Hawaii Community Development Authority (HCDA)
Kalaeloa Community Development District

“Kalaeloa Reliable Energy Industry Briefing”
April 11, 2017
9:30 a.m. to 12:30 p.m.
HCDA Offices Kaka’ako, 2nd Floor Board Room
547 Queen Street
Honolulu, Hawaii 96813

9:00 a.m. Registration/Refreshments

9:30 a.m. Welcome and Introductions: Jesse Souki, HCDA Executive Director

9:40 a.m. Panel Presentation, Facilitator: Tracy Lestochi
  • Luis Salaveria, Director of the Department of Business, Economic
    Development and Tourism: State of Hawaii Clean Energy Initiative is to
    achieve 100 percent clean energy by 2045
  • Jesse Souki, Executive Director of the Hawaii Community Development
    Authority: Agency Overview, Hawaii Revised Statutes, and
    Redevelopment Authorities
  • Tesha Malama, HCDA Kalaeloa Director of Planning and Development:
    Kalaeloa Community Development District Overview & Development
    Opportunities
  • Mike Hightower, Sandia National Laboratories – Kalaeloa Energy System
    Redevelopment Options Including Advanced Microgrids Report
  • Commander Benjamin Leppard, U.S. Navy Region Hawaii:
    Kalaeloa Electrical System Overview

11:30 a.m. BREAK

11:40 a.m. Linda Balcom, Weston Solutions Inc.: Base Realignment and Closure Process
          Experience, Disposal and Kalaeloa Reliable Energy Next Steps

12:00 p.m. Q&A
Aloha & Welcome

Tuesday, April 11, 2017
2nd Floor Boardroom
Mission: To lead a sustained long-term public/private commitment for the realization of Kalaeloa as a CENTER OF EXCELLENCE/WAHI HO‘OKELA through partnerships, planning, advocacy and stewardship.
AGENDA

1. Partnerships
2. Strengths
3. Challenges
4. Opportunities
## PARTNERSHIPS - Government

<table>
<thead>
<tr>
<th>Classification</th>
<th>Landowners</th>
<th>Asset Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>U.S. Navy</td>
<td>426 acres + Utilities</td>
</tr>
<tr>
<td>Federal</td>
<td>U.S. Coast Guards</td>
<td>56 acres</td>
</tr>
<tr>
<td>Federal</td>
<td>U.S. Fish &amp; Wildlife</td>
<td>37 acres</td>
</tr>
<tr>
<td></td>
<td>U.S. Postal Service</td>
<td>1 acre</td>
</tr>
<tr>
<td>Federal/Eagle Rivers</td>
<td>Federal Bureau of Investigation</td>
<td>10 acres</td>
</tr>
<tr>
<td>Federal/State</td>
<td>Hawaii Army/Air National Guard</td>
<td>151 acres</td>
</tr>
<tr>
<td>State/FAA</td>
<td>DOT Airports/HCC</td>
<td>749 acres</td>
</tr>
<tr>
<td>State/Federal</td>
<td>DOT Highways</td>
<td></td>
</tr>
<tr>
<td>State/1921 Hawaiian Homes Commission Act</td>
<td>Department of Hawaiian Home Land</td>
<td>545 acres</td>
</tr>
<tr>
<td>State/McKinney Act</td>
<td>Hawaii Public Housing Authority</td>
<td>14 acres</td>
</tr>
<tr>
<td>Federal/Cloudbreak</td>
<td>Veterans Affairs</td>
<td>7 acres</td>
</tr>
<tr>
<td>Classification</td>
<td>Landowners</td>
<td>Asset Estimates</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------------------------------------------</td>
<td>------------------------------------------------------</td>
</tr>
<tr>
<td>City &amp; County Honolulu/National Park</td>
<td>Department of Parks and Recreation</td>
<td>401 acres</td>
</tr>
<tr>
<td>Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City &amp; County of Honolulu</td>
<td>Department of Transportation Services</td>
<td>Saratoga Avenue, Boxer Road, Midway Road, Lexington Avenue, Shangrila Street, Yorktown Boulevard and Tripoli Street</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City &amp; County of Honolulu</td>
<td>Board of Water Supply</td>
<td>20 acres</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal/Private</td>
<td>Navy/Hunt Companies Hawaii</td>
<td>540 acres</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>RP Kalaeloa Land Owner LLC/Kalaeloa Rentals</td>
<td>78 acres</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>Department of Education Barbers Point Elementary</td>
<td>14 acres</td>
</tr>
</tbody>
</table>
Strengths:

HRS
Kalaeloa Master Plan

HAR 15-215, Kalaeloa Rules

6,546 Housing Units
20% Reserved Housing

1.2 million sqft.
For light industrial and commercial

Stewardship: Over 400 acres of recreational, open space, protection of archaeological sites and shoreline.
Challenges:

- No commitments from Local utility services
- Regulatory, enforcement, and funding needed
- Authority & Powers
- Infrastructure: Utilities & Roadways
- Currently, new developments cannot get access to utilities within the district
- Asset Allocation & Conveyances
  - Navy owns utilities, easements and other related assets with no mission in the district, therefore no funding
OPPORTUNITIES:

Federal:
- Work with the Governor, Admiral and the Congressional Delegation on special legislation that would allow the Secretary of the U.S. Navy to convey all remaining Navy owned assets in Kalaeloa to the Local Reuse Authority/HCDA.
- Establish funding agreement with Rural Utility Service to leverage financing cost for new utility development in Kalaeloa.

