

Market Surveillance Committee Monthly Over-riding Constraints Report

26 October to 25 November 2022

March 2023

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

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IMPOSITIONS BY CATEGORY AND REGION

14,217 Total Impositions

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



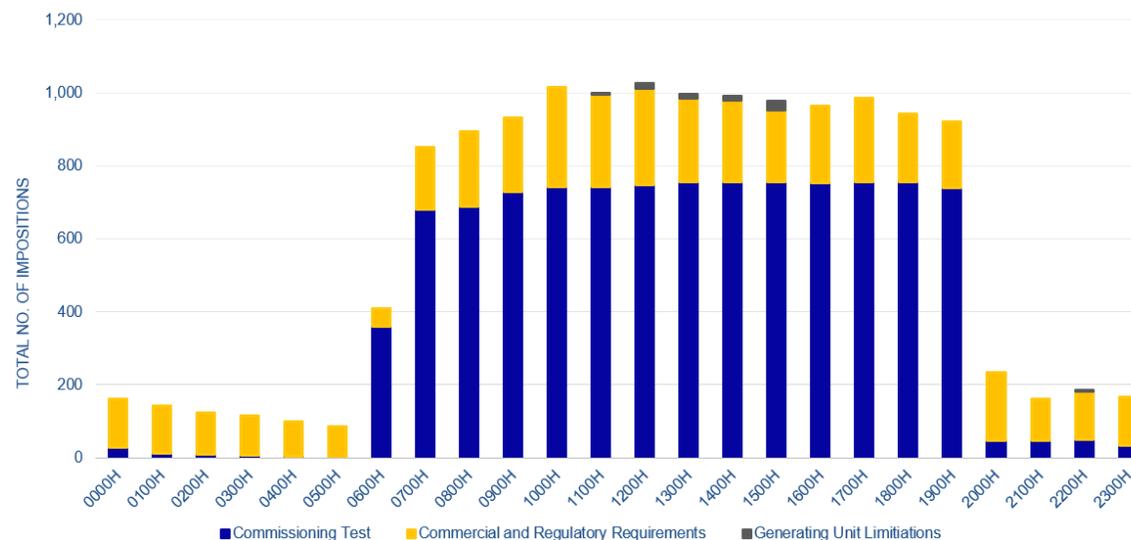
A **decrease** of **26.2%** in over-riding constraints (OC) impositions was observed during the November 2022 billing month due to the decline in the impositions related to commissioning tests and commercial and regulatory requirements involving **17 Luzon** and **12 Visayas plants**.

Similar with the previous month, **no security limit** impositions were noted for the covered billing month.

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 requirements, and lastly, 3) conduct of commissioning test 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).

IMPOSITIONS BY HOUR



Majority of over-riding constraints imposed over a 24-hour period were caused by the conduct of commissioning tests which constituted **71 percent of the total impositions**.

Since most commissioning tests are imposed on solar plants, the resulting impositions were mostly noted during peak hours.

In addition, impositions related to generating unit limitations were noted during 1100H to 1500H, and 2200H.

