



# Monthly Market Assessment Report

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**26 December 2020 to 25 January 2021**

## **FEBRUARY 2021**

This Report is prepared by the  
Philippine Electricity Market Corporation –  
Market Assessment Group for the  
Market Surveillance Committee

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## Monthly Market Assessment Report for January 2021 Billing Month

### 1. ASSESSMENT OF THE MARKET

- Normal pricing condition in the Luzon region consisted about 98 percent of the total trading intervals in January 2021, higher than last month's monthly percent share of 96 percent. On the contrary, a slight decline in percentage share was noted from last month in the Visayas region from 92 percent to 87 percent.
- Price Substitution Methodology (PSM) was applied to 4 intervals or 0.5 percent of the total outcomes both in the Luzon and Visayas regions.
  - For both regions, 2 of the PSM-applied intervals was the result of the constraint in the Samboan – Amlan line 1 that connects the Cebu and Negros islands. Meanwhile, the constraint in the Bacolod – Barotac line 1 accounted for the remaining 2 intervals.
- Prices with errors not caused by congestion occurred around 10 intervals or 1.3 percent of the time for Luzon and 90 intervals or 12.1 percent for Visayas, noting that some reasons for the pricing error may be coincident in an interval.
  - In Luzon, a total of 10 intervals were caused by inappropriate input data which affected both regions' prices and schedules whereas only 2 intervals were due to localized transformer constraints in Tiwi C (1 interval) and Makban B (1 interval).
  - In Visayas, there were also 7 intervals with pricing errors caused by inappropriate input data while localized transformer constraint reasons constituted 83 intervals. All of the 83 intervals were because of the Palinpinon transformer constraints.
- None of the intervals were imposed with administered prices and secondary price caps this month.

**Table 1. Summary of Pricing Conditions (Ex-ante), January 2021**

Pricing Condition	No. of Intervals			
	Luzon	% of Time	Visayas	% of Time
Normal	730	98.1%	650	87.4%
Congestion	4	0.5%	4	0.5%
Pricing Error Notice	10	1.3%	90	12.1%
Administered Price	0	0%	0	0%
Secondary Cap	0	0%	0	0%
<b>Total</b>	<b>744</b>	<b>100%</b>	<b>744</b>	<b>100%</b>

- Despite the generally low level of market prices this month because of the low system demand effects of the on-going community quarantine, and cooler recorded temperatures all throughout the month, average price was still an uptick from last month. The month-on-month increase was mainly influenced by the declining supply as outages observed the highest average for the whole year.

**Notable Highlight:**

1. *Prolonged implementation of the General Community Quarantine*
2. *Occurrence of two (2) price spike events due to high outage capacity and coinciding tripping and limitation of transmission lines, respectively:*
  - *14 January 2021 at 1600H*
  - *25 January 2021 at 2200H*

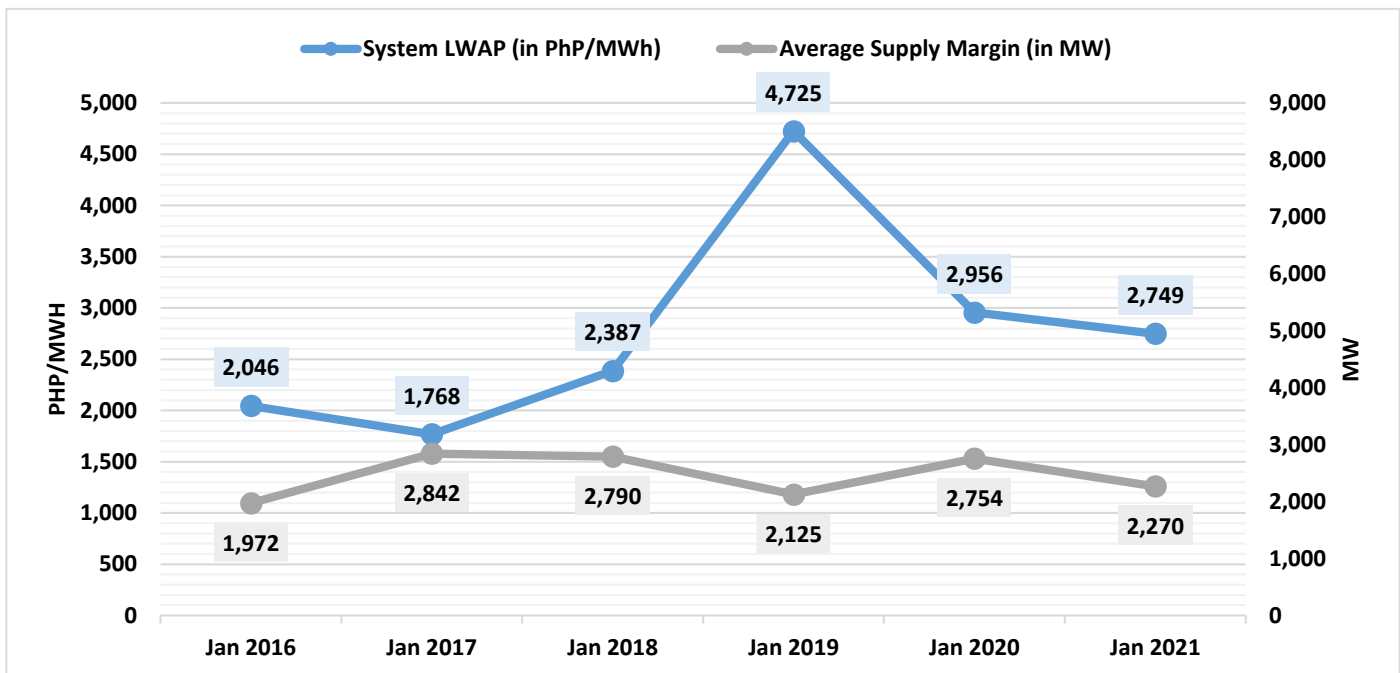
## 2. MARKET OUTCOME

### 2.1 Price<sup>1</sup>

#### 2.1.1 Price and Supply Margin

- On 19 August, the GCQ was reinstated, coming from MECQ declaration from 4 to 18 August, and was continuously imposed throughout the January 2021 billing month. While quarantine protocols continue to be implemented, there were two (2) episodes of price spikes recorded this month as compared with last month.
- Since the implementation of the community quarantine in March 2020, most months had an unusually high level of average monthly supply margin which resulted to low WESM prices.
- Similar to the pattern in other months this year as an effect of the community quarantine, the January 2021 billing month reached the highest hourly level of supply margin at 5,005 MW on 01 January 2021, 1000H and the lowest at 571 MW on 24 January 2021, 1800H.
- Historical data showed that the cool dry season, especially the December and January billing months, resulted in the highest monthly average supply margin. The decline in demand of electricity was attributable to the cooler temperatures experienced during the cool dry season and the presence of holidays.
- January 2020 was comparable to January 2019 in terms of average supply margin and it is also much lower than previous years' results.

<sup>1</sup> The market prices were represented by the following: (i) ex-ante load weighted average price (LWAP) for trading intervals without pricing error during ex-ante, (ii) ex-post LWAP for trading intervals with pricing error during ex-ante but without pricing error during ex-post, (iii) LWAP based on the market re-run result for trading intervals with pricing error both during ex-ante and ex-post, and (iv) estimated load reference price (ELRP) for trading intervals where the ERC-approved Price Substitution Mechanism (PSM) was applied.



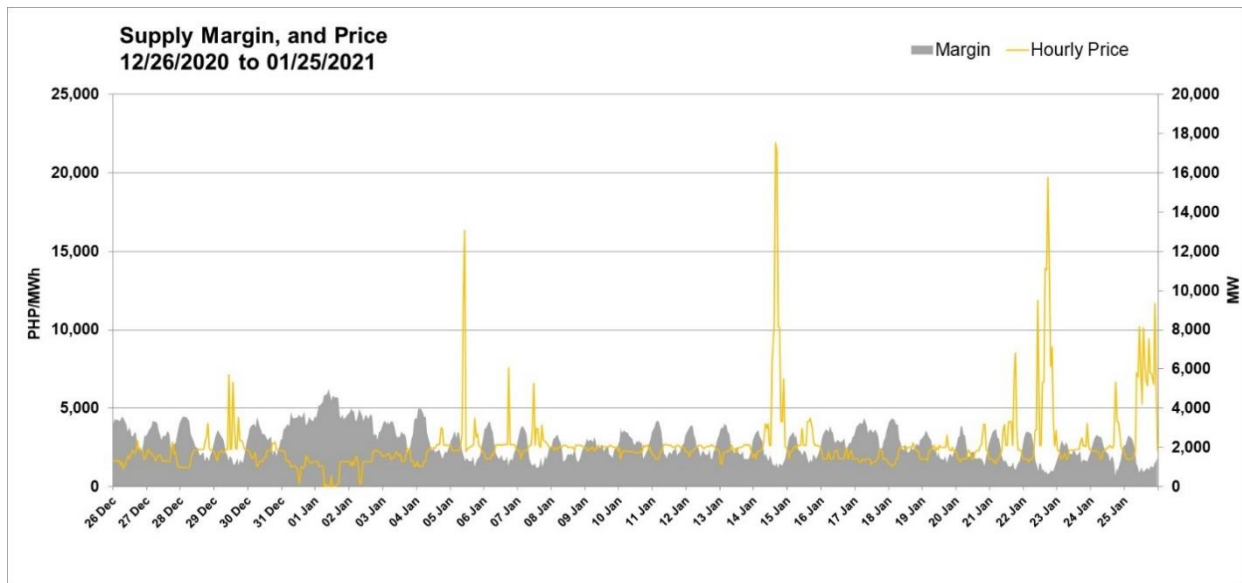
**Figure 1. System LWAP and Supply Margin, January 2016-2021**

- Monthly load weighted average price (LWAP) grew by 26.7 percent from PHP2,169/MWh in December to PHP2,749/MWh in January.
  - Monthly average peak prices rose by 30 percent from PHP2,642/MWh to PHP3,443/MWh.
  - Monthly average off-peak prices likewise climbed by 17 percent from PHP1,729 to PHP2,018/MWh.
- The average supply margin narrowed by 8 percent from 2,468 MW in December to 2,270 MW in January.
- With a high monthly average outage capacity recorded which further surpassed last month's highest monthly average for the billing year 2020, an increase in the market prices were observed despite a lower demand during the cool dry season and the community quarantine period.

