

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF HAWAII

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

THE DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, AND TOURISM'S

PUBLIC COMMENTS

ON THE HAWAIIAN ELECTRIC COMPANIES'

INTEGRATED GRID PLANNING MARCH 2018 REPORT

AND

CERTIFICATE OF SERVICE

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**THE DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, AND TOURISM'S  
PUBLIC COMMENTS ON THE HAWAIIAN ELECTRIC COMPANIES'  
INTEGRATED GRID PLANNING MARCH 2018 REPORT**

In accordance with Hawaii Public Utilities Commission ("Commission") Order No. 35569, tendered as public comment, the Department of Business, Economic Development, and Tourism ("DBEDT"), by and through its Director ("Director") in his capacity as the Energy Resources Coordinator, through the undersigned Deputy Attorney General, respectfully files these comments concerning the Integrated Grid Planning Report submitted on March 1, 2018 by the Hawaiian Electric Company, Inc., Hawaii Electric Light Company, Inc., and Maui Electric Company, Limited (collectively, the "HECO Companies"). In support thereof, DBEDT states as follows:

**I. DBEDT'S INITIAL COMMENTS ON THE HECO COMPANIES IGP REPORT**

**A. Prefatory Comments**

DBEDT thanks the Commission for its leadership throughout the electric sector planning process including the current docket as well as the proceeding dockets from which the IGP evolved. In addition, DBEDT commends the HECO Companies for the marked improvements they have made in utility planning over the past several years. The objective of DBEDT's comments is to ensure that the IGP builds on the progress achieved to date so that the State's energy and environmental policies can be realized.

DBEDT recognizes and appreciates that the proposed IGP process has addressed concerns identified by DBEDT in related proceedings. In the Demand Response docket (2015-0142) DBEDT submitted interrogatories which called out concerns related to the alignment of customer and utility scale resource procurement.

IR 1 stated *“Does HECO agree that the evaluation of any utility RFP resulting from the PSIP needs to be aligned with the valuation of service conducted in the DR application?”*<sup>1</sup> DBEDT presented the logic as to why this should be true based on HECO’s statements, the Competitive Bidding Framework (CBF), and associated reasoning concluding with *“for DR and PSIP to be aligned, they both need to have consistent procurement evaluation given that the procurement of one impacts the other.”*<sup>2</sup>

Consistent with this position HECO noted in the IGP that the Commission’s recent DR Decision and Order stated *“The absence of such unified valuation has the real potential to create market inefficiencies and inconsistent assessment of resource selection.”*<sup>3</sup> and the Companies went on to state that *“The Companies agree that integrated planning and coordinated evaluation of market-based alternatives are essential to sustainably achieve value for all customers.”*<sup>4</sup> DBEDT appreciates that the Companies have developed an innovative process that takes steps towards a unified valuation methodology for all resources by incorporating procurement into the IGP process.

DBEDT has also stated that energy assurance and emergency response should be included in the transformation of Hawaii’s energy eco-system. Encouragingly the IGP has

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<sup>1</sup> The Department of Business, Economic Development, and Tourism’s First Set of Information Requests to the Hawaiian Electric Companies, page 5; March 3, 2017

<sup>2</sup> DBEDT’s First Set of Information Requests to the Hawaiian Electric Companies, page 5; March 3, 2017

<sup>3</sup> PUC DR Decision and Order, page 96

<sup>4</sup> IGP Report Page 12; March 1, 2018

explicitly identified resiliency as an input to the IGP forecasts<sup>5</sup>. While this is a positive step, there is still work to be done. As DBEDT has noted in its Power Supply Improvement Plan (PSIP) Statement of Position (SOP) “...DBEDT would prefer to develop a process that increases transparency and analysis around:

- (1) *The metrics of resiliency and energy assurance and how proposed resources were sited, sized, and selected;...*<sup>6</sup>

This is particularly relevant given the interest in developing metrics on resiliency for Performance Based Regulation (PBR). Recent events around the world, such as Hurricane Michael in Florida and Hurricane Maria in Puerto Rico, along with Hawaii’s close call this year with Hurricane Lane, highlight just how important resiliency is. As Hawaii invests billions of dollars to transition to one hundred percent renewables and a net-zero carbon economy, it is important that those investments take resiliency into consideration.

The IGP is a significant advancement in utility planning. Although material progress has been made, further refinements will continue to be required as Hawaii moves towards one hundred percent renewable energy in the electric sector and a net-zero carbon economy.

**B. DBEDT Supports a Performance Review Group to Enable an Expedited Procurement Schedule.**

DBEDT appreciates the HECO Companies’ innovative process which integrates procurement within the IGP. The integration of procurement within the IGP addresses a concern noted in DBEDT’s PSIP SOP.