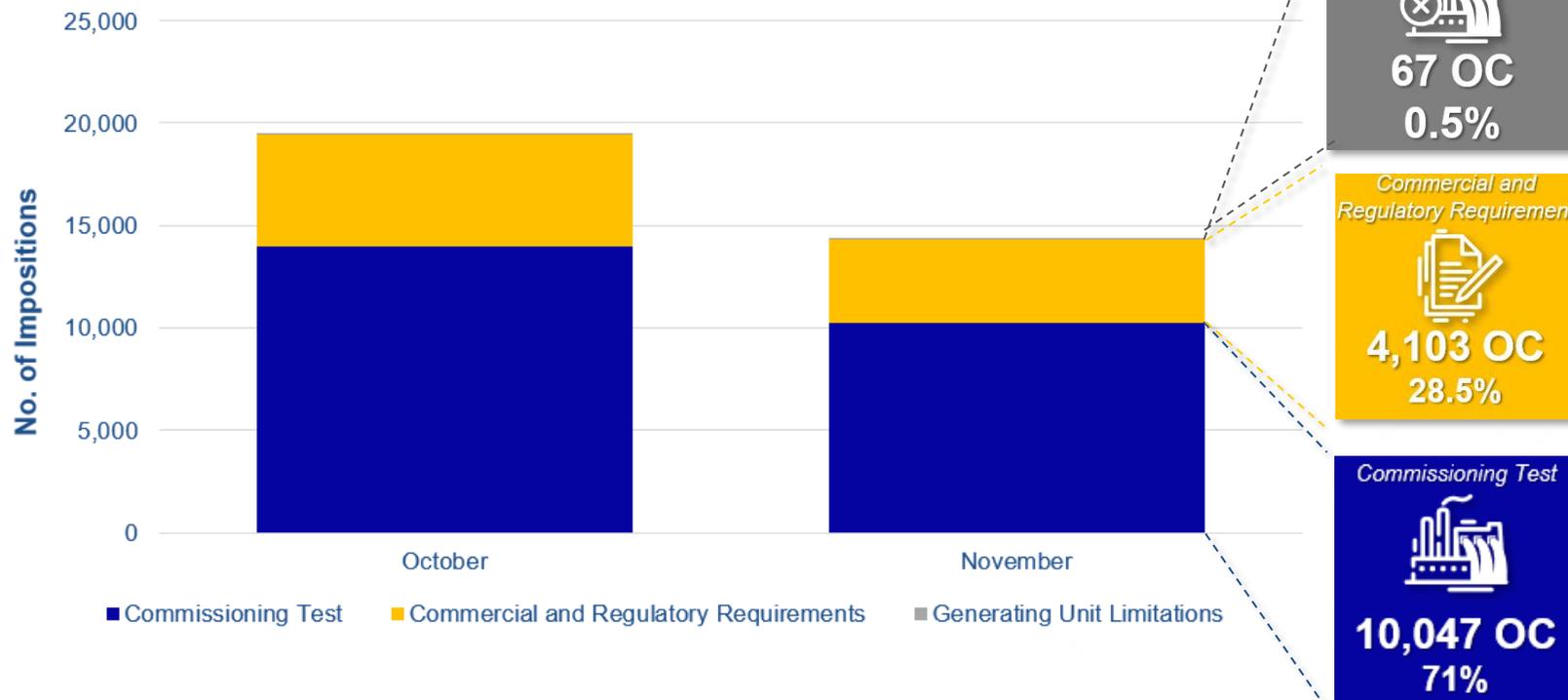
MONTHLY REPORT ON OVER-RIDING CONSTRAINTS

IMPOSITIONS BY INCIDENTS

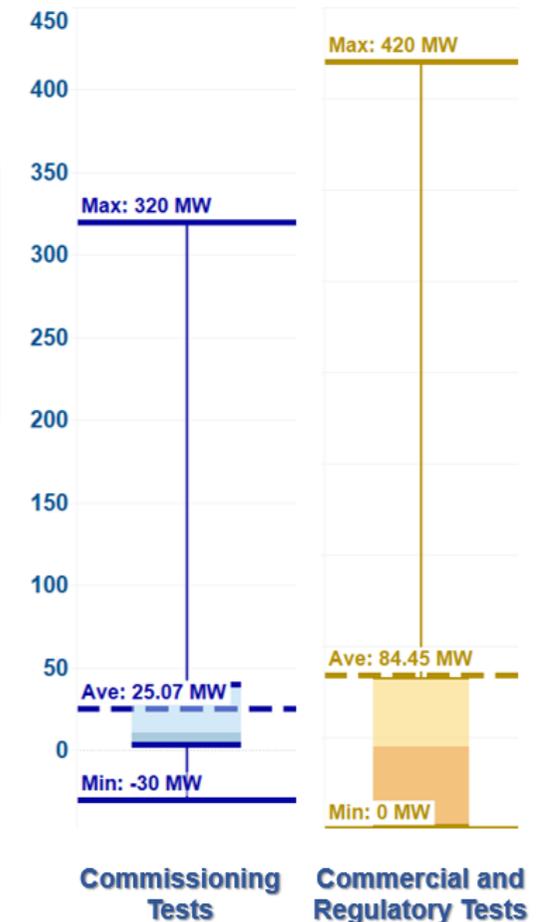
The completion of commissioning test of one (1) plant and expiration of two (2) plants' commissioning test period resulted in the decrease in overall impositions during the billing month.

Commercial and regulatory requirements imposed to plants with large capacities has had more impact on the market than those plants under commissioning test which are mostly renewable energy plants that have relatively lower capacities, as presented in the scheduled capacities corresponding to the impositions. Despite these capacities, it can be observed that most of the time, majority of plants were over-ridden to smaller capacities which may have minimal effect on market outcomes.

