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

26 February to 25 March 2022

October 2022

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

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OVER-RIDING CONSTRAINTS MONITORING

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BY CATEGORY AND REGION

33,589 Total Events

All of which are non-security limits

LUZON **74%** 25,006 OC

Visayas **26%** 8,583 OC

45,055 OC Events for Feb 2022

25.45% decrease from previous month

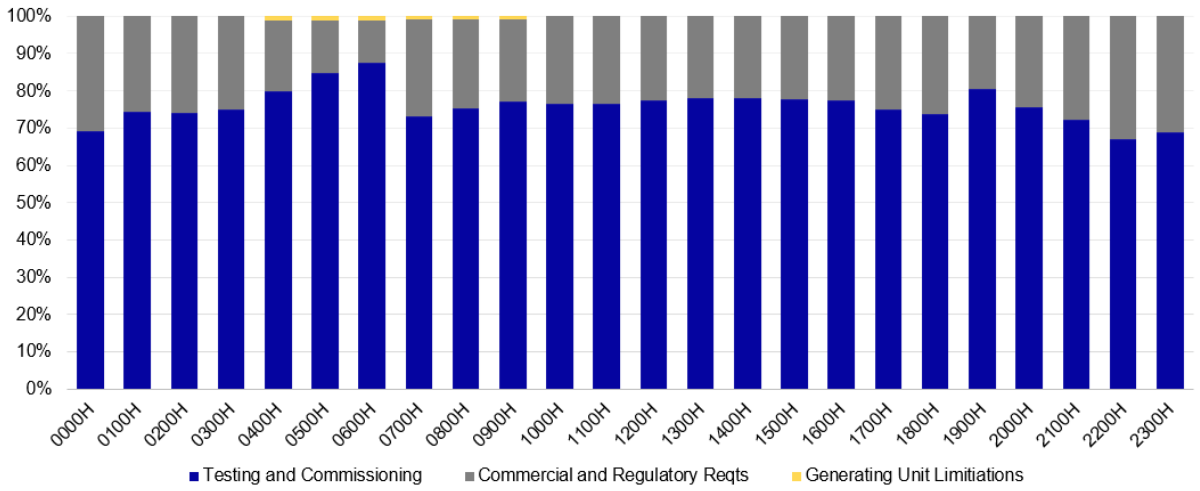
- The March 2022 billing month recorded over-riding constraints impositions with a **25.45% decrease** coming from the previous month involving **20 Luzon** and **15 Visayas generators**. The decrease was due to the **expiration of testing and commissioning (T&C)** of several biomass and solar plants

- Similar with the previous months, all events were **categorized under non-security limit** mainly related to 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



Similar to the previous month's pattern, the majority of instances of over-riding constraints imposed over a 24-hour period were caused by the conduct of plants' T&C for **67 to 88 percent of the time**, which is primarily attributed to the commissioning tests of **Battery Energy Storage System (BESS)** plants.

The impositions observed during the whole 24-hour cycle varied between **T&C** (for battery, biomass, and solar), and **Commercial & Regulatory Requirements** (for hydro, oil-based, and natural gas) **with lesser T&C impositions occurring during peak hours**.

T&C impositions have higher occurrence than commercial and regulatory requirements from **0000H to 0600H and 1900H to 2300H** due to fewer conduct of the latter**,** particularly the absence of Ancillary Tests. Furthermore, the conduct of emission test of several oil-based plants during peak hours contributed to the increase of distribution of commercial and regulatory requirements

