

**PANGASINAN I ELECTRIC COOPERATIVE(PANELCO I)  
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](mailto:doe.csp@gmail.com) or you may contact us through telephone numbers (02) 840-2173 and (02) 479-2900 local 202.

## TABLE OF CONTENTS

I.	TABLE OF CONTENTS	ii
II.	INTRODUCTION	1
III.	DEMAND FORECAST (10 YEAR HISTORICAL AND FORECAST)	2
IV.	ENERGY FORECAST (10 YEAR HISTORICAL AND FORECAST)	3
V.	ENERGY SALES AND PURCHASE	4
VI.	DAILY LOAD PROFILE AND LOAD DURATION CURVE	5
VII.	MIXSUPPLY VS DEMAND AND THE OPTIMAL SUPPLY	6
VIII.	EXISTING AND CONTRACT DETAIL	6
IX.	DISTRIBUTION IMPACT STUDY	7
X.	SCHEDULE OF POWWER SUPPLY PROCUREMENT	8
XI.	TIMELINE OF THE CSP	8
XII.	ANNEX 10 YEARS MONTHLY DATA	9

## INTRODUCTION

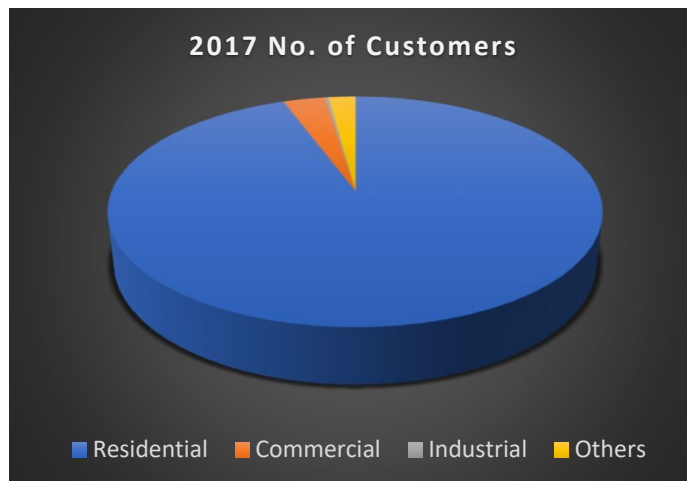
### DISTRIBUTION UTILITIES PROFILE

Panelco I is the exclusive franchise holder to operate an electric franchise holder to operate an electric light and power services in the City of Alaminos and Municipalities of Agno, Anda, Bani, Bolinao, Burgos, Dasol, Infanta and Mabini, all in the province of Pangasinan.



Number of Customer Connections	ACTUAL		FORECAST								
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Residential	73981	76940	79547	81928	84113	86135	88024	89811	91526	93201	94867.4
Commercial	2544	2571.3	2638.8	2708.9	2781.5	2856.8	2934.7	3015.1	3098.2	3183.8	3272.08
Industrial	219	224.61	233.41	242.39	251.56	260.92	270.47	280.21	290.16	300.3	310.65
Others	1650	1667.7	1711.5	1756.9	1804.1	1852.9	1903.4	1955.6	2009.4	2065	2122.22
Contestable C	0										
Total (Captive	78394	81404	84131	86636	88951	91106	93132	95062	96924	98751	100572