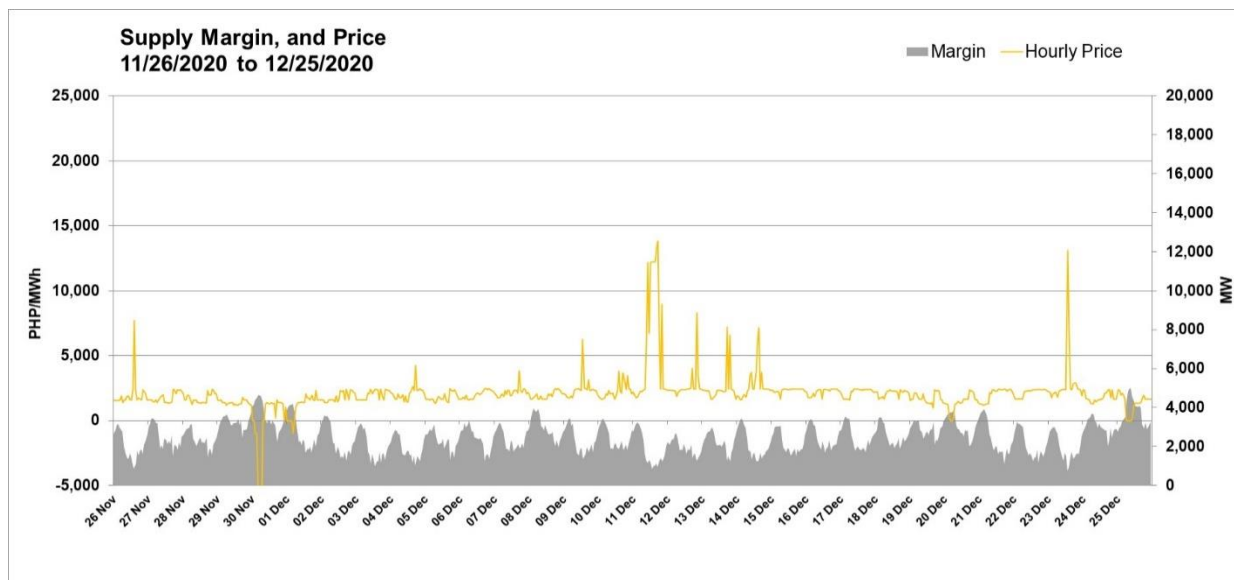
**Table 2. System LWAP and Supply Margin, December and January 2016-2021**

Year	Month	Average Supply Margin	% Change in Average Supply Margin	System LWAP	% Change in System LWAP
2016	December	1,764	12%	2,488	-18%
	January	1,972		2,046	
2017	December	2,521	13%	2,148	-18%
	January	2,842		1,768	
2018	December	2,558	9%	2,424	-2%
	January	2,790		2,387	
2019	December	2,474	-14%	3,186	48%
	January	2,125		4,725	
2020	December	1,818	51%	5,932	-50%
	January	2,754		2,956	
2021	<b>December</b>	<b>2,468</b>	-8%	<b>2,169</b>	<b>27%</b>
	<b>January</b>	<b>2,270</b>		<b>2,749</b>	

- Hourly resolution of LWAP saw the highest level at PHP21,898.13/MWh due to one of the highest levels of demand plus reserve schedule at 11,337 MW and the effective supply at 12,397 MW on 14 January 2021, 1600H. This interval recorded a low supply margin for January 2021 at 1,060 MW.
- About 90 percent of the time, the hourly system LWAP was below the PHP3,573/MWh level.
- Prices during the weekdays averaged at PHP3,227/MWh while during weekends it was at PHP2,130/MWh. Meanwhile, prices during the holidays (Rizal Day on 30 December, Last Day of the Year special non-working holiday on 31 December, and New Year's Day on 1 January) averaged at PHP1,562/MWh.
  - Weekday – Off-peak: PHP2,239/MWh; Peak: PHP3,909/MWh
  - Weekend – Off-peak: PHP2,054/MWh; Peak: PHP2,281/MWh
  - Holiday – Off-peak: PHP1,508/MWh; Peak: PHP2,101/MWh
- The highest average price by interval was noted on 1800H at PHP4,404/MWh and the lowest was on 0300H at PHP1,870/MWh regardless of the day type (i.e. weekday or weekend). Comparing this to last month, the highest and lowest was still on 1800H at PHP3,165/MWh and on 0700H at PHP1,205/MWh, respectively.
- Generally, market prices were consistent except for intervals with few upticks during low supply margin conditions.



**Figure 2. Hourly Supply Margin and Price, January 2021**



**Figure 3. Hourly Supply Margin and Price, December 2020**

### 2.1.2 Load Nodal Price Duration Curve<sup>2</sup>

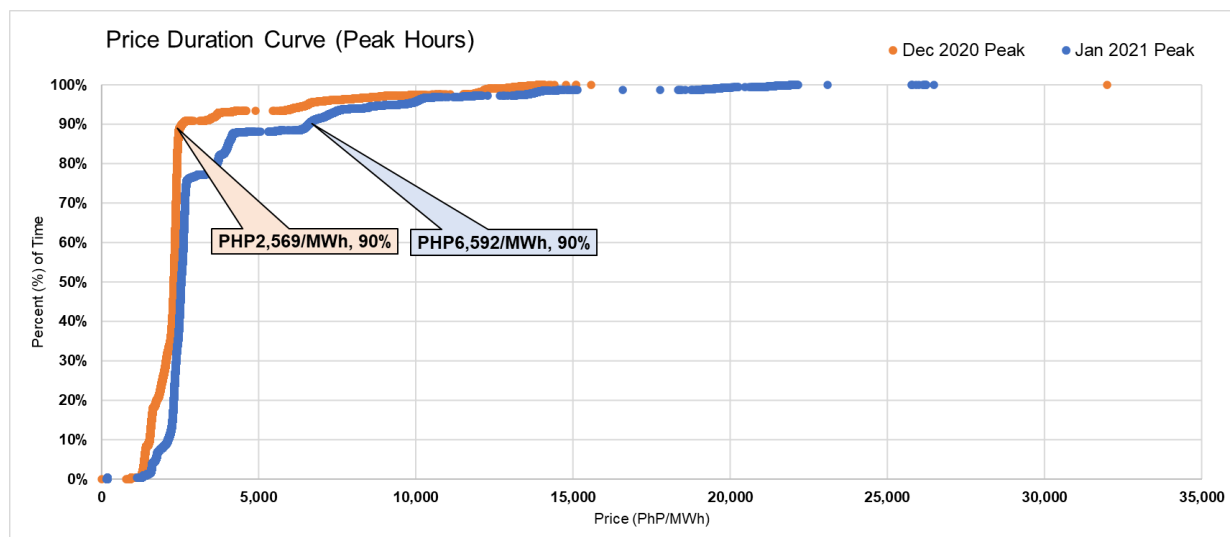
- For peak<sup>3</sup> hours, about 90 percent of the load nodal prices fell below PHP6,592/MWh in January and PHP2,569/MWh in December while distribution of prices during the off-peak hours were seen below PHP2,592/MWh in January and PHP2,358/MWh in December in about the same percentage of time.

<sup>2</sup> Load nodal RTD prices under normal pricing condition are used.

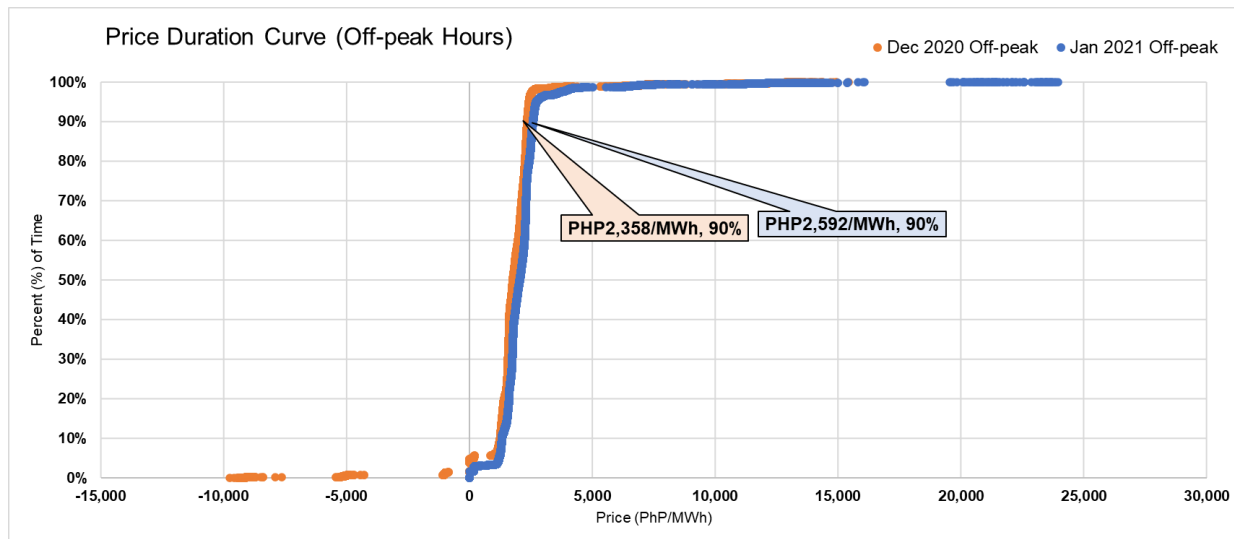
<sup>3</sup> Peak and off-peak intervals differ between Luzon and Visayas regions.



- Maximum off-peak and peak load nodal price reached PHP23,965/MWh and PHP26,477/MWh in January, respectively.
- Bulk or 76 percent of the peak nodal prices were seen ranging from PHP2,000/MWh to PHP4,000/MWh while for off-peak nodal prices, 50 percent was at the PHP2,000/MWh to PHP4,000/MWh range and 46 percent was at the PHP0/MWh to PHP2,000/MWh range.
- Based on the graph below, the January peak price curve notably varied from last month's price curve around the PHP2,500/MWh to PHP7,500/MWh range and more frequent occurrence of prices above PHP15,000/MWh was noted this January, leading to an increase in monthly average peak price.
- Meanwhile, monthly comparison of off-peak price duration curves showed presence of prices above PHP15,000/MWh while negative prices were significantly more seldom this January.



