

An aerial photograph of a coastal city at sunset. The scene features modern high-rise buildings on the left, a sandy beach in the center, and a swimming pool with lounge chairs in the foreground. The ocean is visible on the right, and a mountain range is in the background under a warm, orange sky.

Integrated Grid Planning

Solution Evaluation & Optimization

Working Group Meeting

May 9, 2019

Agenda

- ◆ Welcome & 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)
 - Solution Evaluation & Optimization Working Group (SEOWG) composition and participation overview
 - SEOWG Role and Responsibilities
 - SEOWG Objective
 - SEOWG Purpose and Specific Tasks
 - Overview of proposed SEOWG meeting dates and topics
- ◆ IGP – Identifying and Quantifying System Needs
 - Process to identify system needs
 - IGP Solicitation Process
- ◆ Next Steps

Ground Rules

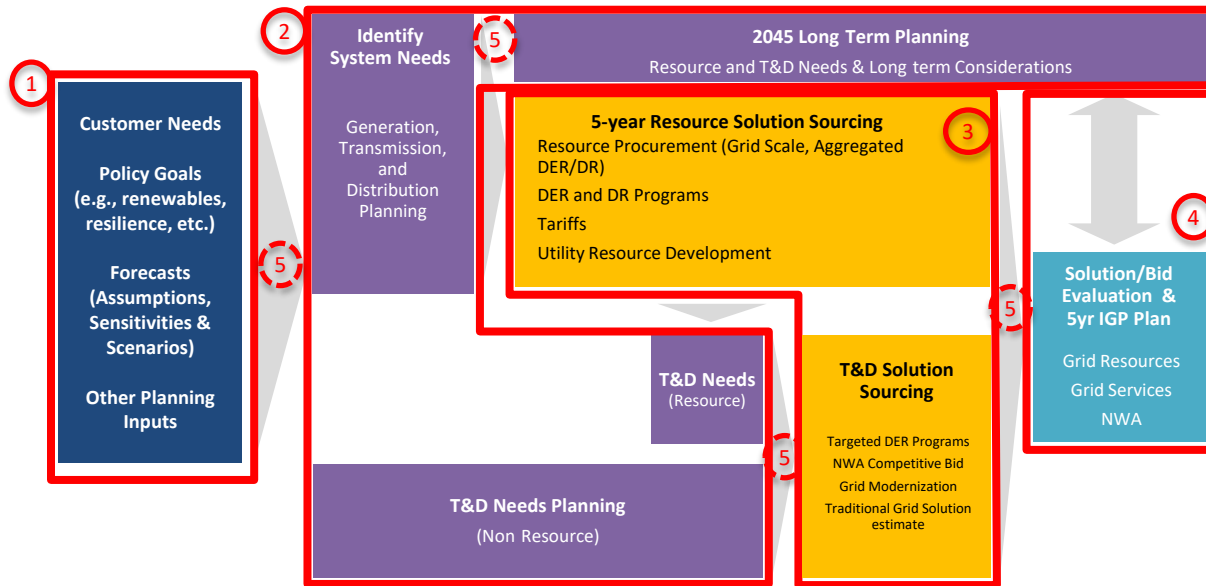
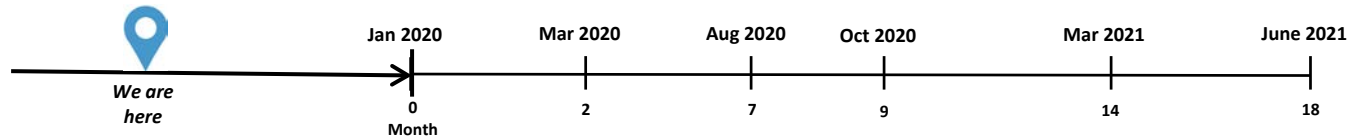
- ◆ Chatham House Rule will apply – no personal or organizational attribution will be made to any comments/feedback provided during the meeting by any participant nor in written documentation.
- ◆ Working group meetings, and other information exchanges are intended solely to provide an open forum or means for the expression of various points of view in compliance with antitrust laws.
- ◆ Under no circumstances shall engagement activities be used as a means for competing companies to reach any understanding, expressed or implied, which tends to restrict competition, or in any way, to impair the ability of participating organizations to exercise independent business judgment regarding matters affecting competition or regulatory positions.
- ◆ Proprietary information shall not be disclosed by any participant during any industry engagement meeting or information exchange. In addition, no information of a secret or proprietary nature shall be made available to industry engagement participants.
- ◆ All proprietary information which may nonetheless be publicly disclosed by any participant during any industry engagement meeting or information exchange shall be deemed to have been disclosed on a non-confidential basis, without any restrictions on use by anyone, except that no valid copyright or patent right shall be deemed to have been waived by such disclosure.

