

Microgrid Services Tariff Working Groups Webinar

November 5, 2019



Hawaiian Electric
Maui Electric
Hawai'i Electric Light

MGS Tariff WGs Agenda

- ◆ Introduction
- ◆ MGS Tariff Microgrid Type Definitions
 - ◆ Review & Finalize
 - ◆ Recommended Tariff Focus & Development Priorities
- ◆ MGS WG Framework
 - ◆ Refinements & Finalize
- ◆ Agenda for Nov. 21st Joint WG Meeting
 - ◆ Proposed Agenda Topics
 - ◆ Call for presenters
- ◆ Status Mtg w/PUC Nov 14th



Microgrid Types for MGS Tariff



What Microgrid Archetypes are Within the MGS Tariff Scope?

A "microgrid project" is defined by HRS 269-46 to mean;

“a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as single controllable entity with respect to the utility's electrical grid and can connect to public utility's electrical grid to operate in grid-connected mode and can disconnect from the grid to operate in island mode, and that:

- (1) Is subject to microgrid services tariff; and
- (2) Generates or produces energy.”

Source: HPUC D&O 36481 p.3



MGS Tariff WG Focus & Scope

There are many potential topics, but to prioritize and meet the scope of Act 200 and Order No. 36481 , the WG's focus will be as follows:

Focal Point of Docket 2018-0163

“To better focus the commission's and Parties' near-term efforts on activities that can support the intent of Act 200, the commission's **initial priority** in developing the microgrid services tariff *is to facilitate applications of microgrids that improve energy resiliency, particularly the islanding of microgrids during emergency events and grid outages to provide backup power to customers and critical energy uses.*”

(See Order 36481 at 48.)

Commission Determinations for Priority Items

- Standardize interconnection process and requirements (Rule 14H, and Microgrid Tariff if necessary)
- Review/revise existing DER programs as needed to facilitate microgrid development
- Develop Microgrid Tariff to provide a pathway to enable microgrids to support resilience during grid outages

Proposed MG Types for MGS Tariff to Meet WG's Focus

◆ Customer Microgrids

- ◆ Customer microgrids are self-governed, acting as a single controllable entity normally operated in utility grid-connected mode and can disconnect from the grid to operate in island mode for resiliency.
- ◆ Customer microgrids are downstream of a point/s of common coupling (PCC) with an electric utility utilizing either (i) own, (ii) lease or otherwise obtain use of non-utility distribution wires and other internal infrastructure of the microgrid from non-utility third parties.

◆ Hybrid Microgrids

- ◆ 3rd party microgrids act as a single controllable entity with respect to the utility's electrical grid normally operated in grid-connected mode and can operate in an island mode for resiliency within clearly defined electrical boundaries using utility distribution wires or other utility infrastructure to link resources and loads within their micro-control area.
- ◆ Potential Examples:
 - ◆ A homeowners association that organizes a microgrid in a residential community.
 - ◆ A 3rd party microgrid operator operating a multi-user microgrid on behalf of itself and/or one or more microgrid participants to meet operational, environmental, reliability, resiliency and redundancy goals of the participants, managing both purchases from and sales of services to the grid. It will manage the microgrid in island mode.



Microgrid Types Out of Scope for MGS Tariff

(discussion on these topics will be documented in parking lot issues)

Type	Description	Rationale for Not Including
Utility microgrids	Microgrid developed by utility on distribution system that may involve both utility resources (own or contracted) and customer resources providing services.	Utility microgrid related investments are approved through existing regulatory processes.
Remote microgrids	Customer microgrid that is off-grid, not connected to the utility grid in normal mode and unable to connect to the utility grid.	Remote microgrids do not fit Act 200 definition of a microgrid.
Virtual microgrids	Virtual microgrids also known as Virtual Power Plants (VPP) are a set of aggregated resources that can provide grid services under normal operating conditions. Resources are not able to support load within clearly defined electrical boundaries.	Virtual microgrids do not fit Act 200 definition of a microgrid. VPPs already eligible to provide energy and services under existing programs and procurements.



