Kaua`i Island Utility Cooperative
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PUBLIC UTILITIES COMMISSION

C: LHA

December 27, 2016

Mr. Randall Y. Iwase
Chair
The Hawaii Public Utilities Commission
Kekuanao'a Building, Room 103
465 South King Street
Honolulu, HI 96813

Re: Kauai Island Utility Cooperative 2017 Annual Report Pursuant to Hawaii Public Utilities Commission General Order No. 7, Decision and Order No. 10687 in Docket No. 6606, and Decision and Order No. 21001 in Docket No. 03-0256.

Dear Mr. Iwase:

Please find enclosed an original and eight (8) copies of the following reports pursuant to Hawaii Public Utilities Commission General Order No. 7, Decision and Order No. 10687 in Docket No. 6606, and Decision and Order No. 21001 in Docket No. 03-0256:

1. Capital Improvements Program for Ensuing Five Years
2. Adequacy of Supply Statement
3. Personnel To Be Contacted
4. Power System Map

Very truly yours,

for Michael V. Yamane, P.E.
Chief of Operations

Enclosures

cc: Division of Consumer Advocacy (3)
Kent Morihara

2017 Capital Improvements Program
For Ensuing Five Years

KAUA`I ISLAND UTILITY COOPERATIVE
2017 FIVE-YEAR CONSTRUCTION PROGRAM

The format of the attached Five-Year Capital Improvements Program includes provisions pursuant to the Hawaii Public Utilities Commission (PUC or Commission) Decision and Order No. 21001 filed on May 27, 2004 in Docket No. 03-0256: In the Matter of the Application of Kauai Island Utility Cooperative (KIUC) for Exemption From and Modification of General Order 7, paragraph 2.3(g)2 Relating to Capital Improvements.

In summary, the provisions that govern this Five-year Capital Improvements Program document are:

1. KIUC shall include additional information on the projects referenced in its five (5)-year projected capital improvements budget report, with particular emphasis on the projects planned for the upcoming year.

2. For each project for the coming year that is expected to cost $1 million or more:
    a. Provide a brief description and a statement as to the primary reasons for the project.
    b. Provide a brief explanation of how the project relates to the overall operational objectives of KIUC's management, and is consistent with KIUC's IRP.
    c. Provide an estimated start and completion date.

3. Identify the budgeted projects that are considered "Normal and Recurring" versus those that are considered "Non-Recurring".

4. KIUC will contact the Commission and Consumer Advocate in January to schedule a meeting to discuss this filed document.

Please refer to Attachments 1A through 1F for additional details on projects budgeted for over $1 million that are scheduled in 2017. Attachment 1G provides additional details on significant projects beyond 2017.

For purposes of this report and these provisions, please note that KIUC has interpreted the term "project" to be synonymous with the term "budget number".

Projects in the 2017 Capital Improvements Program that Exceed $1 Million:

Budget Title	**SCADA Upgrade**	*Check All That Apply:*	
Project Type	Non-Recurring		
Budget #	170704D	Regulatory/Legal Mandate	
Project Start	1/1/2017	Reliability	X
Project End	12/31/2017	Economically Justified	
Total Cost	**$ 1,485,000**	Growth/Development	

Description of Proposed Construction: (Location, Components, Scope)

Upgrade of the SCADA System, which includes main servers and offsite backup servers, workstations, and support hardware.

Reason for Proposed Construction: (History, Design Criteria, Cost Basis)

KIUC's EMS/SCADA system is nearing end of life. The operating systems, hardware, and production software are all officially unsupported, or will be by the end of 2016. This can pose security vulnerabilities to the system, and a lack of support resources should an incident occur. If hardware were to fail, finding replacements will become increasingly challenging with time. Also, the age of the hardware limits our ability for future improvements because current technology demands updated system hardware requirements.

The EMS/SCADA system is a major component of KIUC's ability to safely provide reliable power in a cost effective manner to its members. For this reason, it is important to keep this system up to date and supported by software/hardware manufactures.

Our last software/hardware upgrade occurred in 2010. An upgrade proposal we initiated this year from our current SCADA system vendor Alstom includes a solution, called virtualization, to help streamline the process. Alstom proposes using VMware which provides a way to virtually migrate servers and critical workstations from one machine to another without visibility downtime, and also upgrade systems to current software standards. Updating select hardware and software will allow KIUC to leverage support and extend the system's next life cycle.

Alignment with Strategic Goals: (Consistent with IRP/Operational Objectives)

Member Satisfaction & Heat Rate efficiency.

Projects in the 2017 Capital Improvements Program that Exceed $1 Million:

Budget Title	**Anahola Service Center**	*Check All That Apply:*	
Project Type	Non-Recurring		
Budget #	171321	Regulatory/Legal Mandate	
Project Start	1/1/2017	Reliability	
Project End	12/31/2018	Economically Justified	
Total Cost	**$ 6,370,000**	Growth/Development	X

Description of Proposed Construction: (Location, Components, Scope)

This project consists of constructing a new KIUC service center in Anahola. Plans for the new facility provide office space, garage, warehouse, and outside material yard. Future projects include a pole yard storage and a small secured warehouse. Access for members to meet with Planners will be greatly improved, and a small bill pay satellite area is always an option.

Reason for Proposed Construction: (History, Design Criteria, Cost Basis)

T&D is still providing service to all of its members today with the same number of line personnel utilized back in 1988; and continues operating from the same two service centers, Eleele and Kapaa.

