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I. INTRODUCTION

DISTRIBUTION UTILITIES PROFILE

Iloilo II Electric Cooperative, Inc. (ILECO II) was organized on October 18, 1975 as an electric cooperative under the provisions of the National Electrification Administration Act (RA 6038) as amended by the Presidential Decree No. 269. ILECO II has principal office address in Brgy. Cauayan, Pototan, Iloilo. It distributes electric power in the central part of Iloilo Province.

Its Vision Statement provides a clear direction of ILECO II to be "A leading and excellent electric distribution utility in Western Visayas by 2027."

Its Mission Statement clearly states its noble purpose: "To provide reliable and quality electric service at competitive cost for member-consumer-owners' satisfaction and countryside development."

Its energization started in the Municipality of Zarraga in 1977 and all towns were lighted in 1980 with the energization of Bingawan and San Enrique.

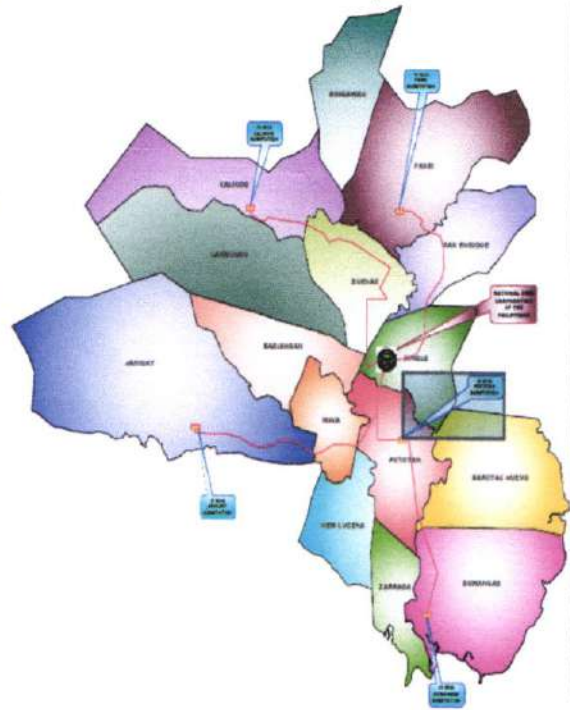
ILECO II covers 14 Municipalities, one Component City with 587 barangays and 10,099 Sitios.

It has fully energized the Municipalities and attained a 100% energization of its barangays when it waived under the Qualified Third Party Program (QTP) the 13 mountainous, sparsely populated and inaccessible barangays situated in Calinog, Lambunao & Janiuay.

It has completely energized the Sitios approved for funding by National Electrification Administration under the Sitio Electrification Program (SEP) from the year 2011 to 2017.

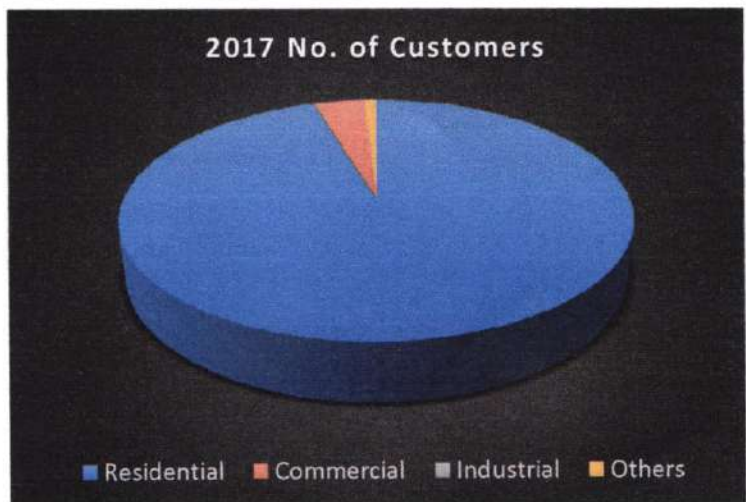
Out of 10,099 potential sitios, there are 10,012 sitios energized representing 99.14%. For house connection, there are 157,100 potential households with actual connection of 128,299 households representing 81.65% as of March 2018.

