DAVAO LIGHT AND POWER CO., INC.

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

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.

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INTRODUCTION

DISTRIBUTION UTILITIES PROFILE

Davao Light is the third largest privately-owned electric distribution utility in the country in terms of customers and annual kilowatt-hour (kWh) sales.

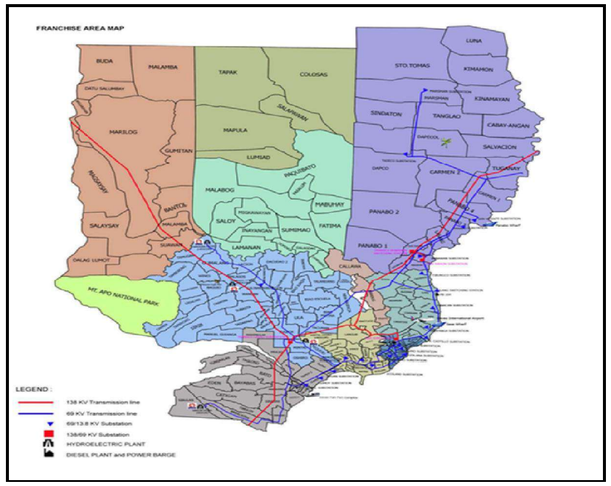
With a franchise covering Davao City and Davao del Norte areas of Panabo City and the Municipalities of Carmen, Dujali and Santo Tomas, Davao Light services a population of approximately 2,041,123 and a total area of 3,561 square kilometers.

Davao Light has 404,574 customers as of December 2018, with 25 distribution substations and 2 sub-transmission substations strategically located throughout its franchise.

As of December 2018, Davao Light hit a cumulative 2,468,191 kWh in energy sales posting a 10-year compounded annual growth rate of 6.05%. Meanwhile, peak demand was recorded at 421 MW higher than last year's 404 MW.

One of Davao Light's approaches to keep rates at reasonable levels is by maintaining its distribution feeder systems losses well within the government mandated cap of 6.5%. The 12-month average distribution feeder loss as of December 2018 is 4.51%.

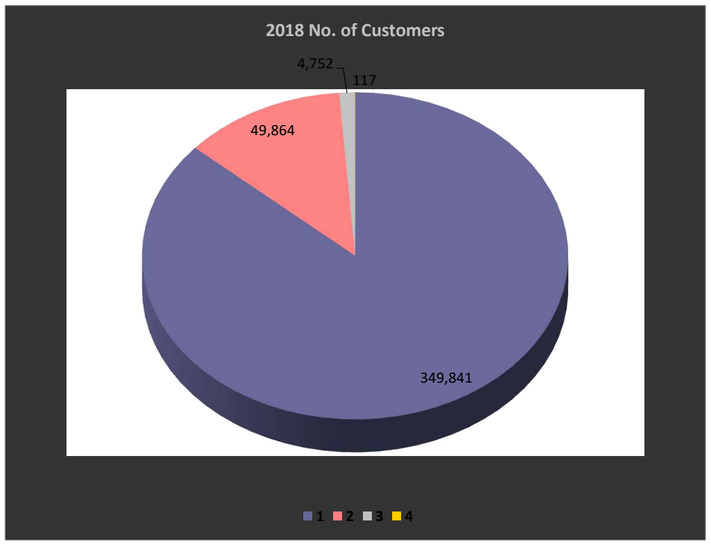
DU's Franchise MAP



Number of Customer Connections in Franchise	ACTUAL	FORECAST									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Residential	349,841	365,214	380,301	398,023	416,491	435,816	456,038	477,381	499,818	523,409	535,835
Commercial	49,864	52,201	55,446	57,908	60,479	63,255	66,108	69,142	72,343	75,744	79,145
Industrial	4,752	5,021	5,079	5,282	5,493	5,713	5,947	6,190	6,468	6,765	7,062
Others (Flat Lighting)	117	119	121	123	125	127	129	131	133	135	137
Contestable Customers served by RES											
Total (Captive Customers)											

The positive outlook on DLPC's kWh sales growth is mainly driven by positive economic growth in the region. GRDP for 2017 grew by 10.9% vs 2016 and NEDA projected a growth range of 9.2% to 10.5% yearly GRDP up to 2022. Final data for GRDP 2018 is still to be released on April 2019.

