

POWER SUPPLY PROCUREMENT PLAN

BOHOL LIGHT COMPANY, INC. **POWER SUPPLY PROCUREMENT PLAN**

In compliance with the Department of Energy's (DOE) Department Circular No. DC 2018-02-0003, "Adopting and Prescribing the Policy for the Competitive Selection Process in the Procurement by the Distribution Utilities of Power Supply Agreement for the Captive Market" or the Competitive Selection process (CSP) Policy, the Power Supply Procurement Plan (PSPP) Report is hereby created, pursuant to the Section 4 of the said Circular.

The PSPP refers to the DUs' plan for the acquisition of a variety of demand-side and supply-side resources to cost-effectively meet the electricity needs of its customers. The PSPP is an integral part of the Distribution Utilities' Distribution Development Plan (DDP) and must be submitted to the Department of Energy with supported Board Resolution and/or notarized Secretary's Certificate.

The Third-Party Bids and Awards Committee (TPBAC), Joint TPBAC or Third Party Auctioneer (TPA) shall submit to the DOE and in the case of Electric Cooperatives (ECs), through the National Electrification Administration (NEA) the following:

- a. Power Supply Procurement Plan;
- b. Distribution Impact Study/ Load Flow Analysis conducted that served as the basis of the Terms of Reference; and
- c. Due diligence report of the existing generation plant

All Distribution Utilities' shall follow and submit the attached report to the Department of Energy for posting on the DOE CSP Portal. For ECs such reports shall be submitted to DOE and NEA. The NEA shall review the submitted report within ten (10) working days upon receipt prior to its submission to DOE for posting at the DOE CSP Portal.

The content of the PSSP shall be consistent with the DDP. The tables and graph format to be use on the PSPP report is provided on the following sheets. Further, the PSPP shall contain the following sections:

- I. Table of Contents
- II. Introduction
- III. Energy and Demand Forecast (10 year historical and forecast)
- IV. Energy Sales and Purchase
- V. Daily Load Profile and Load Duration Curve
- VI. Existing Contracts & Existing GenCos due diligence report
- VII. Currently approved SAGR for Off-Grid ECs to be passed-on to consumers;
- VIII. DU's Current Supply and Demand
- IX. Distribution Impact Study
- X. Schedule of Power Supply Procurement
- XI. Timeline of the CSP

For inquiries, you may send it at doe.csp@gmail.com or you may contact us through telephone numbers (02) 840-2173 and (02) 479-2900 local 202.

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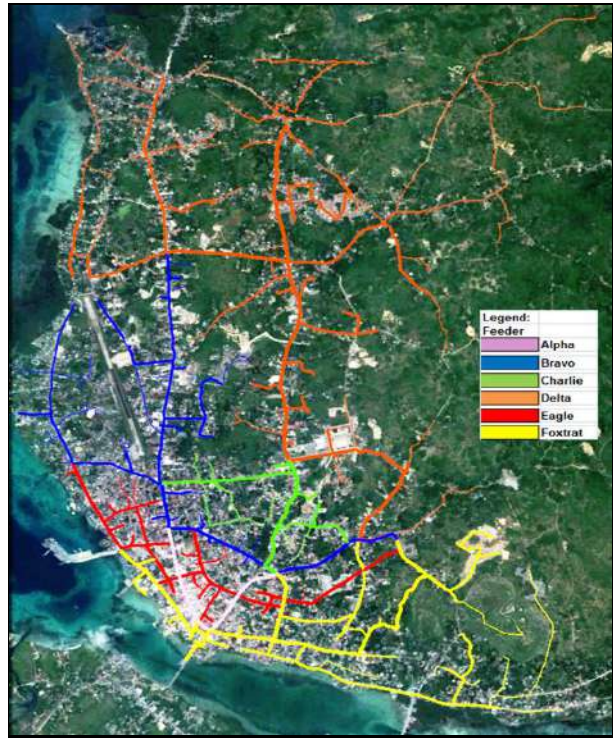
1. Introduction
2. Energy Sales and Purchase
3. Demand
4. LP and LC
5. Existing Power Supply Contracts
6. DIS
7. Schedule of CSP
8. ANNEX MONTHLY DATA