**Figure 4. Load Nodal Price Duration Curve (Peak), December 2020 and January 2021**

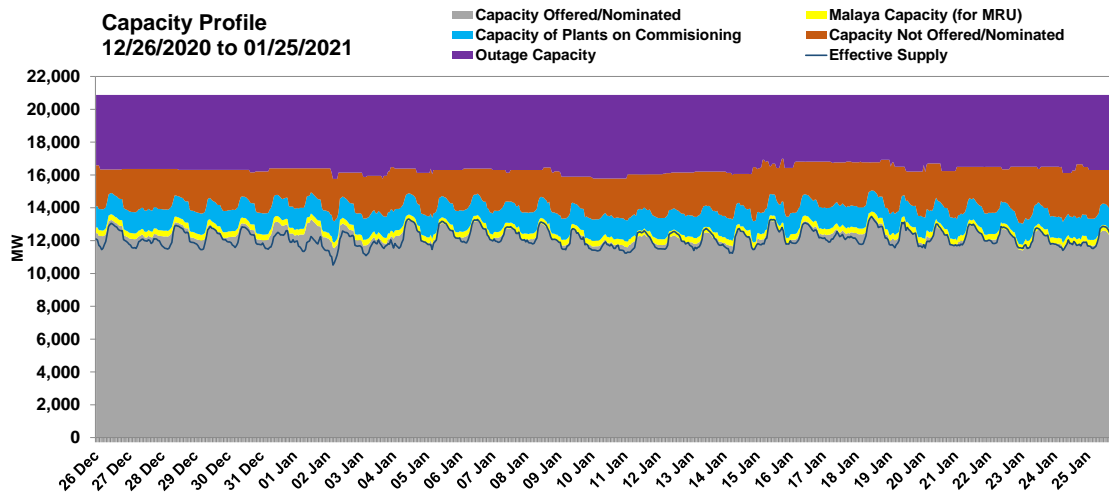


**Figure 5. Load Nodal Price Duration Curve (Off-peak), December 2020 and January 2021**

## 2.2 Supply

- A minimal decrease of 2 MW was recorded in the WESM registered capacity from a total of 20,873.57 MW to 20,871.57 MW.
  - The change came from the decline in maximum capacity of Vivant Sta. Clara Northern Renewables Generation Corporation's hydro plant from 76 MW to 74 MW
- Available capacity<sup>4</sup> constituted an average of 13,963 MW or 67 percent of the total registered capacity.
- Capacity not offered comprised an average of 2,368 MW or 11 percent.
- Outage capacity accounted for an average of 4,541 MW or 22 percent.

<sup>4</sup> Available capacity refers to the aggregate of Capacity Offered/Nominated, Malaya Capacity for MRU, and Capacity of Plants on Testing and Commissioning



**Figure 6. Capacity Profile, January 2021**

### 2.2.1 Outage Capacity<sup>5</sup>

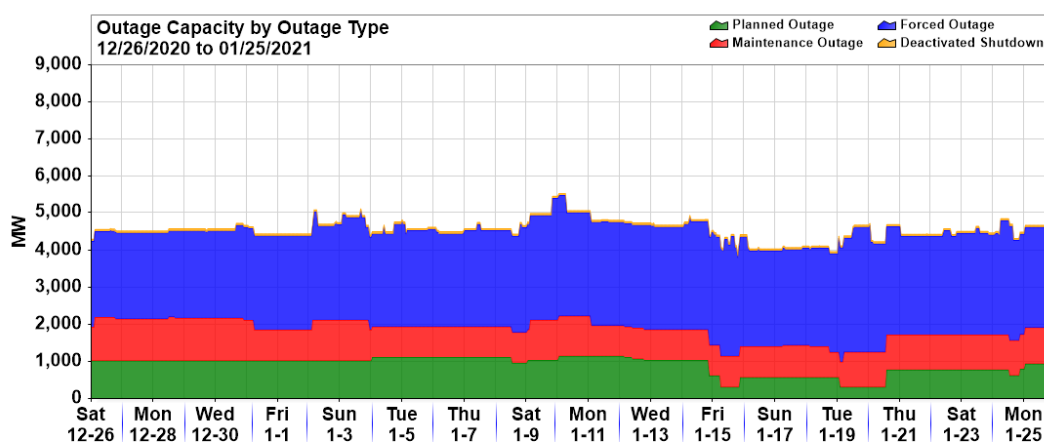
- Outage capacity surged by 27 percent from an average of 3,584 MW last month to an average of 4,541 MW this month.
- Planned outages rose to 903 MW on average or 20 percent of the total outages. Majority or about 59 percent was composed of forced outages averaging at 2,675 MW, and maintenance outages at 938 MW or 21 percent of the total outages. Meanwhile, deactivated shutdown accounted for only about 55 MW on average or 1 percent of the outages.
- High level of outage capacity was observed throughout the month which opened at 4,281 MW at the start of the billing month and closed at 4,571 MW by the end of the month.
- Coal plants majorly contributed to the level of all outage categories except deactivated shutdown, in which geothermal plants remained to be the only type accounted.

**Table 3. Outage Factor by Plant Type and Outage Category, January 2021**

Plant Type	Planned Outage (20%)	Forced Outage (59%)	Maintenance Outage (21%)	Deactivated Shutdown (1%)
Coal	88%	62%	81%	0%
Natural Gas	3%	17%	14%	0%
Geothermal	1%	4%	5%	100%
Hydro	1%	7%	0%	0%
Oil-based	7%	11%	0%	0%
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

<sup>5</sup> Notable plants on outage are detailed in the Annex

- Planned outages level increased from last month, averaging at 903 MW this month from 647 MW last month as influenced by outages involving large coal plants namely Pagbilao CFTPP unit 3, Calaca CFTPP unit 1, and PEDC CFTPP unit 3.
- On the other hand, forced outages slightly increased its monthly average level from 2,556 MW to 2,645 MW.
- Maintenance outages jumped from last month's 336 MW to current month's 938 MW mainly due to Sual CFTPP unit 1.
- Total outages were generally above 4,000 MW throughout the month with no notable resumption in operations from large generating power plants.
- The hourly outage reached a high of 5,111 MW on 2 January from 0500H to 0800H.



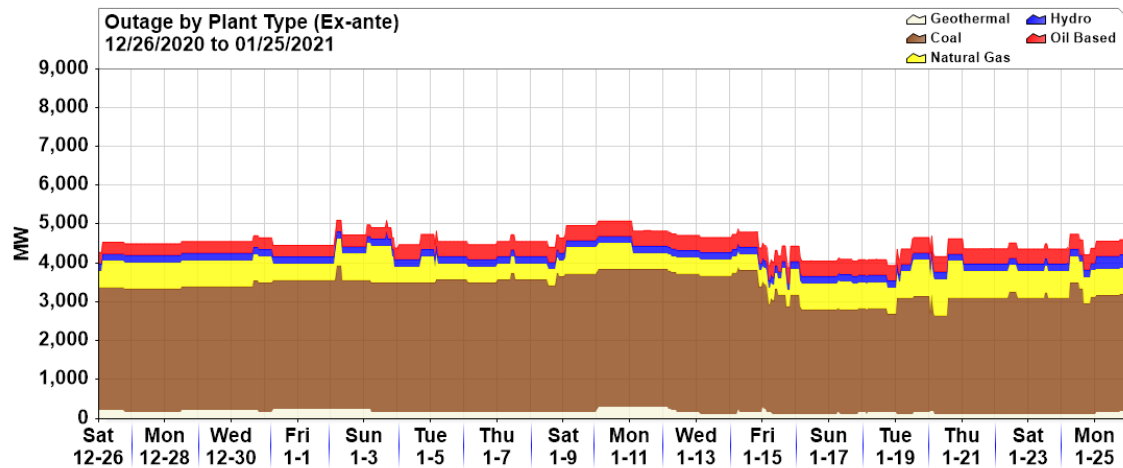
**Figure 7. Outage Capacity by Outage Category, January 2021**

**Table 4. Outage Summary by Outage Category, December 2020 and January 2021**

Outage Category	Jan 2021 (in MW)			Dec 2020 (in MW)		
	Max	Min	Average	Max	Min	Average
Planned	1,145	312	903	1,020	339	647
Maintenance	1,185	679	938	1,056	70	336
Forced	3,412	2,319	2,675	3,046	2,139	2,556
Deactivated Shutdown	55	55	55	55	55	55
<b>TOTAL</b>	<b>5,529</b>	<b>3,864</b>	<b>4,572</b>	<b>4,514</b>	<b>2,783</b>	<b>3,594</b>

- In terms of type of power plants, coal generators accounted for more than half of the outages at 70 percent from 61 percent last month. Natural gas plants ended with 13 percent of the total outages, oil-based plants with 8 percent, and followed by hydro and geothermal plants with the lowest at 4 percent each, respectively.
- The January billing month opened with a high level of outage capacity due to the unavailability of the following large generators prior to the billing month: forced outages of San Gabriel NGPP (420 MW) since 05 September, Sual CFTPP unit 2 (647 MW) since 16 September, Masinloc CFTPP unit 3 (335 MW) since 24 November, Calaca CFTPP unit 2 (300 MW) since 03 December; planned outage of Calaca CFTPP unit 1 (300 MW) since 25 November and Pagbilao 3 CFTPP (420

MW); maintenance outage of Sual CFTPP unit 1 (647 MW) and SMC CFTPP unit 4 (150MW).



**Figure 8. Outage Capacity by Plant Type, January 2021**

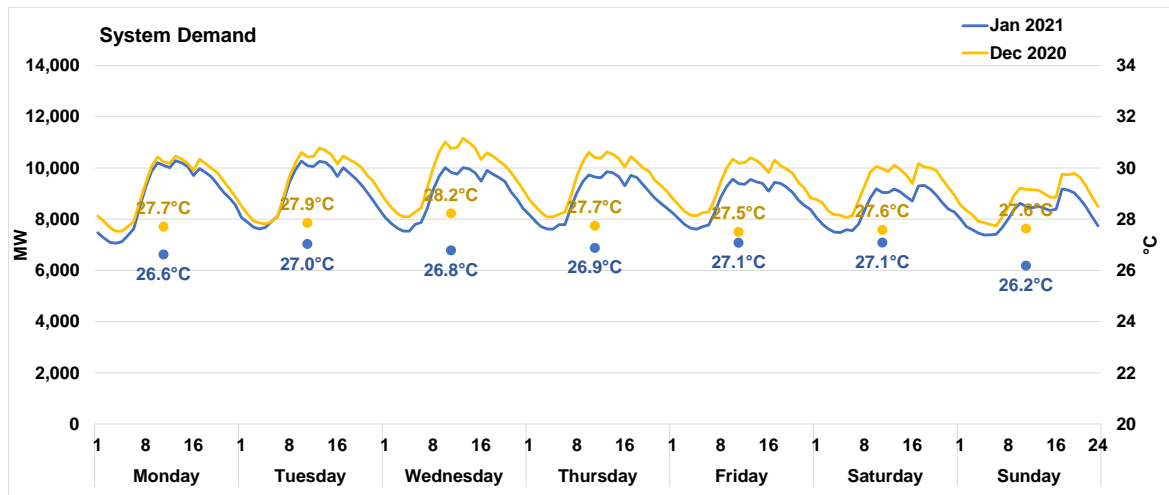
**Table 5. Outage Summary by Plant Type, December 2020 and January 2021**

