

NAME OF DU

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 or you may contact us through telephone numbers (02) 840-2173 and (02) 479-2900 local 202.

POWER SUPPLY PROCUREMENT PLAN

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- VI. MONTHLY DATA

POWER SUPPLY PROCUREMENT PLAN

INTRODUCTION

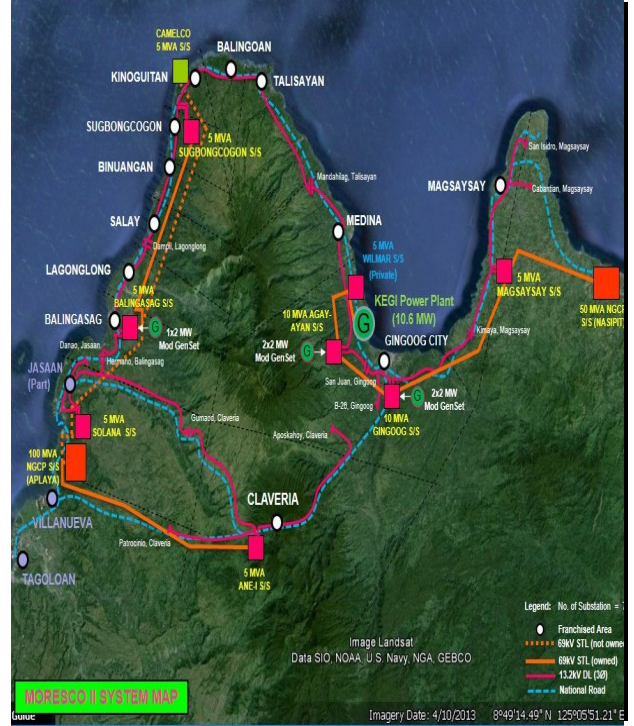
DISTRIBUTION UTILITIES PROFILE

MORESCO II serves the power requirement of Eastern Misamis Oriental, with its franchised area encompassing the municipalities of Magsaysay, Medina, Talisayan, Balingoan, Kinoguitan, Sugbongcogon, Binuangan, Salay, Lagonglong, Balingasag, Claveria and the City of Gingoog.

MORESCO II's franchise area covers approximately 5,066 square kilometers.

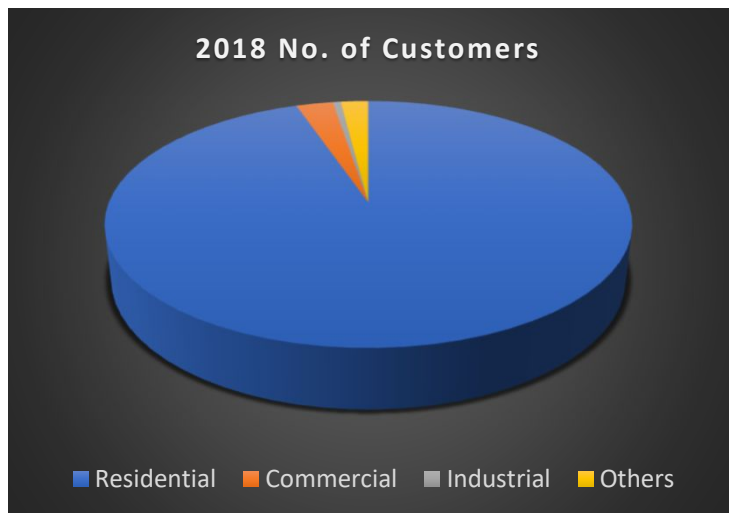
MORESCO II serves 265 Barangays including 7 Barangays of the Municipality of Jasaan with an energization level of 83.77% equivalent to 76,818 households. MORESCO II enjoys a AAA performance rating from NEA since 2014.