DU's Franchise Map



Number of Customer	ACTUAL	FORECAST									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Residential	121,550	126,306	130,743	134,919	138,865	142,608	146,168	149,565	152,815	155,930	158,924
Commercial	4,813	5,237	5,420	5,594	5,757	5,912	6,060	6,201	6,336	6,465	6,589
Industrial	55	63	65	67	69	71	73	74	76	77	79
Others	1,037	1,168	1,209	1,247	1,284	1,319	1,351	1,383	1,412	1,441	1,469
Contestable Customers served by RES											
Total (Captive Customers)	127,455	132,774	137,437	141,827	145,975	149,910	153,652	157,223	160,639	163,913	167,061

ILECO II is located in the central part of Iloilo Province. It covers rural areas where growth in demand is slow. Its customers are mostly residential with 95.37% shared. Commercial loads is just 3.78%. The public building and street lights is 0.81% and the industrial is only 0.04%. The highest load connected is 504.13 kW average for one year.

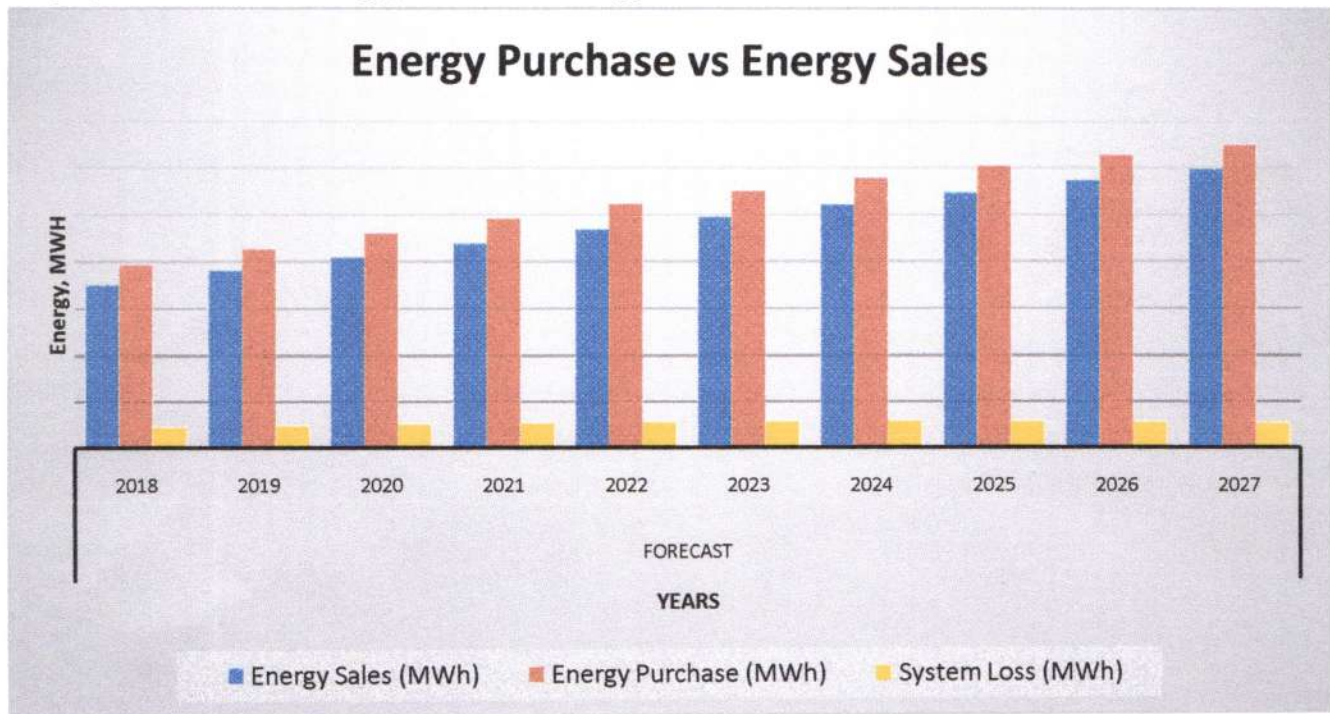


II. ENERGY SALES AND PURCHASE

ENERGY SALES AND PURCHASE	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Energy Sales (MWh)	83,875	90,375	96,012	100,936	106,190	110,477	117,093	128,622	148,907	161,310
Energy Purchase (MWh)	96,495	103,355	109,776	115,185	121,438	125,049	132,384	145,583	167,843	181,046
System Loss (MWh)	12,620	12,980	13,764	14,249	15,248	14,572	15,291	16,961	18,937	19,736

ENERGY SALES AND PURCHASE	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Energy Sales (MWh)	174,967	190,061	204,885	219,375	233,502	247,258	260,645	273,673	286,355	298,705
Energy Purchase (MWh)	196,773	213,788	230,317	246,212	261,390	275,806	289,441	302,293	314,368	325,681
System Loss (MWh)	21,806	23,727	25,432	26,838	27,888	28,548	28,796	28,619	28,013	26,976

Graph presentation of energy purchased vs energy sales



ILECO II energy sales and energy purchase has an average growth rate of 8%. There was an abrupt increase in the year 2016, that is because of the coming in of Sitio Electrification Program (SEP) and entering of commercial loads.

