

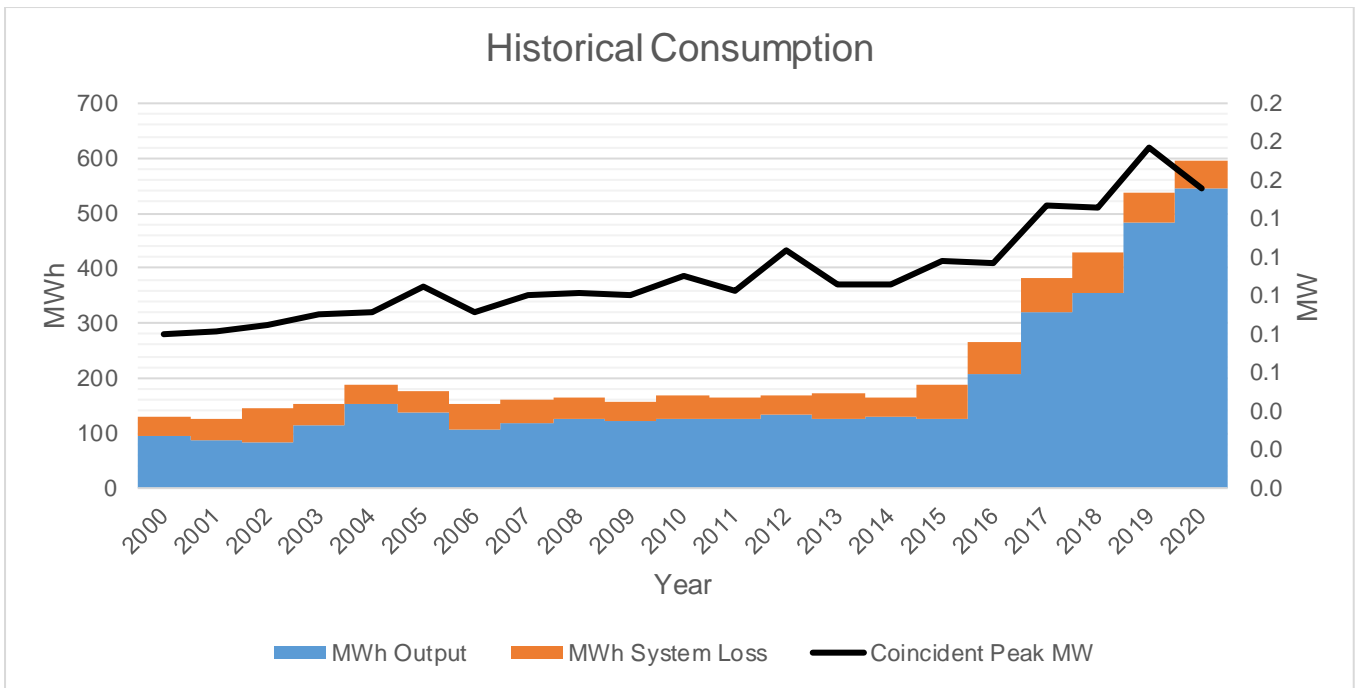
Power Supply Procurement Plan 2021

**SURIGAO DEL NORTE ELECTRIC COOPERATIVE, INC.
(SURNECO)-SPUG-HIKDOP ISLAND**

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	0.08	130	0	130	97	33	19%	0.00%	0.00%	25.46%
2001	0.08	126	0	126	85	40	18%	0.00%	0.00%	32.03%
2002	0.09	146	0	146	84	62	20%	0.00%	0.00%	42.42%
2003	0.09	153	0	153	113	40	19%	0.00%	0.00%	26.04%
2004	0.09	189	0	189	153	37	24%	0.00%	0.00%	19.33%
2005	0.11	175	0	175	139	36	19%	0.00%	0.00%	20.44%
2006	0.09	154	0	154	108	46	19%	0.00%	0.00%	30.07%
2007	0.10	160	0	160	117	43	18%	0.00%	0.00%	26.78%
2008	0.10	165	0	165	125	40	19%	0.00%	0.00%	24.23%
2009	0.10	159	0	159	120	39	18%	0.00%	0.00%	24.31%
2010	0.11	169	0	169	126	43	18%	0.00%	0.00%	25.43%
2011	0.10	167	0	167	127	40	19%	0.00%	0.00%	23.79%
2012	0.12	169	0	169	134	35	16%	0.00%	0.00%	20.47%
2013	0.11	173	0	173	127	46	19%	0.00%	0.00%	26.56%
2014	0.11	163	0	163	129	34	18%	0.00%	0.00%	20.91%
2015	0.12	188	0	188	126	62	18%	0.00%	0.00%	33.10%
2016	0.12	264	0	264	208	56	26%	0.00%	0.00%	21.14%
2017	0.15	381	0	381	320	61	30%	0.00%	0.00%	15.97%
2018	0.15	428	0	428	356	71	33%	0.00%	0.00%	16.71%
2019	0.18	537	0	537	484	53	35%	0.00%	0.00%	9.88%
2020	0.16	594	0	594	547	47	43%	0.00%	0.00%	7.96%

Peak Demand increased from 0.08 MW in 2000 to 0.16 MW in 2019 at a rate of 2.81% due to increasing energy consumption in the area with improving 24 Hrs electric service. MWh Offtake increased from 126 MWh in 2001 to 594 MWh in 2020 at a rate of 6.56 % due to increasing energy consumption in the area with improving 24 hrs electric service. Within the same period, Load Factor ranged from 18% to 43%. There was an abrupt change in consumption on 2019 due to increase in number of hours of electric service. Currently, SURNECO does not have any satellite office in Hikdop Island.

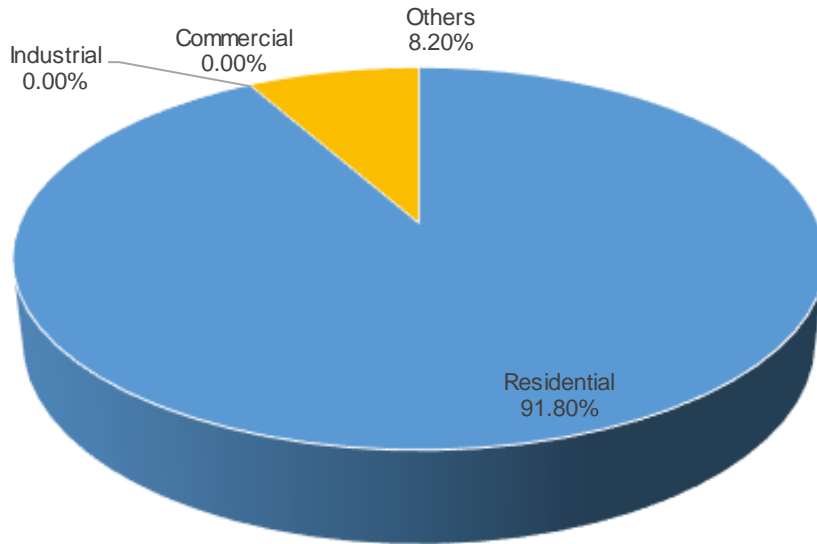


MWh Output increased from year 2001 to year 2020 at a rate of 6.73%, while MWh System Loss decreased at a rate of -1.10% within the same period.



