

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of

PUBLIC UTILITIES COMMISSION

Instituting a Proceeding to
Investigate Establishment of a
Microgrid Services Tariff

DOCKET NO. 2018-0163

JOINT REPLY BRIEF

BY

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ISLAND, LIFE OF THE LAND, PUNA PONO ALLIANCE, AND THE MICROGRID
RESOURCES COALITION

and

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TO THE HONORABLE PUBLIC UTILITIES COMMISSION OF THE STATE OF
HAWAII:

The undersigned parties (hereinafter collectively referred to as the "Joint Parties") hereby respectfully submit their Joint Reply Brief to the Public Utilities Commission of the State of Hawaii (the "Commission"), pursuant to the Commission's Order No. 35884, filed November 21, 2018 ("Order No. 35884"), as supplemented by its subsequent Order No. 36106, filed January 22, 2019 ("Order No. 36106"), in this proceeding to investigate establishment of a microgrid services tariff for Hawaiian Electric Company, Inc. ("HECO"), Hawai'i Electric Light Company, Inc. ("HELCO"), and Maui Electric Company, Limited ("MECO") (collectively, the "HECO Companies") pursuant to Act 200.¹

I. INTRODUCTION

In its Order No. 35884, the Commission directed the Parties in this proceeding to focus their presentations on answering certain preliminary questions set forth in Section III.A of the Order at 25-26. Subsequently, the Commission in its Order No. 36106 in Section I.B at 2-3 provided additional guidance in answering these questions. In reviewing the Opening Brief of the HECO Companies as

¹ House Bill 2110, H.D. 2, S.D. 2, 29th Leg. Reg. Sess. (2018), was signed by the Governor and assigned Act 200 on July 10, 2018 ("Act 200"), and is codified in Haw. Rev. Stat. ("HRS") §269-46.

well as the Opening Briefs of the other Parties in this proceeding, the Joint Parties were pleased to find what appear to be areas of substantial similarities, and in some cases agreement, among the responses to the Commission's questions. In addition, some of the Joint Parties met informally with representatives of the HECO Companies and discussed some of their respective responses and sought to clarify certain matters raised in their respective Opening Briefs. Based on these areas of agreement and the Commission's encouragement to the Parties "to confer with each other and to resolve any questions and obtain any needed clarifications with respect to the matters presented in the Opening Briefs,"² the Joint Parties are pleased submit their Joint Reply Brief to the Commission in this proceeding.

As a preliminary matter, the Joint Parties note that the underlying rationale, and urgency, of Act 200 center on enhancing the resiliency of the electric utility grid system, as a preemptive response to the devastation wrought by Hurricanes Irma and Maria in Puerto Rico and a potential similar occurrence that could affect Hawaii. Act 200 also aims to increase the use of renewable energy and expand the use of distributed energy resources in support of the utility grid. This underscores the potential contributions that microgrids capable of islanding and providing other grid support could make to enhance these resiliency and renewable energy goals. The Joint Parties also recognize that microgrids already exist, and are being developed, in Hawaii primarily to realize energy cost savings and efficiencies for residential and commercial complexes and developments, while remaining grid-connected and thus potentially able to provide grid support services in the future. Most of these microgrids are behind-the-meter ("BTM") projects and are grid connected.³

² See, Order No. 36106 at 4.

³ See Presentations by EnSync Energy Systems/Holu Energy, by Keith Yamanaka (Army Distributed Energy Resources), and by Photonworks Engineering/InSynergy Engineering (Kahauiki Village Microgrid), which are presentation slides presented at the Technical Conference convened by the Commission on January 9, 2019 (the "Commission's Technical Conference"), and attached to the letter, dated January 8, 2019, from the Commission to the Service list re Presentations for Technical Conference - Docket No. 2018-0163. The Joint Parties also recognize the Schofield Barracks Generating Station as a major microgrid that, in normal circumstances, operates as part of HECO's system but in grid emergency or shutdown conditions can immediately move into an island mode and continue to provide electricity to the Schofield Barracks complex. See Keith Yamanaka, *op. cit.*

This therefore puts a premium, in the consideration of the Joint Parties, on the islanding capability of a microgrid as the unique feature that should be listed as a key service in the microgrid services tariff.