*“A principal deficiency relates to the Competitive Bidding Framework’s requirement that RFPs be consistent with the utility’s Integrated Resource Plan (or, as is the case here, the*

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<sup>5</sup> IGP Report Appendix B, page 2, Figure 6; March 1, 2018

<sup>6</sup> DBEDT’s Statement of Position on the Hawaiian Electric Companies Revised and Supplemented Power Supply Improvement Plan, Page 21; February 14, 2017

*PSIP component of what would otherwise be part of an Integrated Resource Plan). ”<sup>7</sup>*

By integrating procurement within the IGP, planning and procurement are directly linked, effectively mitigating this concern; however, conducting procurement within the IGP calls for an expedited procurement schedule. DBEDT’s proposal for a Procurement Review Group (PRG), as outlined in DBEDT’s PSIP SOP, supports an expedited procurement schedule. *“A PRG will provide greater visibility into what bids were submitted and how quantitative and qualitative metrics were actively applied in the ranking and selection processes.”<sup>8</sup>* A significant issue that a PRG would alleviate is the time needed to brief and, if possible, gain consensus among stakeholders that the procurement process took into consideration their concerns in determining the winning bids. As stated in DBEDT’s SOP for the PSIP, *“DBEDT does not suggest that the HECO Companies failed to identify the metrics and criteria they will use in comparing proposals that are submitted in response to RFPs. Indeed, the HECO Companies identified a number of factors they will consider. DBEDT agrees that those are important factors that warrant consideration. The issue is that the metrics and criteria that the HECO Companies identified do not in and of themselves drive outcomes in bid evaluations; rather, those metrics and criteria factor into the methodology used to make procurement decisions, and the proposed methodology, as well as the relative value assigned to those metrics, afford great discretion to the HECO Companies. The result is that it will be difficult, if not impossible, to understand how the HECO Companies compared competing proposals.”<sup>9</sup>*

DBEDT reiterates that invitations for participation on a PRG should be to entities that serve the public interest, which would provide those entities insight and confidence that procurement is achieving energy and environmental policy. For some entities this alleviates the need to formally

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<sup>7</sup> DBEDT’s Statement of Position on the Hawaiian Electric Companies Revised and Supplemented Power Supply Improvement Plan, Page 9; February 14, 2017

<sup>8</sup> *Id.*, p. 14

<sup>9</sup> *Id.*, p. 10

engage in the regulatory process. Informing entities with an interest and responsibility to ensure that procurement is aligned with state energy policy and meets the needs of the residents of Hawaii will reduce the number of contested issues argued before the Commission to those issues where there are fundamental disagreements on material issues.

**C. DBEDT Requests Updated Customer Load Studies be Included in the Workplan**

DBEDT requests that updating customer load studies be specifically incorporated into the IGP workplan. Integrated grid planning requires customer sited resources. In order to improve forecasts for adoption and effectively design innovative energy efficiency, demand response and distributed energy resources programs updated customer load studies are required. New load studies are an input to assessing the economic incentives that drive customer behavior and provide insight into how, and from whom, electric system costs will be recovered from ratepayers.

It is important to note that, going forward, traditional load studies examining customers by class will be insufficient to capture the increasing diversification of customers within classes, specifically differences driven by customer adoption of distributed energy resources (DER). Customer sited solar, energy storage, electric vehicles and advanced energy management systems will increasingly differentiate customers beyond the distinctions that drive typical customer classes.

It is also important to note that updated customer load studies are needed for correlated efforts, such as performance based regulation and rate design. Without understanding the forecasted sales determinants of customers, there can be no understanding of whether regulatory structures being put in place are sustainable in the long term.

**D. DBEDT Requests the Workplan Explicitly Include Sensitivities for Aggressive Energy Efficiency (EE) Targets and Electric Vehicle (EV) Penetration in 2045**

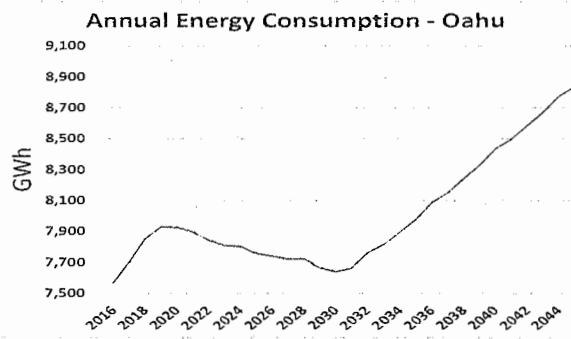
The State has set aggressive energy policies that need to be addressed in the coming IGP cycle, given the magnitude of the potential impact they could have on system loads in the future.

Hawaii passed legislation making it the first state to commit to a zero emissions clean economy and statewide carbon neutrality by 2045.

*“The State shall expand strategies and mechanisms to reduce greenhouse gas emissions through the reduction of energy use, adoption of renewable energy, and control of air pollution among all agencies, departments, industries, and sectors, including transportation.”<sup>10</sup>*

In 2017, Hawaii’s four counties pledged to lead the way by transitioning their fleet vehicles to 100% renewable power by 2035.