A study was performed in 2005 that indicated the need for three service centers, Eleele, Anahola, and a centrally located facility. Some of the issues involve member growth on the North Shore, difficulties in entering and exiting the Kapaa facility with large equipment, insufficient space for material storage at the Kapaa facility, traffic problems that significantly extend crew drive times, and poor access for members to meet with Planners.

The service center resides adjacent to the KIUC Renewable Solutions I solar field. KIUC has a lease with the Department of Hawaiian Home Lands (DHHL) for a 60 acre parcel. The Anahola location also does not have a tidal or flooding risk during tsunami, hurricane, or heavy rainfall events.

The garage will protect KIUC's fleet vehicles from the corrosive salt breeze. This will extend the life of the expensive line vehicles.

Once the addition of the Anahola Service Center is completed, the Kapaa facility will be used similar to any substation, but with some additional storage. Planning can also take place regarding redesign of the Kapaa Switchyard.

This facility will serve the East and North Shore population for many years.

Alignment with strategic goals:

Customer and Employee Satisfaction - Improve employee working conditions, space, and member accessibility.
Financial - Protection of our line vehicles from the elements will reduce our fleet procurement in the long run.

Attachment 1C

Projects in the 2017 Capital Improvements Program that Exceed $1 Million:

Budget Title	**Wailua Corridor**	*Check All That Apply:*	
Project Type	Non-Recurring		
Budget #	171023	Regulatory/Legal Mandate	
Project Start	1/1/2017	Reliability	
Project End	12/31/2017	Economically Justified	
Total Cost	**$ 1,300,000**	Growth/Development	X

Description of Proposed Construction: (Location, Components, Scope)

State Department of Transportation Project to widen the portion of Kuhio Highway between the Wailua Bridge and the Kapaa temporary bypass road. Relocate overhead electric utilities to accommodate road widening project.

Reason for Proposed Construction: (History, Design Criteria, Cost Basis)

Due to the use of federal funds for highway widening, the US Fish & Wildlife provided comments to Federal Highways and State DOT which included the need to relocate overhead utilities to underground to mitigate endangered seabird collision of overhead facilities. Project was estimated at $18M.

There were many delays due to the requirement to relocate overhead facilities to underground, including community opposition to undergrounding in certain areas.

State DOT met with USFWS and Federal Highways in April 2015 and at that time, USFWS reported that undergrounding of this project was no longer required based on current information not indicating it to be a high risk area to traveling seabirds.

Plans are being revised by consultant to relocate existing overhead poles and wires. Anticipate project going out to bid in 2017 once plans have been finalized and all permitting complete.

Alignment with Strategic Goals: (Consistent with IRP/Operational Objectives)

The proposed project will provide member & environmental satisfaction and will accommodate future growth on the island.

Attachment 1D

Projects in the 2017 Capital Improvements Program that Exceed $1 Million:

Budget Title	**Koloa BESS Repowering**	*Check All That Apply:*	
Project Type	Non-Recurring		
Budget #	170537	Regulatory/Legal Mandate	
Project Start	1/1/2017	Reliability	X
Project End	12/31/2017	Economically Justified	
Total Cost	**$ 1,600,000**	Growth/Development	

Description of Proposed Construction: (Location, Components, Scope)

Re-Powering Koloa BESS. Remove/Dispose existing Advanced Lead Acid batteries and replace with Lithium-ion. Existing infrastructure, power electronics, and controls to remain in place.

Reason for Proposed Construction: (History, Design Criteria, Cost Basis)

Lead Acid cells nearing end of life. Unit commissioned in October of 2011.

Alignment with Strategic Goals: (Consistent with IRP/Operational Objectives)

Reliability – provide frequency regulation and spinning reserve functions to mitigate variable generation.

Attachment 1E

Projects in the 2017 Capital Improvements Program that Exceed $1 Million:

Budget Title	**T&D Parking Area**	*Check All That Apply:*	
Project Type	Non-Recurring		
Budget #	131555-CO4	Regulatory/Legal Mandate	
Project Start	1/1/2014	Reliability	X
Project End	12/31/2017	Economically Justified	
Total Cost	**$ 1,150,000**	Growth/Development	

Description of Proposed Construction: (Location, Components, Scope)

Design, create and construct additional parking area between T&D and Port Allen on the adjacent land acquired. Parking is very tight at T&D, and when training sessions are given at the T&D training room, there is insufficient parking for the regular employees and additional trainees.

Reason for Proposed Construction: (History, Design Criteria, Cost Basis)

Facility parking is insufficient for the amount of employees during training. Existing parking is barely enough for existing company and employee vehicles.

Alignment with Strategic Goals: (Consistent with IRP/Operational Objectives)

Employee Satisfaction
Equipment Reliability

Attachment 1F

Projects in the 2017 Capital Improvements Program that Exceed $1 Million:

Budget Title	**Street Light Retrofit**	*Check All That Apply:*	
Project Type	Non-Recurring		
Budget #	150607B-CO2	Regulatory/Legal Mandate	
Project Start	1/1/2015	Reliability	
Project End	12/31/2017	Economically Justified	X
Total Cost	**$ 3,755,000**	Growth/Development	

Description of Proposed Construction: (Location, Components, Scope)

Replacement of HPS (High Pressure Sodium) streetlights with new technology LED lighting. The system will also be remotely monitored with control capabilities of dimming and turning of individual units.

