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# FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

| 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

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 APPF             | ROVAL     |
|----------------------|-----------|
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|-------------------------------------------------|-----|---|
|                                                 |     |   |
| 5 Relationship of Reporting Person(s) to Issuer |     | 1 |

| 1. Name and Address of Reporting Person <sup>*</sup> BURKE FRANK M |                      | erson*               | 2. Issuer Name and Ticker or Trading Symbol <u>ARCH COAL INC</u> [ ACI ] |                        | tionship of Reporting Pers<br>all applicable)<br>Director                                  | on(s) to Issuer<br>10% Owner |
|--------------------------------------------------------------------|----------------------|----------------------|--------------------------------------------------------------------------|------------------------|--------------------------------------------------------------------------------------------|------------------------------|
| (Last)<br>ONE CITYPL                                               | (First)<br>ACE DRIVE | (Middle)             | 3. Date of Earliest Transaction (Month/Day/Year)<br>06/15/2007           |                        | Officer (give title below)                                                                 | Other (specify below)        |
| (Street)<br>ST. LOUIS<br>(City)                                    | MO<br>(State)        | 63141<br>(Zip)       | 4. If Amendment, Date of Original Filed (Month/Day/Year)                 | 6. Indiv<br>Line)<br>X | idual or Joint/Group Filing<br>Form filed by One Repo<br>Form filed by More thar<br>Person | orting Person                |
|                                                                    |                      | Table I - Non-Deriva | ative Securities Acquired, Disposed of, or Benefi                        | cially (               | Owned                                                                                      |                              |

| Fitle of Security (Instr. 3) | 2. Transaction<br>Date<br>(Month/Day/Year) | if any | 3.<br>Transa<br>Code (<br>8) | ction | 4. Securities Acquired (A) or<br>Disposed Of (D) (Instr. 3, 4 and<br>5) |               |       | 5. Amount of<br>Securities<br>Beneficially<br>Owned Following | 6. Ownership<br>Form: Direct<br>(D) or Indirect<br>(I) (Instr. 4) | 7. Nature<br>of Indirect<br>Beneficial<br>Ownership |
|------------------------------|--------------------------------------------|--------|------------------------------|-------|-------------------------------------------------------------------------|---------------|-------|---------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------|
|                              |                                            |        | Code                         | v     | Amount                                                                  | (A) or<br>(D) | Price | Reported<br>Transaction(s)<br>(Instr. 3 and 4)                |                                                                   | (Instr. 4)                                          |

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

| 1. Title of<br>Derivative<br>Security<br>(Instr. 3) | 2.<br>Conversion<br>or Exercise<br>Price of<br>Derivative<br>Security | 3. Transaction<br>Date<br>(Month/Day/Year) | 3A. Deemed<br>Execution Date,<br>if any<br>(Month/Day/Year) | 4.<br>Transa<br>Code (<br>8) |   | of E |     | 6. Date Exercisable and<br>Expiration Date<br>(Month/Day/Year) |                    | 7. Title and<br>Amount of<br>Securities<br>Underlying<br>Derivative Security<br>(Instr. 3 and 4) |                                        | 8. Price of<br>Derivative<br>Security<br>(Instr. 5) | 9. Number of<br>derivative<br>Securities<br>Beneficially<br>Owned<br>Following<br>Reported<br>Transaction(s)<br>(Instr. 4) | Ownership<br>Form:<br>Direct (D) | 11. Nature<br>of Indirect<br>Beneficial<br>Ownership<br>(Instr. 4) |
|-----------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------|-------------------------------------------------------------|------------------------------|---|------|-----|----------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------|
|                                                     |                                                                       |                                            |                                                             | Code                         | v | (A)  | (D) | Date<br>Exercisable                                            | Expiration<br>Date | Title                                                                                            | Amount<br>or<br>Number<br>of<br>Shares |                                                     |                                                                                                                            |                                  |                                                                    |
| Phantom<br>Stock                                    | (1)                                                                   | 06/15/2007                                 |                                                             | A                            |   | 63   |     | (2)                                                            | (2)                | Common<br>Stock                                                                                  | 63                                     | \$39.07                                             | 35,500                                                                                                                     | D                                |                                                                    |

### Explanation of Responses:

1. Each share of phantom stock represents a right to receive the value in cash of one share of Arch Coal, Inc. common stock. The shares of phantom stock are held by the director through the Arch Coal, Inc. Deferred Compensation Plan for Non-Employee Directors (the "Plan"). The shares of phantom stock acquired by the director represent dividends attributable to amounts that the director elected to defer under the Plan into a hypothetical investment in shares of Arch Coal, Inc. common stock.

2. Shares of phantom stock are payable in cash following termination of the director's service as a director of Arch Coal, Inc. The director may transfer certain portions of the phantom stock account into an alternative investment account at any time.

#### **Remarks:**

### <u>/s/ Gregory A. Billhartz,</u> <u>Attorney-in-Fact</u>

06/18/2007

\*\* 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.

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