# Power Supply Procurement Plan 2020

# SOUTH COTABATO I ELECTRIC COOPERATIVE, INC. (SOCOTECO I)

#### **Historical Consumption Data**

_	Coincident Peak MW	MWh Offtake	WESM	MWh Input	MWh Output	MWh System Loss	Load Factor	Discrepancy	Transm'n Loss	System Loss
2000	19.47	92,546	0	92,546	78,220	14,326	54%	0.00%	0.00%	15.48%
2001	21.88	104,775	0	104,775	88,151	16,624	55%	0.00%	0.00%	15.87%
2002	23.60	114,227	0	114,227	95,155	19,072	55%	0.00%	0.00%	16.70%
2003	27.77	126,369	0	126,369	107,495	18,874	52%	0.00%	0.00%	14.94%
2004	26.43	134,770	0	134,770	116,204	18,566	58%	0.00%	0.00%	13.78%
2005	29.96	129,779	0	129,779	111,788	17,991	49%	0.00%	0.00%	13.86%
2006	27.62	135,032	0	135,032	116,047	18,985	56%	0.00%	0.00%	14.06%
2007	27.95	144,495	0	144,495	129,686	14,809	59%	0.00%	0.00%	10.25%
2008	28.98	147,134	0	147,134	131,198	15,937	58%	0.00%	0.00%	10.83%
2009	30.64	159,791	0	159,791	142,118	17,673	60%	0.00%	0.00%	11.06%
2010	31.97	162,056	0	162,056	143,556	18,500	58%	0.00%	0.00%	11.42%
2011	35.08	176,484	0	176,484	156,947	19,537	57%	0.00%	0.00%	11.07%
2012	35.76	188,891	0	188,403	166,693	21,710	60%	0.00%	0.26%	11.52%
2013	35.71	200,655	0	198,764	177,013	21,751	64%	0.00%	0.94%	10.94%
2014	37.44	216,757	0	214,425	187,385	27,040	65%	0.00%	1.08%	12.61%
2015	40.71	238,120	0	235,746	207,913	27,833	66%	0.00%	1.00%	11.81%
2016	43.82	259,711	0	249,718	223,751	25,967	65%	0.00%	3.85%	10.40%
2017	46.93	267,686	0	264,552	231,492	33,060	64%	0.00%	1.17%	12.50%
2018	54.52	298,239	0	291,282	251,414	39,868	61%	0.00%	2.33%	13.69%
2019	59.11	320,344	0	316,620	270,473	46,148	61%	0.00%	1.16%	14.58%

Peak Demand increased from 19.47 MW in 2000 to 59.11 MW in 2019 at a rate of 6.2%. MWh Offtake increased from 92,546 MWh in 2000 to 316,620 MWh in 2019 at a rate of 6.8%. The constant increase in Peak Demand and MWh Offtake are due to steadily progressing economy in South Cotabato. As South Cotabato has been steadily progressing, investors come in and the demand for electricity increases.

On the other hand, the Load Factor was observed to be on a decreasing trend, from 66% in 2015 to 61% in 2019. One of the identified major reason that contributes the decreasing trend in load factor of SOCOTECO is the increasing number of residential consumers, such as brought by Sitio Electrification Program (SEP) and Nationwide Intensification of Household Electrification. As of 2019, SOCOTECO I is dominantly comprised of residential customers at 90.1% of its total customer population. For reference, the typical load factor for an average residential customer is only about 23%.



MWh Output increased from year 2000 to year 2019 at a rate of 6.8%, while MWh System Loss increased at a rate of 1.4% from year 2016 to year 2019.

The historical MWh Output data for industrial is consistent with our DDP submission for the past years. Moreover, there is no MWh Output for Own Use for year 2000-2005 because it is incorporated in the System Loss recovery (System Loss + Admin Use).



Historically, Transmission Loss ranged from 0.26% to 3.85% while System Loss ranged from 10.25% to 16.70%. The Transmission Loss peaked at 3.85% on year 2016, while System Loss peaked at 16.70% on year 2002.