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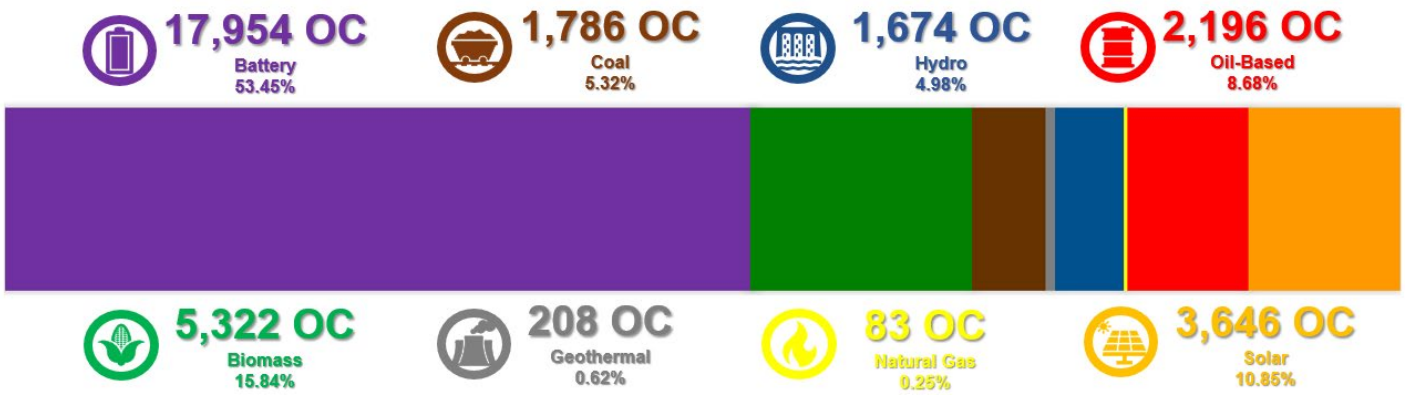
OVER-RIDING CONSTRAINTS MONITORING

BY PLANT TYPE



More than half of the of the over-riding constraints impositions were **attributable to the conduct of T&C** by **6 BESS plants** with one of them starting its T&C period within the month of March 2022

Decrease in over-riding constraints impositions, especially for **Biomass and Solar** plants, was due to **expiration of their T&C period**. In addition, there had been an increase in the conduct of various performance tests in Coal plants for the month of March 2022.

Also, there were **Generating Unit Limitations** imposed in a coal plant attributed to shutdown profile.

Testing & Commissioning

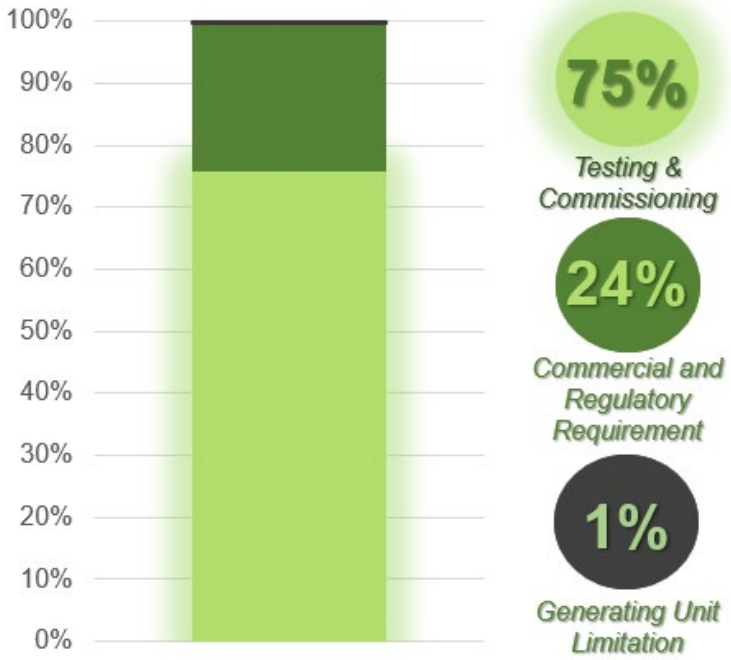
Majority of the non-security limit events recorded for the March 2022 billing month were due to the conduct of **T&C** involving **14 plants**

Commercial & Regulatory Requirements

Incidents related to **Commercial and Regulatory Requirements** were attributable to the conduct of various tests such as Ancillary test, Emission Test, Performance test, Grid Compliance test, and Variable Renewable Energy Test

