



**CAGELCO II**

**Cagayan II Electric Cooperative, Inc.  
Power Supply Procurement Plan  
For year 2019-2028**

**October 28, 2019**

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## INTRODUCTION

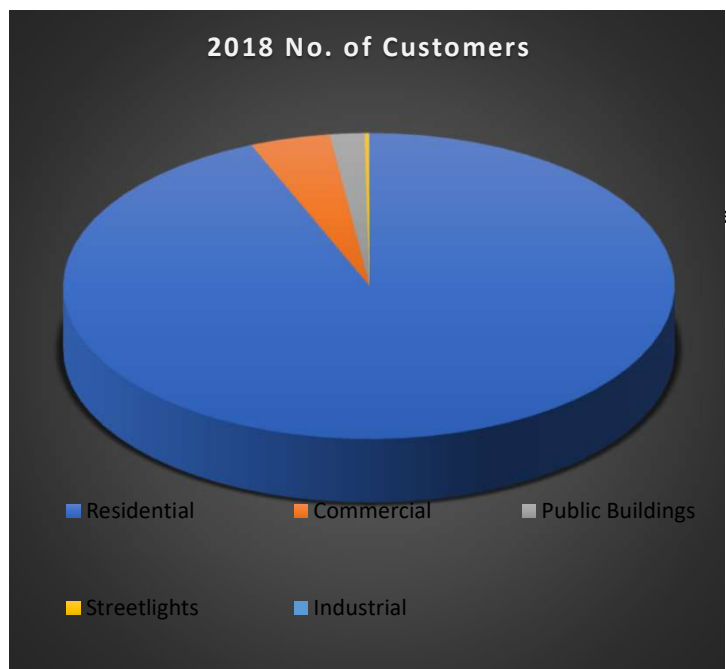
### DISTRIBUTION UTILITY PROFILE

CAGELCO II's franchise area covers twenty (20) municipalities (16 towns- Cagayan and 4 towns - Apayao) with 100% energized barangays namely: Abulug, Allacapan, Aparri, Ballesteros, Buguey, Camalaniugan, Claveria, Gattaran, Gonzaga, Lal-lo, Lasam, Pamplona, Sanchez Mira, Sta. Ana, Sta. Praxedes and Sta. Teresita for Cagayan and Flora, Sta. Marcela, Luna and Pudtol for Apayao.



Number of Customer Connections	ACTUAL	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Residential	114,366	119,340	123,645	127,951	132,257	136,562	140,868	145,174	149,479	153,785	158,091
Commercial	5,179	5,404	5,599	5,794	5,989	6,184	6,379	6,574	6,769	6,964	7,159
Public Buildings	2,213	2,309	2,393	2,476	2,559	2,643	2,726	2,809	2,892	2,976	3,059
Streetlights	288	301	311	322	333	344	355	366	376	387	398
Industrial	32	33	35	36	37	38	39	41	42	43	44
Contestable Customers served by RES	-	-	-	-	-	-	-	-	-	-	-
Total (Captive Customers)	122,078	127,387	131,983	136,579	141,175	145,771	150,367	154,963	159,559	164,155	168,752

The 2019 supply of electric power will be primarily sourced from GN Power Mariveles Coal Plant that commenced last December 26, 2014 with a contracted capacity of 20 MW for 15 years. A minimum of 10% of total energy requirement will be drawn from WESM. On the demand side, a spot load of 6MW load of DataJ Aquafarm is expected to be connected from 2019. The revitalized economic activity in the CEZA Area is also expected to contribute to the demand requirement of the Cooperative. Hence, the Cooperative needs to source out an additional 10MW for April 2020-December 2022 (short-term) and 15MW for January 2022-December 2037 (long-term) through Competitive Selection Process (CSP). The 15MW will be segregated into two: 10MW for supply requirement from conventional sources while the 5MW will be for RPS Compliance from Renewable Sources.

