

## POWER SUPPLY PROCUREMENT PLAN

### **LIMA ENERZONE CORPORATION** **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.

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2	Energy Sales and Purchase
3	Demand
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7	Schedule of CSP
8	Annex Monthly Data

# INTRODUCTION

## DISTRIBUTION UTILITIES PROFILE

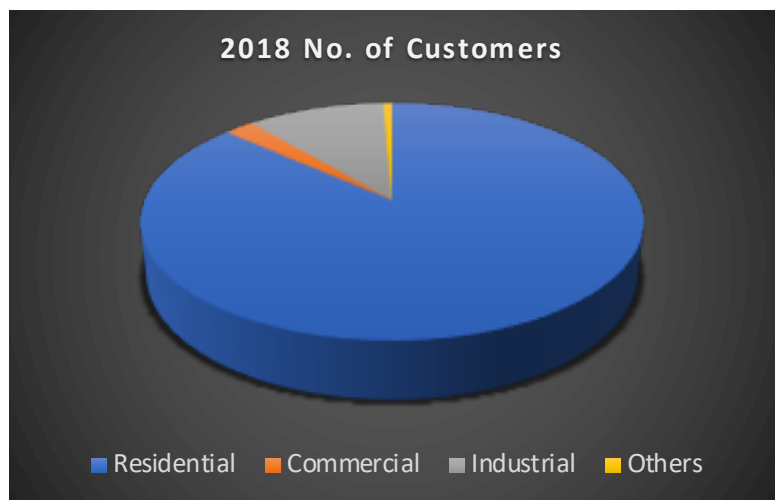
DU's Franchise MAP

Lima Enerzone Corporation is the Distribution Utility in Lima Technology Center - Special Economic Zone located in Lipa City - Malvar, Batangas



Number of Customer	ACTUAL	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Residential	650	700	750	800	810	820	830	840	850	860	870
Commercial	17	18	18	19	19	20	21	22	23	24	25
Industrial	79	79	79	79	79	79	79	79	79	80	81
Others	5	5	6	6	6	6	6	6	7	7	7
Contestable C	16	19	19	22	22	24	25	27	27	28	30
Total (Captive)	767	821	872	926	936	949	961	974	986	999	1013

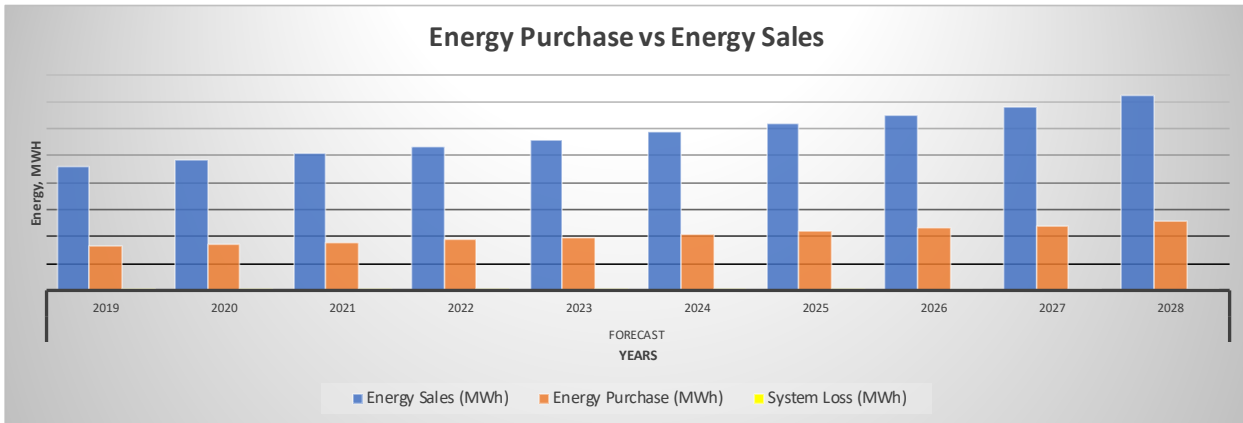
Load of Lima Enerzone is primarily from Industrial Customers of which 15 are Contestable Customers. Growth is driven by new and upcoming locators in Lima Technology Center. Customers such as Epson, JTI, Yamaha, Bandai, APO Production are some of its locators.