Reason for Proposed Construction: (History, Design Criteria, Cost Basis)

KIUC has partnered with both County and State agencies to install energy saving LED street lighting. Both agencies have energy efficiency initiatives that require conversion to energy efficient products where possible and reasonable.

Alignment with Strategic Goals: (Consistent with IRP/Operational Objectives)

Member Satisfaction – serving our members needs to meet their objectives.
Meeting the growth and development of our island community.
Environmental stewardship – Remote control capabilities may allow the dimming of streetlights that can benefit the endangered seabirds from fallout issues and concerns.

Significant Projects Beyond 2017 That Exceed $1 Million:

Project: **GT-2 as Synchronous Condenser**
Timeframe: 2018
Total Cost: $ 1,200,000

Unit GT-2, located at the Port Allen Generation Station (PAGS), is the largest generator on site with a rating of over 23 MVA. The proposed construction would allow operation of the generator without its prime mover. The generator would then operate as a synchronous condenser, meaning it would not produce any substantial "real" power while the prime mover was off, but would be able to produce a large amount of MVARs.

Project: **KPS Propane Modification**
Timeframe: 2018
Total Cost: $ 8,500,000

In order to retrofit Kapaia Power Station's G.E. LM2500 gas turbine for acceptance of gaseous fuels in addition to liquid fuel, two general work scopes are required. One is to install G.E.'s manifold ring around the gas turbine to facilitate the intake of gaseous fuel (specifically propane at this time). The second component is the build-out of an on-site propane receiving terminal with dedicated bullet tanks and vaporization system to supply the gas turbine inlet manifold with clean propane at desired flow rate, temperature and pressure. Project also requires control logic software upgrades for gas turbine control and gaseous fuel processing.

Project: **Lower Waiahi Penstock Replacement**
Timeframe: 2019
Total Cost: $ 1,500,000

Upgrade to the existing 800kW Waiahi Lower Hydro power plant by replacing the 800 foot penstock with a lined steel pipe. Project will involve the removal and replacement of the existing deteriorated steel penstock. KIUC will use the existing pipeline support piers; no new foundation work, excavation, or earth moving activities will be required.

Project: **Repair T&D Warehouse**
Timeframe: 2018-2019
Total Cost: $ 1,500,000

The scope of this project involves renovating the existing T&D warehouse and field personnel offices at Eleele. The open wood and steel structure is aged and requires replacement/renovation. Walls in various areas have been impacted by termites over the years. Project is targeted to provide our employees with a safe, solid and reliable structure to work from as they strive towards workplace excellence.

Project: **Northshore Transmission Line & Seabird Mitigation**
Timeframe: 2019-2020
Total Cost: $ 26,110,000

The scope of this project involves construction of a transmission line to complete the 4.5 mile gap between Kilauea (east of Kalihiwai Road) to Princeville Substation. Preliminary design estimates include installation of 3,550 feet of underground cable in the Princeville area, 10,800 feet of 69kV overhead, 8,700 feet of insulated cable, 850 feet of conduit to Kalihiwai Bridge, and new circuit breakers, protection, and communication relays at the substation. Community outreach, detailed engineering, obtaining permits and commission approval, and RFP process are planned for the 2016-2017 timeframe.

Project: **Port Allen Bess Repowering**
Timeframe: 2018
Total Cost: $ 2,200,000

The scope of this project is to re-power both systems at Port Allen BESS. It will include removing/disposing existing Advanced Lead Acid batteries and replacing with Lithium-ion. The existing infrastructure, power electronics, and controls will remain in place.

Project: **Aepo Substation (Includes XFMR)**
Timeframe: 2009-2019
Total Cost: $ 7,605,000

Construction of Kumanu (previously known as Kukui'Ula) Substation is being driven by the largest developer project ever undertaken by this utility, Kukui'Ula Development. The substation site was initially located just west of Lawai Valley and fronting the primary McBryde Cane Haul road. The new site is ¼ mile northeast of Kumano Reservoir, east of the Lawai Valley.

KAUAI ISLAND UTILITY COOPERATIVE
2017 5-YEAR CONSTRUCTION PLAN
(in $000's)

