Solution Evaluation and Optimization Working Group (SEOWG) Meeting 2

Thursday, August 1, 2019

9:00am – 12:00pm

American Savings Bank, Training Room 2

Attendees

In-Person

Christopher Lau, HE
Dale Murdock, Newport Consulting
Marcey Chang, DCCA
Henry Curtis, LOL
Robert Harris, TASC
Noelani Kalipi, Progression Energy
Erik Kvam, REACH
Jay Paul Lenker, PUC
Gina Yi, PUC
Wren Wescoatt, Progression Energy
Collin Au, HE
Meredith Chee, HE
Rebecca Dayhuff Matsushima, HE
Nohea Hirahara, HE
Isaac Kawahara, HE
Yoh Kawanami, HE
Sorapong Khongnawang, HE
Christopher Kinoshita, HE
Greg Shimokawa, HE
Jon Shindo, HE
Vladimir Shvets, HE
Amanda Yano, HE
Peter Young, HE

WebEx

Dave Parsons, PUC
Dean Nishina, DCCA
Jason Prince, RMI
Marcey Chang, DCCA
Nohea Hirahara, HE
Robert Uyeunten, HE
Steven Rymsha, DER
Will Rolston, Energy Island
Riley Saito, Hawaii County

Presenters (Via WebEx)

Damei Jack, Con Edison
Marie Schnitzer, National Grid
Mike DeAngelo, Avangrid
Gene Lee, SCE
Michael Freeman, SCE
William Peter, PG&E
Sandy Burns, PG&E

Agenda

- Welcome & Introductions
  - WG Ground Rules
- Review Integrated Grid Planning Process
- Solution Evaluation Approaches
  - Consolidated Edison
  - National Grid
  - Avangrid
  - Southern California Edison
  - Pacific Gas and Electric Company
- Review Solution Evaluation & Optimization Working Group (SEOWG) Role & Objectives
- IGP Planning and Procurement Process Update
- Next Steps

In today's session, we want to gain insight and leverage the experiences others have had in identifying and evaluating DER solutions that meet grid needs.

Discussion

I. Consolidated Edison (Con Ed), New York
   a. "Non-Wires Solutions Update"
   b. Guest speaker: Damei Jack, Manager, Targeted Demand Program
   c. About ConEd:
      i. NY regulation features a focus on Transmission and Distribution through a collaborative process;
      ii. Reforming the Energy Vision (REV) proceeding is at the forefront of the evolving industry
      iii. CECONY – 3.4 million electric customers
      iv. O&R – 0.3 million electric customers
      v. Encompasses the cities of Westchester, Bronx, Manhattan, Queens, Brooklyn, and Staten Island
   d. Non-Wires Solutions (NWS) Background
      i. Traditional approach = building capacity based on forecast
         1. Existing infrastructure capacity is upgraded according to increasing load forecasts over time.
      ii. Non-wires solution approach = lowered forecasted loads over time, through energy efficiency (EE) and demand-side management (DM) to defer infrastructure upgrades in specific locations.
   e. Distributed Energy Resources (DER)
      i. Provides customer choice
      ii. Increases the number of utility tools for customers
      iii. Examples of Traditional Solutions include:
         1. Area Station
            a. Building a new substation;
            b. Adding or upgrading components such as transformers; and
            c. Increasing equipment cooling (water spray)
         2. Feeder Growth
            a. Adding a new feeder or reducing load on a feeder that may defer or avoid infrastructure replacement/upgrade
      iv. Examples of REV/ DER Solutions:
         1. Utility Sided Solutions
            a. Energy storage;
            b. Voltage/VAR Optimization; and
            c. Microgrids
         2. Customer Sided Solutions
            a. Demand Response;
               i. Primary source of customer solutions

        b. Energy Efficiency;
        c. Combined Heat and Power;
        d. Solar and Wind; and
        e. Energy Storage