Plant Type	Jan 2021 (in MW)			Dec 2020 (in MW)		
	Max	Min	Average	Max	Min	Average
Coal	3,691	2,527	3,198	3,009	1,465	2,195
Natural Gas	950	420	606	686	420	500
Geothermal	313	127	187	438	244	345
Hydro	360	180	185	370	180	230
Oil-based	407	300	366	370	300	313
<b>TOTAL</b>	<b>5,111</b>	<b>3,884</b>	<b>4,541</b>	<b>4,530</b>	<b>2,726</b>	<b>3,584</b>

## 2.3 System Demand

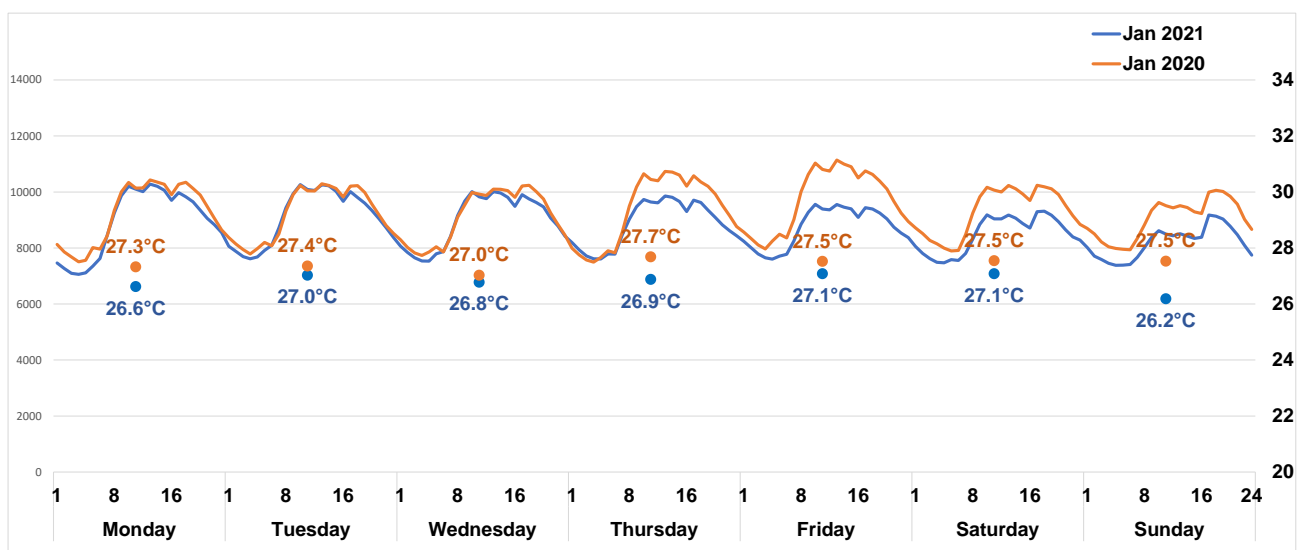
- Monthly system demand dropped to an average of 8,737 MW (with 6.7 percent reduction from last month's average of 9,365 MW) with cooler recorded temperatures compared to last month as an effect of the season, and presence of several holidays.
- The January 2021 billing month was the 4th consecutive drop in demand since September 2020.
- In comparison to last month, the average off-peak demand at 8,009 MW which is a 7 percent cut. Same trend was also observed when looking at the average peak demand at 9,728 MW, 6 percent lower from last month.
- Maximum system demand in January 2021 reached 11,035 MW for peak hours on 25 January, Monday and 10,064 MW for off-peak hours on 24 January, Sunday.

- Minimum system demand in December was at 6,891 MW for peak hours and 5,924 MW for off-peak hours which transpired during 02 January, Saturday and 01 January, Friday, respectively.



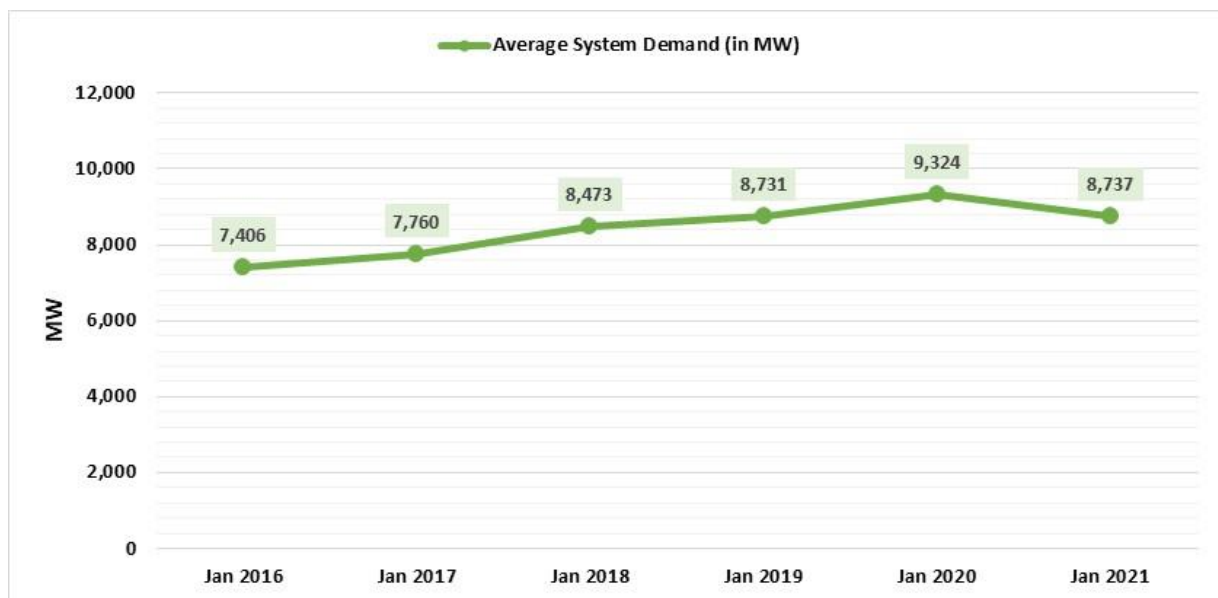
**Figure 9. Average Hourly System Demand, December 2020 and January 2021**

- On a yearly comparison, the demand was down by 6 percent from 9,324 MW in 2020 to 8,737 in 2021, owing to the community quarantine.
- The downturn in average demand was attributable to the 7 percent decrease during off-peak hours from 8,615 MW to 8,009 MW and a likewise decline during the peak hours by 5.9 percent from last year from 10,342 MW to 9,728 MW.
- The average temperatures per weekday in January were almost the same as last year for the 1<sup>st</sup> half of the week but were lower towards the end of the week.



**Figure 10. Average Hourly System Demand, January 2020 and 2021**

- The start of year 2021 was exempt from the consistent annual pattern of increasing demand every January, which deviant trend was primarily because of the community quarantine period.
- The all-time highest hourly system demand was still on 21 June 2019, 1400H at 13,378 MW.
- Similar with previous billing month under the community quarantine where this year's average level of demand was lower than the previous year, the January billing month was no different in pattern.



**Figure 11. Average System Demand, January 2016-2021**

### 3. SPOT TRANSACTIONS

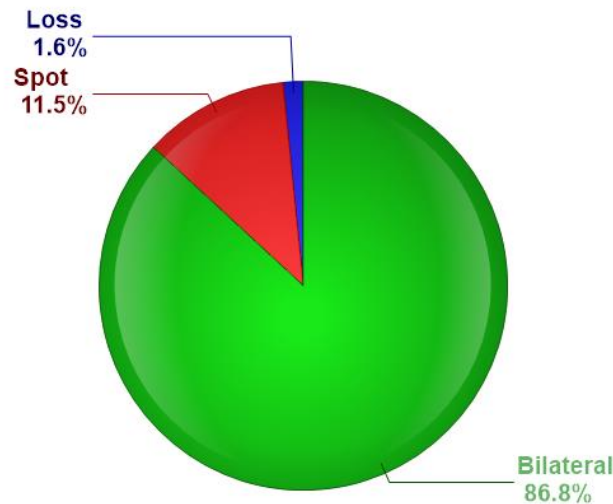
#### 3.1 Spot Exposure

##### 3.1.1 Load

- Spot quantities<sup>6</sup> of load participants in January stood at 11.5 percent of the total metered quantities, fairly identical with last month's 11.6 percent spot exposure, which signaled that consumers had similar reliance on the market in sourcing their energy needs despite low prices this month.
- Correspondingly, load quantities accounting for about 86.8 percent of their total consumption, similar to previous month's figures, were still transacted outside the spot market and were contracted with generators.

<sup>6</sup> Spot quantity refers to the energy transacted in the market. It is the difference between the metered quantity and the bilateral contract quantity. For generator trading participants, positive spot values indicate energy sold while negative values show energy bought in the market.

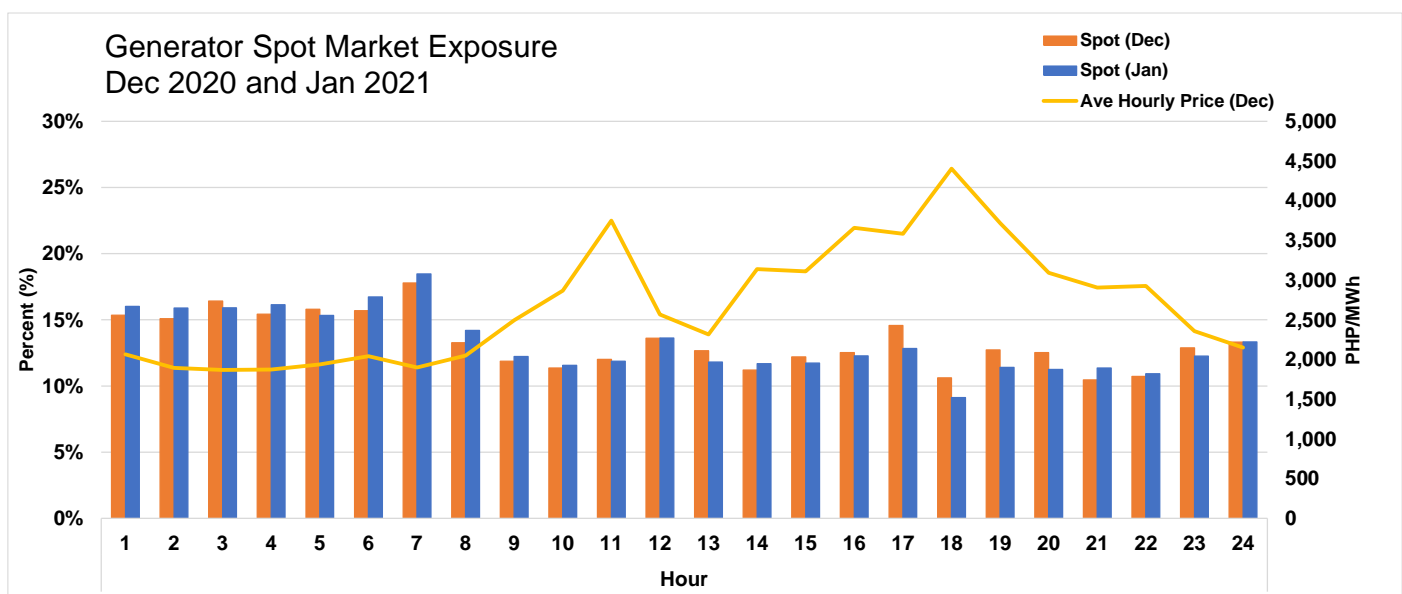
**Spot Market Exposure**  
12/26/2020 to 01/25/2021