INTRODUCTION

DISTRIBUTION UTILITIES PROFILE

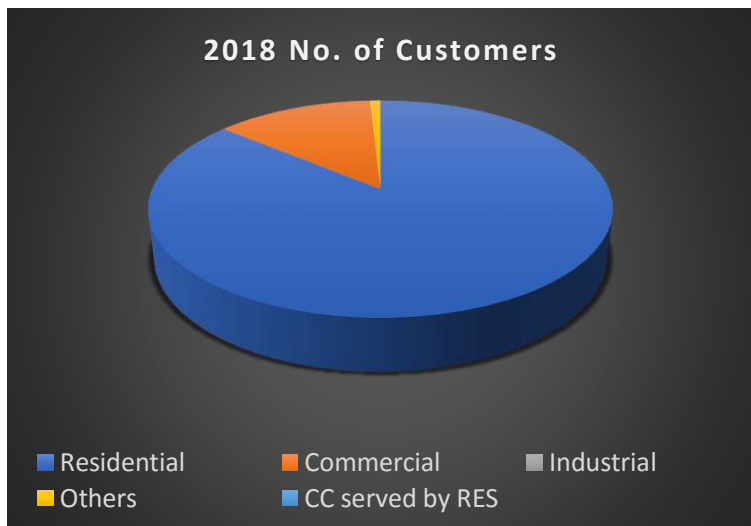
DU's Franchise MAP

BLCI which franchise area is Tagbilaran City only, has 20,819 total numbers of connected customers as of December 2017 wherein 86% are residential, 13% are commercial, 0.9% is government and 0.1% is hospitals/radio stations. Total sales as of December 2017 is 115,663,101 kwh and per customer class; residential 38%, commercial 52%, government 6% and hospitals radio stations 4%.



Number of Customer	ACTUAL	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Residential	18380	18601	18973	19353	19740	20135	20537	20948	21367	21794	22201
Commercial	2785.6	2813.5	2841.6	2870.1	2898.8	2927.8	2957.1	2986.7	3006.6	3046.8	3076.2
Industrial											
Others	184	185	187	189	190	192	194	196	197	199	199
CC served by	2	2	2	2	2	2	2	2	12	2	2
Total (Captive)	21351	21602	22004	22414	22831	23257	23690	24132	24583	25042	25478

The peak months of Tagbilaran City usually will occur from May to September and the highest of which was in August at 24.3MW, the fiesta month of Bohol which also falls on summer. The Off-peak months usually will occur from January to March with the lowest in February at 21.1MW. As of CY2017, BLCI's Energy Sales were the following: Residential – 43,690MWh; Commercial – 59,979MWh; Public Buildings & Street Lights – 6,842MWh and Hospital & Radio Stations – 4,976MWh.

