


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



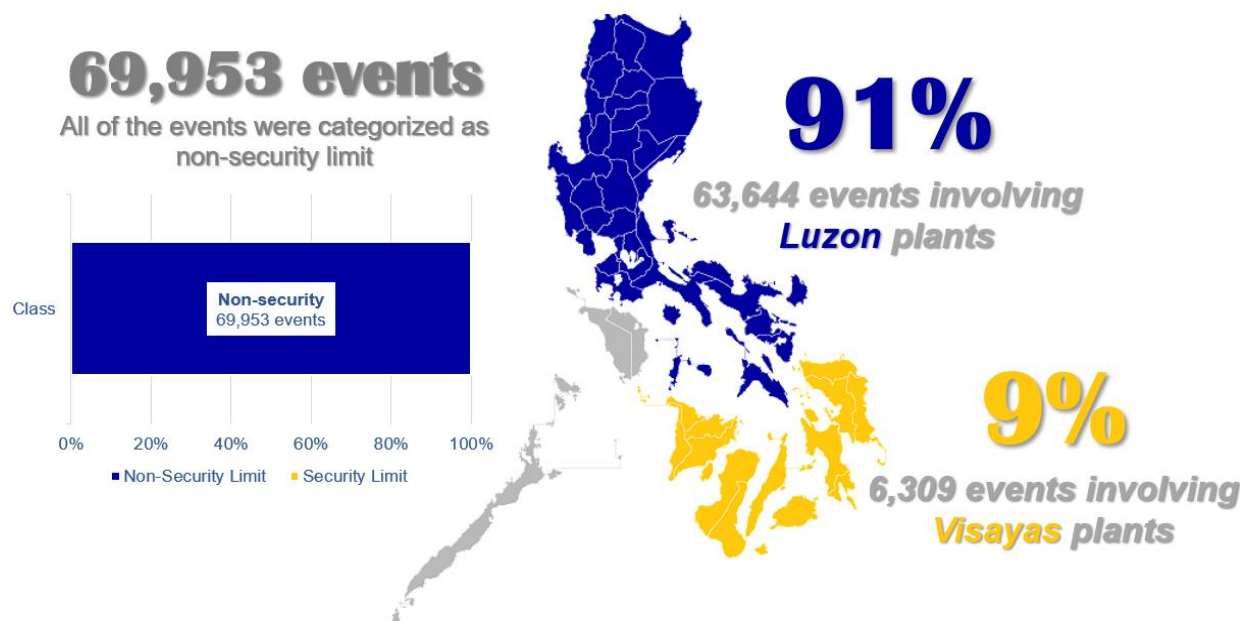
26 July to 25 August 2021

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

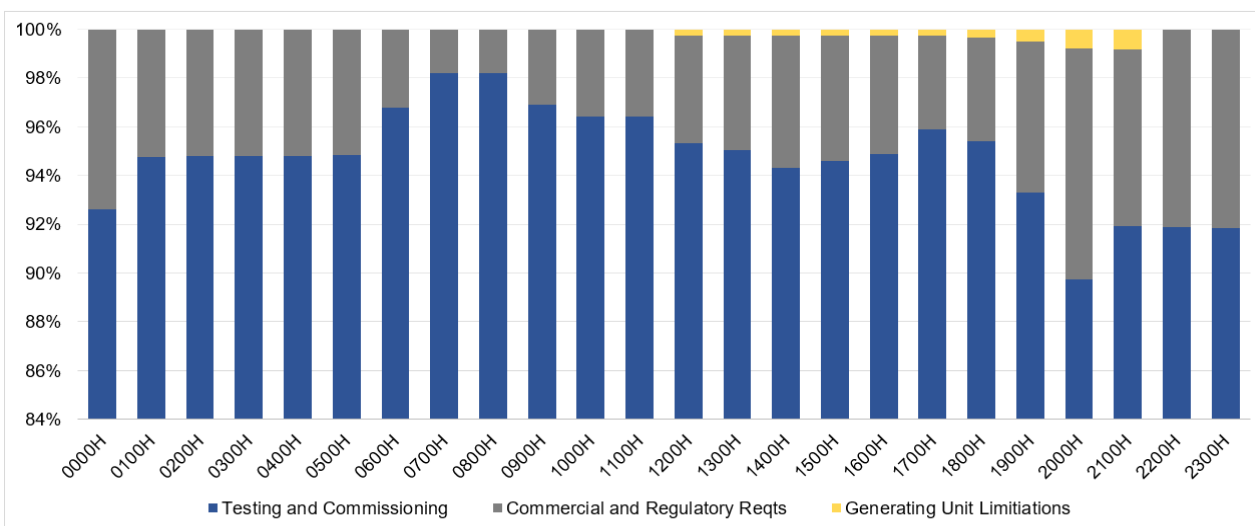


- With the commencement of the Enhanced WESM Design and Operations (EWDO) or the 5-minute market, the August 2021 billing month recorded a total of 69,953 over-riding events involving 23 Luzon generators and 8 Visayas generators, a 0.5 percent increase from the previous month.
- Similar with the previous month, all events this August 2021 were categorized under non-security limit mainly related to the conduct of testing and commissioning (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



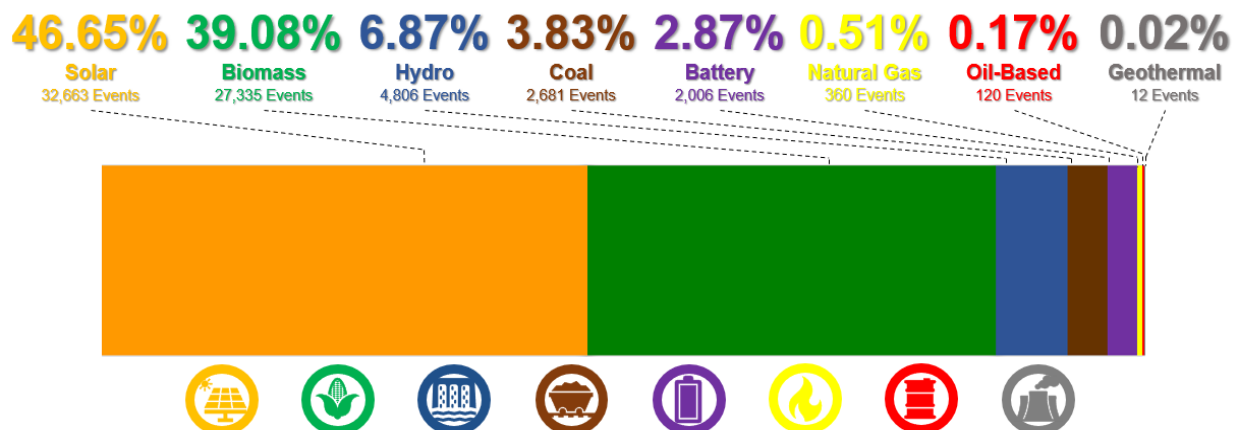
Majority of the occurrences of over-riding constraints (OCs) imposition over a 24-hour cycle was due to the conduct of plants' T&C often during peak period accounting for 93 to 98 percent of the time which mainly on account of the conduct of T&C of Solar plants.

Meanwhile, the impositions observed during the off-peak period are mainly attributable to the conduct of T&C of biomass plants.

All generating unit limitations occurred at noon through almost midnight to address the unit stabilization test of a coal plant

OVER-RIDING CONSTRAINTS MONITORING

BY PLANT TYPE



- Similar with the past months and even during the 1-hour market, majority of OCs were imposed on Solar plants (46.65%) following the T&C of eight (8) Solar plants, two of which started their T&C back in 2015-2016. This is followed by Biomass plants attributing the 27,335 events to plants under T&C since 2019.
- 92% of the OC imposition for coal plants were related to the conduct of T&C. The rest of impositions were related to performance test and the start-up profile / activities.
- Decrease in the imposition of OCs for hydro plants were mainly attributable to the start of commercial operation of 1 plant undergoing T&C since 2019.
- Meanwhile, the decrease in geothermal, natural gas, and oil-based plants were due to the completion of commercial and regulatory tests necessary for their commercial operations (i.e., grid compliance test, performance test, and emission test).

BY INCIDENTS

NON-SECURITY LIMITS



- Majority of the non-security limit events recorded for the August billing month were due to the conduct of **T&C** involving 15 plants, with 2 plants that started T&C in 2015-2016, 7 plants started in 2019, and the remaining plants started their respective testing in 2020-2021.