**Figure 12. Spot Market Exposure, January 2021**

### 3.1.2 Generator

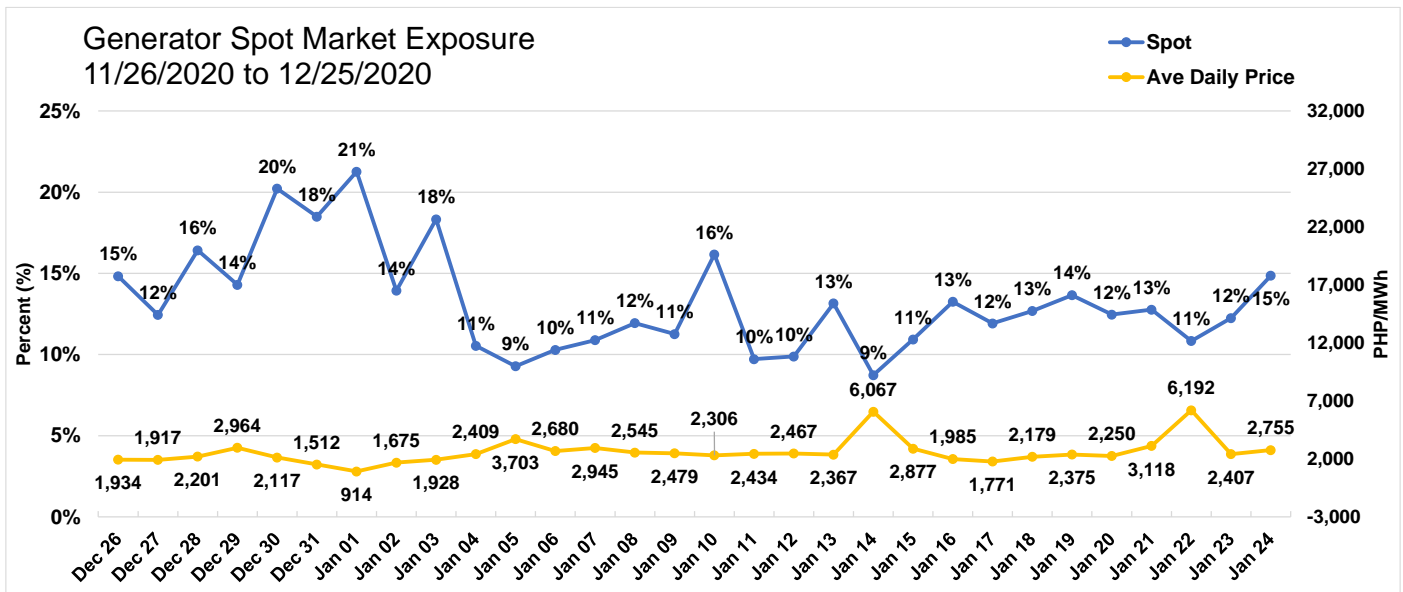
- Average hourly spot exposure of generators demonstrated a notable drop during 1700H to 1800H.
- Spot exposure in off-peak hours averaged at 14.7 percent (previous month's 14.4 percent) while it was 11.7 percent (previous month's 12.2 percent) during peak hours.
- Higher spot percentage were observed during the morning off-peak hours than other intervals, where generally, lower spot prices were evident.



**Figure 13. Hourly Generator Spot Market Exposure, December 2020 and January 2021**



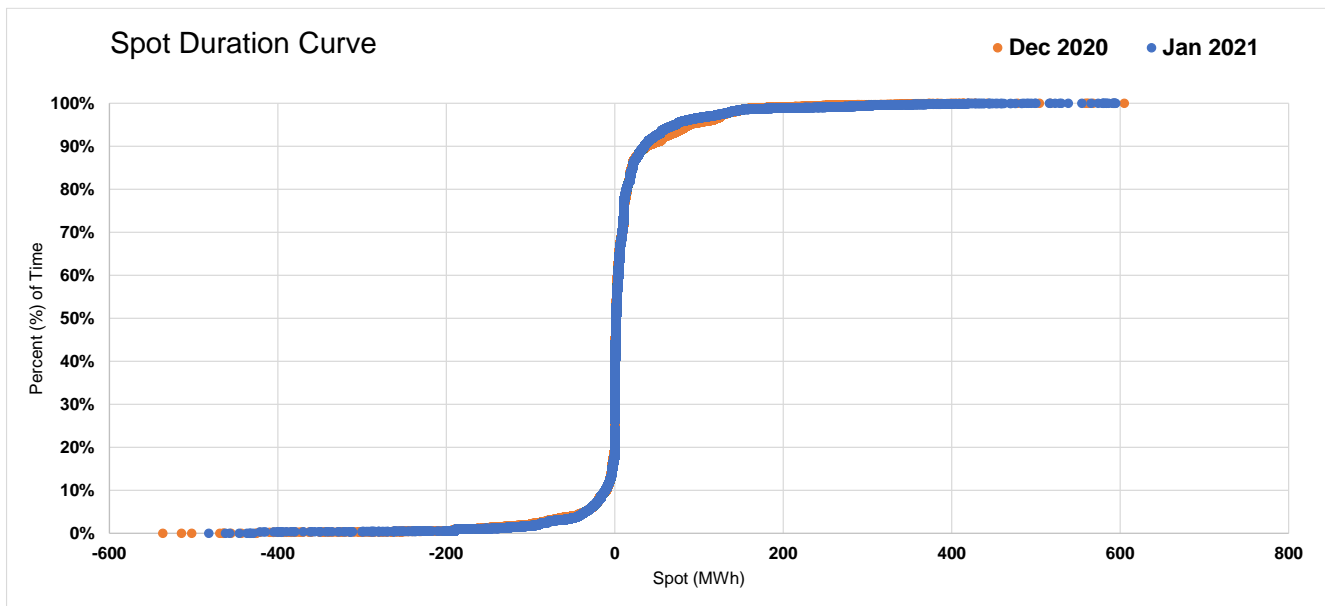
- A low generator market exposure, at around 9 percent, occurred during the high daily price on 14 January. The low spot exposure resulted from limited generator quantities, caused by high plant outage, that were prioritized to serve their bilateral contract obligations.
- High level of generator spot exposure was observed during the holidays in the first week of the billing month where market prices were below PHP2,000/MWh.



**Figure 14. Daily Generator Spot Market Exposure, January 2021**

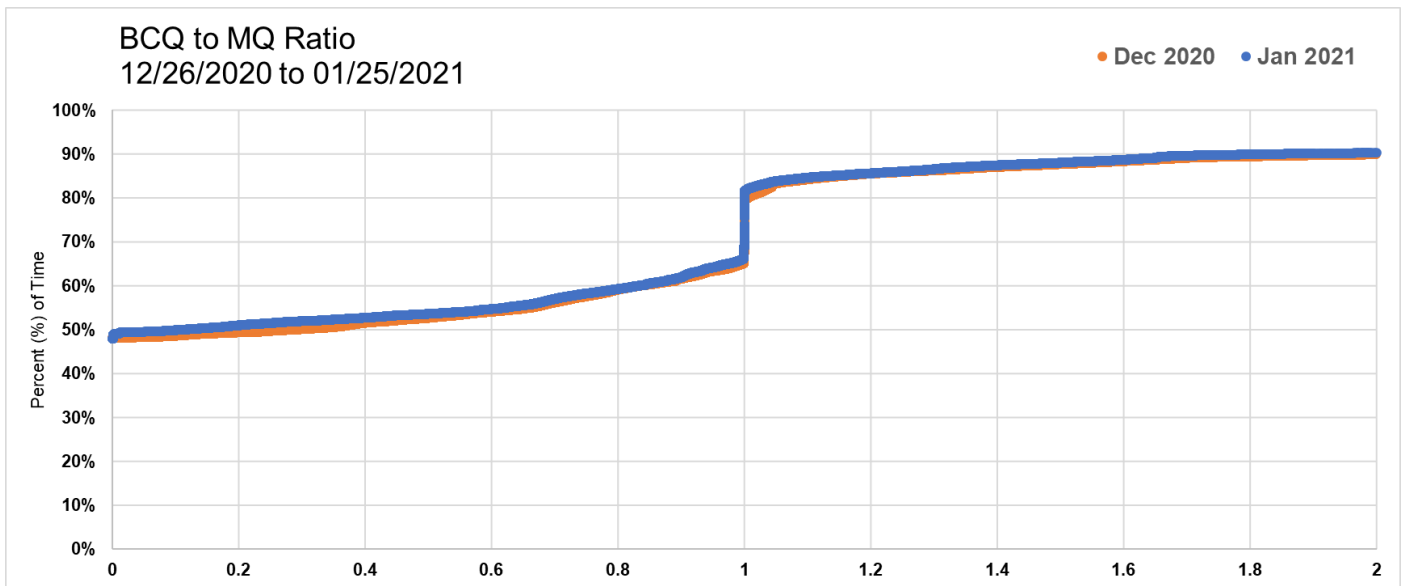
- Based on the spot quantity duration curve<sup>7</sup> of December billing month, hourly spot quantities of generators were 35 MWh or less at about 90 percent of the time with maximum and minimum spot quantities at 595 MWh and -482 MWh, respectively.
- Additionally, all generator spot quantities sold in the market did not exceed 647 MWh, highest possible spot quantity of a generating unit for a single interval that can be sold.
- Spot quantities bought in the market to serve bilateral contracts did not exceed 600 MWh.

<sup>7</sup> The spot duration curve utilizes data on a per generator trading interval, meaning, all the data consisted of spot quantities of every generator per interval for the period considered. Positive spot values indicate quantities sold in the market while negative values are quantities bought.



