

# Over-riding Constraints Report for 4<sup>th</sup> Quarter of 2023

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26 September to 25 December 2023

**March 2024**

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

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## 1. OVER-RIDING CONSTRAINTS MONITORING

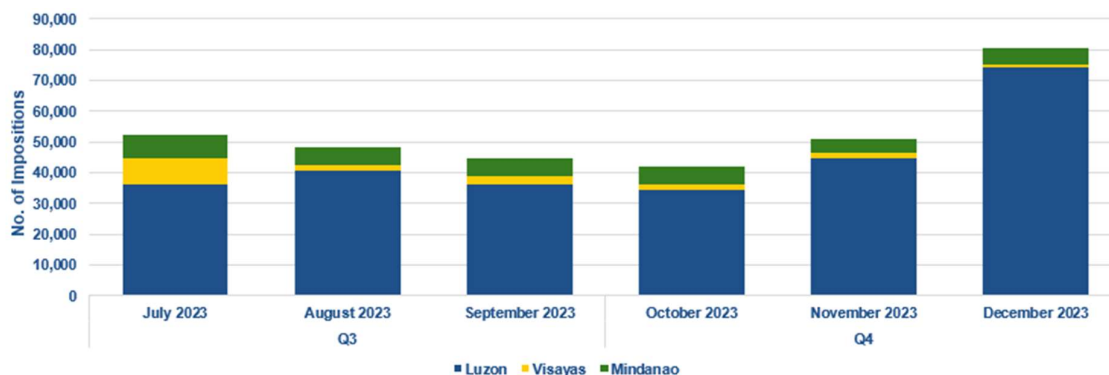
This report details the results of the monitoring of over-riding constraints<sup>1</sup> imposed by the System Operator (SO) on generators for the fourth quarter of 2023 (26 September to 25 December 2023).

### 1.1. Over-riding Constraints Impositions by Region

The fourth quarter of 2023 billing period documented a total of 173,514 over-riding constraint (OC) impositions<sup>2</sup>, wherein commissioning tests<sup>3</sup> and compliance with commercial and regulatory requirements contributed to approximately 90 percent of the total observations.

A significant portion of these impositions, totaling 152,938 (around 88 percent), were applied to Luzon plants. In contrast, Mindanao and Visayas plants were imposed with 15,767 impositions (or about 9 percent) and 4,809 impositions (or about 3 percent), respectively.

Shown in Figure 1, there was an observed significant increase in the number of impositions in Luzon during the December 2023 billing period. This is attributed to the rise of the impositions as non-security limit (as seen on Figure 2).



**Figure 1. Monthly Comparison of Over-riding Constraints, by Region**

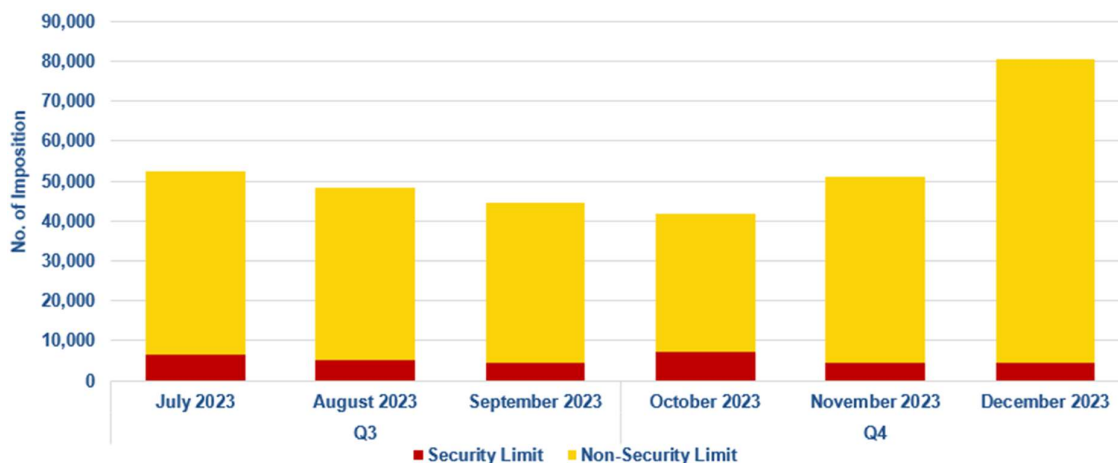
<sup>1</sup> WESM Rules Clause 3.5.13.1 states that the SO may require the Market Operator (MO) to impose constraints on the power flow, energy generation of a specific facility in the grid to address system security threat, to mitigate the effects of a system emergency, or to address the need to dispatch generating units to comply with systems, regulatory and commercial tests requirements.

<sup>2</sup> The monitoring of the OC on generators is done on a per generator trading node per trading interval. A constraint imposed on a generator trading node on a particular trading interval is considered as one **OC imposition**. The monitoring of the OC 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).

