

EE SAG
Technical Advisory Subcommittee
April 13, 2010

Planning Assumptions:
Similarities and Differences Across Administrators
Discussion Topics

Objective: Discussion of planning tools and data for 2011 – 2014 EE Portfolios

- Same across administrators?
- Different, if so, why?

Planning Tools

- **Cost-Effectiveness Analysis Tool** – will administrators all be using DSMore for cost-effectiveness analysis?
 - ComEd and Ameren using DSMore
 - Same version and identical software or modified differently for each?
 - ComEd using DSMore 2010 (most current version)
 - Electric Avoided costs – how derived? Will they be public?
 - Supply costs taken from market (NYMEX) and shaped for ComEd profile for 3 years. ATC futures typically only traded for 3 years in future. Capacity costs taken from PJM RPM auction through 2013/14 program year. Supply cost growth past 3 years derived from AEO 2010. Capacity costs presumed to grow to CONE by 2020. Avoided Distribution costs currently set at \$0. ComEd working to make data publically available.
 - Gas Avoided costs – how derived? Will they be public?
 - Northern Illinois Hub prices used for natural gas prices (provided by Integral Analytics as part of DSMore 2010); future costs per AEO 2010. Avoided distribution costs presumed to be \$0.
 - Carbon Adders – how derived? Will they be public? How will carbon adders be applied (to avoided costs, program costs?)
 - Last plan included carbon adder based on Bingamon Bill. Current legislation under consideration is Kerry-Lieberman Bill (introduced 5/12/10); passage of bill is uncertain. Current CCX value of carbon is ~\$1/tonne.

- **Avoided Costs – general questions**
 - Avoided costs – will avoided costs be utility-specific, IL-based or regional (PJM, MISO)?
 - ComEd costs are based on the ComEd zone of PJM Interconnect.
 - Will DSMore be available to collaborative members or will a license agreement and/or non-disclosure agreement be required?
 - SAG members may arrange to view and use model at ComEd’s facilities in Oakbrook Terrace. ComEd’s license arrangement with Integral Analytics does not permit us to share the calculation engine with 3rd parties.
- **Building Simulation Model** to model savings from envelope measures and other weather-sensitive measures
 - Common building simulation model (such as DOE-2)?
 - ComEd is using eQuest, which is based on the DOE2 simulation engine.
 - Has the proposed building simulation model been certified by DOE or field-calibrated in some manner?
 - eQuest has been approved by the IRS for tax-incentive qualifications.

Data

- **Common Technical Resource Manual (TRM)?**
 - Will costs, savings, EULs, IMCs, etc. be memorialized in TRM? If not, what form will measure-level data be memorialized?
 - ComEd has begun developing a Technical Reference Manual and series of white papers to support its measure savings and costs.
 - Are there going to be deviations to any TRM input assumptions, and/or measures? If yes, how will the deviations be justified and decided upon?
 - Since no TRM exists today, there is nothing to deviate from.
 - Will the TRM or measure-level assumptions be available before the October filing? When?
 - ComEd anticipates a first draft TRM prior to the October filing.
- **Non-Weather Sensitive Measure**
 - Will costs, savings, EULs, IMCs be identical across administrators?

- No. It is expected that costs may differ between ComEd and other territories, owing to differences in local market conditions and cost-of-living.
- **Weather sensitive Measures**
 - How many “prototype” houses are being modeled?
 - ComEd is modeling 3 residential prototypes: single-family attached (duplex), single-family detached, and multi-family.
 - How were the housing types selected?
 - These were the same building types used in the first plan, and upon internal review, ComEd determined that these three prototypes appropriately reflect the residential market.
 - What is planning assumption for cooling & heating degree days?
 - Degree-day equations are useful for quick, empirical calculations related to cooling and heating energy consumption; however, such methods do not effectively account for equipment part-load performance, nor do they easily accommodate behavioral influences on the energy consumption of equipment. Preferred calculation methods include use of “bin data” (weather data aggregated into temperature and time bins) and simulation models (which use 8,760 hours of temperature data and can more accurately capture system performance and equipment interactions.
- **Discount rate?**
 - What is each using?
 - 8.36%
 - What is basis for?
 - ComEd’s Commission-approved WACC from 2007 rate case.
- **Measure Definitions & Operational Characteristics**
 - Same measure definitions for all end uses? If not which definitions are different and why?
 - Measure definitions will generally incorporate both the characteristics of the measure technology and its end-use. For example, a timeclock control may be defined differently if it is used to serve outdoor lighting versus an air handler.
 - Costs of measures broken out by rural/urban or geographically?
 - If research shows that there is significant difference, then yes.

- Cost of labor and installation broken out by rural/urban or geographically?
 - If research shows that there is significant difference, then yes.
- Impact of measures on peak and energy – separately?
 - Yes
- Impact of measures broken out by peak and energy in an interactive manner (Bundled set of measures given various combinations of measures)?
 - Measure bundling to be done for those programs where bundled implementation is part of program design. Where such bundling is done, interactive effects will be incorporated to the extent possible; this will be most commonly done through the building simulation models as most interactions tend to involve weather-sensitive measures.
- EULs – are they consistent?
 - EUL for measure is function of market sector, hours of use and climate, which can differ between ComEd and Ameren territories. For this reason, EUL may differ between the two utility territories.
- Hours of operation assumptions consistent for same measure/application?
 - Hours of equipment operation may vary based on differing economic conditions and/or climate between ComEd and Ameren territories. For example, southern Illinois has a longer cooling season than the ComEd territory, and so hours of operation would need to reflect this difference. For non-weather sensitive measures, ComEd expects similar operating hours, and will work with Ameren to drive consistency in this regard.
- Estimated gross and net savings, TRC, lifecycle cost/kWh broken out by measure as well as program/portfolio?
 - Measure level analysis will be provided. Net savings is often influenced by program design and difficult to resolve to the measure level particularly where same measure is used in multiple programs.
- Customer side/Renewable measures included?
 - No

- **Measure-Level Cost Data Updated Based on Program Experience?**
 - Updating measure-level costs with actual program data?
 - Yes, where practical. While ComEd collects a large amount of actual cost data within certain programs, much of this data is not fully itemized and often contains elements that are not pertinent to the measures incented. For example, lighting projects in the prescriptive business program often include conduit, new panels, and other elements that do not resolve neatly to the measure level. ComEd has asked KEMA to conduct a regression-based analysis of completed projects to see if measure-level costs can be determined.

Load Forecasting

- Will each utility use a load forecast in their planning process?
 - Yes
- If so, will each use their own forecast or will forecasts be combined or might there be a statewide forecast?
 - ComEd will use a forecast for the ComEd territory.
- Will the collaborative be allowed access to the forecast?
 - ComEd is working to develop a publically-available load forecast.

(Crandall note: I am not sure if a load/energy forecast will be used however, it could be quite useful to target/design incentive levels for programs and thereby enhance effectiveness for dollars spent. This may not be covered by the market potential study.)