State:
- Work with the Public Utilities Commission to establish Kalaeloa as a special utilities district or cooperation resulting in the development of the new Kalaeloa Water and Electrical Companies.

City:
- Work with the City departments on a Memorandum of Understanding for the redevelopment of roadways and transit oriented development right of ways throughout the district.
<table>
<thead>
<tr>
<th>Landowner</th>
<th>Project</th>
<th>Funding Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIARNG</td>
<td>Readiness Expansion</td>
<td>$100 million</td>
</tr>
<tr>
<td>DOT Airport</td>
<td>140 T-Hangars</td>
<td>$50 million</td>
</tr>
<tr>
<td>VA/Cloudbreak</td>
<td>Hale Uhiwai Nalu – 60 new studio units</td>
<td>$80 million</td>
</tr>
<tr>
<td>Hunt</td>
<td>Kalaeloa Professional Center</td>
<td>$60 million</td>
</tr>
<tr>
<td>Hunt</td>
<td>Subdivision of West Parcels</td>
<td>$200 million</td>
</tr>
<tr>
<td>HCDA</td>
<td>Kalaeloa Energy Corridor Project</td>
<td>$13 million</td>
</tr>
</tbody>
</table>

Next 5 to 10 years
### Cont. OPPORTUNITIES:

Next 10 to 30 years

<table>
<thead>
<tr>
<th>Current Status</th>
<th>Future Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>940 units</td>
<td>6500 units</td>
</tr>
<tr>
<td>22 MW usage</td>
<td>60 MW</td>
</tr>
<tr>
<td>100,000 sqft. of light industrial &amp; commercial space</td>
<td>1.2 million sqft.</td>
</tr>
<tr>
<td>2 million kg of water</td>
<td>50 million kg of water</td>
</tr>
<tr>
<td>No district rail connection</td>
<td>Rail development</td>
</tr>
<tr>
<td>35 feet heights</td>
<td>120 feet heights</td>
</tr>
<tr>
<td>1300 jobs</td>
<td>8700 jobs</td>
</tr>
<tr>
<td>280,000 recorded flights</td>
<td>430,000 flights</td>
</tr>
<tr>
<td>120 tenants</td>
<td>21,000 tenants</td>
</tr>
</tbody>
</table>
Mission: To lead a sustained long-term public/private commitment for the realization of Kalaeloa as a CENTER OF EXCELLENCE/WAHI HO’OKELA through partnerships, planning, advocacy and stewardship.

Kalaeloa Staff:
Tesha H. Malama, Kalaeloa Director of Planning and Development, Email: Tesha.Malama@Hawaii.gov Phone: 808-620-9643
Pearlyn Fukuba, Program Specialist IV, Email: Pearlyn.Fukuba@Hawaii.gov Phone: 808-620-9641
Kalaeloa Study Goals and Motivation

- Evaluate the current functionality of the energy infrastructure at Kalaeloa
  - Stakeholder workshop and breakout sessions to identify issues
  - Site visits, and meetings with Navy, HECO
- Identify options to accelerate needed improvements
  - Traditional and nontraditional approaches like new feeders, microgrids – islanded and grid tied, renewables, etc.
- Provide recommendations on best strategies to accelerate Kalaeloa energy redevelopment for improved reliability and cost effectiveness

Utilize Sandia background and experience with similar redevelopment projects to improve local energy security, reliability, resiliency and sustainability
Kalaeloa Energy System Redevelopment
Issues and Challenges

- Because the Navy no longer has an active military mission at Kalaeloa, they are interested in transferring or selling the electrical system in its entirety to another entity in the next few years.
  - At transfer, that entity will be required to maintain service to the current users, while also upgrading the system to modern commercial electric utility operational and safety standards and Kalaeloa design standards.

- In the past, the Hawaiian Electric Company, Inc. (HECO) has expressed an unwillingness to accept the existing Navy system due to concerns regarding the condition, compliance, and potential environmental liabilities associated with the electrical system.
  - Energy infrastructure drawings are out of date
  - Some power lines have removed and many substations are not operational
  - Equipment of 1950’s vintage, not well maintained

- Estimated customer power outages of about 40 hours per year
  - Scheduled and unscheduled, nominally 1-4 hours

- Expected significant district and nearby community load growth
Kalaeloa Energy System Redevelopment Opportunities

- Transfer of the electrical system to the HCDA is likely the quickest way to accelerate the redevelopment of the Kalaeloa energy system
  - HCDA will need a partner/s to plan, engineer, commission, and operate the system
- Kalaeloa and the surrounding area is seeing significant economic growth and associated energy demand growth
  - Opportunity to leverage regional energy infrastructure improvements and costs
### Stakeholder Identified Priority Needs

