BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAI'I

In the Matter of	)	
	)	
PUBLIC UTILITIES COMMISSION	)	Docket No. 2018-0165
	)	
Instituting a Proceeding to Investigate Integrated Grid Planning.	)	
	)	

THE JOINT PARTIES' COMMENTS ON THE HECO COMPANIES' FIRST REVIEW POINT

AND

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Hawai'i PV Coalition, Hawai'i Solar Energy Association, and Blue Planet Foundation (the "Joint Parties") respectfully submit their responses to the questions framed in Order No. 37604, Establishing a Procedural Schedule for the First Review Point, filed on February 4, 2021, and comments on Hawaiian Electric's Updated IGP Workplan & Review Point ("First Review Point"), filed on January 19, 2021.

Hawai'i's electrical grid is undergoing the most substantial changes since its original creation. The advent of new technologies and policy mandates, as well as the evolving utility business model, require a substantially different planning model. As this Commission has noted, a modern approach needs to "coordinate and inform[]

planning across all levels of the power system (resource, transmission and distribution), and . . . ensure[] safe, affordable, and reliable service to customers."[1]

In short, Hawaiian Electric's proposed forecast and assumptions document misses the mark. The current legacy planning process can generally be categorized as identifying needs, and then procuring new resources. Such an approach misses significant opportunities to create a more efficient grid, and it potentially places the ratepayer and the Hawaiian Electric utilities at significant risk if forecasts are mistaken. As Hawai'i PV Coalition noted in its comments filed on October 15, 2018, there is a "significant risk of missed savings opportunities for grid modernization, deferrals or alternatives to traditional utility infrastructure investments, and renewable integration benefits across all power system domains if the planning process is structured to prioritize utility-scale supply side resources over distributed energy resources ("DERs") as a predetermined preferred resource for meeting grid needs."[2]

While we appreciate the Commission's and Hawaiian Electric's focus on stakeholder input, the number of meetings and working group sessions cannot be the benchmarks of success (and may actually be a negative metric if the meetings do not

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[1] Docket No. 2018-0165, Order No. 35569 at 19 (July 12, 2018) (Order No. 35569").

[2] Docket No. 2018-0165, Public Comments of the Hawai'i PV Coalition at 1 (filed on October 15, 2018).

produce progress and results).[3] Hawaiian Electric's present inputs and assumptions and proposed future process going forward do not significantly differ from past planning processes.[4] Stakeholder input has to be meaningfully considered in an objective and transparent manner, and stakeholders need to have access to the underlying information and modeling tools to provide the depth of recommendations necessary for a fully and properly optimized plan.

While the Joint Parties provide specific recommendations below on near-term solutions, we suggest that moving beyond the past and ongoing struggles in utility planning will require a more a fundamental solution, which is to require all electric utilities to open up the modeling process. Instead of relying on black box approaches, electric utility planning should incorporate 21st-century tools and ensure the planning process is transparent, objective, and flexible. California has already embarked on this process through its requirement and funding of stakeholder access to the RESOLVE model. Other tools are rapidly being developed that can bring light to an otherwise

[3] The Joint Parties take issue with Hawaiian Electric s insinuation that further stakeholder input is unnecessary because significant effort put into stakeholder engagement over the past couple of years has significantly improved its work products." First Review Point at 12. Numerous suggestions by stakeholders have been indefensibly cast aside, and Hawaiian Electric s work product, put respectfully, needs more work.

[4] The Joint Parties acknowledge Hawaiian Electric has made some initial steps towards a modern planning process, such as conducting the DER Freeze sensitivity run and examining an NWA pilot.

opaque process and allow greater levels of collaboration and innovation to ensure the best possible outcomes for customers and the public.

Using a more open tool also allows for changes -- as new technologies and unforeseen circumstances arise -- to be quickly inputted and considered. This potentially expands the usefulness of an integrated plan, allowing it to be updated and adjusted flexibly, in real time.

Turning to the Commission's questions:

1. **Reference: First Review Point Exhibit A.l. Is the baseline set of forecasts and assumptions proposed in Exhibit A.l of the First Review Point a reasonable starting point for IGP long-term planning? If so, why? If not, why not? If more information is necessary to answer this question, please explain**.

