

NEGROS ORIENTAL 1 ELECTRIC COOPERATIVE
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.

INTRODUCTION

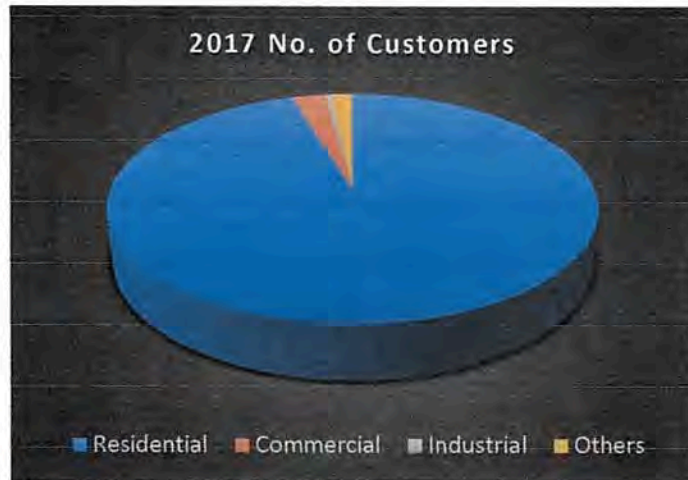
DISTRIBUTION UTILITIES PROFILE

NORECO-I has a franchise area of 2,425 square kilometers, covering 3 cities and 8 municipalities. It has a customer count of 73,248 and total energization level of 63.37%.



Number of Customer Connections in	ACTUAL	FORECAST									
	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Residential	69,836	73,011	77,109	81,207	85,305	89,403	93,501	97,599	101,697	105,795	109,893
Commercial	1,866	1,870	1,867	1,868	1,878	1,905	1,955	2,036	2,155	2,318	2,533
Industrial	330	340	357	376	397	421	449	479	513	551	593
Others	1,216	1,267	1,315	1,373	1,443	1,528	1,629	1,747	1,884	2,042	2,223
Contestable Customers served by RES											
Total (Captive)	73,248	76,488	80,648	84,824	89,023	93,257	97,534	101,861	106,249	110,706	115,242

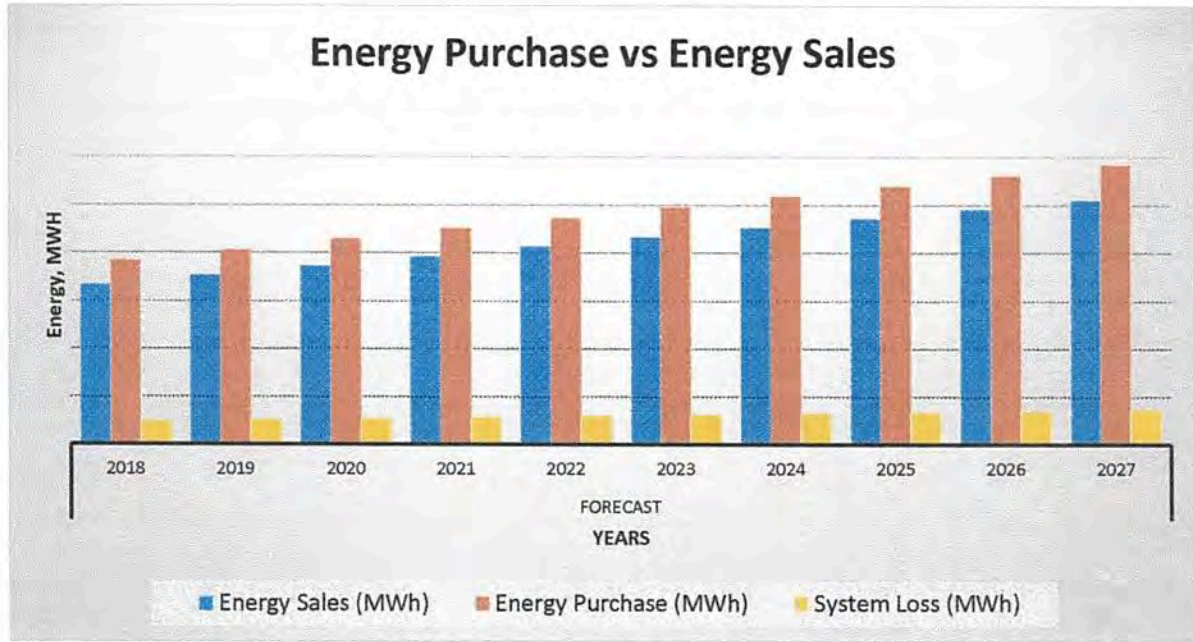
From year 2008 to year 2017, the annual average growth rate of demand is 0.08%.