f. NWS Process Overview
    i. Identify System Needs
        1. Through forecasts and resultant distribution planning studies
    ii. NWS Suitability
        1. NWS suitability criteria considers:
            a. Timing of project – what is the in-service date?
            b. Solution types needed (e.g. load relief, reliability)
            c. Project costs
    iii. Competitive Solicitation
        1. Through Request for Proposals (RFP)
            a. 9 RFPs released to-date
        2. Goal is to source the market; technology agnostic
        3. Then, create a portfolio of market solutions
    iv. BCA (Benefit-Cost Analysis) Evaluation and Procurement
        1. Evaluates proposals using benefit-cost analysis to characterize the projects

g. NWS Projects are Viable Under Certain Conditions
    i. Is the market response enough to make a viable NWS portfolio?
    ii. Does the NWS meet the operational needs identified?
        1. Screen through System Reliability criteria
            a. The timeframe for project in-service date matters
            b. Must procure and solve for the earliest needs, such as transformer overloads first, then look at BCA and feasibility
            c. Looking at a 24-hour need period to measure potential overloads
    iii. Does the NWS portfolio satisfy Regulatory requirements?

h. Program Development Approach
    i. Review RFP Responses
        1. Includes a questionnaire to provide additional details for data required by the BCA analysis
    ii. SME (Subject Matter Expert) Review & Scoring
        1. Must ensure that we are not procuring the same resources (i.e. avoid "double counting" of resources already accounted for in forecasts or other existing utility programs)
        2. Ensure diversity in the type and location to build a portfolio of resources
    iii. Consult with local government officials so they are informed
        1.
    iv. Portfolio Development/ BCA Analysis

            1. Iterative approach to BCA
            2. Energy Efficiency is the easiest to launch and is the quickest way to provide load reduction
            3. Longer timeline for storage DERs, needs more project management work and coordination
      v. DPS Staff Engagement
      vi. Program Launch
i. NWS Requires a Distributed Energy Resources (DER) Portfolio Approach
      i. Energy Efficiency
            1. Typical customer is 1 – 4bedroom household
      ii. Distributed Generation
            1. May provide 24-hour load reduction (solar plus storage)
      iii. Energy Storage
            1. Dispatchable by utility when needed for load-shifting.
      iv. DERMs (Distributed Energy Resources Management) is not included in the NWS portfolio
j. Portfolio Approach is Key
      i. Key considerations
            1. Ensure reliability
            2. Customer experience
            3. Diversified portfolio
            4. Integration of diverse technologies
k. Portfolio Development Learnings
      i. ConEd completed nine RFPs. While developing the portfolios, some of the reasons proposals were disqualified were:
            1. Insufficient information provided;
            2. Little to no reduction impact corresponding to identified times of need;
            3. High costs compared to other solutions; and
            4. Technology proposed not yet proven
      ii. Some of the reasons proposals were selected were:
            1. Complete, clear proposal;
            2. Helps to address overall portfolio needs;
            3. Customer support/ understanding of demographics;
            4. Cost competitive offering; and
            5. Proven technology
l. Current Programs Under Implementation
      i. ~10 RFPs released
            1. Streamlined evaluation process
            2. Vendor feedback
      ii. BQDM extended
            1. BQDM program was supposed to end in 2015 but was extended

iii. 2 additional programs under implementation (Water Street and Plymouth Street projects)
iv. 1 program under evaluation (Newtown)

m. NWS Portfolio Incentives
   i. BQDM includes Energy Efficient and Distributed Generation Customer Sided Solutions
   ii. Water St./ Plymouth St. include Energy Efficiency, Distributed Generation, and Energy Storage Systems (RFP procurement only) Customer Sided Solutions
n. Stay Informed…
   i. Website: www.coned.com/nonwires
o. Questions:
   i. Can you provide more details on how the scoring works? Do you score based on individual projects or a portfolio of projects (i.e., how solution evaluation is done and what software is used?)?
      1. After the RFP is done, first analyze each proposal individually. Looking at 6-9 different areas such as:
         a. Timing – how long it takes the system to come online?
         b. Execution risk (i.e., permitting rules, etc.)
         c. Peak-load solutions – does the project fulfill the need?
         d. Costs
         e. Incentives – which incentives is the developer requesting?
         f. Location – which types of customers does the solution serve?
      2. Aggregate scores, then rank them
      3. Combine projects into portfolios that meet the peak
         a. Proposals evaluated on an individual basis first, then combine into portfolio
   ii. What percentage of forecasted demand were NWAs able to displace?
      1. There's not really a percentage. Rather, the question is more, can we meet overload need for a given year? It depends on the individual networks and the overload needs.

