OBJECTIVE AND SIGNIFICANCE: This project provides the Hawaii Public Utilities Commission (PUC) with highly technical, unbiased and independent third-party review of electric utility proposals. This allows PUC staff to augment their internal analyses and consultant work with additional analysis and perspective on short notice.

BACKGROUND: Under a 2017 Memorandum of Understanding, HNEI has been supporting the PUC review of regulatory filings by conducting independent review and technical analyses to inform decision making. HNEI staff and its network of technical experts provide the PUC with the subject matter expertise and analytical capabilities required to support decision making on crucial regulatory decisions affecting Hawaii’s energy transformation. In partnership with GE Energy Consulting and Telos Energy, HNEI has developed power systems modeling capabilities to analyze the integration of renewable energy sources into Hawaii’s electric grids. Recent support activities included the following:

- **Docket Review:** Review, summary, and recommendations of demand response and grid services proposals (Docket No: 2015-0412), battery energy storage proposals (Docket No: 2018-0102 & 0103), open renewable energy RFPs and PPAs (2017-0352, 2018-0431 through 0435), Integrated Grid Planning (2018-0165), DER Policy (2014-0192), the Schofield Generating Station (2017-0213), and other ongoing reviews.

- **CRR BESS Docket Review:** Provided a qualitative and quantitative analysis to review the proposed 100 MW contingency and regulation reserve (CRR) battery.

- **Stage 2 RFP Docket Review:** Reviewed the proposed Stage 2 RFP and are actively conducting solar+storage analysis to simulate the Hawaii grids with new project proposals. This will allow policy makers and regulators to understand the expected changes to grid operations, renewable integration, and costs.

- **Ongoing Monitoring:** Ongoing reviews of actual utility operations on Oahu (using hourly generation by generating unit submitted via Docket No. 2017-0213). When compared against simulation results it allows for a review of HECO commitment and dispatch decisions and potential curtailment or uneconomic asset utilization.

PROJECT STATUS/RESULTS: Based on review and discussions with PUC staff, HNEI and Telos Energy recommended that the proposed 100 MW CRR battery was not adequately evaluated and its services could have been provided (potentially more economically) by forthcoming solar+storage hybrid plants. We also advocated for Stage 1 and Stage 2 RFP solar+storage projects to be counted as assets that could provide ancillary services and firm capacity. Both of these recommendations have been addressed in recent PUC orders over the past six months.

HNEI and Telos Energy will continue to monitor the Stage 2 RFP process and simulate what grid operations will look like at the proposed levels of renewable adoption. This will allow for a quick review of specific projects or PPA structures if requested by the PUC.

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