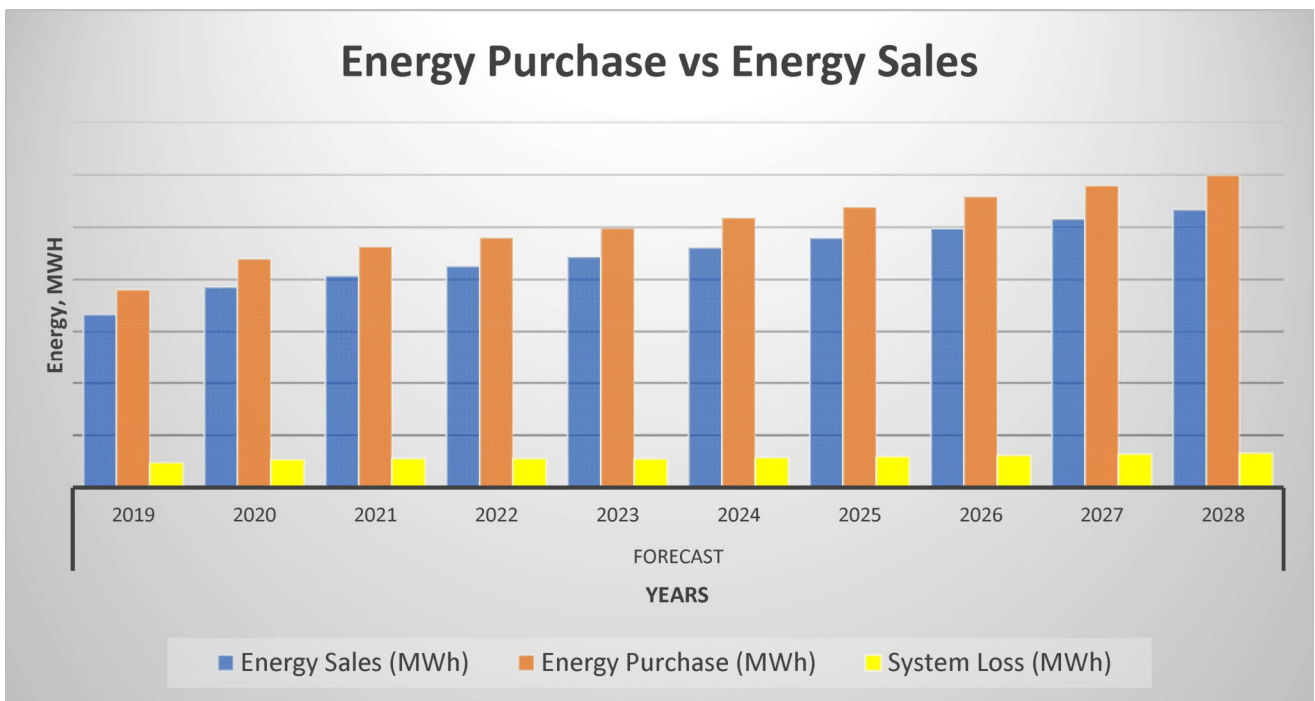


POWER SUPPLY PROCUREMENT PLAN

**ENERGY SALES AND PURCHASE**

ENERGY SALES AND PURCHASE	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Energy Sales (MWh)	72466.47	84153.3	90909.74	102972.5	107102.5	106424.3	116466.9	126453.9	136725.7	140067.8
Energy Purchase (MWh)	84798.73	97402.77	105758.2	119398.1	123759.4	122788.8	134567.3	146115.8	157134	158885.5
System Loss (MWh)	12083.7	13041	14436.5	16183.8	16359.9	16364.4	18100.1	19662.2	20408.4	18817.6

ENERGY SALES AND PURCHASE	FORECAST									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Energy Sales (MWh)	166403.8	192561.8	203378.4	212323.3	221309.8	230328.3	239371.9	248435.7	257515.8	266609.4
Energy Purchase (MWh)	190175.8	219443.6	231111.8	239913.3	248662.7	258795.8	268957.2	279141.3	289343.6	299561.1
System Loss (MWh)	23771.98	26881.84	27733.42	27590.03	27352.9	28467.54	29585.3	30705.54	31827.8	32951.72



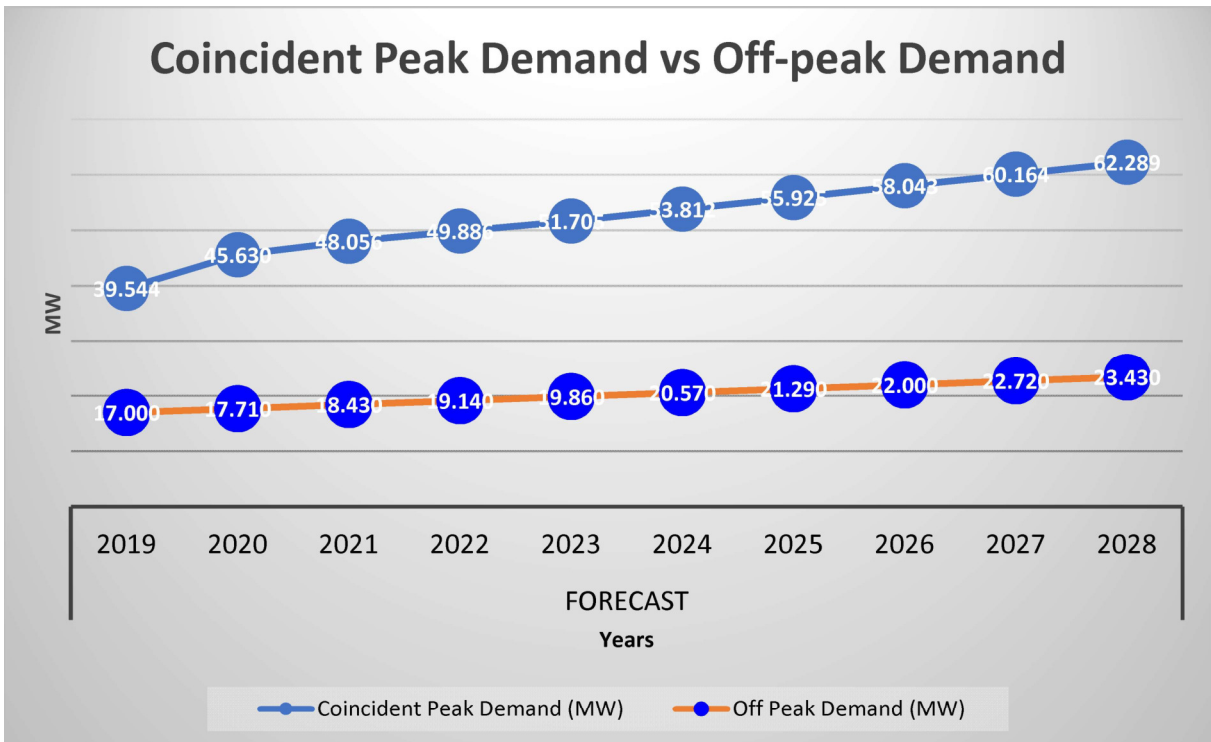
The 10 yrs Historical Data for Energy Purchase and Energy Sales has an AAGR of 7.66% and 7.82% respectively. This was due to rise of establishment in Aparri, Cagayan, industrial loads in Sta. Teresita and Gonzaga; and the revitalized economic activity in CEZA Area in Sta. Ana, Cagayan.

The 10 yrs. Projected Energy Purchase and Energy Sales with an AAGR of 4.9% and 5.1% respectively. This is due to the projected spot loads of DATAJ Aqua Farm, City Mall and Puregold are expected to be connected by year 2020.