INTEGRATED PLANNING PROCESS



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Integrated Grid Planning Process



1. Forecast & Planning Inputs
2. Identify & Quantify System Needs
3. Sourcing Solutions
4. Solution Evaluation & Optimization
5. IGP Long-Term Plan & Flexibility

Regulatory Approval
Seek PUC approval of IGP 5 yr plan & related applications

Stakeholder Engagement



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IGP – Integrated Grid Planning

IGP is a planning process that will:

- ✓ appraise the total needs of the system
- ✓ consider all alternatives from customers, independent providers and the utility
- ✓ integrate market-based solutions
- ✓ determine the best resource and grid options for customers
- ✓ be inclusive through stakeholder review and input
- ✓ synchronize and unify resource, transmission, and distribution planning processes
- ✓ streamline processes that will optimize energy portfolio

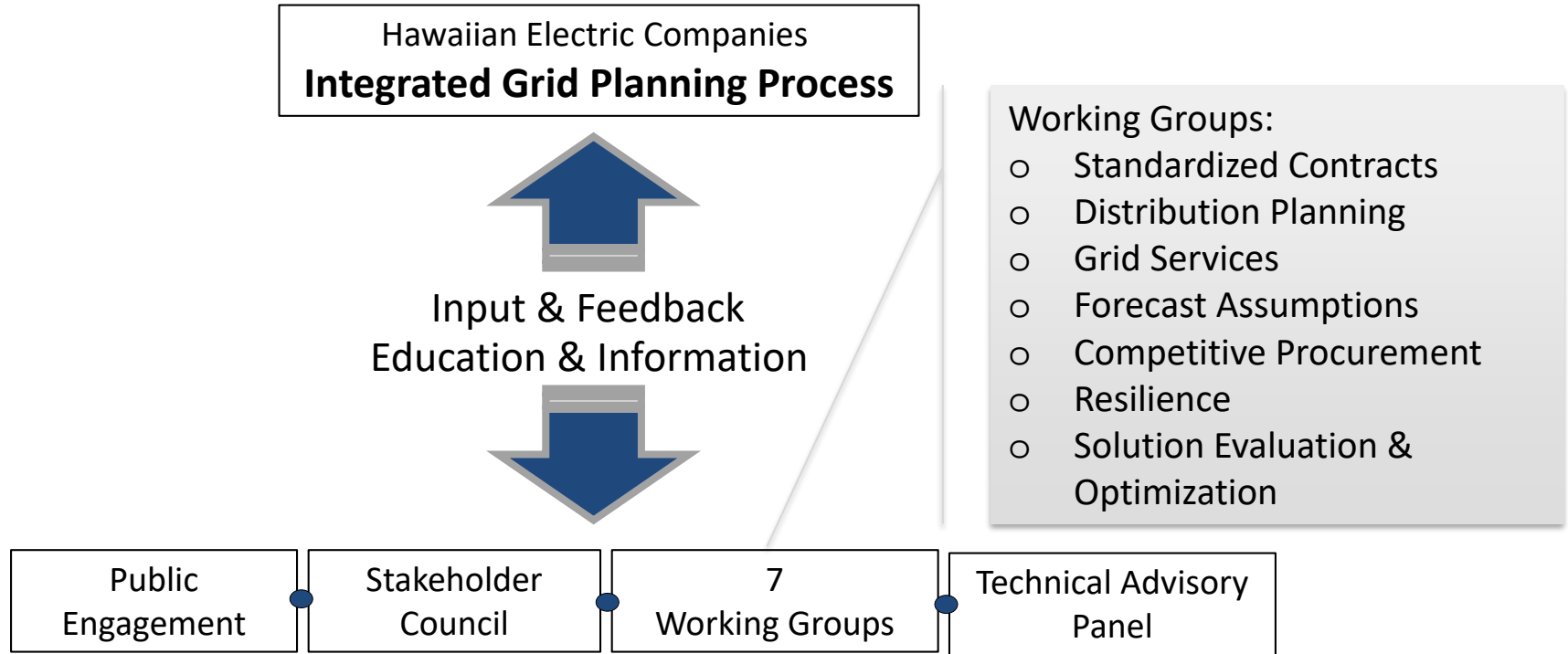


STAKEHOLDER ENGAGEMENT



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IGP Stakeholder Engagement



IGP Stakeholder Engagement

- ◆ Builds on the engagement model adopted for the 2016 PSIP and the 2017 GMS
- ◆ Creates transparency and greater understanding of IGP
- ◆ Objective is to enable stakeholders to share input and feedback and provide a balanced, respectful discussion among interested parties throughout the IGP process



IGP – About the Working Groups

- ◆ **Standardized Contracts**
 - Determine the optimal approach to contracting for energy, capacity, and ancillary services from a variety of sources.
- ◆ **Distribution Planning**
 - Inform and educate stakeholders on various aspects of distribution planning, and afford stakeholders opportunities to provide feedback and input into the Companies methodologies to identify and address distribution grid needs.
- ◆ **Forecast Assumptions**
 - Provide strategic input on planning assumptions and methodologies used for developing forecasts on consumer energy use
- ◆ **Grid Services**
 - Refine current and identify/define additional energy, capacity, ancillary and non-wire transmission and distribution alternative services, and create standard template for defining and quantifying these services
- ◆ **Solution Evaluation & Optimization**
 - Identify and define the set of grid services (capacity, ancillary, and T&D non-wire alternative) in support of the IGP solution sourcing
 - Develop transparent evaluation method of assessing technical fit of proposed solutions
- ◆ **Competitive Procurement**
 - Establish a fair, efficient, streamlined procurement process for resources that align with grid plan developed through the IGP process
- ◆ **Resilience**
 - Assess and identify electric system resiliency planning criteria for input into IGP

OVERVIEW OF SEOWG



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Composition of the SEOWG