Generating Unit Limitations

A coal plant was imposed with over-riding constraints events related to Generating Unit limitation to conduct a **shutdown activity**



The March 2022 billing month saw a **decrease in impositions of over-riding constraints under T&C** compared to the previous month as most of the plants under prolonged T&C have **expired Provisional Certificate of Approval to Connect (PCATC),** biomass and solar plants particularly, preventing them to be imposed with over-riding constraints

For the covered billing month, most of the plant on T&C were attributable to BESS, followed by Biomass and Solar and with a small percentage coming from Oil-based plants. It should be noted though that the capacity of oil-based plants were significant and may have higher impact in the WESM.

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 T&C** during the March billing month:

- **4 battery, 1 biomass, 1 hydro, and 1 oil-based plants** were given extensions on their PCATC to conduct T&C

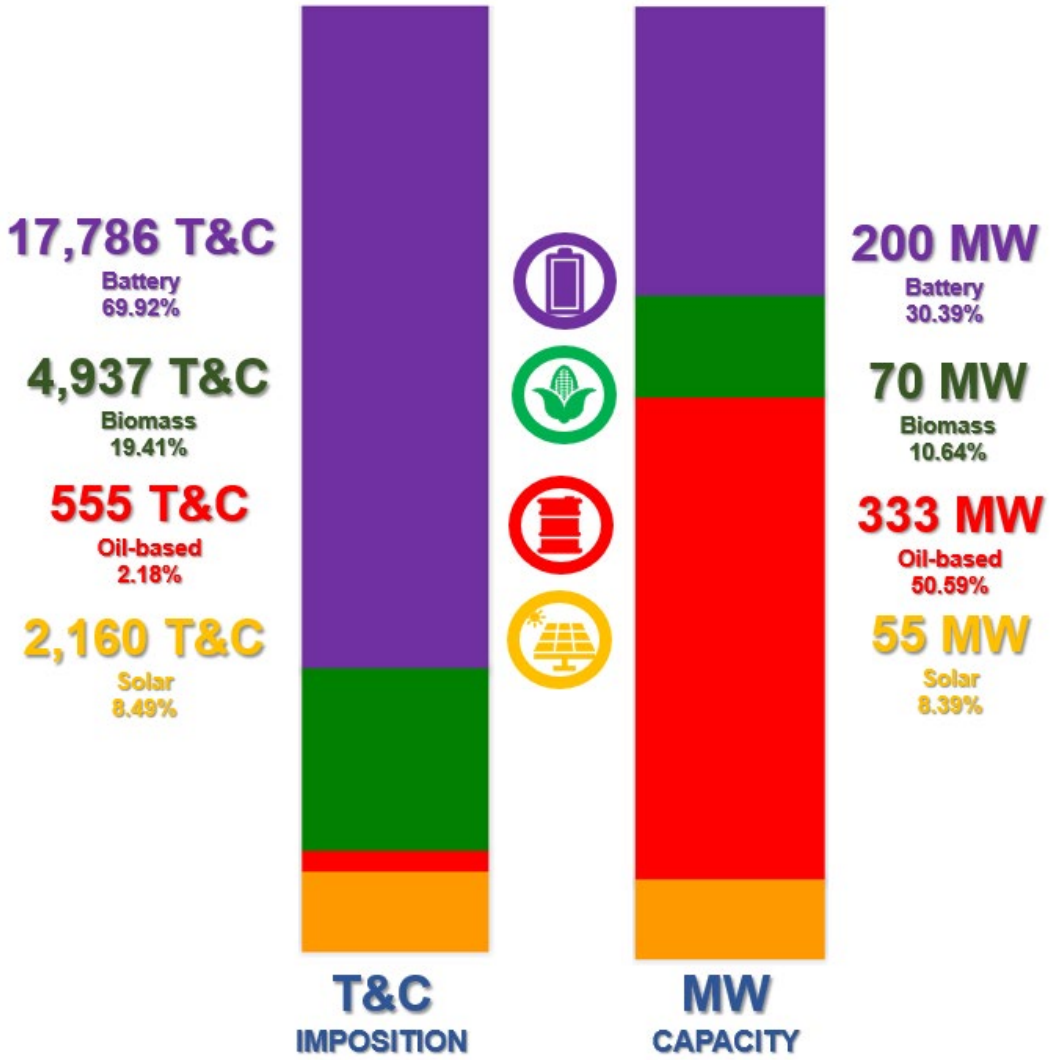
Furthermore, **one solar plant has just begun its T&C period** during the March 2022 billing month.