## DEMAND

Demand	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Coincident Peak Demand (MW)	22.810	20.430	24.130	23.980	28.320	25.586	29.255	32.221	32.886	33.865
Off Peak Demand (MW)			11.010	12.370	13.180	12.470	13.600	15.030	15.930	16.360

Demand	FORECAST									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Coincident Peak Demand (MW)	39.544	45.630	48.056	49.886	51.705	53.812	55.925	58.043	60.164	62.289
Off Peak Demand (MW)	17.000	17.710	18.430	19.140	19.860	20.570	21.290	22.000	22.720	23.430



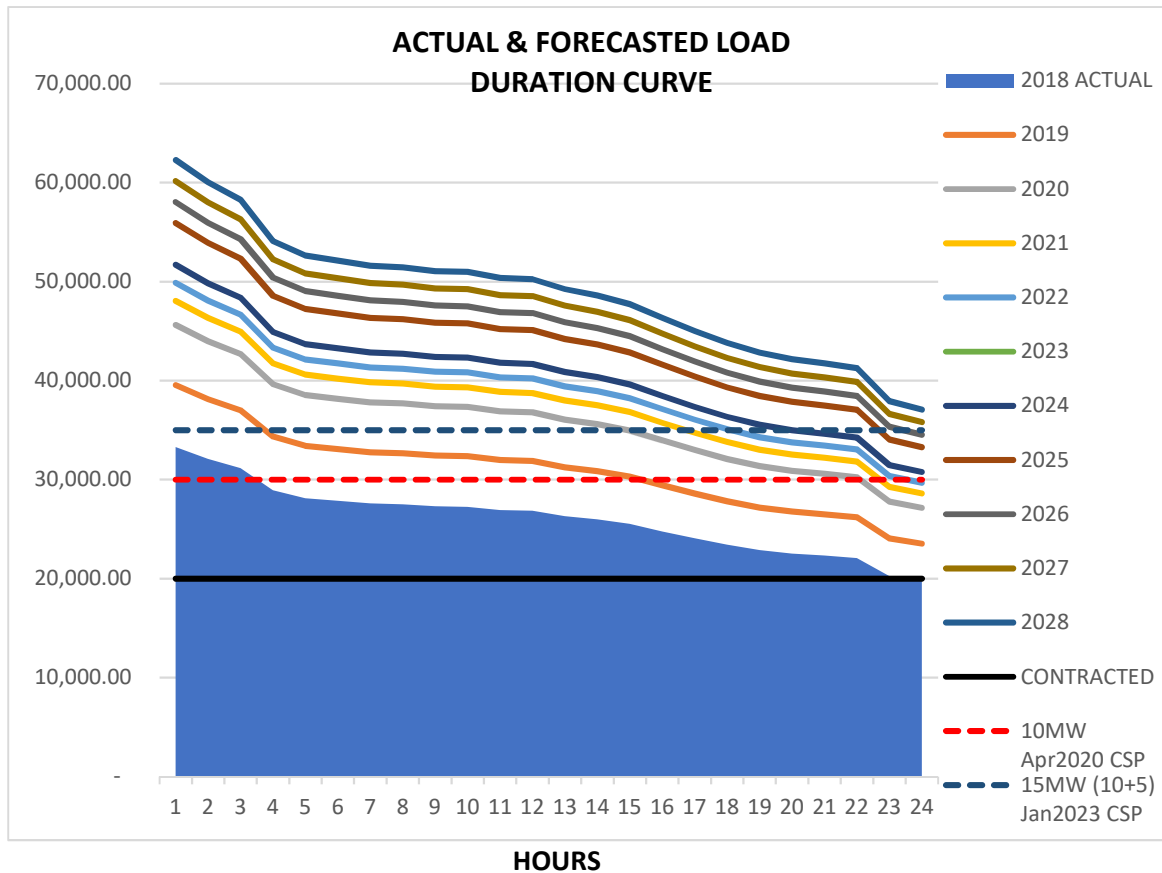
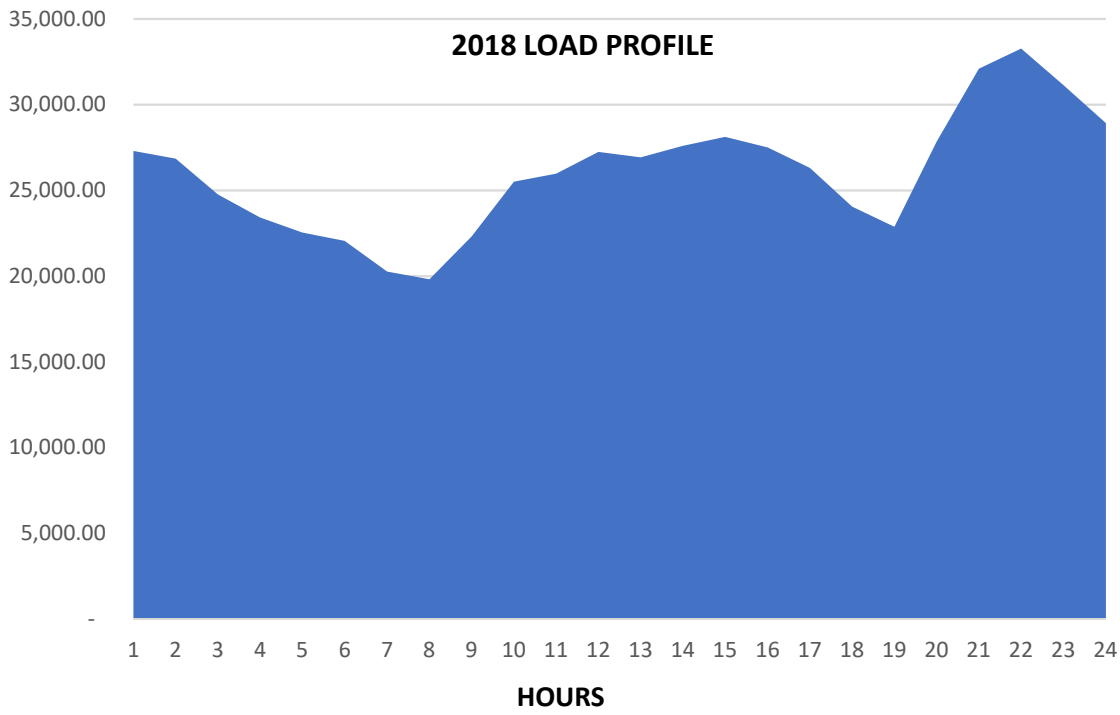
The regression models are evaluated thru several statistical tests. The statistical test includes Multiple R statistic and R2 on which values near 1 indicates good fit, Adjusted R on which values greater than 0.8 also indicates a good fit. Statistical test for regression coefficient includes the t-statistic on which values greater than 2 or less than -2 is acceptable, P-Value less than 0.1 indicates a significant regressor. MAPE= ±3%.

