



Monthly Monitoring Report on Over-riding Constraints for June 2022 Billing Month

26 May to 25 June 2022

December 2022

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

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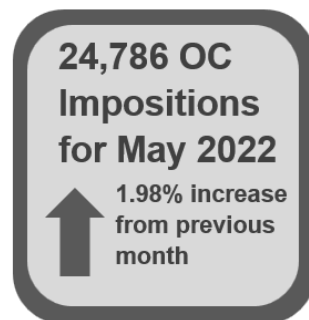
On Market Clearing Price

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IMPOSITIONS BY CATEGORY AND REGION

25,277 Total Impositions
94.1% which are **non-security** limits



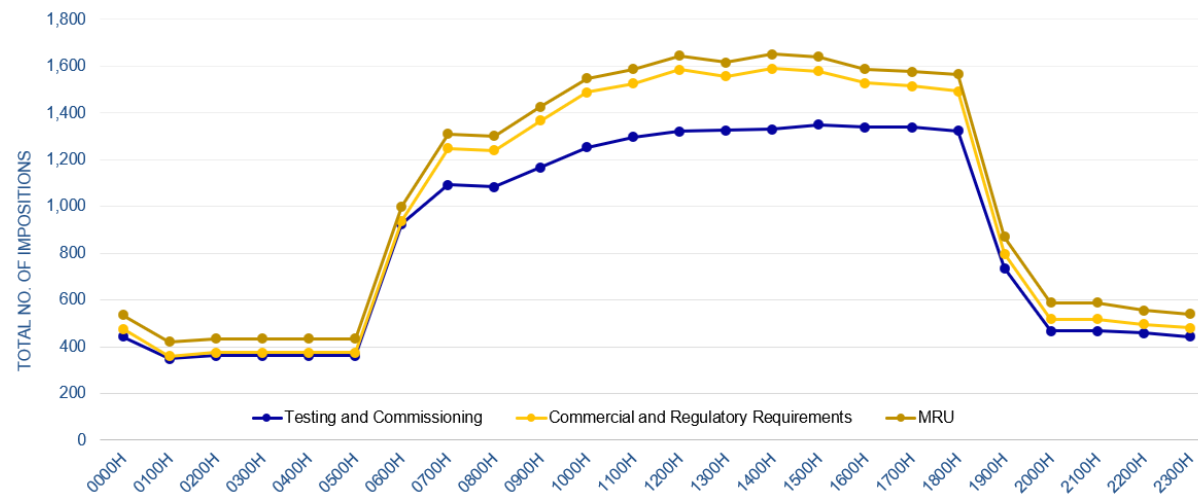
The June 2022 billing month recorded over-riding constraints impositions with a **1.98% increase** involving **25 Luzon** and **2 Visayas generators**. The absence of compliance testing during the June 2022 billing month resulted in lower over-riding constraints imposition count in Visayas. However, the difference in over-riding constraints impositions between the current and previous billing periods is minimal due to the increase in commissioning test imposition in Solar Plants.

June 2022 also saw **1,488 impositions** for **Must-run Unit (MRU)** to address the **real power balancing** and **frequency control** in the Luzon Grid.

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).

IMPOSITIONS BY HOUR



Similar to previous month's pattern, majority of over-riding constraints imposed over a 24-hour period were caused by the conduct of commissioning tests for an average of **83 percent of the time**, which is primarily attributed to the **commissioning tests of Battery, Coal, and Solar plants**, with total capacity of **1,002 MW** imposed during **peak** and **off-peak** hours.

Another major reason for the increase in over-riding constraints imposed during peak hours was the results of **ancillary service tests for coal and hydro plants**, as well as **variable renewable energy (VRE) generating facility tests for solar plants**. These impositions had total capacity impact on the system of **1,519 MW during peak** and **2,343 MW during off-peak**.

The difference between the peak and during off-peak hours was due to plants with larger capacities imposed mostly during off-peak hours when most of commercial and regulatory tests were undertaken.

For the month of June 2022, **MRU impositions** were noted to be present over the 24-hour period observations.

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IMPOSITIONS BY INCIDENTS

Commissioning Test



83%

A **30.57% increase** from the previous month's impositions were noted due to start of commissioning test periods of solar plants.

Commercial and Regulatory Requirement



11%

Attributed to the execution of various tests such as Ancillary test, Emission test, Net Dependency Capability Test, Performance test, and VRE test.

Generating Unit Limitation



0%

No **over-riding constraints** events related to **Generating Unit limitation** was noted.