A small percentage of generating unit limitation was observed attributable to the conduct of black start and contingency reserve tests wherein the ramping capabilities of the generators are further tested.

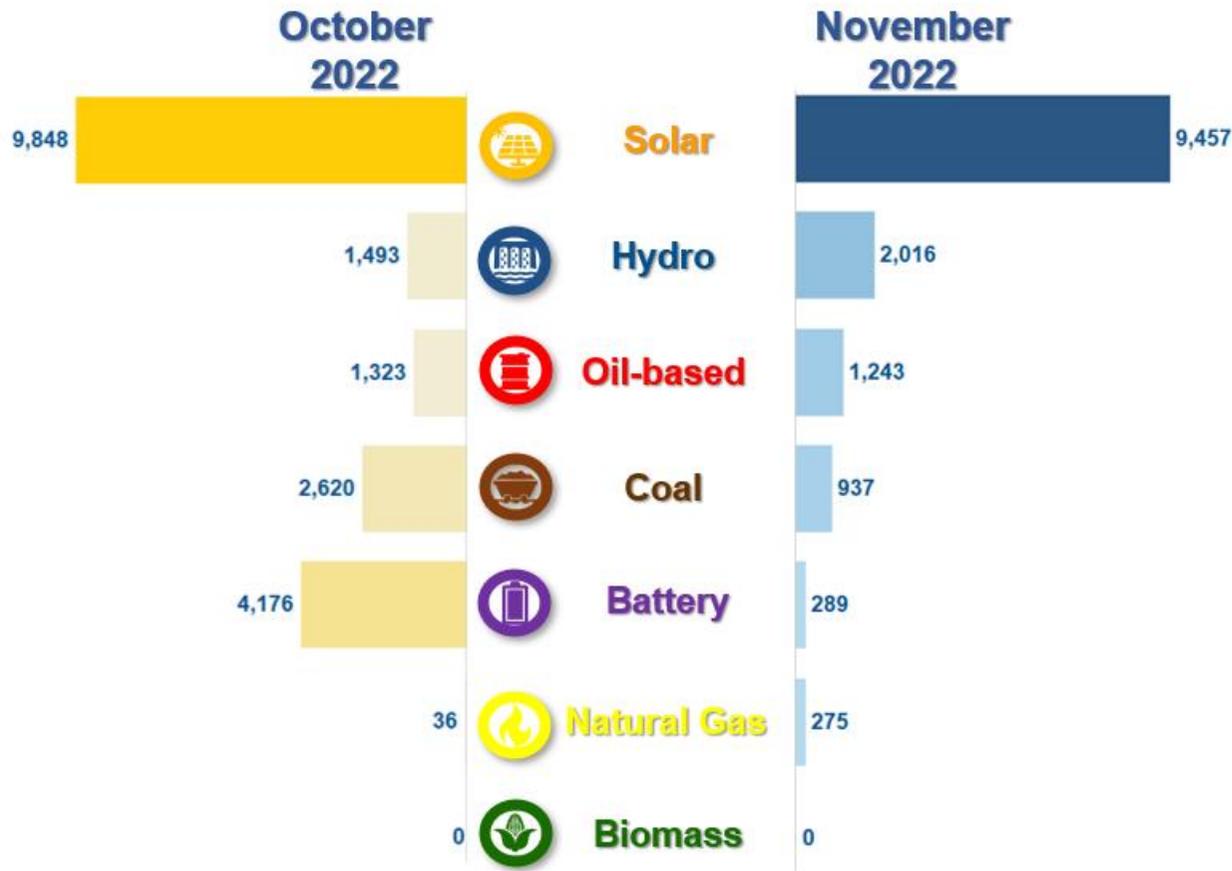


SCHEDULED CAPACITIES (MW)



MONTHLY REPORT ON OVER-RIDING CONSTRAINTS

IMPOSITIONS BY PLANT TYPE



Overall, over-riding constraints impositions decreased for most plants in the November 2022 billing month. However, impositions to hydro and natural gas power plants increased. The following are the reasons for the changes in impositions:

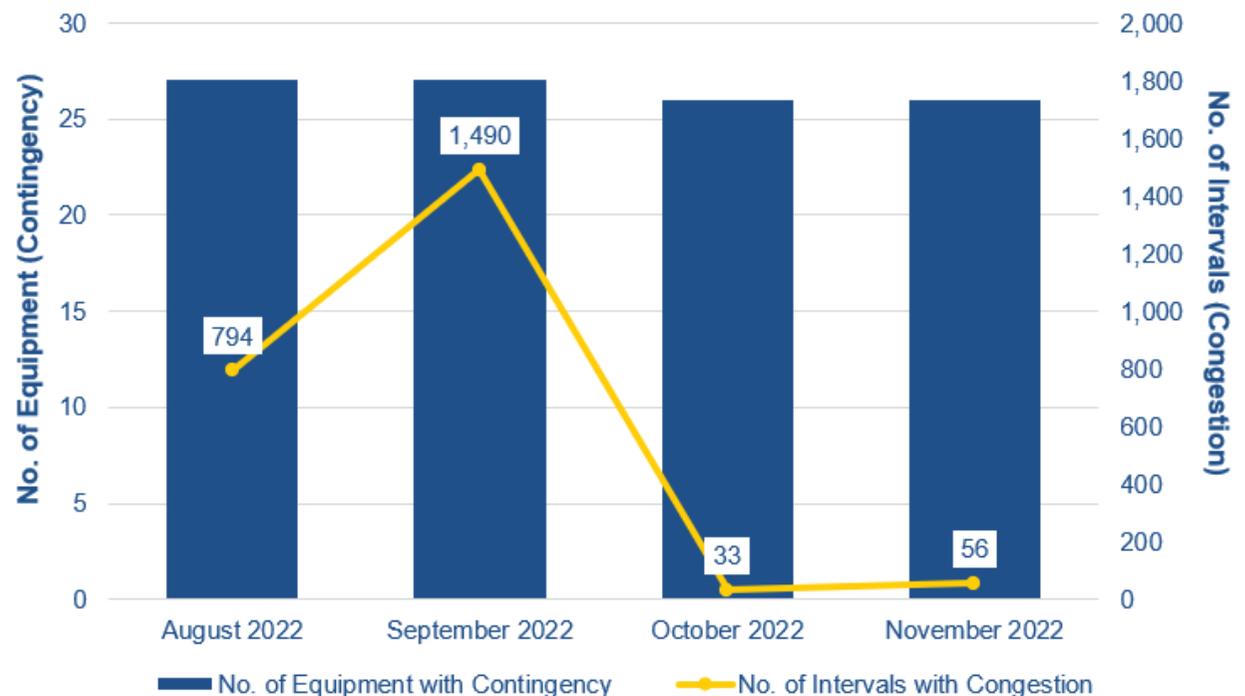
- **Solar** and **oil-based** plant impositions remained almost the same from the previous billing month with slight decrease caused by fewer performance and ancillary service tests, respectively. It is worth noting that majority of solar plants imposition was due to commissioning tests.
- Despite the decrease in commissioning tests imposed to **hydro** plants, there was a noted increase in the number of impositions related to ancillary service tests which resulted in the resource's overall impositions to increase.
- The decrease in **coal** plants was due to the completion of commissioning tests, as well as a reduction in commercial and regulatory requirements previously imposed to this plant type.
- Decrease in impositions noted for **battery** plants was attributable to two (2) plants' expired commissioning test periods.
- Impositions to one (1) **natural gas** plant due to commissioning test of its fuel pre-heating station contributed to the increase of over-riding constraints imposition.