Regression model is represented by  $S = 9,194.52t + 27,458.86t^{-1} + 74,094.08$  with a forecasting error of **0.92%** (ERC-accepted) with an average annual growth of **3.80%** as shown.

The kilowatt demand was computed by dividing the forecasted energy with 8,760 hours and the load factor of 0.60.

The regression model for the Total Number of Customer forecast is represented by  $C = 4,596.07t + 90,618.29$  with a forecasting error of **0.35%** and an average annual growth of **3.37%**.

## LOAD PROFILE AND LOAD DURATION CURVE



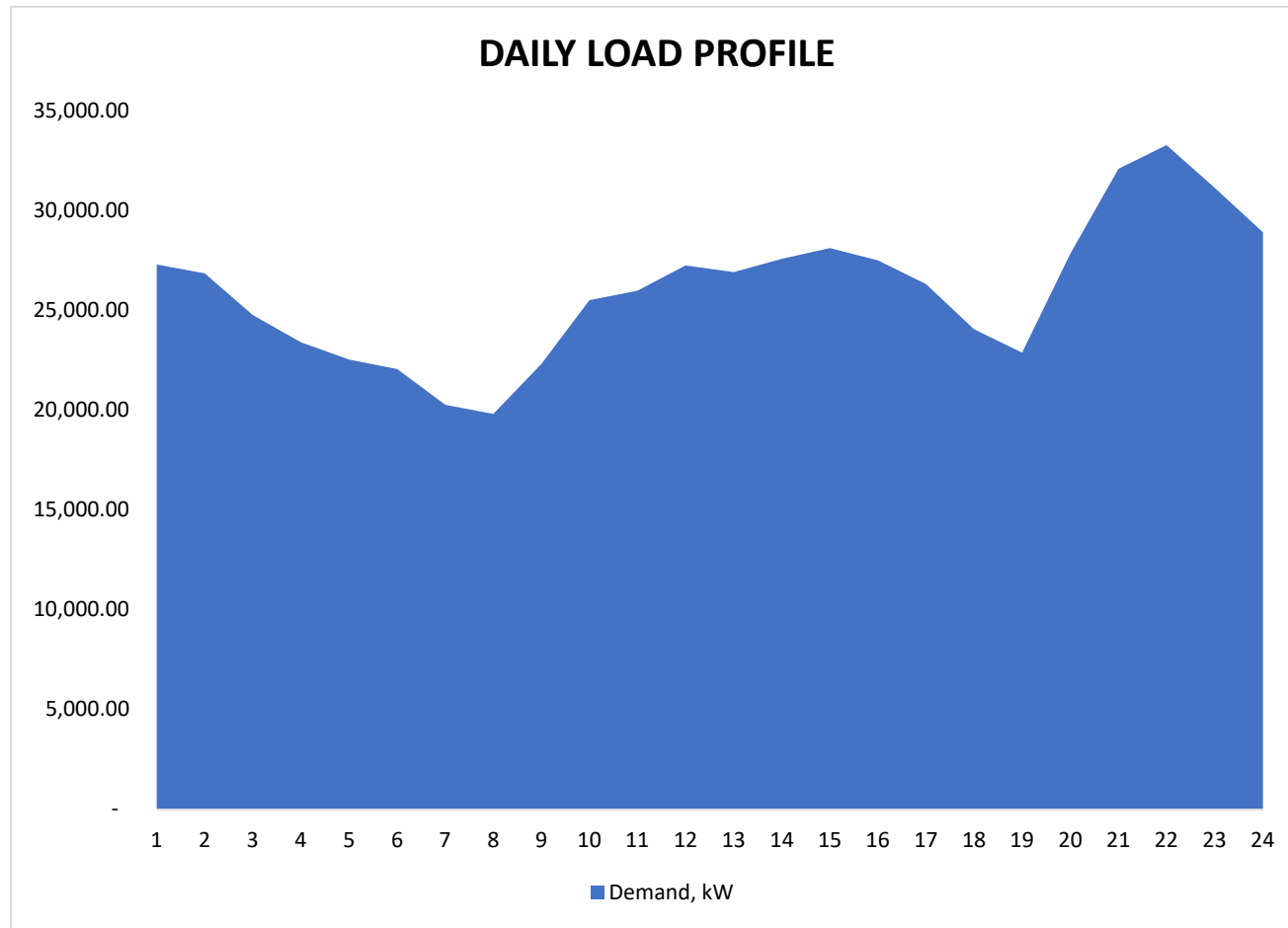
**NOTES:**

- 1 An interim requirement of ten (10) MW will be procured for a period of two (2) years thru Competitive Selection Process (CSP) this year 2019 for additional base load starting March 26, 2020. The peaking requirements will be covered by WESM.
- 2 Fifteen (15) MW will also be for CSP this year for a period of fifteen (15) years to commence on December 26, 2022. The 10MW will be from conventional sources while the 5MW will be from renewable sources for RPS Compliance.