Current energy efficiency targets are a product of the Hawaii Clean Energy Initiative, which set targets for the year 2030; however, IGP planning now covers the period out to 2045. The absence of a 2045 target could materially impact resource assessments in the future.<sup>11</sup>



The growth in energy loads reflected in the PSIP load data in the chart above is influenced by the absence of an energy efficiency target in 2045, as well as Electric Vehicle (EV) adoption assumptions. The incremental growth in total energy consumption on Oahu between 2030 and 2045 represents the equivalent of 550 MW of solar with a footprint on the order of 5,000 acres. The need for aggressive EE targets for 2045 is highlighted by the fact that the EV penetration incorporated in the PSIP load data is well below what would reasonably be required to achieve a

<sup>10</sup> Act 15, SLH 2018

<sup>11</sup> Data for chart taken from *Oahu Customer Level Sales Forecast, Power Supply Improvement Plan Update, Appendix J – Assumptions Data* (pg. J-45, Table J-7), December 2016.

net-zero carbon economy by 2045. DBEDT recognizes that HECO should not be tasked with unilaterally establishing the sensitivities and suggest that they should be identified in the workplan as a task for the forecast assumptions working group<sup>12</sup>.

**E. DBEDT Suggests that Analysis of Long Lead Time Infrastructure Alternatives be Explicitly Identified in the Workplan.**

There is an appropriate and necessary focus in the IGP and the prior PSIP on developing five year action plans. The focus on five year action plans has resulted in the Commission approving significant renewable procurement activities currently being implemented by the Companies, which DBEDT supports. However, in addition to the identification of procurement requirements for the IGP five year plan, meaningful tasks related to long lead time infrastructure and generation resources will need to be identified and initiated. This is particularly true on Oahu, where resource and siting options are limited.

If Oahu were to achieve 40% renewable energy by 2030, the equivalent of roughly 500 MW of solar (with a footprint on the order of 5,000 acres) would need to be added to HECO's existing portfolio. For perspective, as of the 2<sup>nd</sup> quarter of 2018, the percentage of renewable energy on Oahu was 19.89%, with utility scale solar accounting for 1.83%. There is 65 MW of existing and operational utility scale solar, which would have a footprint of roughly 570 acres, based on 8.7 acres per MW.<sup>13</sup> While currently the Renewable Portfolio Standard (RPS) calculates renewable targets for the HECO Companies on a consolidated basis, material investments in the not too distant future will be required to achieve and exceed 40% renewables.

The Hawaii Advanced Visualization Energy Nexus (HAVEN) is a collaboration between DBEDT, the University of Hawaii's Laboratory for Advance Visualization and Applications

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<sup>12</sup> IGP Report Appendix A page 3, March 1, 2018

<sup>13</sup> See PSIP Appendix H, p. 12. The renewable energy percentages come from HECO's website at <https://www.hawaiielectric.com/about-us/key-performance-metrics/renewable-energy>



(LAVA) and the HECO Companies, which integrates geospatial considerations with traditional utility planning data and analysis. DBEDT's data visualization efforts have raised its awareness on potential siting constraints for grid and generation infrastructure at higher levels of renewable penetration. Infrastructure solutions to address barriers to reaching 40% renewable energy could easily have lead times in excess of a decade. Ensuring that we have initiated the necessary review of what infrastructure will be required at 40% renewables in this planning cycle will help to identify and initiate investigation into viable infrastructure solutions.

**F. IGP Should Report GHG Emissions for Alternative Scenarios and Sensitivities Supporting Net-Zero Carbon Economy by 2045.**

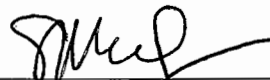
With the State of Hawaii committed to reducing greenhouse gas emissions in alignment with the principles adopted in the Paris Agreement (Act 32, SLH 2017) and committing to achieve a net-zero carbon economy by 2045, it is important that GHG for all scenarios and alternatives be reported. This is increasingly important as carbon offset projects necessary to achieve a net-zero carbon economy will potentially leverage the same land that could be used for renewable generation resources. The pathway to a net-zero carbon economy and 100% renewable energy in the electric sector will need to optimize the utilization of land to find multi-use solutions for Hawaii's limited land resources. Reporting on GHG for scenarios and sensitivities supports a holistic review of policy alternatives to inform the legislature, state, and county climate commissions and the Public Utilities Commission.

**II. CONCLUSION**

DBEDT is encouraged by the continued evolution of the electric sector planning process as reflected in the HECO Companies' IGP. There is still much work to be done to evolve the process to one that is transparent and inclusive of stakeholders and one which integrates the

multiple policy objectives of the State. This will require the IGP process to incorporate considerations that have typically been outside the sphere of utility planning. DBEDT believes the suggestions above are steps which can be taken in this planning cycle to help achieve a more holistic evaluation of the electric sectors role in the achievement of the State's energy and environmental policy.

DATED: October 15, 2018, at Honolulu, Hawai'i.



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CERTIFICATE OF SERVICE

The foregoing Public Comments of the Department of Business, Economic Development, and Tourism was personally served this date with an original and eight copies upon the Commission, two copies to the Consumer Advocate, one copy to the HECO Companies, and an electronic copy to the following other parties (hard copy by U.S. mail upon request):

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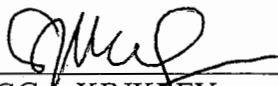
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