No. Exhibit A.1 fails to provide a granular load forecast that, for example, shows rate classes or types of load; nor does it demonstrate a time-based perspective. Fundamentally, it does not account for how load and DERs can evolve and be optimized from a bottom-up perspective.[5]

The failure to create a more granular forecast limits Hawaiian Electric's (and stakeholders') ability to analyze how different proposals could optimize the electrical grid. The Joint Parties suspect part of Hawaiian Electric's reluctance to consider

[5] *See* NARUC-NASEO Task Force on Comprehensive Electricity Planning, Silver Cohort Roadmap at 9, *available at* https://pubs.naruc.org/pub/15305EBB-155D-0A36-310B-4C56D55498E9 (recommending a granular forecast for load and DERs" to identif[y] an expectation for how both load and DERs are likely to grow and evolve from current conditions, from the bottom-up" to inform[] and [be] informed by the system-wide load forecast at the resource level").

different sensitivities may arise out of the failure to develop a more granular forecast, i.e., Hawaiian Electric is unable to model how programmatic or pricing changes will impact the planning process without having to manually create new forecasts.

The Technical Advisory Panel appeared to flag similar concerns about time differentiation when it stated that Hawaiian Electric should ensure "subsequent modeling tasks include sensitivities for time-of-use flexibility and/or random variation in the daily load profiles of DER and EV loads, rather than using a static load profile across modeling tasks."[6]

2. *Reference: First Review Points Exhibit A.l.* **Does the First Review Point, Exhibit A.l (i.e., the draft inputs and assumptions) sufficiently incorporate stakeholder feedback, or transparently explain why it did not, consistent with Commission guidance? If not, what stakeholder feedback should it incorporate, or explain the rejection of? Should Hawaiian Electric reconvene any Working Groups to further develop and incorporate stakeholder feedback?**

No. The Joint Parties have consistently maintained the need to incorporate a customer-based or bottom-up approach to planning, and warned against taking a traditional "siloed" approach of resource procurement.

> [Hawaiian Electric] seemingly views integrated grid planning as a variation on traditional "siloed" resource procurement, rather than true planning integration. It seems to retain a "top-down" character where utility-scale procurement occurs based on projections of customer needs, as opposed to a "bottom-up" or "customer-centric" process that seeks to modify needs at a more granular level to deliver system benefits. In other words, it continues the traditional mindset that customers are the cause of, rather than a potential solution to, system needs. As we look forward to a new integrated planning process, we must first prioritize opportunities for

[6] First Review Point, Exhibit A.3 at 34.

> power system planning alignment at the resource, distribution and transmission domains. This ensures planning needs aligned across power system domains are not missed for optimization. As such, a coordinated bottom-up focus ensures that distribution and transmission grid needs are identified and able to be met and accounted for to ensure cost-effective resource solutions are identified within the planning process. Enabling customer DERs to align with the coincidental needs of the bulk power system creates a modem, flexible, and dynamic system. Such a planning coordination can deliver significant infrastructure and operational savings benefits, and result in not only more cost-effective resource deployment, but also the development of resource plans that enable Hawaii's residents to participate in our energy future.[7]

Hawaiian Electric mistakenly takes a different tack. It proposes a completely aggregated forecast, with little or no opportunity to understand load growth or how that load growth stresses the existing electric system. There is little analysis of how changes to load growth, customer behavior, or emerging technologies can offset the need for future utility investments.[8] Further, it divorces bulk system and distribution needs, and fails to analyze how solutions can potentially address multiple needs across the electrical grid system.[9]

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[7] Docket No. 2018-0165, Public Comments of the Hawai'i PV Coalition at 2 (filed on October 15, 2018).

[8] The Joint Parties acknowledge that Hawaiian Electric responded to stakeholder input by running a DER freeze sensitivity, which demonstrates some of the value of forecasted DER adoption in contrast to serving that load with new utility procurements. The Joint Parties are not aware of any other sensitivities released by Hawaiian Electric.

[9] Procuring each need individually devalues the ability of solutions to address multiple needs, and likely orients towards centralized solutions. The cost of deployment, management, and capacity of these solutions has to be built into each individual bid, thus making a distributed solution look less competitive. Ideally, any

In rejecting the stakeholder's suggestions, Hawaiian Electric takes an unnecessarily adverse approach, categorizing this simply as a "procurement" versus "program" debate.[10] This misses the point: avoiding the need to invest money in future procurements is likely to be the most cost-effective solution. For example, a time-of-use program in conjunction with a DER program encouraging generation during peak periods should avoid the need for new peaking generation, or new delivery infrastructure. This analysis should be done ***first,*** before going out and procuring resources that could be unnecessary and eventually stranded investments.

