KIUC Community Meeting
West Kauai Energy Project

October 21, 2019
Where Kauai Gets Its Power

Fuel Mix - 2009
- Hydro: 9%
- Fossil Fuel: 91%

Projected Fuel Mix - 2025
- Biomass: 10.5%
- Fossil Fuel: 24.0%
- Hydro: 16.5%
- Solar: 49.0%

Fuel Mix - YTD September 2019
- Biomass: 11%
- Solar: 29%
- Hydro: 11%
- Fossil Fuel: 49%
Kauai’s Renewable Challenge

- 50% of Kauai’s demand for electricity will soon be met with solar
- Solar and battery limitations
  - Sun dependent
  - Short duration storage
- Bulk storage through reservoirs
- Energy generation diversification
Integrated Energy Project Proposal

- 25 MW renewable energy for Kauai
  - Pumped storage
  - Solar direct to grid
  - Store and release flow through hydro
- 85 – 90 GWh annual generation, 15 – 20% of KIUC’s total
- Irrigation delivery through project
- Primary project components
  - Kokee diversion & ditch repairs and upgrades
  - Rehabilitation of Puu Lua, Puu Opae, and Mana reservoirs
  - Two new sections of buried pipeline
  - Two new powerhouses/one new substation
  - New solar facilities – up to 40 MW dc
Puu Lua Reservoir after Rehabilitation
Puu Opae Reservoir – During Sugar Operation
Mana Reservoir – During Sugar Operations
Solar Field Location
Project Activities

- RFQ and RFP process completed, contractor selected mid 2018
- KIUC Board approved contract with McMillen Jacobs for design and construction
- Phased approach
  - Four phases – 3 engineering phases and construction
  - Commencement of each phase subject to KIUC Board approval
- Anticipated start of construction in 2021
Project Activities

- Fieldwork
  - Land surveys
  - Geotechnical surveys
  - Engineering

- Completion of 30 – 60% engineering before end of November

- Environmental disclosure document
  - Public scoping meeting date to be announced
  - Studies included
  - DLNR Land Division is receiving agency

- Ongoing meetings with regulatory agencies, land owners and community members
Studies Conducted

- Stream Studies and Habitat Assessment
- Puu Lua Reservoir Survey and Assessment
- Cultural Impact Statement
- Archaeological Literature Review and Field Inspection
- Flora and Fauna Survey
- Socio-Economic Survey
- Hydrology analyses
- Geotechnical surveys
- Solar data collection
Potential Impacts During Construction

- Anticipated 18 month construction schedule
  - Dry and wet season work
  - Multiple teams working in different areas simultaneously
- Increased traffic on roads
- Puu Lua Reservoir
  - Closed during construction – approximately 6 months
  - Loss of one fishing season
  - Ditch flow will be routed through by-pass ditch
- Diversion Repairs
  - Approximately 2 - 4 weeks at each structure
  - Waiakoali and Kawaikoi campgrounds may be closed or have limited access
Potential Impacts During Construction

- Water for irrigation on DHHL lands will be provided through alternate means during construction, if necessary
- Potential for dust – dust control measures will be in place
- Potential noise during day from heavy equipment use
- Many temporary jobs available for local contractors
- Some specialized imported labor crews will be located on west side
  - Temporary housing opportunities
  - Local business opportunities
Waiakoali Diversion - Current
Powerhouse at Puu Opa'e
Community and Agricultural Benefits

- Water is returned to streams at diversions
- Rehabilitation and long term maintenance of reservoirs and Kokee ditch system
- Support for agriculture and food sustainability on west side
- Enables DHHL to utilize Puu Opae mauka lands
  - Water
  - Roads
  - Power
- Improvement and maintenance of access roads – including to Puu Lua Reservoir
- Fire suppression support
Island Benefits

- Member-owned legacy project that will store and generate power inexpensively and reliably
- Rate stabilization
- Bulk storage resource
- Approximately 15 - 20% of island power
- Generates when solar isn’t available
- Increased electrical grid system stability and reliability
- Increased number of jobs available during the construction phase
Mahalo and Questions