Solution Evaluation and Optimization (SEOWG) Working Group Kick-off Meeting

Tuesday, May 9, 2019
9:00am – 12:00pm
WH107

Attendees

In-Person

Lisa Giang, HE
Christopher Lau, HE
Dale Murdock, Newport Consulting
Christopher Kinoshita, HE
Vladimir Shvets, HE
Collin Au, HE
Jon Shindo, HE
Amanda Yano, HE
Sorapong Khongnawang, HE
Greg Shimokawa, HE
Isaac Kawahara, HE
Jay Paul Lenker, PUC
Clarice Schafer, PUC
Maria Tome, PUC
Erik Kvam, REACH
Henry Curtis, LOL
Wren Wescoatt, Progression Energy

WebEx

Andy Schwartz, Tesla
Dean Nishina, DCA
Marcey Chang, DCA
Mike Wallerstein, PUC
Noelani Kalipi, Progression Energy
Nohea Hirahara, HE
Paul De Martini, Newport Consulting
Peter Young, HE
Rebecca Dayhuff Matsushima, HE
Riley Saito, Hawaii County
Robert Harris, Sunrun
Will Rolston, Energy Island
Jason Prince, RMI
Robert Uyeunten, HE
Steven Rymsha, Sunrun
Yoh Kawanami, HE

Agenda

- Welcome and Introductions
  - WG Ground Rules
- Overview of Integrated Grid Planning Process
- Stakeholder Engagement Model
  - Description of the Working Groups
- Overview of Solution Evaluation and Optimization Working Group (SEOWG)
  - Composition and participation overview
  - Roles and Responsibilities
  - Objective
  - Purpose and Specific Tasks
  - Overview of proposed SEOWG meeting dates and topics
- IPG – Identifying and Quantifying System Needs
  - Process to identify system needs
  - IGP Solicitation Process
- Next Steps

Overview

The intent of the Solution Evaluation and Optimization Working Group (SEOWG) is to review and make recommendations to the methods used to evaluate and optimize proposed solutions sourced in the IGP procurement process. Collaborative discussions are desired, in order to provide constructive input and feedback to the Companies on topics within the scope of the working group. This working group is not a decision-making body. Discussion of any active procurement and/or evaluation is outside the scope of this Working Group. Participation in this working group may be done in either of two forms, as an observation role via online meeting to call-in and listen, or a full participation role, involving in-person participation and an ability to contribute knowledge and experience in active discussions.

Objectives

Primarily, the SEOWG will develop a solution evaluation methodology that can be reasonably achieved and implemented in support of the IGP Soft Launch and later to be implemented in the first IGP cycle, with consideration to:

- Developing a transparent evaluation method of assessing the technical fit of proposed solutions from the "3Ps" – pricing, programs, and procurement on a comparative, apples-to-apples basis.
- Identifying and defining additional capacity, ancillary, and T&D non-wires alternative services (collectively, "grid services") that support IGP Solution Sourcing for the first IGP cycle
- Evaluating solutions of varying non-uniform contract lengths and in-service dates;
- Evaluating solutions that only meet a portion of defined grid needs;
- Assessing the synergistic benefits provided by combining solutions that would otherwise not be provided by an individual solution; and
- Consideration of Renewable Portfolio Standards (RPS) contributions and reducing greenhouse gas (GHG) emissions in the solution evaluation.

Discussion

I. Determining System Needs
   a. The IGP process builds on the Power Supply Improvement Plan (PSIP), extending the PSIP process and methods by integrating distribution planning into the system needs identification;
   b. Developing a list of technology-neutral resource, transmission and distribution system needs; and
   c. Determining incremental energy and capacity needs and corresponding grid services required to meet system operational reliability criteria.

II. Process Flow
   a. Inputs begin with Forecast and Planning Assumptions, which flow into the modeling software.
   b. Modeling at the system and distribution levels
      i. System-level models – RESOLVE and PLEXOS;
      ii. Distribution-level models – LoadSEER, SynerGI, and Circuit PV Hosting Capacity;
      iii. Transmission-level model – uses PLEXOS hourly dispatch inputs to PSS/E to identify T&D needs
   c. Outputs lead to procurements of,
      i. Resources and ancillary services
      ii. NWAs
   d. IGP Proposed 2-Part RFP Process

i. Occurs after system needs are identified
ii. RFP Part 1 focuses on procuring for capacity and energy, followed by an initial portfolio evaluation and identification of T&D needs
iii. RFP Part 2 will incorporate the associated costs of interconnection for the capacity and energy solutions from RFP Part 1 as well as issuing RFPs for the identified ancillary services need and T&D NWA, followed by subsequent evaluations of bids
iv. Results lead into developing the 5-year resource plan