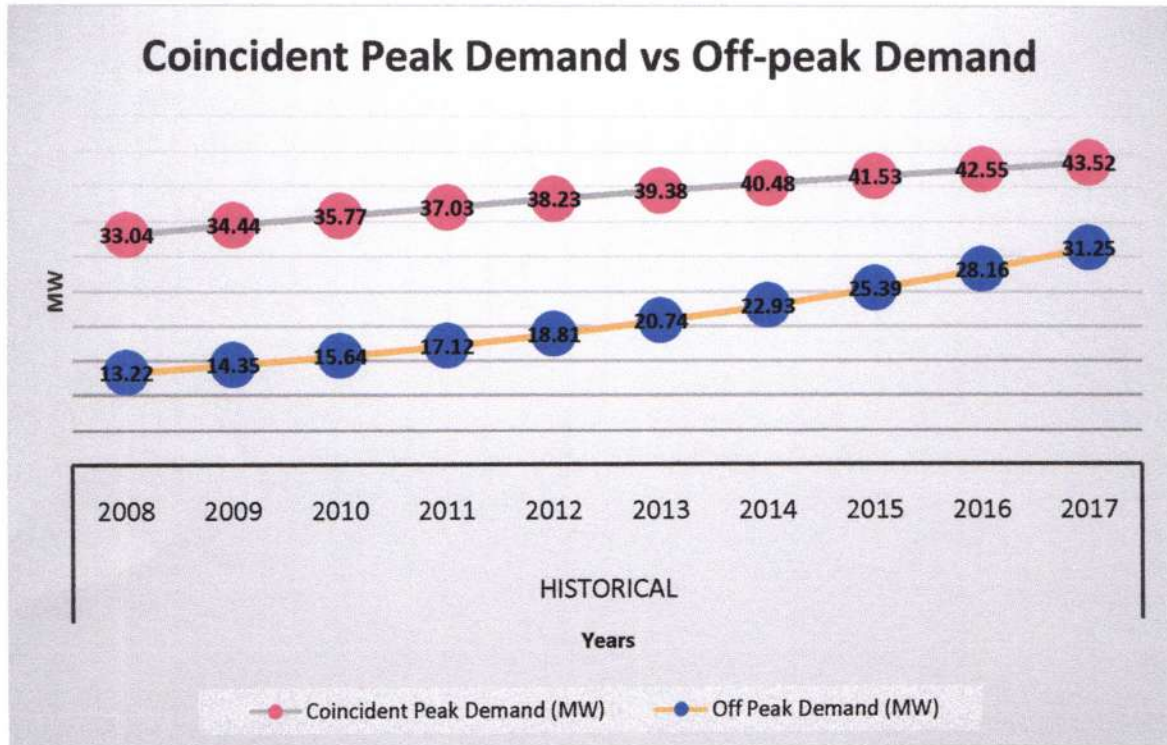
Graph shows, as the energy purchase increases, the sales increase. The difference in sales is the system loss which is 11%. These will be lowered after implementation of CAPEX projects.

III. DEMAND

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	19.91	21.00	22.04	22.54	23.24	24.84	26.49	27.32	30.37	32.23
Off Peak Demand (MW)	7.31	8.61	8.41	8.02	9.10	9.35	9.59	10.08	11.68	12.18

Demand	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	33.04	34.44	35.77	37.03	38.23	39.38	40.48	41.53	42.55	43.52
Off Peak Demand (MW)	13.22	14.35	15.64	17.12	18.81	20.74	22.93	25.39	28.16	31.25