<sup>3</sup> Department of Energy. Department Circular No. DC2021-06-0013 Section 3 (i) states that commissioning test refers to conduct of procedures to determine and certify that a generating unit was connected to the grid in accordance with the Philippine Grid Code (PGC), Philippine Distribution Code (PDC) and other relevant guidelines and specifications and to determine readiness to deliver energy to the grid or distribution network for the purpose of securing Certificate of Compliance (COC) from the Energy Regulatory Commission (ERC).

## 1.2. Over-riding Constraints Impositions by Category

During the period in review, a total of 156,870 over-riding constraints impositions attributable to non-security limits<sup>4</sup> were recorded. These impositions involved 35 plants in Luzon, 11 plants in Visayas, and 10 plants in Mindanao. Notably, most of the impositions classified as security limit<sup>5</sup> were imposed on plants located in Mindanao grid.



**Figure 2. Monthly Comparison of Over-riding Constraints, by Category - System**

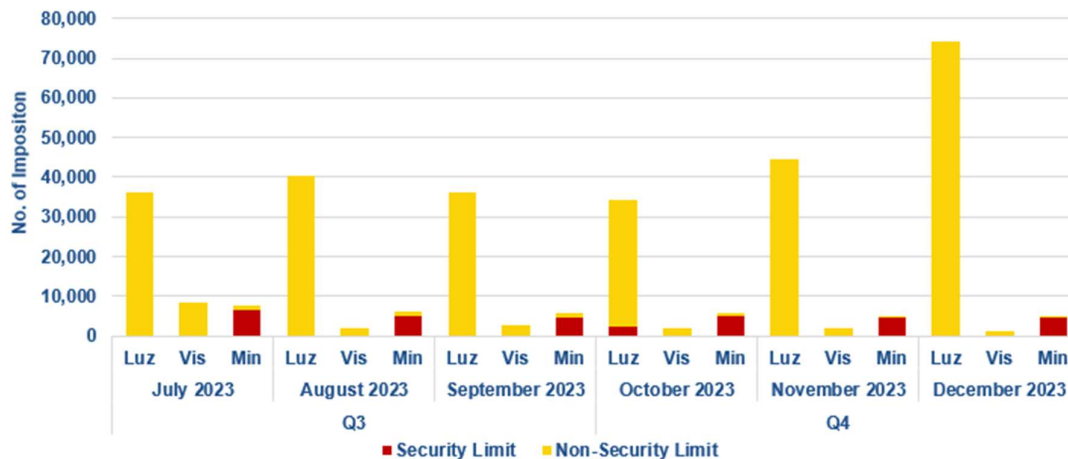
Observing the trend in Figure 2, a consistent increasing trend was noted during the first two months of the fourth quarter of 2023. However, a noticeable rise in imposition of non-security limits was noted during December 2023.

With respect to plants imposed as Must-Run Units<sup>6</sup> (MRU), an uptick in imposition was observed during the October 2023 billing period, which later decreased as the fourth quarter of 2023 progressed.

<sup>4</sup> WESM Dispatch Protocol Manual Issue 19 Clause 7.6.2 (b) states that non-security limits include testing and commissioning, generating unit limitation, and commercial and regulatory requirement.

<sup>5</sup> WESM Dispatch Protocol Manual Issue No. 19 Clause 7.6.2 (a) states that the SO may impose security limits to override the market offers and address possible threats in system security.




<sup>6</sup> Department of Energy. Department Circular No. DC2021-06-0013 provides that MRUs are generating units identified and instructed by the SO to provide additional energy on a particular trading interval to address System Security requirements but the dispatch of which is said to be Out of Merit.



**Figure 3. Monthly Comparison of Over-riding Constraints, by Category - Region**

**Table 1. Summary of Over-riding Impositions by Category**

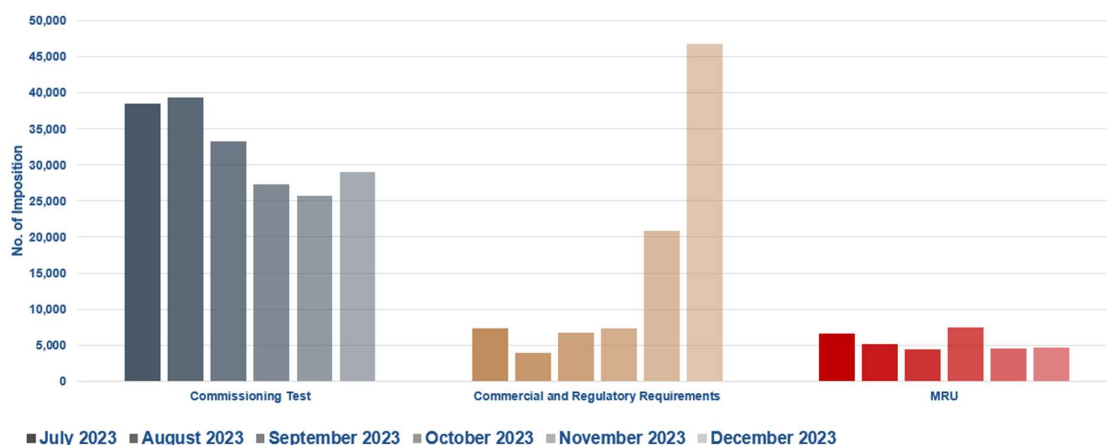
Category	Quarter 3		Quarter 4		Change	
	No. of Events	Percent of Total	No. of Events	Percent of Total	No. of Events	Percent of Change
Security Limit	16,191	11.1%	16,644	9.6%	453	2.8%
Non-Security Limit	129,090	88.9%	156,870	90.4%	27,780	21.5%
<b>Total</b>	<b>145,281</b>	<b>100.0%</b>	<b>173,514</b>	<b>100.0%</b>	<b>28,233</b>	<b>19.4%</b>