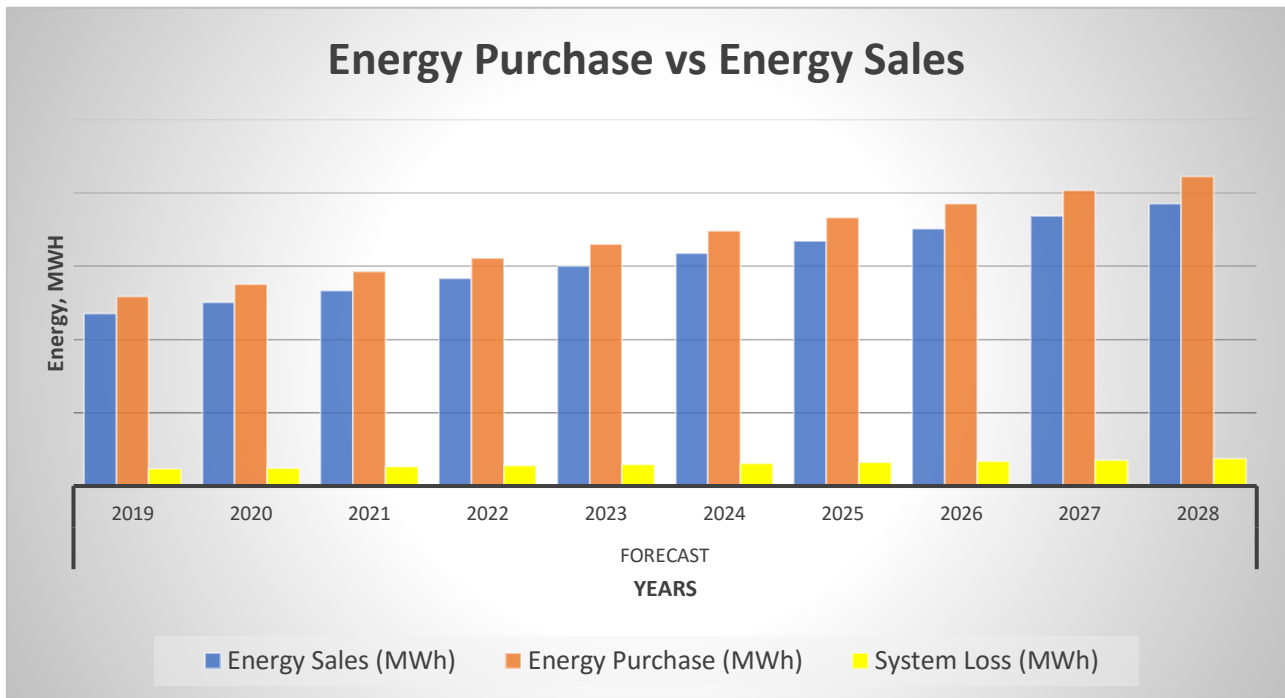


POWER SUPPLY PROCUREMENT PLAN

ENERGY SALES AND PURCHASE

ENERGY SALES AND PURCHASE	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Energy Sales (MWh)	88020	92825	95457	99605	95190	97148	104253	113728	116481	126843
Energy Purchase (MWh)	94822	99284	102582	106746	102862	105271	113323	123210	124977	136347
System Loss (MWh)	7574	7461	7125	7142	10081	8122	9070	9482	8496	9504

ENERGY SALES AND PURCHASE	FORECAST									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Energy Sales (MWh)	117591	125416	133524	141819	150231	158709	167213	175715	184192	192626
Energy Purchase (MWh)	129180	137726	146581	155641	164829	174090	183382	192671	201935	211155
System Loss (MWh)	11589	12310	13057	13822	14598	15381	16168	16956	17744	18529

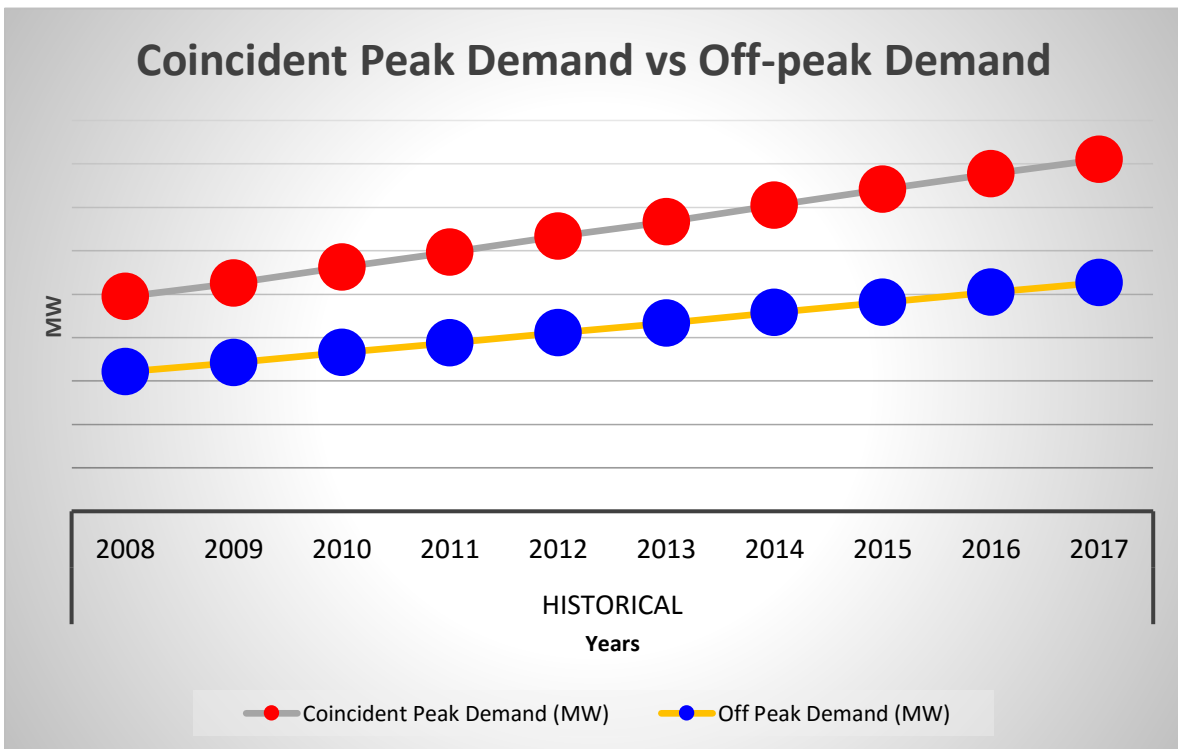


During 2009 and 2010, Company's own used (MWh) was part of the systems loss with the amount of 446 MWh and 170 MWh respectively.