DU's Franchise MAP



Number of Customer Connections in Franchise	ACTUAL	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Residential	66702	69829	72755	75682	78608	81535	84461	87387	90314	91700	91700
Commercial	1887	1891	1902	1914	1927	1941	1956	1972	1990	2008	2028
Industrial	408	418	432	454	484	521	564	616	674	740	813
Others	1403	1428	1453	1478	1505	1531	1559	1587	1615	1644	1673
Contestable Customers served by RES											
Total (Captive Customers)	70400	73565	76543	79529	82523	85527	88540	91562	94593	96092	96214

The power needs of the Misamis Oriental is provided by MORESCO I, in the western part, and MORESCO II, in the eastern part of the province. The eastern part of Misamis Oriental where the franchise area of MORESCO II lies, are mostly rural communities. The bulk of its power requirement comes from its residential and industrial customers. More than 94% of its customers are residential while the industrial customers are only 0.58%. MORESCO II however, supplied the power need of two big industrial plants, the AXELUM and WEOPI.

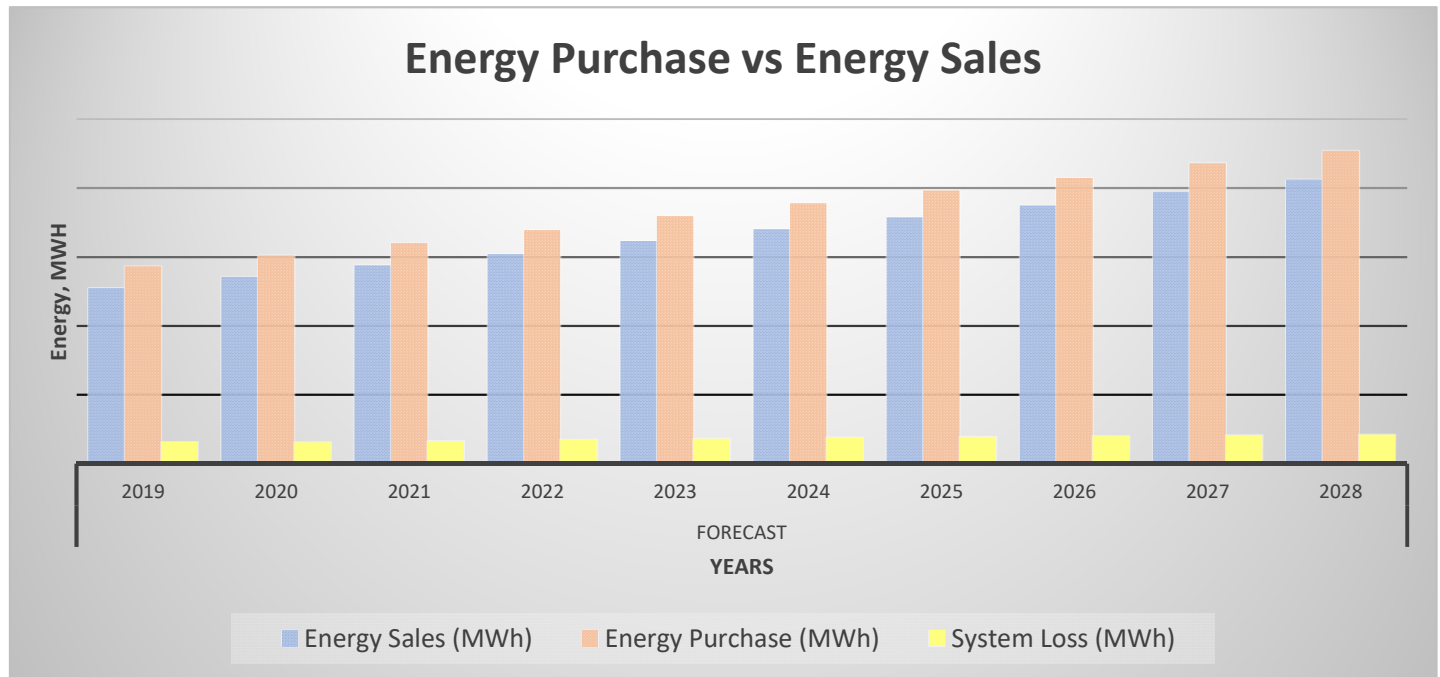


POWER SUPPLY PROCUREMENT PLAN

ENERGY SALES AND PURCHASE

ENERGY SALES AND PURCHASE	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Energy Sales (MWh)	78148	89319	91939	94319	95132.9	86755	93221.8	106745	110827	117995
Energy Purchase (MWh)	86259	99638.2	103192	104785	105677	96533.9	103191	116234	129379	137988
System Loss (MWh)	10554	10679	11253	10466	10544	9779	9970	9490	18552	19993

