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PUBLIC UTILITIES  
COMMISSION

Mr. James P. Griffin  
Chair  
The Hawaii Public Utilities Commission  
Kekuanao'a Building, Room 103  
465 South King Street  
Honolulu, HI 96813

Re: Kauai Island Utility Cooperative 2020 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. Griffin:

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,

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

Enclosures

cc: Division of Consumer Advocacy (3)  
Kent Morihara

**2020 Capital Improvements Program  
For Ensuing Five Years**



KAUA'I ISLAND UTILITY COOPERATIVE  
2020 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 2020. Attachment 1G provides additional details on significant projects beyond 2020.

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 2020 Capital Improvements Program that Exceed \$1 Million:

Budget Title	<b>Lower Waiahi Penstock Replacement</b>	<i>Check All That Apply:</i>	
Project Type	Non-Recurring		
Budget #	201234	Regulatory/Legal Mandate	
Project Start	1/1/2020	Reliability	X
Project End	12/31/2020	Economically Justified	X
Total Cost	<b>\$ 1,750,000</b>	Growth/Development	

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

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 significant earth moving activities will be required.

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

The penstock is the original steel built in 1913 and has degraded to the point of needing replacement. There are losses due to penstock corrosion and roughness that will be recovered with a new steel pipe. This will extend the duration curve and result in additional generation, during flows that are less than rated output.

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

As a renewable resource, this upgrade will help meet the "Renewable Portfolio Standard". This project would reduce the greenhouse gas emission to the atmosphere by off-setting fossil fuel generation and reduce the amount of off-island supplied fuel.



Projects in the 2020 Capital Improvements Program that Exceed \$1 Million:

Budget Title	<b>Wailua Corridor</b>	<i>Check All That Apply:</i>	
Project Type	Non-Recurring		
Budget #	201023	Regulatory/Legal Mandate	
Project Start	1/1/2020	Reliability	
Project End	12/31/2020	Economically Justified	
Total Cost	<b>\$ 1,000,000</b>	Growth/Development	<b>X</b>

**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 have been revised by consultant to relocate existing overhead poles and wires and maintain lines overhead with the exception of an area in front of existing building to be installed underground.

**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.



Projects in the 2020 Capital Improvements Program that Exceed \$1 Million:

Budget Title	<b>Anahola Service Center</b>	<i>Check All That Apply:</i>	
Project Type	Non-Recurring		
Budget #	201321	Regulatory/Legal Mandate	
Project Start	1/1/2020	Reliability	
Project End	12/31/2020	Economically Justified	
Total Cost	<b>\$ 6,370,000</b>	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)

The new Anahola Service Center will be 4.527 acres as compared to the existing Kapaa Service Center's 1.698 acres. The significant additional space will allow for improved staging of materials, equipment, and Kapaa Line Crew dispatch. With the additional space, the line crew will no longer need to spend significant time repositioning and rearranging equipment and materials on a daily basis.

The double-lane, 20-foot wide driveway at the new Anahola Service Center will help to alleviate traffic congestion that currently plagues the Kapaa Service Center.

Response time to outages and trouble calls on the North Shore will improve by relocating Line Crew from the Kapaa Service Center to Anahola Service Center. The shift to Anahola will simultaneously alleviate traffic delays while also reducing driving distance to the North Shore.

Utility vehicles, materials, and equipment will be better protected from the elements at the Anahola Service Center. Currently, KIUC's line and bucket trucks are stored in open garages located a very short distance from the ocean where they constantly are exposed to corrosive salt air. At the Anahola Service Center, which is to be located approximately one mile from the shore line, such equipment and materials will be stored in a garage/workshop that will be equipped with roll-up/roll-down doors.

Kapaa Service Center is currently located in the tsunami inundation zone. The new Anahola Service Center will be located well outside of the tsunami inundation zone, thus eliminating the risk of damage and/or ability to dispatch work/repair crews following a tsunami disaster.

The current Kapaa Service Center has very limited meeting/training space. The new Anahola Service Center will have ample conference/meeting room space that will accommodate simultaneous and flexible scheduling of various specific training sessions for small groups of employees as well as larger training sessions applicable to many employees.



**Alignment with strategic goals:** (Consistent with IRP/Operational Objectives)

The proposed project will improve employee working conditions, space, and member accessibility. Protection of KIUC line vehicles from the elements will extend their lives and reduce capital expenditures over time.

Projects in the 2020 Capital Improvements Program that Exceed \$1 Million:

Budget Title	<b>Kekaha-PMRF Transmission Reconductor</b>	<i>Check All That Apply:</i>	
Project Type	Non-Recurring		
Budget #	201030	Regulatory/Legal Mandate	
Project Start	7/1/2020	Reliability	X
Project End	9/30/2020	Economically Justified	
Total Cost	<b>\$ 2,100,000</b>	Growth/Development	

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

Reconductor 4.5 miles of 57.1kV transmission line from Kekaha Switchyard to PMRF Substation. The existing conductor: 1/0 AAAC. The new conductor: 559 AAAC.