II. National Grid, New York
a. "National Grid's Non-Wires Alternatives Process and Opportunities"
b. Guest speaker: Marie Schnitzer
c. About National Grid
   i. Located in the U.S. and U.K.
   ii. U.S. headquarters located outside of Boston
   iii. Service area of upstate New York
   iv. 72,000 miles of transmission lines
   v. 742 distribution subs
   vi. 3.4 million customers
d. NWA Process Overview

i. Planning
    1. System Needs Identified
        a. Developing system need case and screen need against NWA criteria
    2. NWA Screening Criteria
        a. Project Type
        b. Timeline
        c. Cost
        d. Load
    3. Develop NWA technical needs statement
    4. Evaluate Energy Efficiency/ Demand Response programs

ii. Request for Proposal
    1. RFP/ Bid Solicitation includes
        a. Problem statement
        b. System data (i.e., loading data, timing and duration of need, time of day the need occurs, and aggregated customer load profiles, etc.)
        c. Area and electrical system description
        d. Approximate value of NWA solution

iii. Proposal Review
    1. Proposal review (for completeness)
    2. Technical review
    3. Economic BCA analysis
    4. Bidder interviews

iv. Benefit-Cost Analysis
    1. Determine if NWA proposals are cost effective
    2. Monetize every benefit provided to society by the asset
    3. To move forward, a solution must score >1 on:
        a. New York: The Societal Cost Test (SCT)
        b. Rhode Island: The Rhode Island Benefit Cost Model Test

v. Solution Delivery
    1. Internal approval process
    2. Review with regulators
    3. Finalize and execute agreement with successful bidder(s)
    4. Solution implemented

e. Process Improvements and Opportunities
    i. Recent RFP improvements
        1. Consistent format
        2. More descriptive problem statement
        3. Technical details expanded
            a. About 1-2 years to complete an NWA solution. A few were cancelled for not meeting project requirements.

4. Include approximate value of the deferral that the NWA solution will address
5. Use outreach or RFI's to determine market interest to participate in a specific RFP. Increases efficiency by eliminating NWAs where there may be no interest from the market

ii. Portfolio Solutions
1. Working with internal DR and EE programs to find opportunities to reduce a load relief need as first step
2. Exploring software that will help National Grid optimize DER locations on the grid to develop more focused RFPs

iii. Market Interactions
1. More comprehensive vendor and stakeholder contacts
   a. Ensures a variety of solutions
2. Monthly stakeholder engagement sessions
3. 1:1 Meetings with vendors to gather market intelligence and process improvement
4. New shared e-mail box for vendor communication

f. System Data Portals

i. System Data Portals have been developed to provide information to solution providers about National Grid's electric distribution system
1. New York: https://www.nationalgridus.com/Business-Partners/NY-System-Portal
2. Rhode Island: https://www.nationalgridus.com/Business-Partners/RI-System-Portal
3. Email: Non-WiresAlternativeSolutions@nationalgrid.com

g. Question:

i. How are you evaluating the bids on price? Is it least-cost or best-fit? What are the pricing structures?
1. The ask is for lump sum or annual payment type of pricing structures. However, are open to different pricing structures.

