Monthly Monitoring Report on Over-riding Constraints for October 2021 Billing Month

26 September to 25 October 2021

August 2022

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

OVER-RIDING CONSTRAINTS REPORT

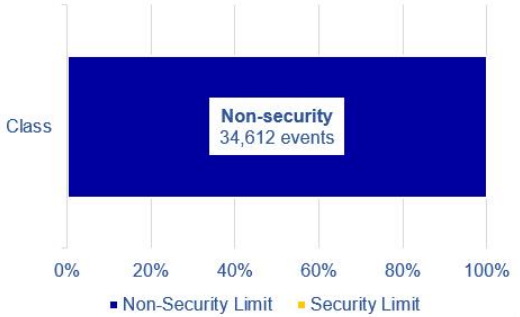
(26 September 2021 – 25 October 2021)

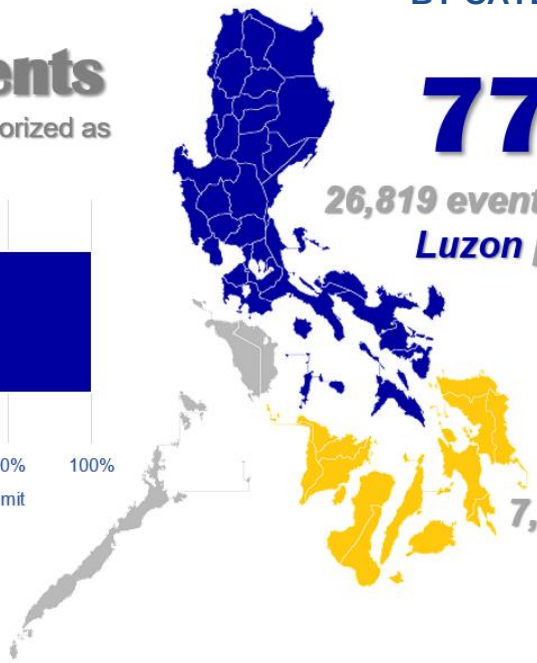
OVER-RIDING CONSTRAINTS MONITORING

BY CATEGORY AND REGION

34,612 events

All of the events were categorized as non-security limit





77%

26,819 events involving Luzon plants

23%

7,793 events involving Visayas plants

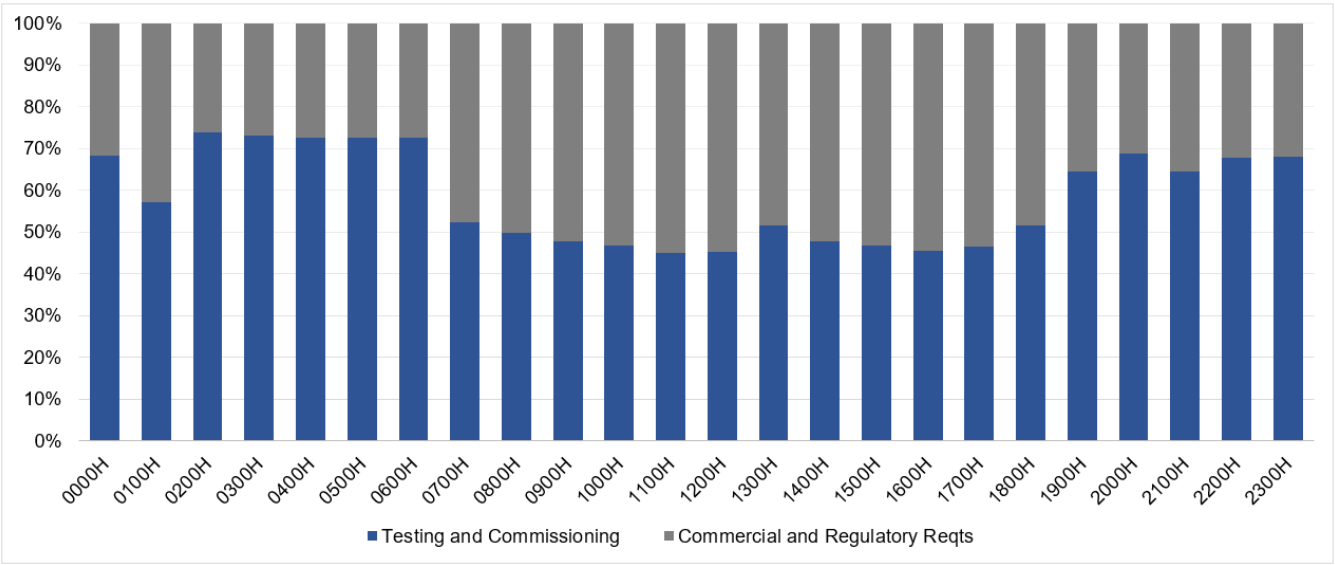
- The October 2021 billing month recorded a total of 34,612 over-riding events, a **37.9 percent decrease** from the previous month, involving **25 Luzon generators** and **12 Visayas generators**. This is due to the start of commercial operations of plants previously **under prolonged testing and commissioning (T&C)**, and the **expiration of other plants' Provisional Certificates of Approval to Connect (PCATC)**, preventing them from being imposed with market-specific constraints.

