

Fleming James C
 Form 4
 January 10, 2011

FORM 4

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549**

OMB APPROVAL

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
 Fleming James C

2. Issuer Name and Ticker or Trading Symbol
 WISCONSIN ENERGY CORP
 [WEC]

5. Relationship of Reporting Person(s) to Issuer
 (Check all applicable)

(Last) (First) (Middle)
 231 W. MICHIGAN STREET
 (Street)

3. Date of Earliest Transaction
 (Month/Day/Year)
 01/06/2011

____ Director _____ 10% Owner
 Officer (give title below) _____ Other (specify below)
 Executive VP & General Counsel

MILWAUKEE,, WI 53203
 (City) (State) (Zip)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 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)
Common Stock	01/06/2011		D	550.3831	D <u>(1)</u> 2,717 <u>(2)</u>	D	
Common Stock					808.113 <u>(3)</u>	I	ERSP

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

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 (9-02)

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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 Underlying Securities (Instr. 3 and 4)
				Code	V (A) (D)	Date Exercisable Expiration Date	Title Amount or Number of Shares
Phantom Stock Units	(4)	01/06/2011		A	550.3831	(5) (5)	Common Stock 550.3831

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Fleming James C 231 W. MICHIGAN STREET MILWAUKEE,, WI 53203			Executive VP & General Counsel	

Signatures

/s/ Joshua M. Erickson, as Attorney-in-fact
Date: 01/10/2011

__Signature of Reporting Person

Date

Explanation of Responses:

- * 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).
- (1) Upon the vesting of restricted stock granted to the reporting person on January 6 2006, the reporting person deferred the receipt of 550.3831 shares of common stock and received 550.3831 phantom stock units instead pursuant to the WEC Executive Deferred Compensation Plan (EDCP). As a result, the reporting person is reporting the disposition of 550.3831 shares of common stock in exchange for an equal number of phantom stock units.
 - (2) Includes shares acquired pursuant to a dividend reinvestment feature of Wisconsin Energy Corporation's Stock Plus Investment Plan in transactions exempt from Section 16 pursuant to Rule 16a-11.
 - (3) Includes shares acquired under Wisconsin Energy Corporation's Employee Retirement Savings Plan (ERSP) in transactions exempt from Section 16(b) pursuant to Rule 16b-3(c) and exempt from reporting pursuant to Rule 16a-3(f)(1)(i)(B). The number of shares in the ERSP attributable to any one participant varies with the price of the Common Stock. The information in this report is based on a plan statement dated as of December 31, 2010.
 - (4) One-for-one.
 - (5) These phantom stock units were accrued under the EDCP and are to be settled following the reporting person's retirement or other termination of employment.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure. Potential persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB number.