- Higher reliability and quality
- Stabilize costs
- Support critical loads

#### Landowner/Tenants

<table>
<thead>
<tr>
<th>Landowner/Tenants</th>
<th>Current Power Demand</th>
<th>Years 1-5 Power Demand</th>
<th>Years 6-10 Power Demand</th>
<th>Current On-site Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hunt (D-E)</td>
<td>2 MW</td>
<td>4 MW</td>
<td>5 MW</td>
<td>-</td>
</tr>
<tr>
<td>Kalaeloa Airport (B)</td>
<td>2 MW</td>
<td>3 MW</td>
<td>4 MW</td>
<td>0.5 MW</td>
</tr>
<tr>
<td>HARNG (B)</td>
<td>5 MW</td>
<td>7 MW</td>
<td>8 MW</td>
<td>4 MW</td>
</tr>
<tr>
<td>USCG (A)</td>
<td>1 MW</td>
<td>2 MW</td>
<td>3 MW</td>
<td>0.8 MW</td>
</tr>
<tr>
<td>FBI (C)</td>
<td>1 MW</td>
<td>1 MW</td>
<td>2 MW</td>
<td>1 MW</td>
</tr>
<tr>
<td>VA (B)</td>
<td>1 MW</td>
<td>2 MW</td>
<td>3 MW</td>
<td>-</td>
</tr>
<tr>
<td>Downtown (B)</td>
<td>2 MW</td>
<td>3 MW</td>
<td>6 MW</td>
<td>-</td>
</tr>
<tr>
<td>DHHL (G)</td>
<td>2 MW</td>
<td>3 MW</td>
<td>6 MW</td>
<td>-</td>
</tr>
<tr>
<td>Other Eastside Tenants (E-F)</td>
<td>3 MW</td>
<td>3 MW</td>
<td>4 MW</td>
<td>0.2 MW</td>
</tr>
<tr>
<td>Other Westside Tenants (G)</td>
<td>3 MW</td>
<td>3 MW</td>
<td>4 MW</td>
<td>0.3 MW</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22 MW</strong></td>
<td><strong>31 MW</strong></td>
<td><strong>45 MW</strong></td>
<td><strong>6.8 MW</strong></td>
</tr>
</tbody>
</table>

#### Near-term Growth Areas

- D
- C
- B
- A

#### Longer-term Growth Areas

- E
- F
- G
Baseline Considerations for Kalaeloa Redevelopment Option Evaluation

- Utilized HECO provided data on local substation and feeder costs
- Compared approaches with HECO conceptual designs for Kalaeloa energy system upgrades for technical consistency
  - Traditional approach – new east side and west side 46 kV substations, 1 new 138 kV substation connection with western commercial area, ~25 MW of on-site solar
  - Kalaeloa Microgrid approach – new east side and west side 46 kV substations fed from new 138 kV middle substation, ~25 MW of on-site solar
- Considered underground feeders as primary upgrade approach for compliance with Kalaeloa redevelopment guidelines
- Utilized on-site renewables to the extent possible
- Use of advanced microgrids was a major consideration for enhancing tenants energy assurance, using on-site and renewable generation resources during power outages
Primary Redevelopment Options for the Kalaeloa Electric System

- **Phased Feeder Option**
  - Rather than do all upgrades simultaneously, improvements in priority development areas would be done first (years 1-5), then additional upgrades added as other areas grow (years 6-10)
  - Includes traditional energy infrastructure upgrades and replacement such as new substations, feeders, and distributed generation integration

- **Islanded Option**
  - Establishment of an independent Kalaeloa grid using only on-site power. Use smaller networked advanced microgrids to enhance energy reliability and safety by integrating on-site distributed and renewable generation
  - Efforts would be focused on priority development areas first

- **Hybrid Option**
  - Combination of traditional feeder and advanced microgrid upgrades. Follows phased feeder approach but also includes advanced microgrids to improve short-term reliability for priority areas during electric system upgrades and replacement
Illustrative Phased Feeder Upgrade Option

Legend
- SS – 46 kV Substation (A,B)
- Ax, Bx – 12 kV Feeder
- Select Stakeholders
- H – Hunt
- ARNG – Army National Guard
- AP – Airport
- DT – Downtown
- CG – Coast Guard
- DHHL – Hawaiian Homelands
### Phased Feeder Cost and Performance Estimate

- Substations on the perimeter with eight 12 kV Feeders to reduce costs
- Includes phased costs of equipment, O&M, purchased costs of energy from HECO and solar PPA’s – based on current cost data for equipment, PPA, bulk HECO power, underground lines, and long-term, low interest loans
- Shows energy reliability improved, but not to normal utility standards until all phased energy system upgrades are completed