At the very least, Hawaiian Electric should model reasonable pricing and programmatic options to determine whether they can potentially address multiple needs in a cost-effective manner. Such an analysis would require a better understanding of distribution and resource peaking needs, and where load growth is likely to occur. If, at that time, Hawaiian Electric elected to pursue procurement solutions, such a conclusion could be justified based on analysis. As it stands now, it appears Hawaiian

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procurement approach should recognize the ability of a response to address multiple needs on the electrical grid.

[10] The IGP competitive market-based process has unfortunately been under pressure from the outset as several stakeholders have consistently sought to shape the results of the IGP process to fit their business interests through non-competitive tariffs and programs. That is, some stakeholders are trying to prescriptively shape forecast and sensitivities so that the IGP achieves their desired ends. This is in stark contrast to the spirit and intent of IGP." First Review Point at 4. This argument is discouraging: if Hawaiian Electric truly believes this statement, more fundamental steps are necessary.

Electric is simply following the traditional, outdated model of focusing on the supply side of the equation, instead of trying to optimize a more efficient electrical grid.

Turning to whether further working groups would be beneficial, the Joint Parties note fairly similar and consistent comments were filed over two years ago and brought up repeatedly in multiple working groups. While the Joint Parties are willing to continue meeting, at some point Hawaiian Electric needs to take a different approach to the planning process, or the IGP process needs to be managed differently.

3. ***Reference: First Review Point Exhibit A.l.*** **Please explain if the Commission should approve, reject, or modify the IGP inputs and assumptions presented in the First Review Point, Exhibit A1, and specifically identify any modifications that should be required before approval.**

Reject. Please see below.

4. ***Reference: First Review Point at 5-6.*** **Hawaiian Electric explains that the unmanaged vehicle charging assumption is incorporated into the baseline forecast and the outcomes from managed charging will then modify this forecast based on specific program provisions. Is this a reasonable way for Hawaiian Electric to treat electric vehicle charging? If so, why? If not, why not? If more information is necessary to answer this question, please explain.**

The Joint Parties believe Hawaiian Electric's baseline approach is reasonable to the extent it reveals the potential costs associated with unmanaged charging. The critical component will be to actually model a proposed program to manage charging, and to plan for program implementation.[11]

[11] *See* Docket No. 2018-0165, Order No. 37419 at 9 (November 5, 2020) (Order No. 37419") (directing Hawaiian Electric to (1) clearly explain the reasons for its

Further, Hawaiian Electric should model the managed charging in conjunction with other anticipated changes to rate design. For example, the Joint Parties are concerned Hawaiian Electric is not considering the potential impact on the distribution system if all electric vehicles start to charge at the beginning of a time period. Modern electric vehicle charges consume 7.6 kW or 11.5 kW of power, but can schedule or manage charging to match a time-of-use period. One could reasonably expect multiple electric vehicle chargers coming online at the same time, on the same shared service, which could create significant problems because load was not accounted for when Hawaiian Electric was sizing the service. Locations along the distribution network may also be stressed from the aggregated effects on the grid edge. As an end result, customers may be unnecessarily charging from the grid during periods of high demand.

5. *Reference: First Review Point at 9.* **Hawaiian Electric proposes not to include energy efficiency, distributed energy resources, or electrification of transportation tariffs, and programs from ongoing Commission dockets in this first IGP cycle. Please explain if it is appropriate for Hawaiian Electric to wait until the next IGP cycle to include these tariffs and programs. If not, please propose a remedy. Please be as specific as possible.**

Hawaiian Electric's failure to consider customer-based solutions to grid needs is untenable and subverts the Commission's express guidance that Hawaiian Electric

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expected trends and characteristics of electric vehicle charging and adoption; and (2) transparently demonstrate how these expected trends and characteristics will be included [in] modeling, including any sensitivities").

