



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

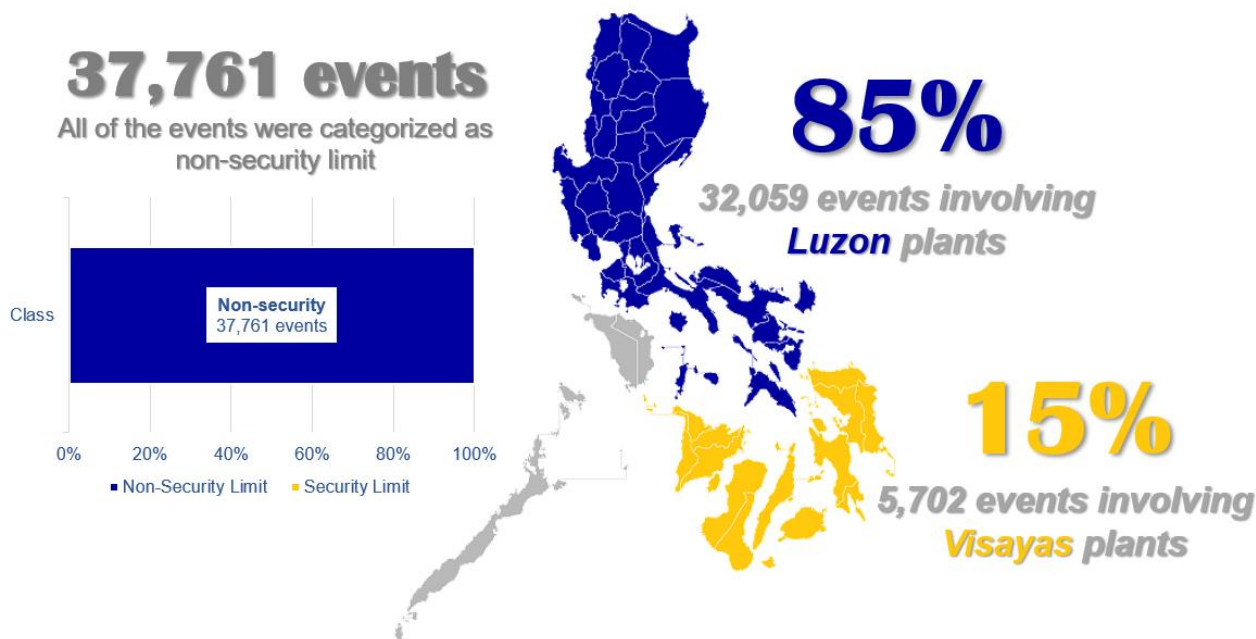
26 October to 25 November 2021

August 2022

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

OVER-RIDING CONSTRAINTS MONITORING

BY CATEGORY AND REGION

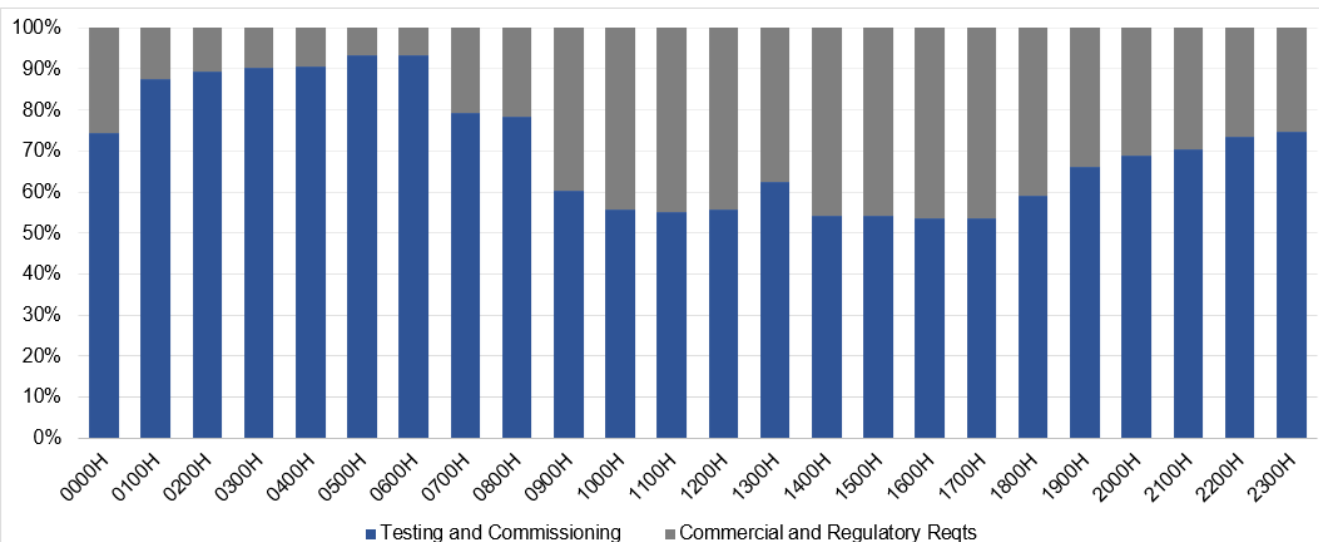


- The November 2021 billing month over-riding impositions involves **27 Luzon** and **13 Visayas generators**. The **slight increase** was due to **higher impositions** of testing and commissioning (T&C) of a coal plant, as well as the **conduct of various tests** for Commercial and Regulatory Requirement of 2 hydro plants.
- The impositions were equivalent to a **9.1% increase** from the previous billing month
- 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