- Members of the Companies, including, but not limited to: system planning, renewable acquisition
- Public Utilities Commission Staff
- Division of Consumer Advocacy
- Representatives from Hawai'i, Honolulu, and Maui Counties
- Department of Business, Economic Development & Tourism
- Docket Members, per PUC Order 36218



Options for SEOWG Participation

Any party interested in joining the SEOWG may do so under two options:

- An observation role which allows participants to call in and listen to active meetings. Questions and comments of these participants shall be submitted thru the IGP website.
- A full participant role which allows active participation in meetings and other resource building activities. A full participant is expected to have an interest in the SEOWG, knowledge of solution evaluation approaches/frameworks as well as some technical knowledge of electric systems, system planning, and understanding of technologies and capabilities of generating resources, including distributed energy resources, to address grid needs.
- The time and resources necessary to attend meetings and complete any assignments.



SEOWG Roles and Responsibilities

- ◆ The role and responsibilities of the SEOWG are to provide input and feedback on grid services identification and the solution evaluation and optimization process and methodology to support IGP sourcing.
- ◆ Participants are expected to provide expertise in the discussion topics as well as potentially relevant examples for consideration and/or lessons learned from other states.
- ◆ The SEOWG is not a decision-making body. However, the expectation is that the working group will work collaboratively and provide constructive input and feedback to the Companies on topics within the scope of this working group.
- ◆ Discussion of any active procurement and evaluation is outside the scope of this WG

SEOWG Objective

Our primary objective is to develop a solution evaluation methodology that can be reasonably achieved and implemented in support of the IGP Soft Launch and implemented for the first IGP cycle considering we need to:

- ◆ Develop evaluation methodology for Soft Launch
- ◆ Identify and define additional capacity, ancillary and T&D non-wires alternative services (collectively “Grid Services”) that support of IGP Solution Sourcing for the 1st IGP cycle
- ◆ Evaluate solutions that have non-uniform contract term lengths and in-service dates
- ◆ Evaluate solutions that may meet only a portion of the defined grid needs
- ◆ Assess the synergistic benefits provided by a combination of solutions that would otherwise not be provided by an individual solution
- ◆ Consider RPS contributions and reduction in GHG emissions in the solution evaluation

The challenge will be defining processes and methodologies that are “good enough” for the first IGP cycle (*i.e. can we achieve good v. perfect*)



