Summary of Modeling WG Call #7
Tuesday, June 5, 10 AM ET

Official/designated WG members in attendance: Allan Myers, Bob Pauley, Erin Hogan, Maryam Sharif, Michael Goggin, Roy Thilly, Stuart Hansen, Wil Burns, Tyler Ruthven, Ezra Hausman (alternate for NGOs), Stan Hadley, Ryan Kind, Paul McCurley, Doug Gotham, Marya White (for EISPC), Ralph Luciani and Bruce Tsuchida (CRA); John Buechler, Flora Flygt, and David Whiteley (EIPC). Facilitator: Catherine Morris (Keystone).

NOTE: To facilitate the rapid pace of the MWG meetings during June 2012, these summaries will focus on the questions answered during the meeting and next steps. Details of modeling discussed will be captured in the matrix of inputs and the output framework drafts, to be updated regularly on the Phase II – MWG page (eipconline.com)

1. Overview of Task 9 - Production cost analysis (David Whiteley)
   - 9 total cases, 3 per scenario, with 6 separate and fungible sensitivity runs
   - Task 9 will start beginning of July, and finish end of September
   - End Users interested in estimating cost of utility-sponsored EE load reductions to be able to see full costs
   - Current focus is input assumptions for first cases (Scenarios 1 and 3), after which results will yield information to decide which sensitivities to run

2. GE-MAPS – Inputs (See CRA's presentation for details)
   a. Clarifications: "Load flow" in overview document means inter-regional transfer capability, not energy flows
   b. Transmission and generation buildouts are fixed, since those were determined in Tasks 7 and 8
   c. CRA will be monitoring all flow gates identified in Task 8. Key congestion constraints should be handled in flow gates, but will monitor for voltage data.
   d. Typically do not cycle a nuclear unit, but subject to discussion.
   e. When LMP drops below $1/MW for wind, the model curtails wind.
   f. Single wind shapes used for each NEEM region in Phase I., Considering how to apply 10 generation shapes randomly to high wind regions to disperse generation and deal with wind variance. One suggestion was to use a prioritization table.
   g. Seams charges/ hurdle rates: Hurdle rates in MAPS are the same as NEEM for dispatch step, but different for commitment step (broken into super-region pools). Inside a commitment pool, $10/MW is applied as hurdle rate between regions if needed. Stan Hadley will provide some visual illustration of the hurdle rates.
   h. Operating reserves/ spinning rates are based on PA inputs.

   Q&A
   - CRA is not doing present value calculations for cumulative transmission cost estimates since too many variables,and it is not feasible to do different year as a sensitivity either.. Different study design might accommodate cumulative effects, but this one does not account for when transmission investments are made for those calculations.
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   - MAPS does not explicitly include assumptions on price response/elasticity for load. Load shape based on 2006 data, but there are dispatchable resources that could be triggered at a certain price.,
   - Efficiency is applied on percentage basis for each load block

- Using AEO 2011 for generating characteristics in MAPS , along with technological improvement factors.
- GE-MAPS heat rates are meant to align perfectly for full-load heat rates in NEEM (lowest common denominator),
- MWG member referenced NREL's recent work on heat rates of fossil plants, noting some discrepancy with CRA data, particularly with coal plants. Michael Goggin to provide a link to the NREL study.
- CRA's heat rate and capacity factor data represent collective knowledge over years, and CRA has benchmarked the default characteristics/ assumptions to actual rates for specific regional work. New data are welcome too (in June).
- Pumped storage generation is optimized in MAPS, pumped at night if economic, released during the day. Pumped storage can be modeled as system benefit or on regional basis only

- David Whiteley mentioned Phase I Report may have visual representation of commitment pools for this (made by Stan Hadley).
- CRA intends to use emissions prices from NEEM, not EPA's emissions caps.

3. Output Report (See CRA's presentation for more detail)
   - There are too many potential variables to put in one comprehensible report framework. Therefore, the MWG must specify which variables to tag for detail in the output report.
   - It may be possible to get hourly data for nuclear outages and wind curtailment, but it is very labor-intensive.
   - A MWG member requested that as much information as possible be provided on hourly basis, not aggregated annually.
   - Imports and exports on an hourly basis between NEEM regions (200 transmission ties to slice) may not be feasible.
   - Other variables requested in the report included generation and capacity by unit type (similar to NEEM report), mercury emissions,
   - Publically available examples of the report framework would be helpful information for MWG members; CRA will look into sharing one of these.
   - Output reports will have emissions data. Will include other technological data (emissions retrofits, yes, capital costs, no (sunk costs- for Task 10) on units.

4. **ACTION ITEMS:**
   - MWG members should fill out Doodle to confirm critical mass for near-term June schedule.
   - Will provide matrix of MWG GE-MAPS inputs for discussion.
   - Next MWG call: Fri., June 8, 10-11:30 EDT