Residential customers account for the bulk of energy sales at 48.66% due to the high number of connections. On the other hand, Industrial customers accounted for 37.31% of energy sales despite of the low number of connections.



For PSALM, the total Offtake for the last historical year is lower than the quantity stipulated in the PSA. The PSA with PSALM accounts for the bulk of MWh Offtake.



WESM is not yet operational in Mindanao Grid.

#### **Previous Year's Load Profile**



Based on the Load Duration Curve, the minimum load is 0 MW and the maximum load is 54.86 MW (CP) for the last historical year.



Peak MW occurred on May 16, 2019, Thursday at 3:00 PM. The peak happens to be on typical hot and regular working day, and with no rainfall and clear sky. The highest recorded temperature at 34 degree Celsius with a lowest humidity recorder at 51%. Also, one of the noted factors that affects the weather condition during this time is the presence haze in our region.

Peak daily MWh occurred on May 29, 2019 (Wednesday). As shown in the Load Curves, the available supply is higher than the Peak Demand.



The Non-coincident Peak Demand is 78.79 MW, which is around 57.34% of the total substation capacity of 137.4 MVA at a power factor of 98.01%. The load factor or the ratio between the Average Load of 35.15 MW and the Non-coincident Peak Demand is 45.88%. A safe estimate of the true minimum load is the fifth percentile load of 24.58 MW which is 31.20% of the Non-coincident Peak Demand.

Metering Point	Substation MVA	Substation Peak MW
M7 Totalizer	100	53.110
BFI Tantangan	10	3.342
BFI Banga	10	6.767
SPC	12.395	10.758
SE1	5	4.814

The substations loaded at above 70% are Matulas, Dajay, Morales and Norala. This loading problem will be solved by the installation of new substations in Lamsugod (6.25 max MVA) and Koronadal (25 max MVA) in year 2021 and upgrading of Dajay substation from 12.5 max MVA to 25 max MVA in year 2022.

## Forecasted Consumption Data

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2020	Jan	55.34	74.83	0.00	0.000		135%	135%	19.49
	Feb	58.52	71.84	0.00	0.000		123%	123%	13.32
	Mar	59.40	73.02	0.00	0.000		123%	123%	13.62
	Apr	55.49	74.54	0.00	0.000		134%	134%	19.05
	May	55.10	70.91	0.00	0.000		129%	129%	15.81
	Jun	55.32	70.24	0.00	0.000		127%	127%	14.92
	Jul	54.84	71.16	0.00	0.000		130%	130%	16.33
	Aug	55.44	69.49	0.00	0.000		125%	125%	14.05
	Sep	55.80	73.79	0.00	0.000		132%	132%	17.98
	Oct	57.07	73.86	0.00	0.000		129%	129%	16.79
	Nov	54.52	74.44	0.00	0.000		137%	137%	19.92
	Dec	59.84	76.08	0.00	0.000		127%	127%	16.24
2021	Jan	62.59	43.90	22.43	0.000		70%	106%	3.74
	Feb	63.74	43.90	19.44	0.000		69%	99%	-0.40
	Mar	66.87	43.90	20.62	0.000		66%	96%	-2.35
	Apr	65.88	43.90	22.14	0.000		67%	100%	0.15
	May	65.46	43.90	18.51	0.000		67%	95%	-3.05
	Jun	65.70	43.90	17.84	0.000		67%	94%	-3.96
	Jul	65.17	43.90	18.76	0.000		67%	96%	-2.51
	Aug	65.83	43.90	17.09	0.000		67%	93%	-4.84
	Sep	66.23	43.90	21.39	0.000		66%	99%	-0.94
	Oct	67.61	43.90	21.46	3.000		65%	101%	0.75
	Nov	64.83	43.90	22.04	3.000		68%	106%	4.12
	Dec	70.62	43.90	23.68	3.000		62%	100%	-0.05
2022	Jan	67.83	48.90	22.43	3.000		72%	110%	6.50
	Feb	69.07	48.90	19.44	3.000		71%	103%	2.27
	Mar	72.47	48.90	20.62	3.000		67%	100%	0.05
	Apr	71.40	48.90	22.14	3.000		68%	104%	2.64