SEOWG Purpose and Specific Tasks

The purpose of the Solution Evaluation and Optimization Working Group is to identify needed grid services and review and make recommendations regarding the transparent evaluation and optimization method used to fairly assess proposed solutions from the solution sourcing procurement process

- ◆ Identify and define additional capacity, ancillary and T&D non-wires alternative services (collectively “Grid Services”) in support of IGP Solution Sourcing for the 1st IGP cycle
- ◆ Develop 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. This will require the ability to assess combinations of solutions to address an identified need if solutions meeting partial requirements are allowed.
- ◆ Develop a transparent **optimization** method to assess any combined value for proposed solutions that potentially address more than one identified resource/grid need and in relation to other solutions addressing discrete needs identified.
- ◆ Discuss how contributions to RPS and reductions in greenhouse gas emissions affect the value of a proposed solution
- ◆ Develop methods to be informed by Soft Launch and provide learnings to other Market WG activities
- ◆ Foster collegial, balanced discussion to achieve shared understanding of the competitive procurement process, and to build common ground through iterative discussion and feedback.



SEOWG Proposed Meeting Topics and Schedule

Meeting 1 – May 9:

Kick-off Meeting & 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:

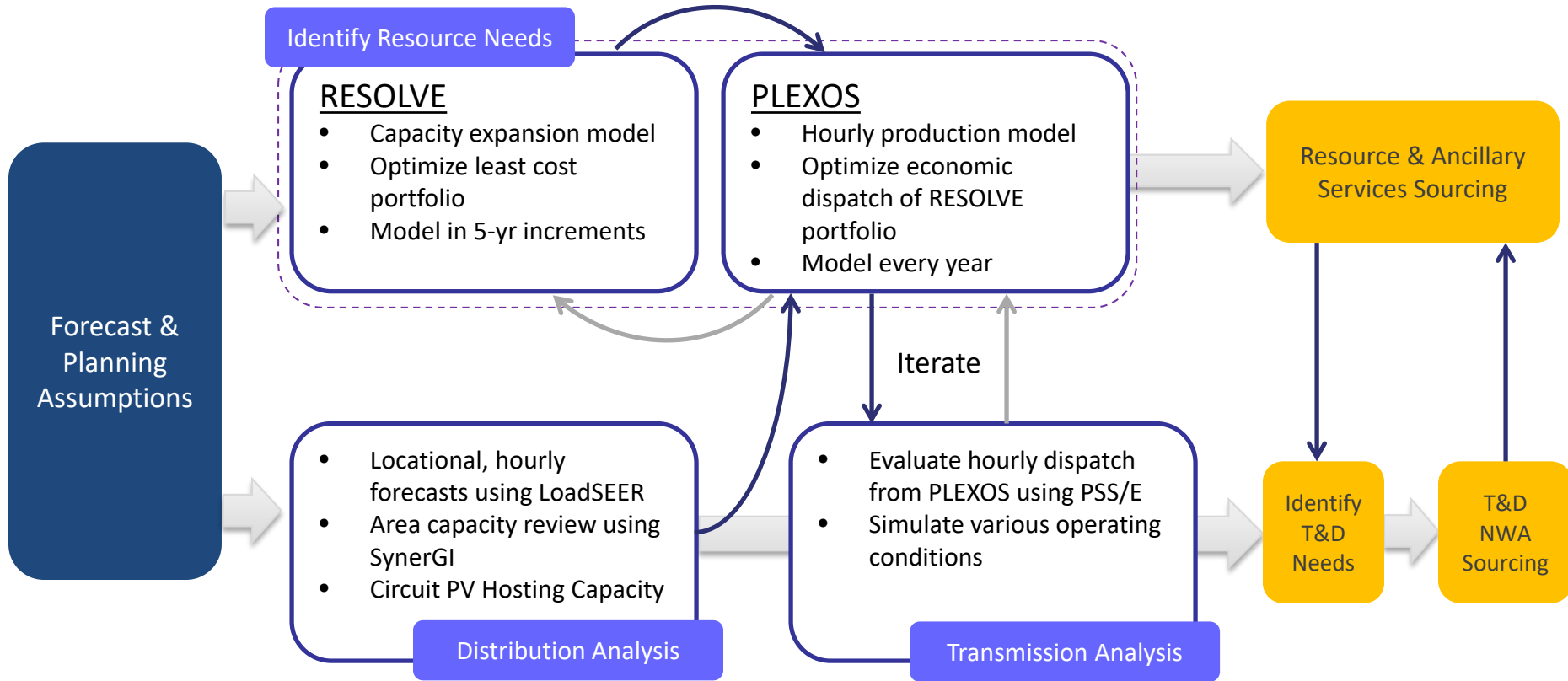
Final review of new evaluation and optimization methods for 1st IGP cycle

