

Meeting Notes

Hawaii Electric / Navigant Kick Off Meeting

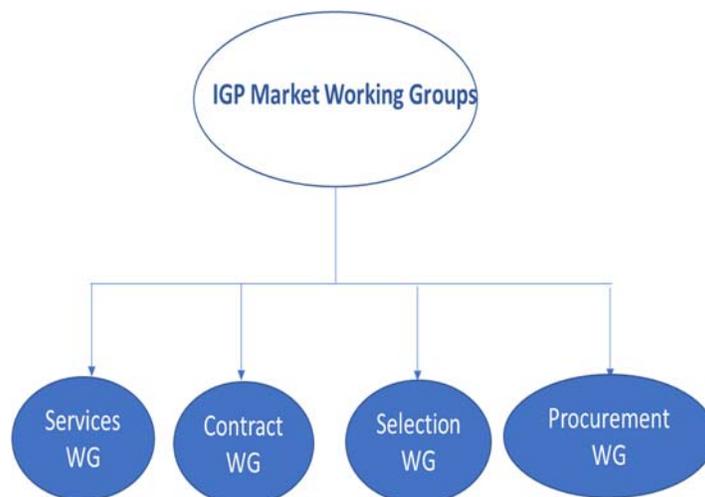
Date: December 12, 2018

Background: Hawaiian Electric would like to revisit the Grid Services Purchasing Agreement (GSPA) strawman which was previously filed with the Commission. This standard contract proposal was not accepted within the Demand Response docket by the Commission. The Commission requested that the Companies vet market rules and legal terms and conditions with stakeholders to develop a model GSPA to be filed by the end of March 2019. Hawaiian Electric would like to evaluate the GSPA with stakeholder input and develop a standardized contractual mechanism to ensure that the Companies have established a scalable and extensible mechanism that can accommodate a dynamic procurement-based market. While the GSPA was initially developed with aggregators as the intended counterparty, further complicating this current exercise is that the Companies intend to use the output of the March filing as a template to be scaled and applied to other counterparties within the competitive procurement; most notably; this applies to Independent Power Providers (IPPs).

This need is underscored by the fact that Hawaiian Electric initiated the draft Integrated Grid Planning (IGP) in March 2018 and filed an IGP Work Plan in December of 2018. The IGP focuses on the identification of the dynamic bulk system and locational grid services needed by the various systems across the Hawaiian Islands and outlines a multifarious service sourcing methodology that incorporates competitive procurement; the aim is to maintain system reliability in the face of heavy renewable penetration. A key element to this competitive procurement is a standardized approach to procurement and a standard form mechanism for contracting awards while clearly and uniformly defining the rules of engagement for the delivery of these services.

To manage the market establishment within the IGP initiative, the Companies have established four working groups as shown in the Figure 1 below. Each working group represents the different, interdependent elements of standing up a market for the procurement of grid services.

Figure 1 – IGP Working Groups



Key Drivers and Goals:

The key drivers, as mentioned above, are the IGP efforts to effectuate a dynamic and nimble competitive procurement marketplace. The challenges for Hawaiian Electric are:

- It's a bilateral market with a limited pool of assets to operate a dynamic island system.
- There are two primary different counterparties, which will make it difficult to structure a one-size-fits-all mechanism.
- The next evolution of grid service resources will reach beyond the traditional bulk system.

As mentioned, although the initial focus is on distributed resources, Hawaiian Electric would like to eventually competitively procure all the grid services based on a "level playing field" model, which is possible only through the standardization of services, contracts, and rules. In addition, Hawaiian Electric would like to benchmark the participation requirements and contracts adopted by different entities, including grid operator balancing authorities and utilities with heavy renewable penetration. The industry practices and examples provide Hawaiian Electric with the basis for future solicitations, which could be patterned after market-based services procurement used in other jurisdictions.

The goals of Hawaiian Electric and the Standard Contract Working Group are:

- To develop a standardized contract for the delivery of services which is:
 - Scalable across all counterparties
 - Scalable across current and future grid service needs
 - Streamlined and simplified to something palatable and universal
 - Inclusive of operational requirements as required by system operations
- To gain approval of Commissioners, stakeholders, and interveners, and, based on best practices, engaging a larger stakeholder community to develop the contract and participation rules.

This will inform the development of a competitive market for the procurement of grid services in Hawaii.

Standardized Contracts and Services:

The Edison Electric Institute (EEI) and Western Systems Power Pool (WSPP) standardized contracts provided the ability to contract 50 different entities including IOUS, LSEs, IPPs in six months. Some parts of the agreements are essential, such as credit requirements and financial arrangements. One of the bigger issues is litigation-averting statements; the Standard Contract Working Group has the opportunity to standardize the grid services procurement contract and corresponding participation rules. Considering Hawaii's unique demographics and topology, there is an opportunity to customize specific details as needed within a standardized services agreement with Hawaiian Electric.

Services procured through PPAs and contracts¹

Standardized contracts and PPAs can incorporate various grid services including energy, capacity, and ancillary services. Typically, a PPA is a longer-term arrangement and more customized to the terms of a negotiated agreement, including delivery terms, specific MW amounts, duration, etc. Standard contracts can serve the same procurement purpose be can be

¹ Note: The new standard Hawaiian Electric GSPA will likely be a combination of the previous GSPA, PPA contracts, and other market rule elements.

adapted or extended at the end of year or even serve as an ongoing contract with no end date. A Standard Contract framework provides flexibility through attachments without the need to renegotiate an entire agreement.

Well-constructed commercial arrangements should mirror the capital cost of participating independent resources, which are substituting for one of Hawaiian Electric's assets. The services from counterparties should have same level of reliability as that of Hawaiian Electric's assets.

