



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

26 March to 25 April 2022

November 2022

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

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BY CATEGORY AND REGION

30,742 Total Events

All of which are **non-security** limits



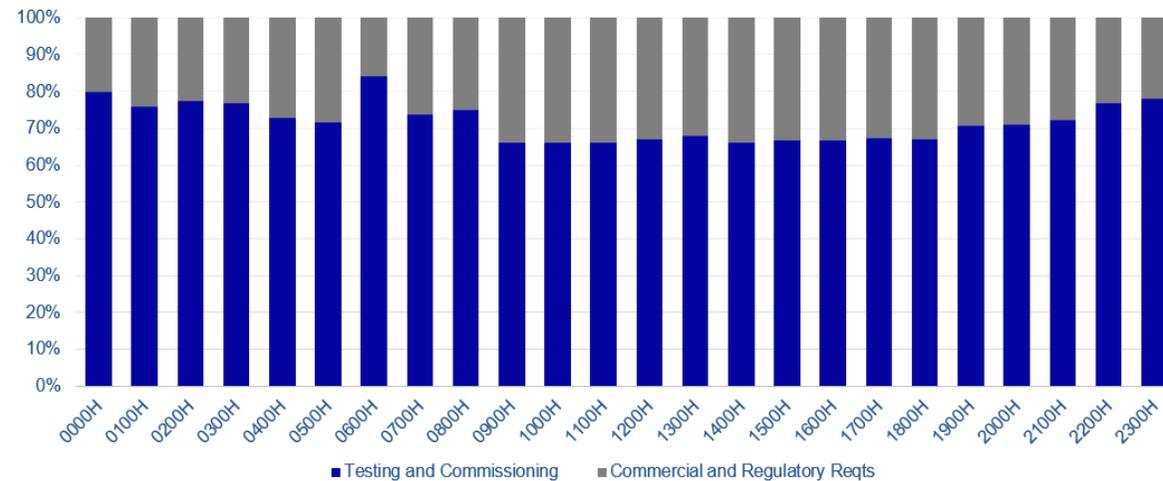
The April 2022 billing month recorded over-riding constraints impositions with an **8.48% decrease** involving **22 Luzon** and **10 Visayas generators**. The decrease was due to the **start of commercial operation** of a battery plant and **expiration of testing and commissioning (T&C)** of several biomass 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



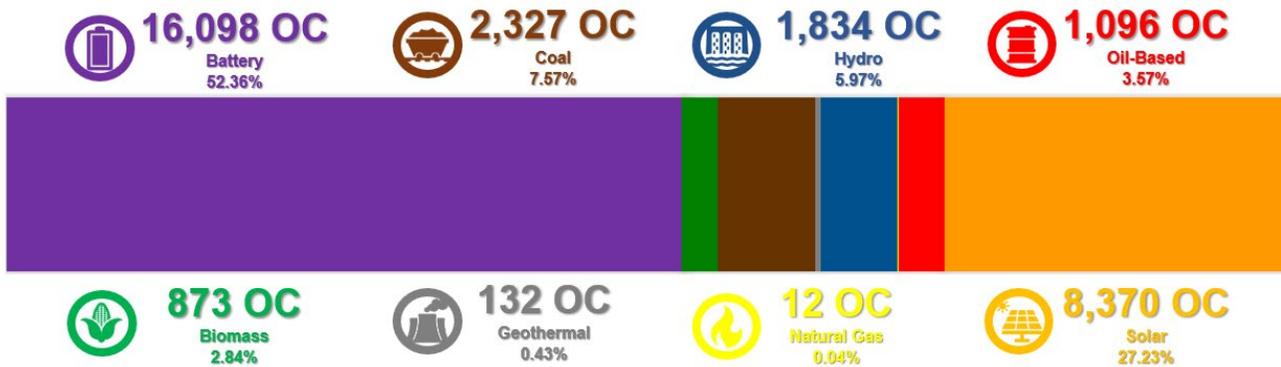
Similar to the previous month's pattern, the majority of instances of over-riding constraints imposed over a 24-hour period were caused by the conduct of plants' T&C for an average of **72 percent of the time**, which is primarily attributed to the commissioning tests of **Battery Energy Storage System (BESS)** plants.