There were **658 MW of capacity added** to the system due to the T&C of these plants.

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).



PLANTS ON COMMISSIONING TEST

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MARKET PRICE IMPACT

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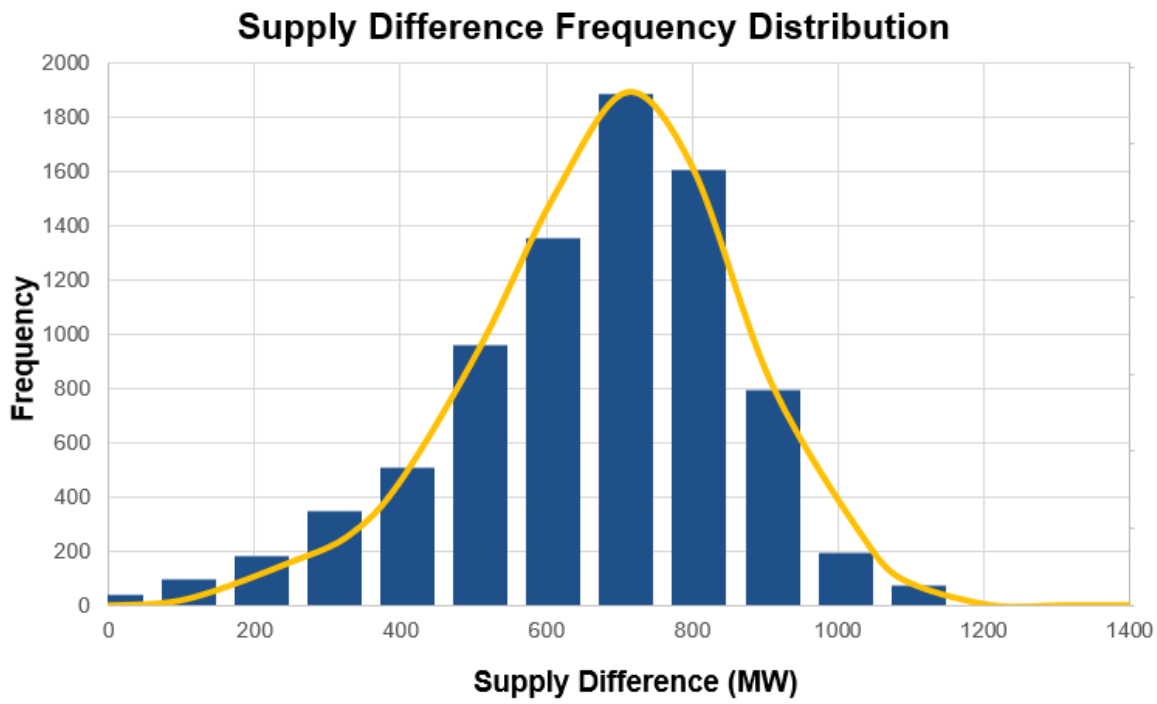
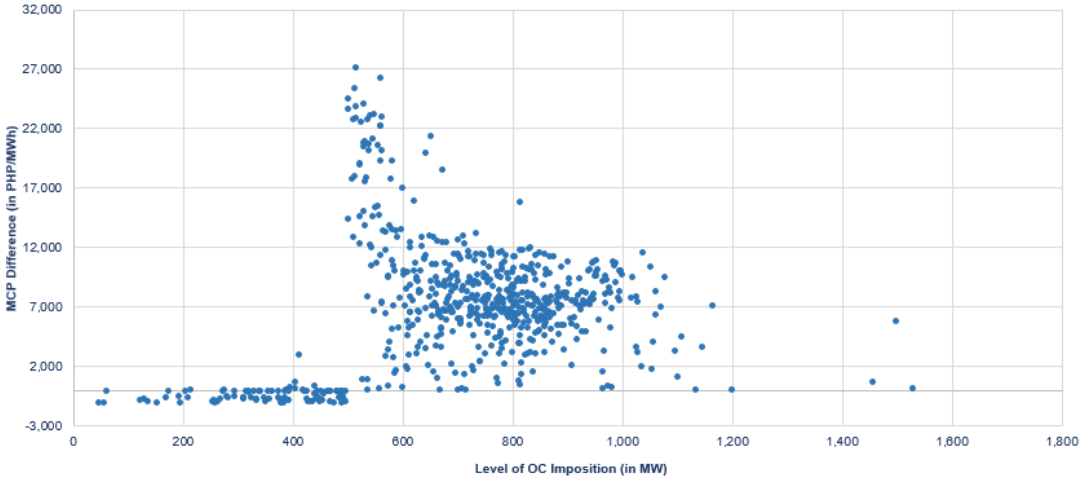
ON SUPPLY