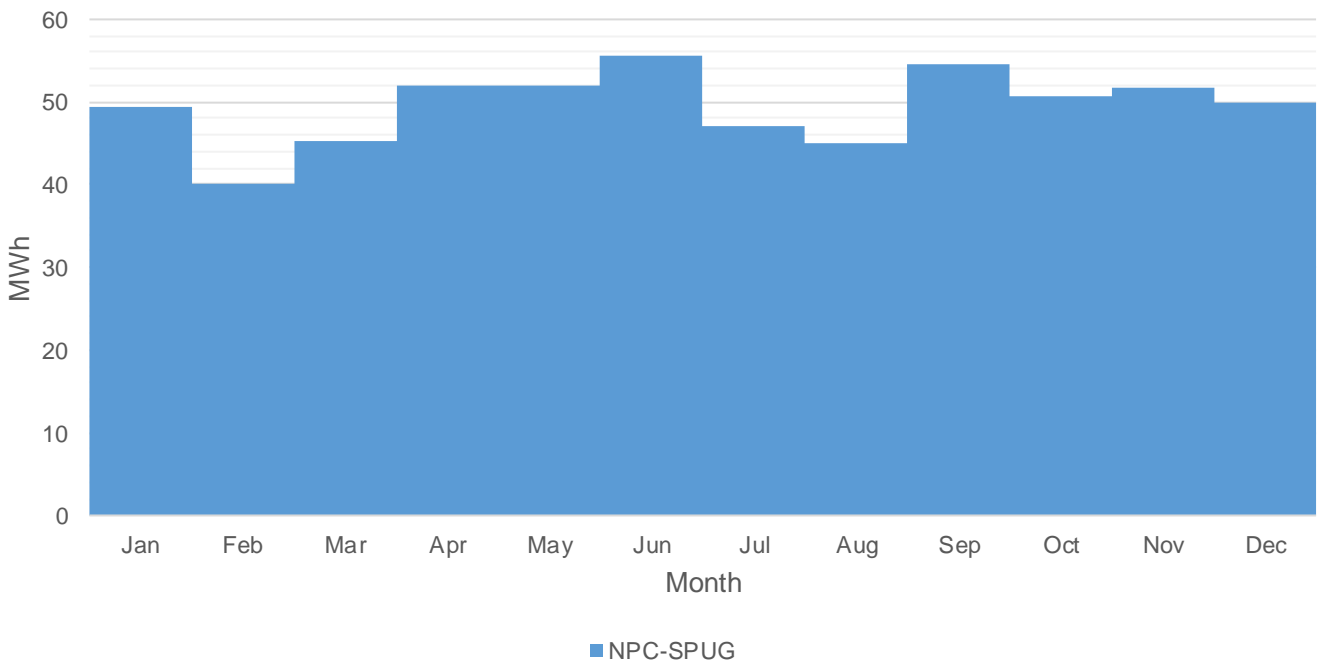
Historically, Transmission Loss at 0% while System Loss ranged from 7.96% to 42.42% because of the 6-hour operation there are tendencies that illegal connection can be done while the system is de-energized and there is also system imbalance in the area due to long single-phase lines. Currently, the systems electric service is improved to 24-hour electric service hence, system loss lowers up to 7.96% as per recorded data. System Loss peaked at 42.42% on year 2002 due to system imbalance caused by long single phase-line and only 6-hrs of electric service.

Previous Year's Shares of Energy Sales

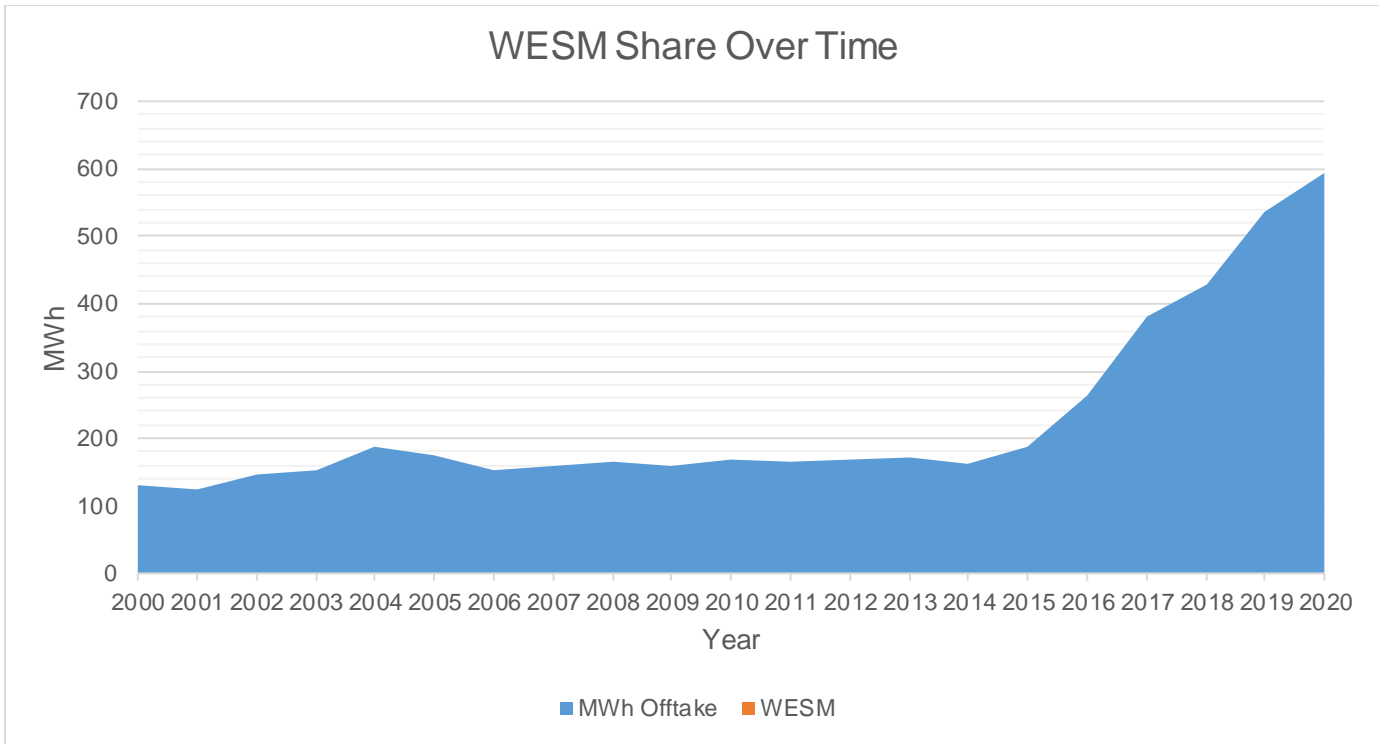


Residential customers account for the bulk of energy sales at 91.80% due to the high number of connections. In contrast, other customer such as Public Building and Streetlights customers accounted for only 8.20% of energy sales due to the low number of connections.

MWh Offtake for Last Historical Year

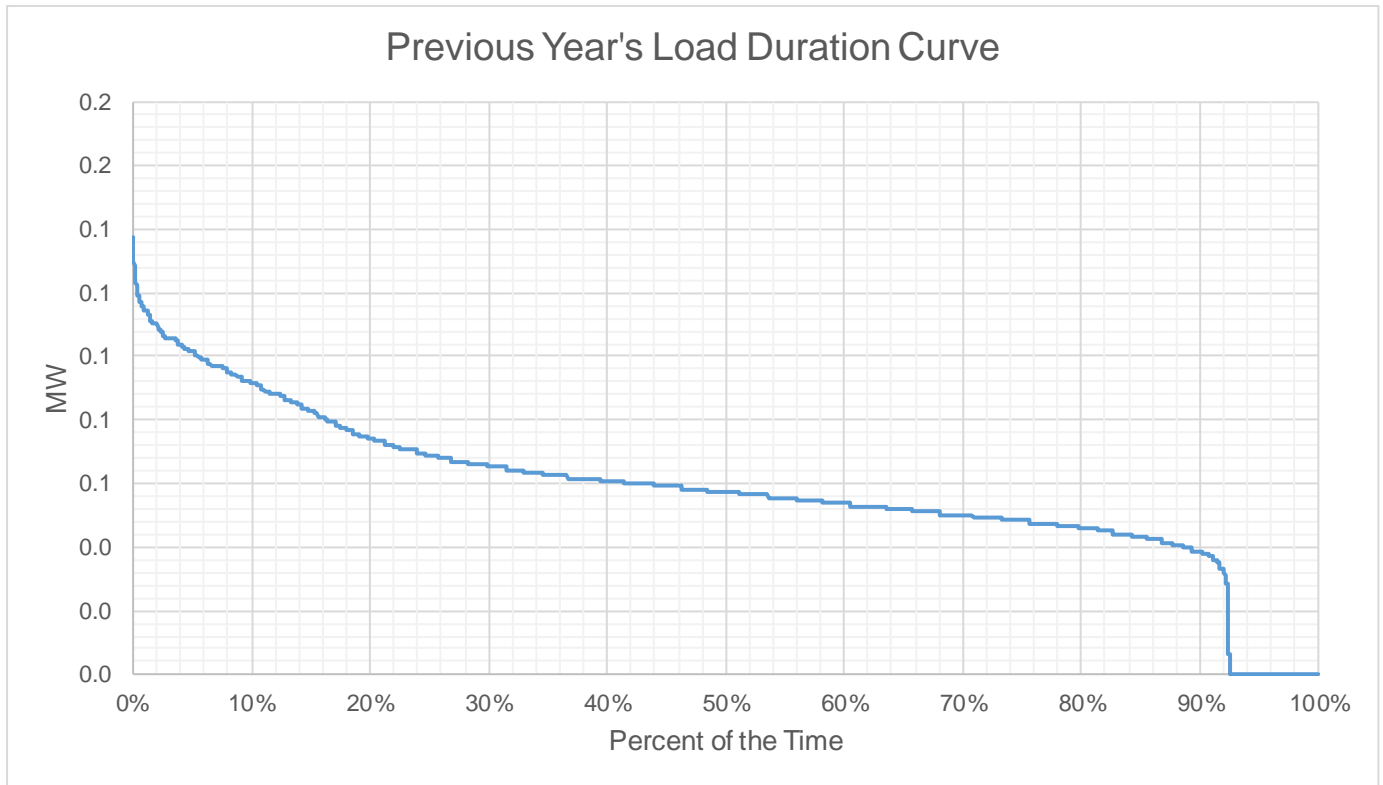


For 2020, the total Offtake for the last historical year is lower than the quantity stipulated in the PSA. The PSA with National Power Corporation-Small Power Utility Group (NPC-SPUG) accounts for the bulk of MWh Offtake.

