form filed by One Reporting Person  Form filed by More than One Reporting Person			

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock								1,200	I	Keough Plan
Common Stock								6,355 <sup>(1)</sup>	D	

**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)		6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)	
				Code	V	(A)	(D)	Date Exercisable	Expiration Date						Title
Director Deferred Share Units	(2)	06/01/2010		A		3,223		(2)	(2)	Common Stock	3,223	\$0 <sup>(2)</sup>	7,943 <sup>(3)</sup>	D	

**Explanation of Responses:**

- Amount includes 37 shares acquired between February 10, 2009, and June 1, 2010, through participation in the Company's Dividend Reinvestment and Direct Stock Purchase Plan.
- Director Deferred Share Units are granted under the Long-Term Incentive Plan. Each unit represents the right-to-receive one share of Great Plains Energy Common Stock, plus stock reflecting reinvested dividends. Units are converted to stock and distributed on the January 31 next following the date of termination of service on the Board.
- Amount includes 264 Director Deferred Share Units accrued from February 10, 2009, through June 1, 2010, through dividend reinvestment.

**Remarks:**

Executed on behalf of Randall C. Ferguson, Jr. by Mark G. English, attorney-in-fact 06/03/2010

\*\* Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

\* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.