III. Avangrid, New York, Maine, Connecticut

a. "NWA to Grid Investments, Integrating Non-Wires Alternatives into the Planning Process"

b. Guest Speaker: Mike DeAngelo, Program Manager of NWAs

c. About Avangrid

i. Serves the areas in New York, Maine, and Connecticut

ii. Networks include 8 regulated electric and gas utilities in the Northeast, including NYSEG, RG&E, CMP, UI and others

iii. 3.2 million customers

iv. Approximately 1 million smart meters with 1.8 million pending

v. Renewables include the 2nd largest wind energy generator in the U.S., 53 operating wind farms, and renewables located in 22 states in the U.S.

d. States are increasingly expanding mandate of NWAs
    i. New York
        1. 2015 REV Order established NWA requirements for Distribution Planning
        2. Market to develop solution; technology agnostic
        3. Earnings mechanism for utility NWA payments/ incremental costs
    ii. Maine
        1. Existing NTA process for siting transmission projects
        2. 2019 Legislation establishing 3rd party NWA/ NTA Coordinator
            a. Processes currently being developed
        3. Includes all transmission and distribution investments
        4. Utility ownership and operation of NWAs allowed if efficient solution; no requirement to be technology agnostic
    iii. Connecticut
        1. Currently no NWA process requirements; though it is emerging
        2. Part of the scope of the 2018 PURA's proceeding, "PURA Investigation into Distribution System Planning of Electric Distribution Companies"
e. Targeting NWAs to Types of System Needs
    i. Capital investments are driven by many types of needs. NWAs are potentially viable solutions for several types of needs, but not all.
        1. Need and Solution Potential (sub-bulleted) examples include:
            a. Distribution or Transmission Load Serving Capacity
                i. Yes, depends on T&D solution cost and urgency
            b. Transmission Reliability Criteria
                i. Yes, depends on T&D solution cost and characteristic of need
            c. Distribution Reliability/ Voltage Regulation
                i. Yes, depends on T&D solution cost and characteristic of need
            d. Asset Condition/ Resiliency Hardening
                i. No, NWA will not displace need for asset replacement
            e. Non-Steady State Performance
                i. No, e.g., stability, PQ protection/short-circuit, other
            f. New Customer Connections/ Load
                i. No, though NWAs may address any capacity impact
f. NYSEG/ RG&E's NWA Suitability Criteria
    i. Filed with the NY PSC in 2017. Must be applied to all electric T&D projects included in the companies' capital plan
        1. Project Type Suitability

            a. Load Relief projects that do not involve a customer contribution or have a specific customer in-service date that is sooner than the timeline suitability of 36 months
            b. Reliability projects and/or a combination of reliability and load relief projects
        2. Timeline Suitability
            a. Minimum of 36 months to time of need
        3. Cost Suitability
            a. Projects with construction costs greater than $1M

g. NWAs are becoming an integral part of our Planning Process
    i. NWA Screening (3 months)
        1. Identify the need and design a conceptual T&D solution and apply NWA Suitability Criteria (SC)
    ii. If NWA passes, SC, Generalized NWA Scoping (2 months)
        1. Determine specs of NWA, including the years of need for NWA, optimal locations, and performance requirements
    iii. DER Sourcing Strategy/ Plan (3 months)
        1. Evaluate the applicability of DER technologies and programs, identify solicitation approach (single versus portfolio; demonstration technology versus proven technology), then develop RFI/ RFP/ Utility NWA
            a. Targeting a portfolio approach for NY. A portfolio may include Energy Efficiency + Demand Response + Distributed Energy Resources. Utilizing programs first, then developing RFPs to meet any remaining needs. Pilot programs may also be used to address the need.
    iv. DER Sourcing Execution (16 months, or longer if regulatory approval is needed)
        1. Execute the RFI/ RFP process
        2. Qualify and evaluate the NWA proposals and perform BCA
            a. Contract lengths typically 7-10 years
        3. Decide to proceed with T&D or NWA solution
        4. Interconnect and contract awarding process
    v. If NWA selected, Construct and Operate NWA (12 months)
        1. Additional Engineering, Procurement, and Permitting
        2. Construction, then testing and Commissioning
        3. NWA Operation, Administration, M&V

h. NWA Solution Approaches
    i. Targeting existing or add new EE/ DR programs
    ii. Piloting new, innovative technologies and market approaches
    iii. Open (solution agnostic) or closed (solution specific) market solicitations

i. Forecast NWA efforts to increase > 3 times recent levels
    i. Expected NWA efforts will be increased by three times throughout the NWA process lifecycle; from screening, scoping, procurement, through to operation