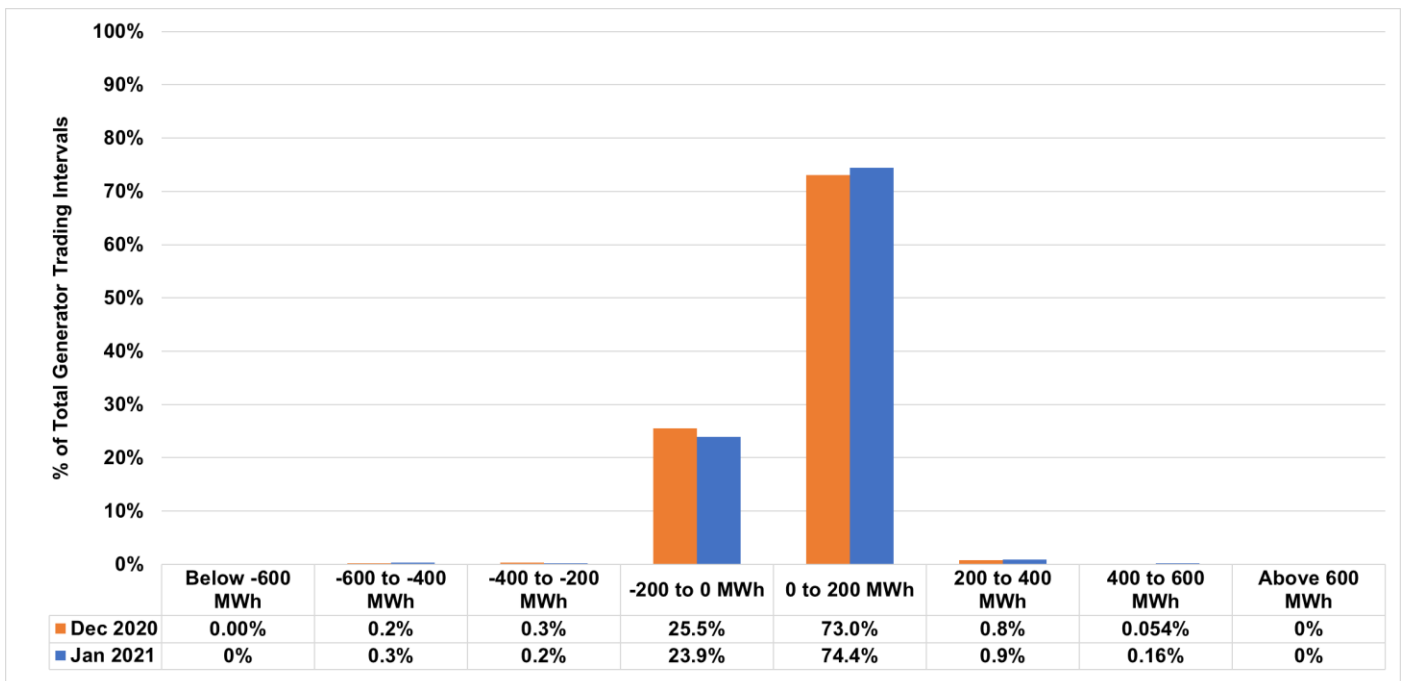
**Figure 15. Spot Duration Curve, December 2020 and January 2021**

- The duration curves of both December 2020 and January 2021 billing months were almost similar.
- The resulting BCQ to MQ ratio of 0 demonstrates that the entire capacity of generators was being fully sold in the market at around 48 percent of the total generator trading intervals.
- About 26 percent was on the account of partial allocation of BCQ with respect to the generator's MQ.
- Meanwhile, about 2 percent of the total generator trading intervals had a BCQ to MQ ratio of 1 which resulted from all metered quantities being allocated to serve bilateral contract obligations.
- About 15 percent was the result of BCQ being greater than MQ, reaching up to twice the MQ.
- Presence of BCQ/MQ ratios greater than 2 or 200%, consisting about 3% of the total, was the result of very small MQs (<1MWh) as compared to their BCQ, such that dividing by a very small number yields an extremely high number.
- The remaining 7 percent, however, were accounted for by generators which fully bought energy in the market to serve their bilateral contract obligations because of no generated MQ.



**Figure 16. BCQ to MQ Ratio, December 2020 and January 2021**

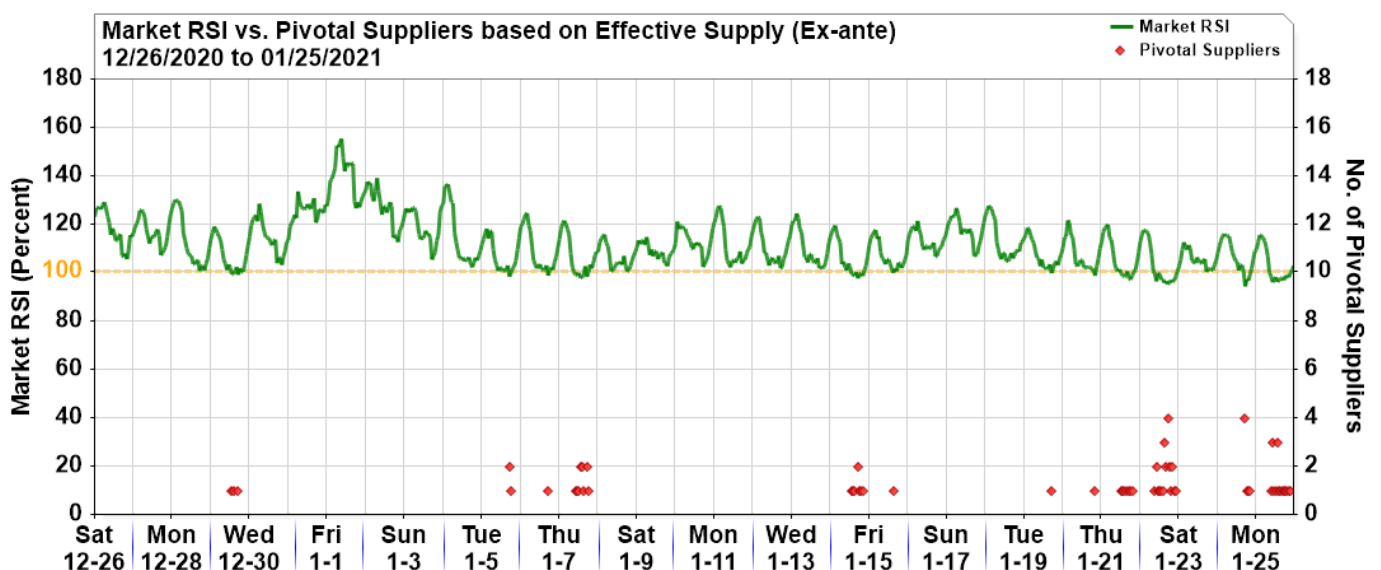
- Generator spot quantities for December 2020 and January 2021 billing months were much more concentrated on the -200 MWh to 200 MWh range.
- About 75.5 percent of the total generator spot transactions in January was on the account of energy being sold in the market (positive MWh quantity). This was higher compared to 73.9 percent posted in December.



**Figure 17. Spot Frequency Distribution Table, December 2020 and January 2021**

### 3.2 Pivotal<sup>8</sup> Plants

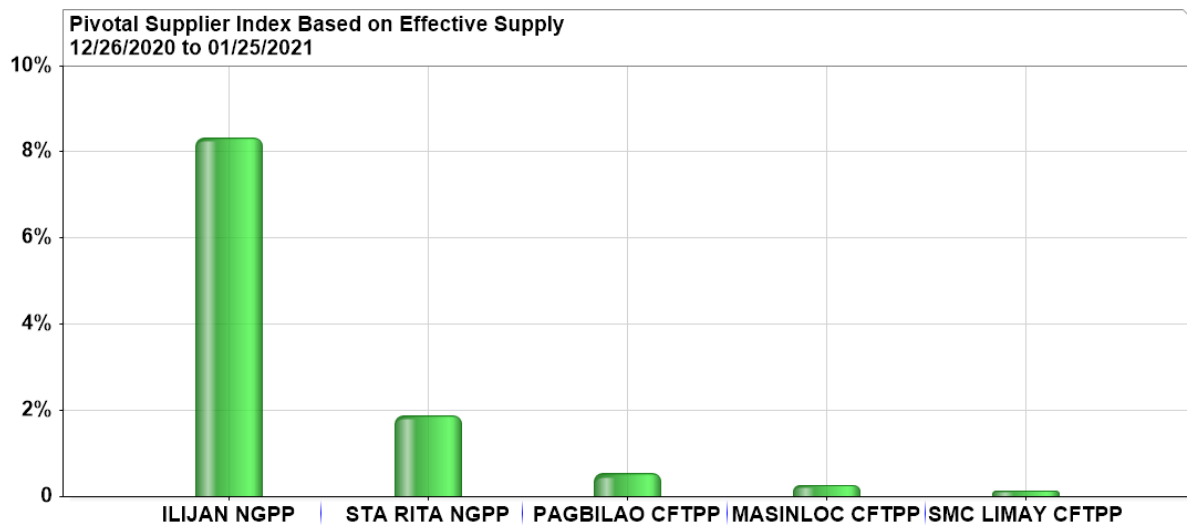
- Out of the 744 trading intervals in January 2021 billing month, 62 intervals had a Residual Supply Index<sup>9</sup> (RSI) below the 100 percent mark (or about 8.3 percent of the time) from 61 intervals in December, indicating an almost similar frequency of presence of pivotal suppliers.
- The presence of pivotal suppliers was more evident in intervals with low supply margin as a result of higher outages this month.
- The market resulted in an average RSI of 112 percent indicating that supply was still generally abundant to satisfy the demand.
- The average market prices for intervals with RSI below 100 percent was PHP6,723/MWh while those with RSI above 100 was PHP2,316/MWh
- Despite more intervals with RSI above 100 this month, which in turn resulted to presence of pivotal suppliers, only five (5) power plants were pivotal during the period with all in the Luzon region.
- During the December billing month, the market resulted in an RSI ranging from 94 to 155 percent with the presence of higher RSIs during the holidays.
- 



**Figure 18. Market RSI vs Pivotal Suppliers, January 2021**

<sup>8</sup> The Pivotal Supply Index (PSI) measures how critical a generator is in meeting the total demand at a time. It is a binary variable (1 for pivotal and 0 for not pivotal) which measures the frequency that a generating unit is pivotal for a period.

<sup>9</sup> The Residual Supply Index (RSI) measures the ratio of the available generation without a generator to the total generation required (including operational reserve) to supply the demand. RSI also determines whether there are pivotal suppliers in an interval. An RSI below 100 indicates the presence of pivotal plants.