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

Existing conductors will be overloaded with the addition of AES 14MW PV/BESS at max output.

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

Allows full capabilities of AES 14MW PV/BESS.



Projects in the 2020 Capital Improvements Program that Exceed \$1 Million:

Budget Title	<b>Aepo Feeders</b>	<i>Check All That Apply:</i>	
Project Type	Non-Recurring		
Budget #	180102F-CO2	Regulatory/Legal Mandate	
Project Start	1/1/2018	Reliability	X
Project End	12/31/2020	Economically Justified	
Total Cost	<b>\$ 2,000,000</b>	Growth/Development	

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

New 12kV circuit feeders from new Aepo substation to connect to existing 12kV circuits at Koloa Road (2133), Lawai Valley (2314) and at Kauai Coffee (5002).

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

Kukuiula Development growth and the new AES Solar Farm development drive the need for additional feeders. These feeders will allow the support of Lawai, Koloa, and Kalaheo loads. This will also allow for the eventual removal of Lawai Substation.

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

Member satisfaction, reliability, and meeting the growth and development of the island community.

Projects in the 2020 Capital Improvements Program that Exceed \$1 Million:

Budget Title	<b>PMRF Substation</b>	<i>Check All That Apply:</i>	
Project Type	Non-Recurring		
Budget #	190404-CO1	Regulatory/Legal Mandate	
Project Start	1/1/2019	Reliability	X
Project End	6/30/2020	Economically Justified	
Total Cost	<b>\$ 12,200,000</b>	Growth/Development	

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

New KIUC substation located on PMRF.

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

To interconnect AES 14MW PV/BESS, and provide islanding capabilities to PMRF loads.

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

The proposed project will be installed in conjunction with a renewable generation addition.



## Significant Projects Beyond 2020 That Exceed \$1 Million:

**Project: Westside Energy Project**

Timeframe: 2021-2023

Total Cost: \$ 129,403,600

The scope of this proposed project is to develop a dual-purpose pumped storage hydro and irrigation project on the west side of Kauai near the town of Kekaha. The Project entails pumped storage (store and release) hydroelectric generation. The existing infrastructure to be integrated into the project includes the majority of the 26-mile long Kokee Ditch System including four active diversions and three reservoirs: (1) Puu Lua; (2) Puu Opaie; and (3) Mana. Rehabilitation of the existing infrastructure includes repairs and modifications to the existing diversions and ditch system, the installation of new monitoring equipment in the affected streams, the ditch and the reservoirs. New construction includes: (1) two sections of pressurized pipe with a total length of 34,000 feet; (2) two powerhouse facilities located at the Puu Opaie Reservoir and Mana Reservoir; and (3) new mechanized gates within the ditch system. The Project will have a generating capacity of up to 25 MW and a storage capacity of up to 285 MWh.

**Project: Northshore Transmission Line & Seabird Mitigation**

Timeframe: 2021-2022

Total Cost: \$ 11,810,000

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.

**Project: Repair T&D Warehouse**

Timeframe: 2021

Total Cost: \$ 1,500,000

The scope of this project involves renovating the existing T&D warehouse and field personnel offices at Elele. 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: Kilohana/Hanahanapuni 69kV Line**

Timeframe: 2022

Total Cost: \$ 2,240,000

The scope of this project is a new 69kV transmission line from Kilohana Tap to Hanahanapuni Tap. It will include 5.6 miles of 559 AAAC conductor and insulators strung in on existing Steel Towers. The line installed will create transmission loop from Port Allen to Princeville (express), Princeville to Kapaa, Kapaa back to Port Allen.

**Project: Kilohana Switchyard**

Timeframe: 2024

Total Cost: \$ 15,200,000

The scope of this project is a new Switchyard at Kilohana near the intersection of seven 69kV transmission lines. Switchyard to be built while all lines remained energized; cutover to occur upon completion. Project will improve 69kV transmission reliability and improve transmission line losses.



