

August 2, 2012

MEMORANDUM FOR: John Conti
Assistant Administrator for Energy Analysis

Alan Beamon
Office Director
Office of Electricity, Coal, Nuclear, and Renewables Analysis

FROM: Coal and Uranium Analysis Team

SUBJECT: AEO2013 Coal Working Group Meeting I Summary

Attendees: *Peter Balash (NETL)
*Leslie Coleman (National Mining Association)
Jared Daniels (DOE: Fossil Energy)
*Salem Esber (PA Consulting)
* Erich Eschmann (EPA)
Karen Freedman (EIA)
*Paul Georgia (National Mining Association)
*Eric Grol (NETL)
Lance Harris (EIA)
Tyler Hodge (EIA)
Paul Holtberg (EIA)
Elias Johnson (EIA)
* Serpil Kayin (EPA)
Diane Kearney (EIA)
Sikander Khan (DOE: Fossil Energy)
Michael Leff (EIA)
Kevin Lillis (EIA)
*Jim Luppens (USGS)
* Bill Meroney (EPA)
Sam Napolitano (EIA)
*Chris Nichols (NETL)
Nick Paduano (EIA)
*Anthony Paul (Resources for the Future)
*Paul Pierce (USGS)
Dave Schoeberlein (US DOE: Office of Policy and International Affairs)
* William Stevens (EPA)
*Pete Whitman (Council on Environmental Quality)
* Charles Zelek (NETL)

*non-EIA/DOE attendees

Presenter: Mike Mellish

Topics covered included expected issues and assumptions for the Annual Energy 2013 in particular: (1) review of the planned coal additions and retirements for the upcoming AEO2013, (2) feedback on the results of the AEO2012 with an emphasis on exports and coal-to-liquids, and (3) discussion of issues impacting coal mining productivity.

Specific discussion relevant to coal markets:

1. Mike Mellish informed the group of the compressed modeling timeline for production of the AEO2013 and pointed out that the major coal-related modeling work for the AEO2013 is to convert the NEMS Coal Market Module from a Fortran modeling platform to AIMMS (Advanced Integrated Mathematical Modeling System).
2. A meeting participant noted the application of the cost of capital added to emission control equipment and wondered how this extra cost impacted retrofit or retirement decisions. EIA staff indicated that they could look into that by comparing the results from the AEO2012 Reference case with those from the AEO2012 No GHG Concern case, and could share the retrofit results from these two runs with him.
3. A meeting participant asked what year the last coal retirement was reported. Staff indicated that the planned retirements reported in the EIA-860 cover a 10-year period, with the last planned coal retirement for the preliminary AEO2013 occurring in 2021.
4. A meeting participant noted that NETL has been tracking FGD and DSI orders and FGD orders are being noted four times as often as DSI orders. In the AEO2012, EIA projected roughly a 50:50 split. The participant asked for more information regarding how DSI was being modeled. Staff explained that NEMS FGD or DSI requirement is used to model the HCL or acid gases component of the Mercury Air Toxics Standard. Currently, NEMS does not have the ability to model HCL directly. EIA staff and NETL staff agreed that part of the higher orders of FGD relative to DSI may be due to the longer lead times required for FGD compared to DSI. A meeting participant also noted that the industry has a lack of confidence regarding the DSI technology. EIA staff will correspond with NETL during the AEO process regarding this topic.
5. A meeting participant asked how coal exports are handled in the model. Staff explained that coal exports are predicated on the estimated levels of regional international coal demands. The participant felt that the assumed levels in the AEO2012 are on the low side for Asian demand. Based on meetings the participant attended during a recent trip to China, he indicated that the Chinese government and industry alike expressed the intent to import coal more heavily in the future.
6. One participant via the phone thought that some of the coal production differences between the AEO2012 and July 2012 STEO may be due to the buildup of coal stockpiles in recent months. Staff noted that this could certainly be a significant factor.
7. A meeting participant noted that the Interior region is an area of uncertainty with regards to coal exports, although he indicated that there is a strong interest on the part of Illinois Basin coal producers to expand their participation in this segment of the coal market.
8. In a discussion on coal mining productivity, a participant referred EIA to the USGS's report on the Gillette coalfield where the USGS provides information regarding the

- increased manpower necessary when stripping ratios increase. This same participant also mentioned that Peabody and Arch will need to soon make a 400 foot box cut before mining coal west of the [Joint Line] railway in the southern PRB. More equipment and support personnel are necessary to handle larger amounts of overburden. At times, the same overburden must be handled multiple times.
9. In a discussion regarding coal-to-liquids, a meeting participant expressed the viewpoint that it would take a major upset in the markets for this sector to take off. Historically, when oil prices rose making CTL more economical, capital costs went up in tandem. The participant felt that this tendency for the two to rise at the same time makes the emergence of the CTL sector difficult. Another meeting participant offered a counter-viewpoint and wondered if EOR is being modeled to its full capability in NEMS. EOR, he felt would encourage synthetic liquids, but he said GTL would likely come on before CTL, and he was unaware if NEMS was adequately representing GTL. This participant estimated that at \$100/barrel, CTL could be profitable. A third participant mentioned that the proposed CTL plant in Mingo County has ‘broken ground’, but construction has not begun.
 10. A meeting participant mentioned that the implied 80 percent capacity factor for existing coal plants – which will mostly be old plants by 2035 – seems difficult to attain. EIA staff responded by saying that this is something that they will look into for the AEO2013, perhaps making adjustments to the estimated [variable] O&M costs for older coal plants. Another EIA staff participant indicated that the average capacity utilization rate of coal-fired generating capacity in the AEO2012 Reference case increases from 67 percent in 2010 to 78 percent in 2035.