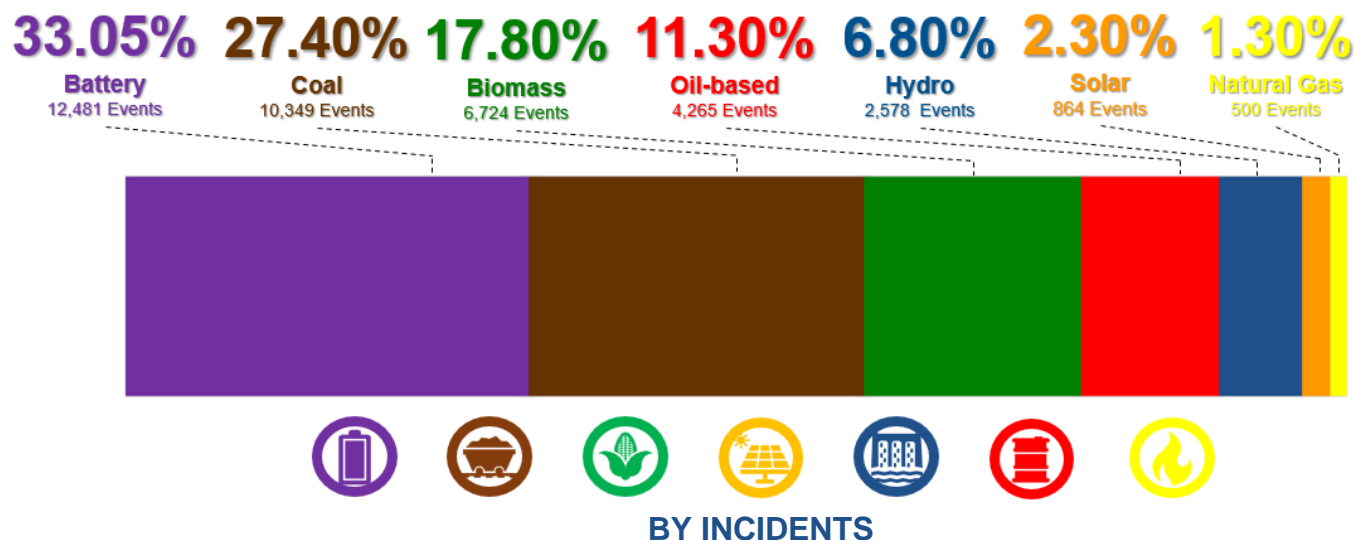
Consistent with the pattern from the previous month, bulk of the occurrences of over-riding constraints imposition over a 24-hour cycle was due to the **conduct of plants' T&C** often during **off-peak period** accounting for **53 to 92 percent of the time** which were still mainly on account of the conduct of T&C by **Battery** and **Coal** plants.

Meanwhile, the impositions observed during the **peak period** varied between **T&C** (for battery, biomass, and coal), and **Commercial & Regulatory Requirements** (for hydro, oil-based, and solar) ranging from **38 percent to 47 percent of the time**.

The small spike at 1300H was attributable to the decrease in the conduct of commercial and regulatory requirement test for some of the plants.