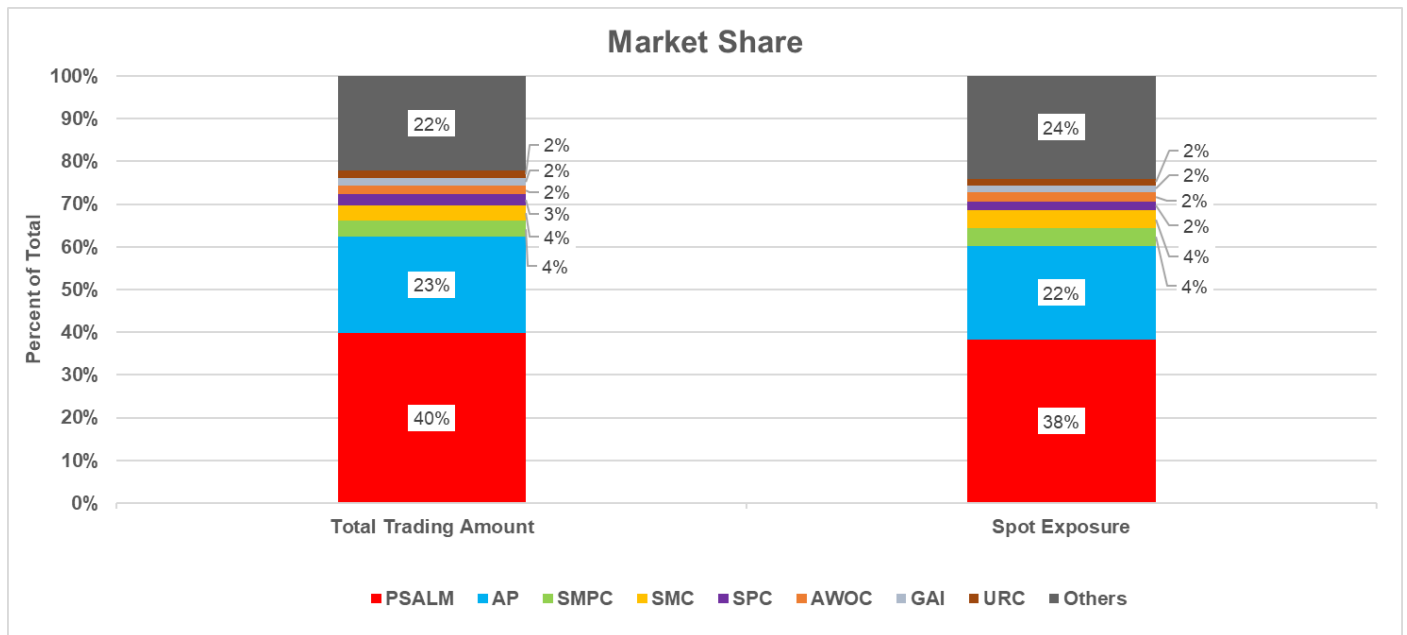


**Figure 19. Top Pivotal Plants, January 2021**

### 3.3 Total Trading Amount (TTA)<sup>10</sup> and Spot Quantity Share

- Power Sector Assets and Liabilities and Management (PSALM) took the top spot this month, recording the highest TTA share of sellers in the market with approximately 40 percent, posting an increase from previous month's 29 percent. Aboitiz Power (AP) similarly showed an increase at 23 percent from 18 percent in December.
- The top 2 highest TTA shares also had incurred the highest spot shares at around 38 percent for PSALM and 22 percent for AP.
- On the other hand, Semirara Mining and Power Corporation (SMPC) remained third in the list at a much lower share of 4 percent for both TTA and spot share coming from previous month's 18 percent TTA share and 19 percent spot share.
- San Miguel Corporation (SMC) rose to the fourth spot in the list, coming from the fifth place in the previous month, with 4 percent share in both TTA and spot shares.
- SPC Power Corporation (SPC) and Alternergy Wind One Corporation (AWOC) also moved to the upper ranks from 8<sup>th</sup> spot to 5<sup>th</sup> spot and from 11<sup>th</sup> spot to 6<sup>th</sup> spot, respectively.
- Gregorio Araneta, Inc. (GAI) moved down by one spot at the 7<sup>th</sup> place as well as Universal Robina Corporation (URC) at the 8<sup>th</sup> place.
- Meanwhile, six major participant groups registered negative TTAs which resulted from being net buyers in the spot market.

<sup>10</sup> The Total Trading Amount (TTA) refers to the amount of revenue from spot market transactions excluding quantities that are declared by the generators as covered by bilateral power supply contracts, which are settled outside the WESM