- Similar with the previous months**, all events were categorized under non-security limit** mainly related to the conduct of T&C.

Note: *Under the Dispatch Protocol Manual Issue 16.0, imposition of over-riding constraints falls into 2 categories – 1) security limit i.e., MRU and other types as may be recommended by SO and 2) non-security limit. Security limit is imposed to address possible threats in system security while non-security limit is related to 1) generating unit limitations, 2) commercial and regulatory tests, and lastly, 3) conduct of testing and commissioning of plants.*

The monitoring of the over-riding constraints is based on the data and information provided by MO (i.e., real time market results and MMS-input files on security limits) and SO (i.e., SO Data for Market Monitoring).

BY HOUR TYPE



Majority of the occurrences of over-riding constraints imposition over a 24-hour cycle was due to the **conduct of plants' T&C** often during **off-peak period accounting for 50 to 75 percent** of the time which were still mainly on account of the conduct of T&C by Biomass plants.

Meanwhile, the **impositions observed during the peak period** varied between T&C (for battery, biomass, and coal) and commercial and regulatory requirements (for oil-based, battery, and coal) ranging from **46 percent to 54 percent** of the time.

Contrary to the incident profile of August 2021, bulk of the impositions for the October 2021 **shifted from peak to off-peak** hours as a result of the **start of commercial operations of several Solar Plants.**

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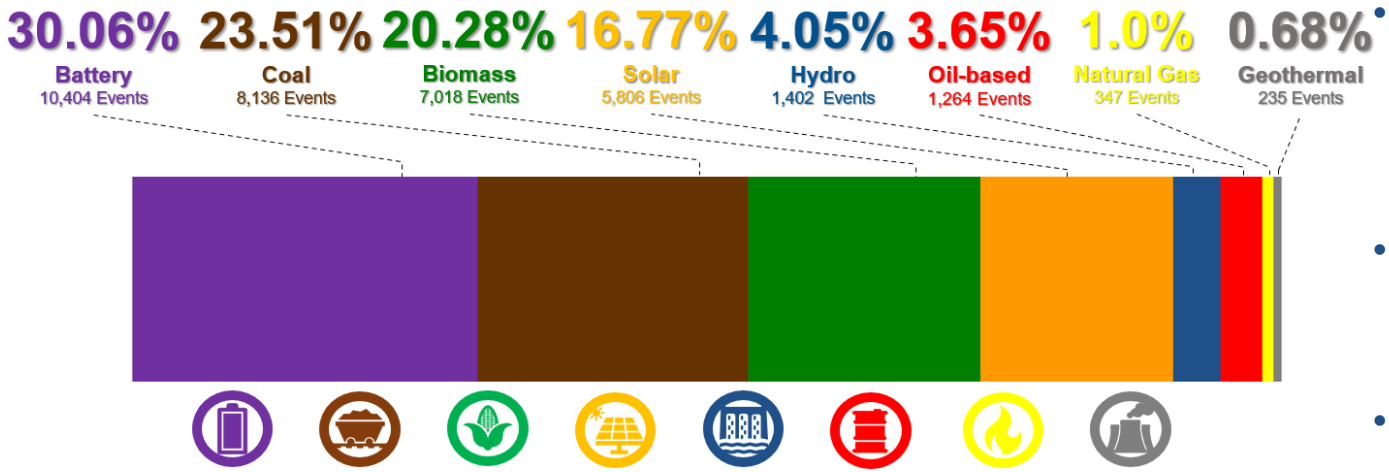
OVER-RIDING CONSTRAINTS MONITORING