OVER-RIDING CONSTRAINTS MONITORING

BY PLANT TYPE

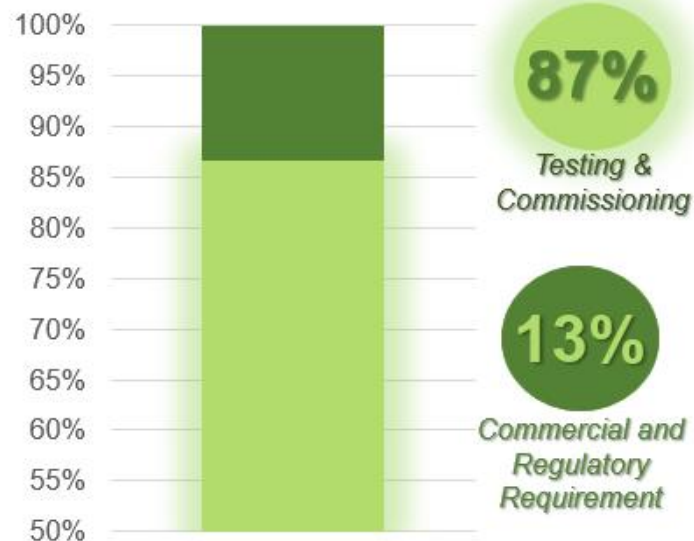


- Similar with the previous month, **most of the over-riding constraints imposition** in November were on account of **Battery Energy Storage System (BESS)** which were attributable to the conduct of T&C of 3 BESS plants.
- Also consistent with previous month, both **Coal** and **Biomass** plants followed BESS which had major share in the total count of over-riding impositions. Bulk of these were related to the **extended T&C period** mainly due to the plant's approval of Certificate of Compliance (COC), with 1 Biomass plant conducting **commercial testing** after its commercial operation in the month of October.
- The increase in the impositions for Hydro plants was a result of grid compliance and capacity test of 2 hydro plants.

NON-SECURITY LIMITS

- Majority of the non-security limit events recorded for the November billing month were due to the conduct of **T&C** involving 9 plants starting their testing in 2020-2021.
- Incidents related to **Commercial and Regulatory Requirements** are attributable to the conduct of various tests such as Emission test, Ancillary test, Capability test, Capacity test, Performance test, Grid Compliance test and Variable Renewable Energy (VRE) 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.



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	8,745
Ubay Battery Energy Storage System (BESS)	07UBAY_BAT	20	October 19, 2021	August 18, 2021	216
Alaminos Battery Energy Storage System	03ALMNOS_BAT	40	November 24, 2021	October 29, 2021	204
Sub-Total (Battery)		100			9,165
HyperGreen Energy Biomass	01HYPGRN_G01	12.0	August 26, 2021	July 24, 2021	6,528
HPCO-Cogeneration Biomass Power Plant Unit 2	06HPCO_G02	18.6	September 23, 2020	July 17, 2021	196
Sub-Total (Biomass)		31			6,724
GNPower Dinginin Coal Plant - Unit 1	01GNPD_U01	668	February 06, 2021	July 17, 2021	8,927
Sub-Total (Coal)		668			8,927
San Gabriel Avion Natural Gas-Fired Power Plant Unit 1	03AVION_U01	50.3	October 30, 2021	October 30, 2021	28
San Gabriel Avion Natural Gas-Fired Power Plant Unit 2	03AVION_U02	50.3	October 27, 2021	October 27, 2021	120
Sub-Total (Natural Gas)		100.6			148
Navotas Bunker C-Fired Diesel Power Plant	02TMOBIL_G02	49.0	October 31, 2021	October 31, 2021	180
Sub-Total (Oil-based)		49			180
Grand Total		948.2			25,144

The November 2021 billing month showed **improvements** 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 with expired T&C periods were **disallowed to receive over-riding constraints imposition without an approved Provisional Certificate of Approval to Connect (PCATC)**

Same as the trend from the previous billing month, majority of the plants on T&C were attributable to 3 plant types: **Biomass, Coal, and Battery** (with a small percentage coming from **Oil-based and Natural Gas Plant**).