This, and related matters, are more fully discussed below.

II. THE JOINT PARTIES' RESPONSES TO THE OPENING BRIEFS

The Joint Parties are pleased to provide their joint responses to the matters raised in the Opening Briefs and the responses to the Commission's preliminary questions set forth in its Orders Nos. 35884 and 36106 in this Section II.

A. HOW SHOULD THE TERM "MICROGRID" BE DEFINED FOR PURPOSES OF THE MICROGRID SERVICES TARIFF?

As some of the Joint Parties have noted,⁴ Act 200 defines "microgrid project" but does not define "microgrid" itself. The Joint Parties considered several alternative definitions of "microgrid", including the U.S. Department of Energy's definition⁵, and found basic similarities among those definitions. Upon review, the Joint Parties focused on the unique contribution that microgrids could provide, i.e., enhancing the resiliency of the utility grid by its islanding capability, which therefore means that the microgrid must be grid-connected during normal grid operations and be able to disconnect from the grid during grid emergency or critical conditions (such as a shutdown) and operate in an island mode. The Joint Parties therefore believe that the microgrid services tariff should use the following definition of "microgrid" that is based on Act 200's definition of "microgrid project", as further modified by the italicized additions to clarify certain operational conditions:

A microgrid is a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to a *public* utility's electrical grid and can

⁴ See, Ulupono Initiative LLC ("Ulupono") Opening Brief at 5 *passim*, and Microgrid Resources Coalition ("MRC") Opening Brief at 4.

⁵ "A microgrid is a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. It can connect and disconnect from the grid to enable it to operate in both grid-connected or island- mode." See Ulupono Opening Brief at 6.

connect to a public utility's electrical grid to operate in grid-connected mode *as part of normal operations of the grid* and can disconnect from the grid to operate in island mode.

This definition is substantially consistent with that of "microgrid project" and includes the single controllable element⁶ with respect to the utility grid, a continuously available grid connection, and the capability to disconnect from the grid and operate in an island mode.

The Joint Parties note that while a microgrid, as defined above, acts as a single resource with respect to the grid, it may, depending upon its size and configuration, have more than one point of interconnection with the grid, the specific arrangements for which should be configured with the utility.

B. WHAT CHARACTERISTICS OF A MICROGRID (E.G., ISLAND CAPABILITY, GENERATION RESOURCES TYPES, SIZE, ETC.) SHOULD BE INCLUDED IN THE DEFINITION OF A MICROGRID?

The Joint Parties believe that the definition of "microgrid" proposed in Section II.A above contains the essential characteristic of a microgrid, which is its capability to disconnect from the grid and operate in an island mode and thereafter to reconnect to the grid in a manner that supports, or in any event does not detract from or impede, the grid's operation. The Joint Parties considered other potential characteristics, including requiring the complete or partial use of renewable energy, types of renewable energy, size limitations, and other possible elements. These considerations were reviewed in the context of what the Joint Parties believe would be reasonable for Hawaii, as opposed to mainly theoretical possibilities. We recognize that rapid changes in technologies as well as configurations of distributed energy resources and advances in artificial intelligence suggest that adding more elements

⁶ The Joint Parties note that the means to achieve this single controllable element will be through the use of advanced automation techniques (achieved through the use of microgrid controllers that control resources behind-the-meter). The implementation and deployment of these controllers is a capability that fosters a seamless and smooth operation with utility systems.

to the definition of microgrid might deter or restrict the flexibility to develop and implement microgrids and optimize their application in a cost-effective manner.