BY PLANT TYPE



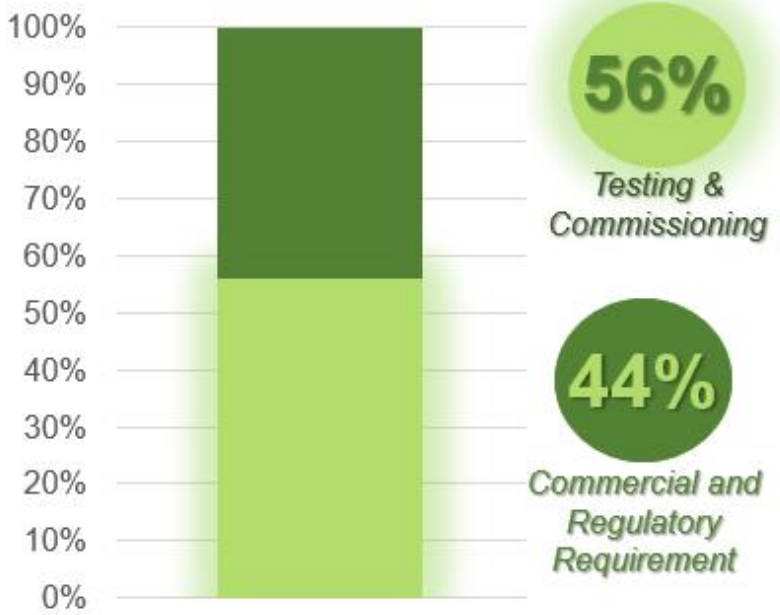
- Different from the trend of past months, majority of the over-riding constraints imposition in this period were on account of Battery Energy Storage System (BESS) following the **conduct of T&C of 3 BESS plants** with one of them starting its T&C period within the month of October 2021.
- Both Coal and Biomass plants had major share in the total number of over-riding impositions. Bulk of these are related to extended T&C period mainly due to pending approval of Certificate of Compliance (COC).
- Increase in the imposition for Hydro plant was a result of **various performance tests** conducted for the purpose of ancillary test and closed loop testing.

BY INCIDENTS

NON-SECURITY LIMITS

- Majority of the non-security limit events recorded for the October billing month were due to the conduct of **T&C** involving 7 plants which started their testing in 2020-2021.
- Incidents related to **Commercial and Regulatory Requirements** were attributable to the conduct of various tests such as Emission test, Ancillary test, Performance test, Grid Compliance Test, Variable Renewable Energy (VRE) Test, and Capability test.
- No over-riding constraints events related to **Generating Unit limitation** was noted during the billing month

Note: *No security limit event noted during the covered period. The last imposition was in January 2020 on Malaya TPP as a designated MRU during the supply shortfall.*



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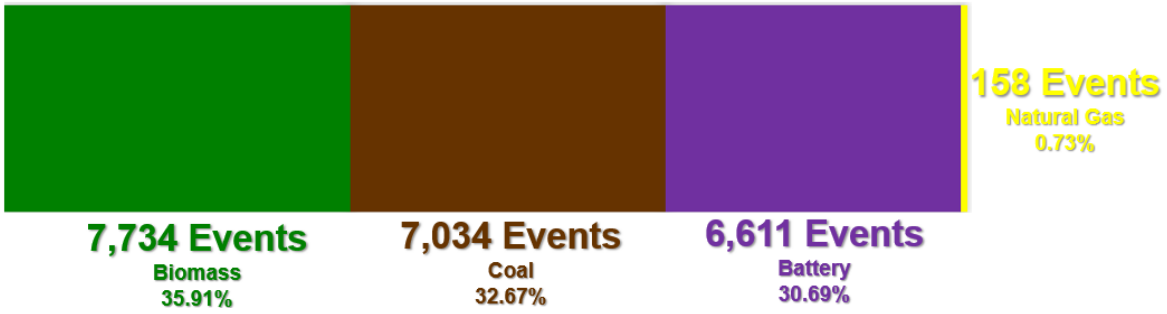
OVER-RIDING CONSTRAINTS MONITORING