<table>
<thead>
<tr>
<th>Average Energy Load</th>
<th>Annual Capital Cost ($/kWh)</th>
<th>O&amp;M Cost ($/kWh)</th>
<th>Weighted Purchased Power Cost ($/kWh)</th>
<th>Total Energy Cost ($/kWh)</th>
<th>Solar Power</th>
<th>Average Power Outage (hrs/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years 1-5 25 MW</td>
<td>0.022</td>
<td>0.053</td>
<td>0.182</td>
<td>0.26</td>
<td>5 MW</td>
<td>15</td>
</tr>
<tr>
<td>Years 6-10 35 MW</td>
<td>0.028</td>
<td>0.067</td>
<td>0.174</td>
<td>0.27</td>
<td>10 MW</td>
<td>5</td>
</tr>
<tr>
<td>Years 16 and above 60 MW</td>
<td>0.017</td>
<td>0.039</td>
<td>0.168</td>
<td>0.24</td>
<td>20 MW</td>
<td>2</td>
</tr>
</tbody>
</table>
### Advanced Microgrids – Smart Grid Building Blocks

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nanogrid</td>
<td>Less than 100-kW, single-phase, (Residential or single building)</td>
</tr>
<tr>
<td>Advanced Microgrid</td>
<td>From 1 to 30MW, three phase (Partial feeder, full feeder, multiple feeder microgrid)</td>
</tr>
<tr>
<td>Smart Grid Node</td>
<td>From 3 MW up to 30MW (multiple feeder, or full substation microgrid)</td>
</tr>
</tbody>
</table>

**Example DISCO Benefits of Smart Grid Nodes** -
Local node-managed demand/response reduces grid congestion,
Minimizes regional/provincial data and power management and cyber security issues,
significant energy reliability, resiliency, and security improvement using local resources
Illustrative Islanded Option with Microgrids
Islanded System Cost and Performance Estimate

- Similar to Phased feeder approach but – use PPA and fuel, but no utility power purchase costs (Kalaeloa islanded operations)
- Shows energy reliability improved with microgrids, but more expensive option due to diesel costs and/or PV/BESS costs
- 100% renewable power use is limited by land availability, and has even higher power cost with batteries for similar diesel/PV reliability

<table>
<thead>
<tr>
<th>Microgrid Approach</th>
<th>Annual Capital Costs ($/kWh)</th>
<th>O&amp;M Costs ($/kWh)</th>
<th>Fuel Costs ($/kWh)</th>
<th>Weighted PV/PPA Cost ($/kWh)</th>
<th>Total Energy Cost ($/kWh)</th>
<th>Average Power Outage (hrs/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel Only Years 1-10, 35 MW</td>
<td>0.039</td>
<td>0.065</td>
<td>0.248</td>
<td>NA</td>
<td>0.35</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Diesel Only Years 11-20, 60 MW</td>
<td>0.035</td>
<td>0.048</td>
<td>0.253</td>
<td>NA</td>
<td>0.34</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Diesel/PV/BESS Years 1-10, 35 MW</td>
<td>0.164</td>
<td>0.182</td>
<td>0.173</td>
<td>0.03</td>
<td>0.55</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Diesel/PV/BESS Years 11-20, 60 MW</td>
<td>0.140</td>
<td>0.148</td>
<td>0.176</td>
<td>0.03</td>
<td>0.50</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Diesel/PV/BESS Years 1-10, 35 MW 70% diesel/30% PV 100 MWh BESS</td>
<td>0.164</td>
<td>0.182</td>
<td>0.173</td>
<td>0.03</td>
<td>0.55</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Diesel/PV/BESS Years 11-20, 60 MW 70% diesel/30% PV 150 MWh BESS</td>
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<td>0.148</td>
<td>0.176</td>
<td>0.03</td>
<td>0.50</td>
<td>&lt; 2</td>
</tr>
</tbody>
</table>
Illustrative Hybrid Option
Hybrid Cost and Performance Estimate

- Includes phased feeder costs plus advanced microgrid costs – based on current cost data for equipment, PPA, bulk HECO power, low long-term interest loans, and advanced microgrid implementation costs
- Microgrids implemented first before feeder improvements, and only in priority areas
- Shows significant energy reliability improvement at small additional cost compared to phased feeder approach

<table>
<thead>
<tr>
<th></th>
<th>Average Energy Load</th>
<th>Annual Capital Cost ($/kWh)</th>
<th>O&amp;M Cost ($/kWh)</th>
<th>Weighted Purchased Power Cost ($/kWh)</th>
<th>Total Energy Cost ($/kWh)</th>
<th>Solar Power</th>
<th>Average Power Outage (hrs/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phased Feeder</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
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<td>0.022</td>
<td>0.053</td>
<td>0.182</td>
<td>0.26</td>
<td>5 MW</td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Years 1-5 Additional Microgrid Costs</td>
<td>0.005</td>
<td>0.012</td>
<td>NA</td>
<td>0.02</td>
<td>NA</td>
<td></td>
<td>&lt; 2</td>
</tr>
<tr>
<td><strong>Hybrid</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1-5 with Feeder/Microgrid Option</td>
<td>0.027</td>
<td>0.065</td>
<td>0.182</td>
<td>0.28</td>
<td>5 MW</td>
<td></td>
<td>&lt; 2</td>
</tr>
</tbody>
</table>
## Kalaeloa Energy Upgrade Option
### Cost and Reliability Summary