Investors are coming in to put up manufacturing firms/plants, schools, BPOs, and commercial complexes. As a result, it is projected that real property developments like condominiums and townships will continue to rise.



DLPC SUBSTATION FACTS

TRANSFORMATION CAPACITY

350 MVA Sub-Transmiss

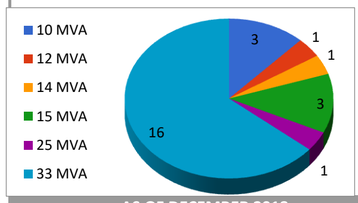
654 MVA Distributio

SUBSTATIONS

27

2 Sub-Tra

25 Distribu



AS OF DECEMBER 2018

DAVAO LIGHT FRANCHISE

3,561 SQ. KM Land Area

269 Barangays

Davao City
Panabo City
Carmen
Dujali
Sto. Tomas

404,574 Customers

AS OF DECEMBER 2018

ENERGY SALES AND PURCHASE

ENERGY SALES AND PURCHASE	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Energy Sales (MWh)	1,459,161	1,549,734	1,584,389	1,681,720	1,770,739	1,981,258	2,069,127	2,173,373	2,298,361	2,468,192
Energy Purchase (MWh)	1,588,080	1,675,973	1,731,177	1,818,920	1,922,039	2,100,237	2,228,816	2,340,692	2,479,985	2,656,805
System Loss (MWh)	128,919	126,239	146,788	137,200	151,300	118,978	159,690	167,318	181,624	188,613

ENERGY SALES AND PURCHASE	FORECAST									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Energy Sales (MWh)	2,613,038	2,757,034	2,856,744	3,018,733	3,137,336	3,270,292	3,396,006	3,521,827	3,651,027	3,765,506
Energy Purchase (MWh)	2,808,721	2,963,555	3,070,771	3,244,951	3,372,481	3,515,445	3,650,622	3,785,914	3,924,837	4,048,061
System Loss (MWh)	195,683	206,521	214,027	226,218	235,145	245,153	254,616	264,087	273,810	282,555

Brief highlight/report

Two of DLPC's peak load supplier have expired in 2018. On the same year, the Company conducted a Competetive Selection Process for a 50MW peaking requirement. As a result, a Power Supply Agreement (PSA) with Therma Marine Inc. was filed to ERC for approval in Dec 2018. To address additional spike on demand, DLPC will source its requirement from non-firm supply and/or from WESM after the latter's commercial operations in Mindanao.

DEMAND

Demand	HISTORICAL									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Coincident Peak Demand (MW)	267	282	280	304	324	344	354	380	404	421
Off Peak Demand (MW)	99	104	104	112	120	127	134	159	151	175

Demand	HISTORICAL									
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Coincident Peak Demand (MW)	455	479	498	526	547	569	592	614	637	655
Off Peak Demand (MW)	189	199	207	219	227	236	246	255	265	272

Brief highlight of historical demand and forecasting methodology and result

In 2018, one industrial customer upgraded its connection to 69-kV connection. In addition, there were two big commercial customers (mall) that were energized. On the other hand, the actual coincident peak demand of 421 MW is somewhat below the projected forecast because majority of the key customers are not finished within their committed date of energization. With regards to our coincident peak demand that occured last November, BPP was not contributory to this as it is not running during this time. Looking forward, we are anticipating a demand growth of about 95MW in the span of six(6) years. These are triggered by growth in real estate businesses, sprouting big universities, commercial complexes and big BPO's where some or most of them are currently on full swing constructions.

