

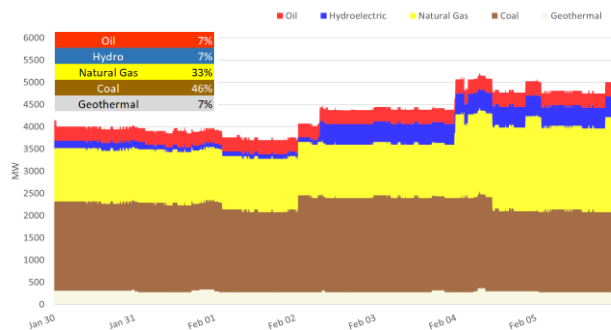
## PEMC MARKET ASSESSMENT HIGHLIGHTS

- The average demand and the reserve schedule, recorded at 10,974 MW during the week of 30 Jan -05 Feb 2023, was higher than the previous week at 10,839 and higher than the same week last year at 10,628 MW.
- The average effective supply during the week was 11,638 MW, higher than the 11,401 MW of the previous week and higher than the 11,267 MW during the same week last year. Ramping limitations were considered in the calculation of the effective supply.
  - The capacity on outage averaged at 4,299 MW, higher than last week's 4,180 MW. About 46% of the 4,299 MW involved Coal plants, while in terms of category, about 48% were Forced Outages.
  - The capacity on outage of natural gas plants increased during the weekend. San Gabriel was placed on planned outage due to the Malampaya turnaround activities, which proceeded on eve of 03 February 2023. On the other hand, Sta. Rita Unit 2 and San Lorenzo unit 2, which were running on alternate fuel, went on forced outage.
- As a result, an average supply margin of 665 MW was observed during the week, which is higher by about 18% relative to the previous week and higher by about 4% in comparison with the same week last year. The thinnest supply margin was 135.56 MW on 03 February 2023 21:05. The average supply margin was 632.03 MW at peak intervals and 690.17 MW at off-peak intervals.
- Correspondingly, average GWAP was recorded at PHP 6,996/MWh from PHP 6,534/MWh last week. This is higher than the PHP3,860/MWh during the same week last year.
  - No secondary price cap was imposed for this week
- The top 5 participant groups accounted for about 83% of the offered capacity. The Herfindah-Hirschman Index (HHI) by participant group indicated concentrated and moderately concentrated market based on the offered and registered capacities respectively.
- The top 5 pivotal plants during the week were –
  - GNP DINGININ CFTPP (about 98.96% of the time)
  - STA RITA NGPP (about 78.08% of the time)
  - SUAL CFTPP (about 54.02% of the time)
  - MASINLOC CFTPP (about 27.38% of the time)
  - SAN LORENZO NGPP (about 11.46% of the time)
- Based on the MMS Solution, the top 5 congested equipment during the week were –
  - 138kV Cebu-Mandaue Line1 (about 22.8% of the time)
  - San Jose 230kV\_Transformer 1 (about 3.7% of the time)
  - 138kV Samboan-Amlan Line1 (about 0.84% of the time)
  - 230kV Mexico-Hermosa Line2 (about 0.45% of the time)
  - 230kV Mexico-Hermosa Line1 (about 0.35% of the time)
- Coal plants observed lower offered capacity attributable to the absence of offers from SBPL CFTPP which was scheduled through security limit imposition related to its conduct of commercial tests during the week. Hydro and natural gas plants observed slight increase in prices in some portions of their respective offer curves.

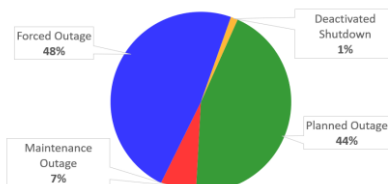
## IEMOP MARKET SYSTEMS ADVISORY

- No IT-related issue was advised in IEMOP's market systems from 30 Jan -05 Feb 2023.

