

**WORKING GROUP PRESENTATION FOR DISCUSSION PURPOSES
DO NOT QUOTE OR CITE AS RESULTS ARE SUBJECT TO CHANGE**

November 7, 2014

MEMORANDUM FOR: John Conti
Assistant Administrator for Energy Analysis

Paul Holtberg
Team Leader
Analysis Integration Team

FROM: Office of Electricity, Coal, Nuclear, and Renewables Analysis

SUBJECT: Summary of Second AEO 2015 Working Group Meeting held on
September 15, 2014

ATTENDEES: 21 EIA, 68 external (list provided following meeting summary)

Presentation topics included a review of the AEO2015 publication schedule and contents, an overview of model assumptions updates in the AEO2015, and a summary of preliminary results in the AEO2015 Reference case. The presentation highlighted AEO2015 assumptions regarding environmental rules, retirements and new capacity, and capital costs for renewable plants. Results shown included electricity demand, generation by type, capacity additions by type, electricity and feedstock prices, coal production and prices by region, and coal exports.

Specific issues raised by working group participants included the following topics:

Modeling plant retirements and retrofits

A participant asked how EIA represents the retrofit/retire decision for electric power plants, and whether the cost assumptions for retrofits are uniform or plant specific. EIA staff responded that the cost assumptions are plant-specific.

Degradation of solar modules

A participant asked what assumptions EIA makes about the performance of solar PV systems over time, and whether it models performance degradation of modules. EIA responded that in the electric power sector, we do not explicitly model performance degradation of solar PV systems over time.

Capacity growth patterns

A participant asked why there appears to be a step increase in the level of annual capacity additions starting in 2025. EIA responded that a combination of rising gas prices over time, the need for new capacity to meet demand, and retirements that occur around that time accounts for the increase. Another participant inquired about the lack of solar growth following 2016. EIA responded that minimal near-term need for new capacity combined with the 2016 reduction in the Investment Tax Credit from 30% to 10% resulted in the reduction in solar capacity growth post-2016.

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Cost assumptions to keep older coal/gas plants operational

A participant asked what assumptions are made about expenditures necessary to keep coal/gas plants running. EIA responded that there are technology-specific cost adders for older plants after 30 years of operation.

Retirement of the Intermountain Power Plant

A participant asked why EIA assumes the 2025 retirement of the Intermountain Power Plant in Utah since the plant has not announced formal plans to retire. EIA responded that the plant's contract with LADWP expires in 2025. EIA modeled the retirement coincident with the contract expiration in order to represent a reduction in the carbon intensity of generation owned or under contract to California utilities, consistent with SB1368.

Declining Western coal production

A participant asked why Western coal production increases through 2023 before declining thereafter. EIA responded that MATS and declining demand contributes to this trend, and that they would also look into the issue further. In looking at the results in more detail an additional factor underlying the projected decline in Western coal production after 2013 is increasing competition from coal producers in the Interior supply region.

Increasing coal exports

Another participant inquired about the increase in coal exports over the projection and the destination markets for those exports. EIA responded that Asian and, to a lesser extent, South American markets are the likely destination markets for projected coal exports, but that staff would need to take a closer look and get back to them on this particular question. In looking at the projections for U.S. coal exports, most of the projected growth between 2013 and 2040 in the preliminary NEMS run used for the working group meeting is to markets in Europe and Asia, but exports to the Americas also increases slightly in the projections.

Coal mine productivity assumptions

A participant asked whether the AEO2015 included any updates in coal mining productivity assumptions. EIA responded that assumptions had not been updated at this point for the current AEO cycle, but that assumptions were being reviewed in light of the recent productivity growth that occurred in 2013 and that appears to be carrying forward into 2014.

Nuclear technology assumptions

A participant asked about what type of nuclear generation technology is assumed for new builds. EIA responded that cost assumptions are based on a Westinghouse AP1000.

Life-cycle technology cost comparisons

A participant asked whether EIA produces any metrics that allow for comparison of total life-cycle costs across technologies. EIA responded that it doesn't generally have that level of detail in NEMS, and while some of these life-cycle costs are embedded in capital or fuel costs, they are not explicitly represented.

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EIA also noted that it publishes the report on levelized cost of electricity, but that not all lifecycle costs would be embedded in this metric.

Attendees (* denotes non-EIA, + denotes online participant)

+*Charlie Acquard (NASUCA)	Lance Harris
Greg Adams	+*Jenny Heeter (NREL)
+*Justin Adeer (NETL)	+*Holli Heiskell (NETL)
+*Robert Anderson (DOE)	Tyler Hodge
Lori Aniti	+*Lola Infante
+*Carrie Annand (Biopower)	Elias Johnson
JenAlyse Arena	Diane Kearney
+*Ed Arguello (CSU)	*Sikander Khan (DOE-FE)
+*Justin Baca (SEIA)	Eric Krall
*Aaron Bergman (DOE-EPISA)	+*Eric Lantz (NREL)
+*Norman Bishop (Knight Piesold)	+*Mark Lauby (NERC)
Erin Boedecker	+*Jeff Leahey (Hydro.org)
Michelle Bowman	*Michael Leifman (GE)
*Erin Boyd (DOE-EPISA)	+*Michael Leitman (NRECA)
Gwen Bredehoeft	+*Jennifer Li (DOE)
+*John Brewer (NETL)	Danielle Lowenthal-Savy
*Austin Brown (NREL)	+*Trinh Ly (NERC)
+*John Caldwell (EEI)	+*Simon Mahan (Southern Clean Energy Alliance)
+*Tom Canter (NCTA)	Cara Marcy
+*Mike Cashin (MN Power)	Laura Martin
+*Daniel Chalk (DOE-NE)	+*Kellie Mattis (NETL)
+*Leslie Coleman (NMA)	Mike Mellish
John Conti	+*Bill Meroney (EPA)
*Matthew Crozat (DOE-NE)	*David Meyer (DOE-OE)
*Jared Daniels (DOE-FE)	+*David Meyer (OE)
Jim Diefenderfer	*Gregory Mormon (Wood Mackenzie)
+*Marybeth Dietz (NETL)	Chris Namovicz
*Paul Donohoo Vallett (DOE-EERE)	Sam Napolitano
+*Donald Erpenbeck (MWH Global)	+*Elliott Nethercutt (NERC)
+*Brian Fisher (EPA)	+*Chris Nichols (NETL)
+*Steve Frauenheim (EEI)	+*Matt Nocella (Hydro.org)
Marta Gospodarczyk	*Seth Nowak (ACEEE)
+*Eric Grol (NETL)	+*Gavin Pickenpugh (NETL)
+*Gurcan Gulen (U Texas)	*Kara Pokdaminer (DOE-EERE)
*Ron Hagan (DOE-NE)	+*Michalene Reilly (HEPN)
*Zeryai Hagos (GE)	*David Rosner (DOE-EPISA)
+*Maria Hanley (NETL)	

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- +*Sandy Sanders (OLI)
- +*Sandra Sattler (USCUSA)
- +*David Schmalzer (Argonne)
- +*David Schoeberlein (DOE)
- Nancy Slater Thompson
- +*Daniel Steinberg (NREL)
- +*Elyse Steiner (EPA)
- +*Bill Stevens (EPA)
- +*Joel Theis (NETL)
- +*Michael Van Brunt (Covanta)
- *Pete Whitman (DOE-EPISA)
- +*Emily Williams (AWEA)
- +*Frances Wood (OnLocation)
- +*David Young (EPRI)
- +*David Zayas (Hydro.org)
- +*Charles Zelek (NETL)

*non-EIA attendees

+online attendees