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

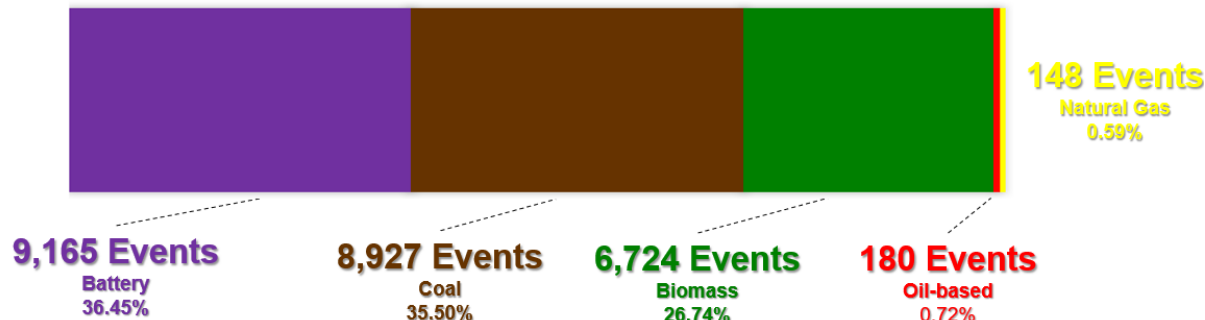
- **5 plants** were given extension for their PCATC
- **1 plant** started its commercial operation and is conducting commercial testing
- **3 plants** undergoing re-commissioning test

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 commissioning test (beyond the maximum two-month period allowed also under the ERC Resolution No. 16, Series of 2014).