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	**421**	**455**	**479**	**498**	**526**	**547**	**569**	**592**	**614**	**637**	**655**
Supply Contracted, MW	**437**	**428**	**428**	**288**	**238**	**189**	**189**	**189**	**189**	**189**	**129**
PSALM	133	140	140	0	0	0	0	0	0	0	
Therma Marine Inc.	30										
Therma South Inc.	108	108	108	108	108	108	108	108	108	108	108
Southern Philippines Power Corporation	50										
Hedcor Sibulan	49	49	49	49	49						
Hedcor, Inc	4.47	4.47	4.47	4.47							
San Miguel Consolidated Power Corporation	60	60	60	60	60	60	60	60	60	60	
Hedcor Bukidnon, Inc. (expires at the start of WESM)	3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3
TMI Non-firm		45	45	45							
Supply for PSA Approval, MW	**0**	**110**	**110**	**110**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
WMPC Non-firm[1]		60	60	60							
TMI Firm[2]		50	50	50							
Uncontracted Demand, MW	**0**	**27**	**51**	**210**	**288**	**358**	**379**	**403**	**425**	**447**	**526**

Remarks:
1. WMPC Non-Firm PSA of 60MW is still pending with ERC under ERC Case No. 2018-046 RC
2. TMI Firm PSA of 50MW is still pending with ERC under ERC Case No. 2018-121 RC

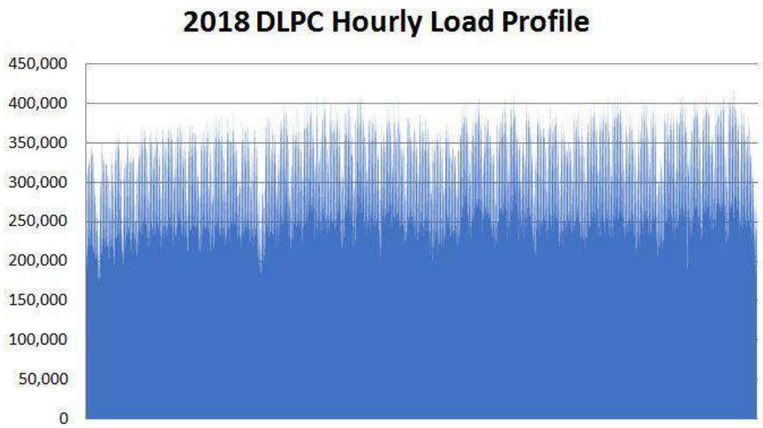
List of Existing Contracts and Details

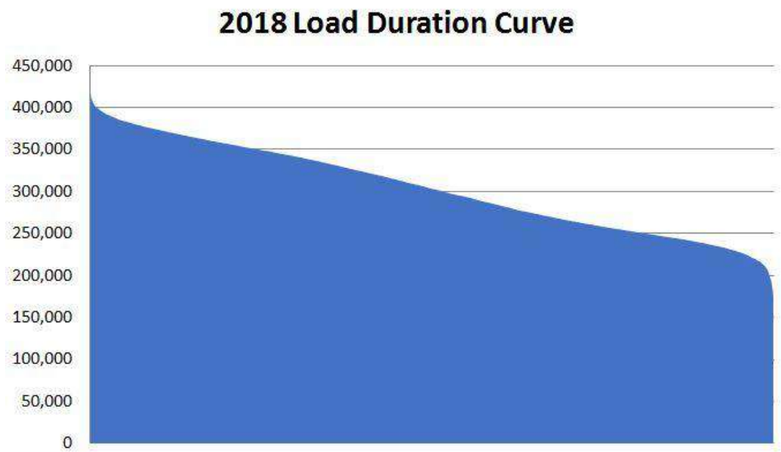
Supply Contracted	Plant Owner/ Operator	Capacity Factor	PSA Effectivity (MM/YR)	PSA Expiration (MM/YR)	Contracted Capacity, MW	Contracted Energy, MWH	Base / Mid-merit / Peaking	Embedded/ Grid Connected	Utility-owned/ NPC/ IPP/ NPC-IPP	Status	Fuel Type	Installed Capacity (MW)	Net Dependable Capacity (MW)
PSALM	PSALM		December 26, 2017	December 25, 2020	140	857,911	Base/Mid-merit	Grid Connected	NPC		Hydro/ Coal Plant		
Therma South Inc.	Therma South Inc.		September 18, 2015	September 17, 2040	108	946,080	Base	Grid Connected	IPP		Coal	300	
Hedcor Bukidnon, Inc.	Hedcor Bukidnon, Inc.		July 26, 2019	until WESM	21.30	186,588	Mid-merit	Grid Connected	IPP		Run-off river	69	
HEDCOR Sibulan Inc.	Hedcor Sibulan Inc.		February 26, 2010	February 25, 2022	49	234,340	Mid-merit	Embedded	IPP		Run-off river	49	
Upper Talomo Hydro Power Plant	Hedcor Inc.		April 2005	w/ pending ERC applicatior	1	5,500	Mid-merit	Embedded	IPP		Run-off river	1	
Lower Talomo Hydro Power Plant	Hedcor Inc.		February 2006	February 2021	3.47	24,844	Mid-merit	Embedded	IPP		Run-off river	3	
San Miguel Consolidated Power C	San Miguel Consolidated Power Corporation		February 26, 2018	February 25, 2028	60	525,600	Base	Grid Connected	IPP		Coal	300	
Therma Marine Inc	Therma Marine Inc		July 30, 2018	July 29, 2021	45	394,200	Peaking	Grid Connected	IPP		Diesel	200	