While each service has different characteristics, all services must harmonize so grid operators have what they need to operate their system reliably. In developing contract features and details the Working Group has to be cognizant of operators' knowledge and experience and applicable operational requirements. In using independent resources to operate a system reliably, the features of services must recognize important operational parameters and constraints, such as response times, ramp rates, etc., which could vary by service (not resource). Over time and taken more broadly, these agreements should support a resource acquisition and contracting strategy in line with the planning and operational criteria as defined as an output of the other IGP Working Groups. Since operators might have different delivery requirements than the constraints used in a production simulation (planning) model, the participation rules (specifically delivery requirements) need to meet operators' expectations and consider their feedback on different preferences for grid services as they learn what works well and in what time frame. For example, capacity may be contracted across a multi-year window, energy in longer timeframes, and ancillary services in shorter timeframes. All participants must be qualified to participate. Although different grid operators use different terms; for example, NYISO uses "Market Participant", CAISO uses "Scheduling Coordinator" it standardizes the description of parties and their obligations in a contract or tariff. A standard contract is the way to derive both the grid operator utility and market participant obligations.

Contract Structure Options– A gap analysis and roadmap may be needed to harmonize the current approach. Currently, there is no price variability in Hawaiian Electric's 5-year contracts that are settled monthly. With an eye toward procuring grid services from distributed (and eventually all) resources, and without a centrally-cleared wholesale market, Hawaiian Electric will rely heavily on contracts. Eventually contracted energy services may need to accommodate price and quantity variability, perhaps by using a day-ahead price index, for example. New contracts must integrate with "locked" multi-year agreement PPAs. Risks need to be defined to determine contracting aspects, for example adjusting the settlement window to vary the creditworthiness criteria, with higher credit requirements across a longer window. Managing price and risk is a topic to be addressed over the course of the longer effort.

The goal is to build a consistent structure and related mechanisms to establish price components and to not pay more than is needed. There is a market value for grid services that can become more apparent. Grid services can be also used to set avoided cost calculation if needed.

Presentation Updates & Next Steps:

The Working Group will approach this effort in three pieces, each getting more specific: structure, mechanisms and terms. The *structure* is the "what does the envelope look like?" the *mechanisms* are the main pieces (levers, obligations, and risk/risk mitigation elements), the *terms* are where we start to specifically fill in the blanks on the mechanisms. The result of this effort should define

the optimally balanced combination to support market operations, grid reliability obligations, and legal obligations.

Ratify Draft Charter –

The Working Group provides a forum for open exchange of knowledge and ideas surrounding the procurement of services through a contracting mechanism between Hawaiian Electric (utility) operators and third-party providers of grid services. The initial focus will be on contract options including:

- Structure – standard form, including legal contract and specific enabling rules
- Mechanisms – components and pieces
- Terms – details

Ratify Draft Guiding Principles – To achieve a common ground in the diversified interests as an organization the Working Group agreed it is useful to adopt principles.

1. Competition yields lower electricity rates.
2. Stable and transparent rules and regulations promote private investment.
3. Private investors, rather than utilities, will spend money on new power plants and transmission facilities if they can earn a return that is balanced with the risks.
4. Markets work best when there are many buyers and sellers.
5. At-risk money will be put to work and attract new investment where markets exist that are legitimate and yield credible prices.

Discussion included:

Structure - Can a contract become a reference document?

- Commonality in all contracts related to participation rules
- Then identify customized sections –
 - beneficial matrix to have – liquidated damages, credit, benchmarking of products for operations
 - Look at other market examples, in addition to Hawaiian Electric PPAs and GSPA

Mechanism -

- Build Risk Assessment and Risk management into the mechanisms
 - Risk Variables are in the market, including creditworthiness?
- One challenge is how fast the market place is changing and the choice of indices is important, so contracts don't need to be renegotiated if things, such as fuel prices, significantly change. Some other options for adding some flexibility that protects counterparties includes:
 - Hybrid model for long term contracts that include the option to revisit the contract after a certain number of years if the prices significantly change.
 - Use a structure that keeps the cost of renegotiation low for both the buyer and seller, such as terms for renegotiation in future based on certain market conditions.
 - Following trading procedures and credit ratings to keep track of the resources.

Terms -

- Outcomes need to be specific to what the grid operator needs
 - Multiple year / multiple services / across multiple islands?
 - Counter parties – aggregators block contracts – better prices with better sizes?
 - Contract – X% from DER and Y% from centralized asset?
 - 3 to 4 services aligning with 3-5 years?
- Planning also part of the above
 - Can we have an energy service agreement for 20 years and ancillary services for shorter periods?
 - Would this depend on the counter-party?
- More work around locational services to take place in 2019

Next Steps:

- Circulate meeting materials, including notes and presentation
- Navigant will benchmark matrix of EEI, WSPP, other PPAs, including Hawaii Electric PPA
 - Comparable standardized structures
 - Prepare discussion of comparable mechanisms
 - Comparison against GSPA
- Use the matrix to develop the strawman
 - Understand risk and risk mitigation based on benchmarking
 - Identify failures and lessons learned in other markets
- Include HECO legal team that have worked on GSPA and PPAs in future meetings

Attendees:²

Jay-Paul Lenker (PUC)

Samantha Ruiz (PUC)

Marcey Chang (CA)

Lisa Laughner (DERC)

Dhruv Bhatnagar (HECO)

Rich Barone (HECO)

Yoh Kawanami (HECO)

Scott Miller (WPTF)

Leah Bissonette (Sunshine Soldiers)

Laura Manz (Navigant)

Stuart Schare (Navigant)

Sony Dhalilwal (Navigant)

Radha Soorya (Navigant)

² Italics = remote participant