PLANTS ON COMMISSIONING TEST

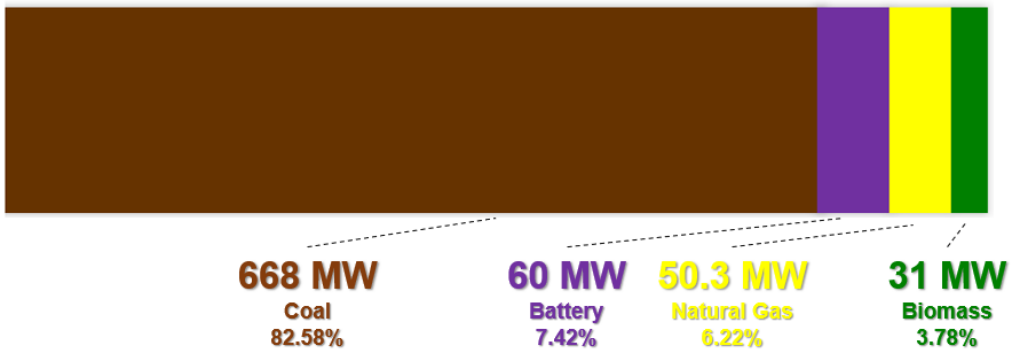
SUMMARY OF PLANTS UNDER T&C

Plant Name	Node ID	Registered Capacity	Start Date of Over-Riding Events	Start of T&C (per DOE DC2021-06-0013)	No. of Over-Riding Events
Limay Battery Energy Storage System (BESS)	01LIMAY_BAT	40	August 26, 2021	August 01, 2021	5,831
Ubay Battery Energy Storage System (BESS)	07UBAY_BAT	20	October 19, 2021	August 18, 2021	780
Sub-Total (Battery)		***60***			***6,611***
HyperGreen Energy Biomass	01HYPGRN_G01	12.0	August 26, 2021	July 24, 2021	6,882
HPCO-Cogeneration Biomass Power Plant Unit 2	06HPCO_G02	18.6	September 23, 2020	July 17, 2021	852
Sub-Total (Biomass)		***31***			***7,734***
GNPower Dinginin Coal Plant - Unit 1	01GNPD_U01	668	February 06, 2021	July 17, 2021	7,037
Sub-Total (Coal)		***668***			***7,037***
San Gabriel Avion Natural Gas-Fired Power Plant Unit 2	03AVION_U02	50.3	October 18, 2021	July 17, 2021	158
Sub-Total (Natural Gas)		***50.3***			***158***
Grand Total		**808.9**			**21,540**

NUMBER OF EVENTS WITH T&C



CAPACITY OF PLANTS WITH T&C



The October 2021 billing month showed an improvement in terms of the monitored plants under T&C as most of the plants under **prolonged T&C have already started commercial operations** while those which T&C's period have **expired were not imposed with over-riding constraints**.

For the covered billing month, majority of the plants on T&C were attributable to three plant types**: Biomass**, **Coal**, and **Battery** (with a small percentage coming from **Natural Gas Plant**).

Based on the updates provided by the Independent Electricity Market Operator of the Philippines (IEMOP), the following are some information on power plants under extended T&C during the October billing month:

- **3 plants** were given an extension of its PCATC to conduct T&C
  - 1 plant received extension to its Provisional Clearance to energize
- **1 plant** had expired T&C period
- **1 plant** has undergone re-commissioning test
- **1 plant** was requested to submit an ERC certification to MO for commercial operation in and outside WESM

Note: The Department of Energy (DOE) department circular no. DC2021-06-0013 (Adopting a General Framework Governing the Test and Commissioning of Generation Facilities for Ensuring Readiness to Deliver Energy to the Grid or Distribution Network) provides a transitory provision that:

- *Allows generation companies that are already on T&C, upon effectivity of the circular (especially those plants on prolonged commissioning test), to continue to conduct commissioning test for a maximum of two (2) months after the effectivity date.*

This will be in consideration in the MSC's monitoring of plants on prolonged testing commissioning test (beyond the maximum two-month period allowed also under the ERC Resolution No. 16, Series of 2014).