Further, microgrids that seek to operate in an island mode for an extended period would, in Hawaii's context, likely have not only a significant proportion of solar photovoltaic systems with battery storage but also be enhanced by fossil-fueled generators. Hence, the Joint Parties support the use of renewable energy for microgrids (which, as has been the case in Hawaii, includes solar photovoltaic systems coupled with battery storage), but recognize that creating an effective islanding capability requires flexible resources to balance internal load and to operate for longer periods of time, and that these functions will require the use of fossil-fueled generation, at least for the foreseeable future.⁷ Microgrids can, as Act 200 suggests, serve to integrate renewable energy into the electric grid, and incorporating flexible resources in microgrids allows them to better serve this function. Moreover, as the Microgrid Resources Coalition, one of the Joint Parties, pointed out in its Opening Brief, microgrids that serve thermal loads can use fossil fuels at a much greater rate of efficiency than any single electric or thermal use.⁸

The HECO Companies suggest that microgrids should be required to have enough generation to meet its customers' "normal loads."⁹ However, this rarely serves either the microgrid or the utility well. The microgrid may very well want to remain grid-connected and to be able to rely on the utility for a significant portion of the microgrid's power needs for a variety of economic reasons. Microgrids operating in an island mode often rely in part on internal load shedding to keep generation and load balanced. The ability to tailor its internal load typically gives a microgrid a portion of the flexibility that makes it a valuable resource for the grid.

⁷ See Ulupono Opening Brief at 16-18, 31-33 on microgrids with extended island mode operating capabilities, and Division of Consumer Advocacy ("Consumer Advocate") Opening Brief at 11-14.

⁸ MRC Opening Brief at 5.

⁹ HECO Companies Opening Brief at 28.

As one of the Joint Parties observed, "given the rapidity, breadth, intensity and scope of technological change, especially in the area of artificial intelligence and the Internet of Things, we can expect the nature and offerings of 'energy services and grid services and other benefits' affecting energy generation, use, management, storage and disposition to change significantly over time,"¹⁰ and thus the definition of "microgrid" should be sufficiently broad to incorporate these useful and appropriate technological innovations and advances as they occur. Based on these considerations, the Joint Parties conclude that no further characteristics should be included in the definition of "microgrid" as proposed in Section II.A above.

C. WHAT OWNERSHIP STRUCTURE SHOULD BE INCLUDED IN THE MICROGRID SERVICES TARIFF (E.G., CUSTOMER-OWNED, COOPERATIVE, THIRD-PARTY, UTILITY-OWNED, ETC.)?

The Joint Parties reviewed various ownership structures and models that had been described in some of the Opening Briefs.¹¹ The Joint Parties also recognize that the basic purposes of the microgrid services tariff, as set forth in Act 200, are to provide "fair compensation for electricity, electric grid services, and other benefits" provided to, or by, the electric utility, the microgrid owner or operator, and other ratepayers, and to standardize and streamline the interconnection processes for microgrid projects. Act 200, §3. As such, the provision of "electricity, electric grid services, and other benefits" to or by microgrids, for which the microgrid services tariff is to provide "fair compensation," do not require, and are basically unrelated to, a specific ownership structure of microgrids. In fact, the various examples of microgrid structures -- both existing and described in several Opening Briefs and the examples, studies and reports cited therein -- reveal such microgrids to be quite varied in terms of their ownership structure, including microgrids that are "hybrid"

¹⁰ *Id.* at 10.

¹¹ *See, e.g., Id.* at 12 *passim*; Energy Freedom Coalition of America ("EFCA") Opening Brief at 9-10; Consumer Advocate Opening Brief at 20; MRC Opening Brief at 6-8.

microgrids with different components being owned and operated by the electric utility, private developers, and other entities.

As a result, given the statutory purposes of the "microgrid services tariff" and recognizing that existing and future microgrids in Hawaii are, and may be, owned by various parties in different types of ownership arrangements that enable such parties to develop, own, finance and operate such microgrids, the Joint Parties recommend that the microgrid services tariff should not contain any provisions or requirements dealing with the ownership of microgrids.