III. Questions and Comments

a. A need to be fair to parties outside of this working group.
    i. Discussions should not be tailored to any specific project or resource.
    ii. Ensure that no one feels the SEOWG made decisions that favored one resource over another.
b. It appears that the analysis is only looking at NWA and grid services. Will it also include generation and storage projects that are at the system-level?
    i. The solution sourcing will include grid services and grid scale resources for capacity and energy.
c. Will a rough outline of the evaluation methods being considered be provided to the WG?
    i. During the June 25th meeting, we will talk about how we will support the Soft Launch and some of the evaluation methods we are considering.
d. How are forecasts being used in the modeling?
    i. Several forecasts are used in the modeling as assumptions to determine capacity and energy requirements.
    ii. Distribution planning uses forecasts to identify substation and other distribution needs.
e. Is there any mechanism to evaluate how changes in programs may change a forecast? For example, how would the introduction of a new tariff or sudden uptake of an existing DER program change a forecast?
    i. This is something that may be looked at in the Forecast Assumptions Working Group (FAWG) to the extent they can incorporate the impact of the program on the forecast.
f. For TOU program and customers doing energy efficiency or customer self-supply program, does that become more of a market issue because there is a pricing component?
    i. The programs will inform the forecasting process.
g. How does System Hosting Capacity fit into this process?
    i. This is done in Distribution Planning, as they determine the amount of hosting capacity and associated DER integration costs.
h. It seems that the focus is on DER integration cost and not how the load is impacting things, and how there may be a need to realign everything. How do we make sure that all the devices that are coming up are aligned with the system needs? There should be an alignment on what our distribution needs are today and how they are going to evolve in the future.
    i. Distribution Planning will address a lot of these concerns. The different models are geared towards different services. Distribution models will feed back into other models in a feedback loop.

i. Perhaps we need a different bucket for different things or a different toolbox for different purposes.
    i. Part of what this working group needs to address is what is good enough (good vs. perfect) for the first cycle so we don't miss an opportunity to learn things.

j. Historically, planning has always been done at the system level, then to transmission and then distribution. Why don't you start at the distribution level and optimize there, then work your way back up to the system level? This way, any grid services being procured at the distribution level is taken into account when planning at the system level. Traditional thinking is that we look at transmission system as opposed to being at the edge (distribution system) looking in.
    i. We will take this under consideration.

k. At what point in the process do you look at resilience?
    i. The Resilience Working Group would look at resilience needs. This will likely feed into the Distribution Planning, who may find some need at the T&D level which may then feed into the RFP.

l. If there is an outage in one portion of the grid, how do we prevent it from affecting other portions of the grid or system-wide outages?
    i. The Resilience Working Group will be looking into addressing these types of issues.

m. What role do stakeholders have in the evaluation process versus the software models? It appears you will take the various data and input it into the model, and whatever the model chooses, that is the winner. If that's the case, what is the purpose of having the SEOWG?
    i. The overall process still needs input from SEOWG. The models may give the results, but we need the SEOWG to provide feedback on what is the best process of getting the inputs into the model and processing the results from the model.
    ii. There is no one tool that can address all parts of the IGP process.

n. Will different models give different results?
    i. Yes, different models will probably give different results. Each model is based on different proprietary algorithms.

o. We should have a discussion on which models were available and why this was chosen.
    i. If there are other suggestions, please let us know and we will take them into consideration. PLEXOS was selected because it satisfied most of our planning requirements, such as being able to model the utility system with its operating constraints. RESOLVE was chosen because it was the one that we were directed by external stakeholders to use for the December 2016 PSIP. It also allowed us to perform capacity expansion modeling in a transparent manner. Keep in mind that both RESOLVE and PLEXOS are used by multiple jurisdictions.

p. Can the RESOLVE consider NWA or DR? When do they come into the models?
    i. This is considered a bulk system need. Distribution Planning will determine the candidates for the NWA. There is no single model that models everything together (generation, transmission, and distribution).

q. How much are we going to talk about the modeling?
    i. We can incorporate this into the next discussion. We can take note of this suggestion and do an overview of how the models work.

r. In the next meeting, which states will we be looking at to see how solution evaluation is done elsewhere?

i. Currently, we are looking at California and New York, as well as other locations such as Australian Energy Market Operator (AEMO).

s. Have you considered fuel switching as a type of NWA? Suggestion to call fuel switching as an alternative to an NWA.
   i. Currently, the NWAs are needed to address distribution-level grid needs.

t. Anticipating a 365 day need, are there opportunities for dispatchable resources such as NWAs and DER to provide permanent load shaping? Will this be picked up anywhere in the model? How is an NWA going to be reflected at the system level?
   i. By the next meeting we will be in a better position to address the NWA RFP.

Suggestions/ Next Steps

- On the website, would you please post a list of meeting dates for each working group?
  - Need to firm up the meeting dates for each working group.
- Update Determining System Needs flow chart to include double arrows between Distribution Analysis and the Transmission Analysis bubbles.
- Next meeting is June 25, 2019
  - Present a survey of relevant evaluation efforts in other states.
  - Provide an overview of the proposed Soft Launch T&D NWA evaluation process and methodology.

SEOWG Proposed Meeting Topics and Schedule

Meeting 1 – May 9	Kick-off meeting and overview of IGP, SEOWG challenges and key issues, prioritization of topics
Meeting 2 – June 25	Survey of other state's relevant efforts; identify and prioritize methods to support Soft Launch
Meeting 3 – July-August (TBD)	Proposed evaluation and optimization method in support of Soft Launch and review proposed list of grid services needed for the first IGP cycle
Meeting(s) – September-December (TBD, as required)	Development of evaluation methods for multiple sourcing solutions
Meeting # - January 2020	Review lessons learned from Soft Launch; discuss and capture feedback/ incorporate into draft evaluation methods
Meeting – March 2020	Final review of new evaluation and optimization methods for first IGP cycle