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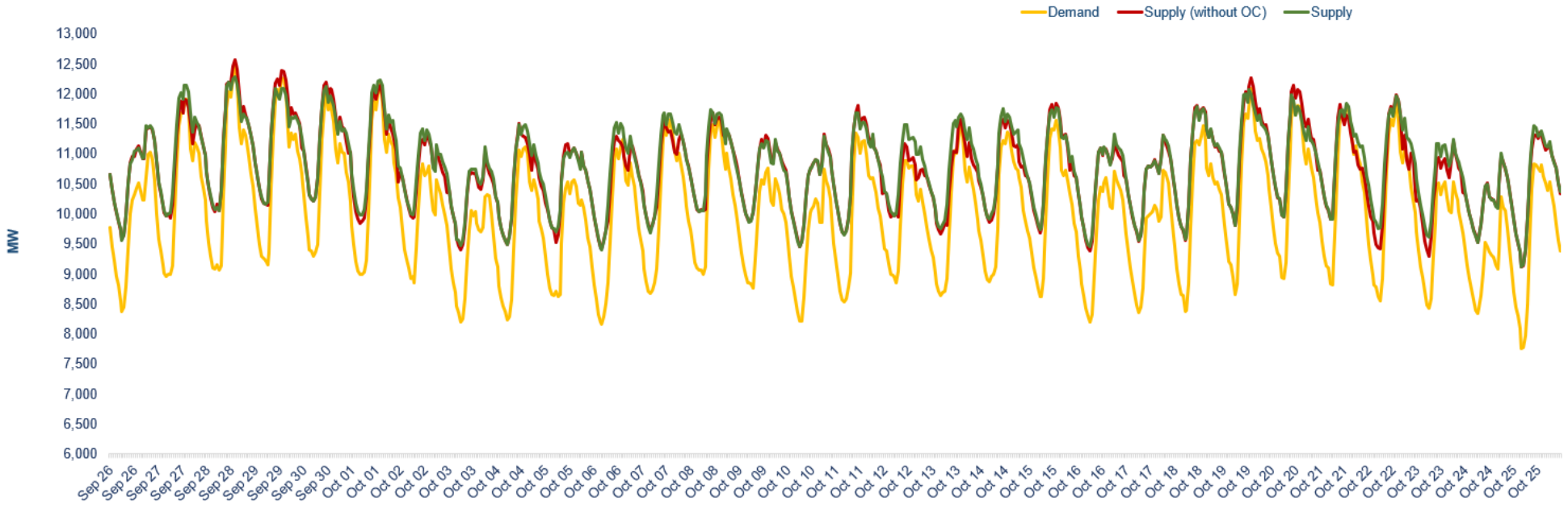
MARKET IMPACT

ON SUPPLY



- Demand varied from 7,750 MW to 12,515 MW in October 2021, with a minimum and maximum supply of 9,068 MW and 12,474 MW, respectively. Without the OC, the supply level became 9,050 MW at a minimum and 12,875 MW at a maximum, resulting in an 8.59% reduction in supply and a 32% rise in price
- Similar to the previous month's trend, OC impositions provided a maximum increase of 711 MW during peak hours and 748 MW during off-peak hours in October 2021 with an average increase of 65 MW on peak hours and 79 MW on off-peak.
- The additional capacity improvements by the OC impositions helped the supply situation, but it is observed that this may have a price distortionary effect by arbitrarily lowering the true cost of generation, which, in the long run, may be detrimental to the market's ability to remain sustainable.