ENERGY SALES AND PURCHASE	FORECAST									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Energy Sales (MWh)	127415	135557	143793	152121	161543	170058	178665	187366	197160	206046
Energy Purchase (MWh)	143214	151114	160218	169414	179605	188983	198127	207335	217840	227058
System Loss (MWh)	15799.4	15556.9	16424.8	17292	18062	18925.6	19461.9	19969	20680.7	21012.2



Since most of the customers of MORESCO II are in rural communities, hence, most of its sales comes from its residential customers. However, since it also served two big industrial company, the sales from the Higher Voltage Consumers is almost equal to the Residential Customers.

Within the franchise area of MORESCO II are two municipalities with advancing economy. These may lead to the increase of the sales from its commercial customers. Also, an additional industrial company may soon operate within MORESCO II's franchise area but, since the timeline of its operation is yet uncertain, such was excluded in the forecast. The continuous expansion of its distribution lines to the hinterlands, is one of the factors that the System Loss of MORESCO II increases.

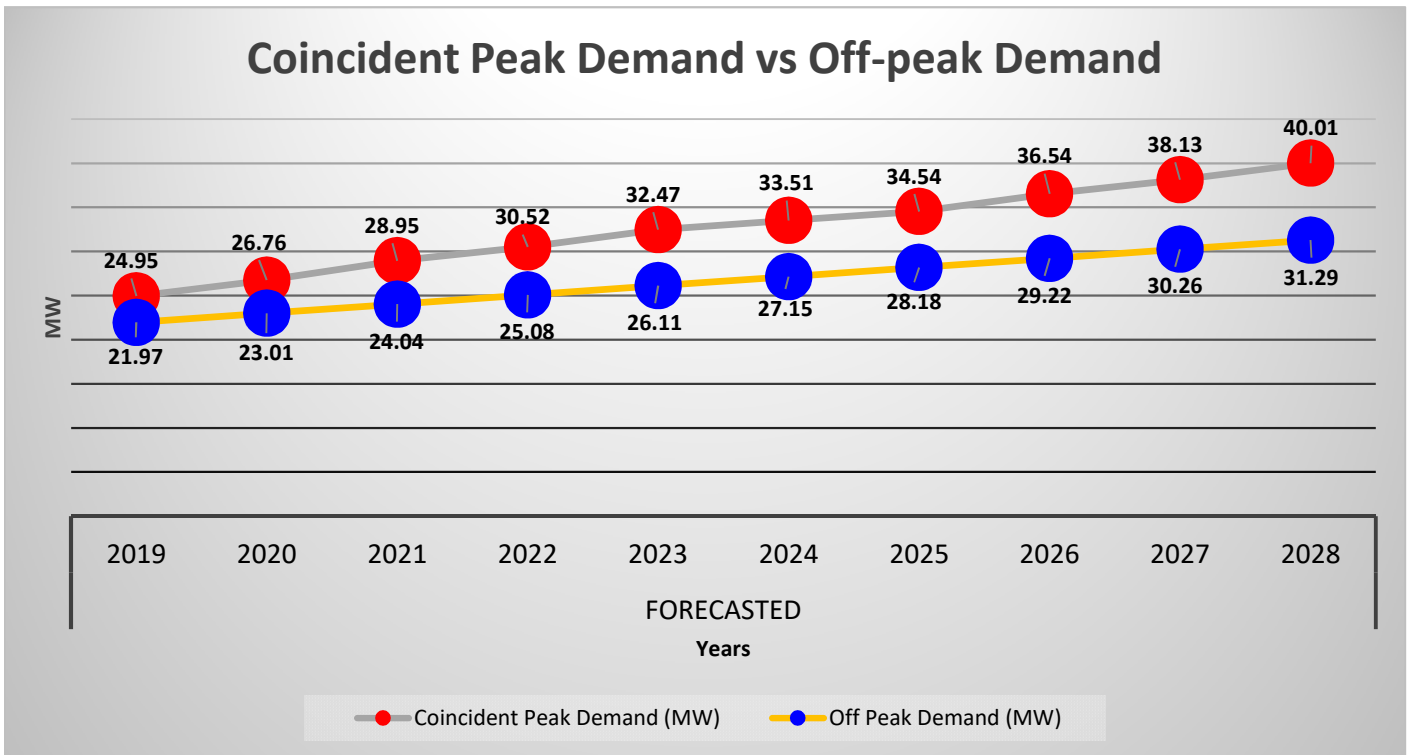
The Energy Sales and Purchase reflected above includes the sales and purchase outside its franchise area where the distribution lines from one of MORESCO II's substation traverses.