**KAUAI ISLAND UTILITY COOPERATIVE  
2020 5-YEAR CONSTRUCTION PLAN  
( in \$000's )**

740c Code	SUMMARY 2020-2024	1/1/20 CWIP	2020	2021	2022	2023	2024	Total 5 Years
	<b><u>NORMAL AND RECURRING</u></b>							
	<b>PRODUCTION</b>							
xx1201	SAFETY	-	50.0	50.0	50.0	50.0	50.0	250.0
xx1202	RELIABILITY	-	300.0	300.0	300.0	300.0	300.0	1,500.0
xx1203	ENVIRONMENTAL	-	200.0	200.0	200.0	200.0	200.0	1,000.0
xx1204	EFFICIENCY	-	50.0	50.0	50.0	50.0	50.0	250.0
xx1205	HYDRO IMPROVEMENTS	-	75.0	75.0	75.0	75.0	75.0	375.0
xx1206	DIESEL OVERHAULS	-	300.0	300.0	300.0	300.0	300.0	1,500.0
xx1207	GAS TURBINE OVERHAULS	-	50.0	50.0	50.0	50.0	50.0	250.0
xx1208	BUILDING & GROUNDS	-	250.0	250.0	250.0	250.0	250.0	1,250.0
	<b>TOTAL-PRODUCTION</b>	-	1,275.0	1,275.0	1,275.0	1,275.0	1,275.0	6,375.0
	<b>TRANSMISSION &amp; DISTRIBUTION</b>							
xx0101A	LINE EXTENSIONS < \$4K - UG	-	20.0	20.4	20.8	21.2	21.6	104.0
xx0102A	LINE EXTENSIONS < \$4K - OH	-	24.0	24.5	25.0	25.5	26.0	125.0
xx0301A	LINE REPLACEMENTS < \$4K - UG	-	80.0	81.6	83.2	84.9	86.6	416.3
xx0302A	LINE REPLACEMENTS < \$4K - OH	-	250.0	255.0	260.1	265.3	270.6	1,301.0
xx0101B	LINE EXTENSIONS > \$4K - UG	-	240.0	244.8	249.7	254.7	259.8	1,249.0
xx0102B	LINE EXTENSIONS > \$4K - OH	-	350.0	357.0	364.1	371.4	378.8	1,821.3
xx0301B	LINE REPLACEMENTS > \$4K - UG	-	220.0	224.4	228.9	233.5	238.2	1,145.0
xx0302B	LINE REPLACEMENTS > \$4K - OH	-	700.0	714.0	728.3	742.9	757.8	3,643.0
xx0101C	NEW SERVICES - UG	-	75.0	76.5	78.0	79.6	81.2	390.3
xx0102C	NEW SERVICES - OH	-	40.0	40.8	41.6	42.4	43.2	208.0
xx0101D	DEVELOPER WORK - UG	-	1,000.0	1,000.0	1,000.0	1,000.0	1,000.0	5,000.0
xx0102D	DEVELOPER WORK - OH	-	160.0	163.2	166.5	169.8	173.2	832.7
xx0301C	RECONDUCTORING PROJECTS - UG	-	10.0	10.2	10.4	10.6	10.8	52.0
xx0302C	RECONDUCTORING PROJECTS - OH	-	10.0	10.2	10.4	10.6	10.8	52.0
xx0301D	SYSTEM RELIABILITY & INSPECTION-UG	-	40.0	40.8	41.6	42.4	43.2	208.0