ENERGY SALES AND PURCHASE

ENERGY SALES AND PURCHASE	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Energy Sales (MWh)	35,486	37,541	41,933	42,845	43,297	48,244	49,413	53,170	59,753	64,287
Energy Purchase (MWh)	41,056	43,158	48,138	48,803	49,468	55,024	57,382	61,083	69,413	73,654
System Loss (MWh)	5,570	5,616	6,205	5,958	6,171	6,780	7,389	7,913	9,661	9,366

ENERGY SALES AND PURCHASE	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Energy Sales (MWh)	67,016	70,924	74,832	78,740	82,647	86,555	90,463	94,371	98,279	102,187
Energy Purchase (MWh)	76,926	81,372	85,818	90,264	94,709	99,155	103,601	108,047	112,492	116,938
System Loss (MWh)	9,910	10,448	10,986	11,524	12,062	12,600	13,138	13,676	14,214	14,752



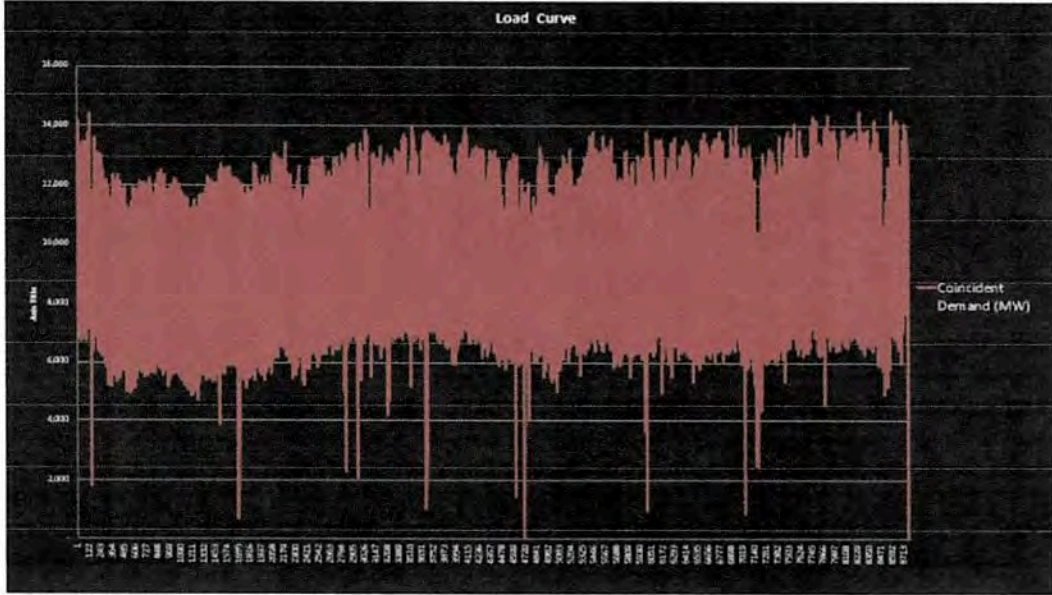
The Annual Average Growth Rate of the DU's energy sales from year 2008 to year 2017 is **6.90%**.