<table>
<thead>
<tr>
<th>Option</th>
<th>Average Energy Load</th>
<th>Capital Costs ($/kWh)</th>
<th>O&amp;M Costs ($/kWh)</th>
<th>Fuel Costs ($/kWh)</th>
<th>Weighted Purchased Power Costs ($/kWh)</th>
<th>Capital and O&amp;M Microgrid Costs ($/kWh)</th>
<th>Total Energy Costs ($/kWh)$</th>
<th>Critical Load Outage Duration (hrs/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phased Feeder 5 MW PV</td>
<td>Year 1-5 25 MW</td>
<td>0.022</td>
<td>0.053</td>
<td>-</td>
<td>0.182</td>
<td>-</td>
<td>0.26</td>
<td>15</td>
</tr>
<tr>
<td>Phased Feeder 10 MW PV</td>
<td>Year 6-10 35 MW</td>
<td>0.028</td>
<td>0.067</td>
<td>-</td>
<td>0.174</td>
<td>-</td>
<td>0.27</td>
<td>5</td>
</tr>
<tr>
<td>Phased Feeder 20 MW PV</td>
<td>Year 16+ 60 MW</td>
<td>0.017</td>
<td>0.039</td>
<td>-</td>
<td>0.168</td>
<td>-</td>
<td>0.24</td>
<td>2</td>
</tr>
<tr>
<td>Islanded Microgrid Diesel</td>
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<td>&lt;2</td>
</tr>
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<td>0.34</td>
<td>&lt;2</td>
</tr>
<tr>
<td>Islanded Microgrid Diesel/PV/BESS 100 MW PV 100 MWh BESS</td>
<td>Year 1-10 35 MW</td>
<td>0.164</td>
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<td>0.173</td>
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<td>&lt;2</td>
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<td>Islanded Microgrid Diesel/PV/BESS 100 MW PV 100 MWh BESS</td>
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<td>0.176</td>
<td>0.03</td>
<td>-</td>
<td>0.50</td>
<td>&lt;2</td>
</tr>
<tr>
<td>Hybrid Phased Feeders/Microgrids</td>
<td>Year 1-5 25 MW</td>
<td>0.022</td>
<td>0.053</td>
<td>-</td>
<td>0.182</td>
<td>0.02</td>
<td>0.28</td>
<td>&lt;2</td>
</tr>
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<td>Hybrid Phased Feeders/Microgrids</td>
<td>Year 6-10 35 MW</td>
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<td>0.067</td>
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Kalaeloa Energy System Upgrade Analysis

Summary Recommendations

 During next two years, HCDA should work closely with other entities to establish an alternative electric utility to fund and manage the operations and maintenance of the Kalaeloa electric system and implement the expected upgrades needed over the next 10 years. During same period work with the Navy to transfer their grid

 Within the next two years, HCDA should work to support the hybrid option and start the design and implementation of advanced microgrids with distributed generation at four priority Kalaeloa locations – USCG, Downtown and Airport, Hunt, and HARNG
  ▪ This can reduce average outage times from 40 hours per year to less than an hour per year, at a cost of approximately $20M. Planned energy improvements by these groups can be leveraged to reduce overall implementation costs
  ▪ Some areas like the FAA outer marker may require the integration of individual backup generation to support localized critical missions until feeder upgrades are fully implemented

 Accelerate development of up to four 5-MW of solar energy projects at Kalaeloa, specifically for onsite energy use using Power Purchase Agreements with solar developers. Integrate with the advanced microgrids to lower upgrade capital costs and increase energy resiliency
  ▪ Recommended size is compatible with proposed future feeder load limits, and substation integration for enhanced renewable distribution, and would provide about 30% renewable penetration for Kalaeloa at full buildout
  ▪ This PV level will not require significant battery storage and thus will reduce costs
Within two to three years of establishing the Kalaeloa alternative electric utility, add a new 40-MW, 46-kV substation at the Northwest end of Kalaeloa, with up to six 12-kV underground feeders to support the electric upgrades for both current and expected new tenants in western Kalaeloa

- Fully Integrate with new microgrids to enhance full-use of on-site distributed and renewable energy generation to improve energy reliability to very high levels

In the next 7-10 years add a second new 40-MW, 46-kV substation as needed at the Northeast end of Kalaeloa with up to six 12-kV underground feeders to support the electric system upgrades needed for the expected new western development and tenants.