POWER SUPPLY PROCUREMENT PLAN

DEMAND

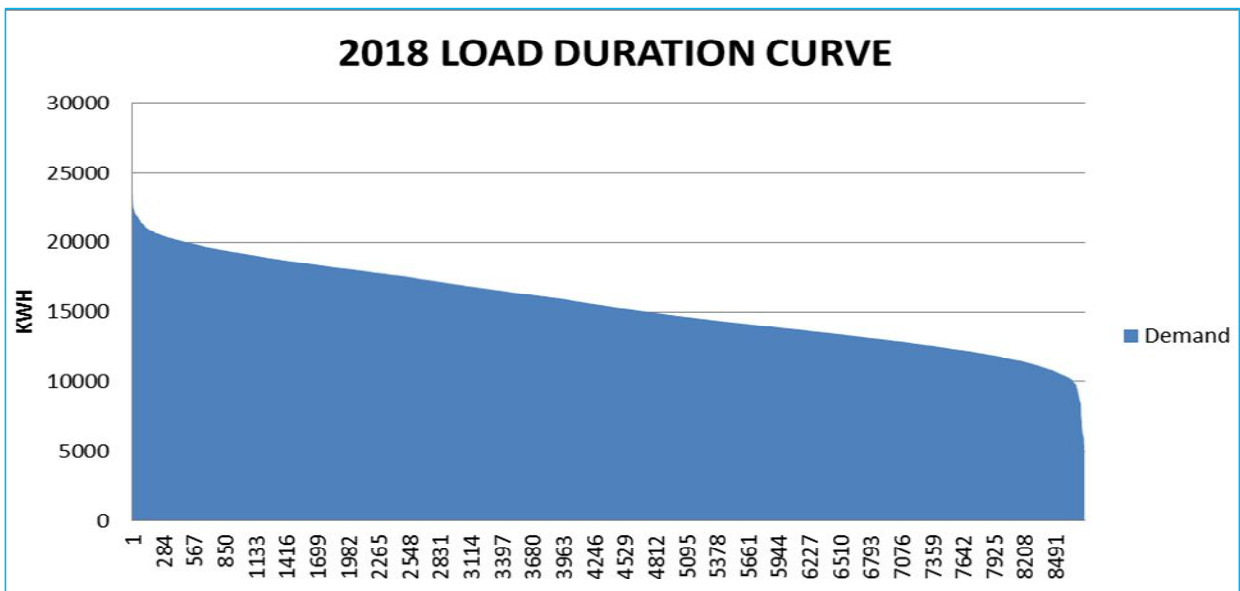
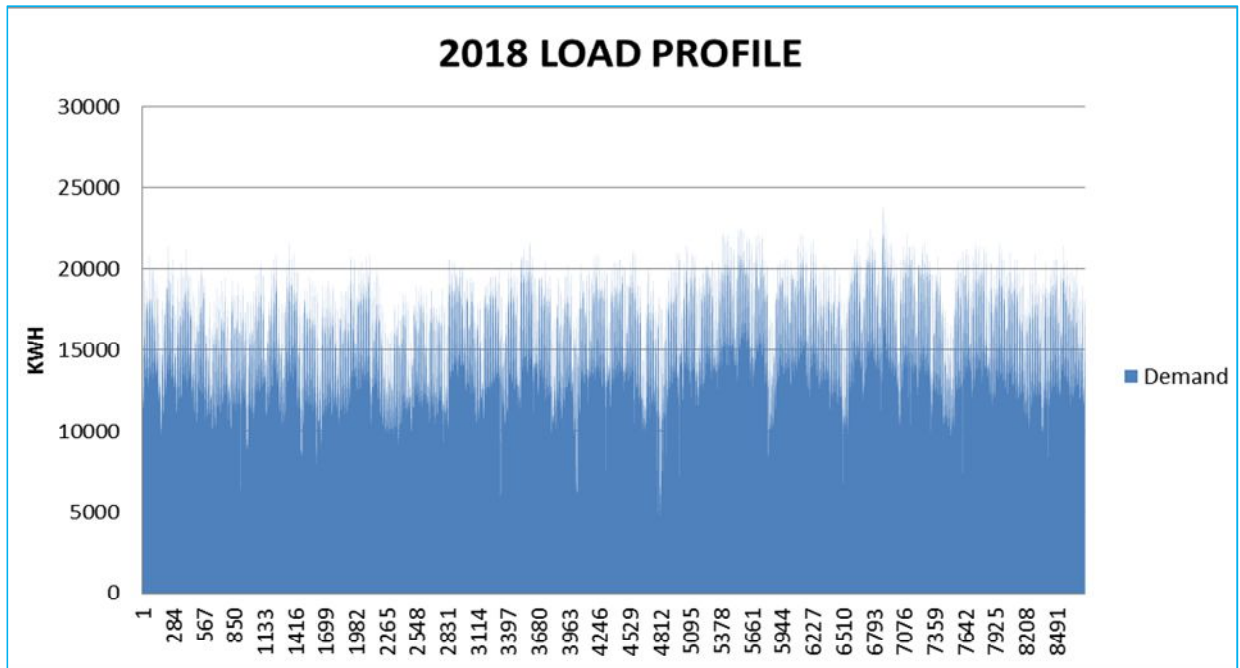
Demand	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Coincident Peak Demand (MW)	16.190	19.000	22.520	21.320	19.640	21.243	22.522	21.619	21.834	23.897
Off Peak Demand (MW)	14.802	17.533	17.728	19.828	16.122	16.403	17.503	19.218	19.892	20.935