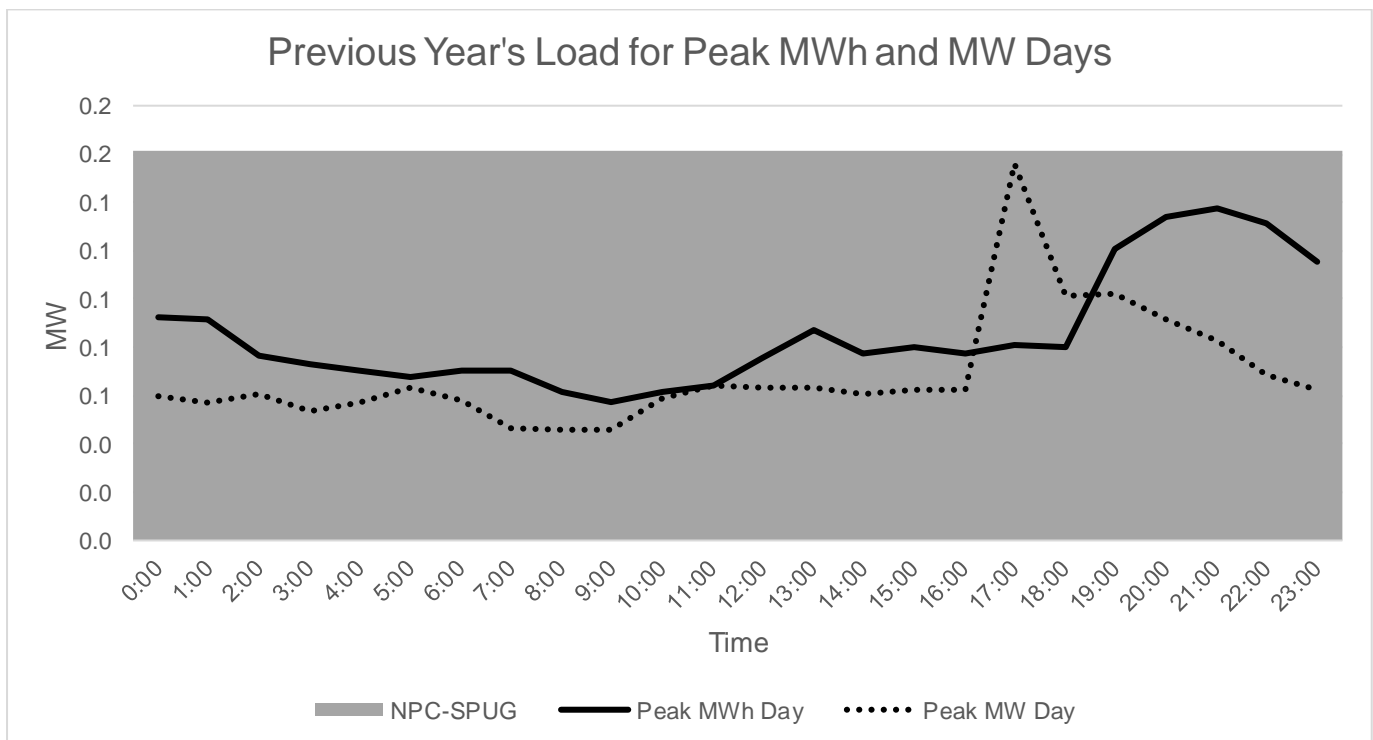


No WESM operation yet in Mindanao.

Previous Year's Load Profile

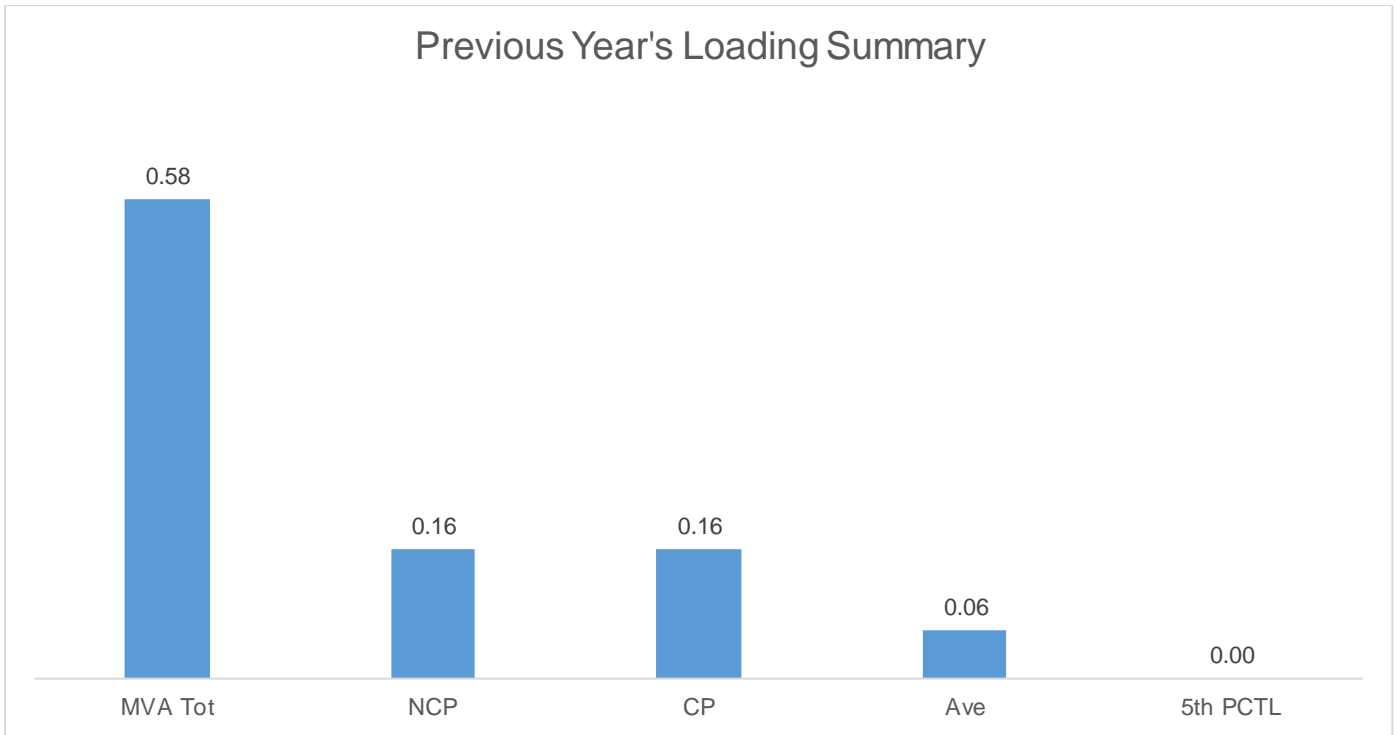


Based on the Load Duration Curve, the minimum load is 0 MW and the maximum load is 0.156 MW for the last historical year.



Peak MW occurred on 17:00 due to the residential based energy usage in the island. Peak daily MWh occurred on 21:00 due to residential based energy usage in the area. As shown in the Load Curves, the available supply is higher than the Peak Demand

Previous Year's Loading Summary



The Non-coincident Peak Demand is 0.16 MW, which is around 27.58% of the total plant capacity of 0.58 MVA at a power factor of 0.275. The load factor or the ratio between the Average Load of 0.06 MW and the Non-coincident Peak Demand is 37.5% of. A safe estimate of the true minimum load is the fifth percentile load of 0 MW which is 0% of the Non-coincident Peak Demand.

Metering Point	Substation MVA	Substation Peak MW
NPC-SPUG	0.581	0.156

No Loading problem.