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	May	70.93	48.90	18.51	3.000		69%	99%	-0.53
	Jun	71.20	48.90	17.84	3.000		69%	98%	-1.46
	Jul	70.63	48.90	18.76	3.000		69%	100%	0.04
	Aug	71.34	48.90	17.09	3.000		69%	97%	-2.35
	Sep	71.77	48.90	21.39	3.000		68%	102%	1.52
	Oct	73.26	48.90	21.46	3.000		67%	100%	0.10
	Nov	70.25	48.90	22.04	3.000		70%	105%	3.69
	Dec	76.53	48.90	23.68	3.000		64%	99%	-0.96
2023	Jan	73.14	53.90	22.43	3.000		74%	108%	6.19
	Feb	74.48	53.90	19.44	3.000		72%	103%	1.86
	Mar	78.14	53.90	20.62	3.000		69%	99%	-0.62
	Apr	76.98	53.90	22.14	3.000		70%	103%	2.05
	May	76.49	53.90	18.51	3.000		70%	99%	-1.08
	Jun	76.77	53.90	17.84	3.000		70%	97%	-2.03
	Jul	76.15	53.90	18.76	3.000		71%	99%	-0.49
	Aug	76.93	53.90	17.09	3.000		70%	96%	-2.93
	Sep	77.38	53.90	21.39	3.000		70%	101%	0.90
	Oct	79.00	53.90	21.46	3.000		68%	99%	-0.64
	Nov	75.75	53.90	22.04	3.000		71%	104%	3.19
	Dec	82.52	53.90	23.68	3.000		65%	98%	-1.95
2024	Jan	78.48	53.90	22.43	6.000		69%	105%	3.85
	Feb	79.92	53.90	19.44	6.000		67%	99%	-0.58
	Mar	83.85	53.90	20.62	6.000		64%	96%	-3.33
	Apr	82.61	53.90	22.14	6.000		65%	99%	-0.57
	May	82.08	53.90	18.51	6.000		66%	96%	-3.67
	Jun	82.39	53.90	17.84	6.000		65%	94%	-4.65
	Jul	81.72	53.90	18.76	6.000		66%	96%	-3.06
	Aug	82.55	53.90	17.09	6.000		65%	93%	-5.55
	Sep	83.04	53.90	21.39	6.000		65%	98%	-1.75
	Oct	84.77	53.90	21.46	6.000		64%	96%	-3.41

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	Nov	81.29	53.90	22.04	6.000		66%	101%	0.66
	Dec	88.55	53.90	23.68	6.000		61%	94%	-4.98
2025	Jan	83.84	53.90	22.43	6.000		64%	98%	-1.51
	Feb	85.38	53.90	19.44	6.000		63%	93%	-6.04
	Mar	89.58	53.90	20.62	6.000		60%	90%	-9.06
	Apr	88.25	53.90	22.14	6.000		61%	93%	-6.22
	May	87.68	53.90	18.51	6.000		61%	89%	-9.27
	Jun	88.01	53.90	17.84	6.000		61%	88%	-10.27
	Jul	87.30	53.90	18.76	6.000		62%	90%	-8.64
	Aug	88.19	53.90	17.09	6.000		61%	87%	-11.19
	Sep	88.71	53.90	21.39	6.000		61%	92%	-7.43
	Oct	90.56	53.90	21.46	6.000		60%	90%	-9.20
	Nov	86.84	53.90	22.04	6.000		62%	94%	-4.90
	Dec	94.60	53.90	23.68	6.000		57%	88%	-11.02
2026	Jan	89.20	53.90	22.43	6.000		60%	92%	-6.87
	Feb	90.84	53.90	19.44	6.000		59%	87%	-11.50
	Mar	95.30	53.90	20.62	6.000		57%	84%	-14.78
	Apr	93.89	53.90	22.14	6.000		57%	87%	-11.86
	May	93.28	53.90	18.51	6.000		58%	84%	-14.88
	Jun	93.64	53.90	17.84	6.000		58%	83%	-15.90
	Jul	92.88	53.90	18.76	6.000		58%	85%	-14.22
	Aug	93.82	53.90	17.09	6.000		57%	82%	-16.83
	Sep	94.38	53.90	21.39	6.000		57%	86%	-13.10
	Oct	96.35	53.90	21.46	6.000		56%	84%	-14.99
	Nov	92.39	53.90	22.04	6.000		58%	89%	-10.44
	Dec	100.65	53.90	23.68	6.000		54%	83%	-17.07
2027	Jan	94.54	59.49	22.43	12.000		63%	99%	-0.62
	Feb	96.28	59.49	19.44	12.000		62%	94%	-5.35
	Mar	101.01	59.49	20.62	12.000		59%	91%	-8.90
	Apr	99.51	59.49	22.14	12.000		60%	94%	-5.89