POWER SUPPLY PROCUREMENT PLAN

Demand	HISTORICAL									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Coincident Peak Demand (MW)	8.558	9.158	9.801	10.49	10.32	13.72	11.66	12.61	13.69	14.55
Off Peak Demand (MW)	2.904	2.904	3.108	3.326	3.272	4.351	3.696	3.998	4.342	4.614

Demand	HISTORICAL									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Coincident Peak Demand (MW)	15.05	15.905	16.802	17.8	18.798	19.845	20.942	22.088	23.283	24.528
Off Peak Demand (MW)	4.888	5.179	5.486	5.812	6.157	6.523	6.91	7.32	7.755	8.215

LOAD PROFILE AND LOAD DURATION CURVE

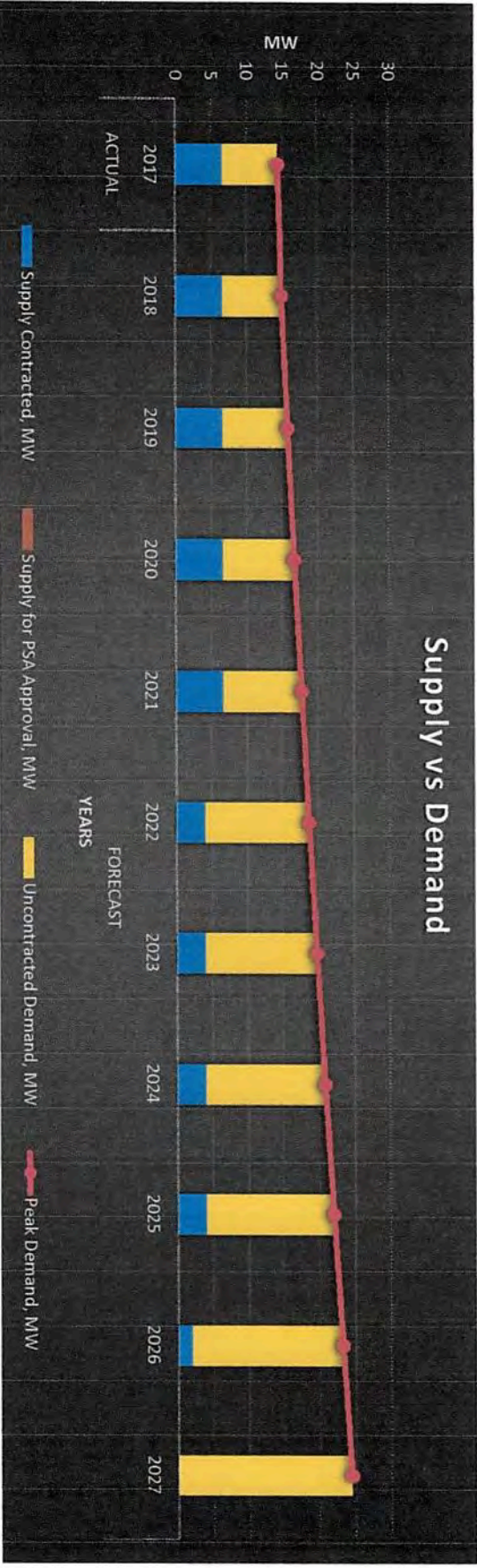


NORECO-I has a base-load of 11,500 kW, mid-merit of 12,500 kW and peak load of 15,000 kW.

MIXSUPPLY VS DEMAND AND THE OPTIMAL SUPPLY

Supply Demand	ACTUAL		FORECAST														
	2017	2018	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Peak Demand, MW	14.6	15.0	15.9	16.8	17.8	18.8	19.8	20.9	22.1	23.3	24.5						
Supply Contracted, MW	6.7	6.7	6.7	6.7	6.7	6.7	4	4	4	4	2	0					
KEPCO	2.7	2.7	2.7	2.7	2.7	2.7											
GCGI	2	2	2	2	2	2	2	2	2	2	2	0					
PCPC	2	2	2	2	2	2	2	2	2	2	2	0					
Supply for PSA Approval, MW	0	0	0	0	0	0	0	0	0	0	0	0					
Generation Plant Name 1																	
Generation Plant Name 2																	
Generation Plant Name 3																	
Uncontracted Demand, MW	7.9	8.3	9.2	10.1	11.1	14.8	15.8	16.9	18.1	21.3	24.5						