## CAPACITY ON OUTAGE BY PLANT TYPE



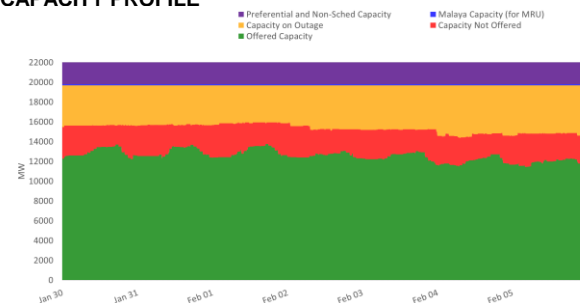
## CAPACITY ON OUTAGE BY OUTAGE CATEGORY



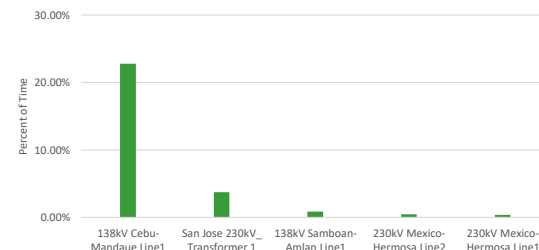
## SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars		30 Jan -05 Feb 2023	Previous Week (23 - 29 Jan 2023 )	Same Week, Previous Year (31 Jan -06 Feb 2022)	Percent Change From	
					Previous Week	Same Week, Prev Year
GWAP (PHP/MWh)	max	30,650.30	22,788.44	12,647.00	34.50%	142.35%
	min	-974.02	0.00	-9,840.91	-	90.10%
	ave	6,995.69	6,533.96	3,860.10	7.07%	81.23%
Effective Supply (MW)	max	13,683.49	13,503.11	13,069.20	1.34%	4.70%
	min	9,110.11	9,186.55	9,493.83	-0.83%	-4.04%
	ave	11,638.38	11,400.53	11,266.70	2.09%	3.30%
System Demand (MW)	max	12,158.10	11,695.97	11,292.72	3.95%	7.66%
	min	7,233.40	7,697.04	7,986.15	-6.02%	-9.43%
	ave	9,891.67	9,704.73	9,596.81	1.93%	3.07%
Demand + Reserve Schedule (MW)	max	13,245.98	12,903.67	12,540.29	2.65%	5.63%
	min	8,340.43	8,561.23	8,878.55	-2.58%	-6.06%
	ave	10,973.82	10,838.61	10,627.56	1.25%	3.26%
Supply Margin (MW)	max	1,002.22	950.44	1,147.99	5.45%	-12.70%
	min	135.56	165.51	228.84	-18.10%	-40.76%
	ave	664.56	561.92	639.14	18.27%	3.98%

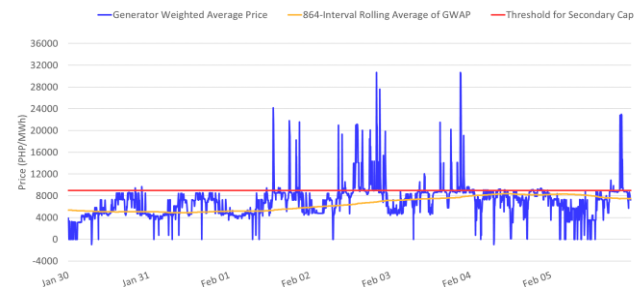
## CAPACITY PROFILE



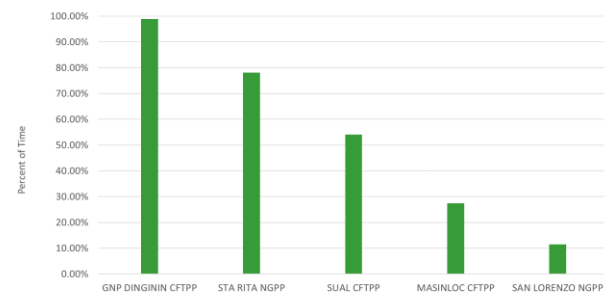
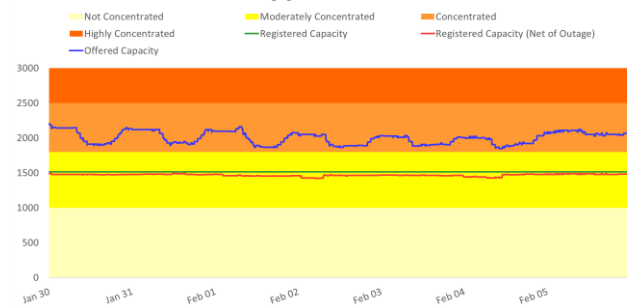
## RTD CONGESTION