Discuss the following:
Performance of the existing Contracted Generation Companies.
For off-grid DUs specify the approved SAGR
Further, discuss the **optimal supply mix** for the DU given the load curve, performance of the existing contracted generation companies and other factors as found significant

DLPC contracting considers its base load, intermmediate, and peaking requirements. On the daily trading of electricity, DLPC dispatch first its minimum contractual obligation from suppliers. The remaining requirement is optimized by prioritizing the suppliers with least variable generation cost. The variable cost such as fuel, labor, and operating expenses is the cost incurred in relation to the volume generated by the power plant.

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.

Base load is at 175MW, and peaking load is at 350MW.

DISTRIBUTION IMPACT STUDY

Brief discussion on the following:
Readiness of substation, distribution lines on the forecasted increase of loads
Impact on the entry of a new power plant which may affects transmission congestion
Loading of substations
Compliance with the PDC and PEC

DLPC power distribution systems are composed of sub-transmission and distribution substations, and correspondingly, sub-transmission and distribution lines, with voltage level ranging from 230V up to 138kV and network coverage spread widely within Davao City up to nearby municipalities of Carmen, Dujali and Sto. Tomas.

Given this, the system forecast for demand, energy, losses, and load factor, if done separately, would become complicated. This is due to the very dynamic nature of the feeders within the system. Also, frequent load transfers, and switching would render it hard to have a normalized loading for a specific substation or feeder. Thus, we only did forecast on our system energy sales and add systems loss to derive purchase. From this forecast, we derived all substation and feeder loadings using weighted average method for the next 5 years.

With this stated, the 5-year projects are purposely created to address system issues such as safety, capacity, reliability, statutory compliance, customer request and etc.. If all 5-year projects are implemented accordingly, the system will be ready for the load growth expected. However beyond 5 years, proposed projects are yet to be determined. Nevertheless, DLPC substation and feeders are already equipped to cater this load growth for the next 5 years.

Should there be entry of new embedded power plant to the system, a DIS must be

Also loading of substation were already considered in the project formulation thus there is no longer an issue with load growth and with indicative spot loads. Moreover, substation loading are also monitored to reduce reliability indices thus providing better services to the consumer.

Compliance to regulatory standards were considered in the formulation and prioritization of the projects proposed. Electrical equipment ratings, construction clearances, power quality performances, service reliability, safety and efficiency are all compliant and most of the time are more than the minimum standards set by PDC and PGC. At all times, compliance to regulatory standards is of high regard since it provides more benefit than liability to the company.