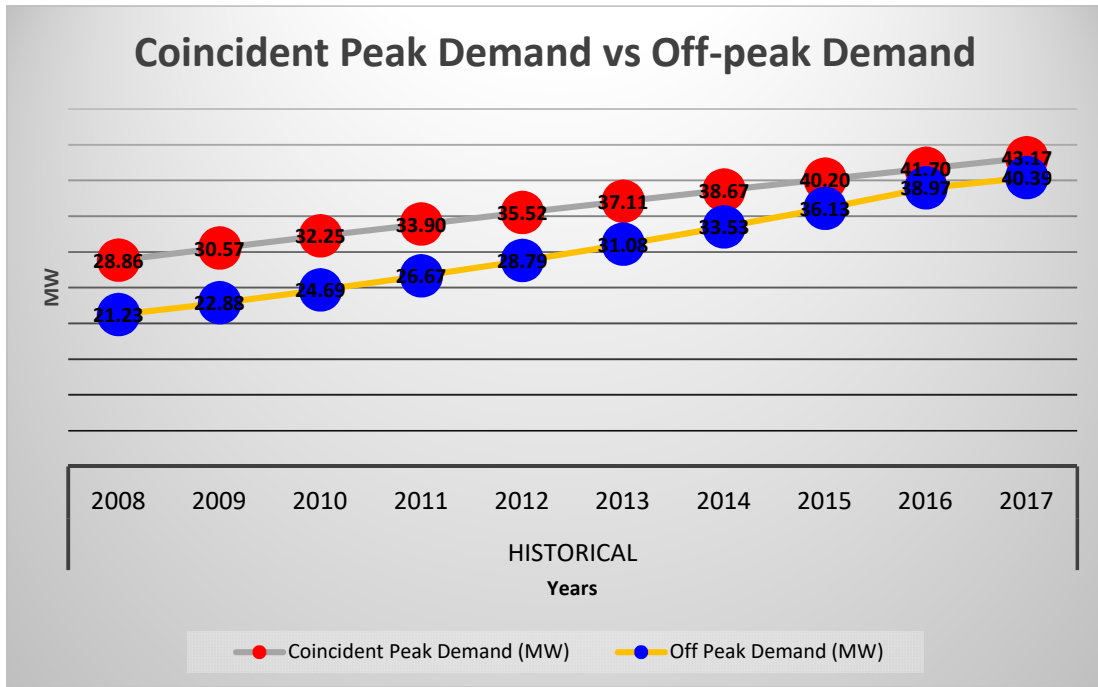
PANELCO I is expecting big loads in the coverage area wherein the project of Ice plant, Construction of Hotels are in the list of Projects. PANELCO I has total of contracted demand 16,060 kilowatts and contracted demand of 80,662.720 Megawatt-hour for the year 2019 with MPPCL-SMC which contract is until October 25, 2022.



## DEMAND

Demand	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Coincident Peak Demand (MW)	15.91	16.93	17.19	16.93	18.36	19.75	20.79	24.14	25.57	27.22
Off Peak Demand (MW)	10.33	11.38	11.57	11.94	12.58	13.38	14.58	16.46	19.91	19.73

Demand	HISTORICAL									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Coincident Peak Demand (MW)	28.86	30.57	32.25	33.90	35.52	37.11	38.67	40.20	41.70	43.17
Off Peak Demand (MW)	21.23	22.88	24.69	26.67	28.79	31.08	33.53	36.13	38.97	40.39

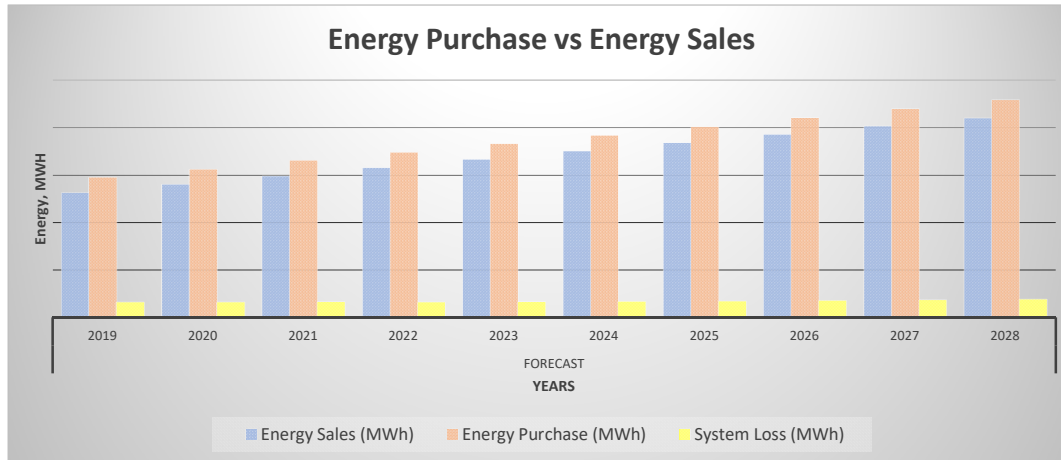


In 2018, there was no significant entry of big industrial/commercial customer or spot load except for the expected normal forecasted load. Looking forward, we are anticipating a demand growth to about 6.68 MW in 2022. This is triggered by growth in GDP as well as establishment of commercial buildings.