**CAGAYAN II ELECTRIC COOPERATIVE, INC.**  
Aparri, Cagayan

**2018 DAILY LOAD PROFILE**

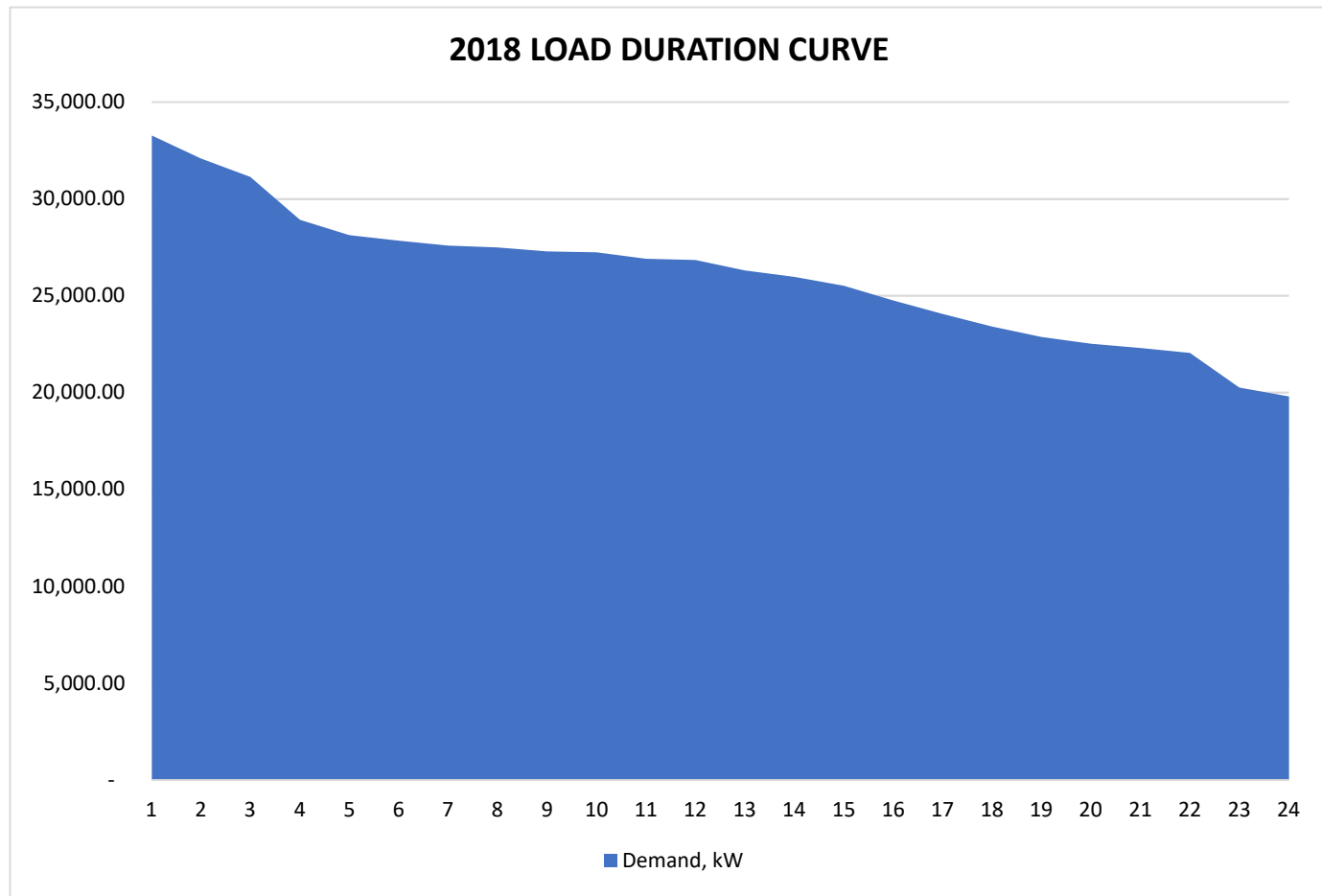
Hour	Demand, kW
1	27,287.82
2	26,841.50
3	24,759.42
4	23,404.08
5	22,528.38
6	22,050.00
7	20,261.78
8	19,805.38
9	22,304.10
10	25,504.78
11	25,973.78
12	27,245.12
13	26,912.06
14	27,581.82
15	28,120.54
16	27,492.92
17	26,306.28
18	24,050.60
19	22,875.58
20	27,842.64
21	32,085.06
22	33,281.50
23	31,133.20
24	28,911.96



**CAGAYAN II ELECTRIC COOPERATIVE, INC.**  
Aparri, Cagayan

**2018 LOAD DURATION CURVE**

Hour	Demand, kW
1	33,281.50
2	32,085.06
3	31,133.20
4	28,911.96
5	28,120.54
6	27,842.64
7	27,581.82
8	27,492.92
9	27,287.82
10	27,245.12
11	26,912.06
12	26,841.50
13	26,306.28
14	25,973.78
15	25,504.78
16	24,759.42
17	24,050.60
18	23,404.08
19	22,875.58
20	22,528.38
21	22,304.10
22	22,050.00
23	20,261.78
24	19,805.38