IGP - IDENTIFYING AND QUANTIFYING SYSTEM NEEDS AND EVALUATION PROCESS



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Determining System Needs

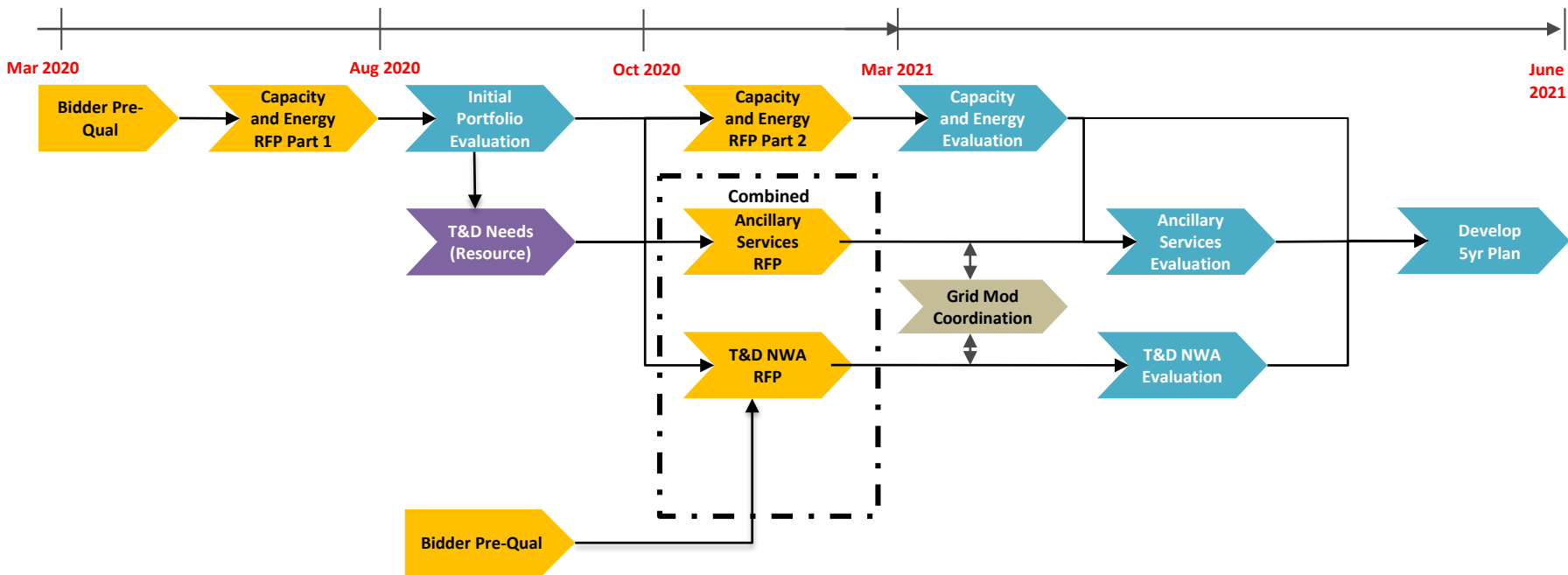


Determining System Needs

The IGP process builds on the Power Supply Improvement Plan (PSIP)

- ◆ Extends the PSIP process and methods by integrating enhanced distribution planning into the system needs identification
- ◆ Develops a list of technology-neutral resource, transmission and distribution system needs
- ◆ Determines incremental energy and capacity needs and corresponding grid services required to meet system operational reliability criteria

IGP Proposed 2-Part RFP Process



Next Steps

- ◆ Meeting notes and the slide deck will be posted on the IGP website
- ◆ Next meeting is June 25, 2019:
 - Present a survey of other state's relevant evaluation efforts;
 - Provide an overview of proposed Soft Launch T&D NWA evaluation process and methodology

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