740c Code	SUMMARY 2017-2021	1/1/17 CWIP	2017	2018	2019	2020	2021	Total 5 Years
	NORMAL AND RECURRING							
	PRODUCTION							
xx1201	SAFETY	-	60.0	60.0	60.0	60.0	60.0	300.0
xx1202	RELIABILITY	-	300.0	300.0	300.0	300.0	300.0	1,500.0
xx1203	ENVIRONMENTAL	-	60.0	60.0	60.0	60.0	60.0	300.0
xx1204	EFFICIENCY	-	60.0	60.0	60.0	60.0	60.0	300.0
xx1205	HYDRO IMPROVEMENTS	-	100.0	50.0	25.0	25.0	25.0	225.0
xx1206	DIESEL OVERHAULS	-	300.0	300.0	300.0	300.0	300.0	1,500.0
xx1208	BUILDING & GROUNDS	-	100.0	100.0	100.0	100.0	100.0	500.0
	TOTAL-PRODUCTION	-	980.0	930.0	905.0	905.0	905.0	4,625.0
	TRANSMISSION & DISTRIBUTION							
xx0101A	LINE EXTENSIONS < $4K - UG	-	22.4	22.8	23.3	23.8	24.3	116.6
xx0102A	LINE EXTENSIONS < $4K - OH	-	41.6	42.4	43.2	44.1	45.0	216.3
xx0301A	LINE REPLACEMENTS < $4K - UG	-	61.2	62.4	63.6	64.9	66.2	318.3
xx0302A	LINE REPLACEMENTS < $4K - OH	-	224.4	228.9	233.5	238.2	243.0	1,168.0
xx0101B	LINE EXTENSIONS > $4K - UG	-	244.8	249.7	254.7	259.8	265.0	1,274.0
xx0102B	LINE EXTENSIONS > $4K - OH	-	209.1	213.3	217.6	222.0	226.4	1,088.4
xx0301B	LINE REPLACEMENTS > $4K - UG	-	204.0	208.1	212.3	216.5	220.8	1,061.7
xx0302B	LINE REPLACEMENTS > $4K - OH	-	624.2	636.7	649.4	662.4	675.6	3,248.3
xx0101C	NEW SERVICES - UG	-	61.2	62.4	63.6	64.9	66.2	318.3
xx0102C	NEW SERVICES - OH	-	38.8	39.6	40.4	41.2	42.0	202.0
xx0101D	DEVELOPER WORK - UG	-	1,000.0	500.0	510.0	520.2	530.6	3,060.8
xx0102D	DEVELOPER WORK - OH	-	132.6	135.3	138.0	140.8	143.6	690.3
xx0301C	RECONDUCTORING PROJECTS - UG	-	10.2	10.4	10.6	10.8	11.0	53.0
xx0302C	RECONDUCTORING PROJECTS - OH	-	10.2	10.4	10.6	10.8	11.0	53.0
xx0301D	SYSTEM RELIABILITY & INSPECTION-UG	-	40.8	41.6	42.4	43.2	44.1	212.1
xx0302D	SYSTEM RELIABILITY & INSPECTION-OH	-	51.0	52.0	53.0	54.1	55.2	265.3
xx1001	TRANSMISSION INSULATOR REPLACE	-	200.0	200.0	200.0	200.0	200.0	1,000.0

KAUAI ISLAND UTILITY COOPERATIVE
2017 5-YEAR CONSTRUCTION PLAN
(in $000's)

740c Code	SUMMARY 2017-2021	1/1/17 CWIP	2017	2018	2019	2020	2021	Total 5 Years
xx0606A	POLE REPLACEMENTS	-	675.0	675.0	675.0	675.0	675.0	3,375.0
xx03011	UG SYSTEM IMPROVEMENTS	-	300.0	300.0	300.0	300.0	300.0	1,500.0
xx03012	UG HARDENING UPGRADE	-	250.0	250.0	250.0	250.0	250.0	1,250.0
xx0501	SUBSTATION REPL/UPGRADES - DIST	-	475.0	475.0	475.0	475.0	475.0	2,375.0
xx1002	SUBSTATION REPL/UPGRADES - TR	-	415.0	415.0	415.0	415.0	415.0	2,075.0
xx0502	SUBSTATION XFMR REPL-DIST	-	-	-	940.0	940.0	-	1,880.0
xx1004	SYSTEM PROTECTION UPGR/REPL-TR	-	30.6	31.2	31.8	32.4	33.0	159.0
xx0503	SYSTEM PROTECTION UPGR/REPL-DIST	-	5.1	5.2	5.3	5.4	5.5	26.5
xx0615A	COMMUNICATION SYSTEM UPGR/REPL	-	117.3	119.6	122.0	124.4	126.9	610.2
xx0601A	DISTRIBUTION XFMR-UG-NEW CUST	-	275.4	280.9	286.5	292.2	298.0	1,433.0
xx0601B	DISTRIBUTION XFMR-UG-UPGR	-	4.1	4.2	4.3	4.4	4.5	21.5
xx0601C	DISTRIBUTION XFMR-OH NEW CUST	-	132.6	135.3	138.0	140.8	143.6	690.3
xx0601D	DISTRIBUTION XFMR-OH-UPGR	-	142.8	145.7	148.6	151.6	154.6	743.3
xx0601E	TRANSFORMER OIL DISPOSAL - UG	-	47.9	48.9	49.9	50.9	51.9	249.5
xx0601F	TRANSFORMER OIL DISPOSAL - OH	-	38.8	39.6	40.4	41.2	42.0	202.0
xx0607A	STREET & AREA LIGHTS - REPL	-	36.7	37.4	38.1	38.9	39.7	190.8
xx0702A	STREET & AREA LIGHTS - NEW	-	3.1	3.2	3.3	3.4	3.5	16.5
xx1511	BUILDING & FACILITY REPL/UPGRADES	-	8.2	8.4	8.6	8.8	9.0	43.0
xx0615D	FIBER INSTALLATION	-	500.0	500.0	200.0	100.0	100.0	1,400.0
xx1005	STEEL POLE RESTORATION	-	150.0	150.0	150.0	150.0	150.0	750.0
xx0704B	SCADA SYSTEM UPGRADES/REPL	-	60.0	60.0	60.0	60.0	60.0	300.0
	TOTAL-TRANSMISSION & DISTRIBUTION	-	6,844.1	6,400.6	7,108.0	7,077.1	6,207.2	33,637.0
	MEMBER SERVICES							
xx0601G	METERS - NEW CONSUMERS	-	43.5	44.8	46.1	47.5	47.5	229.3
xx0601H	METERS - REPLACEMENTS	-	64.3	66.2	68.2	70.2	70.2	339.1
	TOTAL-MEMBER SERVICES	-	107.7	111.0	114.3	117.7	117.7	568.5