### ENERGY SALES AND PURCHASE

ENERGY SALES AND PURCHASE	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Energy Sales (MWh)	62,574	75,980	84,635	100,255	115,027	126,683	149,819	164,668	197,762	235,151
Energy Purchase (MWh)	63,513	77,073	85,824	101,625	117,836	129,739	151,763	166,788	62,763	65,191
System Loss (MWh)	1,109	1,184	1,258	1,395	2,332	3,056	1,944	2,120	2,029	1,008

ENERGY SALES AND PURCHASE	FORECAST									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Energy Sales (MWh)	230,539	242,059	254,155	266,855	280,191	294,193	308,895	324,333	340,469	360,897
Energy Purchase (MWh)	81,710	85,792	90,078	94,578	99,304	104,265	109,475	114,945	120,688	127,929
System Loss (MWh)	2,244	2,360	2,481	2,609	2,743	2,884	3,031	3,187	3,422	3,627



Brief highlight/report

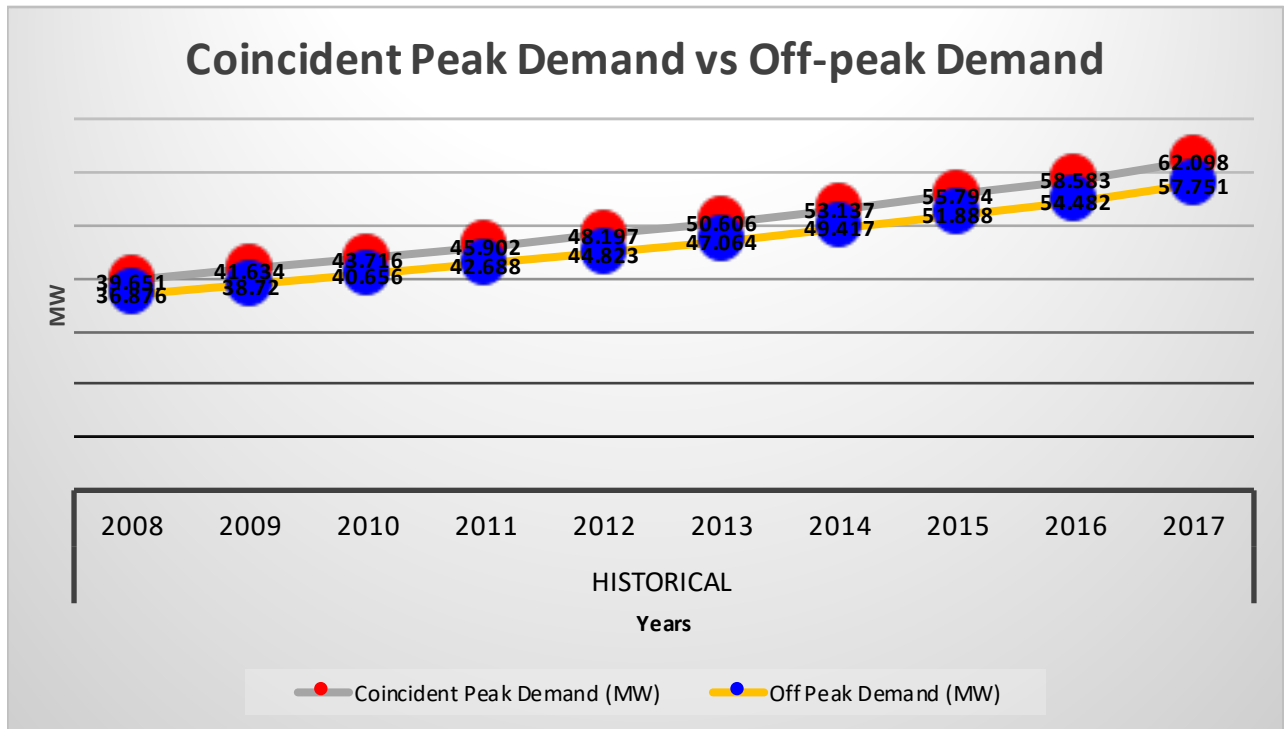
Energy purchased from 2017 onwards only includes actual purchased energy from supplier for the Captive Customers. During that time, customers with 1MW and above entered the Retail Competition and Open Market thru their respective RES.

