

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

26 June to 25 July 2021

August 2022

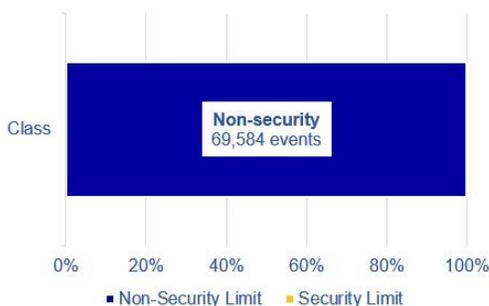
This Report is prepared by the
Philippine Electricity Market Corporation –
Market Assessment Group for the
Market Surveillance Committee

OVER-RIDING CONSTRAINTS MONITORING

BY CATEGORY AND REGION

69,584 events

All of the events were categorized as non-security limit

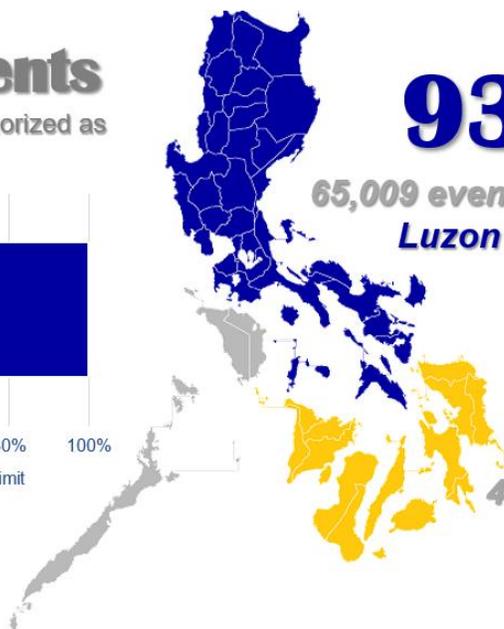


93%

65,009 events involving Luzon plants

7%

4,575 events involving Visayas plants

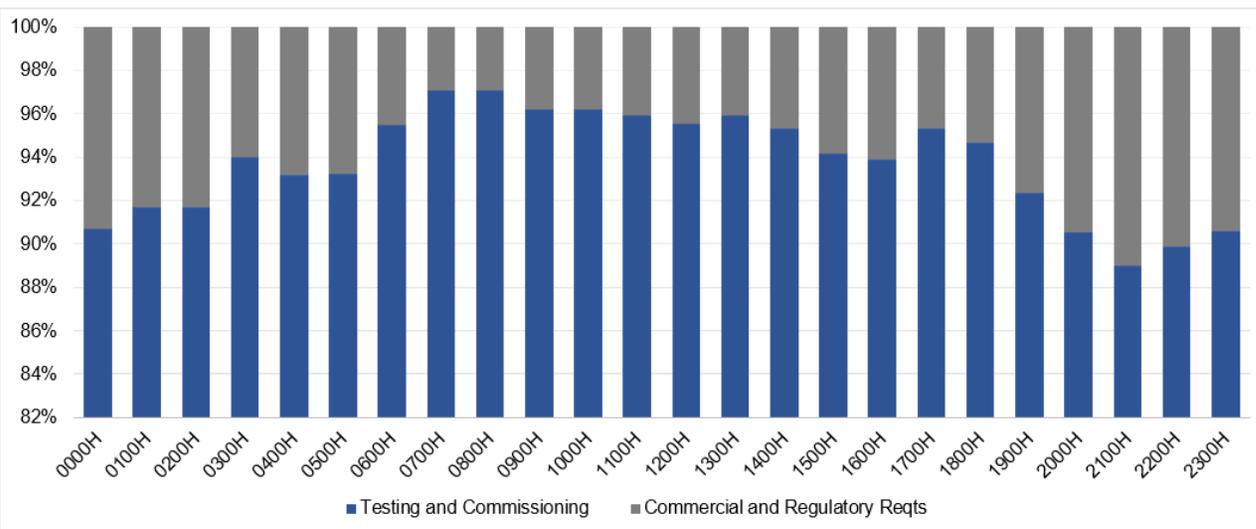


- At the start of the Enhanced WESM Design and Operations (EWDO) or the 5-minute market, the July 2021 billing month recorded a total of 69,584 over-riding constraint (OC) events involving 39 Luzon generators and 11 Visayas generators.
- Similar with the previous month, all events this July 2021 were 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 may be categorized as: 1) security limit i.e., MRU and other types as may be recommended by SO; or 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