**Figure 20. Total Trading Amount and Spot Quantity Share, January 2021**

## Annex A. List of Major Plant Outages

Region	Plant Type	Plant/ Unit Name	Capacity (MW)	Date Out	Date In	Duration (Days)	Outage Type	Remarks	Date Commissioned/ Commerical Operation
LUZON	GEO	Makban 6	55	04/11/2013 22:44			Deactivated Shutdown	Conducted gas compressor test	Apr 1979
LUZON	OIL	Malaya 1	300	05/03/2019 18:21			Forced Outage	Motorization of unit generator caused by the non-opening of phase B of PCB 8-05CB08M	Aug 1975
VISAYAS	COAL	TPC Sangi 1	60	12/17/2019 6:05			Forced Outage	Generator differential trip	Dec 2013
VISAYAS	GEO	Upper Mahiao 3	32	07/22/2020 17:01			Maintenance Outage	Trip with Loss of Excitation. Economic Shutdown	Jul 1997
LUZON	NATG	San Gabriel	420	09/05/2020 17:14			Forced Outage	Tripped at 211MW load. System Frequency is 59.401hz.	Mar 2016
LUZON	COAL	Sual 2	647	09/16/2020 14:45			Forced Outage	Tripped due to high turbine vibration	Oct 1999
VISAYAS	GEO	PGPP1 Unit 1	37.5	09/19/2020 23:47	12/28/2020 16:01	99.68	Maintenance Outage	Offline due to scheduled maintenance.	Aug 1983
LUZON	GEO	Tiwi 5	57	10/31/2020 20:11	01/13/2021 2:36	73.27	Forced Outage	On houseload operation as contingency measures for incoming Typhoon ROLLY	Jan 1979
LUZON	GEO	Makban 8	20	11/14/2020 8:24			Forced Outage	Defective cooling tower fan	Apr 1979
LUZON	COAL	Masinloc 3	335	11/24/2020 20:20			Forced Outage	Excitation Trouble	Mar 2019
LUZON	COAL	Calaca 1	300	11/25/2020 0:44	01/15/2021 5:13	51.19	Planned Outage	Maintenance Outage until 09 Jan 2021	Sep 1984
LUZON	HYD	Kalayaan 4	180	11/27/2020 22:01			Forced Outage	Excessive Oil Leak at Pothead conductors.	May 2004
LUZON	COAL	Calaca 2	300	12/03/2020 9:01			Forced Outage	Generator stator earth fault	Sep 1984
LUZON	COAL	Pagbilao 3	420	12/11/2020 0:55	01/14/2021 20:51	34.83	Planned Outage	Maintenance outage (GOP)	Jul 1971
LUZON	COAL	SMC 2	150	12/14/2020 23:48	01/08/2021 12:13	24.52	Planned Outage	Maintenance Outage until 04 January 2021	Mar 1971
VISAYAS	GEO	PGPP1 Unit 2	37.5	12/17/2020 0:12	12/26/2020 18:31	9.76	Maintenance Outage	Offline due to planned corrective maintenance.	Aug 1983
LUZON	COAL	Sual 1	647	12/18/2020 23:34			Maintenance Outage	To rectify erratic movement of HP turbine governing valve of HPGV 1	Oct 1999
VISAYAS	COAL	PEDC 3	150	12/25/2020 0:35	01/24/2021 12:32	30.50	Planned Outage	PMS	Aug 2016
LUZON	COAL	SMC 4	150	12/25/2020 23:20	01/18/2021 17:43	23.77	Maintenance Outage	Planned Outage (GOP).	Sep 2018
LUZON	NATG	San Lorenzo 2	264.8	12/26/2020 2:44	12/31/2020 5:24	5.11	Maintenance Outage	Maintenance Outage.	Sep 2002
LUZON	HYD	Caliraya 1	14	12/26/2020 14:55	12/26/2020 15:51	0.04	Forced Outage	Directional earth fault.	Oct 2002
LUZON	HYD	Caliraya 2	14	12/26/2020 14:55	12/26/2020 19:08	0.18	Forced Outage	Directional earth fault.	Oct 2002
LUZON	GEO	Tiwi 6	57	12/28/2020 11:30	12/30/2020 21:08	2.40	Maintenance Outage	PGPC no steam supply	Jan 1979
VISAYAS	GEO	PGPP1 Unit 1	37.5	12/28/2020 16:05	12/29/2020 16:39	1.02	Forced Outage	Auto-tripped. Under investigation	Aug 1983
VISAYAS	GEO	PGPP1 Unit 1	37.5	12/29/2020 17:01	12/31/2020 1:48	1.37	Forced Outage	Auto-tripped under investigation on cause of tripping.	Aug 1983
LUZON	COAL	SLPGC 2	150	12/30/2020 15:10	01/15/2021 11:44	15.86	Forced Outage	Emergency shutdown due to boiler tube leak.	Jan 2015
VISAYAS	GEO	Malitbog 2	72	12/31/2020 5:13	01/03/2021 4:30	2.97	Forced Outage	Under assessment.	Jul 1997
LUZON	NATG	Sta. Rita 4	264	01/02/2021 2:41	01/03/2021 22:04	1.81	Maintenance Outage	Maintenance Outage.	Oct 2001
LUZON	COAL	Pagbilao 2	382	01/02/2021 3:15	01/02/2021 6:49	0.15	Forced Outage	Tripped at 160MW load. System Frequency at 59.298hz. Induced Draft Fan Trouble.	Mar 1996
VISAYAS	GEO	PGPP1 Unit 1	37.5	01/02/2021 19:23	01/02/2021 21:12	0.08	Forced Outage	Auto-tripped due to vacuum pressure low.	Aug 1983
VISAYAS	GEO	PGPP1 Unit 2	37.5	01/02/2021 20:59	01/02/2021 21:52	0.04	Forced Outage	Auto-tripped due to condenser level high.	Aug 1983
VISAYAS	GEO	PGPP1 Unit 1	37.5	01/02/2021 21:39	01/10/2021 0:30	7.10	Forced Outage	Auto-tripped. Ongoing investigation on cause of tripping.	Aug 1983
LUZON	NATG	Sta. Rita 3	265.5	01/03/2021 1:16	01/03/2021 19:53	0.78	Forced Outage	Vent valve trouble.	Oct 2001
LUZON	HYD	Kalayaan 2	180	01/03/2021 15:10	01/03/2021 16:15	0.05	Forced Outage	Emergency shutdown as Pump. Leakage at Heat Exchanger(Cooling System)	Aug 1982
LUZON	OIL	Limay 8	90	01/04/2021 0:01			Planned Outage	Maintenance Outage until 03 February 2021	Dec 1994
LUZON	HYD	Kalayaan 3	180	01/04/2021 9:03	01/04/2021 10:55	0.08	Forced Outage	Loss of power in Prog. Logic Controller	May 2004
LUZON	NATG	San Lorenzo 1	264.8	01/04/2021 17:40	01/05/2021 2:10	0.35	Forced Outage	Gas flowmeter replacemnet	Sep 2002
LUZON	GEO	Tiwi 6	57	01/04/2021 23:25	01/05/2021 0:36	0.05	Forced Outage	Low condenser vacuum pressure.(RECLASSIFIED FROM FORCE. OMC OUTAGE)	Jan 1979
VISAYAS	COAL	PEDC 2	83.7	01/05/2021 3:38	01/06/2021 2:16	0.94	Forced Outage	Due to possible centering(Sudden increase of Furnace Upper Temperature and Abrupt d	Apr 2011
VISAYAS	GEO	PGPP1 Unit 3	37.5	01/05/2021 19:37	01/06/2021 4:06	0.35	Forced Outage	Auto-tripped due to level controller problem	Aug 1983
VISAYAS	COAL	PEDC 2	83.7	01/06/2021 23:09	01/08/2021 20:25	1.89	Forced Outage	Due to low furnace temperature	Apr 2011
VISAYAS	COAL	THVI 2	169	01/07/2021 9:48	01/07/2021 12:25	0.11	Forced Outage	GENERATOR HIGH WINDING TEMPERATURE	Dec 2017
LUZON	COAL	GN Power 1	316	01/08/2021 18:26			Forced Outage	Boiler tube leak.	May 2013
LUZON	COAL	ANDA 1	72	01/09/2021 0:01			Planned Outage	Maintenance Outage until 29 January 2021.(GOP).	Apr 2015
LUZON	HYD	Ambuklao 2	35	01/09/2021 0:16	01/09/2021 1:31	0.05	Forced Outage	Broken shearpin.	Dec 1956
LUZON	NATG	Sta. Rita 2	255.7	01/09/2021 2:16	01/11/2021 1:56	1.99	Maintenance Outage	GT offline washing.	Jun 2000
LUZON	COAL	QPP1	460	01/09/2021 19:39	01/10/2021 6:15	0.44	Forced Outage	Boiler drum level high.	May 2000
VISAYAS	GEO	PGPP1 Unit 1	37.5	01/10/2021 0:10	01/12/2021 9:01	2.37	Planned Outage	Offline to conduct repair of defective Unit 2 main steam isolation valve	Aug 1983
VISAYAS	GEO	PGPP1 Unit 2	37.5	01/10/2021 0:21	01/12/2021 3:04	2.11	Planned Outage	Offline to conduct repair of defective Unit 2 main steam isolation valve	Aug 1983
VISAYAS	GEO	PGPP1 Unit 3	37.5	01/10/2021 0:32	01/12/2021 18:01	2.73	Planned Outage	Offline to conduct repair of defective Unit 2 main steam isolation valve	Aug 1983
VISAYAS	OIL	TPC Carmen 1	10	01/11/2021 9:24	01/11/2021 15:12	0.24	Forced Outage	ASPA	Mar 1979
VISAYAS	GEO	PGPP1 Unit 3	37.5	01/12/2021 18:28	01/13/2021 0:19	0.24	Forced Outage	Emergency offline due to condenser vacuum low.	Aug 1983
VISAYAS	GEO	PGPP1 Unit 3	37.5	01/13/2021 1:35	01/15/2021 13:15	2.49	Forced Outage	Emergency offline due to condenser vacuum low.	Aug 1983
VISAYAS	COAL	PEDC 2	83.7	01/14/2021 1:52	01/16/2021 3:12	2.06	Forced Outage	Due to possible tube leak	Apr 2011
LUZON	GEO	Bacman 1	60	01/14/2021 5:14	01/15/2021 6:32	1.05	Forced Outage	Tripped with 59MW load.	Sep 1993
LUZON	GEO	Bacman 2	60	01/14/2021 5:14	01/14/2021 6:46	0.06	Forced Outage	Tripped with 58MW load.	Sep 1993
LUZON	GEO	Bacman 3	20	01/14/2021 5:14	01/14/2021 6:50	0.07	Forced Outage	Tripped with 12MW load.	Sep 1993
LUZON	HYD	Ambuklao 2	35	01/14/2021 5:17	01/14/2021 6:46	0.06	Forced Outage	Broken shear pin.	Dec 1956
VISAYAS	OIL	TPVI 2	6.7	01/14/2021 17:47	01/22/2021 15:22	7.90	Forced Outage	UNIT CUT-OUT FROM THE SYSTEM TO FACILITATE ENGINE INTERNAL INSPECTION	Aug 1996
LUZON	GEO	Makban 3	63.2	01/14/2021 22:57	01/15/2021 0:25	0.06	Forced Outage	Tripped due to actuation of lockout relay.	Apr 1979
LUZON	GEO	Makban 4	63.2	01/14/2021 22:57	01/15/2021 2:33	0.15	Forced Outage	Tripped due to actuation of lockout relay.	Apr 1979
LUZON	COAL	Calaca 1	300	01/15/2021 8:39	01/15/2021 16:19	0.32	Forced Outage	Tripped with 136MW load.	Sep 1984
LUZON	NATG	Sta. Rita 4	264	01/15/2021 13:40	01/15/2021 18:06	0.18	Forced Outage	Tripped due to activation of GT Protection.	Oct 2001
LUZON	COAL	Calaca 1	300	01/15/2021 19:07	01/16/2021 2:51	0.32	Forced Outage	Tripped due to force draft fan trouble.	Sep 1984
LUZON	NATG	Sta. Rita 1	257.3	01/15/2021 20:37	01/19/2021 1:44	3.21	Planned Outage	Maintenance Outage until January 18 2021	Jun 2000
LUZON	HYD	Botocan 1	10	01/16/2021 10:26	01/16/2021 11:47	0.06	Forced Outage	Affected by the outage of Lumban-Famy 69kV line.	Jan 1947
LUZON	HYD	Botocan 2	10	01/16/2021 10:26	01/16/2021 11:47	0.06	Forced Outage	Affected by the outage of Lumban-Famy 69kV line.	Jan 1947
LUZON	HYD	Caliraya 1	14	01/16/2021 10:26	01/16/2021 11:51	0.06	Forced Outage	Affected by the outage of Lumban-Famy 69kV line.	Oct 2002
LUZON	HYD	Caliraya 2	14	01/16/2021 10:26	01/16/2021 11:51	0.06	Forced Outage	Affected by the outage of Lumban-Famy 69kV line.	Oct 2002
VISAYAS	GEO	PGPP1 Unit 1	37.5	01/17/2021 5:08	01/18/2021 2:14	0.88	Maintenance Outage	Offline to conduct replacement of its cooling tower gear box	Aug 1983
VISAYAS	GEO	PGPP1 Unit 2	37.5	01/17/2021 5:35	01/17/2021 7:28	0.08	Forced Outage	Auto-tripped due to Hot Well Pump A high vibration	Aug 1983
VISAYAS	GEO	PGPP1 Unit 2	37.5	01/17/2021 20:24	01/19/2021 0:21	1.16	Forced Outage	Auto-tripped due to vacuum pump problem	Aug 1983
VISAYAS	GEO	PGPP1 Unit 1	37.5	01/18/2021 3:08			Forced Outage	Auto-tripped due to Condenser Vacuum very low	Aug 1983
VISAYAS	OIL	TPC Carmen 2	10	01/18/2021 9:55	01/18/2021 10:25	0.02	Forced Outage	AUTO TRIPPED DUE TO OIL MIST	Mar 1979
LUZON	COAL	SBPL	455	01/19/2021 0:44	01/20/2021 1:06	1.02	Forced Outage	Boiler Bottom Ash Handling Unit Trouble	Apr 2019
LUZON	NATG	Sta. Rita 3	265.5	01/19/2021 4:39			Maintenance Outage	Maintenance Outage	Oct 2001
LUZON	NATG	Sta. Rita 1	257.3	01/19/2021 11:28	01/21/2021 0:44	1.55	Forced Outage	Emergency shutdown due to excessive steam leak.	Jun 2000
VISAYAS	GEO	PGPP1 Unit 2	37.5	01/19/2021 12:43	01/20/2021 3:27	0.61	Forced Outage	Offline due to Cooling Tower leak.	Aug 1983
VISAYAS	GEO	Leyte 3	40.2	01/20/2021 0:26	01/23/2021 20:59	3.86	Forced Outage	EMERGENCY SHUTDOWN	Jun 1983
LUZON	COAL	QPP1	460	01/20/2021 13:57			Planned Outage	Maintenance Outage until 30 January 2021.	May 2000
VISAYAS	OIL	TPC Carmen 1	10	01/21/2021 20:08	01/21/2021 21:09	0.04	Forced Outage	OFFLINE DUE TO WATER LEAK	Mar 1979
LUZON	COAL	SMC 4	150	01/22/2021 9:01	01/22/2021 15:17	0.26	Forced Outage	Tripped due to vacuum decay	Sep 2018
VISAYAS	COAL	TPC Sangi 2	85	01/22/2021 19:18			Forced Outage	EMERGENCY CUT-OUT DUE TO HIGH STATOR WINDING TEMPERATURE	Dec 2013
VISAYAS	COAL	PALM 1	135	01/23/2021 10:42	01/23/2021 13:31	0.12	Forced Outage	Due to electrical trouble	Mar 2016
LUZON	HYD	Ambuklao 1	35	01/24/2021 1:32	01/24/2021 4:14	0.11	Forced Outage	Broken shear pin	Dec 1956
LUZON	COAL	Pagbilao 2	382	01/24/2021 5:25	01/24/2021 15:57	0.44	Forced Outage	Tripped with 351MW load	Mar 1996
VISAYAS	COAL	THVI 2	169	01/24/2021 20:13			Planned Outage	ANNUAL PMS	Dec 2017
LUZON	HYD	San Roque 1	145	01/25/2021 0:01			Planned Outage	Maintenance Outage until 05 February 2021.(GOP)	May 2003
VISAYAS	GEO	PGPP1 Unit 2	37.5	01/25/2021 0:06			Maintenance Outage	Offline to conduct corrective maintenance	Aug 1983
VISAYAS	GEO	PGPP1 Unit 3	37.5	01/25/2021 17:47	01/26/2021 0:47	0.29	Forced Outage	Auto-tripped due to sudden tripping of Hot Well Pump A with Condenser level high	Aug 1983
LUZON	OIL	Limay 3	60	01/25/2021 23:44			Forced Outage	Diesel leak at combustor	May 1993