**KAUAI ISLAND UTILITY COOPERATIVE  
2020 5-YEAR CONSTRUCTION PLAN  
( In \$000's )**

740c Code	SUMMARY 2020-2024	1/1/20 CWIP	2020	2021	2022	2023	2024	Total 5 Years
xx0302D	SYSTEM RELIABILITY & INSPECTION-OH	-	50.0	51.0	52.0	53.0	54.1	260.1
xx1001	TRANSMISSION INSULATOR REPLACE	-	370.0	370.0	370.0	370.0	370.0	1,850.0
xx0606A	POLE REPLACEMENTS	-	500.0	500.0	500.0	500.0	500.0	2,500.0
xx03011	UG SYSTEM IMPROVEMENTS	-	500.0	500.0	500.0	500.0	500.0	2,500.0
xx03012	UG HARDENING UPGRADE	-	250.0	250.0	250.0	250.0	250.0	1,250.0
xx0501	SUBSTATION REPL/UPGRADES - DIST	-	252.0	252.0	252.0	252.0	252.0	1,260.0
xx1002	SUBSTATION REPL/UPGRADES - TR	-	400.0	400.0	400.0	400.0	400.0	2,000.0
xx0502	SUBSTATION TRANSFORMER REPL-DIST	-	940.0	940.0	-	-	-	1,880.0
xx12xx	GSU TRANSFORMER	-	-	-	940.0	940.0	940.0	2,820.0
xx1004	SYSTEM PROTECTION UPGR/REPL-TR	-	80.0	81.6	83.2	84.9	86.6	416.3
xx0503	SYSTEM PROTECTION UPGR/REPL-DIST	-	120.0	122.4	124.8	127.3	129.8	624.3
xx0615A	COMMUNICATION SYSTEM UPGR/REPL	-	140.0	140.0	140.0	140.0	140.0	700.0
xx0601A	DISTRIBUTION XFMR-UG-NEW CUST	-	320.0	326.4	332.9	339.6	346.4	1,665.3
xx0601B	DISTRIBUTION XFMR-UG-UPGR	-	20.0	20.4	20.8	21.2	21.6	104.0
xx0601C	DISTRIBUTION XFMR-OH NEW CUST	-	855.0	326.4	332.9	339.6	346.4	2,200.3
xx0601D	DISTRIBUTION XFMR-OH-UPGR	-	160.0	163.2	166.5	169.8	173.2	832.7
xx0601E	TRANSFORMER OIL DISPOSAL - UG	-	50.0	50.0	50.0	50.0	50.0	250.0
xx0601F	TRANSFORMER OIL DISPOSAL - OH	-	50.0	50.0	50.0	50.0	50.0	250.0
xx0607A	STREET & AREA LIGHTS - REPL	-	20.0	20.4	20.8	21.2	21.6	104.0
xx0702A	STREET & AREA LIGHTS - NEW	-	20.0	20.4	20.8	21.2	21.6	104.0
xx1511	BUILDING & FACILITY REPL/UPGRADES	-	12.4	12.4	12.4	12.4	12.4	62.0
xx0615D	FIBER INSTALLATION	-	-	500.0	500.0	500.0	500.0	2,000.0
xx1005	STEEL POLE RESTORATION	-	100.0	100.0	100.0	100.0	100.0	500.0
xx0704B	SCADA SYSTEM UPGRADES/REPL	-	140.0	140.0	140.0	140.0	140.0	700.0
	TOTAL-TRANSMISSION & DISTRIBUTION	-	8,568.4	8,600.0	8,667.7	8,737.0	8,807.5	43,380.6



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	<b>MEMBER SERVICES</b>							
xx0601G	METERS - NEW CONSUMERS	-	200.0	206.0	212.2	218.6	225.2	1,062.0
xx0601H	METERS - REPLACEMENTS	-	910.0	937.3	965.4	994.4	1,024.2	4,831.3
	TOTAL-MEMBER SERVICES	-	1,110.0	1,143.3	1,177.6	1,213.0	1,249.4	5,893.3
	<b>HUMAN RESOURCES</b>							
xx1515	HR CUSTOMIZATIONS	-	40.0	40.0	40.0	40.0	40.0	200.0
	TOTAL-HUMAN RESOURCES	-	40.0	40.0	40.0	40.0	40.0	200.0
	<b>HCP</b>							
xx0302E	HCP MINIMIZATION PROJECTS-DISTR	-	400.0	200.0	100.0	100.0	100.0	900.0
xx1006	HCP MINIMIZATION PROJECTS-TR	-	7,000.0	2,000.0	250.0	250.0	250.0	9,750.0
	TOTAL-HCP	-	7,400.0	2,200.0	350.0	350.0	350.0	10,650.0
	<b>SAFETY &amp; FACILITIES</b>							
xx1504	SAFETY EQUIPMENT	-	75.0	75.0	75.0	75.0	75.0	375.0
xx1505	SECURITY SYSTEM UPGRADES	-	480.0	75.0	75.0	75.0	75.0	780.0
	TOTAL-SAFETY & FACILITIES	-	555.0	150.0	150.0	150.0	150.0	1,155.0
	<b>INFORMATION SERVICES</b>							
xx1506	SYSTEM REPLACEMENTS	-	1,075.0	380.0	365.0	380.0	480.0	2,680.0
xx1507	SYSTEM REPLACEMENTS	-	1,375.0	545.0	470.0	780.0	1,610.0	4,780.0
	TOTAL-INFORMATION SERVICES	-	2,450.0	925.0	835.0	1,160.0	2,090.0	7,460.0
	<b>GENERAL PLANT</b>							
xx1508	VEHICLES	-	226.0	469.0	469.0	469.0	469.0	2,102.0
xx1509	OFFICE FURNITURE AND EQUIPMENT	-	102.8	8.8	8.8	8.8	8.8	138.0
xx1510	TOOLS AND EQUIPMENT	-	160.9	150.0	150.0	150.0	150.0	760.9
	TOTAL-GENERAL PLANT	-	489.7	627.8	627.8	627.8	627.8	3,000.9
	<b>TOTAL-NORMAL AND RECURRING</b>	-	21,888.1	14,961.1	13,123.1	13,552.8	14,589.7	78,114.8

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2020 5-YEAR CONSTRUCTION PLAN  
( in \$000's )**