## ENERGY SALES AND PURCHASE

ENERGY SALES AND PURCHASE	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Energy Sales (MWh)	57,702	70,800	69,503	72,125	79,278	85,556	93,992	107,667	116,796	121,778
Energy Purchase (MWh)	69,077	84,281	83,115	86,762	94,217	99,538	108,023	123,491	133,196	138,853
System Loss (MWh)	11,375	13,481	13,612	14,637	14,939	13,982	14,031	15,824	16,400	17,075

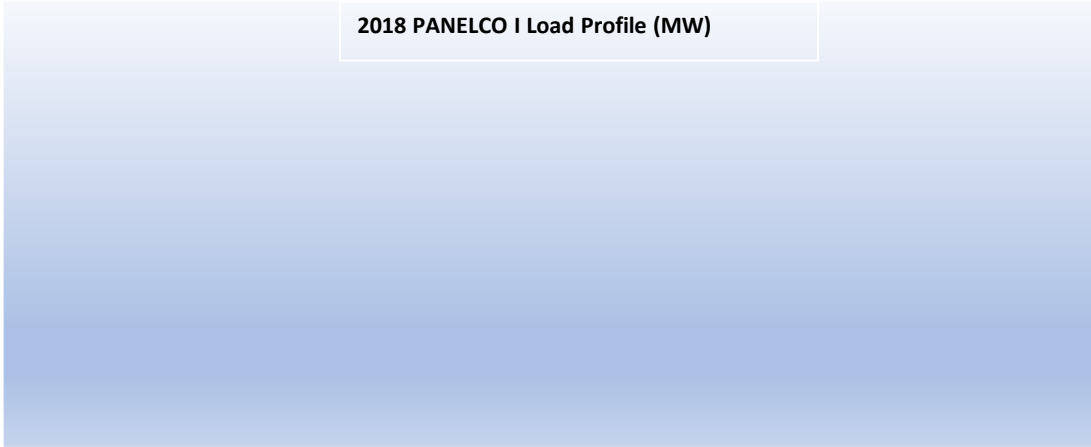
ENERGY SALES AND PURCHASE	FORECAST									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Energy Sales (MWh)	131,267	140,029	148,787	157,541	166,291	175,038	183,781	192,520	201,256	209,988
Energy Purchase (MWh)	147,387	155,954	165,303	173,695	182,706	191,623	200,855	210,269	219,654	228,907
System Loss (MWh)	16,120	15,925	16,516	16,154	16,414	16,585	17,074	17,748	18,398	18,919



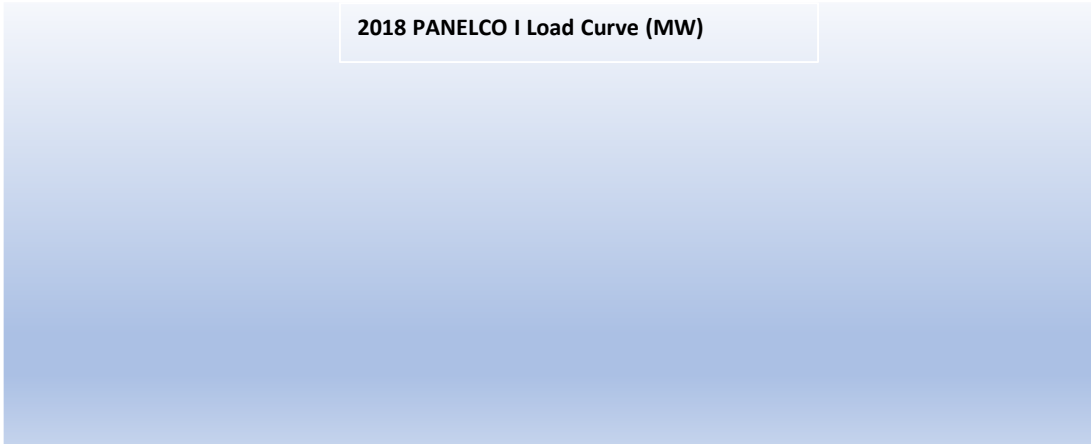
PANELCO | Historical Sales growth rate average of 8.5 %. But in 2018 decrease by 4 %