Demand	FORECASTED									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Coincident Peak Demand (MW)	24.952	26.757	28.945	30.517	32.473	33.512	34.535	36.542	38.132	40.006
Off Peak Demand (MW)	21.97	23.006	24.042	25.077	26.113	27.149	28.184	29.22	30.256	31.291



POWER SUPPLY PROCUREMENT PLAN

LOAD PROFILE AND LOAD DURATION CURVE

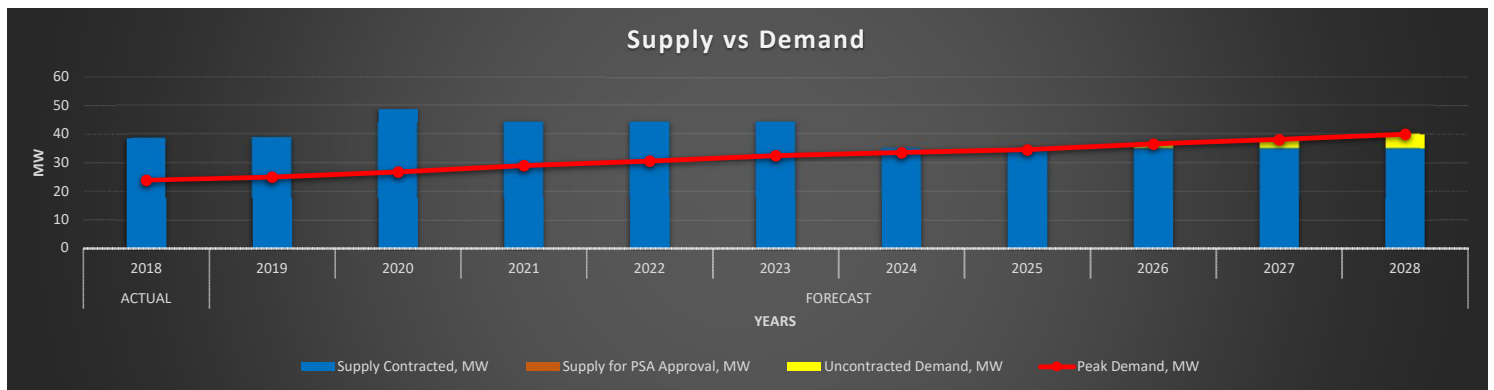


Under normal circumstance, MORESCO II requires at least 10.47 MW as the base load. Peak hour is between 1900H-2000H and the highest demand is on the month of October at 1900H at 23.90MW. At daytime, MORESCO II needs at least 15-18MW.

POWER SUPPLY PROCUREMENT PLAN

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	24	25	27	29	31	32	34	35	37	38	40
Supply Contracted, MW	38.657	38.879	48.864	44.4	44.4	44.4	35	35	35	35	35
FDC-COAL	25	25	25	25	25	25	25	25	25	25	25
KEGI	9.4	9.4	9.4	9.4	9.4	9.4					
PSALM	4.257	4.479	4.464								
MORESCO II MODULAR GENSET			10	10	10	10	10	10	10	10	10
Supply for PSA Approval, MW	0	0	0	0	0	0	0	0	0	0	0
Uncontracted Demand, MW	0	0	0	0	0	0	0	0	1.54167	3.131879	5.00572055



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)
FDC-COAL	FDC MISAMIS CORPORATION		7/26/2016	7/25/2041	25	219,000	Base / Mid-merit	Grid Connected	IPP		COAL	405	
KEGI	KEGI-GINGOOG		10/3/2013	10/3/2023	9.4	24,017	PEAKING	embedded	IPP		DIESEL	10.6	
PSALM	NPC-PSALM		12/26/2017	12/25/2020	4.257	28,569	BASE	Grid Connected	NPC-IPP		HYDRO	300	
GenCo 4													
GenCo 5													

MORESCO II has three existing power supply contracts from PSALM, FDC-MPC and KEGI.

Since the allocation from PSALM is not enough for the base load, most of the power requirement of MORESCO II is supplied by FDC. KEGI is for (a) peaking, (b) when there is a decrease of allocation from PSALM and/or FDC, and (c) when there is a need for an island mode. As to date, MORESCO II is working for the approval of its 5 - 2mW Modular Gensets with the ERC for Provisional Authority. It is expected that by 2023, the power requirement of MORESCO II will increase by more than 30%. Since the modular genset is driven by a diesel fuel, it is not a practical choice to be used for mid-merit period, hence, MORESCO II is currently in negotiation to obtain a contract through CSP with renewable energy source.

POWER SUPPLY PROCUREMENT PLAN

DISTRIBUTION IMPACT STUDY

MORESCO II's coverage area is composed of 12 municipalities and one city. It has a total of 5,926.89 circuit km lines. Its power needs is supplied by 6 fully functional sub-stations with a total power rating of 40mVA with a significant short circuit current within the interrupting limit of the installed circuit breakers having a system frequency limits of 50.7 and 60.3 Hertz. The output voltage is within the voltage limit required by the Philippine Distribution Code.