740c Code	SUMMARY 2020-2024	1/1/20 CWIP	2020	2021	2022	2023	2024	Total 5 Years
	<b><u>NON-RECURRING</u></b>							
	<b>PRODUCTION</b>							
201202F	KPS BRUSH AVR UPGRADE		110.0	-	-	-	-	110.0
201202G	GT1 EXCITER REPLACEMENT		300.0	-	-	-	-	300.0
201202H	DELTA V UPGRADE		250.0	-	-	-	-	250.0
201202I	KPS GT INLET HOOD		250.0	-	-	-	-	250.0
201203B	KPS CATALYST REPLACEMENT		440.0	-	-	-	-	440.0
201205A	WAIHAI BRIDGE UPGRADE		100.0	-	-	-	-	100.0
201206A	SWD TURBO REPLACEMENTS		250.0	-	-	-	-	250.0
201208A	SWD ROOF		300.0	-	-	-	-	300.0
201208B	D3, D4, D5 BUILDING UPGRADE		100.0	-	-	-	-	100.0
201234	LOWER WAIHAI PENSTOCK REPLACEMENT		1,750.0	-	-	-	-	1,750.0
211294	WESTSIDE ENERGY PROJECT		-	72,797.4	43,686.2	12,920.0	-	129,403.6
211202J	KPS FUEL NOZZLES		-	300.0	-	-	-	300.0
211204B	D6 & D7 CO CATALYST BLOCKS		-	175.0	-	-	-	175.0
221202K	PORT ALLEN EMD POWER PACK UPGRADE		-	-	150.0	-	-	150.0
221202L	KPS WATER SYSTEM UPGRADE		-	-	500.0	-	-	500.0
	<b>TOTAL-PRODUCTION</b>	-	3,850.0	73,272.4	44,336.2	12,920.0	-	134,378.6
	<b>TRANSMISSION &amp; DISTRIBUTION</b>							
200102G	LIHUE AIRPORT ELECTRICAL DIST HARDENING		430.0	-	-	-	-	430.0
201023	WAILUA CORRIDOR		1,000.0	-	-	-	-	1,000.0
201028	HANALEI TAP-PRINCEVILLE XMISSION LINE		600.0	-	-	-	-	600.0
201321	ANAHOLA SERVICE CENTER		6,370.0	-	-	-	-	6,370.0
210536	KOLOA CONTROL ENCLOSURE		-	400.0	-	-	-	400.0
210539	DECOMMISSIONING-LAWAI SUBSTATION		-	125.0	-	-	-	125.0
210801	NORTHSHORE TRANSMISSION LINE & SEABIRD MITIGATION		-	2,000.0	9,810.0	-	-	11,810.0
211323	ANAHOLA POLEYARD STORAGE & WAREHOUSE		-	450.0	-	-	-	450.0
211556	REPAIR T&D WAREHOUSE		-	1,500.0	-	-	-	1,500.0
	<b>TOTAL-TRANSMISSION &amp; DISTRIBUTION</b>	-	8,400.0	4,475.0	9,810.0	-	-	22,685.0



KAUAI ISLAND UTILITY COOPERATIVE  
2020 5-YEAR CONSTRUCTION PLAN  
( in \$000's )

740c Code	SUMMARY 2020-2024	1/1/20 CWIP	2020	2021	2022	2023	2024	Total 5 Years
	<b>ENGINEERING</b>							
200101E	PMRF DISTRIBUTION LINE	-	370.0	-	-	-	-	370.0
201030	KEKAHA-PMRF XMISSION RECONDUCTOR	-	2,100.0	-	-	-	-	2,100.0
220803	KILOHANA/HANAHANAPUNI 69KV LINE	-	-	-	2,240.0	-	-	2,240.0
240901	KILOHANA SWITCHYARD	-	-	-	-	-	15,200.0	15,200.0
	TOTAL-ENGINEERING		2,470.0	-	2,240.0	-	15,200.0	19,910.0
	<b>FINANCIAL &amp; CORPORATE SERVICES</b>							
201563	ELEELE MATLS WHSE LIGHT FIXTURE REPL	-	38.0	-	-	-	-	38.0
	TOTAL-FINANCIAL & CORPORATE SERVICES		38.0	-	-	-	-	38.0
	<b>TOTAL-NON-RECURRING</b>		14,758.0	77,747.4	56,386.2	12,920.0	15,200.0	177,011.6

KAUAI ISLAND UTILITY COOPERATIVE  
2020 5-YEAR CONSTRUCTION PLAN  
( in \$000's )

