

Warnecke David N
 Form 4
 February 27, 2007

FORM 4

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

OMB APPROVAL

OMB Number: 3235-0287
 Expires: January 31, 2005
 Estimated average burden hours per response... 0.5

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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 *
 Warnecke David N

(Last) (First) (Middle)
 CITYPLACE ONE, SUITE 300
 (Street)

ST. LOUIS, MO 63144

(City) (State) (Zip)

2. Issuer Name and Ticker or Trading Symbol
 ARCH COAL INC [ACI]

3. Date of Earliest Transaction (Month/Day/Year)
 02/23/2007

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-Marketing & Trading

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 Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|--|-----------------------------------|
| | | | Code | V | Amount | (A) or (D) | Price |
| Common Stock | 02/23/2007 | | A | | 800 | A | 11 5,800 |
| | | | | | | D | |

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

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SEC 1474 (9-02)

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

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| 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 |
| Restricted Stock Units | (2) | 02/23/2007 | | M | | 800 (3) (4) | Common Stock 800 |
| Employee Stock Option (right to buy) | \$ 32.99 | 02/22/2007 | | A | 62,200 | (5) 02/21/2017 | Common Stock 62,200 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|---|---------------|-----------|------------------------|-------|
| | Director | 10% Owner | Officer | Other |
| Warnecke David N CITYPLACE ONE SUITE 300 ST. LOUIS, MO 63144 | | | VP-Marketing & Trading | |

Signatures

/s/ Gregory A. Billhartz, 02/27/2007
 Attorney-in-Fact Date

**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 reporting person received 2,400 restricted stock units on February 23, 2006. The restricted stock units vest ratably over a three-year period. Upon vesting of 800 restricted stock units on February 23, 2007, the reporting person received 800 shares of common stock.
- (2) Each restricted stock unit represents a right to receive one share of common stock unless otherwise deferred, at the reporting person's election, pursuant to the Arch Coal, Inc. Executive Deferred Compensation Plan.
- (3) The reporting person received 2,400 restricted stock units on February 23, 2006. The restricted stock units vest ratably over a three-year period. On February 23, 2007, 800 restricted stock units vested.
- (4) The restricted stock units do not expire.
- (5) The option vests in three equal annual installments beginning on February 22, 2008.

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.