DEMAND

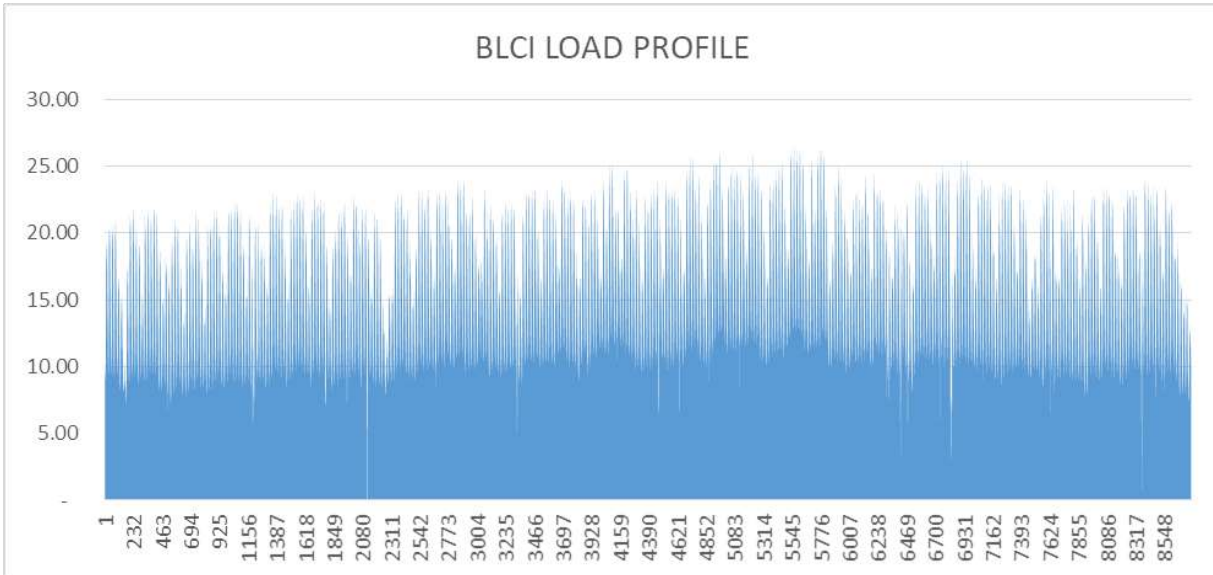
Demand	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Coincident Peak Demand (MW)	19.0	19.9	20.7	22.0	21.7	21.5	21.5	24.7	20.5	23.0
Off Peak Demand (MW)	12.4	12.9	13.5	14.3	14.1	14.0	14.0	16.1	13.3	15.0

Demand	HISTORICAL									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Coincident Peak Demand (MW)	24.71	26.29	28.09	29.85	31.64	33.33	35.24	37.04	38.84	40.5
Off Peak Demand (MW)	16.06	17.09	18.26	19.4	20.56	21.67	22.91	24.08	25.25	26.33