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(in $000's)

740c Code	SUMMARY 2017-2021	1/1/17 CWIP	2017	2018	2019	2020	2021	Total 5 Years
	HCP							
xx0302E	HCP MINIMIZATION PROJECTS-DISTR	-	300.0	270.0	270.0	270.0	270.0	1,380.0
xx1006	HCP MINIMIZATION PROJECTS-TR	-	475.0	475.0	475.0	475.0	475.0	2,375.0
xx1510A	HCP TOOLS & EQUIPMENT	-	4.0	4.0	4.0	4.0	4.0	20.0
	TOTAL-HCP	-	779.0	749.0	749.0	749.0	749.0	3,775.0
	SAFETY & FACILITIES							
xx1504	SAFETY EQUIPMENT	-	75.0	75.0	75.0	75.0	75.0	375.0
xx1505	SECURITY SYSTEM UPGRADES	-	100.0	75.0	75.0	75.0	75.0	400.0
	TOTAL-SAFETY & FACILITIES	-	175.0	150.0	150.0	150.0	150.0	775.0
	INFORMATION SERVICES							
xx1506	SYSTEM REPLACEMENTS	-	1,029.0	275.0	253.0	270.0	270.0	2,097.0
xx1507	SYSTEM IMPROVEMENTS	-	2,179.0	257.0	297.0	265.0	265.0	3,263.0
	TOTAL-INFORMATION SERVICES	-	3,208.0	532.0	550.0	535.0	535.0	5,360.0
	GENERAL PLANT							
xx1508	VEHICLES	-	380.0	453.0	494.0	420.0	420.0	2,167.0
xx1509	OFFICE FURNITURE AND EQUIPMENT	-	-	12.0	-	12.0	-	24.0
xx1510	TOOLS AND EQUIPMENT	-	419.0	192.5	192.5	192.5	192.5	1,189.0
	TOTAL-GENERAL PLANT	-	799.0	657.5	686.5	624.5	612.5	3,380.0
	TOTAL-NORMAL AND RECURRING	-	12,892.8	9,530.1	10,262.8	10,158.3	9,276.4	52,120.4

KAUAI ISLAND UTILITY COOPERATIVE
2017 5-YEAR CONSTRUCTION PLAN
(in $000's)

740c Code	SUMMARY 2017-2021	1/1/17 CWIP	2017	2018	2019	2020	2021	Total 5 Years
	NON-RECURRING							
	PRODUCTION							
171290	D9 NOX CATALYST	-	100.0	-	-	-	-	100.0
171291	PORT ALLEN GT OVATION UPGRADE	-	350.0	-	-	-	-	350.0
181278	D9 CO CATALYST	-	-	200.0	-	-	-	200.0
181281	GT2 SYNCHRONOUS CONDENSER	-	-	1,200.0	-	-	-	1,200.0
181282	NEW CONTROL/DISPATCH CENTER	-	-	750.0	-	-	-	750.0
181288	SWD CO CATALYST BLOCKS	-	-	150.0	-	-	-	150.0
181289	KPS PROPANE MODIFICATION	-	-	8,500.0	-	-	-	8,500.0
191234	LOWER WAIAHI PENSTOCK REPLACEMENT	-	-	-	1,500.0	-	-	1,500.0
201283	KPS CATALYST REPLACEMENT	-	-	-	-	440.0	-	440.0
211292	SWD CO CATALYST BLOCKS	-	-	-	-	-	175.0	175.0
	TOTAL-PRODUCTION	-	450.0	10,800.0	1,500.0	440.0	175.0	13,365.0
	TRANSMISSION & DISTRIBUTION							
170704D	SCADA UPGRADE	-	1,485.0	-	-	-	-	1,485.0
171321	ANAHOLA SERVICE CENTER	-	3,370.0	3,000.0	-	-	-	6,370.0
170536	KOLOA CONTROL ENCLOSURE	-	400.0	-	-	-	-	400.0
171028	HANALEI TAP - PRINCEVILLE XMISSION LINE	-	500.0	-	-	-	-	500.0
171023	WAILUA CORRIDOR	-	1,300.0	-	-	-	-	1,300.0
171528	REPLACE GIS MAPPING SYSTEM	-	250.0	-	-	-	-	250.0
170615G	HANA KUKUI - PRINCEVILLE RADIO	-	200.0	-	-	-	-	200.0
17xxxx	DFR - KEKAHA/PRINCEVILLE SUB	-	100.0	-	-	-	-	100.0
180102F	AEPO-KOLOA ROAD FEEDER	-		400.0	-	-	-	400.0
181323	ANAHOLA POLEYARD STORAGE & WAREHOUSE	-	-	450.0	-	-	-	450.0
181556	REPAIR T&D WAREHOUSE	-	-	750.0	750.0	-	-	1,500.0
18xxxx	DFR - LIHUE/KAPAA SUB	-	-	100.0	-	-	-	100.0
190539	DECOMMISSIONING-LAWAI SUBSTATION	-	-	-	125.0	-	-	125.0
190801	NORTHSHORE TRANSMISSION LINE & SEABIRD MITIGATION	-	-	-	11,810.0	14,300.0	-	26,110.0
	TOTAL-TRANSMISSION & DISTRIBUTION	-	7,605.0	4,700.0	12,685.0	14,300.0	-	39,290.0