MGS Tariff WGs Scope & Focus Recommendations

- ◆ Focus MGS Tariff on Customer & Hybrid Microgrids
- ◆ Prioritize development of Customer microgrid tariff development first for March draft tariff filing.
- ◆ Initiate discussion of Hybrid microgrid tariff issues to minimally frame for a potential second phase given the number of complex issues and lack of time under PUC schedule.
 - ◆ WGs considered the input from subject experts working on similar Hybrid microgrid tariffs in Illinois & DC that have worked for a year and still have substantive issues to resolve.



MGS WG Organizing Framework

Revised framework to identify specific topics and priorities for WGs' discussion

MG Type	Tariff Structure	Rule 14H & Process Chgs	Energy & Grid Services	Resilience Services	Retail Wheeling	Other
Customer Microgrids	?	Minor Changes (IEEE/UL microgrid safety standards)	Yes (Existing Pricing, Programs & Procurements)	Parties to Propose	N/A	?
Hybrid Microgrids	?	?	Yes (Existing Pricing, Programs & Procurements)	Yes (Need service definition & value methodology)	Yes (case specific considerations & cost of service study)	?



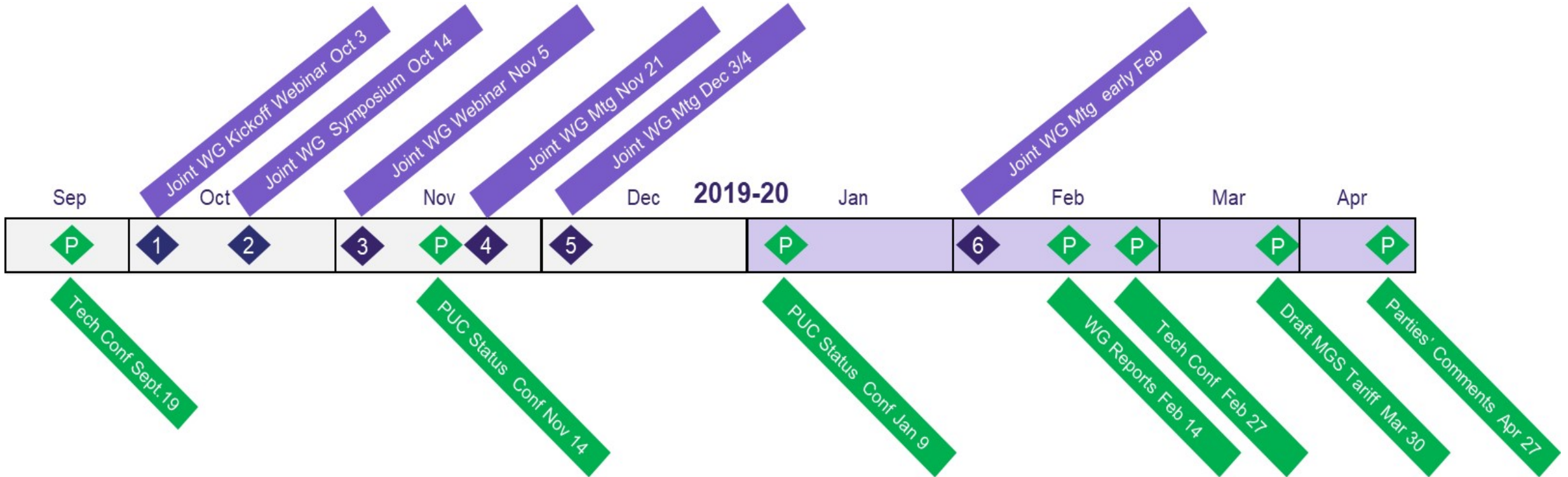
Draft Agenda for Nov. 21st MGS WG Joint Mtg