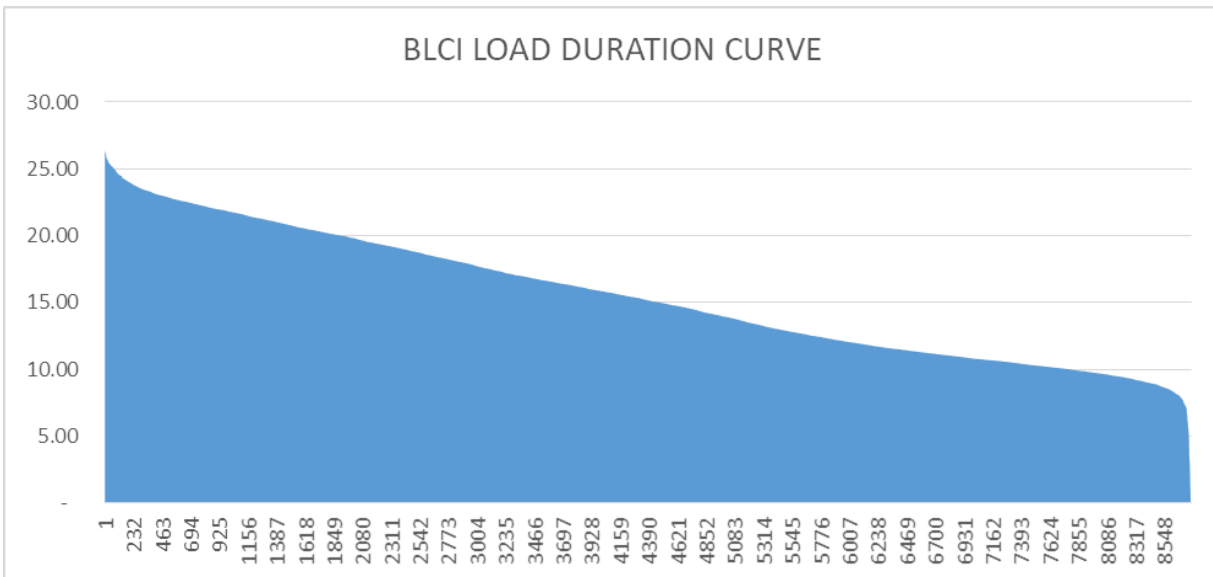


Forecast Methods: Multiple linear regression to compare more than one independent variable with one dependent variable with statistical/validity test.

LOAD PROFILE AND LOAD DURATION CURVE



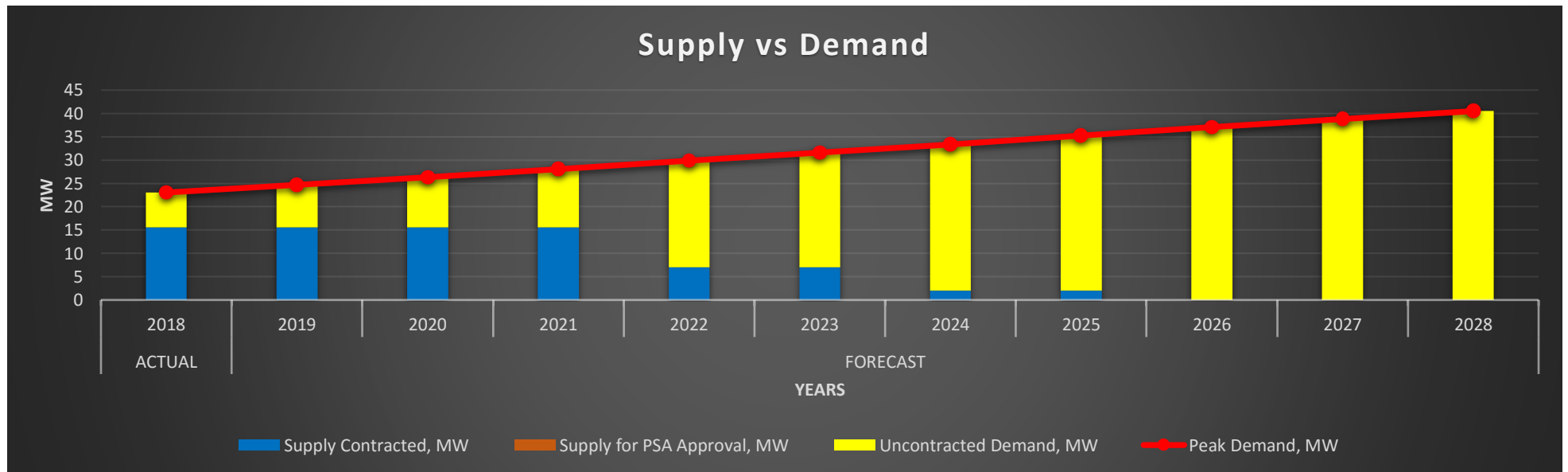
2018 BLCI Load Duration Curve (MW)



BASELOAD DEMAND : 77% AND PEAKING DEMAND 33%

MIXSUPPLY VS DEMAND AND THE OPTIMAL SUPPLY

Supply Demand	ACTUAL	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Peak Demand, MW	23.04	24.71	26.29	28.09	29.85	31.64	33.33	35.24	37.04	38.84	40.50
Supply Contracted, MW	15.6	15.6	15.6	15.6	7	7	2	2	0	0	0
KSPC	7	7	7	7	7	7	2	2			
ULGEI	8.6	8.6	8.6	8.6							
Supply for PSA Approval, MW	0	0	0	0	0	0	0	0	0	0	0
Generation Plant Name 1											
Generation Plant Name 2											
Generation Plant Name 3											
Uncontracted Demand, MW	7.44	9.11	10.69	12.49	22.85	24.64	31.33	33.24	37.04	38.84	40.50