The impositions observed during the **whole 24-hour cycle** varied between T&C (for battery, coal, and solar), and **Commercial & Regulatory Requirements** (for hydro, biomass, oil-based, and natural gas) **with lesser T&C impositions occurring during peak hours** accounting to an average of 68 percent of the total over-riding impositions during peak hours compared to 75 percent of T&C impositions during off-peak.

Due to various tests, such as Ancillary Tests, Emission Tests, and Variable Renewable Energy Tests, undertaken during peak hours, **T&C impositions occur more frequently than commercial and regulatory needs during off-peak hours**. Furthermore, the testing of various hydro plants' capability during peak hours contributed to the increase in the occurrence of commercial and regulatory requirements.

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BY PLANT TYPE



Keeping with the trend of the previous month, **half of the** of the over-riding constraints impositions were **attributable to BESS** for the **conduct of T&C of 3 BESS plants** within the month of April 2022, a decrease from previous month which had 6 BESS plants due to commercial operation of 1 BESS and expiration of T&C period of 2 BESS plant.

Decrease in over-riding constraints impositions, especially for **Biomass plant**, was due to **expiration of their T&C period**. In addition, there had been an increase in the over-riding constraints imposition of a Coal plant due to recent start of its T&C period for the month of April 2022.

BY INCIDENTS

Testing & Commissioning

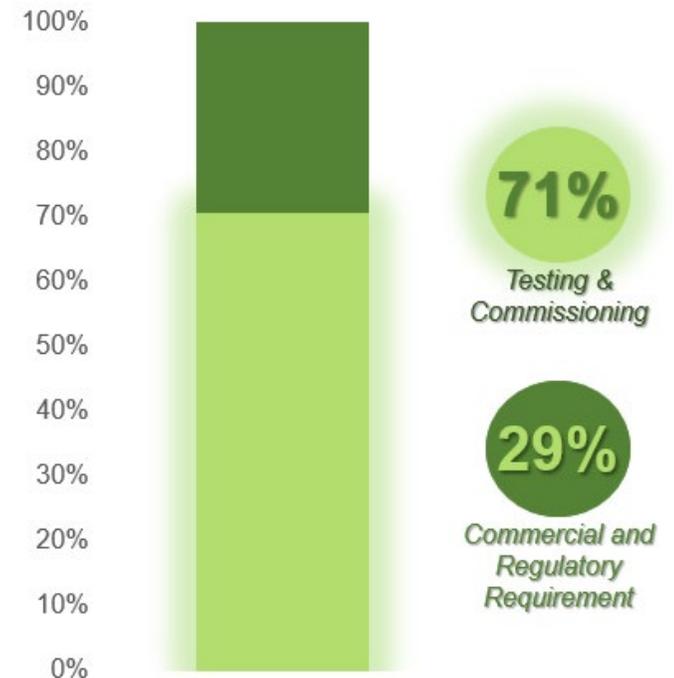
The majority of the non-security limit events documented for the April 2022 billing month were attributed to **T&C involving seven plants** – a **50% reduction** from the previous month of 14 plants due to the expiration of T&C periods on several sites and the commercial operation of a BESS plant.

Commercial & Regulatory Requirements

30% of over-riding constraint events were related to **Commercial and Regulatory Requirements** and may be attributed to the execution of various tests such as Ancillary test, Emission test, Performance test, Grid Compliance test, and Variable Renewable Energy Test.