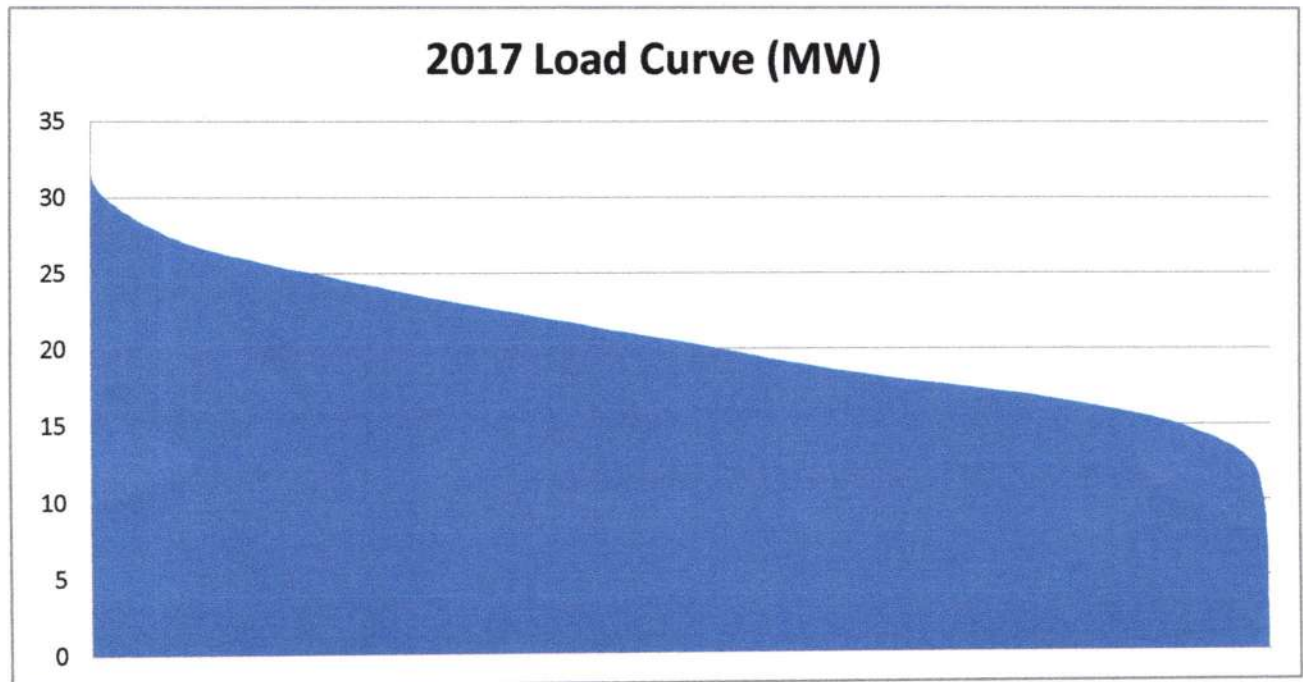
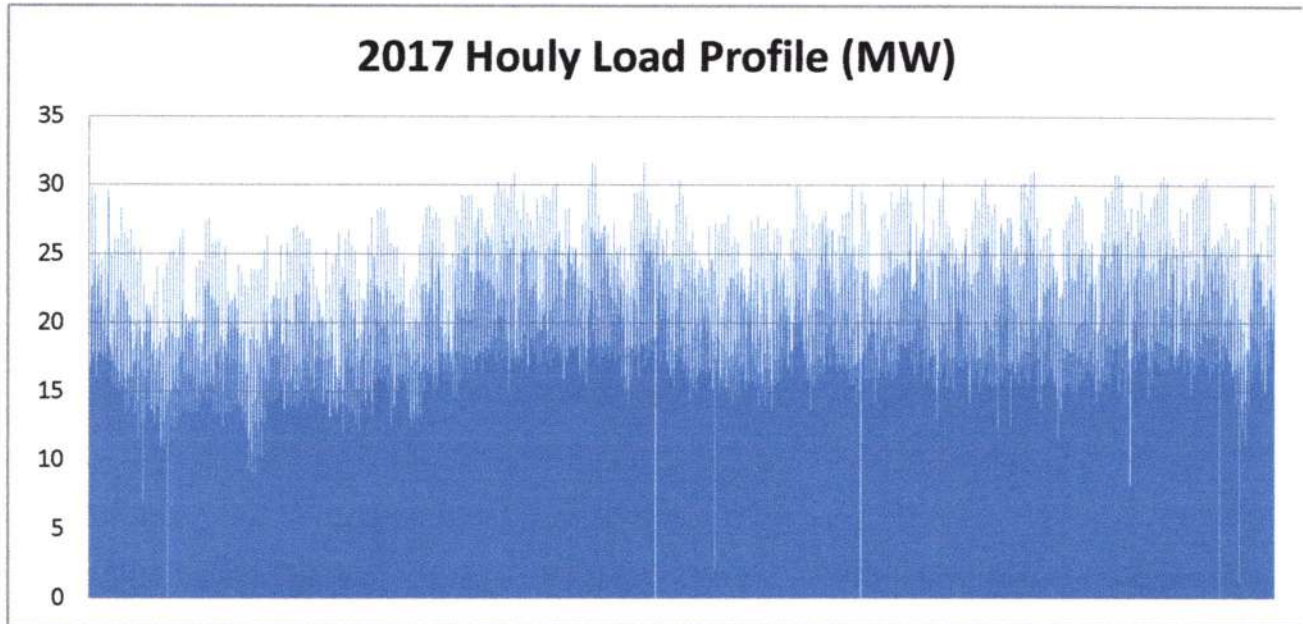
Graph presentation of the coincident peak vs off peak demand