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2017 5-YEAR CONSTRUCTION PLAN
(in $000's)

740c Code	SUMMARY 2017-2021	1/1/17 CWIP	2017	2018	2019	2020	2021	Total 5 Years
	ENGINEERING							
170537	KOLOA BESS REPOWERING	-	1,600.0	-	-	-	-	1,600.0
180538	PORT ALLEN BESS REPOWERING	-	-	2,200.0	-	-	-	2,200.0
	TOTAL-ENGINEERING	-	1,600.0	2,200.0	-	-	-	3,800.0
	TOTAL-NON-RECURRING	**-**	**9,655.0**	**17,700.0**	**14,185.0**	**14,740.0**	**175.0**	**56,455.0**

KAUAI ISLAND UTILITY COOPERATIVE
2017 5-YEAR CONSTRUCTION PLAN
(in $000's)

740c Code	SUMMARY 2017-2021	1/1/17 CWIP	2017	2018	2019	2020	2021	Total 5 Years
	CARRYOVER PROJECTS-PRIOR YEARS							
161277-CO1	S1 GOVERNOR UPGRADE AND VIBRATION MONITORING	300.0	150.0	0.0	0.0	0.0	0.0	150.0
161287-CO1	CE BOILER USED OIL BURNING UPGRADE	250.0	250.0	0.0	0.0	0.0	0.0	250.0
090402-CO7	AEPO SUBSTATION (INCLUDES XFMR)	235.0	420.0	1,000.0	5,950.0	0.0	0.0	7,370.0
131555-CO4	T&D PARKING AREA	150.0	1,000.0	0.0	0.0	0.0	0.0	1,000.0
150535-CO2	KAUMAKANI SUBSTATION UPGRADE	200.0	200.0	0.0	0.0	0.0	0.0	200.0
150607B-CO2	STREET LIGHT RETROFIT	3,355.0	400.0	0.0	0.0	0.0	0.0	400.0
151027-CO2	GREEN ENERGY SUBSTATION BAY UPGRADE	570.0	62.1	0.0	0.0	0.0	0.0	62.1
161029-CO1	SOLAR CITY 69KV INTERCONNECTION	350.0	300.0	0.0	0.0	0.0	0.0	300.0
161536-CO1	HRMS CUSTOMIZATIONS	10.0	40.0	0.0	0.0	0.0	0.0	40.0
	TOTAL-CARRYOVER PROJECTS	**5,420.0**	**2,822.1**	**1,000.0**	**5,950.0**	**-**	**-**	**9,772.1**
	TOTAL-ANNUAL CAPITAL EXPENDITURE	**5,420.0**	**25,369.9**	**28,230.1**	**30,397.8**	**24,898.3**	**9,451.4**	**118,347.5**
		-	-	-	-	-	-	-
	CUSTOMER ADVANCES							
xx0101B	LINE EXTENSIONS > $4K - UG		(49.0)	(49.9)	(50.9)	(52.0)	(53.0)	(254.8)
xx0102B	LINE EXTENSIONS > $4K - OH		(41.8)	(42.7)	(43.5)	(44.4)	(45.3)	(217.7)
xx0101D	DEVELOPER WORK - UG		(900.0)	(450.0)	(459.0)	(468.2)	(477.5)	(2,754.7)
xx0102D	DEVELOPER WORK - OH		(119.3)	(121.8)	(124.2)	(126.7)	(129.2)	(621.3)
	TOTAL CUSTOMER ADVANCES	**-**	**(1,110.1)**	**(664.4)**	**(677.7)**	**(691.3)**	**(705.1)**	**(3,848.5)**
	CONTRIBUTION IN AID OF CONSTRUCTION							
xx0101C	NEW SERVICES - UG		(6.1)	(6.2)	(6.4)	(6.5)	(6.6)	(31.8)
xx0102C	NEW SERVICES - OH		(3.9)	(4.0)	(4.0)	(4.1)	(4.2)	(20.2)
161029-CO1	SOLAR CITY 69KV INTERCONNECTION		(650.0)	0.0	0.0	0.0	0.0	(650.0)
	TOTAL CONTRIBUTION IN AID OF CONSTRUCTION	**-**	**(660.0)**	**(10.2)**	**(10.4)**	**(10.6)**	**(10.8)**	**(702.0)**
			-	-	-	-	-	-
	TOTAL-CAPEX CASH REQUIREMENTS	**5,420.0**	**23,599.9**	**27,555.5**	**29,709.7**	**24,196.5**	**8,735.5**	**113,797.0**

2017 Adequacy of Supply Statement

Kaua`i Island Utility Cooperative

2017 Adequacy of Supply Statement

Background

As footnoted by Kauai Island Utility Cooperative (KIUC) in its 2008 Adequacy of Supply Statement, KIUC filed a Petition with the Commission on December 20, 2007 in Docket No. 2007-0418 seeking a declaratory order clarifying and/or authorizing KIUC's adequacy of supply/reserve margin requirement/criteria.

By Decision and Order No. 24078 issued on March 6, 2008, on page 13, the Commission ordered and declared that:

> KIUC's adequacy of supply/reserve margin, on a going forward basis, should be based on KIUC having sufficient reserve capacity available to meet its: (1) evening peak load with its largest generator unit out for any reason; and (2) morning peak load with its largest generator unit out for any reason plus its third largest generator unit out for scheduled maintenance.