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	May	98.87	59.49	18.51	12.000		60%	91%	-8.87
	Jun	99.25	59.49	17.84	12.000		60%	90%	-9.92
	Jul	98.44	59.49	18.76	12.000		60%	92%	-8.19
	Aug	99.44	59.49	17.09	12.000		60%	89%	-10.86
	Sep	100.03	59.49	21.39	12.000		59%	93%	-7.16
	Oct	102.12	59.49	21.46	12.000		58%	91%	-9.17
	Nov	97.92	59.49	22.04	12.000		61%	96%	-4.39
	Dec	106.67	59.49	23.68	12.000		56%	89%	-11.51
2028	Jan	99.86	59.49	22.43	12.000		60%	94%	-5.94
	Feb	101.70	59.49	19.44	12.000		58%	89%	-10.76
	Mar	106.69	59.49	20.62	12.000		56%	86%	-14.58
	Apr	105.11	59.49	22.14	12.000		57%	89%	-11.49
	May	104.43	59.49	18.51	12.000		57%	86%	-14.44
	Jun	104.83	59.49	17.84	12.000		57%	85%	-15.50
	Jul	103.98	59.49	18.76	12.000		57%	87%	-13.73
	Aug	105.04	59.49	17.09	12.000		57%	84%	-16.45
	Sep	105.66	59.49	21.39	12.000		56%	88%	-12.79
	Oct	107.86	59.49	21.46	12.000		55%	86%	-14.91
	Nov	103.43	59.49	22.04	12.000		58%	90%	-9.90
	Dec	112.67	59.49	23.68	12.000		53%	84%	-17.51
2029	Jan	105.15	59.49	22.43	12.000		57%	89%	-11.23
	Feb	107.08	59.49	19.44	12.000		56%	85%	-16.15
	Mar	112.34	59.49	20.62	12.000		53%	82%	-20.23
	Apr	110.68	59.49	22.14	12.000		54%	85%	-17.05
	May	109.96	59.49	18.51	12.000		54%	82%	-19.96
	Jun	110.38	59.49	17.84	12.000		54%	81%	-21.05
	Jul	109.48	59.49	18.76	12.000		54%	82%	-19.23
	Aug	110.60	59.49	17.09	12.000		54%	80%	-22.01
	Sep	111.25	59.49	21.39	12.000		53%	83%	-18.38
	Oct	113.57	59.49	21.46	12.000		52%	82%	-20.62

	Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
Nov	108.91	59.49	22.04	12.000		55%	86%	-15.37
Dec	118.64	59.49	23.68	12.000		50%	80%	-23.47

The Peak Demand was forecasted using historical Coincidental Peak and was assumed to occur on the month of December based on SOCOTECO I historical demand trend. Monthly Peak Demand is at its lowest on the month of January based on historical data. In general, Peak Demand is expected to grow at a rate of 8.1% annually.

