



**Hawaiian
Electric**

North Kohala Microgrid RFP

Hawai'i Island

IGP Stakeholder Technical Working Group

September 2, 2021



Purpose and Objective

- ◆ Brief stakeholders on the North Kohala Microgrid effort
- ◆ Offer stakeholders an opportunity to provide input and comment directly to the Company on the information and data that will be used to inform the approach for moving forward with the North Kohala Microgrid effort and the development of the draft RFP



Agenda

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- ◆ Introduction/Brief History

Entura

- ◆ Background/Experience
- ◆ Microgrid Solution
- ◆ Centralized and Distributed Storage Pros/Cons
- ◆ Procurement Approach Analysis
- ◆ Example Projects

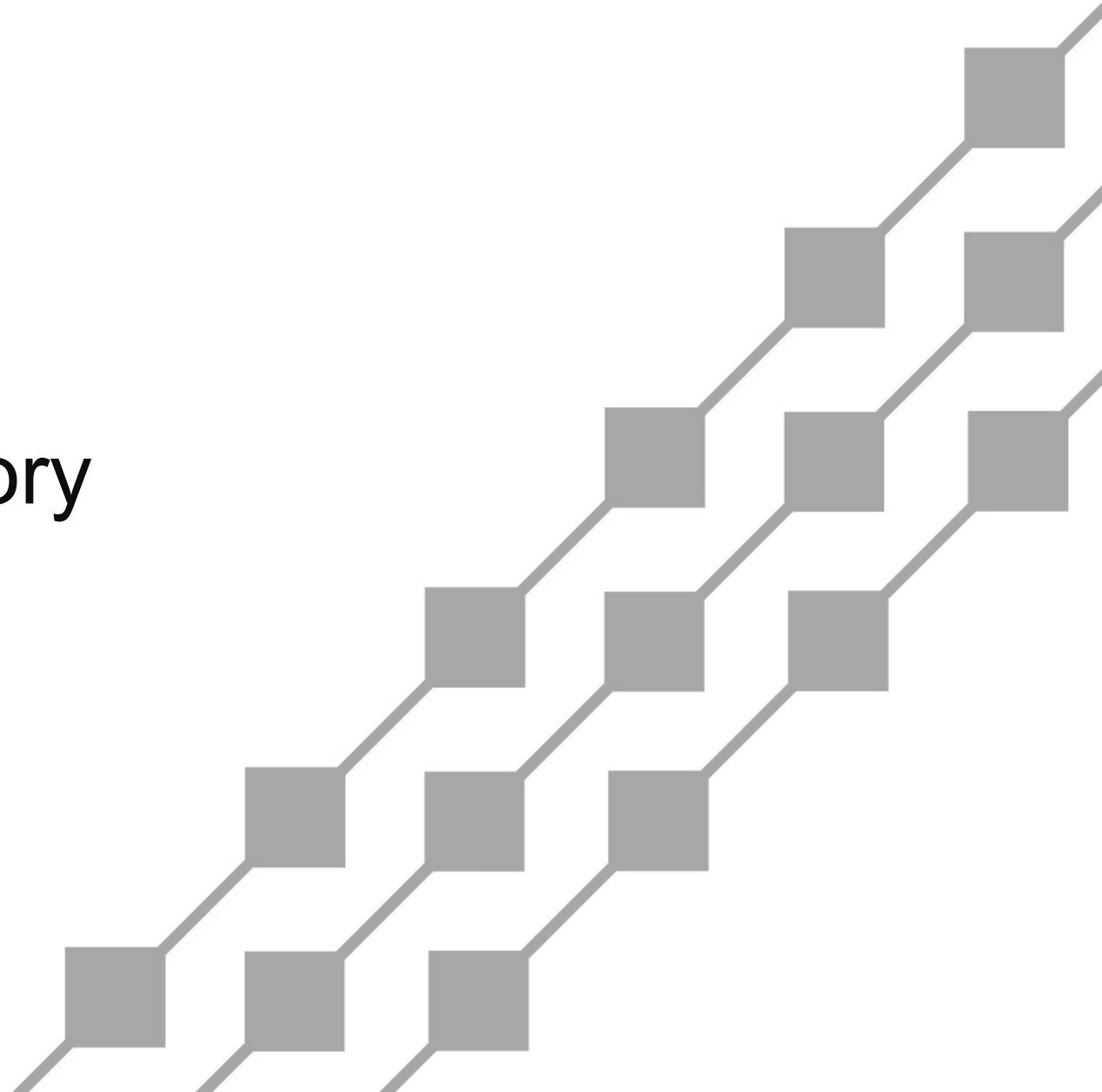
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- ◆ History and Context
 - ◆ Procurement and Contracting Approaches Considered
- Questions?



