

Martin Susan H.
Form 4
May 14, 2012

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 *
Martin Susan H.

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 WEST MICHIGAN STREET
(Street)

3. Date of Earliest Transaction (Month/Day/Year)
05/10/2012

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

MILWAUKEE, WI 53203

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

(City) (State) (Zip)

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 Ownership (Instr. 4)
Common Stock	05/10/2012		M	V Amount (A) or (D) Price \$ 19.75	5,357.8479 (2)	D	
Common Stock	05/10/2012		S	V Amount (A) or (D) Price \$ 37	3,348 (1) 2,009.8479 (2)	D	
Common Stock					3,020.913 (3)	I	ERSP

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

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number.

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)	8. Amount or Number of Shares
Stock Option (right to buy)	\$ 19.75	05/10/2012		M	3,348	01/03/2009 01/03/2016	Common Stock	3,348

Reporting Owners

Reporting Owner Name / Address

Relationships

Director 10% Owner Officer Other

Martin Susan H.
231 WEST MICHIGAN STREET
MILWAUKEE, WI 53203

Executive VP & General Counsel

Signatures

/s/ Joshua M. Erickson, as
Attorney-in-Fact

05/14/2012

**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) This transaction was effected pursuant to a Rule 10b5-1 trading plan adopted by the reporting person on February 9, 2012.
- (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.
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 April 30, 2012.
- (3)

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.