- ◆ Introduction
 - ◆ Feedback from Nov 14th PUC status meeting
- ◆ WG Member Presentation(s)
- ◆ Customer Microgrid Tariff
 - ◆ Interconnection Changes
 - ◆ Applicable Standards (e.g., IEEE 2030.7 and 2030.8 relating to standards and testing procedures for microgrid controllers)
 - ◆ Potential process changes
 - ◆ MGS Tariff Structure
 - ◆ Identify recommended structure
 - ◆ Existing Program/Tariff changes
 - ◆ Identify recommended changes as needed
 - ◆ Other Issues
 - ◆ Identified in October WGs Symposium
- ◆ Hybrid Microgrid Tariff
 - ◆ Identify and prioritize issues to address



Proposed Timeline for MGS Tariff WGs

Adjust as needed based on stakeholders feedback & co-chairs' direction



Backup Slides: MGS Tariff Background



MGS Tariff WG Focus & Scope

Expectations of Working Groups

Working Groups	Tasks	Deliverables
Interconnection Standards	<ul style="list-style-type: none"> Review interconnection standards under existing tariffs Discuss changes to existing interconnection standards to support microgrids and backup power applications Examine examples of interconnection requirements and processes 	<ul style="list-style-type: none"> Draft language modifying Rule 14H regarding interconnection and islanding / reconnection of microgrids
Market Facilitation	<ul style="list-style-type: none"> Develop MGS Tariff language Consider modifications to existing tariffs or programs Explore new program(s) for microgrid development 	<ul style="list-style-type: none"> Draft MGS Tariff language to enable microgrids that provide backup power during grid outages Proposed compensation for use of HECO Companies' distribution system, if necessary Recommendations to modify existing programs, and/or new programs or services, if necessary, to support microgrid development Justification for compensation for clearly demonstrated benefits to non-participants, if necessary

MGS Tariff WG Deliverables

Status Reports and Status Conferences

- Co-chairs provide status reports or presentations detailing the Working Group's progress thus far, and summarizing unresolved issues and challenges
- Written status reports or presentation slides will be made a part of the docket record
- Status Conferences will be facilitated by Commission Staff



Final Working Group Report

- Final Working Group Reports must be filed by February 14th, 2020
- Reports should identify areas of consensus and disagreement
 - For areas of consensus, necessary language for tariff modifications (with red-lines) or a new tariff should be provided
 - For areas of disagreement, participants should provide their individual perspectives
- Tariff modifications or new tariffs should be attached to the Reports as Exhibits
- Reports will be utilized by the HECO Companies in creating a Draft MGS Tariff and in updating language to other tariffs



Brief Summary of Related Proceedings

- ◆ Docket No. 2019-0323 Distributed Energy Resource Policies, includes distributed generation, energy efficiency, demand response, electric vehicles, and distributed energy storage.
 - ◆ Topics identified in the Commission's Order No. 36538 Opening the Docket, are as follows:
 - ◆ Examining and developing types of new DER programs
 - ◆ Advanced rated designs offered to customers
 - ◆ Existing DER programs and tariffs
 - ◆ Improvements to the interconnection process and technical standards to better facilitate the integration of DER
 - ◆ Legacy equipment updates or retrofits
- ◆ Docket No. 2018-0165 Integrated Grid Planning, working group meetings are currently on-going
 - ◆ <https://www.hawaiianelectric.com/clean-energy-hawaii/integrated-grid-planning>
- ◆ Docket No. 2018-0135 Electrification of Transportation Strategic Roadmap
 - ◆ <https://www.hawaiianelectric.com/clean-energy-hawaii/integrated-grid-planning>
- ◆ Docket No. 2018-0088 Performance-Based Regulation
- ◆ Docket No. 2017-0226 Grid Modernization Strategy
 - ◆ <https://www.hawaiianelectric.com/clean-energy-hawaii/grid-modernization-technologies/grid-modernization-strategy>
- ◆ Docket No. 2007-0176 Intragovernmental Wheeling of Electricity



Schedule

