CALIFORNIA
TECHNICAL FORUM

Subcommittee Tracking Sheet
Subcommittee Name: Measure Complexity and Best Available information

Meeting #3: March 19, 2015

I. Agenda Items for Discussion/Materials

1. Follow-up from last meeting:
    a) Look at RTF guidelines for definition and determination of "small saver"
    Update: Small saver: "The RTF may determine that the likely savings from a measure are too small to warrant the resources needed to meet the quality standards defined for Provision or Proven measures,"[1] depends on RTF judgment based on supporting information.

    b) Obtain HIM lists from PG&E and SCE examine the portfolio share of top measures.
    Update:
        - SCE: top 10 deemed measures comprise 38% of portfolio savings (majority of top 10 are 1%-3%)
        - PG&E: top 30 deemed electric measures comprise 10% of portfolio kWh savings; top 10 measure comprise ~6% of portfolio (out of top 30 measures, impact ranges from 0.2% to 0.5% excluding top two measures)

    c) Research how NYSERDA addresses dual baselines – they have simplified approach.
    Update: Cal TF staff reached out to Nick Hall, searched website and could not locate information.

    d) DEER building types; PG&E building types; SCE building types; list of building types that Energy Commission uses in forecast.
    Update: DEER has 26 commercial building types, SCE has 29, CEC forecast uses 12

    e) Review prior research/initiatives to see if guidelines that would be useful/applicable to ex ante value development.
    Update: As of March 16th, have looked at TRMs, RTF.

[1] http://rtf.nwcouncil.org/subcommittees/Guidelines/RTF%20Guidelines%20%28revised%206-17-2014%29.pdf, page 6

- UN Study
- Prior CA evaluation
- UMP
- TRMs
- RTF
- FEMP
- IPMVP

2. Review draft ex ante development guidelines.
    a) Feedback from group
    b) Additional sections/content to include

II. Meeting Attendees

Jenny Roecks – Cal TF staff
Annette Beitel – Cal TF staff
Alejandra Mejia – Cal TF staff

Pierre Landry – TF Member
Doug Mahone – TF Member
Steven Long – TF Member
Tom Eckhart – TF Member
Sherry Hu – TF Member

Mark Gaines – Independent Consultant
Bhaskar Vempati – Enernoc

III. Key Issues Discussed

a) RTF definition of big savers vs. small savers
    - Tom Eckhart – has been discussed in the RTF; if not a big saver, how frequently should the measure be re-evaluated?

b) IOU high impact measures (HIMs)
    - Striking difference between the impact of PG&E and SCE HIMs
    - SCE has more CFLs than PG&E as “top” measures
    - PG&E may have more measure granularity than SCE.

- Action items to help determine the percentage of deemed measures that contributes to overall portfolio savings and the appropriate level fo effort needed to refine values:

ACT: Do more analysis on why the top 10 measure impacts are so different between SCE and PG&E – measure type, measure granularity?

ACT: Get the "top 10" measure for SCG and SDG&E

ACT: Get full list of deemed measures from each utility

ACT: Get statistics on:
- What percentage of deemed measures (for each utility) comes from DEER
- What percentage of portfolio savings is attributable to deemed vs. custom for 2014

- Significant sources of error must be prevalent in portfolio - we need to understand/characterize what has accounted for biggest adjustments. NTG is the biggest adjustment, but error may also occur in cost, savings, EUL.

ACT: What has caused the biggest retrospective savings adjustments in recent years? NTG and/or other measure parameters?

c) Building types
- Steven Long- SCE has three residential, 30 non-residential. The commercial building types primarily follow DEER, but some building types were created as a blend of select DEER types. Likely phasing these out.
- Can number of building types be reduced without compromising accuracy? What decision rules should exist for using the full "suite" of building types versus a more limited set?

ACT: Discuss building type decision rules in next meeting.

ACT: Review building type descriptions compared to what other jurisdictions are doing to see if building types could be better documented.

ACT: Address building type documentation in transparency/documentation section of ex ante development guidelines, including appropriate level of documentation needed for reproducibility.

d) Threshold of 10% difference in savings estimates to warrant different measure combinations.
    - If differentiating between measure combinations will have a huge impact on the portfolio, then worth further investigation.
    - A more absolute value impact threshold instead of a percentage threshold should be considered if the 10% difference is arbitrary and not supported by uncertainty in the supporting data or analysis method
        i. Impact should be assessed in terms of energy and cost
        ii. If the measure combination decision will have a large impact, then the reasons for differentiating between measure combinations and the supporting evidence should be examined more carefully.
        iii. For example, the impact of CFL interactive effects is small for a single measure but large in the whole portfolio – consideration of interactive effects should depend on the quality and certainty of supporting data, and potential portfolio impact.
    - If all building combinations have similar savings except for one outlying building type (example: extreme climate), then should that impact be separate, or should the impact be examined overall.
    - Consideration of an ex ante outlier can minimize ex post risk.
    - Should the threshold be higher for measures not based on building simulations (e.g., agriculture or industrial measures)
    - Consider the quality of the data being used to inform calculations.
    - Decision rules should be considered for application of interactive effects
        i. Types of measures/measure location, the percentage change in savings, and the absolute change in savings (and resulting portfolio impact)
        ii. Interactive effects may not be appropriate for residential spaces or naturally ventilated commercial spaces.

ACT: Revisions to ex ante development guidelines:
- Address what to do about “outlier” measure combinations that result in a greater than 10% difference in measure savings between possible CZ/building type combinations.
- Address whether non-building simulation values should have higher threshold before values are changed
- More granular decision rules on when to apply interactive effects, with requirement that seemingly large effects need to have higher standard of proof.

- Research/support on how much interactive effects are significant in residential and naturally vented commercial space (see SDG&E residential billing analysis)

e) Building simulations and other tools
   - Need for reviewing appropriate kinds of tools to simulate what you are looking for, consideration of modeling vs. post-billing history.
   - When to use modeling only, when you can calibrate properly.
   - Considerations:
     i. When should AMI data be used, and how?
     ii. Analytics tools, rules of thumb
     iii. Missing data
     iv. Changes in occupancy
     v. Changes in codes
   - Guidelines needed on calibration of models. There are academic as well as industry approaches. DEER calibration is unclear in some cases.
   - Calibration should include pre- and post- billing analysis, and in some cases statistical study.

ACT: Research when/how AMI data should be used to validate ex ante savings.

ACT: Revisions to ex ante development guidelines:
- Section on required ex poste validation of ex ante savings.
- Model calibration, including current practices/guidelines for DEER model calibration
- Ex post analysis that needs to be done to validate ex ante savings, including ex post studies and billing analysis
- Clarify/simplify measures in Table 1 of ex ante development guidelines document. Consider amount of impact and certainty of data.

f) Ex Ante Development Guidelines Document
   - Purpose is to come up with guidelines to simplify process and ensure consistency
   - Needs a purpose section
   - Need to address hearing appeals

ACT: Revisions to ex ante development guidelines:
- Revise purpose section
- Address hearing appeals