- This will provide a total of up to 80-MW of electric power distribution capacity with 20-MW of on-site renewable capacity for the entire district

The upgrades proposed should reduce the power outages at Kalaeloa to less than an hour per year, providing a recognized very high energy reliability, resiliency, and sustainability development, attractive to both tenants and developers

By year 15, the updated energy system should be attractive for purchase, paying back the district and tenants for their investments
Questions and Feedback

- General questions on approach and analyses
  - Any missing issues or concerns
  - Individual option questions or clarifications
  - Other issues or questions

- Feedback
  - Proposed schedule and coordination with stakeholders, including the Navy and HECO
  - Concept of alternative electric utility – thoughts and ideas
  - Any other redevelopment options that should be considered
  - Any additional costs/finance options that could be considered
  - Ideas on ways to accelerate implementation – city, state, county, federal, commercial, private industry, etc.
  - Other ideas and feedback
Navy Electrical System @ Kalaeloa for 2017 Kalaeloa Reliable Energy Industry Briefing

CDR Benjamin Leppard, PE, CEC
Commander Navy Region Hawaii
Assistant Regional Engineer

11 April 2017
AGENDA

• NAS Barbers Point BRAC (1999-Present)
  – Current and Future Navy Laydown at Kalaeloa

• Electrical Utilities Focus
  – Electrical Usage Profile
  – Challenges in Navy Operations To Meet Current/Future Demands
  – Opportunities to Transfer Ownership
Navy Conveyance/Disposal Background
Electrical Usage Profile

Customer Base
- Barbers Point Riding Club
- C&C Department of Parks & Recreation
- Rockpoint Group, LLC
- Cloudbreak Hawaii, LLC
- DRMO Hawaii
- Eagle River Investors
- Federal Aviation Administration
- Federal Bureau of Investigations
- Hawaii Air National Guard
- Hawaii Army National Guard
- Hawaiian Community Development Authority
- Honolulu Community College
- Kalaeloa Ventures, LLC
- Nanakuli Housing Corporation
- Navy Region Hawaii
- Oceanic Time Warner Cable
- Pacific Isle Equipment Rental
- State of Hawaii DOT
- State of Hawaii - Dept. of Hawaiian Homelands
- State of Hawaii - Dept. of Human Services
- US Postal Service
- US Coast Guard

$/kwh

Navy Rate
HECO Rate

MWh per Year

FY Total Usage

Thousands

FY Total Usage
Kalaeloa Electrical System Challenges

- 2 – 46kV HECO Service Points
- Overhead Electrical - 66 miles
- Underground Lines – 12 miles
- 5 - Switch Stations – 11.5 kV
- 17 – Electrical Substations – 11.5kV to 4160kV
- 19 – Transformers – 11.5kV to 480kV
- 10 – Various Buildings associated w/Electrical System
- Plant Replacement Value - $63M
Kalaeloa – Electrical System Conveyance Opportunities

• Special Legislation (1 year)
  – Can run concurrently with GSA Disposal (see below)

• Excess Process – DoD Screening (12-18 months)
  – Formal inquiries can be made prior to the screening process

• Excess Process – GSA Disposal (2-5 years)
  – Follows DoD Screening

Lessons Learned from Conveyance of Water/Wastewater Systems

• Allow ample time for PUC/CA approval
• Certificate of Public Convenience & Necessity (CPCN) utility rate to be close to comparable commercial utility service rate
GSA Disposal Process

**DISPOSAL PROCESS**

1. **Excess**
   - AGENCY REPORTS PROPERTY EXCESS TO GSA FOR DISPOSITION

2. **Federal Transfer**
   - DETERMINED SURPLUS IF NOT TRANSFERRED TO ANOTHER FEDERAL AGENCY

3. **Discount Conveyance**
   - PROPERTY AVAILABLE FOR CERTAIN PUBLIC USES UP TO 100% DISCOUNT

4. **Negotiated Sale**
   - TO ELIGIBLE PUBLIC BODIES FOR OTHER PUBLIC USES FAIR MARKET VALUE REQUIRED

5. **Public Sale**
   - OFFERED TO PUBLIC AND PRIVATE PARTIES VIA AUCTION OR SEALED BID, FAIR MARKET VALUE REQUIRED

**Exclusions**
- Department of Hawaiian Homelands Recovery Act
- AIRPORT CORRECTIONAL EDUCATION
- HISTORIC
- HOMELESS
- SELF HELP HOUSING
- PARK & RECREATION
- PUBLIC HEALTH
- LAW ENFORCEMENT
- EMERGENCY MANAGEMENT
- WILDLIFE CONSERVATION
QUESTIONS?
KALAELOA DEVELOPMENT DISTRICT – POTENTIAL UTILITY PRIVATIZATION/OPERATION, PROPERTY TRANSFER, AND NEXT STEPS

WAHI HO‘OKELA – Center for Excellence
April 11, 2017

Linda Balcom. National Director,
Community Redevelopment Programs
Weston Solutions, Inc.
AGENDA
Potential Utility Privatization Process

- Property Transfer/Asset Transfer
- Regulatory Review
- Privatization/Financial Options
- Timeline

The Hawai‘i Community Development Authority (HCDA) was established by the State Legislature (Legislature) in 1976, Hawaii Revised Statutes (HRS) 206E, to supplement traditional community renewal methods by promoting and coordinating public and private sector community development. HCDA plans for and revitalizes urban areas in the State that have been identified by the Legislature to be in need of timely redevelopment. Its legislative mandate empowers HCDA with comprehensive planning, regulation and development responsibilities. The 2002 Legislature through HRS 206E-193 assigned the Kalaeloa Community Development District (Kalaeloa) to HCDA and the encouragement of public participation in the planning process through the attendance of the Kalaeloa stakeholder group meetings and open house workshops, providing written comments to our offices, sending email to our website, and also providing feedback at our website www.hcdaweb.org.
**Property Transfer**

The Navy is currently in discussions with the Kalaeloa LRA regarding transferring the electric utility assets and easements to the Kalaeloa LRA.