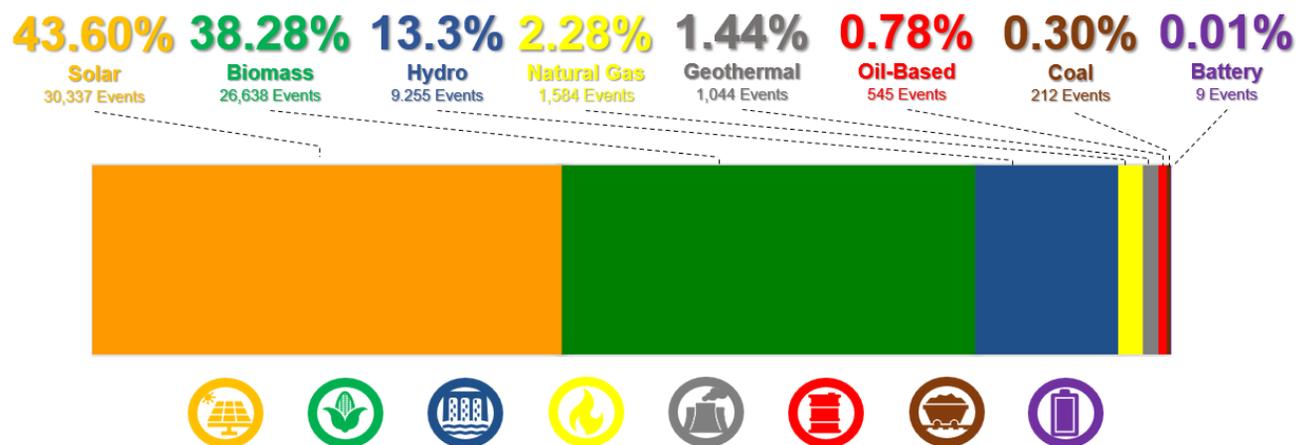


Majority of the occurrences of OC imposition over a 24-hour cycle was due to the conduct of plants' T&C often during peak period accounting for 94 to 97 percent of the time.

The said observation was mainly on account of the conduct of commissioning tests of Solar plants. Meanwhile, the impositions observed during the off-peak period were mainly attributable to the conduct of T&C of hydro and biomass plants.

OVER-RIDING CONSTRAINTS MONITORING

BY PLANT TYPE



- Similar with the past months or during the 1-hour market, majority of over-riding constraints were imposed on Solar plants (43.6%) following the T&C of eight (8) Solar plants, two of which started their T&C status back in 2015-2016. This was followed by Biomass plants attributing the 26,638 events to plants under T&C since 2019.
- Unlike the previous billing month, all the OC impositions for coal plants were related to the conduct of performance test. No coal plants were recorded to be imposed with OC due to T&C.
- 96% of the OC imposition for hydro plants were mainly due to the T&C of Bineng HEP which started on July 2019. Meanwhile, geothermal, and natural gas impositions were mainly related to the commercial and regulatory requirements necessary for its commercial operations (i.e., grid compliance test, performance test and net dependable capacity test).

BY INCIDENTS

NON-SECURITY LIMITS



Majority of the non-security limit events recorded for the July billing month were due to the conduct of T&C involving 25 plants and with 2 plants that started T&C back in 2015-2016, 6 plants that started on 2019, and the remaining plants which started their respective T&C in 2020-2021.

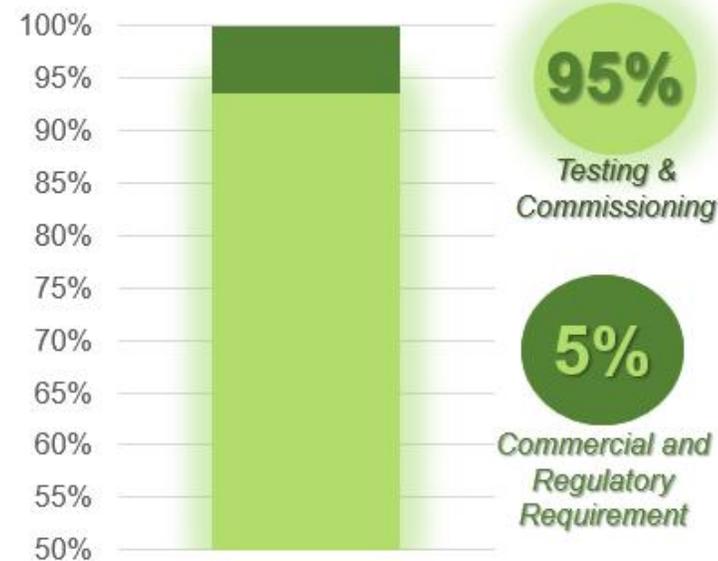


Incidents related to **Commercial and Regulatory Requirements** were due to the conduct of various tests such as Emission tests, Ancillary tests, Performance tests, Grid Compliance tests, and Capacity tests..