"integrat[e] the Companies' efforts across multiple dockets" to "maximize potential synergies and avoid contradictions or unnecessary duplication,"[12] and "reap the cross-cutting benefits that come with close coordination."[13]

Divorcing IGP from ongoing docket proceedings -- with proposals and concepts that have been under discussion for years -- likely means this cycle of IGP fails to serve a rational purpose. By the time material decisions are made on, among other things, revised rate design, future DER tariff and grid programs, and CBRE, this cycle of IGP will be obsolete. It would be unwise to move forward with procurements for needs that may have already been addressed.

Hawaiian Electric's protests against looking at other sensitivities ring false.[14] Creating additional scenarios and sensitivities helps to reveal grid needs and informs better decisions today, particularly as some of those decisions may have long-lasting effects. Information from IGP is directly material to several ongoing dockets. It makes no sense to divorce the current planning process from the actions currently underway in the related dockets.

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[12] Docket No. 2018-0165, Order No. 36725 at 14-15 (November 4, 2019).

[13] Order No. 37419 at 4.

[14] [T]he Companies believe the current IGP procurements and plans should be based not on hypothetical tariff designs and programs but on those the Commission has approved." First Review Point at 4.

Many of the proposals currently under consideration in other dockets are long-standing. Hawaiian Electric, for example, has proposed different forms of a demand charge for nearly two years. Various time-of-use proposals have been under consideration for even longer. Hawaiian Electric's failure to model some form of these proposals, and their impact on grid needs, is a breathtaking omission.

In stark contrast, where Hawaiian Electric agreed to run a stakeholder proposed sensitivity, Hawaiian Electric's "DER Freeze" sensitivity demonstrated nearly $1 billion in present value in avoiding future utility expenditures. This information is directly material and reflects the relative need and value of new DER growth.

The Joint Parties recommend ordering Hawaiian Electric to consider:

- Hawaiian Electric Underlining Load Profile and all profiles should be dis-aggregated within RESOLVE s Normalized Profiles Database and made available to stakeholders.
- If available,[15] similar energy efficiency dis-aggregated load forecast profiles and data should be provided to Hawaiian Electric so as to ensure the energy efficiency forecast within RESOLVE can be updated and dis-aggregated based on technology and customer adoptions forecasts.

[15] It is unclear if either Hawai'i Energy or Applied Energy Group would have this information in more granular format.

- Enhance as required Hawaiian Electric's load forecasting tools to enable utilization of dis-aggregated load profiles in accordance with the Commission's Statewide Market Potential Study's[16] "economic potential" energy efficiency findings.
- Develop a locational avoided cost calculator to account for short- and long-term transmission and distribution costs and deferral value.
- Determine conventional generation unit life expectancy and develop retirement plans.
- Further analyze impacts and planning alternatives from future heavy reliance on Biomass and Biodiesel to achieve state RPS goals.
- Hold neighbor island reliability to the same standard as O'ahu by reducing dependency on under frequency load shedding scheme, and offering customer participation programs such as dispatched and autonomous DERs and CPP programs.
- Conduct RPS sensitivities with and without Biofuels/Biomass to identify opportunities for cost effective acceleration of renewables integration.

[16] AEG, State of Hawai'i Market Potential Study (July 27, 2020), *available at* https://puc.hawaii.gov/wp-content/uploads/2021/02/Hawaii-2020-Market-Potential-Study-Final-Report.pdf

- Evaluate alternative procurement methods, system resource operations, and customer participation pathway to derisk IPP curtailment and address excess energy needs of the grid more holistically.
- Model iterations of different DER adoption levels, such as faster EV adoption or Hawai'i PV Coalition's "Smart Home" concept (i.e., assuming maximum allowable roof space is used and excess generation is fed to the grid as a curtailable resource).
- The impact of key proposed rate design changes on future load growth (such as reduced electric vehicle adoption or impacts on overall electrification).

These results should be contrasted with the base case in order to determine value and related impacts.

