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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549

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**FORM 8-K**

**CURRENT REPORT**  
**Pursuant to Section 13 or 15(d)**  
**of the Securities Exchange Act of 1934**

Date of report (Date of earliest event reported): October 18, 2010 (October 14, 2010)

**Arch Coal, Inc.**

(Exact name of registrant as specified in its charter)

Delaware  
(State or other jurisdiction of  
incorporation)

1-13105  
(Commission File Number)

43-0921172  
(I.R.S. Employer Identification No.)

CityPlace One  
One CityPlace Drive, Suite 300  
St. Louis, Missouri 63141  
(Address, including zip code, of principal executive offices)

Registrant's telephone number, including area code: (314) 994-2700

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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**Item 8.01 Other Events.**

On July 21, 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Act”) was enacted. Section 1503 of the Act contains new reporting requirements regarding mine safety, including disclosing on a Current Report on Form 8-K the receipt of an imminent danger order under section 107(a) of the Federal Mine Safety and Health Act of 1977 (the “Mine Act”) issued by the Federal Mine Safety and Health Administration.

On October 14, 2010, Cumberland River Coal Company, a subsidiary of Arch Coal, Inc., received an imminent danger order under section 107(a) of the Mine Act stating that at Cumberland River Coal Company’s Pine Branch 1 coal mine, three tandem axle coal trucks operated by an independent contractor, Lemar Trucking Co. Inc., were allegedly operating in an unsafe manner on a mine haul and access road. In response to the order, mine personnel completed the work the inspector requested and the order was promptly terminated.

On October 15, 2010, Canyon Fuel Company, LLC, a subsidiary of Arch Coal, Inc., received an imminent danger order under section 107(a) of the Mine Act indicating that a HDPE pipe in the rock dust transfer system was improperly grounded at Canyon Fuel Company, LLC’s Dugout Canyon coal mine. In response to the order, mine personnel completed the work the inspector requested and the order was promptly terminated.

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**Signatures**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Dated: October 18, 2010

Arch Coal, Inc.

By: /s/ Robert G. Jones

Robert G. Jones  
Senior Vice President — Law, General Counsel  
and Secretary