## LOAD PROFILE AND LOAD DURATION CURVE

2018 PANELCO I Load Profile (MW)



2018 PANELCO I Load Curve (MW)

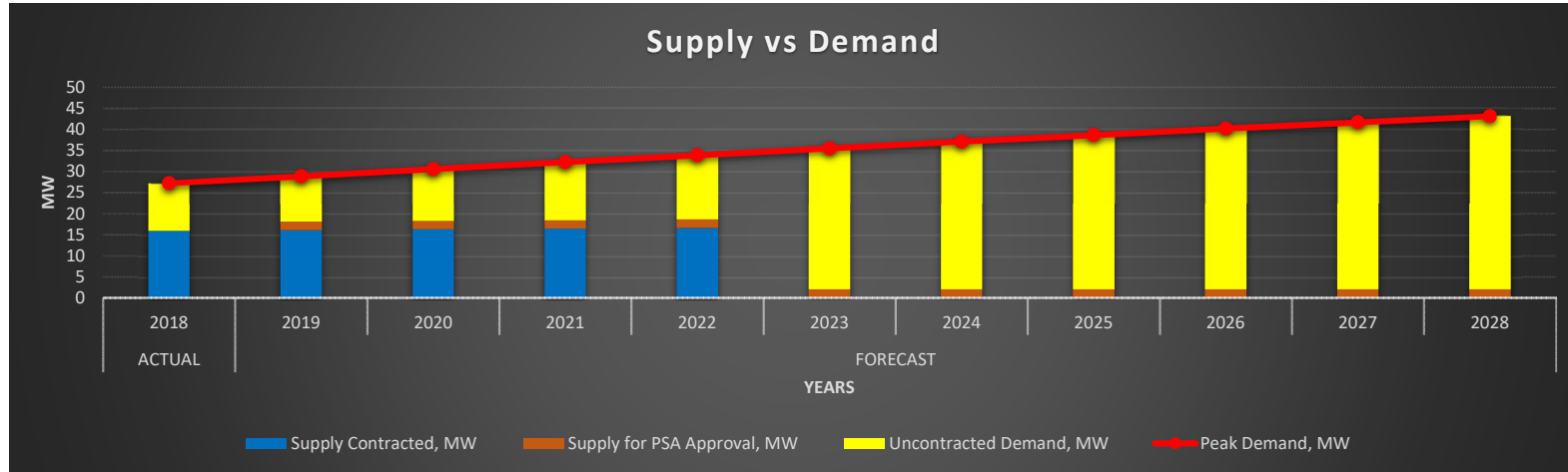


Based on the load curve identify the base-load, mid-merit and peaking. As such the data can be used for the strategy in contracting the DUs demand requirement. Over the year 2018, 85%-90% of the time, PANELCO I is consuming 15MW and more. PANELCO is projecting increase of baseload demand to 20MW in the year 2022.

During the 4th Quarter of 2022, Supply Contract with Masinloc Power Partners will expire. This entails about 33.90-35.52 MW uncontracted capacity and exposure to the spot market. Hence, CSP for such uncontracted demand is necessary.

### 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	27.22	28.8625033	30.57148	32.250565	33.89976	35.51905	37.10846	38.66797	40.19759	41.69732	43.16715
Supply Contracted, MW	15.88	16.06	16.24	16.42	16.61	0	0	0	0	0	0
Masinloc Coal Fired Thermal Power Plant	15.88	16.06	16.24	16.42	16.61						
Supply for PSA Approval, MW	0	2	2	2	2	2	2	2	2	2	2
Masinloc Coal Fired Thermal Power Plant		2	2	2	2	2	2	2	2	2	2
Uncontracted Demand, MW	11.34	10.8025033	12.33148	13.830565	15.28976	33.51905	35.10846	36.66797	38.19759	39.69732	41.16715



List of Existing Contracts and Details

POWER SUPPLY PROCUREMENT PLAN

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	MPPCL	100	25-Oct-12	25-Oct-22	16.61	1,012,089	Base		IPP		Coal	300	300

During the 4th Quarter of 2022, Supply Contract with Masinloc Power Partners will expire. This entails about 36MW uncontracted capacity and exposure to the spot market. Hence, CSP for such uncontracted demand is necessary.