In March 2020, the Covid-19 has become pandemic that caused lockdowns, community quarantines, non-operation of schools and businesses and prohibition of gatherings until a vaccine has become available. The forecasted Coincident Peak MW on April to December 2020 were then reduced by 5MW considering that our actual demand during the enhanced community quarantine was significantly reduced by 10MW.

Based of	on Historical Trend	Normaliz	ed
2020	Coincident Peak MW	2020	Coincident Peak MW
Jan	55.34	Jan	55.34
Feb	58.52	Feb	58.52
Mar	59.40	Mar	59.40
Apr	60.49	Apr	55.49
May	60.10	May	55.10
Jun	60.32	Jun	55.32
Jul	59.84	Jul	54.84
Aug	60.44	Aug	55.44
Sep	60.80	Sep	55.80
Oct	62.07	Oct	57.07
Nov	59.52	Nov	54.52
Dec	64.84	Dec	59.84



The available supply is generally above the Peak Demand. This is because of the sufficient contracted supply of SOCOTECO I.



Of the available supply, the largest is 25.59 MW from GNPK. This is followed by 20.45 MW from PSALM.



The first wave of supply procurement will be for 3.0 MW planned to be available by October 2021. This will be followed by 3.0 MW and 6.0 MW planned to be available by 2024 and 2027 respectively.



Currently, there is over-contracting by 23% to 37% based on the monthly forecasted Coincidental Peak MW versus the Contracted MW of year 2020. The highest contracting level is 137% which is expected to occur on November 2020. However in years 2021-2029, the existing contracting level is lower than the target contracting level. The uncontracted level is planned to be sourced out from the WESM. The lowest target contracting level is 81% which is expected to occur on December 2029.



Currently, there is over-contracting by 13.32 to 19.92 MW. The highest surplus is 19.92 MW which has occurred on the month of January 2020. The highest deficit is 22.72 MW which is expected to occur on the month of December 2029.

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2020	Jan	27,987	24,817	3,170	0.00%	11.33%
	Feb	27,486	23,952	3,535	0.00%	12.86%
	Mar	26,028	22,352	3,676	0.00%	14.12%
	Apr	28,858	24,645	4,213	0.00%	14.60%
	May	26,772	23,289	3,483	0.00%	13.01%

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
	Jun	27,164	22,915	4,249	0.00%	15.64%
	Jul	25,925	22,449	3,476	0.00%	13.41%
	Aug	27,638	23,861	3,777	0.00%	13.66%
	Sep	28,223	24,199	4,024	0.00%	14.26%
	Oct	27,077	23,635	3,441	0.00%	12.71%
	Nov	28,434	25,093	3,341	0.00%	11.75%
	Dec	28,436	24,315	4,121	0.00%	14.49%
2021	Jan	27,901	24,666	3,234	0.00%	11.59%
	Feb	28,627	25,243	3,384	0.00%	11.82%
	Mar	27,108	23,557	3,551	0.00%	13.10%
	Apr	30,055	25,974	4,082	0.00%	13.58%
	May	27,883	24,545	3,339	0.00%	11.97%
	Jun	28,291	24,150	4,141	0.00%	14.64%
	Jul	27,000	23,659	3,342	0.00%	12.38%
	Aug	28,784	25,148	3,637	0.00%	12.64%
	Sep	29,394	25,503	3,891	0.00%	13.24%
	Oct	28,200	24,910	3,291	0.00%	11.67%
	Nov	29,613	26,445	3,168	0.00%	10.70%
	Dec	29,616	25,626	3,990	0.00%	13.47%
2022	Jan	29,038	25,901	3,137	0.00%	10.80%
	Feb	29,794	26,507	3,287	0.00%	11.03%
	Mar	28,213	24,736	3,477	0.00%	12.32%
	Apr	31,281	27,274	4,007	0.00%	12.81%
	May	29,020	25,773	3,247	0.00%	11.19%
	Jun	29,445	25,359	4,085	0.00%	13.87%
	Jul	28,101	24,843	3,258	0.00%	11.59%
	Aug	29,958	26,406	3,552	0.00%	11.86%
	Sep	30,593	26,780	3,813	0.00%	12.46%
	Oct	29,350	26,157	3,194	0.00%	10.88%
	Nov	30,821	27,769	3,052	0.00%	9.90%
	Dec	30,824	26,909	3,915	0.00%	12.70%
2023	Jan	30,375	27,109	3,266	0.00%	10.75%
	Feb	31,166	27,743	3,423	0.00%	10.98%
	Mar	29,512	25,889	3,622	0.00%	12.27%
	Apr	32,721	28,545	4,175	0.00%	12.76%
	May	30,356	26,975	3,381	0.00%	11.14%
	Jun	30,800	26,542	4,258	0.00%	13.83%
	Jul	29,395	26,001	3,393	0.00%	11.54%
	Aug	31,337	27,638	3,700	0.00%	11.81%
	Sep	32,001	28,029	3,972	0.00%	12.41%
	Oct	30,701	27,376	3,325	0.00%	10.83%
	Nov	32,239	29,064	3,176	0.00%	9.85%
	Dec	32,243	28,163	4,079	0.00%	12.65%

