

December 15, 2015

MEMORANDUM FOR: JOHN CONTI  
ASSISTANT ADMINISTRATOR FOR ENERGY ANALYSIS

FROM: ANGELINA LAROSE  
TEAM LEAD  
NATURAL GAS MARKETS TEAM

JOHN STAUB  
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EXPLORATION AND PRODUCTION ANALYSIS TEAM

EXPLORATION AND PRODUCTION and NATURAL GAS  
MARKETS TEAMS

SUBJECT: First AEO2016 Oil and Gas Working Group Meeting Summary  
(presented on December 1, 2015)

Attendees: Joseph Benneche (EIA)  
Terry Yen (EIA)  
Dana Van Wagener (EIA)\*  
Troy Cook (EIA)\*  
Angelina LaRose (EIA)  
John Staub (EIA)\*  
David Daniels (EIA)  
Grant Nülle (EIA)  
Kyle Moorman (DOE)  
Peri Ulrey (NGSA)  
Ben Schlesinger (BSA)\*  
Matthew Jurecky (Global Data)\*  
Gerardo Gutierrez (SENER)\*  
Jairam Gopal (Deloitte)\*  
Jerry Eyster (GE)\*  
Anas Alhajii (NGPTRS)\*  
Donald Remson (NETL)\*  
Marcus Kebiltz (PIP)\*  
Meg Coleman (DOE)\*  
Matthew Hansen (NEB)\*  
Richard Hoffmann (INGAA)\*  
Beth Lau (CAPP)\*  
Doug Tierney (Encana)\*

Nancy Johnson (DOE)\*  
Tom Choi (self)\*  
W Mitchell (self)\*  
Whitney Herndon (RHG)\*  
Stephen Beck (PFC)\*  
Keith King (Moyes & Co)\*

\*Attendance via WebEX

Presenters: Angelina LaRose (NGTDM)  
Terry Yen (OGSM)

Presentation:

The Annual Energy Outlook 2016 (*AEO2016*) schedule is starting later and will result in a later publication than most years. The *AEO2016* will have 6 standard cases – Reference case, High/Low Oil Price cases, High/Low Macroeconomic Growth cases, and the High Oil and Gas Resource case – and a variety of other cases.

The presentation provided an overview of the areas under focus for the *AEO2016* in the Oil and Gas Supply Module (OGSM) and the Natural Gas Transmission and Distribution Module (NGTDM), highlighting major changes in assumptions from *AEO2015*.

For oil and gas supply modeling, the following were presented:

- Priority areas of model development
- Estimated ultimate recovery (EUR) will be updated with another year of data
- Lower 48 offshore discoveries and timing of project start-ups
- Changes in the Lower 48 offshore production profile for announced discoveries
- Technology improvements and production cost changes

For natural gas market modeling, the following were presented:

- Major project to redesign of model will allow for better representation of domestic flows and prices, though will not be ready for *AEO2016*
- U.S. liquefied natural gas (LNG) exports and change in projects under construction
- Prices of natural gas used as a vehicle fuel (historical data and tax change)
- Assumptions related to Canada and Mexico consumption, production, and LNG trade

Questions and answers regarding the OGSM:

- 1) EIA QUESTION: EIA is updating the production profile for offshore fields in an effort to harmonize field level production in the Short-Term Energy Outlook and Annual Energy Outlook. The proposed approach uses a common start-up period, to a field specific peak level and then plateau period and post plateau decline. Is that reasonable?

STAKEHOLDER RESPONSE: The stylized profile doesn't look like many fields because most don't have a flat plateau due to the increase in the ratio of water to oil

produced over time. Might be better to look at older offshore fields with more data or to group fields similar to the ones being modeled and use the average of those fields. It was noted that more mature fields are closer to shore. New fields are further offshore and involve different geology and technology. May need to group fields by areas of the GOM or by production technologies (e.g., subsea systems). Looking at water production might help. EIA suggested a working paper summarizing the analysis might be productive way to get feedback on the analysis.

- 2) Would EIA be interested in looking at other's EUR and decline curve analysis of shale gas production?

EIA RESPONSE: Yes.

- 3) Does EIA have leasing or re-leasing data?

EIA RESPONSE: Some, but we don't focus on it.

STAKEHOLDER RESPONSE: If prices rise, then might see U.S. companies pay off debt before expanding leasing and production. Industry made a big push to get lease acreage into production status, so there probably will not be much releasing.

#### Questions and answers regarding the NGTDM:

- 1) Why are there decreases in exports to Mexico?

EIA RESPONSE: EIA clarified that the mentioned decrease is relative to the AEO2015 not compared to today. Furthermore, there might be somewhat higher exports projected earlier, but less in the longer term.

- 2) If shale gas resources are larger, will LNG capacity increase?

EIA RESPONSE: Potentially. When we have run our high oil and gas resource case previously we have seen more U.S. LNG liquefaction capacity built.