The average growth rate of the historical coincident peak and off peak demand is 6% for ten (10) years. Using this data for forecasting, we came up to model with two horizon ($a + bt^3 + ct^{-2} + dt^{-3}$) for coincident peak with adjusted R square of 0.99188 and MAPE of 2.18%. The off peak demand has a model with two horizon ($a + bt^3 + c \log t^2$) with adjusted R square of 0.99546 and MAPE of 2.95%. The result of forecast shown that the coincident peak has a higher growth rate compared with the off peak demand.

IV. LOAD PROFILE AND LOAD DURATION CURVE

Graph presentation of 2017 hourly load profile (MW)

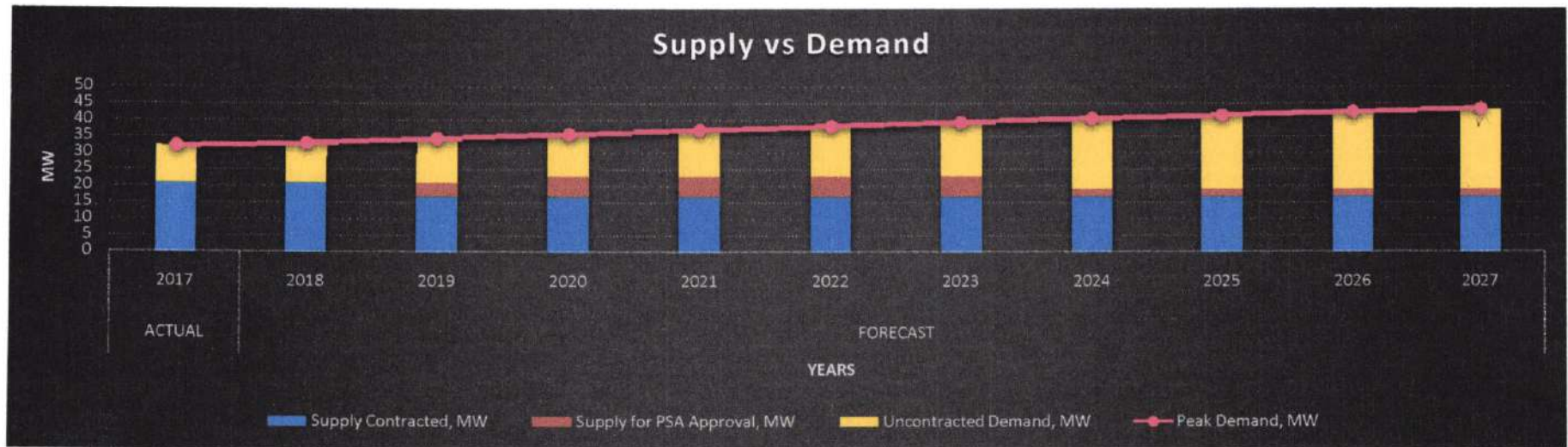


The hourly load profile shows that the average baseload is around 15 MW. The mid merit load reached up to 25 MW and the peak hours attained up to 32 MW. The off peak and coincident peak is lower during the 1st quarter of the year.

Base on the load duration curve, the mid merit load has largest demand requirement for the whole year.

V. MIX SUPPLY VS DEMAND AND THE OPTIMAL SUPPLY

Supply Demand	ACTUAL	FORECAST									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Peak Demand, MW	32.23	33.04	34.44	35.77	37.03	38.23	39.38	40.48	41.53	42.55	43.52
Supply Contracted, MW	21	21	17	17	17	17	17	17	17	17	17
Green Core Geothermal, Inc.	4	4	4	4	4	4	4	4	4	4	4
Panay Energy Development Corp. 1&2	10	10	10	10	10	10	10	10	10	10	10
Panay Energy Development Corp. 3	3	3	3	3	3	3	3	3	3	3	3
SPC Island Power Corp.	4	4									
Supply for PSA Approval, MW			4	6	6	6	6	2	2	2	2
GNPower Mariveles Coal Plant LTD. Co.				2	2	2	2	2	2	2	2
SPC Island Power Corp.			4	4	4	4	4				
Uncontracted Demand, MW	11.23	12.04	13.44	12.77	14.03	15.23	16.38	21.48	22.53	23.55	24.52