D. WHAT MICROGRID SERVICES OR FUNCTIONS SHOULD BE CONSIDERED IN DEVELOPING A MICROGRID SERVICES TARIFF?

The Joint Parties recognize that microgrids in general could provide various services or functions depending on the type of microgrid involved, its primary purpose, and the nature of its customers or members. These services or functions could involve one or more of the following:

- the sale of electric energy and possibly capacity to the electric utility, including from renewable energy resources (in Hawaii, currently and most prominently, solar energy) and stored energy from energy storage systems;
- demand response services, including peak shaving, load shifting and other services;
- energy storage capabilities and characteristics (including thermal storage);
- ancillary services, including frequency response and regulation, inertial response, reactive power, voltage control, and operating reserves;¹²
- islanding capability;
- black start capability;
- reduction of transmission and distribution line losses, depending upon the location of the microgrid;

¹² See, definition of "ancillary services" in HRS §269-141.

- avoidance or deferral of new utility infrastructure (e.g., a new generation unit, new transmission and/or distribution lines, new transformers and power conditioners, a new substation, etc.); and
- reduction in demand in a grid emergency or critical situation (including grid shutdown) to enable the utility to resume grid operation in the most effective manner.

The Joint Parties note, as discussed in Section II.F below, that many of these functions and services are, or are becoming available, to the HECO Companies through their existing tariffs and proposed tariffs and programs. The Joint Parties also note that of these several functions and services, the capability of a microgrid to operate in island mode with the result of enhancing energy and electric grid resiliency, is the unique function and value that a microgrid might provide to the electric grid and the utility's customers. For purposes of developing a microgrid services tariff, there is no need to duplicate other HECO Companies' tariffs; rather, it is important to assure that microgrids can compete to provide services to the grid (other than the ability to island) on the same basis as any other resource as long as it meets the same technical qualifications for services delivered to the grid by other resources. The microgrid, including all of its internal resources and capabilities, should be considered as a single resource for purposes of providing services to the utility grid.

E. SHOULD A MICROGRID OWNER/OPERATOR BE REQUIRED TO PROVIDE A MINIMUM SET OF SERVICES TO ITS CUSTOMERS/SUBSCRIBERS? IF SO, IDENTIFY THOSE SERVICES, INCLUDING LEVEL OF SERVICE, WHERE APPLICABLE.

The Joint Parties believe that the ownership and operation of, and the terms and conditions related to, a microgrid are matters to be covered by the contractual arrangements entered into by the microgrid owner/operator and its customers or members. Those terms and conditions will include, among basic provisions, the purposes of the microgrid, the terms under which energy and other services will be provided by the microgrid to its customers or members, internal load-shedding protocols, allocation of the benefits of providing services to the grid, compensation rates and other

provisions. Indeed, in many instances, the customers or members of the microgrid may in fact be its owners that have created the microgrid to service their own needs, or have chosen a third party to serve their needs collectively. Microgrid agreements may well take the form of comprehensive concession agreements that include developing, designing and operating all of the energy systems and components of the microgrid.

The Joint Parties recognize that the HECO Companies will need to revise their interconnection requirements and procedures to provide for microgrid disconnection from the utility grid in grid emergency or critical conditions (such as a grid shutdown), as well as the requirements to reconnect to the grid once the HECO Companies seek to energize the grid. We recommend to the Commission and the HECO Companies that the Joint Parties are willing to work with the HECO Companies and other interested stakeholders on this matter.

However, the Joint Parties note that the purpose of Act 200 is to establish a microgrid services tariff which would provide fair compensation for electricity, electric grid services, and other benefits provided to, and by, the electric utility, the microgrid and other ratepayers, and strongly conclude that the microgrid services tariff should not contain any requirements governing the relationship between the microgrid owner/operator and the microgrid customers or members. The Joint Parties respectfully observe that the internal contractual arrangements between a microgrid owner/operator and the microgrid customers or members (who actually may directly or indirectly be the owners of the microgrid) are beyond the scope of Act 200. The microgrid services tariff should therefore not seek to govern the relationship between the microgrid owner or operator and the microgrid customers or members and leave those terms and conditions to the contractual arrangements between the microgrid owner and its customers or members.