- ii. Stacking effect on resource needs; an average 3-year NWA process lifecycle; plus, contract management through NWAs ~7-10 year operational life
- iii. Deferred a large quantity of upgrades with NWAs and project costs came in under budget

j. High organizational impact; preparedness & coordination critical
   - i. Centralized NWA process managed by ISP/ DER Sourcing organization
   - ii. Utilized:
     1. SME resources
     2. Engaged State stakeholders and market providers
   - iii. Considerations
     1. Performance and investment uncertainty of NWAs
     2. Longer Planning cycle adds study costs and delays in project identification/ initiation

k. Lessons Learned/ Keys to the Success of the NWA Process
   - i. Determination of when NWAs are suitable
     1. Consider needs beyond the primary need driving the NWA process
        - a. Take a holistic view of the need, looking at utility assets as a whole and not just a specific asset/need (e.g. a transformer upgrade)
   - ii. Information provided to 3rd Parties
     1. Advanced/ prior communications of planned NWA opportunities
        - a. The better you educate the developers about the details of the need and the NWA process in general, the better the process goes
     2. RFP information must be clear, accurate, and complete
        - a. Greater quality of information provided produces better solutions
     3. Explain BCA methodology
     4. Awareness of interconnection process requirements
   - iii. Contracts
     1. NWAs are performing a reliability service and need to be held to a different level of accountability than DERs are used to
     2. Negotiations can be time consuming
        - a. NWA contract is not a typical contract that developers are used to. DERs need to be there when you need them. DERs are there for reliability not the same as PPA.
     3. Performance provisions, liability, and risk considerations
   - iv. Involve Operations and other key utility Business Areas early
     1. Alignment of planned NWA resource operation/ use
     2. Need for added grid visibility, automation and procedures
     3. Deep cross-functional technical review integrating NWA into grid operations

l. Questions
    i. When looking at proposed solutions, how do you value increasing the number of solutions in comparison to greenhouse gas (GHG) emissions?
        1. New York BCA handbook has steps to consider the cost of reducing carbon
    ii. The evaluation of NWAs is focused on a situation where there is a need, is there any consideration of the avoided O&M costs?
        1. O&M costs refer to other equipment such as reclosers, etc. and are considered in the BCA
    iii. Are you evaluating combinations of resources and NWA mitigation options?
        1. Deferral of capital investment

IV. Southern California Edison (SCE), California
  a. "Southern California Edison Distribution Deferral"
  b. Guest Speakers: Gene Lee, Michael Freeman
  c. Objectives
    i. Review of SCE's experience with procurement of DERs for Distribution Deferral
    ii. Structure of Solicitations
    iii. Valuation and Selection Methodology
    iv. Lessons Learned
  d. Prior Solicitations
    i. Ran two recent procurements of DERs to defer specific distribution upgrades
        1. 2018 – Front of the Meter Energy Storage solution for deferral of substation needs (Eisenhower 115/12 kV substation, Newbury 66/16 kV substation encompassing Belpac, Hooligan, and Intrepid circuits)
        2. 2019 – Determined the DER solution was not cost effective, and moved forward with the traditional solution for substation upgrades (Sun City 115/12 kV Substation with multiple circuits, Mira Loma 66/12 kV Substation with Brewer and Matterhorn circuits)
  e. Solicitation Structure
    i. SCE provided specific need details (HE1 – HE24 hourly need by year, expected frequency of need occurrence (monthly, annually))
    ii. "All-Source" procurement, open to any technology type, such as
        1. Demand Response
        2. In Front of the Meter (IFOM) and Behind the Meter (BTM) Renewables, Energy Storage, and Renewable with Storage combinations
        3. Permanent Load Shift
        4. Energy Efficiency
    iii. Detailed pro forma contracts provided at launch specifies terms and conditions
    iv. Potential bidders could provide offers to meet all or only part of the need
        1. SCE was willing to create a portfolio, but preferred offers that met the entire need

v. SCE was willing to consider purchasing more than deferral dispatches that serve the NWA need, when additional dispatch results in benefits that are cost effective