6. *Reference: First Review Point at 10, 30.* **The IGP Workplan proposed to consider programs concurrent with the request for information ("RFI") step within the competitive procurement process. The First Review Point includes a proposed updated sourcing process that appears to indicate that Hawaiian Electric will source solutions solely through procurement first. Then Hawaiian Electric would consider near term needs not met through procurement in a follow-on procurement and/or program or tariff. Is it appropriate for Hawaiian Electric to source solutions via procurements before considering pricing and programs? Should Hawaiian Electric compare solutions sourced through pricing, programs, and procurements simultaneously?**

Hawaiian Electric's proposal makes little sense, particularly in the context where competitive bidding frameworks have not proven to be an effective mechanism for sourcing DERs. By nature, competitive RFPs are rigid, complex, and resource intensive,

all of which tend to limit innovation. As noted in comments when this proceeding first started:

> Competitive sourcing is not in and of itself a policy goal; it is only one potential mechanism for achieving cost-effective resource acquisition. Few, if any, customer-sited resources have historically been sourced through competitive processes, yet that does not mean that those same resources are or were not cost-effective, or that competitive sourcing would have resulted in a more cost-effective outcome. For instance, customers do not "bid" the amount of incentive that they would require to make an investment in a more energy efficient appliance for the obvious reason that such bidding would be complicated and impractical, and compromise program enrollment and the accompanying benefits achieved by the program.[17]

Hawaiian Electric already failed to acquire an NWA through its soft launch RFP, which has prompted Hawaiian Electric to propose a new substation to serve the Ho'opili and East Kapolei developments.[18] To avoid further missed opportunities, Hawaiian Electric should put all options on the table at the outset (i.e., a procurement, pricing, *and* program option), consistent with the Commission's directives.[19]

Further, the current procurement proposal has two serious flaws. First, the current process of procuring utility-scale resources commits ratepayers to pay for the entirety of the resource; as a result, even if DERs or other future resources could

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[17] Docket No. 2018-0165, Public Comments of the Hawai'i PV Coalition at 7 (filed on October 15, 2018).

[18] First Review Point at 13.

[19] *See* Order No. 37419 at 11 (For the Soft Launch evaluation, the Stakeholder Council could work with Hawaiian Electric to develop a programmatic approach to procuring non-wires solutions.").

provide the same service at a lower cost, they will be unable to compete since the procurements are treated as an existing "sunk cost." When there are significant capacity needs, this may be a reasonable approach. But on a going forward basis, the Joint Parties flag that, contrary to Hawaiian Electric's representations, competitive procurement may not be the most efficient and cost-effective solution. Instead, it may produce future stranded assets and limit the ability of lower-cost options to address grid needs.

Second, Hawaiian Electric's current proposal divorces system and distribution needs into two separate procurement processes, such that distributed resources, which can address both needs, are unable to offer the complete value stack. Even if a DER resource could bid into two different procurements (distributed and system), the need to bid in duplicate management and acquisition costs would likely lead to less competitive market solutions. Moreover, the uncertainty as to whether a DER bidder would get the full value stack (win one or multiple RFP procurements) would likely lead to smaller and less competitive bids. As a fundamental principle, any procurement option should maximize the opportunity to address all grid needs, versus being broken into different component tracks.

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7. *Reference: First Review Point at 12.* **Would retrospective evaluation of IGP deliverables by the newly formed Stakeholder Technical Working Group provide benefits commensurate with the additional time spent?**

The Joint Parties believe the IGP needs significant and material changes to be of use. In general, retrospective evaluation by the Stakeholder Technical Working Group would not be an efficient use of limited time and resources given the structural problems that must be addressed first.

8. *Reference: First Preview Point at 200-207.* **Is this response from the Technical Advisory Panel sufficient to provide independent review? If not, what additional independent review would be appropriate?**

No. Hawaiian Electric' approach of using a Technical Advisory Panel to provide "independent review" of the IGP process is inadequate and fails to leverage best practices and lessons learned in the IRP proceedings. First, unlike the diverse Advisory Group that the Commission solicited and selected in IRP,[20] the Technical Advisory Panel is comprised of Hawaiian Electric's self-selected members that overly represent utility perspectives. Second, unlike the Independent Entity established in the IGP Framework, there is no independent body responsible for overseeing the stakeholder engagement process and for ensuring that IGP proceeds in a "timely and transparent" manner.[21] Without these previously established and proven protective measures in place, there can be little confidence in the IGP process.

[20] *See* Docket No. 2009-0108, Decision & Order at 80 (March 14, 2011).

[21] *Id*. at 2, 63.

DATED: Honolulu, Hawai‘i, February 25, 2021.

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CERTIFICATE OF SERVICE

I hereby certify that on the following date a copy of the foregoing document was duly served upon the following parties as follows:

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