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)
GenCo 1	KSPC	200	7/26/2013	8/25/2023	5	587971	BASE	Grid Connected	IPP	Normal	Coal	200	200
GenCo 2	KSPC	200	7/26/2015	8/25/2025	2		BASE	Grid Connected	IPP	Normal	Coal	200	200
GenCo 3	ULGEI	40	8/26/2015	12/25/2021	8.6	353858.4	BASE	Grid Connected	IPP	Normal	Geo therm	40	40
GenCo 4													
GenCo 5													

Discuss the following:
 Performance of the existing Contracted Generation Companies.
 For off-grid DUs specify the approved SAGR
 Further, discuss the **optimal supply mix** for the DU given the load curve, performance of the existing contracted generation companies and other factors as found significant

DISTRIBUTION IMPACT STUDY

BLCI distribution system are divided into six (6) main feeders namely; Feeder-A, Feeder-B, Feeder-C, Feeder-D, Feeder-E and Feeder-F. The feeder design carefully considers the load in the area, type of load, the criticality of load such as hospitals and government centers, the load center growth, coincident and non-coincident peak loads, flexibility of feeders and others to ensure the safety of the distribution system and the general public, reliability and efficiency at the least cost. BLCI substations are located in Barangay Dampas and Barangay Poblacion 3 all in Tagbilaran City. This two substation locations provides a total Capacity of 35MVA. The Dampas Substation has a total capacity of 25MVA composed of 2x10MVA and 1x5MVA Power Transformer whiles the Poblacion 3 Substation has a 10MVA Power Transformer installed. At Present the 5MVA Power Transformer at Dampas Substation is temporarily on shutdown due higher technical loss. BLCI recognized that to address the growing future demand of the distribution system, power from the 4th 10MVA Substation Project should be transmitted safely to the load centers of the distribution system. Hence, it would be necessary to implement Extension and Upgrading of new backbone lines on schedule as proposed in the CAPEX Projects CY2018 & 2019.

POWER SUPPLY PROCUREMENT PLAN

10 Year Monthly Data

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coincident Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirement (MWh)	Demand (MW)	Energy (MWh)	Uncontracted Demand (MW)	Uncontracted Energy (MWh)	Demand (MW)	Energy (MWh)
2019									
Jan	21.50	13.98	8,933.09	15.60	9,687	5.90	(754)		
Feb	21.13	13.73	9,226.81	15.60	9,687	5.53	(460)		
Mar	21.91	14.24	8,667.05	15.60	8,749	6.31	(82)		
Apr	22.96	14.93	9,695.28	15.60	9,687	7.36	8		
May	24.27	15.78	10,047.84	15.60	9,374	8.67	673		
Jun	24.18	15.72	10,420.99	15.60	9,687	8.58	734		
Jul	23.72	15.42	10,439.30	15.60	9,374	8.12	1,065		
Aug	24.71	16.06	11,224.68	15.60	9,687	9.11	1,538		
Sep	24.36	15.84	9,948.58	15.60	9,687	8.76	262		
Oct	24.16	15.70	10,021.13	15.60	9,374	8.56	647		
Nov	23.20	15.08	9,541.74	15.60	9,687	7.60	(145)		
Dec	23.83	15.49	9,424.52	15.60	9,374	8.23	50		
2020									
Jan	22.88	14.87	9,527.51	15.60	9,687	7.28	(159)		
Feb	22.48	14.61	9,840.77	15.60	9,687	6.88	154		
Mar	23.31	15.15	9,243.77	15.60	9,062	7.71	182		
Apr	24.43	15.88	10,340.42	15.60	9,687	8.83	654		
May	25.82	16.79	10,716.43	15.60	9,374	10.22	1,342		
Jun	25.72	16.72	11,114.41	15.60	9,687	10.12	1,428		
Jul	25.23	16.40	11,133.94	15.60	9,374	9.63	1,760		
Aug	26.29	17.09	11,971.58	15.60	9,687	10.69	2,285		
Sep	25.92	16.85	10,610.57	15.60	9,687	10.32	924		
Oct	25.70	16.71	10,687.94	15.60	9,374	10.10	1,314		
Nov	24.68	16.04	10,176.66	15.60	9,687	9.08	490		
Dec	25.35	16.48	10,051.64	15.60	9,374	9.75	677		
2021									
Jan	24.45	15.89	10,143.46	15.60	9,687	8.85	457		
Feb	24.02	15.61	10,476.98	15.60	9,687	8.42	790		
Mar	24.91	16.19	9,841.37	15.60	8,749	9.31	1,092		
Apr	26.11	16.97	11,008.92	15.60	9,687	10.51	1,322		
May	27.60	17.94	11,409.24	15.60	9,374	12.00	2,035		
Jun	27.49	17.87	11,832.95	15.60	9,687	11.89	2,146		
Jul	26.96	17.53	11,853.75	15.60	9,374	11.36	2,479		
Aug	28.09	18.26	12,745.54	15.60	9,687	12.49	3,059		
Sep	27.70	18.00	11,296.54	15.60	9,687	12.10	1,610		
Oct	27.47	17.85	11,378.92	15.60	9,374	11.87	2,005		
Nov	26.37	17.14	10,834.58	15.60	9,687	10.77	1,148		
Dec	27.09	17.61	10,701.48	15.60	9,374	11.49	1,327		
2022									
Jan	25.98	16.89	10,773.63	7.00	5,208	18.98	5,566	10.00	5,208