Only 1 OC event was related to Generating Unit limitation attributable to the shutdown profile of the plants and followed by 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 due to recorded 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	20.0	July 19, 2021	July 17, 2021	9
Sub-Total (Battery)		20.0			9
GIFT Biomass	01GIFT_G02	6.0	December 13, 2019	July 17, 2021	8,170
G2REC Biomass	01GRGOLD_G01	10.8	November 18, 2019	July 17, 2021	9,228
VSGPC Biomass	01VSGRIP_G01	5.4	December 14, 2019	July 17, 2021	9,218
Sub-Total (Biomass)		22.2			26,616
La Trinidad Hydroelectric Power Plant	01BINENG_G01	19.2	July 16, 2019	July 17, 2021	8,926
Sub-Total (Hydro)		19.2			8,926.0
Pililla Diesel Power Plant Sector 1	03INGRID_GS1	28.3	June 26, 2021	July 17, 2021	19
Pililla Diesel Power Plant Sector 2	03INGRID_GS2	22.9	June 26, 2021	July 17, 2021	20
Pililla Diesel Power Plant Sector 3	03INGRID_GS3	22.5	June 26, 2021	July 17, 2021	17
Pililla Diesel Power Plant Sector 4	03INGRID_GS4	28.4	June 26, 2021	July 17, 2021	15
Pililla Diesel Power Plant Sector 5	03INGRID_GS5	22	June 26, 2021	July 17, 2021	18
Pililla Diesel Power Plant Sector 6	03INGRID_GS6	28.4	June 26, 2021	July 17, 2021	16
Isabel Modular Diesel Power Plant Sector 1	04IASMOD_G01	10	June 26, 2021	July 17, 2021	13
Isabel Modular Diesel Power Plant Sector 2	04IASMOD_G02	10	June 26, 2021	July 17, 2021	13
Isabel Modular Diesel Power Plant Sector 3	04IASMOD_G03	15	June 26, 2021	July 17, 2021	13
Isabel Modular Diesel Power Plant Sector 4	04IASMOD_G04	10	June 26, 2021	July 17, 2021	13
Isabel Modular Diesel Power Plant Sector 5	04IASMOD_G05	15	June 26, 2021	July 17, 2021	13
Isabel Modular Diesel Power Plant Sector 6	04IASMOD_G06	10	June 26, 2021	July 17, 2021	13
Sub-Total (Oil-based)		222.5			183
Concepcion 1 Solar Power Project	01CONSOL_G01	75	June 01, 2019	July 17, 2021	4,667
GIGASOL3 Palauig Solar Power Plant	01GIGSOL_G01	55	April 25, 2021	July 17, 2021	1,885
Tarlac Solar Power Plant	01PETSOL_G02	16.5	April 25, 2019	July 17, 2021	5,445
Sta. Rita Solar Power Plant	01SUBSOL_G01	29.3	April 05, 2021	July 17, 2021	4,963
Tagalag Solar Power Plant	02ECOTAGA_G01	16	May 09, 2021	July 17, 2021	4,610
Majestics Energy Solar PV Plant	03MEC_G01	32.9	March 9, 2015	July 17, 2021	4,130
Alaminos Solar Power Plant	03SOLACE_G01	89.4	June 19, 2021	July 17, 2021	359
Cosmo Solar Power Plant	08COSMO_G01	5.67	June 16, 2016	July 17, 2021	4,278
Sub-Total (Solar)		319.8			30,337
Grand Total		603.7			66,071

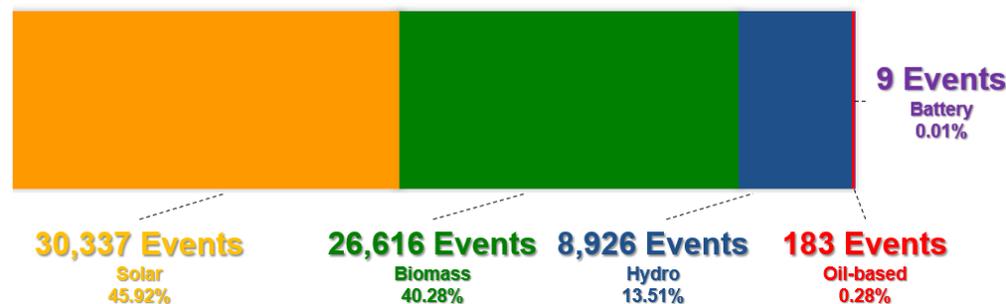
Majority of the plants on T&C were related to the impositions to Renewable Energy Plants such as Solar and Hydro plants. In the list provided by the Independent Electricity Market Operator of the Philippines (IEMOP), the following are the updates of power plants under T&C during the July billing month:

- 7 plants were still waiting for the issuance of their Provisional Authority to Operate (PAO) or Certification issued by the ERC.
- 1 plant was requested by IEMOP with copy of the amended PAO or Certification issued by the ERC on the amended registration cap considering the observed discrepancy on the technical parameters indicated in the issued PAO.
- 7 plants have not submitted notice to start commercial operations
- 1 plant had its Certificate of Compliance (COC) application denied
- 1 plant which is undergoing ongoing assessment for a change request of registered capacities
- 1 plant will have a scheduled meeting with IEMOP to discuss on the target completion of its T&C
- 7 plants have recently started their respective T&C

On June 2021, the Department of Energy (DOE) has issued the 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), which provides for, among others, the procedures before, during, and after T&C, timeframes for the processing of applications and the additional responsibilities of various entity for the successful implementation of the abovementioned guidelines.

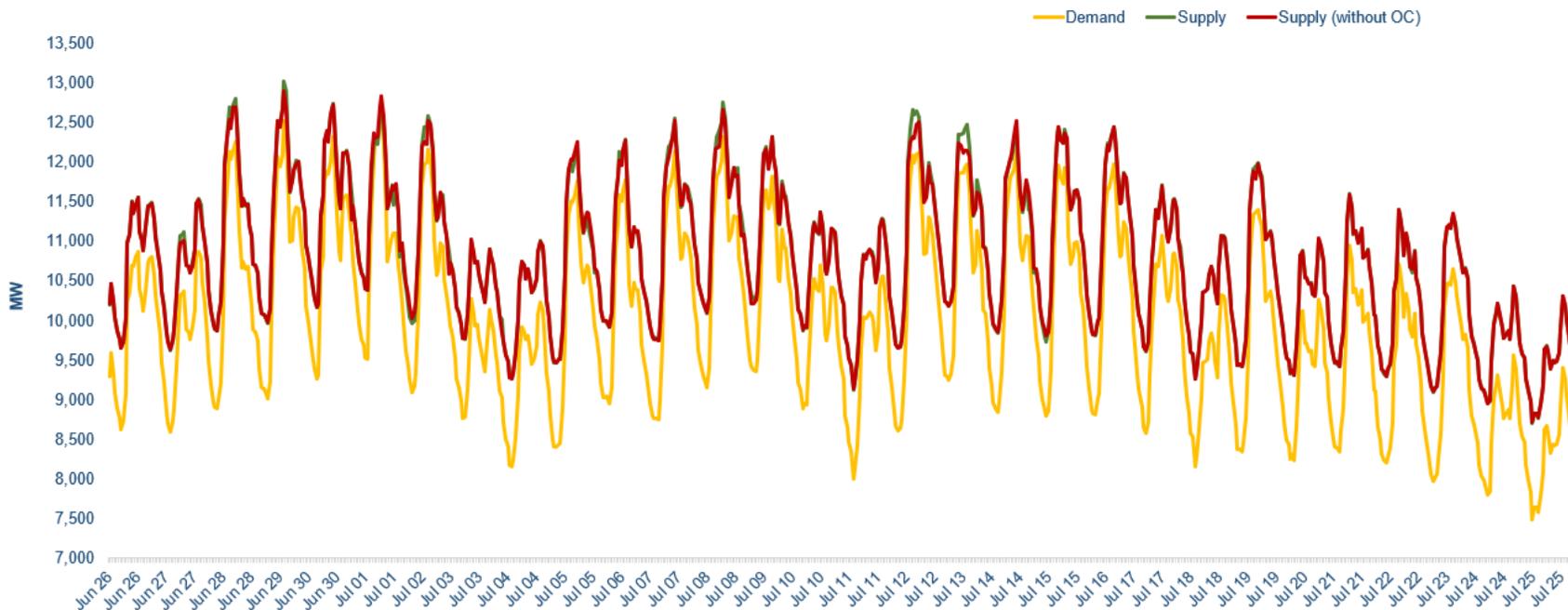
The said department circular includes a transitory provision that allows generation companies that are already on testing and commissioning upon effectivity of the circular (especially those plants on prolonged commissioning test) to continue to conduct commissioning test for a maximum of two (2) months 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 under the ERC Resolution No. 16, Series of 2014).