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2024	Jan	31,680	28,289	3,391	0.00%	10.70%
	Feb	32,504	28,951	3,554	0.00%	10.93%
	Mar	30,779	27,017	3,763	0.00%	12.22%
	Apr	34,127	29,789	4,338	0.00%	12.71%
	May	31,660	28,150	3,510	0.00%	11.09%
	Jun	32,123	27,698	4,426	0.00%	13.78%
	Jul	30,658	27,134	3,524	0.00%	11.49%
	Aug	32,683	28,841	3,842	0.00%	11.76%
	Sep	33,376	29,249	4,126	0.00%	12.36%
	Oct	32,020	28,568	3,452	0.00%	10.78%
	Nov	33,624	30,330	3,295	0.00%	9.80%
	Dec	33,628	29,390	4,238	0.00%	12.60%
2025	Jan	32,954	29,444	3,510	0.00%	10.65%
	Feb	33,812	30,132	3,680	0.00%	10.88%
	Mar	32,017	28,119	3,898	0.00%	12.18%
	Apr	35,499	31,004	4,495	0.00%	12.66%
	May	32,933	29,298	3,635	0.00%	11.04%
	Jun	33,415	28,828	4,587	0.00%	13.73%
	Jul	31,891	28,241	3,650	0.00%	11.44%
	Aug	33,998	30,018	3,980	0.00%	11.71%
	Sep	34,718	30,443	4,275	0.00%	12.31%
	Oct	33,308	29,734	3,574	0.00%	10.73%
	Nov	34,977	31,567	3,410	0.00%	9.75%
	Dec	34,981	30,589	4,391	0.00%	12.55%
2026	Jan	34,199	30,573	3,626	0.00%	10.60%
	Feb	35,089	31,288	3,801	0.00%	10.83%
	Mar	33,226	29,198	4,029	0.00%	12.13%
	Apr	36,840	32,193	4,646	0.00%	12.61%
	May	34,177	30,422	3,755	0.00%	10.99%
	Jun	34,677	29,934	4,744	0.00%	13.68%
	Jul	33,095	29,324	3,771	0.00%	11.39%
	Aug	35,282	31,169	4,112	0.00%	11.66%
	Sep	36,029	31,611	4,419	0.00%	12.26%
	Oct	34,566	30,874	3,691	0.00%	10.68%
	Nov	36,298	32,778	3,520	0.00%	9.70%
	Dec	36,301	31,762	4,539	0.00%	12.50%
2027	Jan	35,414	31,678	3,737	0.00%	10.55%
	Feb	36,336	32,419	3,918	0.00%	10.78%
	Mar	34,408	30,253	4,155	0.00%	12.08%
	Apr	38,149	33,357	4,793	0.00%	12.56%
	May	35,392	31,521	3,871	0.00%	10.94%
	Jun	35,910	31,015	4,895	0.00%	13.63%
	Jul	34,272	30,384	3,888	0.00%	11.34%