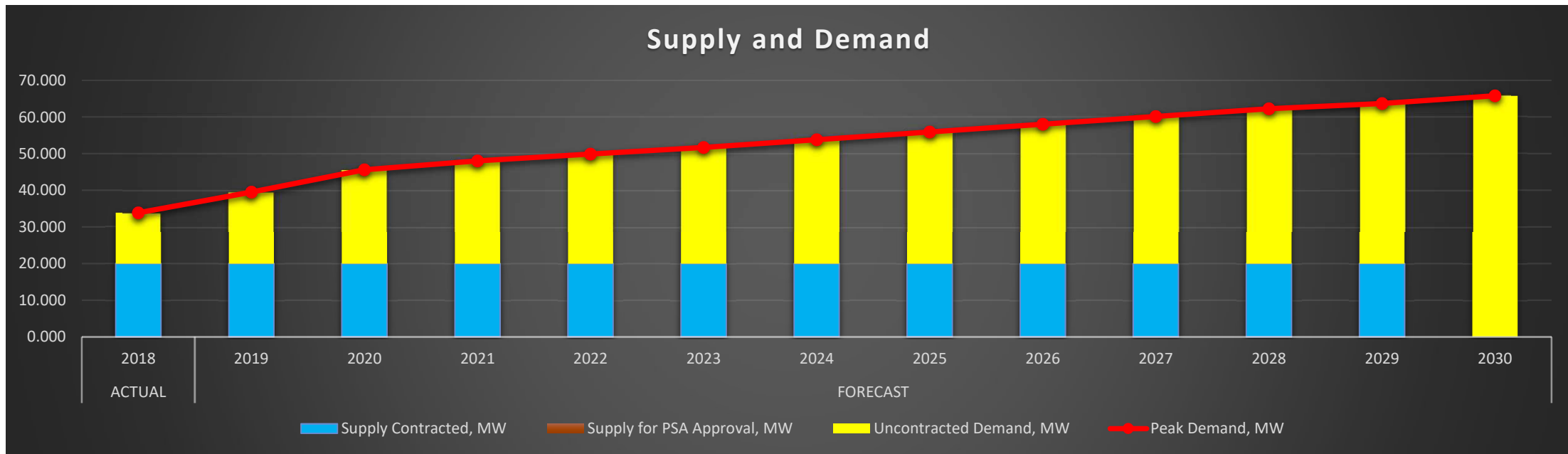




POWER SUPPLY PROCUREMENT PLAN

**MIX SUPPLY VS DEMAND AND THE OPTIMAL SUPPLY**

Supply Demand	ACTUAL	FORECAST											
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Peak Demand, MW	33.865	39.544	45.630	48.056	49.886	51.705	53.812	55.925	58.043	60.164	62.289	63.700	65.806
Supply Contracted, MW	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	0.000
GN Power Mariveles	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	
Generation Plant Name 2													
Generation Plant Name 3													
Supply for PSA Approval, MW	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Generation Plant Name 1													
Generation Plant Name 2													
Generation Plant Name 3													
Uncontracted Demand, MW	13.865	19.544	25.630	28.056	29.886	31.705	33.812	35.925	38.043	40.164	42.289	43.700	65.806





## DISTRIBUTION IMPACT STUDY

To serve the member-consumer-owners (MCOs) within quality performance standards, CAGELCO II maintains eight (8) substations serving the MCOs in 16 Municipalities of Northern Cgayan and 4 Municipalities of Lower Apayao. The power requirement of CAGELCO II is being supplied through the 69-KV Tuguegarao – Magapit sub-transmission line of National Grid Corporation of the Philippines (NGCP).

The forecasted Demand in MW and percent loading per substation is shown in table below.

FORECASTED DEMAND (MW) 2019-2033																		
Year	10MVA LUCBAN SS		5MVA SANCHEZ MIRA SS		10MVA MAGAPIT SS		5MVA CEZA SS		10MVA TANGATAN SS		10MVA BANTAY SS		15MVA MISSION SS		5MVA ZITANGA SS		70MVA TOTAL SYSTEM	
	DEMAND, MW	LOADING, %	DEMAND, MW	LOADING, %	DEMAND, MW	LOADING, %	DEMAND, MW	LOADING, %	DEMAND, MW	LOADING, %	DEMAND, MW	LOADING, %	DEMAND, MW	LOADING, %	DEMAND, MW	LOADING, %	DEMAND, MW	LOADING, %
2019	5.55	44.40%	3.89	62.30%	9.29	74.30%	0.903	14.45%	3.97	31.79%	5.78	46.23%	6.96	37.12%	3.20	51.16%	39.54	45.19%
2020	5.92	47.35%	4.15	66.43%	9.84	78.71%	0.963	15.41%	4.24	33.89%	8.96	71.70%	8.15	43.46%	3.41	54.56%	45.63	52.15%
2021	6.22	49.79%	4.37	69.85%	10.29	82.36%	1.012	16.20%	4.45	35.64%	9.28	74.24%	8.84	47.15%	3.59	57.36%	48.06	54.92%
2022	6.50	52.04%	4.56	73.01%	10.72	85.72%	1.058	16.93%	4.66	37.25%	9.57	76.58%	9.07	48.37%	3.75	59.96%	49.89	57.01%
2023	6.78	54.27%	4.76	76.15%	11.13	89.07%	1.104	17.66%	4.86	38.85%	9.86	78.91%	9.30	49.58%	3.91	62.53%	51.71	59.09%
2024	7.11	56.86%	4.99	79.78%	11.62	92.95%	1.156	18.50%	5.09	40.70%	10.20	81.61%	9.56	50.98%	4.09	65.52%	53.81	61.50%
2025	7.43	59.46%	5.21	83.42%	12.10	96.84%	1.209	19.35%	5.32	42.56%	10.54	84.31%	9.82	52.39%	4.28	68.51%	55.93	63.91%
2026	7.76	62.06%	5.44	87.08%	12.59	100.73%	1.262	20.19%	5.55	44.43%	10.88	87.02%	10.09	53.80%	4.47	71.51%	58.04	66.33%
2027	8.08	64.67%	5.67	90.74%	13.08	104.64%	1.315	21.04%	5.79	46.29%	11.22	89.74%	10.35	55.22%	4.66	74.52%	60.16	68.76%
2028	8.41	67.28%	5.90	94.40%	13.57	108.55%	1.368	21.89%	6.02	48.16%	11.56	92.46%	10.62	56.64%	4.85	77.53%	62.29	71.19%
2029	8.63	69.02%	6.05	96.83%	13.89	111.14%	1.404	22.46%	6.18	49.41%	11.78	94.26%	10.80	57.58%	4.97	79.52%	63.70	72.80%
2030	8.95	71.61%	6.28	100.47%	14.38	115.02%	1.456	23.30%	6.41	51.26%	12.12	96.96%	11.06	58.98%	5.16	82.51%	65.81	75.21%
2031	9.27	74.20%	6.51	104.10%	14.86	118.89%	1.509	24.14%	6.64	53.11%	12.46	99.65%	11.32	60.38%	5.34	85.49%	67.91	77.61%
2032	9.60	76.79%	6.73	107.74%	15.35	122.78%	1.562	24.99%	6.87	54.97%	12.79	102.36%	11.59	61.79%	5.53	88.48%	70.02	80.03%
2033	9.92	79.39%	6.96	111.38%	15.83	126.66%	1.614	25.83%	7.10	56.83%	13.13	105.06%	11.85	63.20%	5.72	91.47%	72.13	82.44%

Projections show that existing Magapit Substation and Bantay Substation will be overloaded this year 2019 and by year 2020 respectively. The capacity problem will be addressed by a new 5MVA Substation at Logac, Lal-lo, Cagayan and 15MVA Substation at Centro, Aparri, Cagayan by year 2020 and another new 5MVA Substation at Dummun, Gattaran, Cagayan by year 2021 to be filed as a regular CAPEX.

In 2018, CAGELCO II consumed 140 gigawatt-hour (140 GWH) of energy, Thirty-four Megawatt (34MW) Maximum Demand, ninety eight percent (98%) average power factor, and sixty-two percent (62%) Load Factor. The average system rate per kilowatt-hour is Eleven pesos and Thirty-eight centavos (PhP11.38).