NUMBER OF EVENTS WITH T&C



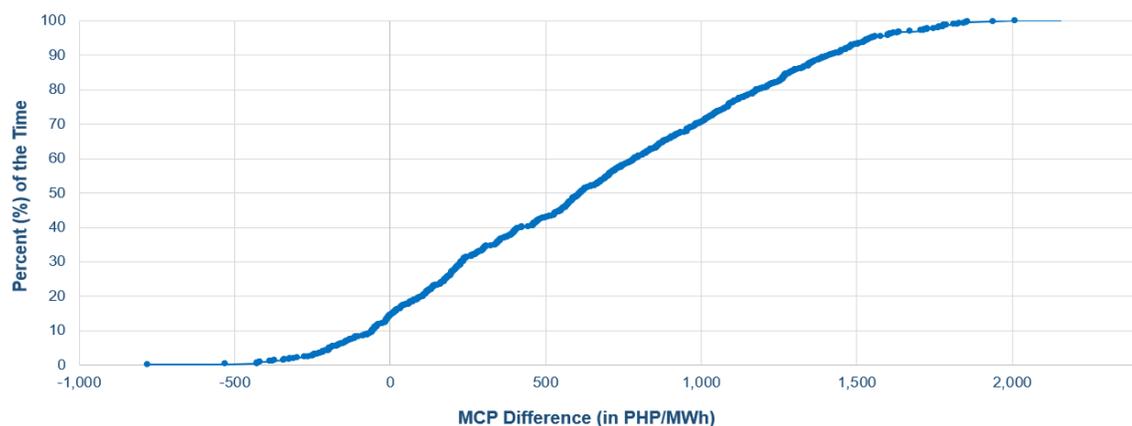
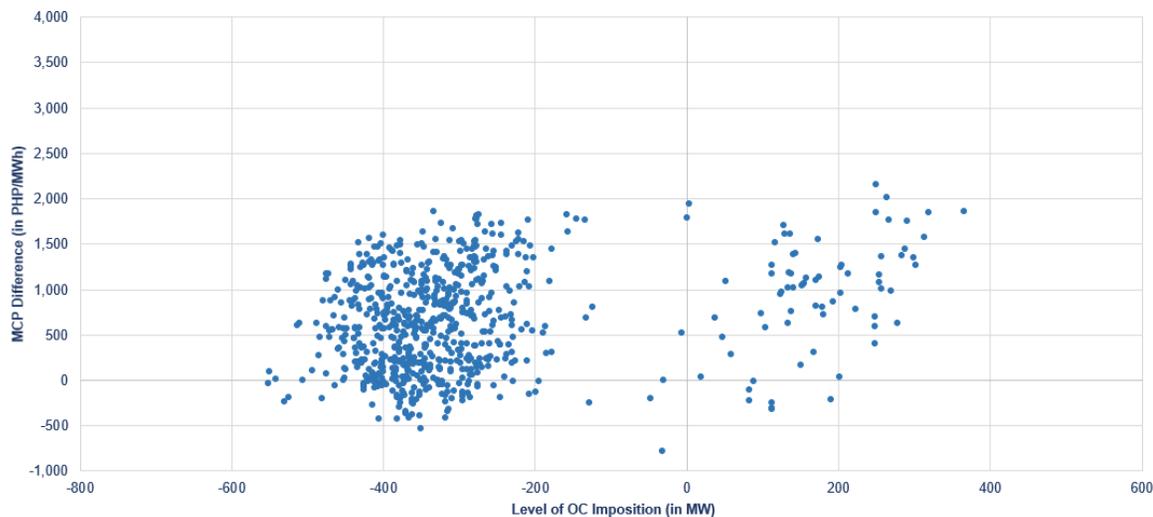
MARKET IMPACT

ON SUPPLY



- The minimum and maximum demands in July 2021 are 7,587 MW and 13,133 MW, respectively. Supply with OC impositions ranged from 9,067 MW to 13,391 MW, with a minimum supply level of 9,289 MW and a maximum supply level of 13,240 MW when the OC is removed.
- This billing month shows that OC impositions caused the increase in the system supply up to 436W. The effects of OC in the peak and off-peak hours were noted to have caused the increase of up to 436 MW and 428 MW, respectively.

MARKET IMPACT ON MARKET CLEARING PRICE



- For July 2021, the impositions of OC lowered the resulting market prices by 780.21 Php/MWh.
- There were instances of negative level of imposition that nevertheless resulted in the decrease in price. These events usually involve high-priced offering generators such that their absence (or reduction in MW) due to imposition averted high clearing prices in the market.
- Looking on the impact of OCs 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 1,000/MWh when imposed with OC.