MRU



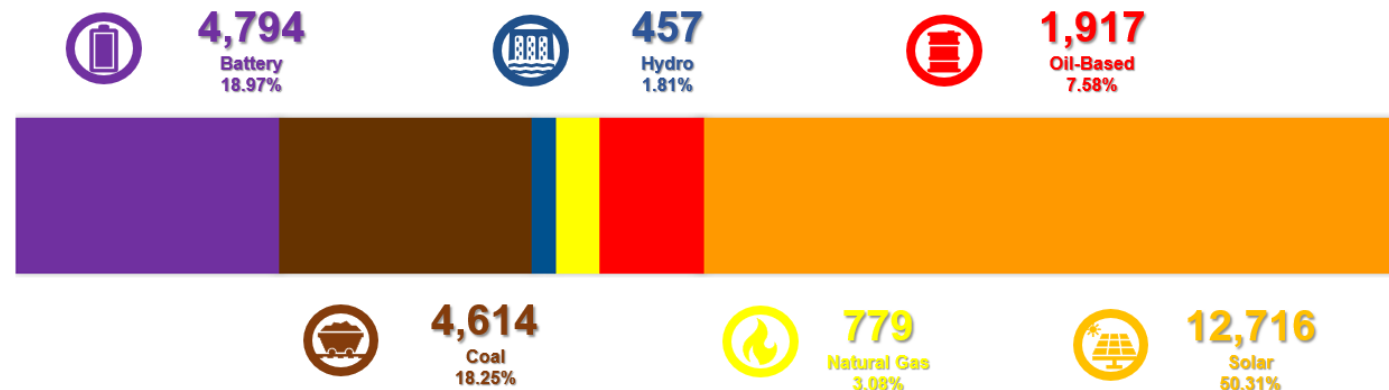
6%

MRU designation of an oil-based plant accounted for **5.9% of total impositions** due to **real power balancing** and **frequency control** of the grid.

IMPOSITIONS BY PLANT TYPE

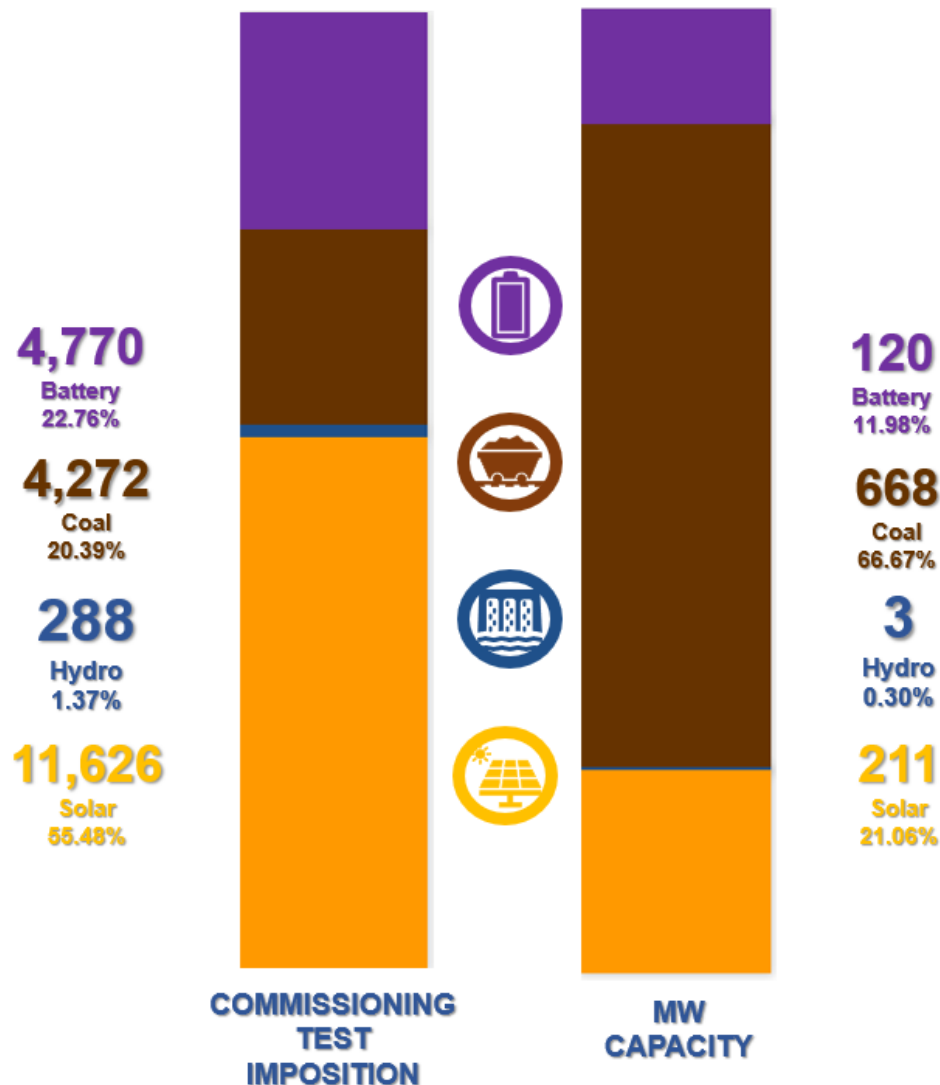
The **commencement of commissioning tests and variable renewable energy (VRE) testing** of solar plants were the main reasons for the change in the highest overall over-riding constraints imposition, which used to be from coal plants, for the June 2022 billing month.