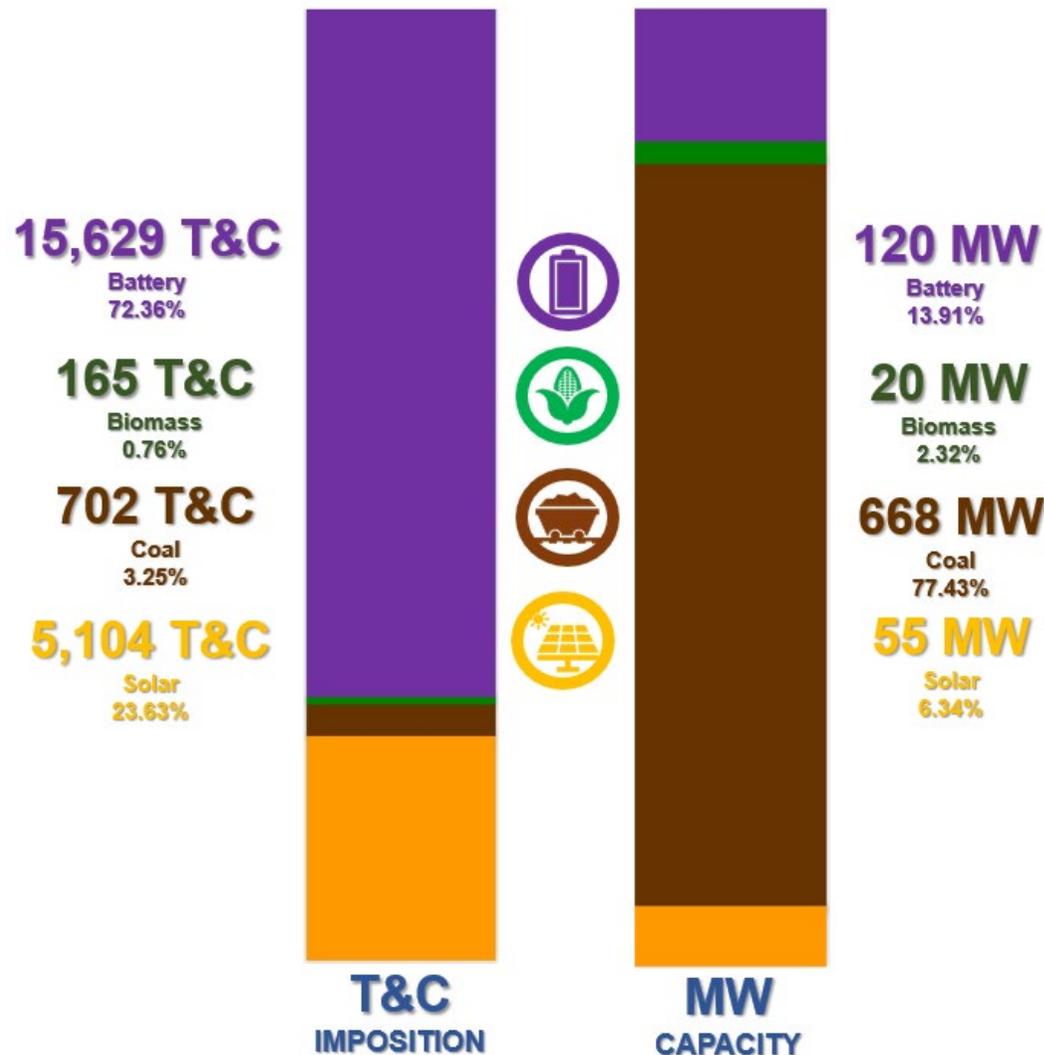
Generating Unit Limitations

No over-riding constraints events related to Generating Unit limitation was noted during the billing month



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PLANTS ON COMMISSIONING TEST



The April 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)**, in particular biomass and solar plants, preventing them to be imposed with over-riding constraints.

Similar to the previous month, most of the plant on T&C were attributable to BESS, followed by Biomass and Solar and with a small percentage coming from Biomass and Coal plants.