Forecasted Consumption Data

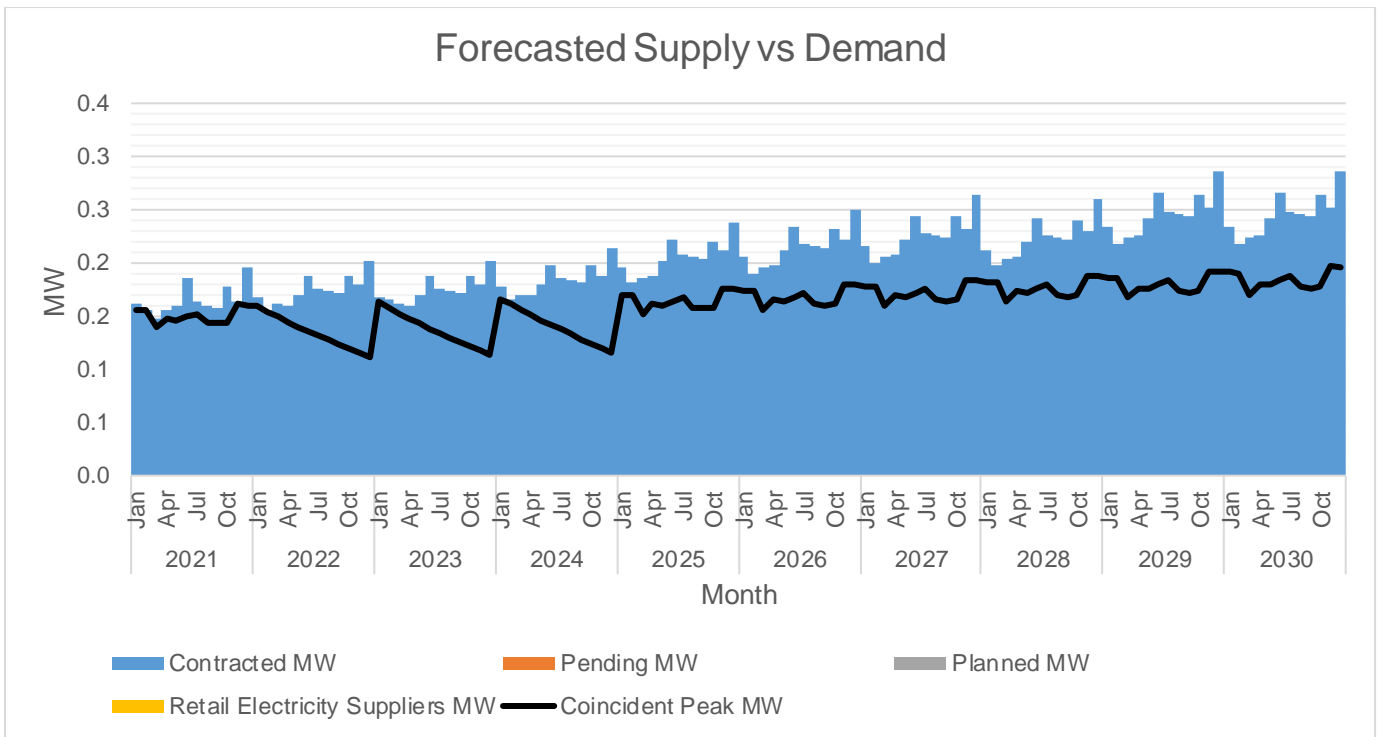
		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
2021	Jan	0.16	0.16	0.00	0.000		104%	104%	0.01
	Feb	0.15	0.16	0.00	0.000		100%	100%	0.00
	Mar	0.14	0.15	0.00	0.000		106%	106%	0.01
	Apr	0.15	0.16	0.00	0.000		106%	106%	0.01
	May	0.15	0.16	0.00	0.000		109%	109%	0.01
	Jun	0.15	0.19	0.00	0.000		124%	124%	0.04
	Jul	0.15	0.16	0.00	0.000		107%	107%	0.01
	Aug	0.14	0.16	0.00	0.000		111%	111%	0.02
	Sep	0.14	0.16	0.00	0.000		109%	109%	0.01
	Oct	0.14	0.18	0.00	0.000		123%	123%	0.03
	Nov	0.16	0.16	0.00	0.000		101%	101%	0.00
	Dec	0.16	0.20	0.00	0.000		123%	123%	0.04
2022	Jan	0.16	0.17	0.00	0.000		106%	106%	0.01
	Feb	0.15	0.16	0.00	0.000		102%	102%	0.00
	Mar	0.15	0.16	0.00	0.000		108%	108%	0.01
	Apr	0.14	0.16	0.00	0.000		111%	111%	0.02
	May	0.14	0.17	0.00	0.000		122%	122%	0.03
	Jun	0.14	0.19	0.00	0.000		139%	139%	0.05
	Jul	0.13	0.18	0.00	0.000		134%	134%	0.04
	Aug	0.13	0.17	0.00	0.000		137%	137%	0.05
	Sep	0.12	0.17	0.00	0.000		141%	141%	0.05
	Oct	0.12	0.19	0.00	0.000		158%	158%	0.07
	Nov	0.11	0.18	0.00	0.000		155%	155%	0.06
	Dec	0.11	0.20	0.00	0.000		182%	182%	0.09
2023	Jan	0.16	0.17	0.00	0.000		104%	104%	0.01
	Feb	0.16	0.17	0.00	0.000		106%	106%	0.01
	Mar	0.15	0.16	0.00	0.000		106%	106%	0.01
	Apr	0.15	0.16	0.00	0.000		108%	108%	0.01
	May	0.14	0.17	0.00	0.000		119%	119%	0.03
	Jun	0.14	0.19	0.00	0.000		136%	136%	0.05
	Jul	0.13	0.18	0.00	0.000		131%	131%	0.04
	Aug	0.13	0.17	0.00	0.000		134%	134%	0.04
	Sep	0.13	0.17	0.00	0.000		137%	137%	0.05
	Oct	0.12	0.19	0.00	0.000		154%	154%	0.07
	Nov	0.12	0.18	0.00	0.000		152%	152%	0.06
	Dec	0.11	0.20	0.00	0.000		178%	178%	0.09
2024	Jan	0.17	0.18	0.00	0.000		107%	107%	0.01
	Feb	0.16	0.17	0.00	0.000		102%	102%	0.00
	Mar	0.16	0.17	0.00	0.000		109%	109%	0.01
	Apr	0.15	0.17	0.00	0.000		112%	112%	0.02
	May	0.15	0.18	0.00	0.000		123%	123%	0.03
	Jun	0.14	0.20	0.00	0.000		140%	140%	0.06
	Jul	0.14	0.19	0.00	0.000		135%	135%	0.05
	Aug	0.13	0.18	0.00	0.000		138%	138%	0.05
	Sep	0.13	0.18	0.00	0.000		142%	142%	0.05

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	Oct	0.12	0.20	0.00	0.000		159%	159%	0.07
	Nov	0.12	0.19	0.00	0.000		157%	157%	0.07
	Dec	0.12	0.21	0.00	0.000		183%	183%	0.10
2025	Jan	0.17	0.20	0.00	0.000		114%	114%	0.02
	Feb	0.17	0.18	0.00	0.000		107%	107%	0.01
	Mar	0.15	0.19	0.00	0.000		122%	122%	0.03
	Apr	0.16	0.19	0.00	0.000		117%	117%	0.03
	May	0.16	0.20	0.00	0.000		125%	125%	0.04
	Jun	0.16	0.22	0.00	0.000		136%	136%	0.06
	Jul	0.17	0.21	0.00	0.000		124%	124%	0.04
	Aug	0.16	0.21	0.00	0.000		130%	130%	0.05
	Sep	0.16	0.20	0.00	0.000		130%	130%	0.05
	Oct	0.16	0.22	0.00	0.000		140%	140%	0.06
	Nov	0.18	0.21	0.00	0.000		120%	120%	0.03
	Dec	0.17	0.24	0.00	0.000		136%	136%	0.06
2026	Jan	0.17	0.20	0.00	0.000		118%	118%	0.03
	Feb	0.17	0.19	0.00	0.000		110%	110%	0.02
	Mar	0.16	0.20	0.00	0.000		126%	126%	0.04
	Apr	0.17	0.20	0.00	0.000		120%	120%	0.03
	May	0.16	0.21	0.00	0.000		129%	129%	0.05
	Jun	0.17	0.23	0.00	0.000		139%	139%	0.07
	Jul	0.17	0.22	0.00	0.000		127%	127%	0.05
	Aug	0.16	0.22	0.00	0.000		133%	133%	0.05
	Sep	0.16	0.21	0.00	0.000		133%	133%	0.05
	Oct	0.16	0.23	0.00	0.000		143%	143%	0.07
	Nov	0.18	0.22	0.00	0.000		123%	123%	0.04
	Dec	0.18	0.25	0.00	0.000		140%	140%	0.07
2027	Jan	0.18	0.22	0.00	0.000		121%	121%	0.04
	Feb	0.18	0.20	0.00	0.000		113%	113%	0.02
	Mar	0.16	0.21	0.00	0.000		129%	129%	0.05
	Apr	0.17	0.21	0.00	0.000		123%	123%	0.04
	May	0.17	0.22	0.00	0.000		132%	132%	0.05
	Jun	0.17	0.24	0.00	0.000		143%	143%	0.07
	Jul	0.17	0.23	0.00	0.000		131%	131%	0.05
	Aug	0.17	0.23	0.00	0.000		137%	137%	0.06
	Sep	0.16	0.22	0.00	0.000		137%	137%	0.06
	Oct	0.17	0.24	0.00	0.000		147%	147%	0.08
	Nov	0.18	0.23	0.00	0.000		126%	126%	0.05
	Dec	0.18	0.26	0.00	0.000		144%	144%	0.08
2028	Jan	0.18	0.21	0.00	0.000		117%	117%	0.03
	Feb	0.18	0.20	0.00	0.000		109%	109%	0.02
	Mar	0.16	0.20	0.00	0.000		125%	125%	0.04
	Apr	0.17	0.21	0.00	0.000		119%	119%	0.03
	May	0.17	0.22	0.00	0.000		128%	128%	0.05
	Jun	0.18	0.24	0.00	0.000		138%	138%	0.07
	Jul	0.18	0.23	0.00	0.000		126%	126%	0.05
	Aug	0.17	0.22	0.00	0.000		132%	132%	0.05
	Sep	0.17	0.22	0.00	0.000		132%	132%	0.05