Barbers Point was partially closed as part of the 1993 Base Realignment and Closure round. However, not all of the property was identified for closure and transfer. The utility system is still part of Navy retained property and was not disposed of under BRAC law.

Much of the electrical system may be significantly dated and has not been maintained since base closure in 1993.
Federal Property Disposal – Why is this important?

When an agency notifies GSA that it has unneeded real property, GSA first offers to transfer the property to another federal agency, which must pay fair market value for it. If no other agency wishes to acquire the property, GSA may then convey it to a state or local government, or a qualified nonprofit, for up to a 100% discount—provided it is used for an approved public benefit.

Should a state or local government or qualified nonprofit wish to acquire the property or a use other than one of the approved public benefits, GSA has the option to sell the property to them at fair market value. Finally, if the property is not sold to a public or nonprofit entity, it is offered for sale to the public.

The disposal of a federal property may be subject to a number of environmental requirements and conditions. Three principal federal statutes govern the environmental review process, identification and remediation of hazardous substances, and historic preservation: the National Environmental Protection Act (NEPA), the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), and the National Historic Preservation Act (NHPA).

Here is your new Mantra:

*It’s not a Problem it is a Process*
Property Transfer

DISPOSAL PROCESS

Excess

- AGENCY REPORTS PROPERTY EXCESS TO GSA FOR DISPOSITION

Federal Transfer

- DETERMINED SURPLUS IF NOT TRANSFERRED TO ANOTHER FEDERAL AGENCY

Discount Conveyance

- PROPERTY AVAILABLE FOR CERTAIN PUBLIC USES UP TO 100% DISCOUNT

Negotiated Sale

- TO ELIGIBLE PUBLIC BODIES FOR OTHER PUBLIC USES FAIR MARKET VALUE REQUIRED

Public Sale

- OFFERED TO PUBLIC AND PRIVATE PARTIES VIA AUCTION OR SEALED BID, FAIR MARKET VALUE REQUIRED

Department of Hawaiian Homelands Recovery Act

AIRPORT CORRECTIONAL EDUCATION HISTORIC HOMELESS SELF HELP HOUSING PARK & RECREATION PUBLIC HEALTH LAW ENFORCEMENT EMERGENCY MANAGEMENT WILDLIFE CONSERVATION
Property Transfer

**DISPOSAL PROCESS**

**Excess**
- AGENCY REPORTS PROPERTY EXCESS TO GSA FOR DISPOSITION

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**Department of Hawaiian Homelands Recovery Act**
- AIRPORT
- CORRECTIONAL
- EDUCATION
- HISTORIC
- HOMELESS
- SELF HELP HOUSING
- PARK & RECREATION
- PUBLIC HEALTH
- LAW ENFORCEMENT
- EMERGENCY MANAGEMENT
- WILDLIFE CONSERVATION

YOU ARE HERE
Property Transfer

Key Milestones:

- Industry Day
- Navy Documentation on Utility Condition and Environmental Documents
- Request for Interest and Site Tour
- Submission of Proposals
- Selection of Preferred Provider/Company
- Comprehensive Due Diligence
- License Agreement with Navy for interim operations
- PUC negotiation
- Property and Asset Transfer from Navy
License Agreement with Navy for Interim Operations

The following is a very helpful bit of Federal Regulatory help:

*License/Permit.* An authorization, revocable at will of the licensor and unassignable, to an individual, an organization, a legal entity, a state or local governmental authority, or another Federal agency, to use property controlled by the Department of the Navy (DON) for specific purposes without conferring any possessory interest or estate. Although the terms “license” and “permit” may be used interchangeably, Navy generally uses the term “license.”
License Agreement with Navy for Interim Operations

And the following are the helpful federal laws/ guidance/ references that enable the licensing to occur:

(a) SECNAVINST 3770.1C of 15 Dec 1992
(b) OPNAVINST 5112.6D of 17 Mar 2007
(c) DODI 4000.19 of 9 Aug 1995
(d) NAVSUPMANUAL VOL II, Chapter 7, Part G
(f) 10 U.S.C. § 2667
(g) SECNAVINST 11011.47B of 12 Jan 2009
(h) 10 U.S.C. § 2662
(i) OPNAVINST 5090.1C of 18 Oct 2007
(j) (reserved)
(k) DOD FMR, Vol. 11a, Chapter 4, Section 040404
(m) NAVFACINST 11010.45(3), Comprehensive Regional Planning Instruction, Site Approval Process, of 31 May 2001
(n) 10 U.S.C. § 2667(e)(1)(A)
(o) 12 U.S.C. § 1770
(p) SECNAVINST 5820.7C of 26 Jan 2006
Regulatory Review – The Path Ahead