POWER SUPPLY PROCUREMENT PLAN

|

## **DISTRIBUTION IMPACT STUDY**

PANELCO I has four Substation with maximum rated capacity of 5/6.25MVA, 15/18.5 MVA,10/12.5 MVA10/12.5 MVA Bani Substation, Palamis Sustation,Tara Substation and Dasol Substation respectively. Last year Bani Substation and Tara Substation reached 70% so we implementing our 3 years capital expenditures for capacity project for an additional substation to Bani which is 10 MVA and 20 MVA for Tara . While Palamis Substation will be reach 70 % by this year 2019 so another 10 MVA for Palamis will constructed and Dasol Substation will reach 70% by 2024.



## 10 Years Monthly Data

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Contracted 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	23.47	15.63	11,859.02	17.89	8,255.71	5.58	3,603.31		
Feb	24.02	14.98	11,383.89	17.41	8,273.66	6.61	3,110.23		
Mar	24.78	14.78	11,451.81	17.92	8,131.02	6.86	3,320.79		
Apr	27.25	14.41	13,992.87	17.69	8,963.91	9.56	5,028.96		
May	28.86	14.89	14,548.90	17.09	8,130.14	11.77	6,418.76		
Jun	28.11	16.08	12,825.89	17.35	8,024.21	10.76	4,801.68		
Jul	23.15	16.83	11,395.35	18.06	8,106.70	5.09	3,288.65		
Aug	24.31	17.82	11,763.13	17.53	8,218.11	6.78	3,545.02		
Sep	23.70	19.76	11,407.29	17.69	8,282.41	6.01	3,124.88		
Oct	24.32	20.72	12,445.35	17.35	8,029.68	6.97	4,415.67		
Nov	24.13	21.23	12,204.36	17.22	8,298.43	6.91	3,905.93		
Dec	25.83	19.47	12,109.08	17.07	7,804.74	8.76	4,304.34		
2020									
Jan	24.86	16.85	12,548.33	17.89	8,331.18	6.97	4,217.15		
Feb	25.44	16.14	12,045.58	17.41	8,343.05	8.03	3,702.53		
Mar	26.24	15.93	12,117.45	17.92	8,199.96	8.32	3,917.49		
Apr	27.86	15.53	14,806.22	17.69	9,039.88	10.17	5,766.34		
May	30.57	16.05	15,394.56	18.00	8,214.33	12.57	7,180.23		
Jun	29.78	17.33	13,571.40	17.35	8,091.85	12.43	5,479.55		
Jul	24.52	18.14	12,057.71	18.06	8,180.92	6.46	3,876.79		
Aug	25.74	19.21	12,446.87	17.53	8,292.22	8.21	4,154.65	5.00	
Sep	25.11	21.30	12,070.34	17.69	8,354.45	7.42	3,715.89	5.00	
Oct	25.76	22.34	13,168.74	17.35	8,100.75	8.41	5,067.99	5.00	
Nov	25.56	22.88	12,913.74	18.00	8,369.69	7.56	4,544.05	5.00	
Dec	27.36	20.99	12,812.92	17.07	7,874.11	10.29	4,938.81	5.00	
2021									
Jan	26.22	18.18	13,300.56	17.89	8,407.56	8.33	4,893.00	5.00	
Feb	26.84	17.42	12,767.67	17.41	8,413.28	9.43	4,354.39	5.00	
Mar	27.69	17.20	12,843.85	17.92	8,269.73	9.77	4,574.12	5.00	
Apr	30.44	16.76	15,693.80	17.69	9,116.77	12.75	6,577.03	5.00	
May	32.25	17.32	16,317.41	18.00	8,299.61	14.25	8,017.80	5.00	
Jun	31.41	18.71	14,384.96	18.00	8,160.31	13.41	6,224.65	5.00	
Jul	25.86	19.58	12,780.53	18.06	8,256.05	7.80	4,524.48	5.00	
Aug	27.16	20.73	13,193.02	17.53	8,367.22	9.63	4,825.80	5.00	
Sep	26.48	22.99	12,793.91	17.69	8,427.37	8.79	4,366.54	5.00	
Oct	27.17	24.11	13,958.16	17.35	8,172.69	9.82	5,785.47	5.00	
Nov	26.97	24.69	13,687.87	18.00	8,441.81	8.97	5,246.06	5.00	
Dec	28.86	22.65	13,581.01	17.07	7,944.33	11.79	5,636.68	5.00	
2022									
Jan	27.56	19.64	13,975.82	17.89	8,484.60	11.16	7,295.29	5.00	
Feb	28.21	18.81	13,415.87	17.41	8,484.01	12.31	6,682.79	5.00	
Mar	29.10	18.57	13,495.92	17.92	8,340.02	12.93	7,750.84	5.00	
Apr	32.00	18.10	16,490.55	17.69	9,194.20	16.18	10,660.56	5.00	
May	33.90	18.71	17,145.83	19.00	8,385.83	14.28	12,163.49	5.00	
Jun	33.02	20.20	15,115.27	18.00	8,229.27	13.06	10,572.05	5.00	
Jul	27.19	21.14	13,429.38	18.06	8,331.83	12.66	9,141.72	5.00	