Energy sales = Captive Energy Sales + Contestable Customer Energy Sales

## DEMAND

Demand	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Coincident Peak Demand (MW)	12.13	13.37	14.53	16.93	19.51	24.3	26.46	28.28	34.25	37.76
Off Peak Demand (MW)	11.28	12.44	13.51	15.74	18.14	21.29	25.31	27.15	31.86	32.38

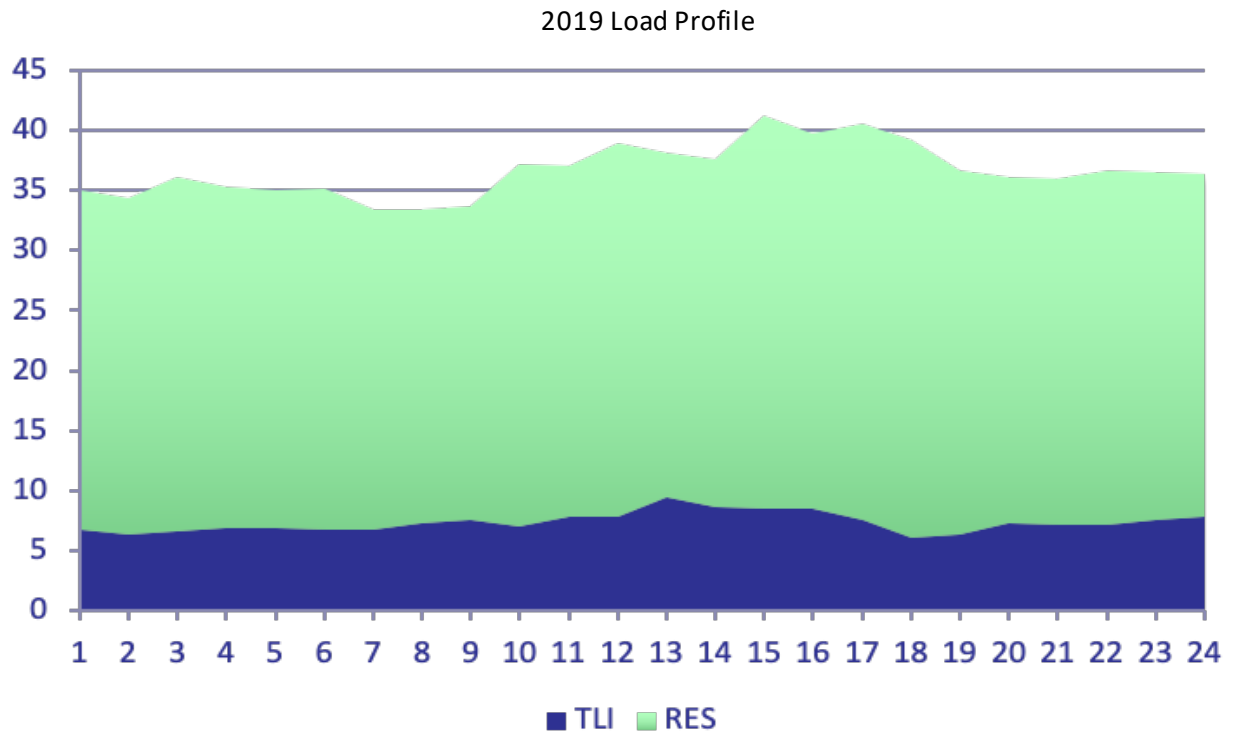
Demand	HISTORICAL									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Coincident Peak Demand (MW)	39.65	41.63	43.72	45.9	48.2	50.61	53.14	55.79	58.58	62.1
Off Peak Demand (MW)	36.88	38.72	40.66	42.69	44.82	47.06	49.42	51.89	54.48	57.75



Based on the Simulation of Various Forecasting Methods of values using Holt's Winter has the least MAPE, MAD and MSD indicating that it is more close to the fits of the projected future data considering the Seasonality component of the historical data.