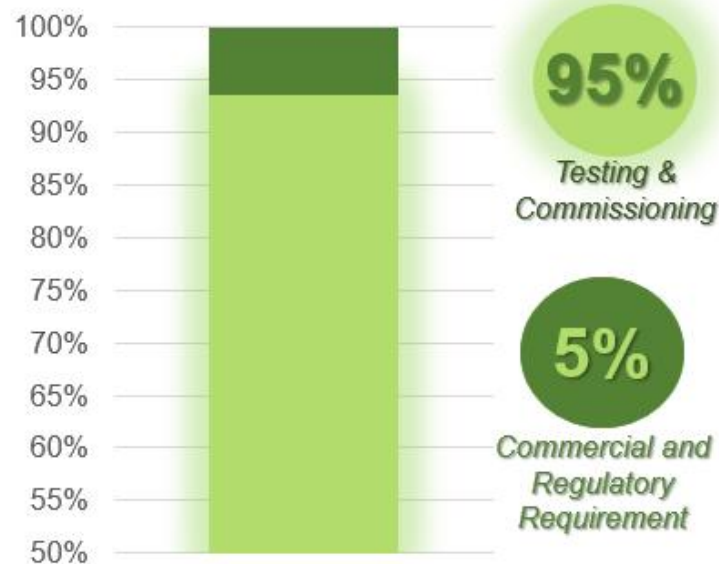


- Incidents related to **Commercial and Regulatory Requirements** are attributable to the conduct of various tests such as Emission test, Ancillary test, Performance test, and Capacity / Capability tests.



- Only 120 over-riding constraints events were related to Generating Unit limitation attributable to the plants' start-up profile / activities.

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 WITH 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
Kabankalan Battery Energy Storage System (BESS)	06KABAN_BAT	40	August 26, 2021	August 01, 2021	2,006
Sub-Total (Battery)		40			2,006
San Carlos Biopower Biomass Power Plant	6SCBIOP_G01	20	August 17, 2019	July 17, 2021	7,509
Grassgold Biomass Power Plant	1GRGOLD_G01	10.8	December 13, 2019	July 17, 2021	8,921
GIFT Biomass Power Plant	1GIFT_G02	6	December 13, 2019	July 17, 2021	8,914
VS Gripal Biomass Power Plant	1VSGRIP_G01	5.4	December 14, 2019	July 17, 2021	107
Sub-Total (Biomass)		42			25,451
La Trinidad Hydroelectric Power Plant	1BINENG_G01	19.2	July 16, 2019	July 17, 2021	4,122
Sub-Total (Hydro)		19.2			4,122
GNPower Dinginin Coal Plant - Unit 1	01GNPD_U01	668	February 06, 2021	July 17, 2021	2,464
Sub-Total (Coal)		668			2,464
Concepcion 1 Solar Power Project	01CONSOL_G01	75	June 01, 2019	July 17, 2021	4,149
Tarlac Solar Power Plant	01PETSOL_G02	16.5	April 25, 2019	July 17, 2021	5,091
Sta. Rita Solar Power Plant	01SUBSOL_G01	29.3	April 05, 2021	July 17, 2021	2,770
Terasu Sta. Rosa Solar Power Plant	01TERASU_G01	40.1	August 01, 2021	August 01, 2021	4,037
Tagalog Solar Power Plant	02ECOTAGA_G01	16	May 09, 2021	July 17, 2021	4,455
Majestics Energy Solar PV Plant	03MEC_G01	32.9	March 9, 2015	July 17, 2021	4,010
Alaminos Solar Power Plant	03SOLACE_G01	89.4	June 19, 2021	July 17, 2021	4,031
Cosmo Solar Power Plant	08COSMO_G01	5.67	June 16, 2016	July 17, 2021	4,090
Sub-Total (Solar)		304.9			32,633
Grand Total		1,074.3			66,676

NUMBER OF EVENTS WITH T&C



32,633 Events Solar 48.94%
25,451 Events Biomass 38.17%
4,122 Events Hydro 6.18%
2,464 Events Coal 3.70%
2,006 Events Battery 3.01%

The majority of the plants on T&C were imposed on Renewable Energy Plants such as Solar and Biomass Plants.