f. Evaluating and Selecting DERs for Distribution Investment Deferral
   i. When solving for a distribution need with DERs, SCE examines each offer's contribution to the distribution need and seeks to find the optimal resource mix
      1. Valuation and ranking done by NPV/deferral-MWh metric
      2. Multiple portfolios created to evaluate their deferral feasibility; qualitative and quantitative values
      3. The DER portfolio NPVs are then benchmarked against the traditional project's cost or deferral value

g. Lessons Learned
   i. A fast RFO can work, however unable to solve complex policy issues during solicitation
   ii. Location can matter for IFOM projects
   iii. Energy Storage charging complications
   iv. DERs that can meet the need more precisely fared better
   v. Distribution needs may change mid solicitation process
   vi. Multi-Use Applications – procuring multiple reliability products from same resource
   vii. Incrementality – would projects have shown up naturally without targeted procurement?

h. Questions
   i. At the time the government said everyone should have electricity, if you have a location-specific NWA, does it decrease the value of a system level NWA?
      1. It's possible, but we are solving for distribution circuit needs.
      2. It is possible that localized solutions may not be optimal on a system level, but that's for a different discussion
   ii. What are the energy storage challenges? Are there grid-charging and dispatch issues?
      1. Yes, there are challenges with storage as it is connected to the customer circuit, which has only so much hosting capacity. The storage competes with the hosting capacity when it is reducing or adding to the circuit load. Additional issues with controllability of the storage at the distribution level.
   iii. What is the intent of using a pro forma contract?
      1. Provides bidders with a line of sight to the structure and specifics being contemplated in an eventual contract
      2. Negotiations will result in redlines and discussions.

V. Pacific Gas and Electric (PG&E), California

a. "Introduction to Distribution Investment Deferral Framework (DIDF)"

b. Guest Speakers: William Peter, Sandy Burns
c. Distribution Resource Plan (DRP) Proceeding
    i. By identifying optimal locations for deployment of DERs, PG&E can:
        1. Modernize distribution system
        2. Facilitate cost-effective customer choice of new technologies
        3. Enable DER-based grid services
    ii. Specifically, the DRP involves
        1. Integration Capacity Analysis (ICA)
        2. Locational Net Benefit Analysis (LNBA)
        3. Distribution Investment Deferral Framework (DIDF)
    iii. DERs include
        1. Distributed Renewable Generation
        2. Energy Storage
            a. Saw similar problems with front of the meter storage charging. Overloaded transformer banks. Charging is hard and dispatching the battery is difficult as it's competing with the market. Similar issues to what SCE are seeing.
        3. Energy Efficiency
        4. Demand Response
        5. Electric Vehicles
d. Distribution Investment Deferral Framework (DIDF)
    i. An annual process to identify opportunities for DERs to defer or avoid traditional distribution infrastructure projects (i.e., Non-Wires Alternatives), the 9 steps are:
        1. Develop Assumptions & Scenarios
        2. Distribution Grid Needs Assessment (GNA) Report
            a. PG&E grid needs are long-duration. The load profile is relatively flat, and therefore there are few peaking needs.
            b. Typical distribution need may involve a 10-20% overload on a feeder
        3. Distribution Deferral Opportunities Report (DDOR)
            a. Implement traditional solution
        4. Distribution Planning Advisory Group (DPAG) Meetings
        5. Seek Commission Approval Distribution Deferral Opportunities
        6. Competitive RFOs for DERs
            a. Solely procure the distribution need, not looking for additional solution benefits.
        7. Implement DER solution
e. DIDF 2018 Cycle
    i. GNA Report, 316 Needs Identified, Filed 6/1
        1. Load Transfers Applied, Multiple Grid Needs Per Project
    ii. Planned Investments, 46 Projects, DDOR Filing 9/1