Pursuant to the above, KIUC has included in this annual filing a statement for both criteria (i.e., evening peak load and morning peak load). In doing so, instead of utilizing the generating unit's nameplate rating, KIUC has determined each generation unit's ability to contribute generation capacity to KIUC's system by the unit's net output (i.e., input to KIUC's system), which includes compensation for ancillary or station power loads, and the actual achievable output of the unit.[1]

[1] The actual achievable output of a generating unit may materially differ from the unit's nameplate rating depending on many factors including age, operational constraints, etc. As such, in order to determine KIUC's ability to provide sufficient generation to meet its loads, KIUC believes it is more appropriate to conduct its analysis based on the net output of its generating units instead of the nameplate ratings of the units.

KIUC's Available Generating Capacity for 2017

KIUC's 2017 available generating capacity is as follows:

Generating Unit	Net Peak Capacity (kW)	
Gas Turbine No. 1	17,500	@80 F
Gas Turbine No. 2	22,600	@80 F
Steam No. 1	9,000	
Diesel #1	1,750	
Diesel #2	1,750	
Diesel #3	2,500	
Diesel #4	1,750	
Diesel #5	2,500	
Diesel #6	7,600	
Diesel #7	7,600	
Diesel #8	7,600	
Diesel #9	7,600	
Kapaia Power Station	26,600	@80 F
Green Energy Team Biomass	6,700	
TOTAL	123,050	

Adequacy of Supply Statement – Criteria One
Evening Peak Criteria

KIUC's 2017 system generating capacity and total firm peak system demand are estimated as follows:

Generating Unit	Net Peak Capacity (kW)	
Gas Turbine No. 1	17,500	
Gas Turbine No. 2	22,600	
Steam No. 1	9,000	
Diesel #1	1,750	
Diesel #2	1,750	
Diesel #3	2,500	
Diesel #4	1,750	
Diesel #5	2,500	
Diesel #6	7,600	
Diesel #7	7,600	
Diesel #8	7,600	
Diesel #9	7,600	
Kapaia Power Station	26,600	
Green Energy Team Biomass	6,700	
System Total KW	123,050	
Less largest unit (Kapaia Power Station)	(26,600)	
Capacity, largest unit out of service	96,450	kW
2017 estimated total firm evening peak	76,540	kW
Capacity Less Evening Peak (i.e. evening criteria met)	19,910	kW

Adequacy of Supply Statement – Criteria Two
Morning Peak Criteria

KIUC's 2017 system generating capacity and morning firm peak system demand are estimated as follows:

	Net Peak Capacity, kW	
Gas Turbine No. 1	17,500	
Gas Turbine No. 2	22,600	
Steam No. 1	9,000	
Diesel #1	1,750	
Diesel #2	1,750	
Diesel #3	2,500	
Diesel #4	1,750	
Diesel #5	2,500	
Diesel #6	7,600	
Diesel #7	7,600	
Diesel #8	7,600	
Diesel #9	7,600	
Kapaia Power Station	26,600	
Green Energy Team Biomass	6,700	
System Total KW	123,050	
Less largest unit (Kapaia Power Station)	(26,600)	
Less 3rd largest unit (GT-1)	(17,500)	kW
Capacity, 1st and 3rd largest units out	78,950	kW
2017 estimated off-season morning peak[2]	60,630	kW
Capacity Less Morning Peak (i.e., morning criteria met)	18,320	kW

[2] As noted above, the morning peak criteria requires KIUC to meet its morning peak load with its largest generator unit out for any reason plus its third largest generator unit out for **scheduled maintenance** (emphasis added). Because this criteria assumes KIUC's ability to take its third largest generating unit out on a scheduled maintenance basis (as compared to an unexpected maintenance or repair situation), KIUC has applied its off-season morning peak amounts to correspond to when KIUC would take down a unit down for scheduled maintenance.

2017 Personnel To Be Contacted

KAUAI ISLAND UTILITY COOPERATIVE
2017 PERSONNEL TO BE CONTACTED
(Revised 12/13/16)

Kauai Island Utility Cooperative's personnel to be contacted with respect to various specific functions and matters are set forth below:

1. General Management Duties
David J. Bissell
President & Chief Executive Officer
Kaua'i Island Utility Cooperative
4463 Pahee Street, Suite 1
Lihue, Kauai, HI 96766-2000

Telephone: (808) 246-8213
Email: dbissell@kiuc.coop

2. Accounting
Karissa Jonas
Financial VP & Chief Financial Officer
Kaua'i Island Utility Cooperative
4463 Pahee Street, Suite 1
Lihue, Kauai, HI 96766-2000

Telephone (808) 246-8278
Email: kjonas@kiuc.coop

3. Regulatory Affairs
Timothy Blume
Manager, Regulatory Affairs
Kaua'i Island Utility Cooperative
4463 Pahee Street, Suite 1
Lihue, Kauai, HI 96766-2000

Telephone: (808) 246-8274
Email: tblume@kiuc.coop

4. Transmission & Distribution
Carey Koide
Manager, Transmission & Distribution
Kaua'i Island Utility Cooperative
4463 Pahee Street, Suite 1
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Telephone: (808) 246-2349
Email: ckoide@kiuc.coop

5. Production
Brad Rockwell
Manager, Power Supply
Kaua'i Island Utility Cooperative
4463 Pahee Street, Suite 1
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Telephone: (808) 246-8289
Email: brockwel@kiuc.coop