740c Code	SUMMARY 2020-2024	1/1/20 CWIP	2020	2021	2022	2023	2024	Total 5 Years
<b><u>CARRYOVER PROJECTS-PRIOR YEARS</u></b>								
181202A-CO2	KPS OTSG UPGRADE	28.0	80.0	-	-	-	-	80.0
191202C-CO1	GT EXHAUST SYSTEM	200.0	50.0	-	-	-	-	50.0
191203A-CO1	DIESEL FUEL LINE REPLACEMENT	100.0	250.0	-	-	-	-	250.0
191204A-CO1	ADVANCED AGC SYSTEM INSTALLATION	100.0	100.0	-	-	-	-	100.0
191295-CO1	ILILIULA 36" SIPHON REPLACEMENT	25.0	394.2	-	-	-	-	394.2
191543-CO1	DATA ARCHIVAL SYSTEM	400.0	150.0	-	-	-	-	150.0
170704D-CO3	SCADA UPGRADE	783.0	356.0	-	-	-	-	356.0
180102F-CO2	AEPO FEEDERS	300.0	1,700.0	-	-	-	-	1,700.0
180403-CO1	SUBSTATION XFMR (GREEN ENERGY)	850.0	200.0	-	-	-	-	200.0
180614-CO2	STORM DAMAGE	0.0	244.0	-	-	-	-	244.0
190404-CO1	PMRF SUBSTATION	6,000.0	6,200.0	-	-	-	-	6,200.0
190802-CO1	PMRF XMISSION LINE	35.0	333.0	-	-	-	-	333.0
<b>TOTAL-CARRYOVER PROJECTS</b>		<b>8,821.0</b>	<b>10,057.2</b>	-	-	-	-	<b>10,057.2</b>
<b>TOTAL-ANNUAL CAPITAL EXPENDITURE</b>		<b>8,821.0</b>	<b>46,703.3</b>	<b>92,708.5</b>	<b>69,509.3</b>	<b>26,472.8</b>	<b>29,789.7</b>	<b>265,183.6</b>
<b>CUSTOMER ADVANCES</b>								
xx0101B	LINE EXTENSIONS > \$4K - UG		(48.0)	(49.0)	(49.9)	(50.9)	(52.0)	(249.8)
xx0102B	LINE EXTENSIONS > \$4K - OH		(70.0)	(71.4)	(72.8)	(74.3)	(75.8)	(364.3)
xx0101D	DEVELOPER WORK - UG		(900.0)	(900.0)	(900.0)	(900.0)	(900.0)	(4,500.0)
xx0102D	DEVELOPER WORK - OH		(144.0)	(146.9)	(149.9)	(152.8)	(155.9)	(749.4)
<b>TOTAL CUSTOMER ADVANCES</b>		-	<b>(1,162.0)</b>	<b>(1,167.2)</b>	<b>(1,172.6)</b>	<b>(1,178.0)</b>	<b>(1,183.6)</b>	<b>(5,863.5)</b>
<b>CONTRIBUTION IN AID OF CONSTRUCTION</b>								
xx0101C	NEW SERVICES - UG		(7.5)	(7.7)	(7.8)	(8.0)	(8.1)	(39.0)
xx0102C	NEW SERVICES - OH		(4.0)	(4.1)	(4.2)	(4.2)	(4.3)	(20.8)
<b>TOTAL CONTRIBUTION IN AID OF CONSTRUCTION</b>		-	<b>(11.5)</b>	<b>(11.7)</b>	<b>(12.0)</b>	<b>(12.2)</b>	<b>(12.4)</b>	<b>(59.8)</b>
<b>TOTAL-CAPEX CASH REQTS BEFORE AVAILABLE FUNDING</b>		<b>8,821.0</b>	<b>45,529.8</b>	<b>91,529.5</b>	<b>68,324.7</b>	<b>25,282.6</b>	<b>28,593.7</b>	<b>259,260.3</b>



## 2020 Adequacy of Supply Statement

Kaua`i Island Utility Cooperative

2020 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.<sup>1</sup>

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<sup>1</sup> 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 2020

KIUC's 2020 available generating capacity is as follows:

<u>Generating Unit</u>	<u>Net Peak Capacity (kW)</u>
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
Kapaia Solar and Storage	13,000
AES Lawai Solar and Storage	20,000
TOTAL	<u>156,050</u>

Adequacy of Supply Statement – Criteria One  
Evening Peak Criteria

KIUC's 2020 system generating capacity and total firm peak system demand are estimated as follows:

<u>Generating Unit</u>	<u>Net Peak Capacity (kW)</u>
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
Kapaia Solar and Storage	13,000
AES Lawai Solar and Storage	20,000
System Total KW	156,050
Less largest unit (Kapaia Power Station)	<u>(26,600)</u>
Capacity, largest unit out of service	129,450 kW
2020 estimated total firm evening peak	77,240 kW
Capacity Less Evening Peak (i.e. evening criteria met)	52,210 kW



Adequacy of Supply Statement – Criteria Two  
Morning Peak Criteria

KIUC's 2020 system generating capacity and morning firm peak system demand are estimated as follows:

	<u>Net Peak Capacity, kW</u>
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
Kapaia Solar and Storage	13,000
AES Lawai Solar and Storage	20,000
System Total KW	156,050
Less largest unit (Kapaia Power Station)	(26,600)
Less 3 <sup>rd</sup> largest unit (AES Lawai)	<u>(20,000)</u> kW
Capacity, 1 <sup>st</sup> and 3 <sup>rd</sup> largest units out	109,450 kW
2020 estimated off-season morning peak <sup>2</sup>	64,160 kW
Capacity Less Morning Peak (i.e., morning criteria met)	45,290 kW

<sup>2</sup> 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.