Note: Data are sample only for graph presentation



POWER SUPPLY PROCUREMENT PLAN

List of Existing Contracts and Details

Supply Contract	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contract Capacity, MW	Contract 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)
GCGI			25-Dec-10	25-Dec-25	2	1488	Base	Grid Connected	IPP	Contracted	Geothermal		
KEPCO			31-May-11	31-May-21	2.7	2009	Base	Grid Connected	IPP	Contracted	Coal		
PCPC			26-Jul-16	26-Jul-26	2	1488	Base	Grid Connected	IPP	Contracted	Coal		

Currently, we are sourcing our peaking requirement from the market, since it has lower prices compared with a diesel power plant. For the baseload requirement NORECO-I has sufficient power supply contract until year 2021. For the subsequent power requirement NORECO-I is currently planning for a preparation for the aggregation of the power supply requirement together with the rest of the Negros Island Region.

DISTRIBUTION IMPACT STUDY

The 5 MVA Valleherrmoso substation was already constructed and ready for operation, however, we are still waiting for the NGCP to energize their 69kV line. The 5-MVA Bais City Substation is scheduled to be updated to 10 MVA for the year 2019, subject for the approval of ERC through CAPEX. The 5-MVA Bindoy Substation is also scheduled to be upgraded from power fuse to power circuit breaker for protection, subject also for the approval of ERC.

10 Year Monthly Data

Year	Forecast			Contracted and For PSA Approval Demand and Energy		Uncontracted Demand and Energy		Committed for CSP	
	Coinciden t Peak Demand (MW)	Off Peak Demand (MW)	Energy Requirem ent (MWh)	Demand (MW)	Energy (MWh)	Uncontra cted Demand (MW)	Uncontra cted Energy (MWh)	Demand (MW)	Energy (MWh)
2018									
Jan	14.92	5.28	6,303	10.70	5,357	4.22	946		
Feb	12.91	5.00	5,947	6.70	4,985	6.21	963		
Mar	13.49	5.46	5,540	6.70	4,985	6.79	555		
Apr	13.89	5.57	6,462	6.70	4,985	7.19	1,477		
May	14.48	4.89	6,678	6.70	4,985	7.78	1,693		
Jun	14.39	6.29	6,874	6.70	4,985	7.69	1,890		
Jul	13.71	5.30	6,129	6.70	4,985	7.01	1,144		
Aug	14.28	5.92	6,745	6.70	4,985	7.58	1,761		
Sep	14.31	5.27	6,649	6.70	4,985	7.61	1,664		
Oct	14.52	5.54	6,247	6.70	4,985	7.82	1,262		
Nov	14.84	5.64	6,828	6.70	4,985	8.14	1,843		
Dec	15.05	5.20	6,525	6.70	4,985	8.35	1,540		
2019			-	-	-				
Jan	15.77	5.60	6,667	6.70	4,985	9.07	1,682		
Feb	13.65	5.29	6,291	6.70	4,985	6.95	1,306		
Mar	14.26	5.78	5,860	6.70	4,985	7.56	875		
Apr	14.68	5.90	6,836	6.70	4,985	7.98	1,851		
May	15.30	5.18	7,064	6.70	4,985	8.60	2,079		
Jun	15.21	6.66	7,272	6.70	4,985	8.51	2,287		
Jul	14.49	5.61	6,483	6.70	4,985	7.79	1,498		
Aug	15.09	6.28	7,135	6.70	4,985	8.39	2,150		
Sep	15.12	5.58	7,033	6.70	4,985	8.42	2,048		
Oct	15.35	5.86	6,608	6.70	4,985	8.65	1,623		
Nov	15.69	5.98	7,223	6.70	4,985	8.99	2,238		
Dec	15.91	5.51	6,902	6.70	4,985	9.21	1,917		
2020			-	-	-				
Jan	16.66	5.93	7,031	6.70	4,985	9.96	2,046		
Feb	14.42	5.61	6,635	6.70	4,985	7.72	1,650		
Mar	15.06	6.12	6,180	6.70	4,985	8.36	1,195		
Apr	15.51	6.25	7,209	6.70	4,985	8.81	2,224		
May	16.17	5.49	7,450	6.70	4,985	9.47	2,465		
Jun	16.07	7.06	7,669	6.70	4,985	9.37	2,684		
Jul	15.31	5.94	6,837	6.70	4,985	8.61	1,852		
Aug	15.94	6.65	7,525	6.70	4,985	9.24	2,540		
Sep	15.98	5.91	7,417	6.70	4,985	9.28	2,432		
Oct	16.21	6.21	6,969	6.70	4,985	9.51	1,984		
Nov	16.57	6.33	7,617	6.70	4,985	9.87	2,632		
Dec	16.80	5.84	7,279	6.70	4,985	10.10	2,294		
2021			-	-	-				
Jan	17.65	6.28	7,395	6.70	4,985	10.95	2,410		