POWER SUPPLY PROCUREMENT PLAN

Aug	28.55	22.38	13,862.81	17.53	8,442.85	11.98	8,867.47	5.00	
Sep	27.84	24.83	13,443.45	17.69	8,500.85	11.82	8,582.53	5.00	
Oct	28.56	26.03	14,666.80	17.35	8,245.20	11.78	8,206.09	5.00	
Nov	28.34	26.67	14,382.79			29.16	14,382.79	30.00	
Dec	30.34	24.46	14,270.51			27.15	14,270.51	30.00	
2023									
Jan	28.88	21.20	14,700.83			28.42	14,700.83	31.00	
Feb	29.56	20.32	14,111.84			29.13	14,111.84	31.00	
Mar	30.49	20.05	14,196.04			30.31	14,196.04	31.00	
Apr	33.53	19.54	17,346.03			33.48	17,346.03	31.00	
May	35.52	20.20	18,035.29			32.86	18,035.29	31.00	
Jun	34.60	21.81	15,899.40			30.53	15,899.40	31.00	
Jul	28.49	22.83	14,126.05			30.18	14,126.05	31.00	
Aug	29.91	24.17	14,581.97			28.91	14,581.97	31.00	
Sep	29.17	26.81	14,140.85			28.90	14,140.85	31.00	
Oct	29.93	28.11	15,427.66			28.51	15,427.66	31.00	
Nov	29.70	28.79	15,128.92			30.63	15,128.92	31.00	
Dec	31.79	26.41	15,010.81			28.53	15,010.81	31.00	
2024									
Jan	30.17	22.89	15,418.37			29.78	15,418.37	36.00	
Feb	30.88	21.93	14,800.63			30.52	14,800.63	36.00	
Mar	31.86	21.64	14,888.94			31.75	14,888.94	36.00	
Apr	35.03	21.09	18,192.67			35.06	18,192.67	36.00	
May	37.11	21.80	18,915.58			34.42	18,915.58	36.00	
Jun	36.15	23.54	16,675.44			31.98	16,675.44	36.00	
Jul	29.76	24.64	14,815.53			31.62	14,815.53	36.00	
Aug	31.25	26.09	15,293.70			30.29	15,293.70	36.00	
Sep	30.47	28.94	14,831.05			30.28	14,831.05	36.00	
Oct	31.27	30.34	16,180.67			29.87	16,180.67	36.00	
Nov	31.03	31.08	15,867.35			32.09	15,867.35	36.00	
Dec	33.21	28.51	15,743.48			29.89	15,743.48	36.00	
2025									
Jan	31.44	24.69	16,161.18			31.12	16,161.18	36.00	
Feb	32.18	23.65	15,513.68			31.89	15,513.68	36.00	
Mar	33.20	23.34	15,606.24			33.18	15,606.24	36.00	
Apr	36.50	22.75	19,069.15			36.62	19,069.15	36.00	
May	38.67	23.52	19,826.88			35.96	19,826.88	36.00	
Jun	37.66	25.40	17,478.81			33.42	17,478.81	36.00	
Jul	31.01	26.58	15,529.30			33.04	15,529.30	36.00	
Aug	32.56	28.14	16,030.51			31.65	16,030.51	36.00	
Sep	31.75	31.21	15,545.57			31.65	15,545.57	36.00	
Oct	32.58	32.73	16,960.21			31.21	16,960.21	36.00	
Nov	32.33	33.53	16,631.80			33.53	16,631.80	36.00	
Dec	34.61	30.75	16,501.95			31.24	16,501.95	36.00	
2026									
Jan	32.68	26.60	16,918.59			32.44	16,918.59	36.00	
Feb	33.46	25.49	16,240.74			33.25	16,240.74	36.00	
Mar	34.51	25.16	16,337.64			34.58	16,337.64	36.00	
Apr	37.95	24.52	19,962.83			38.16	19,962.83	36.00	
May	40.20	25.34	20,756.08			37.47	20,756.08	36.00	
Jun	39.15	27.37	18,297.97			34.83	18,297.97	36.00	
Jul	32.24	28.64	16,257.09			34.43	16,257.09	36.00	
Aug	33.85	30.32	16,781.79			32.99	16,781.79	36.00	
Sep	33.01	33.64	16,274.12			32.99	16,274.12	36.00	
Oct	33.87	35.27	17,755.06			32.54	17,755.06	36.00	
Nov	33.61	36.13	17,411.26			34.95	17,411.26	36.00	