F. HOW SHOULD EXISTING TARIFFS/PROGRAMS (E.G., SMART EXPORT, DEMAND RESPONSE, CBRE, ETC.) BE COORDINATED AND HARMONIZED WITH THE MICROGRID SERVICES TARIFF, IF AT ALL? MAP OUT AND IDENTIFY THE EXISTING TARIFFS AND PROGRAMS ALREADY ADDRESSING AND/OR PROVIDING GUIDELINES FOR SERVICES RELEVANT TO A MICROGRID.

The Joint Parties believe that it is unclear at this juncture whether there is any need to coordinate or harmonize existing HECO Companies' tariffs and programs with a microgrid services tariff, although this may change if new HECO Companies' tariffs are established to further demand response, distributed energy resources, and grid support services initiatives. The Joint Parties note that the HECO Companies have demand response programs to reduce load temporarily and to time shift the customer's energy consumption as well as to provide available generation resources to reduce the amount of utility online generation.¹³

In reviewing the HECO Companies' other existing tariffs and programs, the Joint Parties note that some of these tariffs and programs are limited to generation capacities of not more than 100 kilowatts ("kW") and that arrangements for the delivery of energy greater than 100 kW, and possibly capacity, are covered under PPAs. Both types of arrangements are reviewed below. On this basis, the Joint Parties preliminarily conclude as follows:

- HECO No. Rule 22 - Customer Self-Supply. This rule applies to a customer with a solar generating facility located on the customer's premises with a capacity of not more than 100 kW, possibly with an energy storage system, who is grid-connected but does not intend to export electric energy to the grid. This rule might apply to microgrids and also provides for an interconnection agreement and the applicability of HECO Rule 14H [Interconnection of Distributed Generating

¹³ These include, for commercial customers, the Large Commercial and Industrial Direct Load Control, Fast Demand Response Program, and the Small Business Direct Load Program, and for residential customers, the Residential Direct Load Control programs for water heaters and air conditioners. *See* Uluono Opening Brief at 22-24.

Facilities with the Company's Distribution System]. As a result, no specific coordination or harmonization with a microgrid tariff would appear to be necessary or desirable at this time.

- HECO No. Rule 24 - Customer Grid Supply Plus. This rule applies to a customer with a solar, wind turbine, biomass, or hydroelectric energy generating facility, or a hybrid system consisting of two or more of these facilities, located on the customer's premises with a capacity of not more than 100 kW, possibly with an energy storage system, who is grid-connected and intends to export electric energy to the grid. This rule might also apply to microgrids, and provides for an interconnection agreement and the applicability of HECO Rule 14H. As a result, no specific coordination or harmonization with a microgrid tariff would appear to be necessary or desirable at this time.

- HECO No. Rule 25 - Smart Export Program. This rule applies to a customer with a solar, wind turbine, biomass, or hydroelectric energy generating facility, or a hybrid system consisting of two or more of these facilities, located on the customer's premises with a capacity not more than 100 kW, possibly with an energy storage system, who is grid-connected and intends to export electric energy to the grid. This rule might apply to a microgrid and provides for an interconnection agreement and the applicability of HECO Rule 14H. As a result, no specific coordination or harmonization with a microgrid tariff would appear to be necessary or desirable at this time.

- HECO Rule 26 - Community-Based Renewable Energy Program - Phase 1. This rule provides for the establishment of community-based renewable energy ("CBRE") programs and consists of Phase 1 (which is currently underway) and an expanded future Phase 2. However, given the nature and organizational structure of CBRE projects and its form of organization, it is unlikely that microgrids would be an appropriate structure for CBRE projects.

- HECO Rule - Grid Services Supply Tariff or Program. The Joint Parties recognize that HECO is currently developing a rule governing grid services supply for the Commission's approval, and note that microgrids should be eligible to provide such grid services once that tariff or program

becomes effective. If this occurs, then depending on the scope of such tariff, the grid services covered under that tariff should not be duplicated under the microgrid services tariff.