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
	Aug	36,536	32,296	4,240	0.00%	11.61%
	Sep	37,310	32,753	4,557	0.00%	12.21%
	Oct	35,795	31,990	3,804	0.00%	10.63%
	Nov	37,588	33,962	3,626	0.00%	9.65%
	Dec	37,592	32,910	4,682	0.00%	12.45%
2028	Jan	36,603	32,760	3,843	0.00%	10.50%
	Feb	37,555	33,525	4,030	0.00%	10.73%
	Mar	35,562	31,286	4,277	0.00%	12.03%
	Apr	39,430	34,496	4,934	0.00%	12.51%
	May	36,580	32,598	3,982	0.00%	10.89%
	Jun	37,115	32,074	5,041	0.00%	13.58%
	Jul	35,422	31,421	4,000	0.00%	11.29%
	Aug	37,762	33,398	4,364	0.00%	11.56%
	Sep	38,562	33,871	4,691	0.00%	12.17%
	Oct	36,996	33,082	3,913	0.00%	10.58%
	Nov	38,850	35,122	3,728	0.00%	9.59%
	Dec	38,854	34,034	4,820	0.00%	12.40%
2029	Jan	37,765	33,819	3,946	0.00%	10.45%
	Feb	38,748	34,609	4,139	0.00%	10.68%
	Mar	36,692	32,297	4,394	0.00%	11.98%
	Apr	40,682	35,611	5,071	0.00%	12.46%
	May	37,741	33,652	4,090	0.00%	10.84%
	Jun	38,294	33,111	5,182	0.00%	13.53%
	Jul	36,547	32,437	4,109	0.00%	11.24%
	Aug	38,961	34,478	4,483	0.00%	11.51%
	Sep	39,787	34,966	4,820	0.00%	12.12%
	Oct	38,170	34,152	4,018	0.00%	10.53%
	Nov	40,083	36,258	3,825	0.00%	9.54%
	Dec	40,087	35,134	4,953	0.00%	12.36%

MWh Offtake was forecasted using MWh purchased historical data. The assumed load factor is 57.0%.



MWh Output was expected to grow at a rate of 6.8% annually.



System Loss is expected to range from 9.54% to 15.64%.

#### **Power Supply**

Case No.	Туре	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
GNPK (ERC Case No. 2014-011 RC)	Base	GN Power Kauswagan Ltd.	25.59	168,126	8/7/2019	8/7/2039
FDC-COAL (ERC Case No. 2015-119 RC)	Base	FDC Misamis Power Corporation	10.00	35,040	10/14/2016	10/14/2041
TSI (ERC Case No. 2014-138 RC)	Base	Therma South, Inc.	10.00	35,040	12/18/2015	12/18/2040
SEC (ERC Case No. 2014-120 RC)	Base	Sarangani Energy Corporation	10.00	35,040	6/1/2019	6/1/2044
BFI-Tantangan (RESA)	Intermediate	Other	3.50		5/8/2018	12/26/2020
SE1 (RESA)	Intermediate	nv vogt Philippines Solar Energy One, Inc.	5.00		10/25/2015	12/26/2020
PSALM	Intermediate	Power Sector Assets and Liabilities Management Corporation	16.96	203,544	12/26/2017	12/26/2020
SPC (ERC Case No.2015-040 RC)	Peaking	Supreme Power Corporation	11.90		5/6/2016	5/6/2031

The PSA with GNPK filed with ERC under Case No. 2014-011 RC was procured through negotiation. It was selected to provide for base requirements since it is a coal-fired power plant. Historically, the utilization of the PSA is 79.04%. The actual billed overall monthly charge under the PSA ranged from 2.46 P/kWh to 5.38 P/KWh in the same period.