POWER SUPPLY PROCUREMENT PLAN

10 Year Monthly 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	24.95	21.97	11,934	39.12	23,059				
Feb	24.95	21.97	11,934	39.16	23,793				
Mar	24.95	21.97	11,934	39.14	22,801				
Apr	24.95	21.97	11,934	38.27	22,553				
May	24.95	21.97	11,934	38.51	22,616				
Jun	24.95	21.97	11,934	38.42	22,642				
Jul	24.95	21.97	11,934	37.68	22,139				
Aug	24.95	21.97	11,934	38.52	22,703				
Sep	24.95	21.97	11,934	39.39	23,220				
Oct	24.95	21.97	11,934	39.29	23,068				
Nov	24.95	21.97	11,934	39.38	23,217				
Dec	24.95	21.97	11,934	39.69	23,296				
2020									
Jan	26.76	23.01	12,593	49.31	23,172				
Feb	26.76	23.01	12,593	48.83	23,546				
Mar	26.76	23.01	12,593	49.15	22,898				
Apr	26.76	23.01	12,593	48.39	22,624				
May	26.76	23.01	12,593	48.38	22,545				
Jun	26.76	23.01	12,593	48.31	22,577				
Jul	26.76	23.01	12,593	48.52	22,627				
Aug	26.76	23.01	12,593	47.73	22,232				
Sep	26.76	23.01	12,593	49.25	23,140				
Oct	26.76	23.01	12,593	49.44	23,153				
Nov	26.76	23.01	12,593	49.40	23,230				
Dec	26.76	23.01	12,593	49.71	23,308				
2021									
Jan	28.95	24.04	13,351	44.40	20,251				
Feb	28.95	24.04	13,351	44.40	20,251				
Mar	28.95	24.04	13,351	44.40	20,251				
Apr	28.95	24.04	13,351	44.40	20,251				
May	28.95	24.04	13,351	44.40	20,251				
Jun	28.95	24.04	13,351	44.40	20,251				
Jul	28.95	24.04	13,351	44.40	20,251				
Aug	28.95	24.04	13,351	44.40	20,251				
Sep	28.95	24.04	13,351	44.40	20,251				
Oct	28.95	24.04	13,351	44.40	20,251				
Nov	28.95	24.04	13,351	44.40	20,251				
Dec	28.95	24.04	13,351	44.40	20,251				

MISAMIS ORIENTAL II ELECTRIC SERVICE COOPERATIVE, INC.

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)
2022									
Jan	30.52	25.08	14,118	44.40	20,251				
Feb	30.52	25.08	14,118	44.40	20,251				
Mar	30.52	25.08	14,118	44.40	20,251				
Apr	30.52	25.08	14,118	44.40	20,251				
May	30.52	25.08	14,118	44.40	20,251				
Jun	30.52	25.08	14,118	44.40	20,251				
Jul	30.52	25.08	14,118	44.40	20,251				
Aug	30.52	25.08	14,118	44.40	20,251				
Sep	30.52	25.08	14,118	44.40	20,251				
Oct	30.52	25.08	14,118	44.40	20,251				
Nov	30.52	25.08	14,118	44.40	20,251				
Dec	30.52	25.08	14,118	44.40	20,251				
2023									
Jan	32.47	26.11	14,967	44.40	20,251				
Feb	32.47	26.11	14,967	44.40	20,251				
Mar	32.47	26.11	14,967	44.40	20,251				
Apr	32.47	26.11	14,967	44.40	20,251				
May	32.47	26.11	14,967	44.40	20,251				
Jun	32.47	26.11	14,967	44.40	20,251				
Jul	32.47	26.11	14,967	44.40	20,251				
Aug	32.47	26.11	14,967	44.40	20,251				
Sep	32.47	26.11	14,967	44.40	20,251				
Oct	32.47	26.11	14,967	44.40	20,251			9.00	
Nov	32.47	26.11	14,967	35.00	18,250			9.00	
Dec	32.47	26.11	14,967	35.00	18,250			9.00	
2024									
Jan	33.51	27.15	15,749	35.00	18,250			9.00	
Feb	33.51	27.15	15,749	35.00	18,250			9.00	
Mar	33.51	27.15	15,749	35.00	18,250			9.00	
Apr	33.51	27.15	15,749	35.00	18,250			9.00	
May	33.51	27.15	15,749	35.00	18,250			9.00	
Jun	33.51	27.15	15,749	35.00	18,250			9.00	
Jul	33.51	27.15	15,749	35.00	18,250			9.00	
Aug	33.51	27.15	15,749	35.00	18,250			9.00	
Sep	33.51	27.15	15,749	35.00	18,250			9.00	
Oct	33.51	27.15	15,749	35.00	18,250			9.00	
Nov	33.51	27.15	15,749	35.00	18,250			9.00	
Dec	33.51	27.15	15,749	35.00	18,250			9.00	

MISAMIS ORIENTAL II ELECTRIC SERVICE COOPERATIVE, INC.