Coincident peak demand = Captive Customers + Contestable Customers

## LOAD PROFILE AND LOAD DURATION CURVE



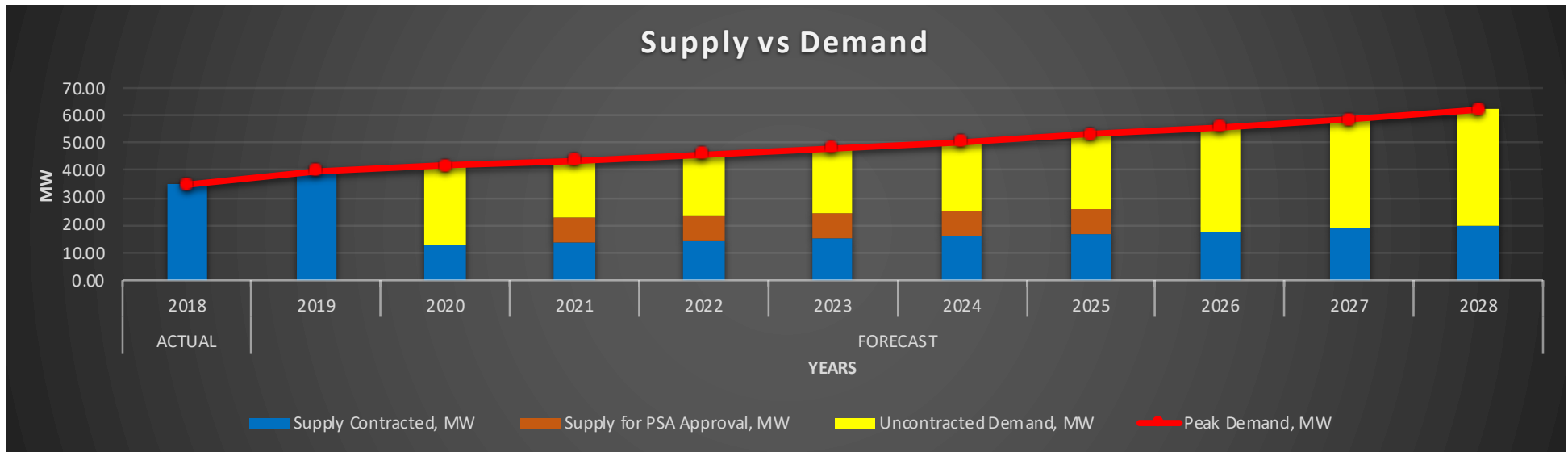
**Brief highlight:**

Base 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.

Captive Customers are being supplied by TLI. Contestable Customers are being supplied by their respective RES.

### MIXSUPPLY VS DEMAND AND THE OPTIMAL SUPPLY

Supply Demand	ACTUAL	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Peak Demand, MW</b>	<b>34.82</b>	<b>39.65</b>	<b>41.63</b>	<b>43.72</b>	<b>45.90</b>	<b>48.20</b>	<b>50.61</b>	<b>53.14</b>	<b>55.79</b>	<b>58.58</b>	<b>62.10</b>
<b>Supply Contracted, MW</b>	<b>35.30</b>	<b>38.83</b>	<b>13.34</b>	<b>14.00</b>	<b>14.70</b>	<b>15.44</b>	<b>16.21</b>	<b>17.02</b>	<b>17.87</b>	<b>18.76</b>	<b>19.89</b>
TLI (IPP) / Team Energy (Gen. Plant)	35.30	38.83	13.34								
Generation Plant Name 2											
Generation Plant Name 3											
<b>Supply for PSA Approval, MW</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>0</b>
Generation Plant Name 1				9	9	9	9	9			
Generation Plant Name 2											
Generation Plant Name 3											
<b>Uncontracted Demand, MW</b>	<b>0.00</b>	<b>0.82</b>	<b>28.30</b>	<b>20.71</b>	<b>22.20</b>	<b>23.76</b>	<b>25.40</b>	<b>27.12</b>	<b>37.92</b>	<b>39.82</b>	<b>42.21</b>