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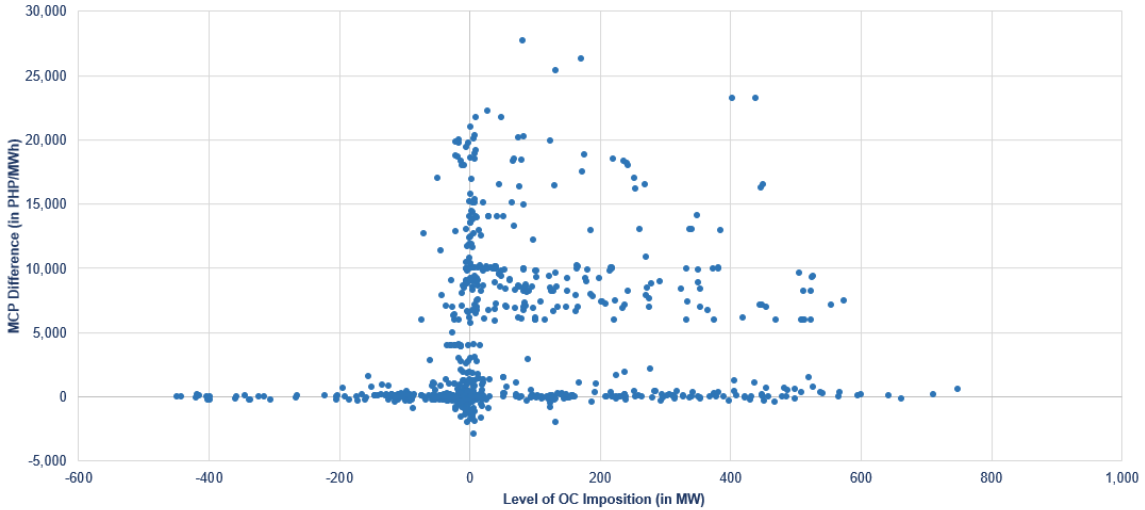
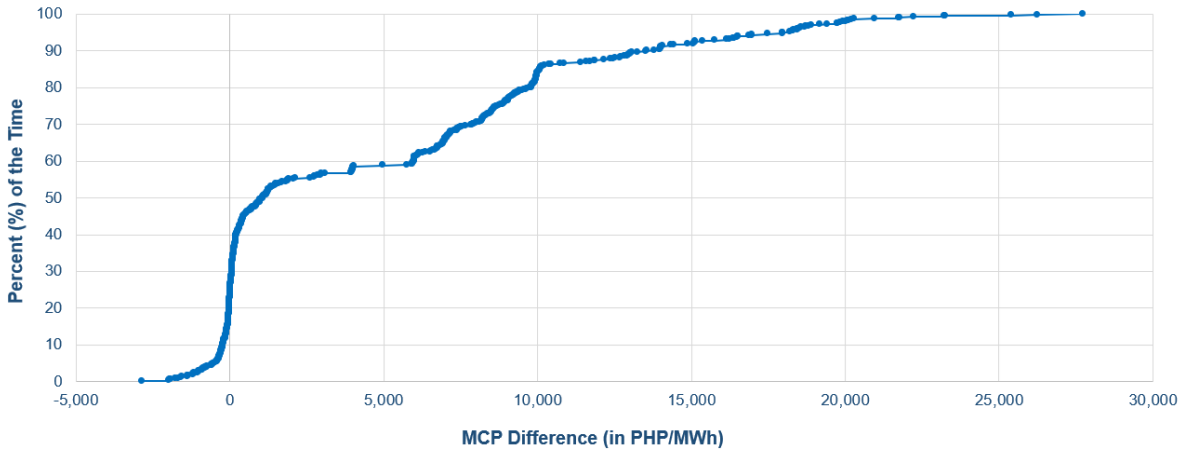
MARKET IMPACT

ON MARKET CLEARING PRICE



- The additional MW generated by the imposition generally resulted to decrease in market price. This decrease reached up to a monthly maximum of PhP 27,744.47/MWh.
- The additional MW supply provided by OC impositions resulted to the decrease of MCP by an average of PhP 4,319.39/MWh



- Looking on the impact of OC to the market price in terms of its percentage distribution, it showed that for 60 percent of the time, the MCP difference is less than PhP 5,000.00 /MWh when imposed with OC
- Less than 20% of the time, prices have been increased by a high of Php 2,846.35 per MWh, with an average increase of PhP 352.52 per MWh.