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 April billing month:

- **3 BESS and 1 hydro plant** were given an extension on its PCATC to conduct T&C

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

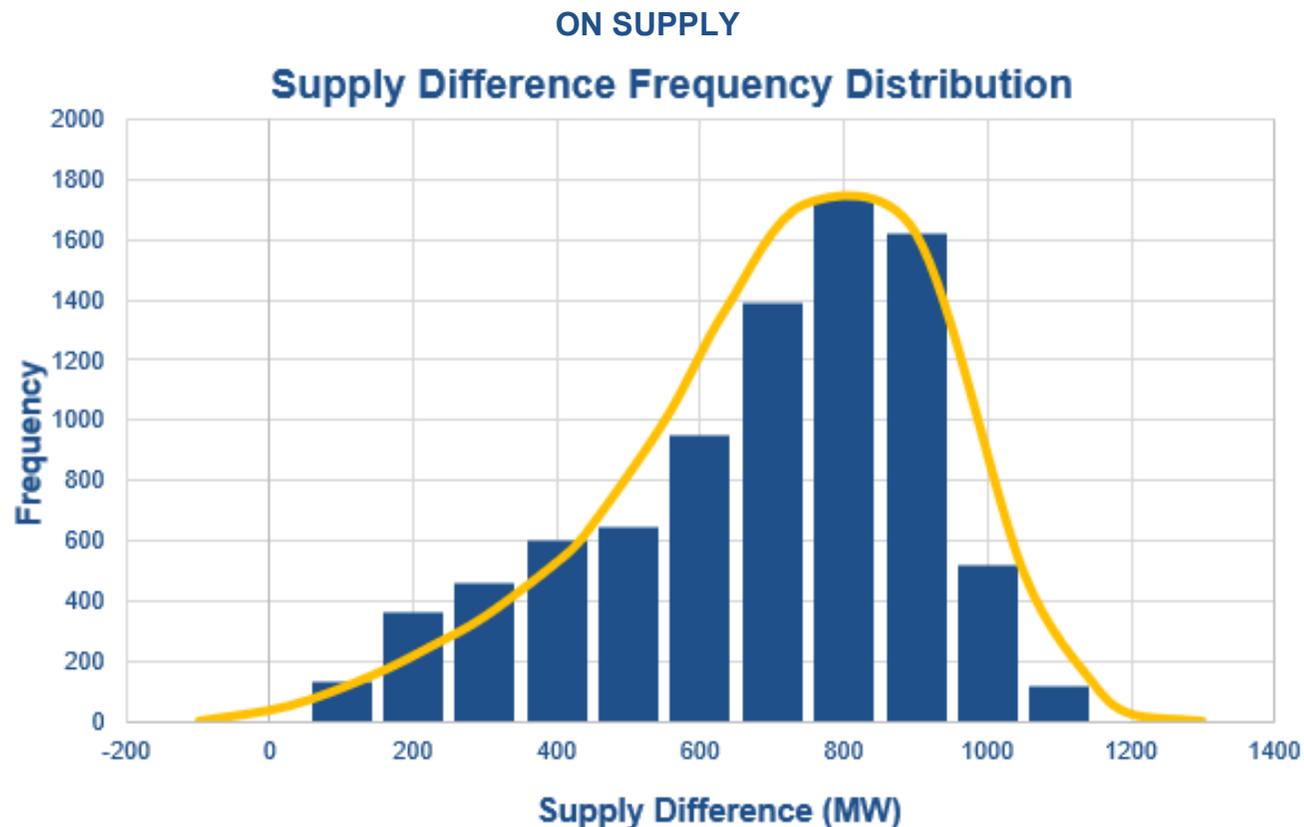
There are **863 MW of capacity added** to the system due to the T&C of these plants.

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).