POWER SUPPLY PROCUREMENT PLAN

Feb	15.27	5.94	6,978	6.70	4,985	8.57	1,994		
Mar	15.96	6.49	6,500	6.70	4,985	9.26	1,515		
Apr	16.43	6.62	7,583	6.70	4,985	9.73	2,598		
May	17.13	5.81	7,836	6.70	4,985	10.43	2,851		
Jun	17.02	7.48	8,066	4.00	2,880	13.02	5,186		
Jul	16.22	6.30	7,191	4.00	2,880	12.22	4,311		
Aug	16.88	7.04	7,915	4.00	2,880	12.88	5,035		
Sep	16.92	6.26	7,801	4.00	2,880	12.92	4,921		
Oct	17.17	6.58	7,330	4.00	2,880	13.17	4,450		
Nov	17.56	6.71	8,012	4.00	2,880	13.56	5,132		
Dec	17.80	6.18	7,656	4.00	2,880	13.80	4,776		
2022			-	-					
Jan	18.64	6.66	7,760	4.00	2,880	14.64	4,880		
Feb	16.13	6.29	7,322	4.00	2,880	12.13	4,442		
Mar	16.85	6.87	6,820	4.00	2,880	12.85	3,940		
Apr	17.35	7.02	7,956	4.00	2,880	13.35	5,076		
May	18.09	6.16	8,222	4.00	2,880	14.09	5,342		
Jun	17.97	7.92	8,464	4.00	2,880	13.97	5,584		
Jul	17.13	6.67	7,545	4.00	2,880	13.13	4,665		
Aug	17.83	7.46	8,305	4.00	2,880	13.83	5,425		
Sep	17.87	6.63	8,186	4.00	2,880	13.87	5,306		
Oct	18.14	6.97	7,691	4.00	2,880	14.14	4,811		
Nov	18.54	7.11	8,406	4.00	2,880	14.54	5,526		
Dec	18.80	6.55	8,033	4.00	2,880	14.80	5,153		
2023			-	-					
Jan	19.68	7.05	8,124	4.00	2,880	15.68	5,244		
Feb	17.03	6.67	7,666	4.00	2,880	13.03	4,786		
Mar	17.79	7.28	7,141	4.00	2,880	13.79	4,261		
Apr	18.32	7.43	8,329	4.00	2,880	14.32	5,449		
May	19.09	6.52	8,608	4.00	2,880	15.09	5,728		
Jun	18.97	8.39	8,861	4.00	2,880	14.97	5,981		
Jul	18.08	7.07	7,900	4.00	2,880	14.08	5,020		
Aug	18.82	7.91	8,694	4.00	2,880	14.82	5,814		
Sep	18.87	7.03	8,570	4.00	2,880	14.87	5,690		
Oct	19.15	7.39	8,052	4.00	2,880	15.15	5,172		
Nov	19.57	7.53	8,801	4.00	2,880	15.57	5,921		
Dec	19.84	6.94	8,410	4.00	2,880	15.84	5,530		
2024			-	-					
Jan	20.76	7.47	8,488	4.00	2,880	16.76	5,608		
Feb	17.97	7.06	8,010	4.00	2,880	13.97	5,130		
Mar	18.78	7.71	7,461	4.00	2,880	14.78	4,581		
Apr	19.33	7.87	8,703	4.00	2,880	15.33	5,823		
May	20.15	6.91	8,994	4.00	2,880	16.15	6,114		
Jun	20.02	8.89	9,258	4.00	2,880	16.02	6,378		
Jul	19.08	7.49	8,254	4.00	2,880	15.08	5,374		
Aug	19.86	8.37	9,084	4.00	2,880	15.86	6,204		
Sep	19.91	7.44	8,954	4.00	2,880	15.91	6,074		
Oct	20.21	7.82	8,413	4.00	2,880	16.21	5,533		
Nov	20.65	7.97	9,196	4.00	2,880	16.65	6,316		
Dec	20.94	7.35	8,787	4.00	2,880	16.94	5,907		