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)
2025									
Jan	34.54	28.18	16,511	35.00	18,250			9.00	
Feb	34.54	28.18	16,511	35.00	18,250			9.00	
Mar	34.54	28.18	16,511	35.00	18,250			9.00	
Apr	34.54	28.18	16,511	35.00	18,250			9.00	
May	34.54	28.18	16,511	35.00	18,250			9.00	
Jun	34.54	28.18	16,511	35.00	18,250			9.00	
Jul	34.54	28.18	16,511	35.00	18,250			9.00	
Aug	34.54	28.18	16,511	35.00	18,250			9.00	
Sep	34.54	28.18	16,511	35.00	18,250			9.00	
Oct	34.54	28.18	16,511	35.00	18,250			9.00	
Nov	34.54	28.18	16,511	35.00	18,250			9.00	
Dec	34.54	28.18	16,511	35.00	18,250			9.00	
2026									
Jan	36.54	29.22	17,278	35.00	18,250			9.00	
Feb	36.54	29.22	17,278	35.00	18,250			9.00	
Mar	36.54	29.22	17,278	35.00	18,250			9.00	
Apr	36.54	29.22	17,278	35.00	18,250			9.00	
May	36.54	29.22	17,278	35.00	18,250			9.00	
Jun	36.54	29.22	17,278	35.00	18,250			9.00	
Jul	36.54	29.22	17,278	35.00	18,250			9.00	
Aug	36.54	29.22	17,278	35.00	18,250			9.00	
Sep	36.54	29.22	17,278	35.00	18,250			9.00	
Oct	36.54	29.22	17,278	35.00	18,250			9.00	
Nov	36.54	29.22	17,278	35.00	18,250			9.00	
Dec	36.54	29.22	17,278	35.00	18,250			9.00	
2027									
Jan	38.13	30.26	18,153	35.00	18,250			9.00	
Feb	38.13	30.26	18,153	35.00	18,250			9.00	
Mar	38.13	30.26	18,153	35.00	18,250			9.00	
Apr	38.13	30.26	18,153	35.00	18,250			9.00	
May	38.13	30.26	18,153	35.00	18,250			9.00	
Jun	38.13	30.26	18,153	35.00	18,250			9.00	
Jul	38.13	30.26	18,153	35.00	18,250			9.00	
Aug	38.13	30.26	18,153	35.00	18,250			9.00	
Sep	38.13	30.26	18,153	35.00	18,250			9.00	
Oct	38.13	30.26	18,153	35.00	18,250			9.00	
Nov	38.13	30.26	18,153	35.00	18,250			9.00	
Dec	38.13	30.26	18,153	35.00	18,250			9.00	
2028									
Jan	40.01	31.29	18,922	35.00	18,250			9.00	
Feb	40.01	31.29	18,922	35.00	18,250			9.00	
Mar	40.01	31.29	18,922	35.00	18,250			9.00	
Apr	40.01	31.29	18,922	35.00	18,250			9.00	
May	40.01	31.29	18,922	35.00	18,250			9.00	
Jun	40.01	31.29	18,922	35.00	18,250			9.00	
Jul	40.01	31.29	18,922	35.00	18,250			9.00	
Aug	40.01	31.29	18,922	35.00	18,250			9.00	
Sep	40.01	31.29	18,922	35.00	18,250			9.00	
Oct	40.01	31.29	18,922	35.00	18,250			9.00	
Nov	40.01	31.29	18,922	35.00	18,250			9.00	
Dec	40.01	31.29	18,922	35.00	18,250			9.00	