MONTHLY REPORT ON OVER-RIDING CONSTRAINTS

IMPOSITIONS TO SYSTEM EQUIPMENT

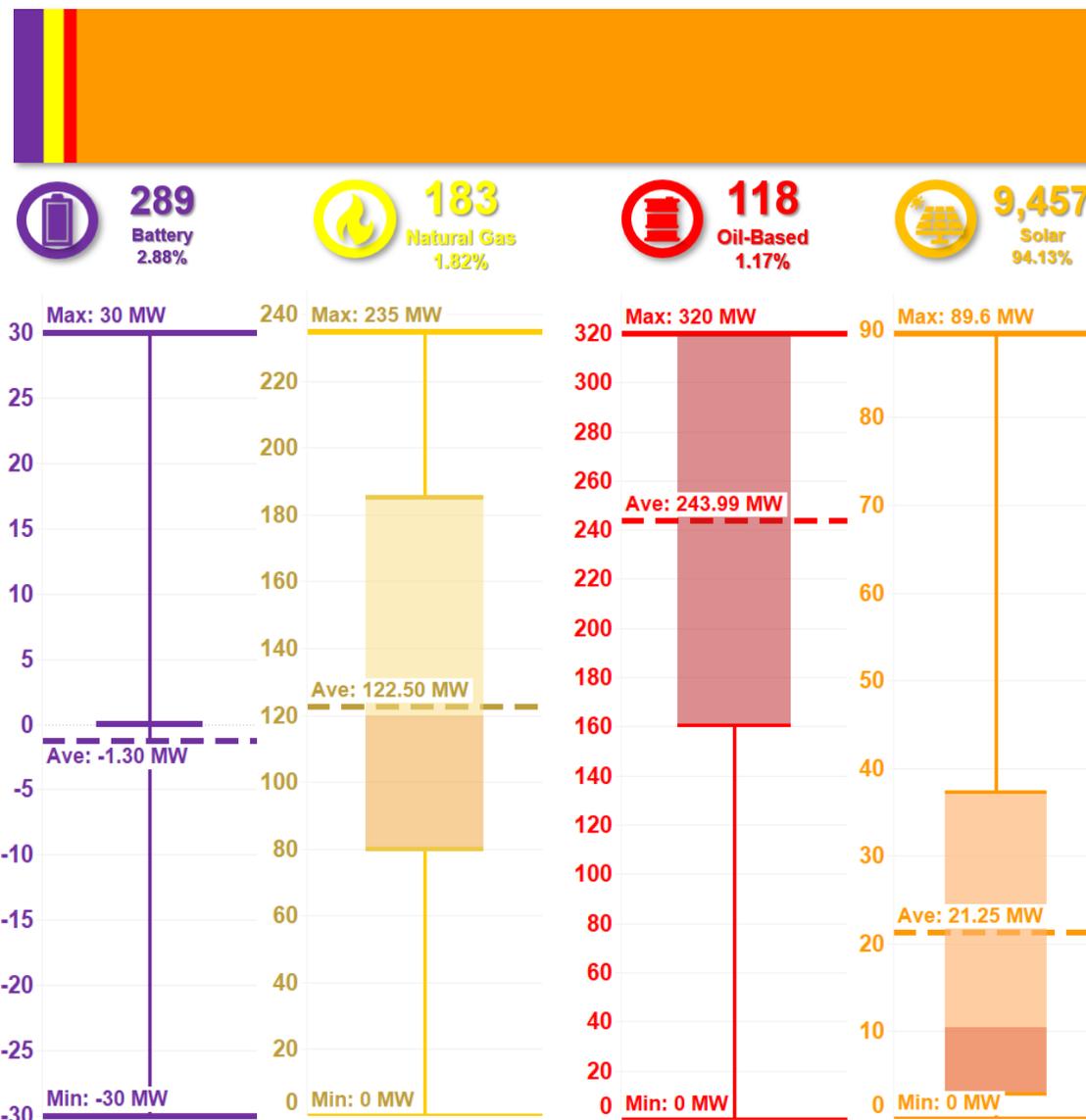
Similar with the analysis during the previous month, **26 equipment** were observed to have been imposed with N-1 contingency during the November 2022 billing month which may have contributed to congestions for **56 intervals**, which is a **69.7% increase** from the previous month. Despite these congestions, **price substitution methodology (PSM)** was not imposed to any interval with noted congestion.

Equipment imposed with N-1 Contingency
230kV Bauang-Latrinidad Line 1
230kV Bauang-Latrinidad Line 2
230kV Binga-Latrinidad Line 1
230kV Binga-Latrinidad Line 2
230kV Concepcion-Mexico Line 1
230kV Concepcion-Mexico Line 2
Nagsaag_EHV Transformer 1
Nagsaag_EHV Transformer 2
Kadampat_EHV Transformer 1
Kadampat_EHV Transformer 2
Kadampat_EHV Transformer 3
Kadampat_EHV Transformer 4
230kV San Manuel-Concepcion Line 1
230kV San Manuel-Concepcion Line 2
230kV Sucat-Binan Line 1
230kV Sucat-Binan Line 2
230kV Sucat-Binan Line 3
230kV Sucat-Binan Line 4
230kV Binan-Dasmarinas Line 1
230kV Binan-Dasmarinas Line 2
230kV Calamba-Binan Line 1
230kV Calamba-Binan Line 2
230kV Makban-Calamba Line 1
230kV Makban-Calamba Line 2
230kV Makban-Lumban Line 1
230kV Makban-Lumban Line 2



MONTHLY REPORT ON OVER-RIDING CONSTRAINTS

PLANTS ON COMMISSIONING TEST



There was an observed **decrease in the impositions of over-riding constraints** related to **commissioning tests**, logging a total of **10,047 impositions** and with an average scheduled capacity of **25.1 MW**.