6. Engineering
John Cox
Manager, Engineering
Kaua'i Island Utility Cooperative
4463 Pahee Street, Suite 1
Lihue, Kauai, HI 96766-2000

Telephone: (808) 246-8205
Email: jpcox@kiuc.coop

7. Member Services
Maile Alfiler
Manager, Member Services
Kaua'i Island Utility Cooperative
4463 Pahee Street, Suite 1
Lihue, Kauai, HI 96766-2000

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Email: malfiler@kiuc.coop

8. Human Resources
Lisa Ubay
Manager, Human Resources
Kaua'i Island Utility Cooperative
4463 Pahee Street, Suite 1
Lihue, Kauai, HI 96766-2000

Telephone: (808) 246-8294
Email: eubay@kiuc.coop

9. Communications
Beth Tokioka
Manager, Communications
Kaua'i Island Utility Cooperative
4463 Pahee Street, Suite 1
Lihue, Kauai, HI 96766-2000

Telephone: (808) 246-4348
Email: btokioka@kiuc.coop

10. Emergencies During Non-Office Hours

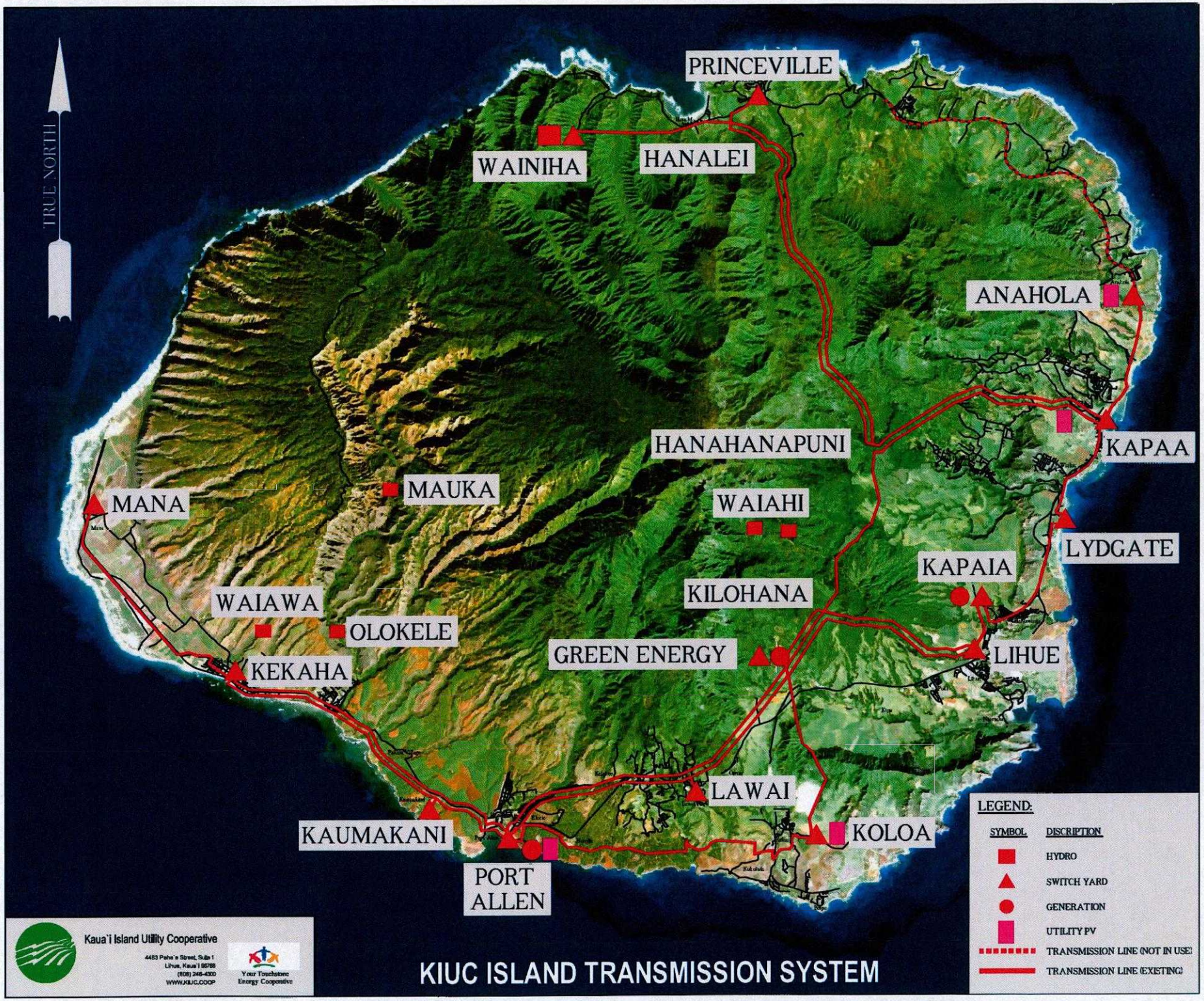
a. Port Allen Generating Station
Power Plant Supervisor on Duty
Eleele, Kauai, HI 96705

Telephone: (808) 246-8200

b. Michael Yamane
Chief of Operations
Kaua'i Island Utility Cooperative
Lihue, HI 96766-2000

Telephone: (808) 639-7366
Email: myamane@kiuc.coop

2017 Power System Map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