### GENERATOR WEIGHTED AVERAGE PRICE



## PSI

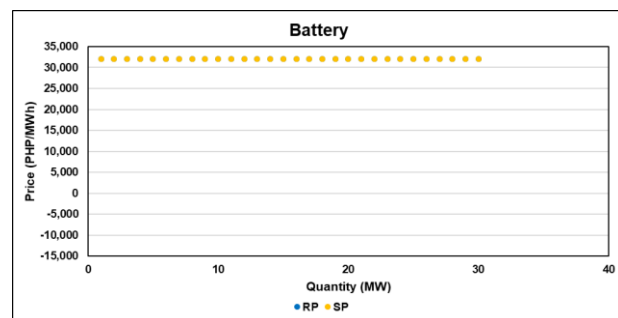
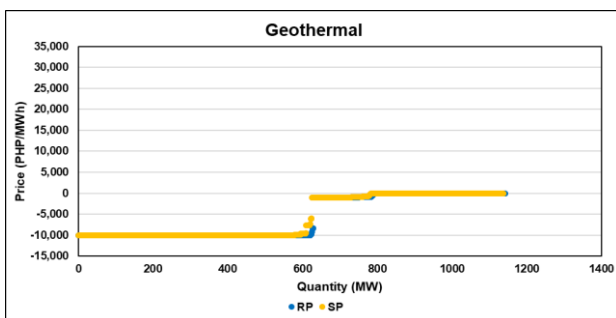
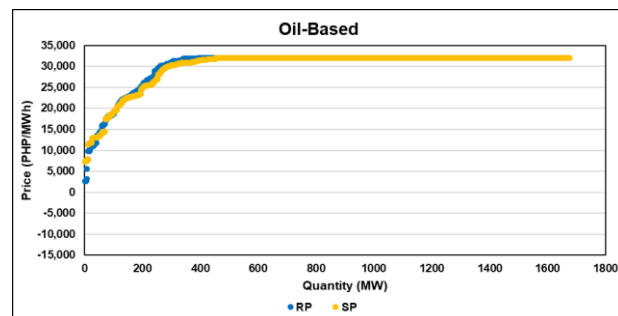
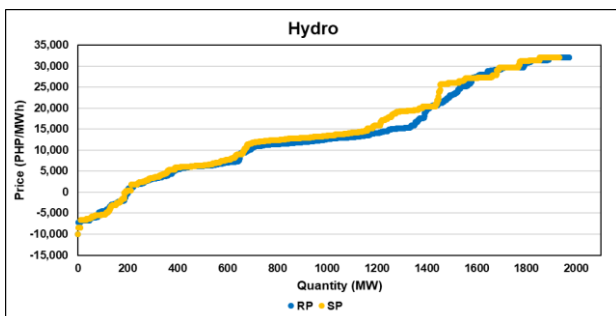
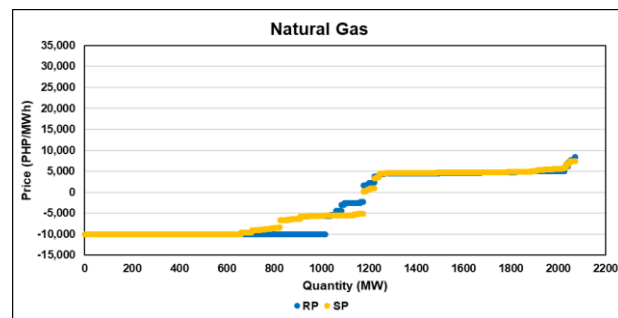
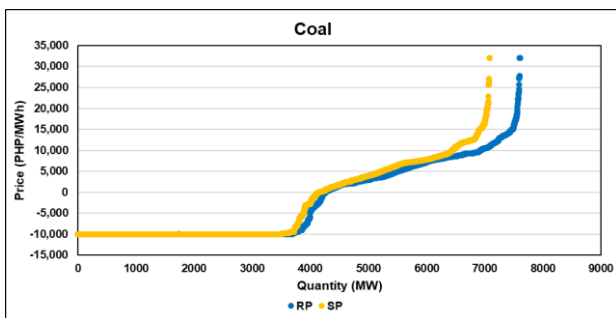
**HERFINDAHL-HIRSCHMAN INDEX**