		Coincident Peak MW	Contracted MW	Pending MW	Planned MW	Retail Electricity Suppliers MW	Existing Contracting Level	Target Contracting Level	MW Surplus / Deficit
	Oct	0.17	0.24	0.00	0.000		142%	142%	0.07
	Nov	0.19	0.23	0.00	0.000		122%	122%	0.04
	Dec	0.19	0.26	0.00	0.000		139%	139%	0.07
2029	Jan	0.19	0.23	0.00	0.000		125%	125%	0.05
	Feb	0.19	0.22	0.00	0.000		117%	117%	0.03
	Mar	0.17	0.22	0.00	0.000		134%	134%	0.06
	Apr	0.18	0.23	0.00	0.000		128%	128%	0.05
	May	0.18	0.24	0.00	0.000		137%	137%	0.07
	Jun	0.18	0.27	0.00	0.000		148%	148%	0.09
	Jul	0.18	0.25	0.00	0.000		136%	136%	0.07
	Aug	0.17	0.25	0.00	0.000		142%	142%	0.07
	Sep	0.17	0.24	0.00	0.000		142%	142%	0.07
	Oct	0.17	0.26	0.00	0.000		153%	153%	0.09
	Nov	0.19	0.25	0.00	0.000		131%	131%	0.06
	Dec	0.19	0.29	0.00	0.000		149%	149%	0.09
2030	Jan	0.19	0.23	0.00	0.000		123%	123%	0.04
	Feb	0.19	0.22	0.00	0.000		115%	115%	0.03
	Mar	0.17	0.22	0.00	0.000		131%	131%	0.05
	Apr	0.18	0.23	0.00	0.000		125%	125%	0.05
	May	0.18	0.24	0.00	0.000		134%	134%	0.06
	Jun	0.18	0.27	0.00	0.000		145%	145%	0.08
	Jul	0.19	0.25	0.00	0.000		133%	133%	0.06
	Aug	0.18	0.25	0.00	0.000		139%	139%	0.07
	Sep	0.18	0.24	0.00	0.000		139%	139%	0.07
	Oct	0.18	0.26	0.00	0.000		149%	149%	0.09
	Nov	0.20	0.25	0.00	0.000		128%	128%	0.06
	Dec	0.20	0.29	0.00	0.000		146%	146%	0.09

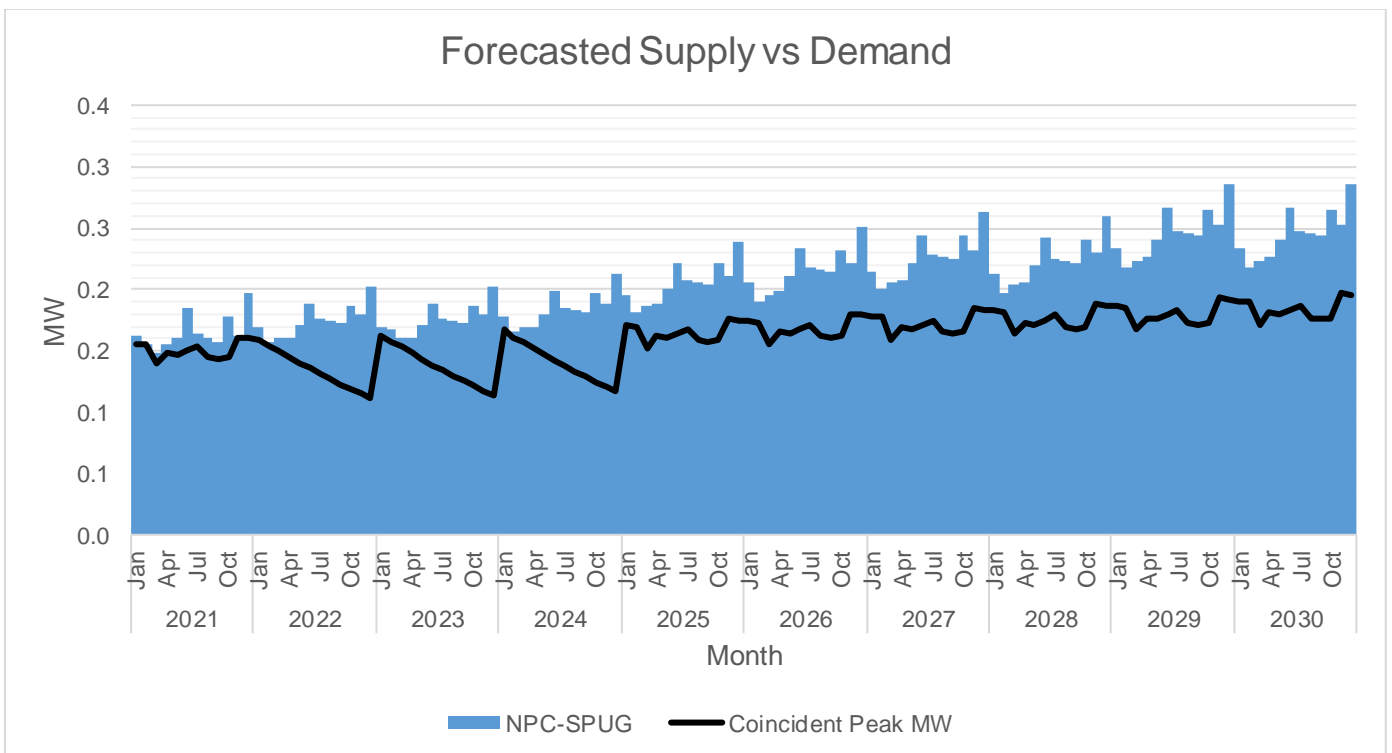
The Peak Demand was forecasted using trend analysis was assumed to occur on the month of January due to the energy usage trend in the area. Monthly Peak Demand is at its lowest on the month of March due to the energy usage trend in the area. In general, Peak Demand is expected to grow at a rate of 2.41% annually.

There is no plan yet for a construction of satellite office at Hikdop Island because the Island is just 45mins boat ride from the mainland. There are designated personnel for the posting and delivery of bills monthly and Line Maintenance works can be catered by the designated mainland personnel.