The Joint Parties note that the HECO Companies' tariffs for Customer Self-Supply, Customer Grid Supply Plus and Smart Export Program have capacity size limits of 100 kW and deal with electricity generation. However, where the HECO Companies seek to purchase electricity from generation systems that are greater than 100 kW, these arrangements would be covered under power purchase agreements with the utility. Other resources, such as demand response, distributed energy resources, grid support services, and other services, are, or are planned to be, covered under existing and impending tariffs and programs for each of these services. Moreover, as discussed above, microgrids that become grid-connected must comply with the HECO Companies' interconnection requirements, and those requirements, which include Rule 14H, will need to be revised to incorporate procedures for a microgrid to disconnect from, and reconnect to, a utility grid if a grid emergency or critical condition (such as a grid shutdown) occurs. There may also very well be the need to review further possible technical changes to Rule 14H and other interconnection procedures and protocols to permit islanding inverters and provide alternate forms of grid protection. The Joint Parties therefore recommend that the HECO Companies, the Joint Parties and other interested stakeholders undertake this review on a collaborative basis.

Finally, a microgrid that is operating in parallel with the electric utility should be able to participate in the electric utility's various programs that would otherwise be available to the utility's customers. Since the microgrid, when it is grid-connected, should be viewed as a single resource with respect to the grid, the microgrid operator should be able to operate as an aggregator for any internal capabilities that are then provided to the grid. This would also be the case both with the adoption of a microgrid services tariff as well as the grid services tariff.¹⁴

¹⁴ See, Decision and Order No. 35238, filed January 25, 2018, in Docket No. 2015-0412, at §V.C and D.

In conclusion, the Joint Parties believe that it would be very productive for the HECO Companies and the Joint Parties and other interested stakeholders jointly to review the microgrid services tariff as it is being developed and is ultimately proposed to be submitted to the Commission, as well as the HECO Companies' various tariffs and programs to determine whether, and to what extent if any, such coordination and/or harmonization would be necessary or desirable or could be made more effective. The results of this review could then help to refine the final version of the microgrid services tariff to be submitted to the Commission for its review and approval.

G. HOW SHOULD INTERCONNECTION STANDARDS AND PROCEDURES BE MODIFIED, IF AT ALL, TO ENABLE THE SAFE AND RELIABLE INTEGRATION OF MICROGRIDS WITH HAWAII'S ELECTRIC GRIDS (INCLUDING DEVELOPMENT OF NEW STANDARDS AND PROCEDURES IF NECESSARY)? ANSWER WITH SPECIFICITY AND SUPPORTING DETAILS, THE FOLLOWING QUESTIONS, AT A MINIMUM:

- a. WHAT GUIDELINES SHOULD BE INCLUDED IN THE MICROGRID SERVICES TARIFF WITH RESPECT TO INTERCONNECTION?
- b. HOW WOULD THE HAWAIIAN ELECTRIC COMPANIES' RULE 14.H, "INTERCONNECTION OF DISTRIBUTED GENERATING FACILITIES WITH THE COMPANY'S DISTRIBUTION SYSTEM," NEED TO BE MODIFIED, IF AT ALL?

The Joint Parties note that Act 200 mandates that a microgrid services tariff "[t]o the extent possible, standardizes and streamlines the related interconnection processes for microgrid projects;..." In general, the HECO Companies' interconnection requirements and process are contained in its Rule No. 14 [Service Connections and Facilities on Customer's Premises], and in particular Rule 14H [Interconnection of Distributed Generating Facilities with the Company's Distribution System].¹⁵ The Joint Parties agree with the HECO Companies that their interconnection requirements and procedures will need to be revised to incorporate procedures to enable microgrids

¹⁵ Rule 14H provides for a Standard Interconnection Agreement (the "SIA") with customers who have Distributed Generating Facilities ("DGF") on site but which will not export any energy from such DGF to the grid, and further provides that the SIA does not apply when the customer enters into a PPA with HECO. Rule 14H, §3.a and b. These provisions are not relevant to microgrids.

to disconnect from the grid in a grid emergency or critical situation (such as a grid shutdown) and later reconnect to the grid when the utility is re-energizing the grid.¹⁶ Again, the Joint Parties recommend that the HECO Companies form a working group with the Joint Parties and other interested stakeholders to review these changes to the HECO Companies' Rule 14H and other interconnection procedures and policies to provide for such disconnect and reconnect scenarios.