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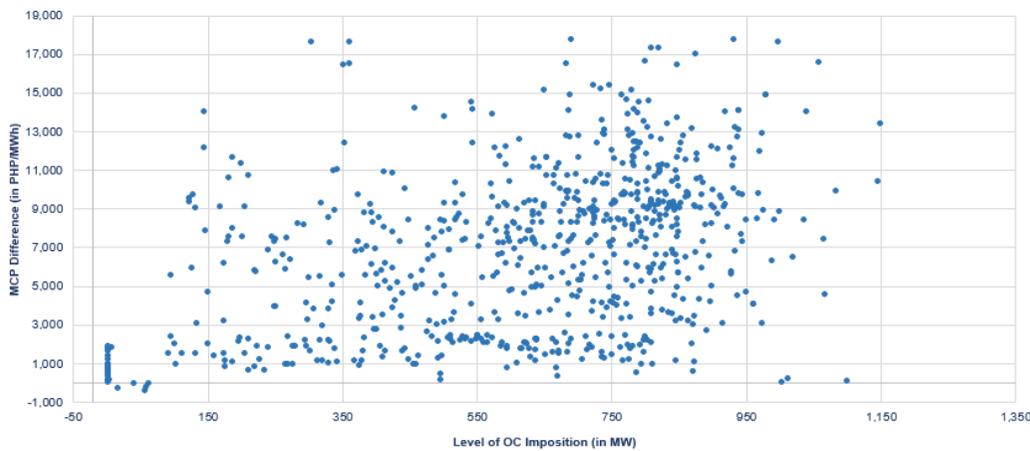


The over-riding constraint has contributed to an additional supply by an average of **615 MW**. Majority of the time, OC impositions contributed an additional 815 MW to the system. Similar to the previous month's trend, over-riding constraint impositions contributed to the increase in the supply, **at most, by 1,148 MW** with an average increase of 600 MW during peak hours and 623 MW during off-peak hours.

The additional capacity contributed 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.

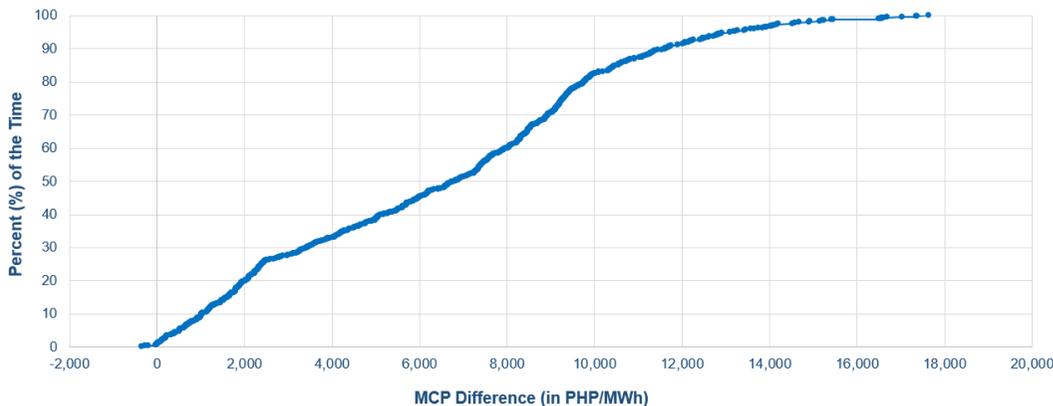
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ON MARKET CLEARING PRICE



The additional MW generated via over-riding constraint impositions resulted to a decrease in market pricing. This reduction recorded a monthly maximum of PhP 17,794/MWh. The increased MW supply produced by the over-riding constraint impositions that resulted to a PhP 6,466/MWh drop in the MCP on average.

TIME DISTRIBUTION CURVE



Looking at the effects of over-riding constraints on market pricing in terms of percentage distribution, it was discovered that 60% of the time, the MCP difference is less than PhP 8,000/MWh. Meanwhile, prices have increased by an average of PhP 165/MWh, for less than 1% of the time due to these impositions brought about by large capacity plants with high price offers still clearing the market despite the additional supply provided by the over-riding constraints.