## 2020 Personnel To Be Contacted

KAUAI ISLAND UTILITY COOPERATIVE  
2020 PERSONNEL TO BE CONTACTED  
(Revised 12/24/19)

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

- |   |  |
|---|--|
| <p>1.     <u>General Management Duties</u><br/>David J. Bissell<br/>President &amp; Chief Executive Officer<br/>Kaua'i Island Utility Cooperative<br/>4463 Pahee Street, Suite 1<br/>Lihue, Kauai, HI 96766-2000<br/><br/>Telephone: (808) 246-8213<br/>Email: dbissell@kiuc.coop</p> <p>2.     <u>Accounting</u><br/>Karissa Jonas<br/>Financial VP &amp; Chief Financial Officer<br/>Kaua'i Island Utility Cooperative<br/>4463 Pahee Street, Suite 1<br/>Lihue, Kauai, HI 96766-2000<br/><br/>Telephone (808) 246-8278<br/>Email: kjonas@kiuc.coop</p> <p>3.     <u>Regulatory Affairs</u><br/>Brandee Holt<br/>Manager, Regulatory Affairs<br/>Kaua'i Island Utility Cooperative<br/>4463 Pahee Street, Suite 1<br/>Lihue, Kauai, HI 96766-2000<br/><br/>Telephone: (808) 246-8261<br/>Email: bholt@kiuc.coop</p> <p>4.     <u>Transmission &amp; Distribution</u><br/>John Cox<br/>Manager, Transmission &amp; Distribution<br/>Kaua'i Island Utility Cooperative<br/>4463 Pahee Street, Suite 1<br/>Lihue, Kauai, HI 96766-2000<br/><br/>Telephone: (808) 246-8205<br/>Email: jpcox@kiuc.coop</p> <p>5.     <u>Utility Operations</u><br/>Brad Rockwell<br/>Executive Manager, Utility Operations<br/>Kaua'i Island Utility Cooperative<br/>4463 Pahee Street, Suite 1<br/>Lihue, Kauai, HI 96766-2000<br/><br/>Telephone: (808) 246-8289<br/>Email: brockwel@kiuc.coop</p> | <p>6.     <u>Engineering</u><br/>Cameron Kruse<br/>Manager, Engineering<br/>Kaua'i Island Utility Cooperative<br/>4463 Pahee Street, Suite 1<br/>Lihue, Kauai, HI 96766-2000<br/><br/>Telephone: (808) 246-2324<br/>Email: ckruse@kiuc.coop</p> <p>7.     <u>Technology, Safety &amp; T&amp;D</u><br/>Carey Koide<br/>Executive Manager of Technology,<br/>Safety &amp; T&amp;D<br/>Kaua'i Island Utility Cooperative<br/>4463 Pahee Street, Suite 1<br/>Lihue, Kauai, HI 96766-2000<br/><br/>Telephone: (808) 246-2349<br/>Email: ckoide@kiuc.coop</p> <p>8.     <u>Member Services</u><br/>Maile Alfiler<br/>Manager, Member Services<br/>Kaua'i Island Utility Cooperative<br/>4463 Pahee Street, Suite 1<br/>Lihue, Kauai, HI 96766-2000<br/><br/>Telephone: (808) 246-8210<br/>Email: malfiler@kiuc.coop</p> <p>9.     <u>Human Resources</u><br/>Lisa Ubay<br/>Manager, Human Resources &amp; Safety<br/>Kaua'i Island Utility Cooperative<br/>4463 Pahee Street, Suite 1<br/>Lihue, Kauai, HI 96766-2000<br/><br/>Telephone: (808) 246-8294<br/>Email: eubay@kiuc.coop</p> <p>10.    <u>Communications</u><br/>Beth Tokioka<br/>Manager, Communications<br/>Kaua'i Island Utility Cooperative<br/>4463 Pahee Street, Suite 1<br/>Lihue, Kauai, HI 96766-2000<br/><br/>Telephone: (808) 246-4348<br/>Email: btokioka@kiuc.coop</p> |
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KAUAI ISLAND UTILITY COOPERATIVE  
2020 PERSONNEL TO BE CONTACTED  
(Revised 12/24/19)