Related to this effort, as Uluono has pointed out, the HECO Companies' interconnection review process, as set forth in Appendix III of Rule 14H, outlines a process that can total a minimum of some 225 days, or approximately 7.5 months, which does not include often prolonged periods of time to apply for and obtain all required permits for the project in question.¹⁷ The Joint Parties strongly believe that the HECO Companies need to streamline the interconnection review process and reduce as much as possible the length of time of the review process as part of the revision of the interconnection requirements and procedures discussed above. The Joint Parties and the other interested stakeholders would likely be willing to work with the HECO Companies in this process.

We note in this connection that the HECO Companies throughout their Opening Brief express strong concerns about the safety of the grid.¹⁸ The Joint Parties share those concerns. The Joint Parties believe that the internal capabilities needed to operate in island mode mean that microgrids are very capable of safe operation in parallel with the electric grid. The Joint Parties look forward to working with HECO and other interested stakeholders on this shared objective and believe that these concerns can be effectively dealt with and resolved to ensure that the objectives of Act 200 are fulfilled.

¹⁶ HECO Companies Opening Brief at 37-38.

¹⁷ See Uluono Opening Brief at 30-31 and Annex I.

¹⁸ See HECO Companies Opening Brief at 5 *passim*.

H. WHAT OTHER PROVISIONS, IF ANY, SHOULD BE CONSIDERED IN DEVELOPING A MICROGRID SERVICES TARIFF?

a. The exclusion of microgrids from the definition of "public utility" under Hawaii law. The Joint Parties believe that there is a lingering concern that a microgrid comprised of, and/or serving, multiple customers or members may be considered to be a "public utility" under Hawaii law and therefore subject to regulation by the Commission pursuant to HRS Chapter 269. As set forth in Ulupono's Opening Brief,¹⁹ both the decision of the Hawaii Supreme Court in *Application of Wind Power Pacific Investors-III*, 67 Haw. 342, 686 P.2d 831 (1984) and subsequent Commission decisions dealing with the issue of whether a particular party is a "public utility" under HRS Chapter 269 and the *Wind Power Pacific Investors* decision, make clear that a microgrid should not be deemed to be such a "public utility" *unless* it holds itself out to the public generally and offers to provide energy to all interested persons on a nondiscriminatory basis.

Nonetheless, particularly in consideration of potential concerns from financing parties that microgrids proposed to be developed in Hawaii could be deemed to be subject to regulation as public utilities, the Joint Parties respectfully suggest that the Commission may find it appropriate to seek a legislative amendment to HRS §269-1 to exclude specifically any person who owns, controls, operates, or manages a microgrid project or projects as defined in HRS §269-46(c). Such a proposed amendment could be as follows:

"Public utility":

...

(2) Shall not include:

...

(O) Any person who owns, controls, operates, or manages a microgrid project as defined under section 269-46(c);

b. A clarification regarding so-called "public benefit microgrids." The Joint Parties had some concern and confusion over the references in the HECO Companies Opening Brief

¹⁹ Ulupono Opening Brief at 33-35, and EFCA Opening Brief at 14-15.

to "public benefit microgrids" versus "private benefit microgrids," which were initially raised in a presentation by the HECO Companies in the Commission's Technical Conference convened on January 9, 2019, on microgrids.²⁰ The HECO Companies gave the impression to several of the Joint Parties that the HECO Companies were referring to a specific type of microgrid - a "public benefit microgrid" - which is a specific organizational form, dedicated to providing "public benefits" to the grid and therefore to the utility's customers as a whole, and to be compensated for providing such public benefits. The "public benefits" would include resiliency and similar benefits to the public as a whole. In contrast, the impression seemed to be that "private benefit microgrids" would be a specific organizational form, dedicated to providing its benefits only to its limited customer or member group, and not to be compensated since it did not provide any "public benefits."