## OFFER PATTERN ANALYSIS

### Legend

RP: Reference Offer Price – the week of 23-29 Jan 2023 was used as a control for the comparison with the subject price

SP: Subject Offer Price – the week of 30 Jan-05 Feb 2023



**GLOSSARY OF TERMS**

**EFFECTIVE SUPPLY** - The effective supply is equal to the offered capacity of all scheduled generator resources, nominated loading level of non-scheduled generating units and projected output of preferential dispatch generating units, adjusted for any security limit provided by the System Operator and other constraints considered during MMS simulation such as generator offered ramp rates. Scheduled output of plants on testing and commissioning through the imposition of security limit by SO and scheduled output of Malaya plant when it is called to run as Must Run Unit (MRU) are likewise accounted for in the effective supply.

**MARKET RESIDUAL SUPPLY INDEX (Market RSI)** - The RSI is a dynamic continuous index measured as ratio of the available generation without a generator to the total generation required to supply the demand. The RSI is measured for each generator. The greater the RSI of a generator, the less will be its potential ability to exercise market power and manipulate prices, as there will be sufficient capacity from the other generators. In contrary, the lower the RSI, the greater the market power of a generator (and its potential benefit of exercising market power), as the market is strongly dependent on its availability to be able to fully supply the demand. In particular, a RSI greater than 100% for a generator means that the remaining generators can cover the demand, and in principle that generator cannot manipulate market price. On the other hand, a RSI less than 100% means that the generator is pivotal in supplying the demand.

The RSI for the whole market (Market RSI) is measured as the lowest RSI among all the generators in the market. A Market RSI less than 100% indicates the presence of pivotal generator/s.

**MARKET SHARE** - The fraction of the total capacity or energy that a company or related group owns or controls in the market.

**MAJOR PARTICIPANT GROUP** - The grouping of generators by ownership or control.

**PIVOTAL SUPPLIER INDEX (PSI)** - The pivotal supplier index is a binary variable (1 for pivotal and 0 for not pivotal) for each generator. The index identifies whether a generator is pivotal in supplying the demand. The PSI is calculated as the percentage of time that a generator is pivotal in a period (i.e. monthly).

**HERFINDAHL-HIRSCHMAN INDEX (HHI)** - is a commonly accepted measure of market concentration that takes into account the relative size and distribution of participants in the market. The HHI is a number between 0 and 10,000, which is calculated as the sum of squares of the participant's market share. The HHI approaches zero when the market has very large number of participants with each having a relatively small market share. In contrary, the HHI increases as the number of participants in the market decreases, and the disparity in the market shares among the participants increases. The following are the widely used HHI screening numbers: (1) less than 1,000 - not concentrated; (2) 1,000 to 1,800 - moderately concentrated; (3) greater than 1,800 - concentrated; and (4) greater than 2,500 - highly concentrated.

**REGISTERED CAPACITY** - The capacity registered by a generator with WESM.

**REGISTERED CAPACITY (NET OF OUTAGE)** - The capacity registered by a generator with WESM less capacity on outage.

**OFFERED CAPACITY** - The offer to supply electricity submitted by a generator.

DISCLAIMER: The information contained in this document is based on the available electricity spot market data. The same information is subject to change as updated figures come in. As such, the PEMC does not make any representation or warranty as to the completeness of this information. The PEMC likewise accepts no responsibility or liability whatsoever for any loss or cost incurred by a reader arising from, or in relation to, any conclusion or assumption derived from the information found herein.