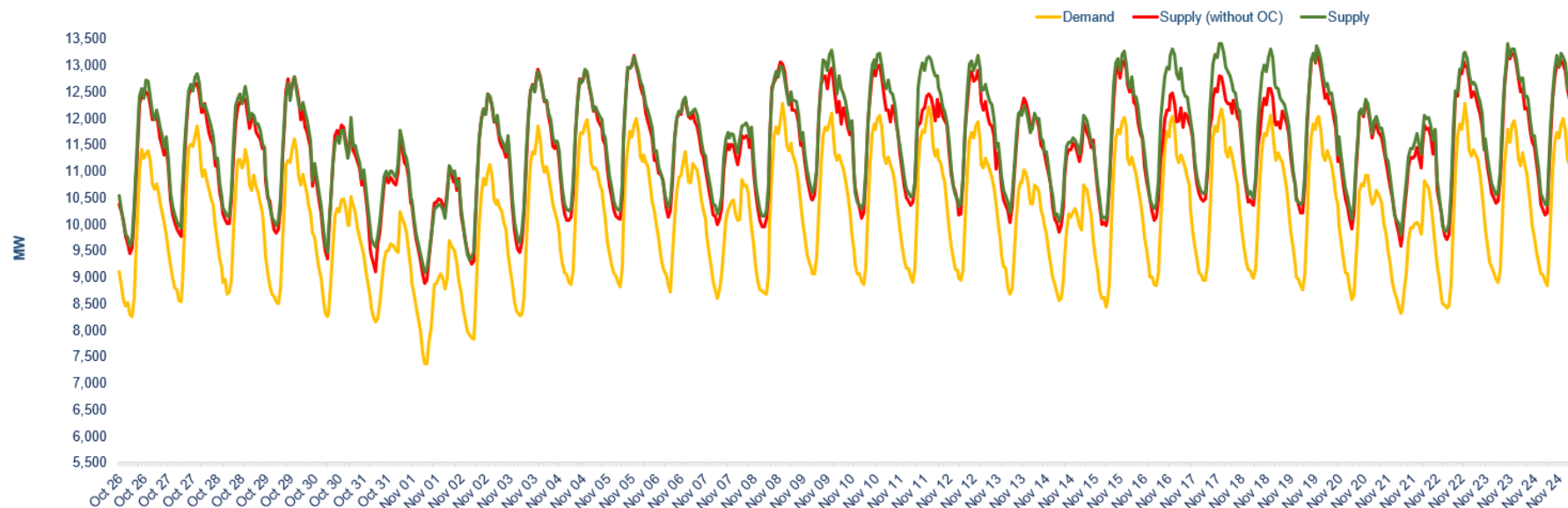
NUMBER OF EVENTS WITH T&C



CAPACITY OF PLANTS WITH T&C



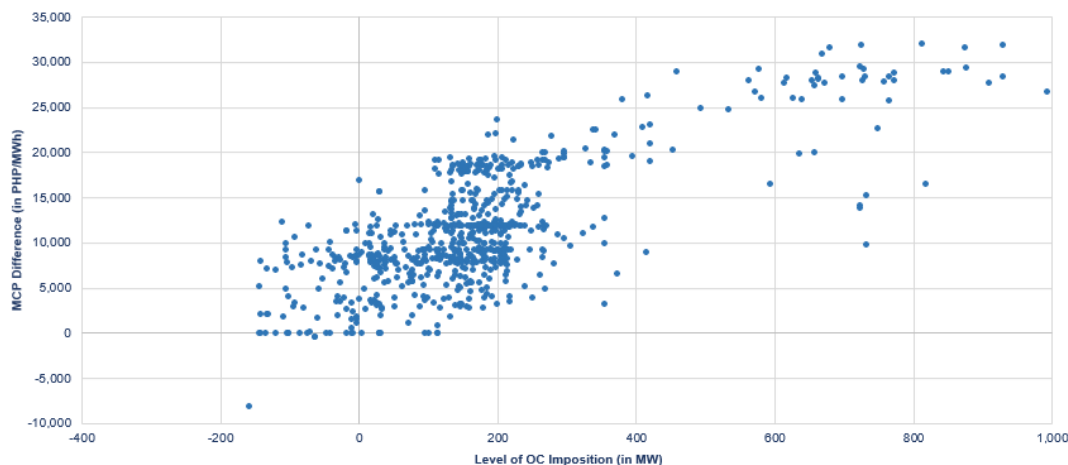
MARKET IMPACT ON SUPPLY



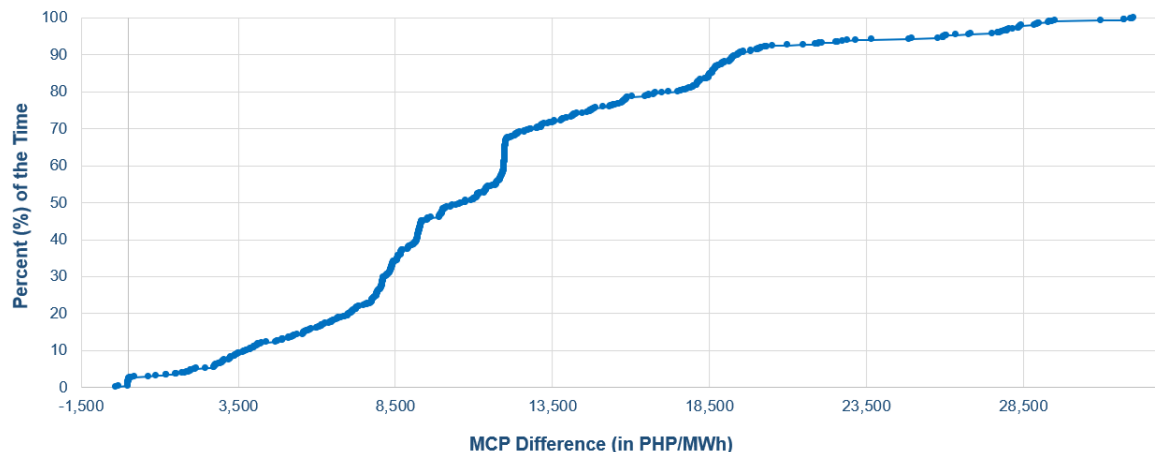
- Demand varied from 7,458 MW to 12,728 MW in November 2021, with a minimum and maximum supply of 9,406 MW and 13,109 MW, respectively. Without the OC, the supply level falls to 9,246 MW at a minimum and 13,033 MW at a maximum, resulting in an 8.59% reduction in supply and a 25% rise in price
- Similar to the previous month's trend, OC impositions contributed to the increase in the supply by up to 993 MW in November 2021, with an average increase of 207 MW during peak hours and 143 MW during off-peak hours.
- The additional capacity improvements by the OC 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.

MARKET IMPACT

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 32,014/MWh.
- The additional MW supply caused by the OC impositions resulted into a decrease in the MCP by an average of Php 11,774 /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 13,500 /MWh when imposed with OC.
- Prices have increased by Php 398.24 /MWh at most and by Php 184.73 /MWh on average, less than 1% of the time