During a subsequent informal meeting involving Ulupono and representatives of the HECO Companies on March 2, 2019, the representatives, in response to a question on this matter, clarified that the HECO Companies did not mean that the reference to "public benefit" and "private benefit" microgrids were specific organizational forms. Rather, they explained that these terms referred to whether the electricity, electric grid services, and other benefits provided by a microgrid to the grid were services listed as compensable services in the microgrid service tariff, or instead were services provided only to the microgrid's customers or members and not to the electric grid and therefore should not be compensated. In short, if a microgrid is able to provide "electricity, electric grid services, and other benefits" as mentioned in Act 200 and listed as compensable services in the microgrid services tariff, or incorporated by reference in the microgrid services tariff, then by definition that ability provides a "public benefit" because they benefit the grid as a whole and should therefore be compensated for those services when they are provided.

²⁰ See, e.g., Presentation by the HECO Companies (Colton Ching) at 4; see, also, HECO Companies Opening Brief at 15 and 19, and EFCA's Opening Brief at 7-8.

On the presumption that this clarification has been accurately stated, the Joint Parties believe that this confusion has been resolved.²¹ If this presumption proves to be incorrect, then the Joint Parties state that such a "public benefit" versus "private benefit" distinction is confusing and not useful, and that the only services that are listed in the microgrid services tariff should be services that by their nature provide such "public benefit" by serving the electric grid as a whole.


III. CONCLUSIONS

The Joint Parties strongly believe that the development of a microgrid services tariff as mandated by Act 200 can contribute to enhancing the State's energy resiliency when and if extreme weather events or other disasters impact Hawaii and, during normal times, help to further the State's renewable energy goals. The Joint Parties note that microgrids already exist in the Hawaii, and other microgrids are currently being developed. Thus, the issuance of a microgrid services tariff that specifically lists the services and benefits that can be provided to, or by, the HECO Companies, the microgrids, and the ratepayers should enhance the development of microgrids capable of providing those services and being fairly compensated for such services, as contemplated by Act 200. The basic focus should be on the services delineated in the microgrid services tariff, how they should be delivered and how they should be fairly compensated. The structure and forms of microgrids, their ownership and operation, their internal relationships between the microgrid owner/operator and the microgrid customers or members, and matters not directly related to the provision of such services by microgrids to the HECO Companies, and vice versa, pursuant to the microgrid services tariff are basically beyond the scope of Act 200 and in any event will be subject to change and will naturally evolve along with the progressive transformation of generation, transmission and distribution, management and use of energy in Hawaii's energy ecosystem. Many of these changes will create innovations and advances in infrastructure hardware and software as well as in the ways in which the

²¹ Life of the Land, one of the Joint Parties, also notes its belief that the phrase "public benefit" can apply to microgrids that offer as part of the grid benefits alternatives that promote low-climate change impacts.

provision of energy and grid services are demanded and provided. The Joint Parties respectfully submit that the microgrid services tariff should be flexible enough to benefit from, and incorporate as appropriate, these advances and in that manner promote the purposes of Act 200.

Respectfully submitted on March 11, 2019.



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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of

PUBLIC UTILITIES COMMISSION

Instituting a Proceeding to
Investigate Establishment of a
Microgrid Services Tariff

DOCKET NO. 2018-0163

CERTIFICATE OF SERVICE

I hereby certify that I have on this date served copies of the foregoing document upon the following parties by the method of service noted below:

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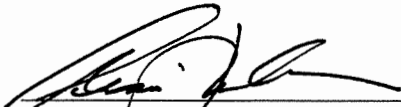
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