Hawaiian Electric
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NEWS RELEASE

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Hawaiian Electric Companies' plan for upgrading power grids can help integrate more private rooftop solar

HONOLULU, June 30, 2017 – The Hawaiian Electric Companies today submitted the draft of a plan to modernize its five island power grids to bring online more renewable resources, improve reliability and resilience and give customers more choices.

Filed today with the Public Utilities Commission, the draft plan describes the scope and estimated cost to update the energy networks of Hawaiian Electric, Maui Electric and Hawai'i Electric Light in the next six years, and how it will help the companies achieve a consolidated renewable portfolio standard of 48 percent by 2020 and 100 percent by 2045.

The draft plan also describes how new technology will help triple private rooftop solar, make use of rapidly evolving products - including storage and advanced inverters - and incorporate an array of sophisticated energy management tools, including demand response.

"Our grids were originally designed for one-way flow of electricity to customers from a handful of power plants," said Colton Ching, senior vice president for planning and technology. "We can use advanced technology to transform these grids for two-way power flow from nearly 80,000 privately owned rooftop solar systems today and tens of thousands more in the future, along with thousands of energy storage systems that will be part of our grids by 2045."

Much of the first phase of work would be aimed at adding sensors and control systems onto circuits where the high level of private rooftop solar can produce potentially damaging variations in voltage and limit addition of new systems.

The cost of the first segment of modernization is estimated at about $205 million over six years. The plan focuses on near-term improvements that provide the most immediate system and customer benefit but don't crowd out future technological breakthroughs.

Highlights of this near-term work include:

- Distribution of smart meters strategically rather than system-wide, primarily for enhanced sensing and monitoring purposes, i.e., to customers with private rooftop solar on saturated circuits; and customers who want to participate in programs such as demand response, variable rates or who seek usage data;
- Reliance on advanced inverter technology to enable greater private rooftop solar adoption;

- more -

- Expanded use of voltage management tools, especially on circuits with heavy solar penetration to maximize circuit capacities for private rooftop solar and other customer resources;
- Expanded use of sensors and automated controls at substations and neighborhood circuits;
- Expansion of a communication network giving system operators greater ability to “see” and efficiently coordinate distributed resources, along with smart devices placed on problematic circuits and automation for improved reliability;
- Enhanced outage management and notification technology

To develop this grid modernization strategy, the Hawaiian Electric Companies took a “clean sheet” approach, starting by talking with customers and community stakeholders across the state to determine what was important to them when considering energy delivery today and in the future.

The companies plan to meet with stakeholders and to hold public discussions of the grid modernization draft plan starting in July, with their input to be included in the final version of the plan to be submitted at the end of August.

The draft plan and related documents are available at www.hawaiianelectric.com/gridmod. Public comments on the plan can be submitted to gridmod@hawaiianelectric.com until Aug. 9, 2017.

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