The PSA with FDC-Coal filed with ERC under Case No. 2015-119 RC was procured through negotiation. It was selected to provide for base requirements since it is a coal-fired power plant. Historically, the utilization of the PSA is 92.14%. The actual billed overall monthly charge under the PSA ranged from 6.05 P/kWh to 8.50 P/KWh in the same period.

The PSA with TSI filed with ERC under Case No. 2014-138 RC was procured through negotiation. It was selected to provide for base requirements since it is a coal-fired power plant. Historically, the utilization of the PSA is 71.36%. The actual billed overall monthly charge under the PSA ranged from 4.87 P/kWh to 9.98 P/KWh in the same period.

The PSA with SEC filed with ERC under Case No. 2014-120 RC was procured through negotiation. It was selected to provide for base requirements since it is a coal-fired power plant. Historically, the utilization of the PSA is 49.04%. The actual billed overall monthly charge under the PSA ranged from 2.69 P/kWh to 7.91 P/KWh in the same period.

The RESA with BFI-Tantangan and SE1 and the CSEE with PSALM, and was procured through negotiation. It was selected to provide for intermediate requirements because of its supply characteristics (biomass, solar and hydro). Historically, the utilization of the contracts are 5.69%, 20.26% and 69.58% respectively.

The PSA with SPC filed with ERC under Case No. 2015-040 RC was procured through negotiation. It was selected to provide for peaking requirements. Historically, the utilization of the PSA is 8.09%. The actual billed overall monthly charge under the PSA ranged from 18.86 P/kWh to 5,452.79 P/KWh in the same period.

Case No.	Туре	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
Euro Hydro Power Plant (RESA)	Base	Other	0.75	2,955	6/26/2020	12/26/2020
PSALM (CSEE)	Intermediate	National Power Corporation	20.45	52,865	12/26/2020	12/26/2029

The RESA with Euro Hydro was procured through negotiation. It was selected to provide for intermediate requirements because of its supply characteristics (hydro).

The CSEE with PSALM is set to expire on December 26, 2020 and is currently negotiated for extension.

	CSP1	CSP2	CSP3
Туре	Intermediate	Intermediate	Intermediate
Minimum MW	6.00	3.00	3.00
Minimum MWh/yr	23,642	5,961	5,961
PSA Start	1/1/2027	10/1/2021	1/1/2024
PSA End	12/31/2051	12/31/2045	12/31/2048
Publication	1/1/2021	1/1/2021	1/1/2021
Pre-bid	1/22/2021	1/22/2021	1/22/2021
Opening	3/23/2021	3/23/2021	3/23/2021
Awarding	4/22/2021	4/22/2021	4/22/2021
PSA Signing	5/22/2021	5/22/2021	5/22/2021
Joint Filing	5/31/2021	5/31/2021	5/31/2021



For the procurement of 6.0 MW of supply which is planned to be available on January 2027, the first publication or launch of CSP will be on January 1, 2021. Joint filing is planned on May 31, 2021, or 150 days later, in accordance with DOE's 2018 CSP Policy.

For the procurement of 3.0 MW of supply which is planned to be available on October 2021, the first publication or launch of CSP will be on January 1, 2021. Joint filing is planned on May 31, 2021, or 150 days later, in accordance with DOE's 2018 CSP Policy.

For the procurement of 3.0 MW of supply which is planned to be available on January 2024, the first publication or launch of CSP will be on January 1, 2021. Joint filing is planned on May 31, 2021, or 150 days later, in accordance with DOE's 2018 CSP Policy.

## **Captive Customer Connections**



The number of Residential connections is expected to grow at a rate of 3.7% annually. Said customer class is expected to account for 47% of the total consumption.

The number of Commercial connections is expected to grow at a rate of 3.4% annually. Said customer class is expected to account for 15% of the total consumption.

The number of Industrial connections is expected to grow at a rate of 4.1% annually. Said customer class is expected to account for 38% of the total consumption.