POWER SUPPLY PROCUREMENT PLAN

**10 Year Monthly Forecasted 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	28.330	8.976	10,749	20.000	6,698	8.330	4,051		
Feb	26.395	8.425	9,452	20.000	5,889	6.395	3,563		
Mar	28.871	9.112	9,918	20.000	6,179	8.871	3,739		
Apr	34.166	9.231	13,462	20.000	8,388	14.166	5,074		
May	36.037	14.015	15,492	20.000	9,653	16.037	5,839		
Jun	39.544	17.000	17,139	20.000	10,679	19.544	6,460		
Jul	37.907	15.462	16,607	20.000	10,347	17.907	6,260		
Aug	38.556	15.252	17,057	20.000	10,627	18.556	6,430		
Sep	37.887	15.919	16,740	20.000	10,430	17.887	6,310		
Oct	37.923	16.014	14,976	20.000	9,331	17.923	5,645		
Nov	33.605	11.488	13,429	20.000	8,367	13.605	5,062		
Dec	30.769	10.254	11,382	20.000	7,092	10.769	4,290		
2020	-	-	-						
Jan	32.689	9.351	12,439	20.000	6,698	12.689	5,741		
Feb	30.458	8.777	10,938	20.000	5,889	10.458	5,049		
Mar	33.314	9.493	11,477	20.000	6,179	13.314	5,298		
Apr	39.425	9.616	15,578	20.000	8,388	19.425	7,190	10.000	6,205
May	41.583	14.600	17,927	20.000	9,653	21.583	8,274	10.000	6,545
Jun	45.630	17.710	19,833	20.000	10,679	25.630	9,154	10.000	7,182
Jul	43.740	16.108	19,218	20.000	10,347	23.740	8,871	10.000	6,884
Aug	44.489	15.889	19,738	20.000	10,627	24.489	9,111	10.000	7,002
Sep	43.718	16.584	19,372	20.000	10,430	23.718	8,942	10.000	6,881
Oct	43.760	16.682	17,330	20.000	9,331	23.760	7,999	10.000	6,887
Nov	38.776	11.967	15,540	20.000	8,367	18.776	7,173	10.000	6,103
Dec	35.504	10.682	13,172	20.000	7,092	15.504	6,080	10.000	5,588
2021	-	-	-						
Jan	34.428	9.732	13,138	20.000	6,698	14.428	6,440	10.000	5,145
Feb	32.077	9.134	11,552	20.000	5,889	12.077	5,663	10.000	4,794
Mar	35.086	9.879	12,122	20.000	6,179	15.086	5,943	10.000	5,243
Apr	41.520	10.007	16,453	20.000	8,388	21.520	8,065	10.000	6,205
May	43.794	15.194	18,934	20.000	9,653	23.794	9,281	10.000	6,545
Jun	48.056	18.430	20,948	20.000	10,679	28.056	10,269	10.000	7,182
Jul	46.067	16.763	20,297	20.000	10,347	26.067	9,950	10.000	6,884
Aug	46.855	16.535	20,847	20.000	10,627	26.855	10,220	10.000	7,002
Sep	46.042	17.259	20,460	20.000	10,430	26.042	10,030	10.000	6,881
Oct	46.086	17.361	18,304	20.000	9,331	26.086	8,973	10.000	6,887
Nov	40.838	12.454	16,413	20.000	8,367	20.838	8,046	10.000	6,103
Dec	37.392	11.117	13,912	20.000	7,092	17.392	6,820	10.000	5,588
2022	-	-	-						
Jan	35.739	10.106	13,716	20.000	6,698	15.739	7,018	10.000	5,145
Feb	33.299	9.486	12,060	20.000	5,889	13.299	6,171	10.000	4,794
Mar	36.422	10.260	12,655	20.000	6,179	16.422	6,476	10.000	5,243
Apr	43.101	10.393	17,177	20.000	8,388	23.101	8,789	10.000	6,205
May	45.462	15.779	19,767	20.000	9,653	25.462	10,114	10.000	6,545
Jun	49.886	19.140	21,869	20.000	10,679	29.886	11,190	10.000	7,182
Jul	47.821	17.409	21,190	20.000	10,347	27.821	10,843	10.000	6,884
Aug	48.639	17.172	21,763	20.000	10,627	28.639	11,136	10.000	7,002
Sep	47.796	17.923	21,360	20.000	10,430	27.796	10,930	10.000	6,881
Oct	47.841	18.029	19,109	20.000	9,331	27.841	9,778	10.000	6,887
Nov	42.393	12.934	17,134	20.000	8,367	22.393	8,767	10.000	6,103
Dec	38.816	11.545	14,523	20.000	7,092	18.816	7,431	10.000	5,588