Majority of impositions related to commissioning tests were attributable to solar plants, with small shares coming from battery, natural gas, and oil-based plants.

Based on the updates provided by the Independent Electricity Market Operator of the Philippines (IEMOP) and the System Operator, the following were the updates on the **status of power plants under commissioning tests**:

- **1 battery plant** completed its commissioning tests following the change in its registered capacity
- **2 solar plants** were provided with extended Provisional Certificate of Approval to Connect (PCATC)
- **2 hydro plants** have expired commissioning test periods in November 2022 and were yet to be issued with either Final Certificate of Approval to Connect (FCATC), or an extension of PCATC
- **1 natural gas plant conducted commissioning test** for its fuel pre-heating station

Due to their capacity, larger plants such as natural gas and oil-based plants were scheduled at a higher level of MW as compared with renewable plants under commissioning test due to consideration of their respective minimum stable capabilities. On the other hand, scheduled capacities for the battery plants were at the same level in terms of maximum and minimum levels considering their charging and discharging capabilities.

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).

MONTHLY REPORT ON OVER-RIDING CONSTRAINTS

ANNEX A. LIST OF PLANTS WITH OVER-RIDING CONSTRAINTS¹

Plant/Unit Name	Plant Type	Registered Capacity (MW)
LUZON		
Bataan Combined Cycle Power Plant Unit 1	Oil-based	60
Bataan Combined Cycle Power Plant Unit 4	Oil-based	87
Magat Hydroelectric Power Plant Unit 1	Hydro	97
Magat Hydroelectric Power Plant Unit 2	Hydro	97
Magat Hydroelectric Power Plant Unit 3	Hydro	97
Magat Hydroelectric Power Plant Unit 4	Hydro	97
AES Masinloc Advancion Energy Storage Array	Battery	10
Pasuquin Solar Power Plant	Solar	96
RASLAG III Solar PV Plant	Solar	15
San Manuel Battery Energy Storage System (BESS)	Battery	60
Navotas Bunker C-Fired Diesel Power Plant Power Barge 2	Oil-Based	49
Navotas Bunker C-Fired Diesel Power Plant Power Barge 4	Oil-Based	46.8
Malaya Thermal Power Plant Unit 2	Oil-Based	130
Pagbilao Coal-Fired Power Plant 1	Coal	382
Pagbilao Coal-Fired Power Plant 2	Coal	382
Pagbilao Coal-Fired Power Plant 3	Coal	420

¹ In accordance with the Market Operator Information Disclosure and Confidentiality (MO IDC) Manual Issue 7.0

MONTHLY REPORT ON OVER-RIDING CONSTRAINTS

Plant/Unit Name	Plant Type	Registered Capacity (MW)
Sta. Rita Natural Gas Power Plant 5	Natural Gas	265
VISAYAS		
CEDC Coal-Fired Thermal Power Plant Unit 1	Coal	82
CEDC Coal-Fired Thermal Power Plant Unit 2	Coal	82
CEDC Coal-Fired Thermal Power Plant Unit 3	Coal	82
EAUC Bunker C-Fired Power Plant Unit 1	Oil-Based	11.5
EAUC Bunker C-Fired Power Plant Unit 3	Oil-Based	11.5
EAUC Bunker C-Fired Power Plant Unit 4	Oil-Based	11.5
TPC Carmen Diesel Power Plant	Oil-Based	40
Sangi Coal Fired Power Plant	Coal	142.7
Naga Oil-Fired Power Plant Unit 5	Oil-Based	6.8
Naga Oil-Fired Power Plant Unit 6	Oil-Based	6.8
PPC 1A Diesel Power Plant	Oil-Based	31.5
PPC 1B Diesel Power Plant	Oil-Based	31.5