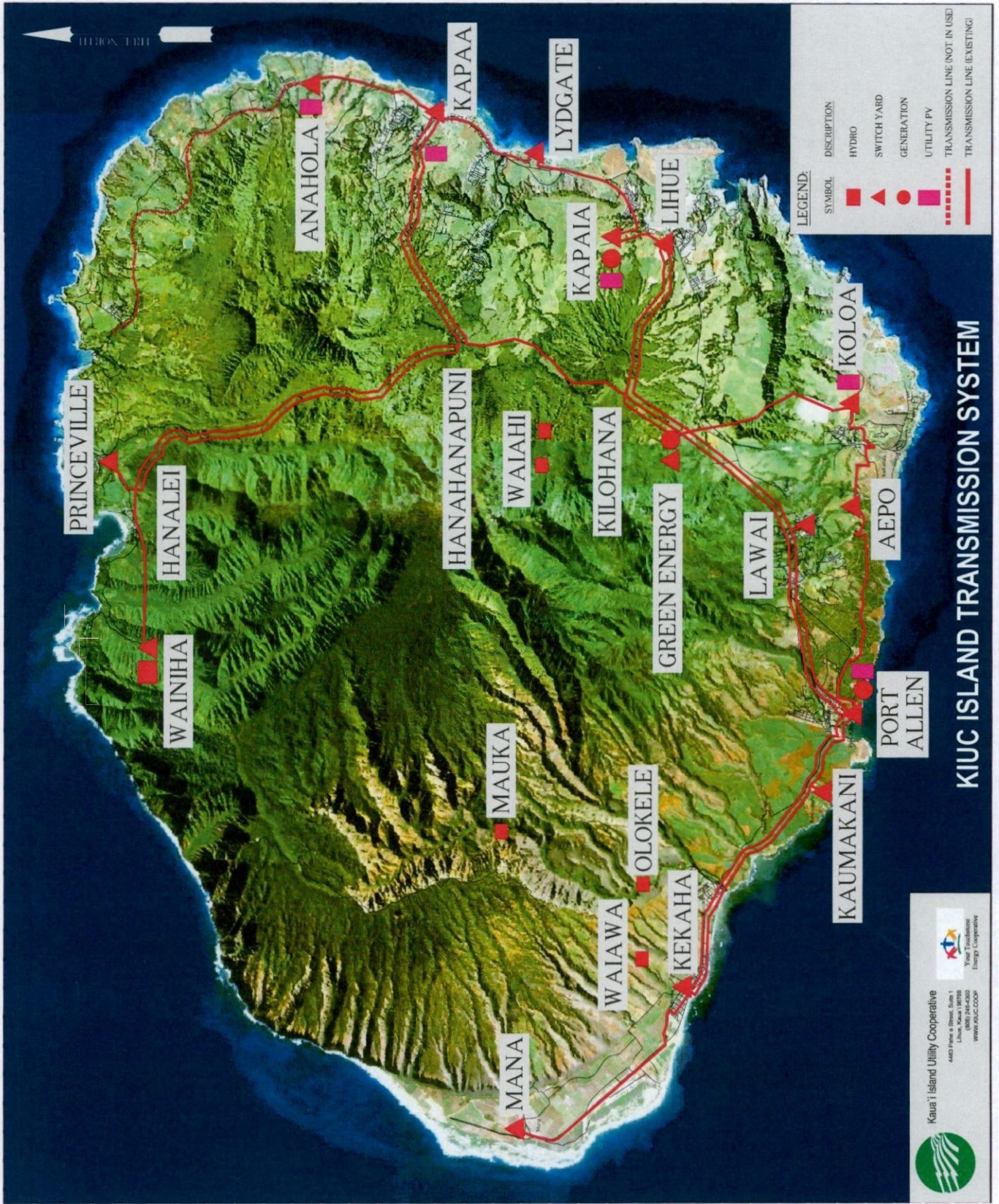
Kauai Island Utility Cooperative's personnel to be contacted with respect to various specific functions and matters are set forth below:

11. Emergencies During Non-Office Hours

- a. Port Allen Generating Station  
Power Plant Supervisor on Duty  
Eleele, Kauai, HI 96705  
  
Telephone: (808) 335-5125
- b. Brad Rockwell  
Executive Manager, Utility  
Operations  
Kaua'i Island Utility Cooperative  
Lihue, HI 96766-2000  
  
Telephone: (808) 635-4546  
Email: brockwel@kiuc.coop

## 2020 Power System Map





Kauai Island Utility Cooperative  
4487 Palani Street, Suite 1  
Lihue, Kauai 96750  
Phone: 808/235-5500  
WWW.KIUC.COOP



# KIUC ISLAND TRANSMISSION SYSTEM