POWER SUPPLY PROCUREMENT PLAN

Dec	35.98	33.14	17,275.33			32.56	17,275.33	36.00	
2027									
Jan	33.90	28.69	17,673.79			33.74	17,673.79	36.00	
Feb	34.70	27.49	16,965.68			34.58	16,965.68	36.00	
Mar	35.80	27.13	17,066.91			35.96	17,066.91	36.00	
Apr	39.36	26.45	20,853.92			39.68	20,853.92	36.00	
May	41.70	27.33	21,682.58			38.96	21,682.58	36.00	
Jun	40.62	29.52	19,114.74			36.22	19,114.74	36.00	
Jul	33.44	30.89	16,982.77			35.81	16,982.77	36.00	
Aug	35.11	32.71	17,530.89			34.32	17,530.89	36.00	
Sep	34.24	36.28	17,000.56			34.31	17,000.56	36.00	
Oct	35.13	38.04	18,547.60			33.84	18,547.60	36.00	
Nov	34.86	38.97	18,188.45			36.34	18,188.45	36.00	
Dec	37.32	35.74	18,046.46			33.87	18,046.46	36.00	
2028									
Jan	35.10	29.73	18,418.29			35.10	18,418.29	36.00	
Feb	35.93	28.53	17,680.36			35.93	17,680.36	36.00	
Mar	37.06	28.17	17,785.85			37.06	17,785.85	36.00	
Apr	40.75	27.49	21,732.39			40.75	21,732.39	36.00	
May	43.17	28.37	22,595.96			43.17	22,595.96	36.00	
Jun	42.05	30.56	19,919.95			42.05	19,919.95	36.00	
Jul	34.62	31.93	17,698.16			34.62	17,698.16	36.00	
Aug	36.35	33.75	18,269.37			36.35	18,269.37	36.00	
Sep	35.45	37.32	17,716.70			35.45	17,716.70	36.00	
Oct	36.37	39.08	19,328.92			36.37	19,328.92	36.00	
Nov	36.09	40.01	18,954.64			36.09	18,954.64	36.00	
Dec	38.63	36.78	18,806.66			38.63	18,806.66	36.00	