

CF Industries Holdings, Inc.
 Form 4
 August 12, 2008

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 *
 Chase Stephen G

(Last) (First) (Middle)

C/O CF INDUSTRIES HOLDINGS, INC., 4 PARKWAY NORTH, SUITE 400

(Street)

DEERFIELD, IL 60015

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol
 CF Industries Holdings, Inc. [CF]

3. Date of Earliest Transaction
 (Month/Day/Year)
 08/11/2008

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

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

Director 10% Owner
 Officer (give title below) Other (specify below)
 VP, Corporate Planning

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)	
				(A) or (D)	Price			
				Code	V	Amount		
Common stock, par value \$0.01 per share	08/11/2008		M ⁽¹⁾	20,000	A	\$ 16	30,093	D
Common stock, par value \$0.01 per share	08/11/2008		S ⁽¹⁾	20,000	D	\$ 133.2008	10,093	D
	08/11/2008		M ⁽¹⁾	3,900	A	\$ 14.83	13,993	D

Common
stock, par
value
\$0.01 per
share

Common
stock, par
value 08/11/2008 S⁽¹⁾ 3,900 D \$ 133.2008 10,093 D
\$0.01 per
share

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

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 control number.

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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
Employee Stock Option (right to buy)	\$ 16	08/11/2008		M ⁽¹⁾	20,000	⁽²⁾ 08/10/2015	Common stock, par value \$0.01 per share 20,000
Employee Stock Option (right to buy)	\$ 14.83	08/11/2008		M ⁽¹⁾	3,900	⁽³⁾ 08/10/2016	Common stock, par value \$0.01 per share 3,900

Reporting Owners

Reporting Owner Name / Address

Relationships

Director 10% Owner Officer Other

Chase Stephen G
C/O CF INDUSTRIES HOLDINGS, INC.
4 PARKWAY NORTH, SUITE 400
DEERFIELD, IL 60015

VP,
Corporate
Planning

Signatures

/s/ Douglas C. Barnard, by power of
attorney

08/12/2008

__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) The sales reported in this Form 4 were effected pursuant to Rule 10b5-1 trading plans adopted by the reporting person on May 16, 2008.
- (2) The options vest in three equal installments on August 10, 2006, 2007, and 2008.
- (3) The options vest in three equal installments on August 10, 2007, 2008, and 2009.

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

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