SCHEDULE OF CSP

Base / mid-merit / peaking	For CSP		Proposed contract period			
	Demand (MW)	Energy (MWh)	Start Month and Year	End Month and Year	Publication of Invitation to Bid	Pre-bid Conference

POWER SUPPLY PROCUREMENT PLAN

Proposed schedule (MM/YYYY)					
Submission of Bids	**Opening of Bids**	**Bid Evaluation**	**Awarding**	**PSA Signing**	**Joint Application to ERC**

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	417	189	214,717	413	262,976	4	-	407.82	
Feb	412	227	232,005	428	267,760	-	-	423.23	
Mar	421	225	211,240	427	247,869	-	-	422.10	
Apr	434	197	232,091	416	263,753	18	-	411.39	
May	448	229	238,835	431	265,001	17	-	426.28	
Jun	439	218	241,100	441	276,728	-	-	436.30	
Jul	435	214	231,041	407	252,579	28	-	401.63	
Aug	451	232	247,557	409	261,198	42	-	404.41	
Sep	436	226	238,428	436	273,893	-	-	430.86	
Oct	449	224	239,908	447	272,735	2	-	441.62	
Nov	455	206	244,181	436	274,189	19	-	431.43	
Dec	453	197	237,619	440	269,636	13	-	435.47	
2020									
Jan	439	199	226,554	418	265,585	21	-		
Feb	434	240	244,795	418	262,663	16	-		
Mar	443	237	222,885	427	250,359	15	-		
Apr	457	207	244,885	420	265,802	36	-		
May	471	241	252,001	427	262,831	44	-		
Jun	462	229	254,391	437	274,536	25	-		
Jul	458	226	243,777	437	268,065	20	-		
Aug	475	245	261,204	386	249,046	89	12,158		
Sep	458	238	251,572	432	271,814	27	-		
Oct	473	236	253,134	451	319,788	21	-		
Nov	479	217	257,641	437	317,720	42	-		
Dec	477	208	250,718	441	314,592	36	-		

2021									
Jan	456	207	234,750	288	198,598	168	36,152		
Feb	451	249	253,651	288	193,317	163	60,334		
Mar	460	247	230,948	283	180,000	177	50,948		
Apr	475	216	253,744	283	194,191	191	59,553		
May	490	250	261,118	283	190,180	206	70,938		
Jun	480	239	263,594	283	194,192	197	69,402		
Jul	476	235	252,596	283	190,181	192	62,415		
Aug	493	254	270,654	283	195,272	210	75,382		
Sep	476	248	260,673	283	194,192	193	66,481		
Oct	491	245	262,292	283	190,181	208	72,111		
Nov	498	226	266,962	283	194,192	214	72,770		
Dec	496	216	259,789	283	190,181	212	69,608		
2022									
Jan	482	219	248,065	238	161,792	244	86,273		
Feb	477	264	268,039	238	161,790	238	106,249		
Mar	486	261	244,048	189	128,316	297	115,732		
Apr	502	228	268,137	189	141,943	312	126,194		
May	518	265	275,929	189	137,400	328	138,529		
Jun	507	252	278,546	189	141,944	318	136,602		
Jul	503	248	266,924	189	137,401	313	129,523		
Aug	521	269	286,006	189	141,944	332	144,062		
Sep	504	262	275,459	189	141,944	314	133,515		
Oct	519	259	277,170	189	137,401	330	139,769		
Nov	526	239	282,105	189	141,944	337	140,161		
Dec	524	228	274,525	189	137,401	335	137,124		
2023									
Jan	501	227	257,815	189	141,944	312	115,871		
Feb	496	273	278,573	189	141,942	306	136,631		
Mar	505	271	253,639	189	128,316	316	125,323		
Apr	521	237	278,675	189	141,943	332	136,732		
May	538	275	286,773	189	137,400	349	149,373		
Jun	527	262	289,493	189	141,944	338	147,549		
Jul	523	257	277,414	189	137,401	333	140,013		
Aug	542	279	297,246	189	141,944	353	155,302		
Sep	523	271	286,285	189	141,944	334	144,341		
Oct	540	269	288,063	189	137,401	350	150,662		
Nov	547	248	293,192	189	141,944	358	151,248		
Dec	545	237	285,314	189	137,401	355	147,913		