POWER SUPPLY PROCUREMENT PLAN

List of Existing Contracts and Details

Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
GCGI	EDC	100	12/2014	12/2030	4	35,040	Base	Grid connected	IPP	Contracted	Geothermal	192.5	172
PEDC 1&2	GBPC	75	03/2011	03/2036	10	65,700	Base/Mid-merit	Grid connected	IPP	Contracted	Coal	164	144
PEDC 3	GBPC	100	01/2017	01/2042	3	26,280	Base	Grid connected	IPP	Contracted	Coal	150	132
SIPC	Dennis T. Villareal		08/2012	08/2018	4	5,110	Peaking	Grid connected	IPP	Contracted	Diesel	146.5	77

ILECO II has four (4) Independent Power Producers (IPPs) with Bilateral Contract Quantity (BCQ) total of 21 MW. The coincident peak demand is higher than the contracted demand and we purchase the difference from the Wholesale Electricity Spot Market (WESM). To mitigate our exposure to the market, we aggregate our demand requirement together with other Coops in Panay for Competitive Selection Process (CSP) last 2016. Upon evaluation, the GNPowder Mariveles Coal Plant LTD. Co. offered the lowest calculated responsive bid for baseload and SPC Island Power Corp. for peaking. The supply of baseload will commence on December 26, 2019 and end December 25, 2029 while we need the peaking requirement this last quarter of the year for five years. Currently, our baseload was supplied by GCGI, PEDC Unit 1 & 2 and PEDC unit 3. The mid merit was supplied by the PEDC Unit 1 & 2 and WESM while for peaking is the SIPC. During Islanding operation, ILECO II is not affected because PEDC and SIPC is located in the Province of Iloilo.

VI. DISTRIBUTION IMPACT STUDY

ILECO II has five (5) substations distributed in its franchise area. The total capacity of all substation is 50 MW. Currently, we have scheduled upgrading of power transformer from 5 MVA to 10 MVA due to increased of load. We have ongoing projects in upgrading our distribution line from 2/0 to 336.6 MCM conductor. Our technical and system planning will prepare CAPEX projects base on the forecasted data for the upgrading of the system.

VIII. 10 Year Monthly Data

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coinciden t Peak Demand (MW)	Off Peak Demand (MW)	Energy Requireme nt (MWh)	Demand (MW)	Energy (MWh)	Uncontrac ted Demand (MW)	Uncontracte d Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	31.97	10.67	15,266	21.00	11,011	10.97	4,256		
Feb	28.89	10.06	14,849	21.00	11,011	7.89	3,839		
Mar	30.59	9.67	13,952	21.00	11,011	9.59	2,942		
Apr	30.75	11.79	16,387	21.00	11,011	9.75	5,376		
May	32.10	13.15	17,506	21.00	11,011	11.10	6,495		
Jun	33.04	13.22	17,597	21.00	11,011	12.04	6,586		
Jul	30.17	11.48	15,885	21.00	11,011	9.17	4,874		
Aug	31.17	12.62	16,985	21.00	11,011	10.17	5,975		
Sep	32.84	12.62	17,511	21.00	11,011	11.84	6,500		
Oct	32.42	11.55	16,781	21.00	11,011	11.42	5,770		
Nov	32.73	12.49	17,512	21.00	11,011	11.73	6,501		
Dec	32.19	11.57	16,540	21.00	11,011	11.19	5,529		
2019									
Jan	33.33	11.58	16,587	21.00	11,011	12.33	5,576		
Feb	30.12	10.92	16,133	21.00	11,011	9.12	5,123		
Mar	31.89	10.49	15,159	21.00	11,011	10.89	4,148		
Apr	32.06	12.80	17,804	21.00	11,011	11.06	6,793		
May	33.46	14.27	19,019	21.00	11,011	12.46	8,008		
Jun	34.44	14.35	19,119	21.00	11,011	13.44	8,108		
Jul	31.46	12.46	17,258	21.00	11,011	10.46	6,248		
Aug	32.49	13.69	18,454	21.00	11,011	11.49	7,443		
Sep	34.23	13.69	19,025	21.00	11,011	13.23	8,015		
Oct	33.80	12.53	18,232	21.00	11,011	12.80	7,221		
Nov	34.12	13.56	19,026	21.00	11,011	13.12	8,015		
Dec	33.56	12.56	17,971	21.00	11,011	12.56	6,960		
2020									
Jan	34.62	12.62	17,869	23.00	12,471	11.62	5,398		
Feb	31.28	11.90	17,381	23.00	12,471	8.28	4,910		
Mar	33.12	11.44	16,331	23.00	12,471	10.12	3,860		
Apr	33.30	13.95	19,181	23.00	12,471	10.30	6,710		
May	34.75	15.56	20,490	23.00	12,471	11.75	8,019		
Jun	35.77	15.64	20,597	23.00	12,471	12.77	8,126		
Jul	32.67	13.58	18,593	23.00	12,471	9.67	6,122		
Aug	33.74	14.93	19,881	23.00	12,471	10.74	7,410		
Sep	35.55	14.93	20,496	23.00	12,471	12.55	8,026		
Oct	35.10	13.66	19,642	23.00	12,471	12.10	7,171		