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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	TLI (IPP) / T	1	1/26/13	1/25/20	37.85	191,938	Base	Grid	IPP		Coal	735	
GenCo 2													
GenCo 3													
GenCo 4													
GenCo 5													

Discuss the following:

TLI contract ended last January 25, 2020 but was extended until December 25, 2020 due to the delays on the CSP. This was further delayed due to the Covid - 19 pandemic. Alternative process will be adopted such as Virtual CSP.

Uncontracted demand will be procured from WESM.



## DISTRIBUTION IMPACT STUDY

Brief discussion on the following:

Readiness of substation, distribution lines on the forecasted increase of loads:

- 34.5KV lines (4 Feeders) are rated at 20MW each which are sufficient for the demand of the customers
- a new 69kV line will be constructed from NGCP Batangas to Lima Enerzone Corporation's Substation to increase line capacity from 50MW to 150MW

Impact on the entry of a new power plant which may affects transmission congestion:

- no impact

Loading of substations:

- current demand is only at 40% of the maximum capacity of 100MVA
- a new substation will be constructed in 2020 to cater forecasted load growth. This will increase capacity from 100MVA to 150MVA

Compliance with the PDC and PEC:

- LEZ is compliant to both PDC and PEC

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**SCHEDULE OF CSP**

Base / mid-merit / peaking	For CSP		Proposed contract period		Proposed schedule (10/2020)						
	Demand (MW)	Energy (MWh)	Start Month and Year	End Month and Year	Publication of Invitation to Bid	Pre-bid Conference	Submission and Opening of Bids	Bid Evaluation	Awarding	PSA Signing	Joint Application to ERC
12	9	6,480	12/26/20	1/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
13	9	6,696	1/26/21	2/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
14	9	6,696	2/26/21	3/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
14	9	6,048	3/26/21	4/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
15	9	6,696	4/26/21	5/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
15	9	6,480	5/26/21	6/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
15	9	6,696	6/26/21	7/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
16	9	6,480	7/26/21	8/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
15	9	6,696	8/26/21	9/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
15	9	6,696	9/26/21	10/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
14	9	6,480	10/26/21	11/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
14	9	6,696	11/26/21	12/25/21	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
13	9	6,480	12/26/21	1/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
14	9	6,696	1/26/22	2/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
14	9	6,696	2/26/22	3/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
15	9	6,048	3/26/22	4/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
16	9	6,696	4/26/22	5/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
16	9	6,480	5/26/22	6/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
16	9	6,696	6/26/22	7/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
17	9	6,480	7/26/22	8/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
16	9	6,696	8/26/22	9/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
15	9	6,696	9/26/22	10/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
15	9	6,480	10/26/22	11/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
14	9	6,696	11/26/22	12/25/22	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
14	9	6,480	12/26/22	1/25/23	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020
14	9	6,696	1/26/23	2/25/23	31-Aug-2020	5-Oct-2020	26-Oct-2020	26-Oct-2020	27-Oct-2020	29-Oct-2020	6-Nov-2020