            1. Technical and Timing Screens
      iii. Candidate Deferrals, 21 projects
            1. Prioritization Metrics, DPAG Feedback and IPE DPAG Report
      iv. Final Candidate Deferrals, 3 projects (~10 MW total), Advice Letter Filing 12/1
   f. Candidate Deferral Opportunity Locations
      i. 2018 DIDF Cycle, 3 locations, deferred 10.6 MW
      ii. IDER Incentive Pilot, 1 location, deferred 2.3 MW
   g. Integrated Distributed Energy Resources (IDER)
      i. Identifies optimal deployment mechanisms for DER through
            1. Determine framework to analyze cost versus benefit (Cost Effectiveness)
            2. Determine framework for soliciting third party resources targeted for needs determined in the DRP (Competitive Solicitation Framework)
            3. Pilot an incentive mechanism to deploy cost-effective DERs that displace or defer a utility expenditure (Regulatory Incentives (IDER Pilot)
   h. Alternative Sourcing Mechanisms
      i. California Public Utilities Commission (CPUC) requests that parties propose alternative sourcing mechanisms of DERs in the IDER proceeding
            1. Parties filed proposals for DER tariffs for distribution deferrals in Feb 2019, which was followed by stakeholder workshops in March 2019 to discuss seven project proposals. In April 2019, ALJ issued a ruling requesting responses to post-workshop questions.
   i. Questions
      i. If a customer puts load on feeder and then you pay them to provide DER to shave off their own load. Doesn't that mean you're paying them to solve a problem that they caused?
            1. Haven't seen that happen yet, but potentially something that we need to watch. Circuit penetration would be measured across the feeder, so adding battery energy storage would reduce the impacts of customer load.

VI. IGP – Identifying and Quantifying System Needs and Evaluation Process
      i. Revised IGP Sourcing with 3P's Approach Integrated
      ii. Resource, Distribution and Transmission needs assessments feed into separate procurement streams and evaluations
      iii. Seeking feedback on the overall process proposed
   b. Questions/ Suggestions
      i. One area of input we would like from the SEOWG is with regards to evaluating proposals with different length terms (Ex: PV+BESS system with a contract term length of 20 Years versus a DER Aggregator with a contract term length of 5 Years)

        1. Suggestion to ask bidders in a procurement to provide information for various term lengths. For example, you could ask the DER Aggregator to provide information for 20 years.
    ii. How will GHG emissions be evaluated? Will it be used in the case of a tie-breaker?
        1. It still needs to be worked out how it will be incorporated. We can characterize the amount of emissions avoided by a specific solution.
    iii. Does the project or solution add to the reliability of the system? If it does, shouldn't it be a part of the evaluation criteria?
    iv. What we've heard today is mainly NWA evaluation, but it seems we need to include discussion on the methodologies that apply to all categories of energy options, broader topics.
        1. We will cover this later, due to the difficulty of evaluating solution types on an apples-to-apples basis in terms of things like contract length.
        2. We're pushing IGP to the limit, a lot of what we discuss in the SEOWG other utilities are thinking about too, so we are trying to raise the issues.
    v. Comments on evaluating solutions that may serve only a portion of the defined grid needs
        1. Decompose the needs into parts
        2. Doesn't this make the evaluation more difficult?
            a. Industry is still addressing this problem, only in the early stages of development
        3. Are we trying to meet resilience, capacity and energy needs?
            a. Suggestion to include resilience as part of the evaluation criteria, and ask the question, does the project provide value to the entire system?
            b. There is also a Resiliency Working Group to identify those needs
    vi. You may have to weigh the projects against all the evaluation criteria even though you will receive different structured bids
    vii. If we are looking at it only through the lenses of evaluation, how do we know when a solution solves issues at the system level rather than a specific location? What about other NWA benefits such as fuel and O&M savings?

Suggestions / Next Steps

- Meeting notes and the slide deck will be posted on the IGP website
- Next meeting: September 20
- Topics:
    - Examine and discuss relevant feedback and learning from other Working Groups
    - Provide an overview of proposed Soft Launch T&D NWA evaluation process and methodology

    - Stakeholder Feedback on the solution evaluation and IGP Procurement Process
        - Stakeholder presentations welcome and open discussion
- Please send any additional comments on today's discussion to:
    - IGP@hawaiianelectric.com and Christopher Lau (christopher.lau@hawaiianelectric.com)