POWER SUPPLY PROCUREMENT PLAN

Nov	35.44	14.78	20,497	23.00	12,471	12.44	8,026		
Dec	34.85	13.69	19,360	23.00	12,471	11.85	6,889		
2021									
Jan	35.84	13.82	19,102	23.00	12,471	12.84	6,631	3	1,825
Feb	32.38	13.03	18,580	23.00	12,471	9.38	6,110	3	1,825
Mar	34.29	12.52	17,458	23.00	12,471	11.29	4,987	3	1,825
Apr	34.47	15.27	20,505	23.00	12,471	11.47	8,034	3	1,825
May	35.98	17.03	21,904	23.00	12,471	12.98	9,433	3	1,825
Jun	37.03	17.12	22,019	23.00	12,471	14.03	9,548	3	1,825
Jul	33.82	14.87	19,876	23.00	12,471	10.82	7,405	3	1,825
Aug	34.93	16.34	21,253	23.00	12,471	11.93	8,782	3	1,825
Sep	36.81	16.34	21,911	23.00	12,471	13.81	9,440	3	1,825
Oct	36.34	14.95	20,997	23.00	12,471	13.34	8,526	3	1,825
Nov	36.69	16.18	21,912	23.00	12,471	13.69	9,441	3	1,825
Dec	36.08	14.99	20,696	23.00	12,471	13.08	8,225	3	1,825
2022									
Jan	37.00	15.19	20,280	23.00	12,471	14.00	7,809	3	1,825
Feb	33.43	14.32	19,726	23.00	12,471	10.43	7,255	3	1,825
Mar	35.40	13.76	18,534	23.00	12,471	12.40	6,063	3	1,825
Apr	35.59	16.78	21,769	23.00	12,471	12.59	9,298	3	1,825
May	37.15	18.72	23,254	23.00	12,471	14.15	10,783	3	1,825
Jun	38.23	18.81	23,376	23.00	12,471	15.23	10,905	3	1,825
Jul	34.92	16.34	21,101	23.00	12,471	11.92	8,630	3	1,825
Aug	36.07	17.96	22,563	23.00	12,471	13.07	10,092	3	1,825
Sep	38.00	17.96	23,262	23.00	12,471	15.00	10,791	3	1,825
Oct	37.52	16.43	22,292	23.00	12,471	14.52	9,821	3	1,825
Nov	37.88	17.78	23,262	23.00	12,471	14.88	10,791	3	1,825
Dec	37.25	16.47	21,972	23.00	12,471	14.25	9,501	3	1,825
2023									
Jan	38.11	16.74	21,398	23.00	12,471	15.11	8,927	3	1,825
Feb	34.44	15.79	20,814	23.00	12,471	11.44	8,343	3	1,825
Mar	36.47	15.17	19,556	23.00	12,471	13.47	7,085	3	1,825
Apr	36.66	18.50	22,969	23.00	12,471	13.66	10,498	3	1,825
May	38.26	20.64	24,537	23.00	12,471	15.26	12,066	3	1,825
Jun	39.38	20.74	24,665	23.00	12,471	16.38	12,194	3	1,825
Jul	35.97	18.01	22,265	23.00	12,471	12.97	9,794	3	1,825
Aug	37.15	19.80	23,808	23.00	12,471	14.15	11,337	3	1,825
Sep	39.14	19.80	24,545	23.00	12,471	16.14	12,074	3	1,825
Oct	38.65	18.12	23,521	23.00	12,471	15.65	11,050	3	1,825
Nov	39.02	19.60	24,545	23.00	12,471	16.02	12,074	3	1,825
Dec	38.37	18.16	23,184	23.00	12,471	15.37	10,713	3	1,825
2024									
Jan	39.18	18.51	22,456	19.00	12,045	20.18	10,411	14	4,137
Feb	35.40	17.45	21,843	19.00	12,045	16.40	9,798	14	4,137
Mar	37.48	16.77	20,523	19.00	12,045	18.48	8,478	14	4,137
Apr	37.68	20.45	24,105	19.00	12,045	18.68	12,060	14	4,137
May	39.33	22.81	25,750	19.00	12,045	20.33	13,705	14	4,137