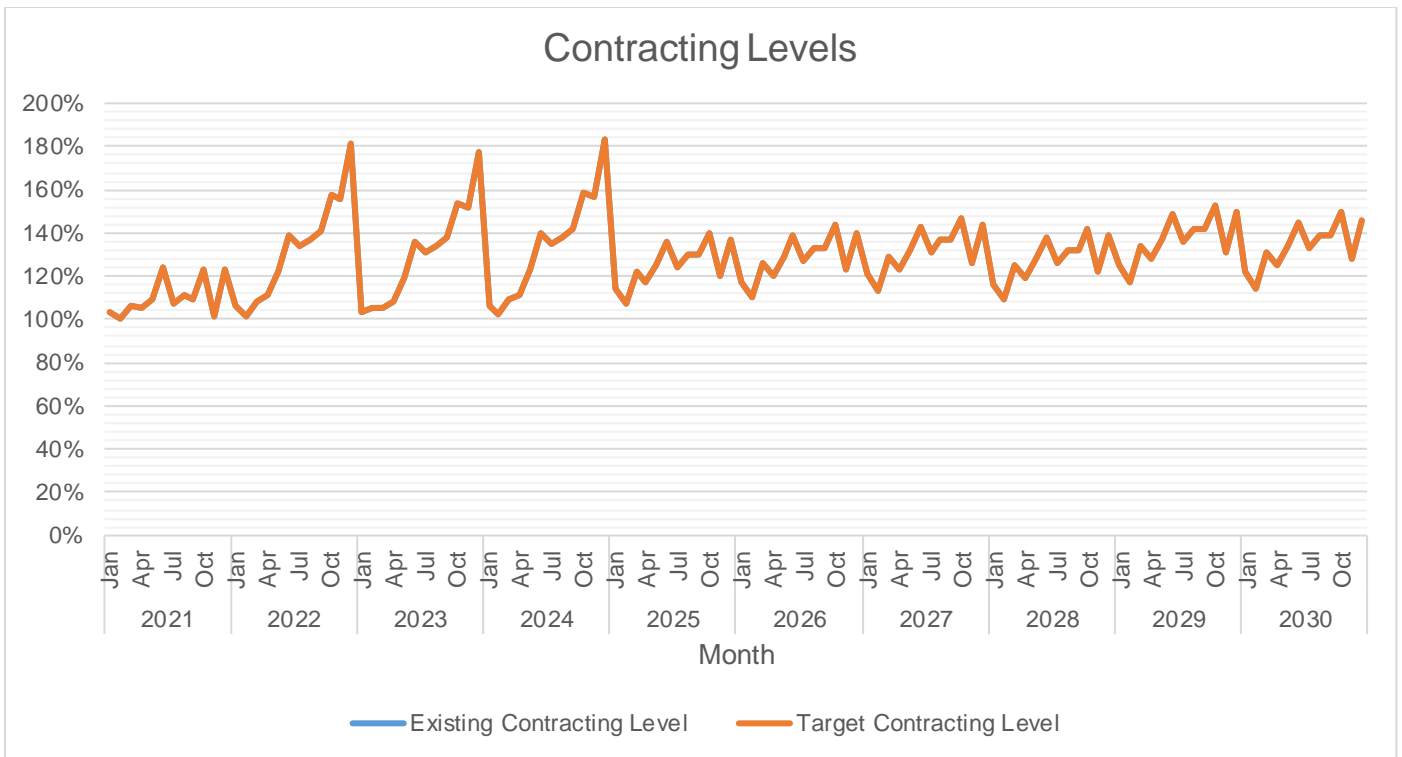


The available supply is generally above the Peak Demand. This is because the load requirement in the area has lesser consumption than its installed plant capacity.

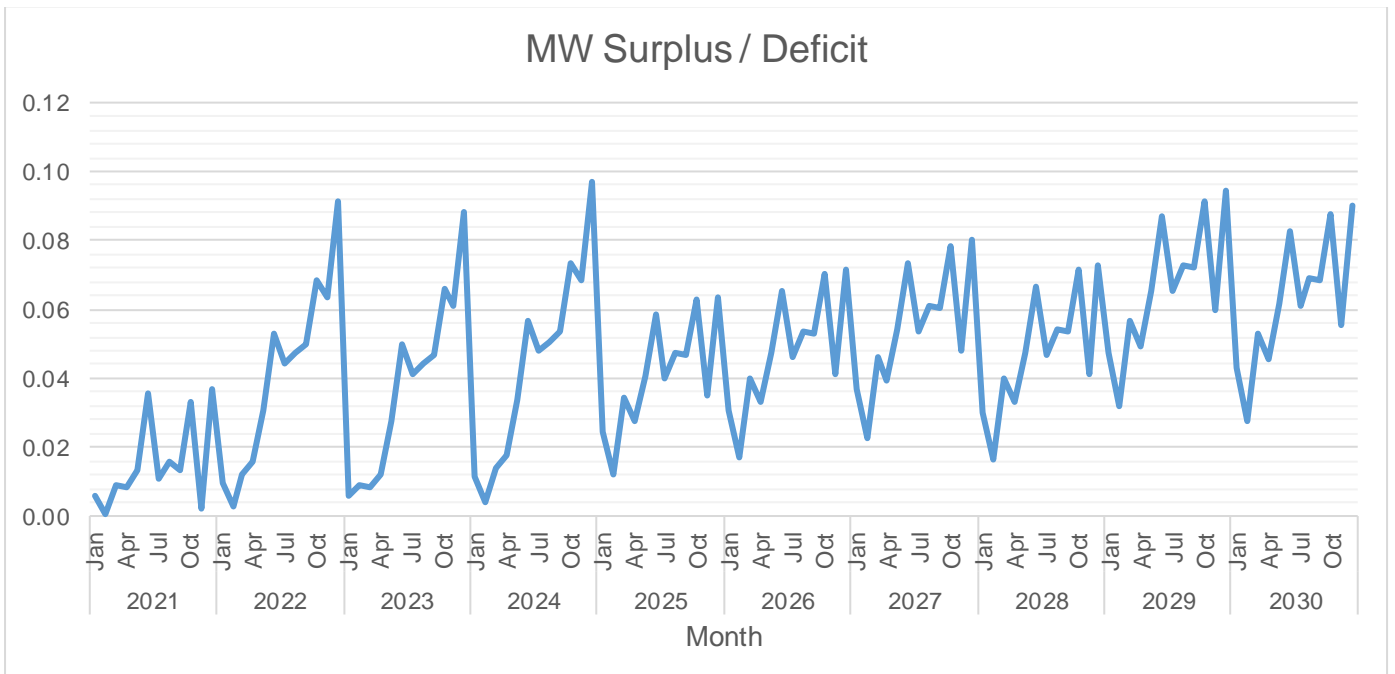
SURNECO has plans in renewing the PSA with NPC for the next following years for as of the moment, SURNECO has no plans in putting its own power plant at Hikdop Island.



There is only single available supply, of 0.58 MW plant capacity from NPC-SPUG (Hikdop Island).



Currently, there is over-contracting by 103%. The highest target contracting level is 182% which is expected to occur on December 2022. The lowest target contracting level is 100% which is expected to occur on February 2021.



Currently, there is over-contracting by 0.01 MW. The highest surplus is 0.2 MW which is expected to occur on the month of December 2022. The lowest surplus is 0.16 MW which is expected to occur on the month of February 2021.

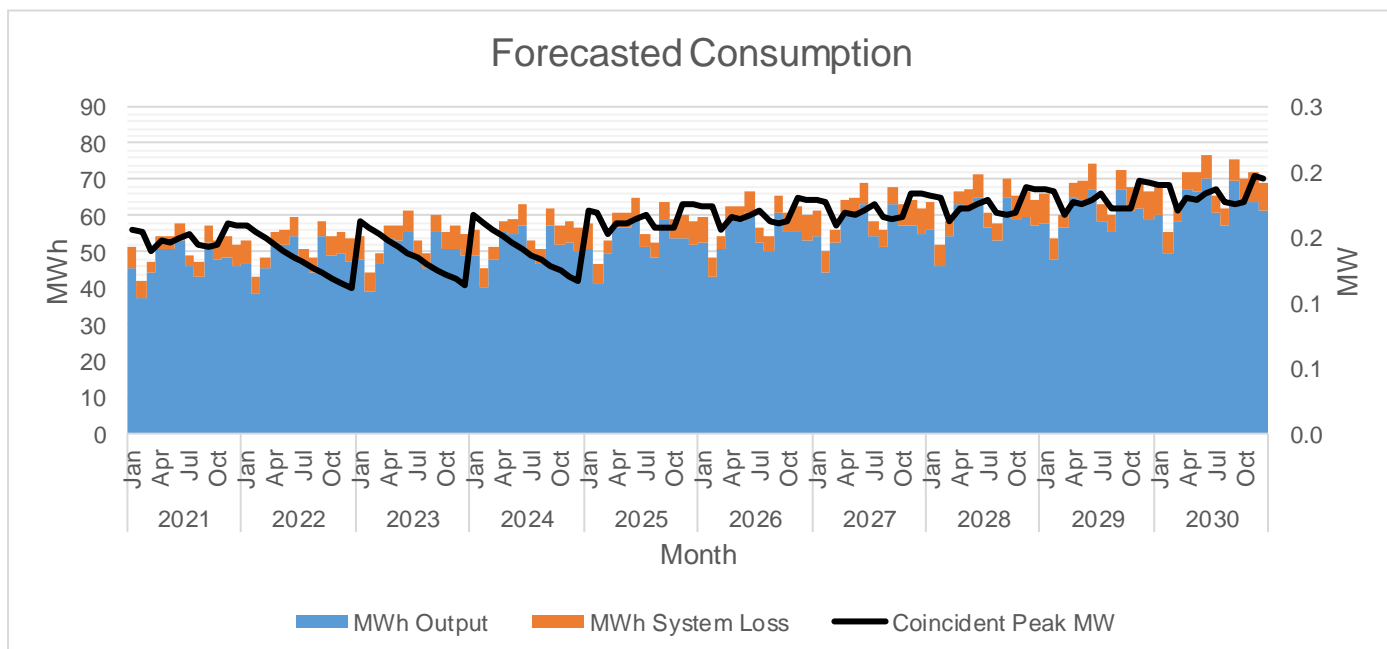
		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2021	Jan	52	46	6	0.00%	11.81%
	Feb	42	37	5	0.00%	11.15%
	Mar	47	44	3	0.00%	6.39%
	Apr	54	51	3	0.00%	5.87%
	May	55	51	4	0.00%	7.10%
	Jun	58	53	5	0.00%	8.94%
	Jul	49	46	4	0.00%	7.11%
	Aug	47	43	4	0.00%	7.74%
	Sep	57	53	4	0.00%	7.39%
	Oct	53	48	5	0.00%	9.35%
	Nov	54	48	6	0.00%	10.76%
	Dec	52	46	6	0.00%	11.25%
2022	Jan	53	47	6	0.00%	11.81%
	Feb	43	38	5	0.00%	11.15%
	Mar	49	45	3	0.00%	6.39%
	Apr	56	52	3	0.00%	5.87%
	May	56	52	4	0.00%	7.10%
	Jun	60	54	5	0.00%	8.94%
	Jul	51	47	4	0.00%	7.11%
	Aug	48	44	4	0.00%	7.74%
	Sep	59	54	4	0.00%	7.39%
	Oct	54	49	5	0.00%	9.35%
	Nov	56	50	6	0.00%	10.76%
	Dec	54	48	6	0.00%	11.25%
2023	Jan	54	48	6	0.00%	11.81%
	Feb	44	39	5	0.00%	11.15%
	Mar	50	47	3	0.00%	6.39%
	Apr	57	54	3	0.00%	5.87%
	May	57	53	4	0.00%	7.10%
	Jun	61	56	5	0.00%	8.94%
	Jul	53	48	5	0.00%	8.86%
	Aug	50	46	4	0.00%	7.74%
	Sep	60	56	4	0.00%	7.39%
	Oct	56	51	5	0.00%	9.35%
	Nov	57	51	6	0.00%	10.76%
	Dec	55	49	6	0.00%	11.25%
2024	Jan	56	49	7	0.00%	11.81%
	Feb	46	40	5	0.00%	11.15%
	Mar	51	48	3	0.00%	6.39%
	Apr	59	55	3	0.00%	5.87%
	May	59	55	4	0.00%	7.10%
	Jun	63	57	6	0.00%	8.94%
	Jul	53	50	4	0.00%	7.11%
	Aug	51	47	4	0.00%	7.75%
	Sep	62	57	5	0.00%	7.40%
	Oct	57	52	5	0.00%	9.35%
	Nov	59	52	6	0.00%	10.76%
	Dec	57	50	6	0.00%	11.25%