POWER SUPPLY PROCUREMENT PLAN

2025			-	-	-	-	-		
Jan	21.90	7.91	8,852	4.00	2,880	17.90	5,972		
Feb	18.95	7.48	8,353	4.00	2,880	14.95	5,473		
Mar	19.80	8.17	7,781	4.00	2,880	15.80	4,901		
Apr	20.39	8.34	9,076	4.00	2,880	16.39	6,196		
May	21.25	7.32	9,380	4.00	2,880	17.25	6,500		
Jun	21.12	9.42	9,656	4.00	2,880	17.12	6,776		
Jul	20.13	7.93	8,608	4.00	2,880	16.13	5,728		
Aug	20.95	8.87	9,474	4.00	2,880	16.95	6,594		
Sep	21.00	7.89	9,338	4.00	2,880	17.00	6,458		
Oct	21.31	8.29	8,774	4.00	2,880	17.31	5,894		
Nov	21.78	8.45	9,590	4.00	2,880	17.78	6,710		
Dec	22.09	7.79	9,164	4.00	2,880	18.09			
2026			-	-					
Jan	23.09	8.38	9,216	4.00	2,880	19.09	6,336		
Feb	19.98	7.93	8,697	4.00	2,880	15.98	5,817		
Mar	20.88	8.66	8,101	4.00	2,880	16.88	5,221		
Apr	21.50	8.84	9,450	4.00	2,880	17.50	6,570		
May	22.40	7.75	9,766	4.00	2,880	18.40	6,886		
Jun	22.26	9.98	10,053	4.00	2,880	18.26	7,173		
Jul	21.22	8.40	8,962	4.00	2,880	17.22	6,082		
Aug	22.09	9.40	9,864	2.00	1,440	20.09	8,424		
Sep	22.14	8.35	9,723	2.00	1,440	20.14	8,283		
Oct	22.46	8.78	9,135	2.00	1,440	20.46	7,695		
Nov	22.96	8.95	9,985	2.00	1,440	20.96	8,545		
Dec	23.28	8.25	9,541	2.00	1,440	21.28	8,101		
2027			-	-					
Jan	24.32	8.88	9,581	2.00	1,440	22.32	8,141		
Feb	21.05	8.40	9,041	2.00	1,440	19.05	7,601		
Mar	21.99	9.17	8,421	2.00	1,440	19.99	6,981		
Apr	22.65	9.36	9,823	2.00	1,440	20.65	8,383		
May	23.60	8.22	10,152	2.00	1,440	21.60	8,712		
Jun	23.45	10.57	10,450	2.00	1,440	21.45	9,010		
Jul	22.35	8.90	9,316	2.00	1,440	20.35	7,876		
Aug	23.27	9.96	10,254	2.00	1,440	21.27	8,814		
Sep	23.32	8.85	10,107	2.00	1,440	21.32	8,667		
Oct	23.67	9.30	9,496	2.00	1,440	21.67	8,056		
Nov	24.19	9.48	10,379	2.00	1,440	22.19	8,939		
Dec	24.53	8.74	9,918	2.00	1,440	22.53	8,478		