POWER SUPPLY PROCUREMENT PLAN

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)
2023	-	-	-						
Jan	37.042	10.487	14,296	20.000	6,698	17.042	7,598	15.000	7,598
Feb	34.513	9.843	12,571	20.000	5,889	14.513	6,682	15.000	6,682
Mar	37.750	10.646	13,190	20.000	6,179	17.750	7,011	15.000	7,011
Apr	44.673	10.784	17,904	20.000	8,388	24.673	9,516	15.000	9,308
May	47.119	16.373	20,604	20.000	9,653	27.119	10,951	15.000	9,817
Jun	51.705	19.860	22,794	20.000	10,679	31.705	12,115	15.000	10,773
Jul	49.565	18.063	22,087	20.000	10,347	29.565	11,740	15.000	10,327
Aug	50.413	17.818	22,685	20.000	10,627	30.413	12,058	15.000	10,503
Sep	49.538	18.598	22,264	20.000	10,430	29.538	11,834	15.000	10,321
Oct	49.585	18.708	19,918	20.000	9,331	29.585	10,587	15.000	10,331
Nov	43.939	13.420	17,860	20.000	8,367	23.939	9,493	15.000	9,155
Dec	40.231	11.979	15,138	20.000	7,092	20.231	8,046	15.000	8,046
2024	-	-	-						
Jan	38.551	10.862	14,879	20.000	6,698	18.551	8,181	15.000	7,718
Feb	35.919	10.195	13,083	20.000	5,889	15.919	7,194	15.000	7,191
Mar	39.288	11.026	13,728	20.000	6,179	19.288	7,549	15.000	7,549
Apr	46.493	11.169	18,633	20.000	8,388	26.493	10,245	15.000	9,308
May	49.039	16.958	21,444	20.000	9,653	29.039	11,791	15.000	9,817
Jun	53.812	20.570	23,723	20.000	10,679	33.812	13,044	15.000	10,773
Jul	51.584	18.709	22,987	20.000	10,347	31.584	12,640	15.000	10,327
Aug	52.467	18.455	23,609	20.000	10,627	32.467	12,982	15.000	10,503
Sep	51.557	19.263	23,171	20.000	10,430	31.557	12,741	15.000	10,321
Oct	51.606	19.376	20,729	20.000	9,331	31.606	11,398	15.000	10,331
Nov	45.730	13.900	18,587	20.000	8,367	25.730	10,220	15.000	9,155
Dec	41.871	12.408	15,755	20.000	7,092	21.871	8,663	15.000	8,382
2025	-	-	-						
Jan	40.065	11.242	15,463	20.000	7,793	20.065	7,670	15.000	7,670
Feb	37.329	10.551	13,597	20.000	6,984	17.329	6,613	15.000	6,613
Mar	40.831	11.412	14,267	20.000	7,274	20.831	6,993	15.000	6,993
Apr	48.319	11.560	19,365	20.000	9,483	28.319	9,882	15.000	9,308
May	50.965	17.552	22,285	20.000	10,748	30.965	11,537	15.000	9,817
Jun	55.925	21.290	24,655	20.000	11,774	35.925	12,881	15.000	10,773
Jul	53.610	19.364	23,889	20.000	11,442	33.610	12,447	15.000	10,327
Aug	54.527	19.101	24,536	20.000	11,722	34.527	12,814	15.000	10,503
Sep	53.581	19.937	24,081	20.000	11,525	33.581	12,556	15.000	10,321
Oct	53.632	20.055	21,543	20.000	10,426	33.632	11,117	15.000	10,331
Nov	47.525	14.387	19,317	20.000	9,462	27.525	9,855	15.000	9,155
Dec	43.515	12.842	16,374	20.000	8,187	23.515	8,187	15.000	8,187
2026	-	-	-						
Jan	41.582	11.617	16,049	20.000	7,793	21.582	8,256	15.000	7,718
Feb	38.743	10.903	14,112	20.000	6,984	18.743	7,128	15.000	7,128
Mar	42.378	11.793	14,807	20.000	7,274	22.378	7,533	15.000	7,533
Apr	50.148	11.946	20,098	20.000	9,483	30.148	10,615	15.000	9,308
May	52.895	18.137	23,129	20.000	10,748	32.895	12,381	15.000	9,817
Jun	58.043	22.000	25,588	20.000	11,774	38.043	13,814	15.000	10,773
Jul	55.640	20.010	24,794	20.000	11,442	35.640	13,352	15.000	10,327
Aug	56.592	19.738	25,465	20.000	11,722	36.592	13,743	15.000	10,503
Sep	55.611	20.602	24,992	20.000	11,525	35.611	13,467	15.000	10,321
Oct	55.663	20.724	22,359	20.000	10,426	35.663	11,933	15.000	10,331
Nov	49.325	14.866	20,049	20.000	9,462	29.325	10,587	15.000	9,155
Dec	45.163	13.270	16,994	20.000	8,187	25.163	8,807	15.000	8,382

POWER SUPPLY PROCUREMENT PLAN

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)
2027	-	-	-		-				
Jan	43.102	11.997	16,635	20.000	7,793	23.102	8,842	15.000	7,718
Feb	40.159	11.260	14,627	20.000	6,984	20.159	7,643	15.000	7,191
Mar	43.926	12.179	15,348	20.000	7,274	23.926	8,074	15.000	7,865
Apr	51.981	12.337	20,833	20.000	9,483	31.981	11,350	15.000	9,308
May	54.828	18.731	23,975	20.000	10,748	34.828	13,227	15.000	9,817
Jun	60.164	22.720	26,524	20.000	11,774	40.164	14,750	15.000	10,773
Jul	57.673	20.665	25,700	20.000	11,442	37.673	14,258	15.000	10,327
Aug	58.660	20.384	26,396	20.000	11,722	38.660	14,674	15.000	10,503
Sep	57.643	21.276	25,906	20.000	11,525	37.643	14,381	15.000	10,321
Oct	57.697	21.402	23,176	20.000	10,426	37.697	12,750	15.000	10,331
Nov	51.128	15.353	20,781	20.000	9,462	31.128	11,319	15.000	9,155
Dec	46.813	13.704	17,615	20.000	8,187	26.813	9,428	15.000	8,382
2028	-	-	-		-				
Jan	44.624	12.372	17,223	20.000	7,793	24.624	9,430	15.000	7,718
Feb	41.577	11.612	15,144	20.000	6,984	21.577	8,160	15.000	7,191
Mar	45.478	12.559	15,890	20.000	7,274	25.478	8,616	15.000	7,865
Apr	53.817	12.722	21,569	20.000	9,483	33.817	12,086	15.000	9,308
May	56.764	19.316	24,821	20.000	10,748	36.764	14,073	15.000	9,817
Jun	62.289	23.430	27,460	20.000	11,774	42.289	15,686	15.000	10,773
Jul	59.711	21.310	26,607	20.000	11,442	39.711	15,165	15.000	10,327
Aug	60.732	21.021	27,328	20.000	11,722	40.732	15,606	15.000	10,503
Sep	59.679	21.941	26,821	20.000	11,525	39.679	15,296	15.000	10,321
Oct	59.735	22.071	23,994	20.000	10,426	39.735	13,568	15.000	10,331
Nov	52.933	15.833	21,515	20.000	9,462	32.933	12,053	15.000	9,155
Dec	48.467	14.133	18,237	20.000	8,187	28.467	10,050	15.000	8,382