		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2025	Jan	58	51	7	0.00%	11.81%
	Feb	47	42	5	0.00%	11.15%
	Mar	53	50	3	0.00%	6.39%
	Apr	61	57	4	0.00%	5.87%
	May	61	57	4	0.00%	7.10%
	Jun	65	59	6	0.00%	8.94%
	Jul	55	51	4	0.00%	7.11%
	Aug	52	48	4	0.00%	7.75%
	Sep	64	59	5	0.00%	7.40%
	Oct	59	54	6	0.00%	9.35%
	Nov	61	54	7	0.00%	10.76%
	Dec	58	52	7	0.00%	11.25%
2026	Jan	59	52	7	0.00%	11.81%
	Feb	48	43	5	0.00%	11.15%
	Mar	55	51	3	0.00%	6.40%
	Apr	62	59	4	0.00%	5.87%
	May	63	58	4	0.00%	7.10%
	Jun	67	61	6	0.00%	8.94%
	Jul	57	53	4	0.00%	7.11%
	Aug	54	50	4	0.00%	7.75%
	Sep	66	61	5	0.00%	7.40%
	Oct	61	55	6	0.00%	9.35%
	Nov	62	56	7	0.00%	10.76%
	Dec	60	53	7	0.00%	11.25%
2027	Jan	61	54	7	0.00%	11.81%
	Feb	50	44	6	0.00%	11.15%
	Mar	56	53	4	0.00%	6.40%
	Apr	65	61	4	0.00%	5.87%
	May	65	60	5	0.00%	7.10%
	Jun	69	63	6	0.00%	8.94%
	Jul	59	55	4	0.00%	7.11%
	Aug	56	52	4	0.00%	7.75%
	Sep	68	63	5	0.00%	7.40%
	Oct	63	57	6	0.00%	9.35%
	Nov	65	58	7	0.00%	10.76%
	Dec	62	55	7	0.00%	11.25%
2028	Jan	64	56	8	0.00%	11.81%
	Feb	52	46	6	0.00%	11.15%
	Mar	58	55	4	0.00%	6.40%
	Apr	67	63	4	0.00%	5.87%
	May	67	62	5	0.00%	7.10%
	Jun	72	65	6	0.00%	8.94%
	Jul	61	56	4	0.00%	7.11%
	Aug	58	53	4	0.00%	7.75%
	Sep	70	65	5	0.00%	7.40%
	Oct	65	59	6	0.00%	9.35%
	Nov	67	60	7	0.00%	10.76%
	Dec	64	57	7	0.00%	11.25%

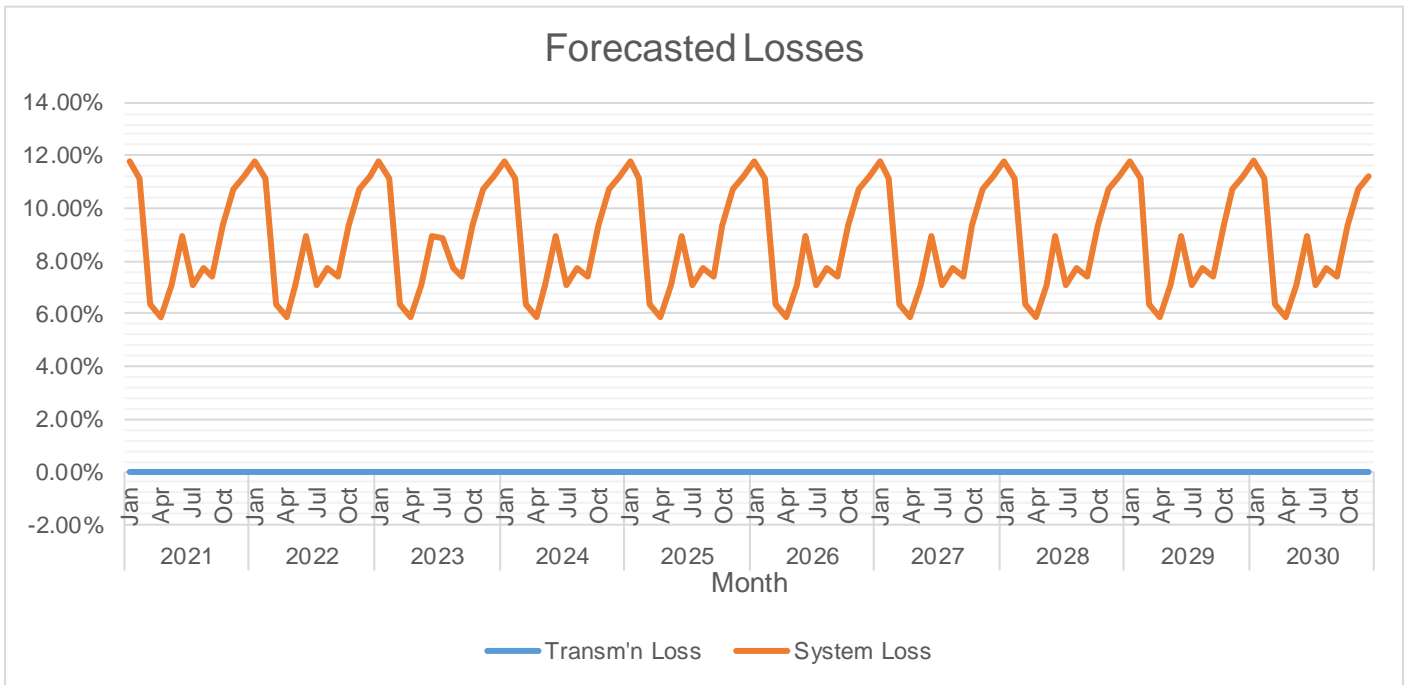
		MWh Offtake	MWh Output	MWh System Loss	Transm'n Loss	System Loss
2029	Jan	66	58	8	0.00%	11.81%
	Feb	54	48	6	0.00%	11.15%
	Mar	60	57	4	0.00%	6.40%
	Apr	69	65	4	0.00%	5.87%
	May	70	65	5	0.00%	7.10%
	Jun	74	68	7	0.00%	8.94%
	Jul	63	58	4	0.00%	7.11%
	Aug	60	55	5	0.00%	7.75%
	Sep	73	67	5	0.00%	7.40%
	Oct	68	61	6	0.00%	9.35%
	Nov	69	62	7	0.00%	10.76%
	Dec	67	59	7	0.00%	11.25%
2030	Jan	68	60	8	0.00%	11.81%
	Feb	56	49	6	0.00%	11.15%
	Mar	63	59	4	0.00%	6.40%
	Apr	72	68	4	0.00%	5.87%
	May	72	67	5	0.00%	7.11%
	Jun	77	70	7	0.00%	8.94%
	Jul	65	61	5	0.00%	7.11%
	Aug	62	57	5	0.00%	7.75%
	Sep	75	70	6	0.00%	7.40%
	Oct	70	64	7	0.00%	9.35%
	Nov	72	64	8	0.00%	10.76%
	Dec	69	61	8	0.00%	11.25%

MWh Offtake was forecasted using trend analysis. The assumed load factor is 46.52%.

