

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

OMB APPROVAL	
OMB Number:	3235-0287
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1. Name and Address of Reporting Person* <u>RIGGINS WILLIAM G</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) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>General Counsel and CLO</u>
	3. Date of Earliest Transaction (Month/Day/Year) <u>02/06/2010</u>	

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								2,913 ⁽¹⁾	I	401-k
Common Stock	02/06/2010		F		2,773 ⁽²⁾	D	\$17.44	22,068 ⁽³⁾	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)
					(A)	(D)	Date Exercisable	Expiration Date					
Stock Options (Right-to-buy) ⁽⁴⁾	\$25.55						02/06/2004	02/06/2011	Common Stock	6,000	6,000	D	
Stock Options (Right-to-buy) ⁽⁴⁾	\$24.9						02/05/2005	02/05/2012	Common Stock	6,000	6,000	D	
Stock Options (Right-to-buy)	\$27.73						08/05/2006	08/05/2013	Common Stock	1,000	1,000	D	

Explanation of Responses:

- Amount includes 99 shares acquired between May 5, 2009, and February 6, 2010, from automatic payroll deduction/investment and participation in the Company's 401-K Plan.
- Relinquished to the Company for withholding taxes incident to the vesting of restricted stock on February 6, 2010.
- Amount includes 632 shares acquired between May 5, 2009, and February 6, 2010, through participation in the Company's Dividend Reinvestment and Direct Stock Purchase Plan.
- Stock options granted in tandem with stock appreciation rights exercisable automatically in the event of a change in control as defined by the Long-Term Incentive Plan under which they are granted. Options may be exercised with cash or previously-owned shares of Common Stock.

Remarks:

William G. Riggins 02/09/2010

** 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.