

Hawaiian Electric Integrated Grid Planning Technical Advisory Panel: Progress Update

Presentation to IGP Stakeholder Technical Working Group

September 14, 2022

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Summary of TAP Activity August – September 2022

- Resource adequacy subcommittee held 1 meeting
- Transmission subcommittee and resource adequacy subcommittee provided email feedback on one topic

TAP Resource Adequacy & Modeling Subcommittee

- August Meeting: HECO provided updates on the Oahu and Maui GNA
 - TAP asked several clarifying questions to better understand the analysis
- Two questions from HECO to TAP:
 1. Are there any changes to the IGP grid needs process that should be considered for the broader IGP analyses that will follow the GNAs developed for O'ahu, Maui, and Hawai'i Island to support the Stage 3 RFPs?
 2. Based on the results of the probabilistic resource adequacy analyses and RESOLVE testing of the thermal HDC and different ERM targets, should RESOLVE be further calibrated?
- TAP feedback minimal so far, with focus on
 - Resource adequacy criteria/threshold used and justification
 - Need for firm capacity being further examined
- Discussion continues

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Transmission and RA Subcommittee Update

From Order 38482 (6/30/22):

◆ Commission directs Hawaiian Electric to clarify the magnitude and number of violations that would trigger a model iteration for another step in the GNA process. Must also clarify how it will use the modeling tools to continue to optimize the resource plan after an iteration. Provide written explanation in the Final GNA methodology.

- In other words, when system stability study identifies need for mitigations, how do we know if those mitigations require an iteration of the GNA?

In response, HECO developed a table of mitigations and categorized the need for GNA iteration for each (Yes/No/Maybe)

TAP approved of the overall approach

- Provided general feedback and suggested redlines to table

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Transmission and RA Subcommittee Update

General feedback:

- Overall approach reasonable
- For Yes and Maybe entries, TAP provided brief guidance on threshold for iteration
- TAP generally not able to pre-define quantitative thresholds – need to consider each case individually
- Thresholds should be shared with stakeholders as decision whether to iterate occur.
- Many mitigations fix issues not directly captured in GNA models
 - In those cases, purpose of iteration is to represent mitigation in cost of new resources. Assigning costs may be very challenging!

Examples of Mitigation Solutions Required by System Security Analysis	Need a new model iteration
Install traditional wire solutions (e.g. reconductor, cable replacement, add transformers to increase steady state capacity, add cap banks)	Maybe. <u>Depends on capacity of wire solution; likely iterate production cost only.</u>
Add synchronous condensers <u>and/or</u> , STATCOM to address dynamic voltage support and increase short circuit current	Yes

Questions? Comments?



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