### 5 Year 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)
2021									
Jan	12	11	9,111	9	6,696	3	2,415	9	6,696
Feb	13	12	9,591	9	6,696	4	2,895	9	6,696
Mar	14	13	9,096	9	6,048	5	3,048	9	6,048
Apr	14	13	10,550	9	6,696	5	3,854	9	6,696
May	15	14	10,674	9	6,480	6	4,194	9	6,480
Jun	15	14	11,029	9	6,696	6	4,333	9	6,696
Jul	15	14	10,674	9	6,480	6	4,194	9	6,480
Aug	16	15	12,164	9	6,696	7	5,468	9	6,696
Sep	15	14	11,029	9	6,696	6	4,333	9	6,696
Oct	15	13	10,441	9	6,480	6	3,961	9	6,480
Nov	14	13	10,550	9	6,696	5	3,854	9	6,696
Dec	14	13	9,745	9	6,480	5	3,265	9	6,480
2022									
Jan	13	12	9,567	9	6,696	4	2,871	9	6,696
Feb	14	13	10,070	9	6,696	5	3,374	9	6,696
Mar	14	13	9,551	9	6,048	5	3,503	9	6,048
Apr	15	14	11,077	9	6,696	6	4,381	9	6,696
May	16	14	11,207	9	6,480	7	4,727	9	6,480
Jun	16	14	11,581	9	6,696	7	4,885	9	6,696
Jul	16	14	11,207	9	6,480	7	4,727	9	6,480
Aug	17	16	12,773	9	6,696	8	6,077	9	6,696
Sep	16	14	11,581	9	6,696	7	4,885	9	6,696
Oct	15	14	10,964	9	6,480	6	4,484	9	6,480
Nov	15	14	11,077	9	6,696	6	4,381	9	6,696
Dec	14	13	10,233	9	6,480	5	3,753	9	6,480
2023									
Jan	14	13	10,045	9	6,696	5	3,349	9	6,696
Feb	14	13	10,574	9	6,696	5	3,878	9	6,696
Mar	15	14	10,028	9	6,048	6	3,980	9	6,048
Apr	16	15	11,631	9	6,696	7	4,935	9	6,696
May	16	15	11,768	9	6,480	7	5,288	9	6,480
Jun	16	15	12,160	9	6,696	7	5,464	9	6,696
Jul	16	15	11,768	9	6,480	7	5,288	9	6,480
Aug	18	17	13,411	9	6,696	9	6,715	9	6,696
Sep	16	15	12,160	9	6,696	7	5,464	9	6,696
Oct	16	15	11,512	9	6,480	7	5,032	9	6,480
Nov	16	15	11,631	9	6,696	7	4,935	9	6,696
Dec	15	14	10,744	9	6,480	6	4,264	9	6,480

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2024									
Jan	14	13	10,547	9	6,696	5	3,851	9	6,696
Feb	15	14	11,102	9	6,696	6	4,406	9	6,696
Mar	16	15	10,529	9	6,048	7	4,481	9	6,048
Apr	16	15	12,213	9	6,696	7	5,517	9	6,696
May	17	16	12,356	9	6,480	8	5,876	9	6,480
Jun	17	16	12,768	9	6,696	8	6,072	9	6,696
Jul	17	16	12,356	9	6,480	8	5,876	9	6,480
Aug	19	18	14,081	9	6,696	10	7,385	9	6,696
Sep	17	16	12,768	9	6,696	8	6,072	9	6,696
Oct	17	16	12,087	9	6,480	8	5,607	9	6,480
Nov	16	15	12,213	9	6,696	7	5,517	9	6,696
Dec	16	15	11,282	9	6,480	7	4,802	9	6,480
2025									
Jan	15	14	11,075	9	6,696	6	4,379	9	6,696
Feb	16	15	11,658	9	6,696	7	4,962	9	6,696
Mar	16	15	11,056	9	6,048	7	5,008	9	6,048
Apr	17	16	12,823	9	6,696	8	6,127	9	6,696
May	18	17	12,974	9	6,480	9	6,494	9	6,480
Jun	18	17	13,406	9	6,696	9	6,710	9	6,696
Jul	18	17	12,974	9	6,480	9	6,494	9	6,480
Aug	20	18	14,785	9	6,696	11	8,089	9	6,696
Sep	18	17	13,406	9	6,696	9	6,710	9	6,696
Oct	18	16	12,692	9	6,480	9	6,212	9	6,480
Nov	17	16	12,823	9	6,696	8	6,127	9	6,696
Dec	16	15	11,846	9	6,480	7	5,366	9	6,480