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Feb	25.53	16.59	11,127.87	7.00	5,208	18.53	5,920	10.00	5,208
Mar	26.47	17.21	10,452.78	7.00	4,704	19.47	5,749	10.00	4,704
Apr	27.74	18.03	11,692.86	7.00	5,208	20.74	6,485	10.00	5,208
May	29.33	19.06	12,118.05	7.00	5,040	22.33	7,078	10.00	5,040
Jun	29.21	18.99	12,568.08	7.00	5,208	22.21	7,360	10.00	5,208
Jul	28.65	18.63	12,590.17	7.00	5,040	21.65	7,550	10.00	5,040
Aug	29.85	19.40	13,537.37	7.00	5,208	22.85	8,329	10.00	5,208
Sep	29.43	19.13	11,998.35	7.00	5,208	22.43	6,790	10.00	5,208
Oct	29.19	18.97	12,085.84	7.00	5,040	22.19	7,046	10.00	5,040
Nov	28.03	18.22	11,507.68	7.00	5,208	21.03	6,300	10.00	5,208
Dec	28.79	18.71	11,366.32	7.00	5,040	21.79	6,326	10.00	5,040
2023									
Jan	27.53	17.90	11,412.70	7.00	5,208	20.53	6,205	10.00	5,208
Feb	27.05	17.58	11,787.95	7.00	5,208	20.05	6,580	10.00	5,208
Mar	28.06	18.24	11,072.81	7.00	4,704	21.06	6,369	10.00	4,704
Apr	29.40	19.11	12,386.45	7.00	5,208	22.40	7,178	10.00	5,208
May	31.08	20.20	12,836.86	7.00	5,040	24.08	7,797	10.00	5,040
Jun	30.96	20.12	13,313.59	7.00	5,208	23.96	8,106	10.00	5,208
Jul	30.37	19.74	13,336.99	7.00	5,040	23.37	8,297	10.00	5,040
Aug	31.64	20.56	14,340.37	7.00	5,208	24.64	9,132	10.00	5,208
Sep	31.19	20.27	12,710.06	2.00	1,488	29.19	11,222	12.00	6,250
Oct	30.93	20.11	12,802.74	2.00	1,440	28.93	11,363	12.00	6,048
Nov	29.70	19.31	12,190.29	2.00	1,488	27.70	10,702	12.00	6,250
Dec	30.51	19.83	12,040.54	2.00	1,440	28.51	10,601	12.00	6,048
2024									
Jan	29.01	18.85	12,056.73	2.00	1,488	27.01	10,569	24.00	12,499
Feb	28.50	18.53	12,453.15	2.00	1,488	26.50	10,965	24.00	12,499
Mar	29.56	19.21	11,697.66	2.00	1,392	27.56	10,306	24.00	11,693
Apr	30.98	20.13	13,085.43	2.00	1,488	28.98	11,597	24.00	12,499
May	32.74	21.28	13,561.26	2.00	1,440	30.74	12,121	24.00	12,096
Jun	32.62	21.20	14,064.89	2.00	1,488	30.62	12,577	24.00	12,499
Jul	31.99	20.80	14,089.61	2.00	1,440	29.99	12,650	24.00	12,096
Aug	33.33	21.67	15,149.62	2.00	1,488	31.33	13,662	24.00	12,499
Sep	32.86	21.36	13,427.30	2.00	1,488	30.86	11,939	24.00	12,499
Oct	32.59	21.18	13,525.21	2.00	1,440	30.59	12,085	24.00	12,096
Nov	31.29	20.34	12,878.20	2.00	1,488	29.29	11,390	24.00	12,499
Dec	32.15	20.89	12,720.00	2.00	1,440	30.15	11,280	24.00	12,096
2025									
Jan	30.67	19.93	12,702.78	2.00	1,488	28.67	11,215	24.00	12,499
Feb	30.13	19.59	13,120.44	2.00	1,488	28.13	11,632	24.00	12,499
Mar	31.25	20.31	12,324.47	2.00	1,344	29.25	10,980	24.00	11,290
Apr	32.75	21.29	13,786.61	2.00	1,488	30.75	12,299	24.00	12,499
May	34.62	22.50	14,287.93	2.00	1,440	32.62	12,848	24.00	12,096
Jun	34.48	22.41	14,818.55	2.00	1,488	32.48	13,331	24.00	12,499
Jul	33.83	21.99	14,844.59	2.00	1,440	31.83	13,405	24.00	12,096
Aug	35.24	22.91	15,961.40	2.00	1,488	33.24	14,473	24.00	12,499
Sep	34.74	22.58	14,146.80			34.74	14,147	24.00	12,499
Oct	34.46	22.40	14,249.95			34.46	14,250	24.00	12,096
Nov	33.08	21.51	13,568.27			33.08	13,568	24.00	12,499
Dec	33.98	22.09	13,401.59			33.98	13,402	24.00	12,096