POWER SUPPLY PROCUREMENT PLAN

Jun	40.48	22.93	25,885	19.00	12,045	21.48	13,840	14	4,137
Jul	36.97	19.91	23,366	19.00	12,045	17.97	11,321	14	4,137
Aug	38.19	21.88	24,984	19.00	12,045	19.19	12,939	14	4,137
Sep	40.24	21.88	25,758	19.00	12,045	21.24	13,713	14	4,137
Oct	39.73	20.03	24,684	19.00	12,045	20.73	12,639	14	4,137
Nov	40.11	21.67	25,759	19.00	12,045	21.11	13,714	14	4,137
Dec	39.44	20.07	24,330	19.00	12,045	20.44	12,285	14	4,137
2025									
Jan	40.20	20.50	23,453	19.00	12,045	21.20	11,408	14	4,137
Feb	36.32	19.33	22,813	19.00	12,045	17.32	10,768	14	4,137
Mar	38.46	18.57	21,434	19.00	12,045	19.46	9,389	14	4,137
Apr	38.67	22.65	25,175	19.00	12,045	19.67	13,130	14	4,137
May	40.35	25.26	26,893	19.00	12,045	21.35	14,848	14	4,137
Jun	41.53	25.39	27,034	19.00	12,045	22.53	14,989	14	4,137
Jul	37.94	22.05	24,403	19.00	12,045	18.94	12,358	14	4,137
Aug	39.18	24.24	26,094	19.00	12,045	20.18	14,049	14	4,137
Sep	41.28	24.24	26,902	19.00	12,045	22.28	14,857	14	4,137
Oct	40.76	22.18	25,780	19.00	12,045	21.76	13,735	14	4,137
Nov	41.15	24.00	26,902	19.00	12,045	22.15	14,857	14	4,137
Dec	40.47	22.23	25,410	19.00	12,045	21.47	13,365	14	4,137
2026									
Jan	41.18	22.73	24,390	19.00	12,045	22.18	12,345	14	4,137
Feb	37.21	21.43	23,724	19.00	12,045	18.21	11,679	14	4,137
Mar	39.40	20.60	22,291	19.00	12,045	20.40	10,246	14	4,137
Apr	39.61	25.12	26,181	19.00	12,045	20.61	14,136	14	4,137
May	41.34	28.01	27,967	19.00	12,045	22.34	15,922	14	4,137
Jun	42.55	28.16	28,114	19.00	12,045	23.55	16,069	14	4,137
Jul	38.86	24.46	25,378	19.00	12,045	19.86	13,333	14	4,137
Aug	40.14	26.88	27,136	19.00	12,045	21.14	15,091	14	4,137
Sep	42.29	26.88	27,976	19.00	12,045	23.29	15,931	14	4,137
Oct	41.75	24.59	26,810	19.00	12,045	22.75	14,765	14	4,137
Nov	42.16	26.61	27,977	19.00	12,045	23.16	15,932	14	4,137
Dec	41.46	24.65	26,425	19.00	12,045	22.46	14,380	14	4,137
2027									
Jan	42.12	25.22	25,268	19.00	12,045	23.12	13,223	17	5,962
Feb	38.06	23.78	24,577	19.00	12,045	19.06	12,532	17	5,962
Mar	40.30	22.86	23,093	19.00	12,045	21.30	11,048	17	5,962
Apr	40.52	27.87	27,123	19.00	12,045	21.52	15,078	17	5,962
May	42.29	31.09	28,974	19.00	12,045	23.29	16,929	17	5,962
Jun	43.52	31.25	29,125	19.00	12,045	24.52	17,080	17	5,962
Jul	39.75	27.14	26,291	19.00	12,045	20.75	14,246	17	5,962
Aug	41.06	29.82	28,113	19.00	12,045	22.06	16,068	17	5,962
Sep	43.26	29.82	28,983	19.00	12,045	24.26	16,938	17	5,962
Oct	42.71	27.29	27,774	19.00	12,045	23.71	15,729	17	5,962
Nov	43.12	29.53	28,984	19.00	12,045	24.12	16,939	17	5,962
Dec	42.41	27.36	27,376	19.00	12,045	23.41	15,331	17	5,962