- Privatization will require PUC approval
- As a federal installation the Navy was not required to adhere to local or state code compliance
- The Navy offered HECO the system, but HECO unwilling to accept due to lack of code compliance
PUC Recognized Electric Utilities:

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<th>Industry</th>
<th>Company Name</th>
<th>Contact Name</th>
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<tr>
<td>Electric</td>
<td>Hawaii Electric Light Company, Inc.</td>
<td>Joseph P. Viola</td>
</tr>
<tr>
<td></td>
<td>P. O. Box 1027</td>
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<tr>
<td></td>
<td>Hilo, HI 96721-1027</td>
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<td>Electric</td>
<td>Hawaiian Electric Company, Inc.</td>
<td>Dean Matsuura</td>
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<td>P. O. Box 2750</td>
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<td>Electric</td>
<td>Kauai Island Utility Cooperative</td>
<td>Michael H. Lau, Esq.</td>
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<tr>
<td></td>
<td>4463 Pahe’e Street, Suite 1</td>
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<td></td>
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<td>Electric</td>
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### Docket Search - By Industry

(Maximum of 2000 results)

**Industry Code:** Electric  
**Status:** All  

**Dockets found:** 1377

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EXAMPLE
DOCKET: KIUC PPA w/ AES LAWAI SOLAR, LLC
BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of
KAUAI ISLAND UTILITY COOPERATIVE

Docket No. 2017-0018

For Approval of Power Purchase Agreement with AES Lawai Solar, LLC, to Include Costs in Kauai Island Utility Cooperative’s Energy Rate Adjustment Clause, and Related Matters.

APPLICATION

KAUAI ISLAND UTILITY COOPERATIVE (“Applicant” or “KIUC”), by and through its attorneys, Morihara Lau & Fong LLP, and pursuant to Hawaii Administrative Rules (“HAR”) Chapter 6-61 and the statutes and rules cited below, hereby submits this application (“Application”) requesting that to the extent required, applicable, and not otherwise waived or exempted,

the Hawaii Public Utilities Commission (“Commission”) issue a decision and order, by no later than August 31, 2017 to the extent possible.

1. Consistent with the requirements set forth in HAR § 6-61-18 and concurrent with the filing of this Application, KIUC will serve two copies of this Application on the Division of Consumer Advocacy of the Department of Commerce and Consumer Affairs (“Consumer Advocate”), an ex officio party to this proceeding pursuant to HAR § 6-01-02.

2. Pursuant to Act 57, Session Laws of Hawaii 2013 (now codified as Hawaii Revised Statutes (“HRS”) § 269-31(b)), the Commission is given the authority to waive or exempt an electric cooperative from any or all requirements of HRS Chapter 269 or any applicable franchise, charter, decision, order, rule, or other law, upon a determination or demonstration that the requirement(s) should not be applied to an electric cooperative or are otherwise unjust, unreasonable, or not in the public interest. Act 57 (now codified as HRS § 269-31(b)) also provides that the Commission and the Consumer Advocate “shall at all times consider the ownership structure and interests of an electric cooperative in determining the scope and need for any regulatory oversight or requirements over such electric cooperative.”

3. See infra Section VI.
DIVISION OF CONSUMER ADVOCACY
Department of Commerce and
Consumer Affairs
335 Merchant Street, Room 326
Honolulu, Hawaii 96813
Telephone: (808) 586-2800

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of the Application of

KAUAI ISLAND UTILITY COOPERATIVE

For Approval of Power Purchase Agreement with
AES Lawai Solar, LLC, to Include Costs in Kauai
Island Utility Cooperative’s Energy Rate
Adjustment Clause, and Related Matters.

DOCKET NO. 2017-0018

DIVISION OF CONSUMER ADVOCACY’S
SUBMISSION OF INFORMATION REQUESTS

Pursuant to Order No. 34434, Approving the Parties' Proposed Procedural
Schedule, filed on March 8, 2017, the Division of Consumer Advocacy hereby submits
its INFORMATION REQUESTS in the above docketed matter.


Respectfully submitted,

By

DEAN NISHINA
Executive Director

DIVISION OF CONSUMER ADVOCACY
Development/Financial Options

The Kalaeloa LRA is considering all of their options at this point and those options may include:

- Public Private Partnerships
- Owner Managed
- Creation of a Cooperative
- Others
Potential Timeline

- Industry Day – April 11, 2017
- Navy Documentation on Utility Condition and Environmental Documents – Summer 2017
- Request for Interest and Site Tour – September 2017
- Submission of Proposals – November 2017
- Selection of Preferred Provider/Company January 2018
- Comprehensive Due Diligence - January through March 2018
- License Agreement with Navy for interim operations – March 2018
- PUC negotiation March through November of 2018
- Property and Asset Transfer from Navy – January 2019
MAHALO!

QUESTIONS?

KALAELOA COMMUNITY DEVELOPMENT DISTRICT REVIEW

WAHI HO’OKELA – Center for Excellence
STAKEHOLDER MEETING – 0:00 PM; April ##, 2017