



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

August 4, 2010

Mr. Michael C. Crews
Executive Vice President and Chief Financial Officer
Peabody Energy Corporation
701 Market Street
St. Louis, Missouri 63101

**Re: Peabody Energy Corporation
Form 10-K for the Fiscal Year Ended December 31, 2009
Filed February 24, 2010
Definitive Proxy Statement on Schedule 14A
Filed March 23, 2010
File No. 1-16463**

Dear Mr. Crews:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Fiscal Year Ended December 31, 2009

Coal Supply Agreements, page 6

1. At page 6, you indicate that you sold 93% of your coal in 2009 under long-term supply agreements and that your five largest customers accounted for 28% of your total coal sales revenues. You discuss at page 18 the risk that "If a substantial number of our long-term coal supply agreements terminate, our revenues and operating profits could suffer." You also indicate at page 7 that you purchase explosives and underground equipment from "one principal supplier." Ensure that you describe in the filing in necessary detail the material terms of all material contracts and file such contracts as exhibits pursuant to Item 601(b)(10)(ii)(B) of Regulation S-K.

Definitive Proxy Statement on Schedule 14A

2. We note that you have not included any disclosure in response to Item 402(s) of Regulation S-K. Please advise us of the basis for your conclusion that disclosure is not necessary and describe the process you undertook to reach that conclusion.

Engineering Comments

Form 10-K for the Fiscal Year Ended December 31, 2009

Safety and Health, page 9

3. We note your disclosure of Peabody's world-wide operational injury incidence rates of 2.82, which are 30 percent lower than the U.S. rate. We also note the U.S. injury incidence rate for 2009 is 2.83. Please expand your disclosure to list separately your U.S. based and Australian injury incidence rates as compared to the MSHA industry average for the last three years.
4. In addition to the above information please provide supplementally, the appropriate safety related information/data from each of your operating facilities which allowed you to generate these world-wide statistics for your company. This may include your estimates of man-hours, fatalities, lost time, and reportable injuries segregated by the facility type (surface, underground, plant, etc.) for the last three years.

Closing Comments

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

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You may contact George K. Schuler, Mining Engineer, at (202) 551-3718 with questions about engineering comments. Please contact Parker Morrill at (202) 551-3696, or in his absence, Timothy S. Levenberg, Special Counsel, at (202) 551-3707 or me at (202) 551-3745 with any other questions.

Sincerely,

H. Roger Schwall
Assistant Director