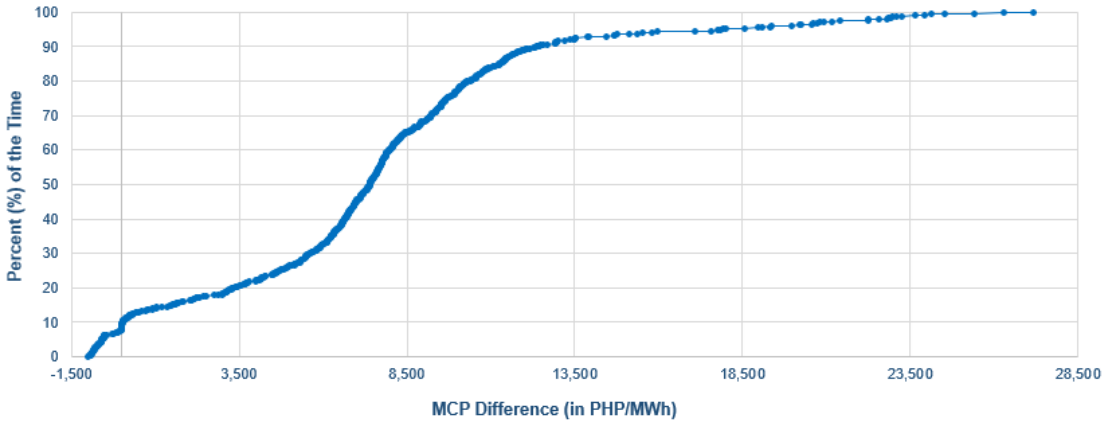


The over-riding constraint have contributed to an additional supply by an average of 706 MW. Similar to the previous month's trend, over-riding constraint impositions contributed to the increase in the supply, at most, by 1,528 MW in March 2022 – an average increase of 615 MW during peak hours and 773 MW during off-peak hours.

The additional capacity improvements by the over-riding constraint impositions helped the supply situation. However, 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.

ON MARKET CLEARING PRICE





The additional MW generated by over-riding constraint impositions generally resulted to a decrease in market price. This decrease reached up to a monthly maximum of PhP 27,180/MWh.

The additional MW supply caused by the over-riding constraint impositions resulted into a decrease in the MCP by an average of PhP 7,159/MWh

Looking on the impact of OC to the market price in terms of its percentage distribution, it showed that for 70 percent of the time, the MCP difference is less than PHP 9,217/MWh when imposed with over-riding constraint

Prices have increased by PhP 610/MWh on average, less than 8% of the time

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MARKET PRICE IMPACT