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2026									
Jan	32.24	20.95	13,348.63			32.24	13,349	24.00	12,499
Feb	31.67	20.59	13,787.53			31.67	13,788	24.00	12,499
Mar	32.85	21.35	12,951.09			32.85	12,951	24.00	11,290
Apr	34.42	22.38	14,487.56			34.42	14,488	24.00	12,499
May	36.39	23.65	15,014.38			36.39	15,014	24.00	12,096
Jun	36.25	23.56	15,571.97			36.25	15,572	24.00	12,499
Jul	35.56	23.11	15,599.34			35.56	15,599	24.00	12,096
Aug	37.04	24.08	16,772.93			37.04	16,773	24.00	12,499
Sep	36.52	23.74	14,866.06			36.52	14,866	24.00	12,499
Oct	36.22	23.54	14,974.47			36.22	14,974	24.00	12,096
Nov	34.78	22.61	14,258.12			34.78	14,258	24.00	12,499
Dec	35.72	23.22	14,082.97			35.72	14,083	24.00	12,096
2027									
Jan	33.80	21.97	13,992.59			33.80	13,993	25.00	13,020
Feb	33.21	21.59	14,452.66			33.21	14,453	25.00	13,020
Mar	34.44	22.39	13,575.86			34.44	13,576	25.00	11,760
Apr	36.09	23.46	15,186.46			36.09	15,186	25.00	13,020
May	38.15	24.80	15,738.69			38.15	15,739	25.00	12,600
Jun	38.01	24.70	16,323.18			38.01	16,323	25.00	13,020
Jul	37.28	24.23	16,351.87			37.28	16,352	25.00	12,600
Aug	38.84	25.25	17,582.07			38.84	17,582	25.00	13,020
Sep	38.29	24.89	15,583.22			38.29	15,583	25.00	13,020
Oct	37.97	24.68	15,696.86			37.97	15,697	25.00	12,600
Nov	36.46	23.70	14,945.95			36.46	14,946	25.00	13,020
Dec	37.46	24.35	14,762.35			37.46	14,762	25.00	12,600
2028									
Jan	35.25	22.91	14,633.35			35.25	14,633	25.00	13,020
Feb	34.63	22.51	15,114.49			34.63	15,114	25.00	13,020
Mar	35.92	23.35	14,197.54			35.92	14,198	25.00	12,180
Apr	37.64	24.47	15,881.89			37.64	15,882	25.00	13,020
May	39.79	25.86	16,459.41			39.79	16,459	25.00	12,600
Jun	39.63	25.76	17,070.67			39.63	17,071	25.00	13,020
Jul	38.88	25.27	17,100.67			38.88	17,101	25.00	12,600
Aug	40.50	26.33	18,387.21			40.50	18,387	25.00	13,020
Sep	39.93	25.96	16,296.82			39.93	16,297	25.00	13,020
Oct	39.60	25.74	16,415.66			39.60	16,416	25.00	12,600
Nov	38.03	24.72	15,630.37			38.03	15,630	25.00	13,020
Dec	39.06	25.39	15,438.36			39.06	15,438	25.00	12,600