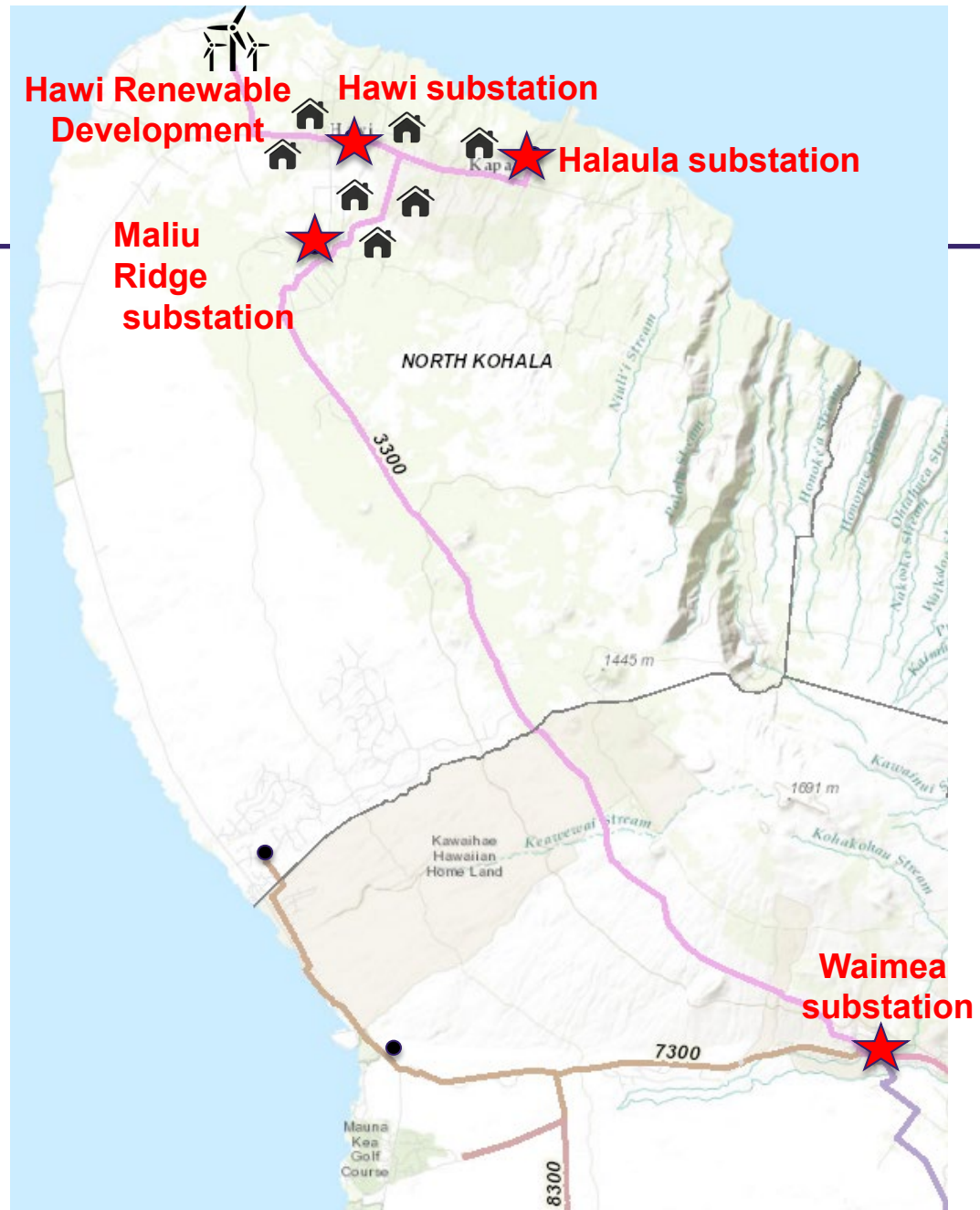
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Introduction / Brief History