2024									
Jan	521	236	268,744	189	141,944	332	126,800		
Feb	515	284	290,382	189	141,942	326	148,440		
Mar	525	281	264,391	189	128,316	336	136,075		
Apr	542	246	290,488	189	141,943	353	148,545		
May	559	285	298,930	189	137,400	370	161,530		
Jun	548	272	301,765	189	141,944	359	159,821		
Jul	543	267	289,174	189	137,401	354	151,773		
Aug	564	290	309,847	189	141,944	374	167,903		
Sep	544	282	298,421	189	141,944	355	156,477		
Oct	561	280	300,274	189	137,401	372	162,873		
Nov	569	257	305,620	189	141,944	379	163,676		
Dec	566	246	297,409	189	137,401	377	160,008		
2025									
Jan	543	246	279,078	189	141,944	353	137,134		
Feb	537	296	301,548	189	141,942	347	159,606		
Mar	547	293	274,558	189	128,316	358	146,242		
Apr	565	256	301,658	189	141,943	375	159,715		
May	583	298	310,425	189	137,400	393	173,025		
Jun	571	284	313,368	189	141,944	382	171,424		
Jul	566	279	300,293	189	137,401	377	162,892		
Aug	587	302	321,761	189	141,944	398	179,817		
Sep	567	294	309,896	189	141,944	377	167,952		
Oct	584	291	311,820	189	137,401	395	174,419		
Nov	592	268	317,372	189	141,944	403	175,428		
Dec	590	257	308,845	189	137,401	400	171,444		
2026									
Jan	563	255	289,420	189	141,944	374	147,476		
Feb	556	307	312,723	189	141,942	367	170,781		
Mar	567	304	284,733	189	128,316	378	156,417		
Apr	586	266	312,838	189	141,943	396	170,895		
May	604	308	321,929	189	137,400	415	184,529		
Jun	592	294	324,982	189	141,944	403	183,038		
Jul	587	289	311,422	189	137,401	398	174,021		
Aug	609	313	333,686	189	141,944	419	191,742		
Sep	588	305	321,380	189	141,944	398	179,436		
Oct	606	302	323,376	189	137,401	417	185,975		
Nov	614	278	329,134	189	141,944	425	187,190		
Dec	612	266	320,291	189	137,401	422	182,890		

2027									
Jan	584	265	300,040	189	141,944	394	158,096		
Feb	577	319	324,198	189	141,942	388	182,256		
Mar	588	316	295,181	189	128,316	399	166,865		
Apr	607	276	324,317	189	141,943	418	182,374		
May	626	321	333,742	189	137,400	437	196,342		
Jun	614	305	336,907	189	141,944	425	194,963		
Jul	608	300	322,850	189	137,401	419	185,449		
Aug	631	326	345,930	189	141,944	442	203,986		
Sep	609	317	333,173	189	141,944	420	191,229		
Oct	628	314	335,243	189	137,401	439	197,842		
Nov	637	289	341,211	189	141,944	447	199,267		
Dec	634	276	332,043	189	137,401	445	194,642		
2028									
Jan	600	272	309,460	189	141,944	411	167,516		
Feb	594	327	334,377	189	141,942	404	192,435		
Mar	605	324	304,448	129	87,996	476	216,452		
Apr	625	284	334,499	129	97,303	495	237,196		
May	645	329	344,220	129	94,200	515	250,020		
Jun	632	314	347,484	129	97,304	502	250,180		
Jul	626	308	332,986	129	94,201	497	238,785		
Aug	649	334	356,791	129	97,304	520	259,487		
Sep	627	325	343,634	129	97,304	498	246,330		
Oct	646	322	345,768	129	94,201	517	251,567		
Nov	655	297	351,924	129	97,304	526	254,620		
Dec	652	284	342,468	129	94,201	523	248,267		