System Loss was calculated through a Load Flow Study conducted by Technical Services Department using DSAS software. Based on the same study, the Distribution System can adequately convey electricity to customers.



MWh Output was expected to grow at a rate of 3.04% annually.



Transmission Loss is expected at 0% while System Loss is expected to range from 5.87 % to 11.81 %.

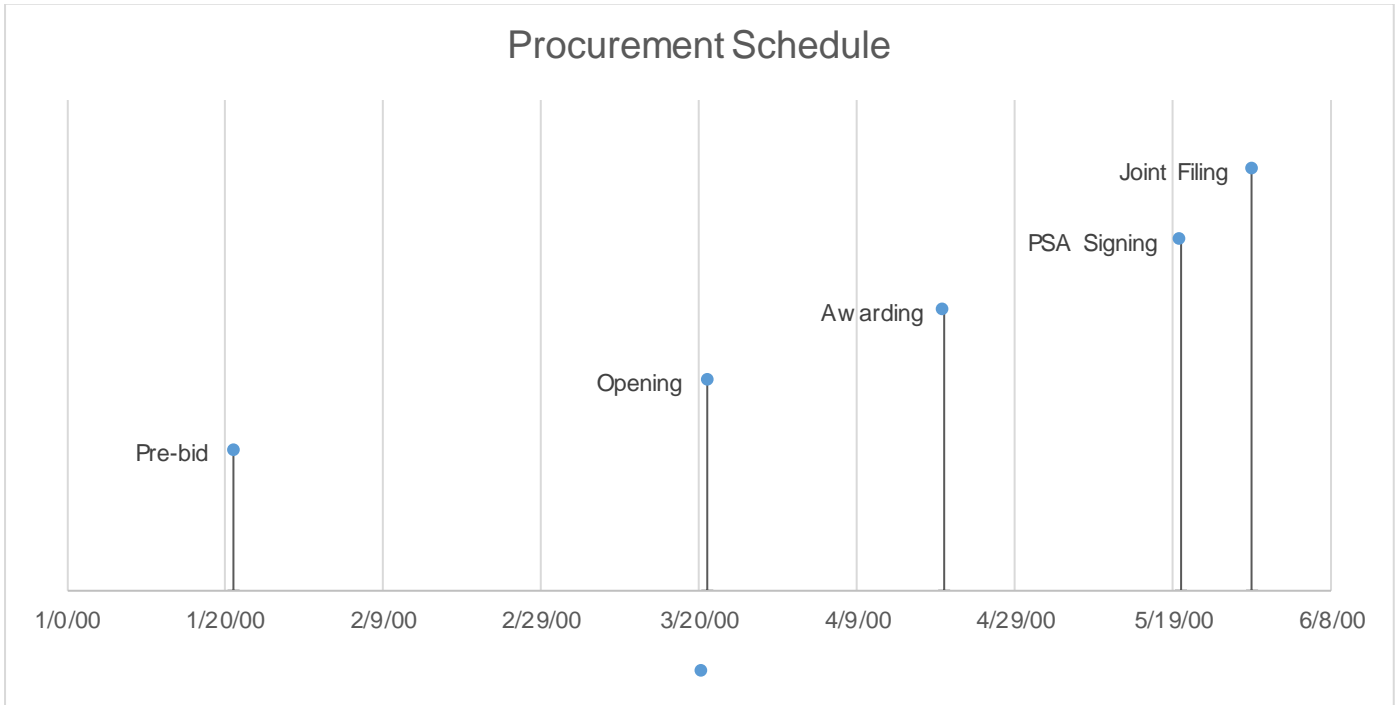
Power Supply

Case No.	Type	GenCo	Minimum MW	Minimum MWh/yr	PSA Start	PSA End
NPC-SPUG	Base	National Power Corporation	0.10	591	12/1/2020	12/1/2030

The **PSA with NPC-SPUG** was selected to provide for base requirements. Historically, the utilization of the PSA is 100%. The actual billed overall monthly charge under the PSA ranged from 8.0644 P/kWh to 7.7137 P/KWh in the same period.

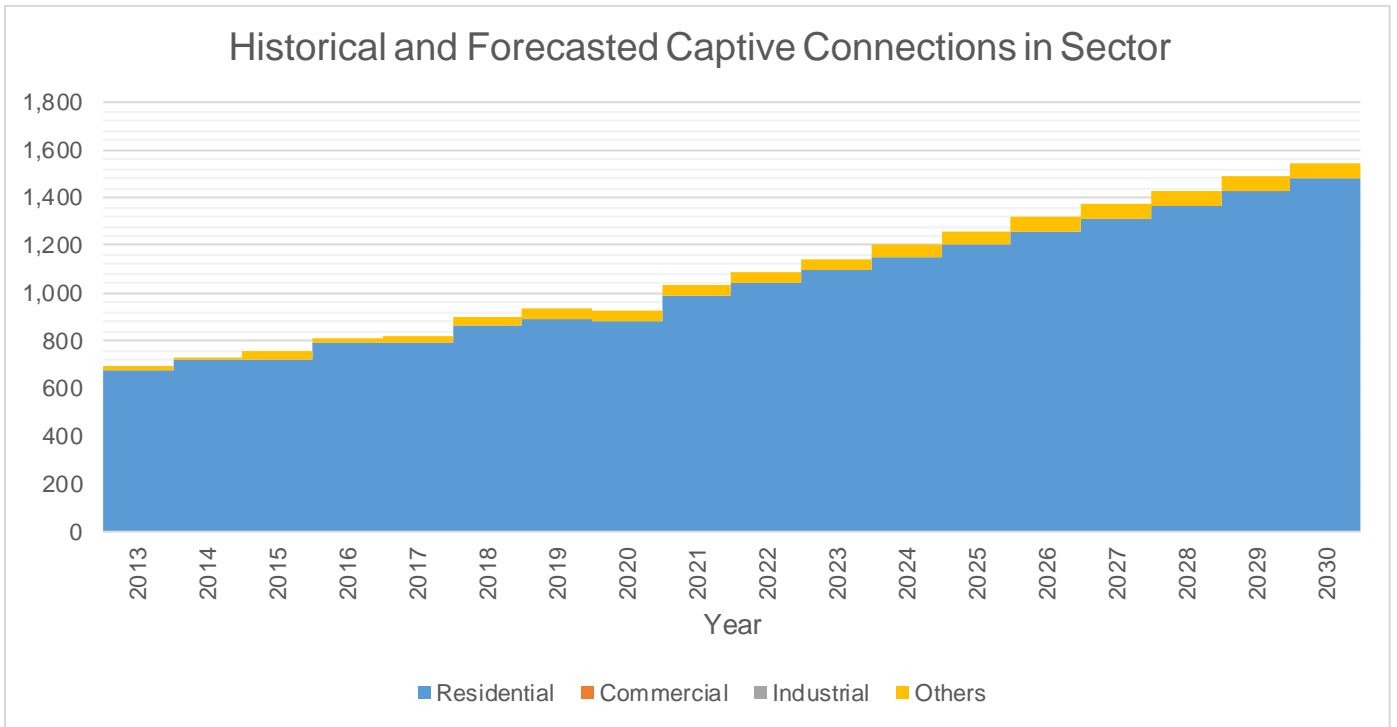
Type
Minimum MW
Minimum MWh/yr
PSA Start
PSA End
Publication

- Pre-bid
- Opening
- Awarding
- PSA Signing
- Joint Filing



SURNEO Hikdop under NPC-SPUG has no plan for Competitive Selection Process considering that the supply is enough to cater the expected load until 2030.

Captive Customer Connections



The number of total captive connections is expected to grow at a rate of 4.54% annually. Said customer class is expected to account for 100% of the total consumption.