In the list provided by the Independent Electricity Market Operator of the Philippines (IEMOP) and the clarification from the National Grid Corporation of the Philippines (NGCP), the following were the updates of power plants under T&C during the August billing month:

- 3 plants started their commercial operations
- 3 plants were still waiting for the issuance of their Provisional Authority to Operate (PAO) or Certificate of Compliance (COC) to be issued by the ERC
- 3 plants were undergoing T&C due to changes in their respective Pmax / classification / market trading node
- 2 plants were already with COC but have not yet submitted notice to start commercial operations
- 1 plant's COC application has been denied
- 1 plant requested for the extension of Provisional Certificate of Approval to Connect (PCATC)
- 1 plant recently registered in the market
- 1 plant with limited testing status with a corresponding letter to NGCP requesting for approval to connect and re-synchronize for a period of 60 days within which they plan to conduct the Grid Compliance Test

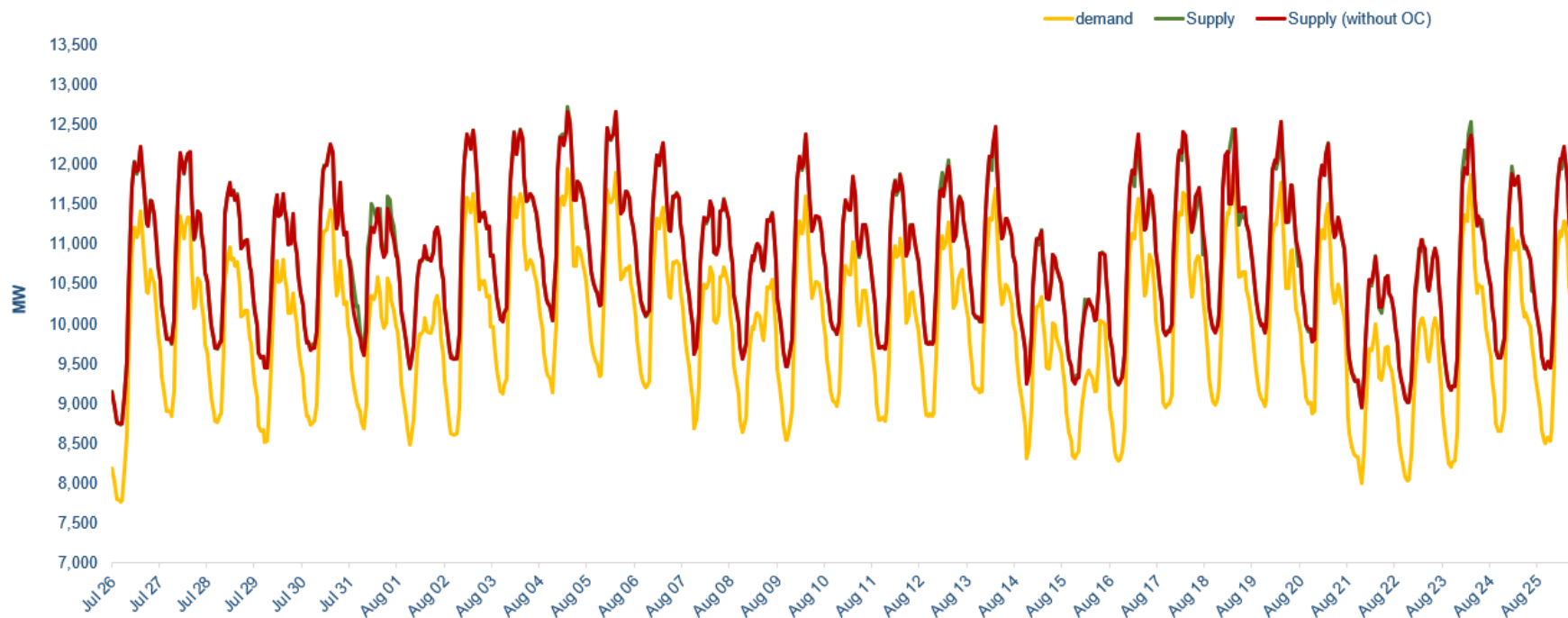
Note: The Department of Energy (DOE) department circular no. DC2021-06-0013 (Adopting a General Framework Governing the Test and Commissioning of Generation Facilities for Ensuring Readiness to Deliver Energy to the Grid or Distribution Network) provides a transitory provision that:

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

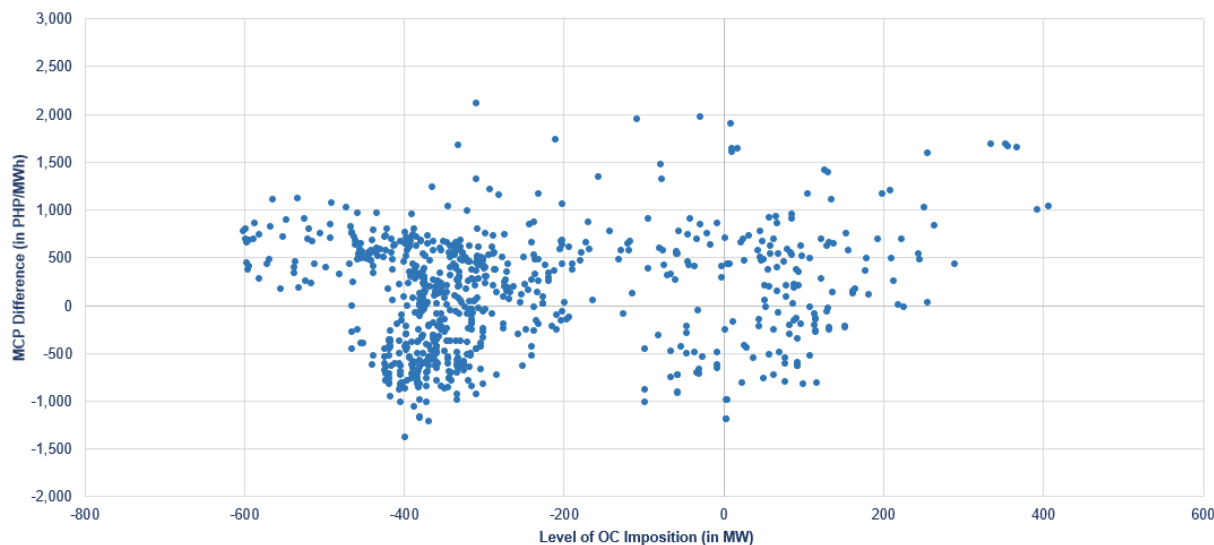
MARKET IMPACT

ON SUPPLY

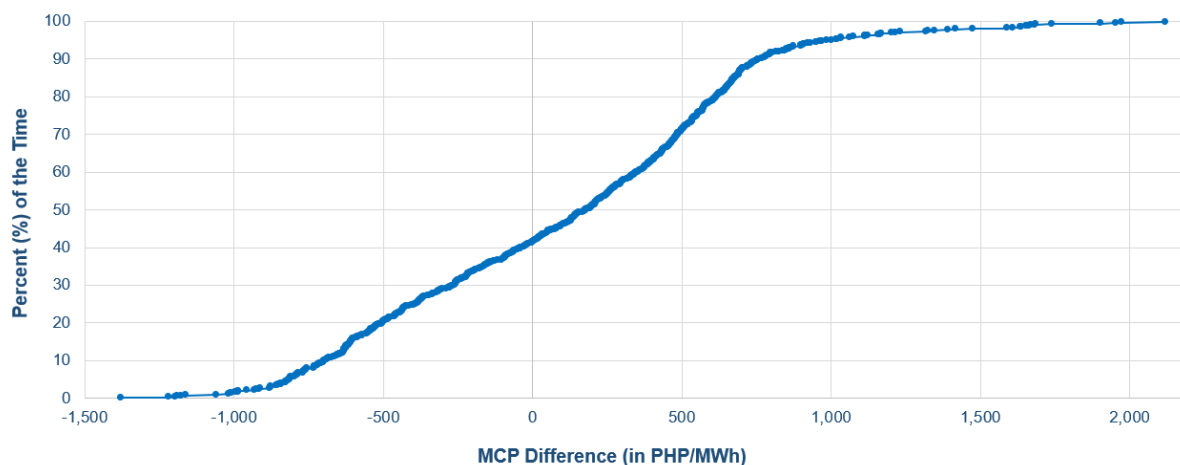


- For the month of August 2021, the demand ranged from 7,864 MW to 12,402 MW having a minimum and maximum supply with OC of 8,750 MW and 12,650 MW. If OC is omitted, the minimum and maximum supply level becomes 8,746 MW and 12,585 MW, respectively.
- This month also shows that OC impositions increased the supply up to 893 MW on Peak hours and 359 MW on Off-peak hours.
- Although the additional MW provided by the OC impositions unquestionably improved the supply situation – because there have been times when the demand cannot be met without the imposition of the OC – it is noted that this may have a price distortionary effect by arbitrarily lowering the true cost of generation, which, in the long run, may be harmful to the market's ability to remain sustainable.

MARKET IMPACT ON MARKET CLEARING PRICE



- The imposition of OC decreased the MCP by a maximum of PHP 2,120.80/MWh
- Furthermore, statistics also show that OC-imposed events may increase the supply by more than 400 MW and decrease the MCP by up to more than PhP 1,000.00 /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 500 /MWh when imposed with OC.