Meanwhile, impositions to a coal plant and battery plants were attributed to the conduct of commissioning tests and ancillary tests.



MONTHLY REPORT ON OVER-RIDING CONSTRAINTS

PLANTS ON COMMISSIONING TEST



The June 2022 billing month saw an **increase in impositions of over-riding constraints under commissioning tests**, compared to the previous month. Extension to plant's **Provisional Certificate of Approval to Connect (PCATC)** allowed Battery and Solar to continue being imposed with over-riding constraints. A total of **1,002 MW of capacity was imposed with over-riding constraints** due to commissioning test.

This month, most of the plants on commissioning test were attributable to Solar, followed by Battery and Coal.

Based on the updates provided by the Independent Electricity Market Operator of the Philippines (IEMOP), the following were some of the updates on the **status of power plants under extended commissioning test** during the June billing month:

- **1 Coal, 1 Hydro, and 4 Solar plants** were given extensions on their respective PCATCs to conduct commissioning tests
- **2 BESS plants** had expiring commissioning test periods in June 2022 and were yet to be issued with Final Certificate of Approval to Connect (FCATC) / Provisional Authority to Operate (PAO), or were yet to be given extensions for PCATCs

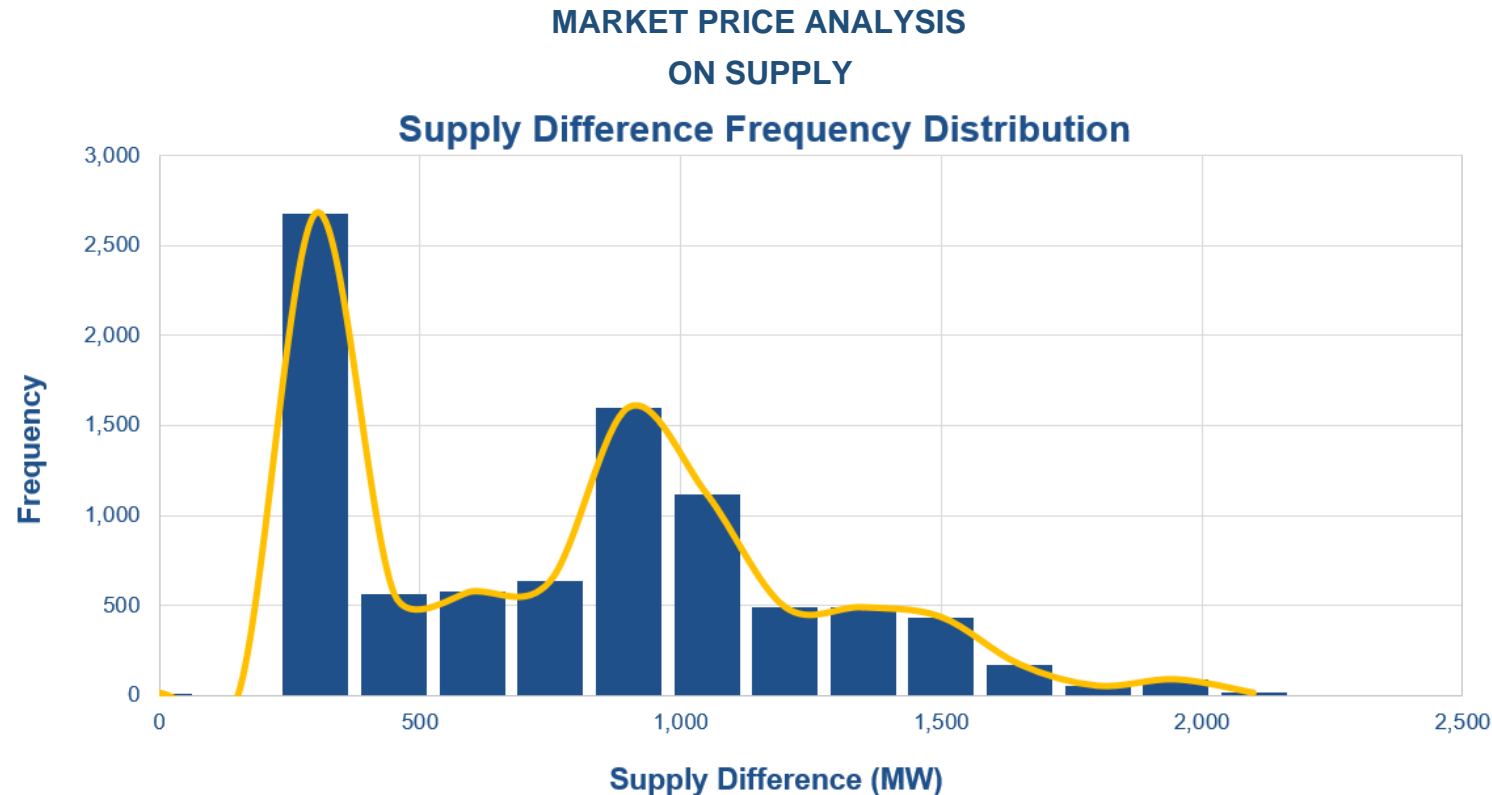
Furthermore, **2 solar plants have just begun their commissioning test** during the June 2022 billing month.