North Kohala

- ◆ Customers serviced through the 3300 Line built in 1950s
- ◆ ~24 miles between Waimea and Halaula/Hawi
- ◆ ~2,000 customers
- ◆ ~4MW peak load
- ◆ 10.5MW windfarm
- ◆ ~2.1MW DER
- ◆ Line capacity 13MVA
- ◆ Transformer capacity 10MW



Objectives

- ◆ To improve reliability and resilience for customers in North Kohala by providing energy when 3300 Line is out
 - 3300 Line Rebuild Needed (requires outage)



Measures Taken to Improve Reliability and Resilience

- ◆ Vegetation management
 - In 2019, trimmed/removed 41,000 trees in North Kohala.
Over 5,000 trees trimmed/removed in Q1 2021
- ◆ Pole maintenance (requires planned outages)
 - 40 poles in 3300 replaced in 2019;
16 poles replaced in July 2021
- ◆ Remote monitoring and control of substations (SCADA)



Options Considered



OPTION 1

- New 2nd line and transformer



OPTION 2

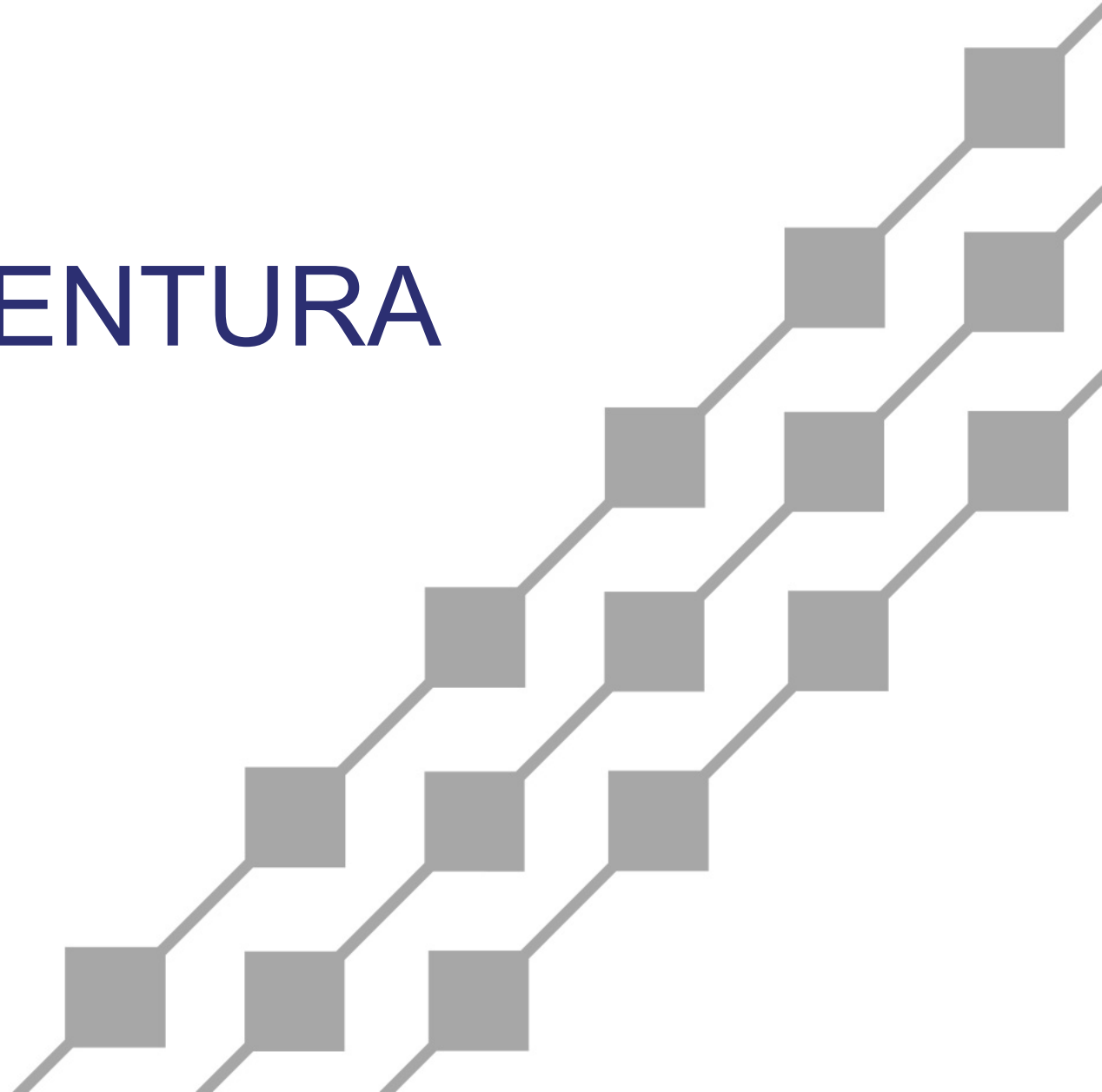
- Microgrid with Diesel Generators



OPTION 3

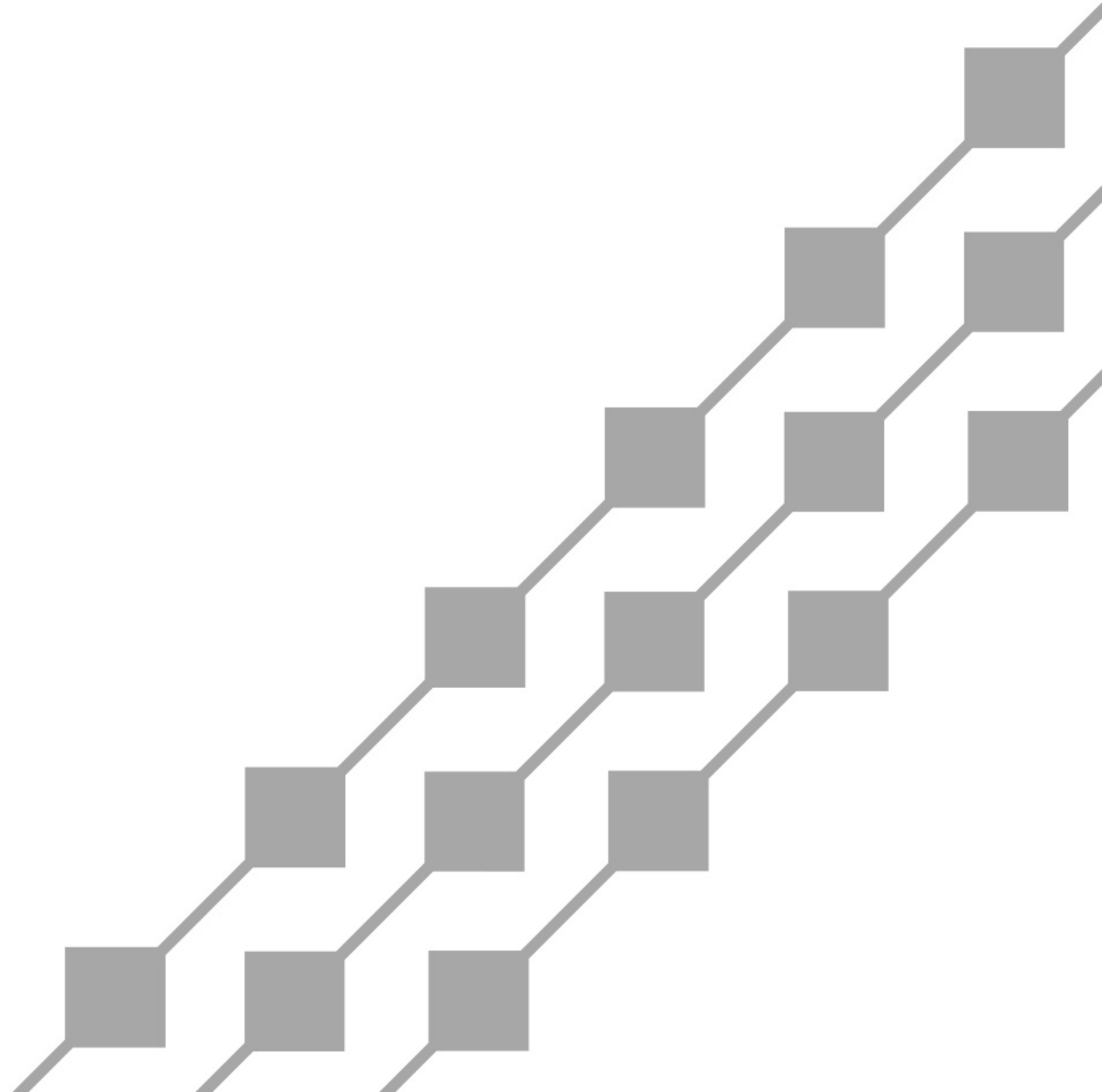
- Microgrid with Battery Energy Storage System (BESS)