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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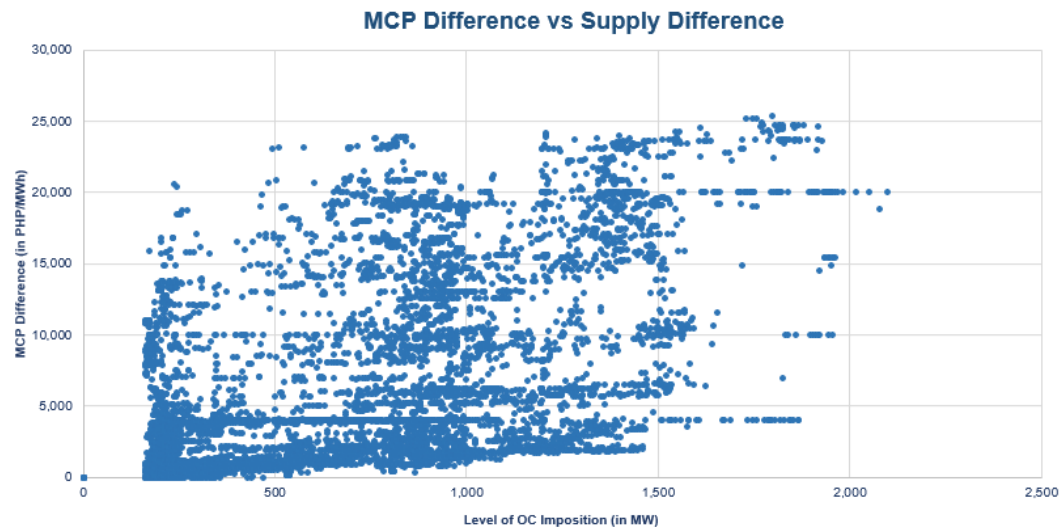


When comparing a market run without any over-riding constraints in the system through a simulation, it revealed that the over-riding constraints imposed on generators throughout the June billing month accounted for an **average difference of 705 MW** in supply. Most of the time, over-riding constraints impositions account for **150 MW to 300 MW** capacity considered as price takers, resulting in lower market clearing prices. The market was affected by **900 MW to 1,100 MW** due to the over-riding constraint imposed on Coal and Oil-based plants for conducting commissioning tests and designation as MRU, respectively.

During **peak hours**, higher capacities were scheduled under over-riding constraint impositions, with an average market effect of **874 MW** and an average of **599 MW** during **off-peak hours**.

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ON MARKET CLEARING PRICE



The supply difference generated via over-riding constraint impositions resulted in **decrease in market clearing prices by an average of PHP 6,276/MWh.**

It is clear that the higher the level of over-riding constraint imposed, the greater the decrease in market clearing price.

The instances of high-capacity levels of over-riding constraints resulted from MRU impositions for Oil-based plants and the conduct of commissioning and ancillary tests for Coal plants.

Among others, outages, especially of huge capacities from various plants, contributed to the movement of optimization resulting in higher prices clearing the market.

Further examination of the impact of over-riding constraint impositions on market clearing prices, in terms of its percentage distribution, revealed that the MCP difference is less than **PHP 10,465/MWh for 80% of the time.**