TRANSITION TO ENTURA



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North Kohala Efforts



Non-Wires Alternative (NWA) Approach

CONSIDERED OPTIONS FOR THE FOLLOWING NEED/REQUIREMENTS

- ◆ **NEED** – Rebuild the 3300 Line
 - Line is critical for operations
 - Accept power from Hawi Renewable Development (HRD)
 - Primary source of power to customers
- ◆ **REQUIREMENT** – Power for customers while 3300 Line is de-energized
- ◆ **REQUIREMENT** – Resiliency during unplanned 3300 Line outages (the area is windy and subject to wind/tree impacts on the line)



Community Outreach and Engagement



COMMUNITY

- Major land owners
- Hawi Renewable Development
- Residential and business customers
- Non-profit organizations
- Schools and churches

GOVERNMENT

- Briefings with Hawai'i Island Legislators
- Town halls with elected officials
- Focus groups with community leaders

PARTNERSHIPS

- Hawaii Energy
- North Kohala Community Development Plan Action Committee
- County of Hawai'i first responders (Civil Defense, police, fire, hospital)

EVENTS

- Resilience and Sustainability Forum
- Fairs and festivals
- Community association meetings
- Virtual community meeting



Recommendation: Microgrid w/ BESS option



Procurement and Contracting Approaches Considered



Unique Microgrid Application

- ◆ Lack of Examples in Hawai'i and elsewhere
- ◆ Engaged with Entura to leverage their experience



Method of Procurement

- ◆ BESS and Microgrid Controller
 - RFP for storage component
- ◆ Pros/Cons



RFP Considerations

- ◆ Performance Standards are essential
 - Heavier weighting on non-price criteria
- ◆ GCOD: 11/22/2024 or sooner
- ◆ Independent Observer
- ◆ Self-Build allowed
- ◆ Centralized BESS adjacent to microgrid controller will streamline RFP
 - Company is procuring site
 - Interconnection will be standardized



Overall RFP Process Schedule

Milestone	Date
Stakeholder Meeting	September 2, 2021
Draft RFP provided	September 23, 2021
Technical Status Conference	September 30, 2021
Parties and Participants provide Comments by	October 7, 2021
Comments from PUC due	October 14, 2021
Proposed Final RFP provided	November 5, 2022
Final RFP is Issued	January 6, 2022
Self-Build Proposal Due Date	March 7, 2022 at 2:00 pm HST
IPP and Affiliate Proposal Due Date	March 8, 2022 at 2:00 pm HST
Selection of Final Award Group	June 16, 2022
Contract Negotiations Start	June 23, 2022



Contract Challenges

- ◆ Energy Storage Services Agreement (“ESSA”)
 - Different application from ESPPA used in Stage 2 RFP



Conclusion and Next Steps



Next Steps

◆ **September 23, 2021**

- A recording of the meeting will be made available for viewing
- Draft RFP to be made available for review
- www.hawaiianelectric.com/competitivebidding

◆ **October 7, 2021**

- Please provide any feedback via email:
- renewableacquisition@hawaiianelectric.com





Mahalo

Questions?