 Significant Decrease  
  Significant Increase  
  Neutral (below 20% change)

In line with the trend observed in the previous quarter, most impositions for the fourth quarter were attributed to non-security limits, accounting for 90.4 percent of the total impositions. Analyzing the imposition by category and region (as shown in Figure 3), a significant surge in non-security limit impositions was noted in Luzon during December 2023, with an increase of over 27,000 impositions, constituting approximately 21.5 percent higher than the previous quarter. This surge contributed to a 19.4 percent increase in the total number of impositions, as illustrated in Table 1.

Regarding impositions categorized as security limits, Table 1 indicates a 2.8 percent increase as compared with the previous quarter. However, a closer examination of security limit impositions by region reveals that certain plants were imposed as MRU in Luzon to support the grid for real power balancing and frequency control. Meanwhile, in Mindanao, a relatively consistent imposition of MRU to address the system voltage requirement of the grid was observed from the previous billing quarter to the current reviewed period (see Figure 4).

### 1.3. Over-riding Constraints Impositions by Incident



Note: The legend refers to the opacity of the color in the chart

**Figure 4. Monthly Comparison of Over-riding Constraints, by Incident**

Upon closer examination of over-riding constraint impositions per incident, specifically attributed to commissioning tests, there was an observed decline during the reviewed billing quarter. In terms of commercial and regulatory requirement impositions, a significant increase was noted during the latter part of the year due to the performance testing of natural gas plants.

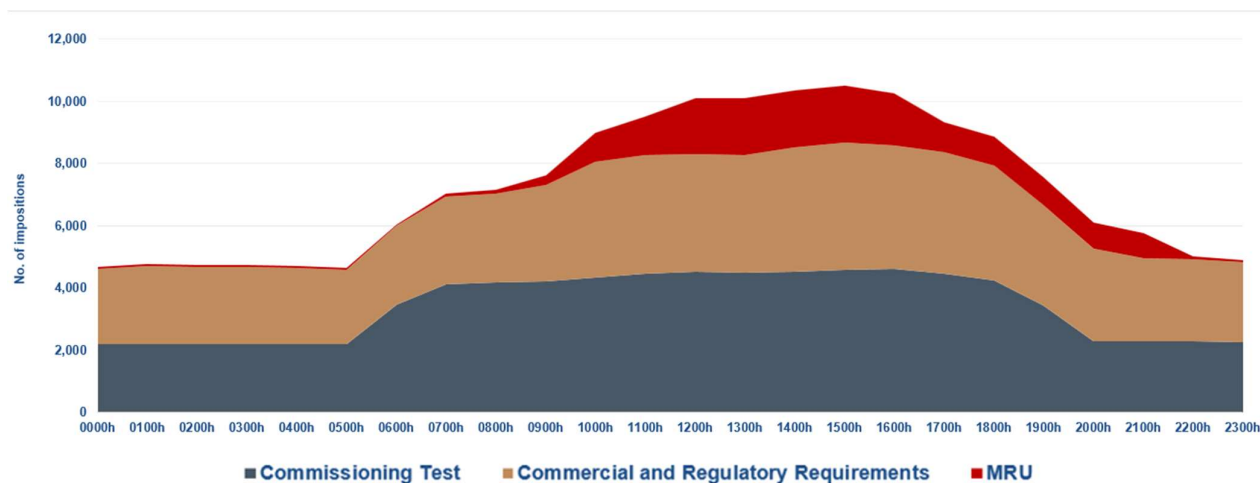
Regarding MRU impositions, there was an uptick in the number of impositions during October 2023 (see Figure 3), primarily to address real power balance and frequency control on the Luzon grid. However, this trend decreased and normalized during November to December 2023, with only the Mindanao region left with MRU impositions to address the system voltage requirements of the grid.

**Table 2. Summary of Over-riding Impositions by Incident**

Incident	Quarter 3		Quarter 4		Change	
	No. of Events	Percent of Total	No. of Events	Percent of Total	No. of Events	Percent of Change
Commissioning Test	111,105	76.5%	81,983	47.2%	-29,122	-26.2%
Commercial and Regulatory Requirements	17,985	12.4%	74,887	43.2%	56,902	316.4%
Must Run Units	16,191	11.1%	16,644	9.6%	453	2.8%
<b>Total</b>	<b>145,281</b>	<b>100.0%</b>	<b>173,514</b>	<b>100.0%</b>	<b>28,233</b>	<b>19.4%</b>

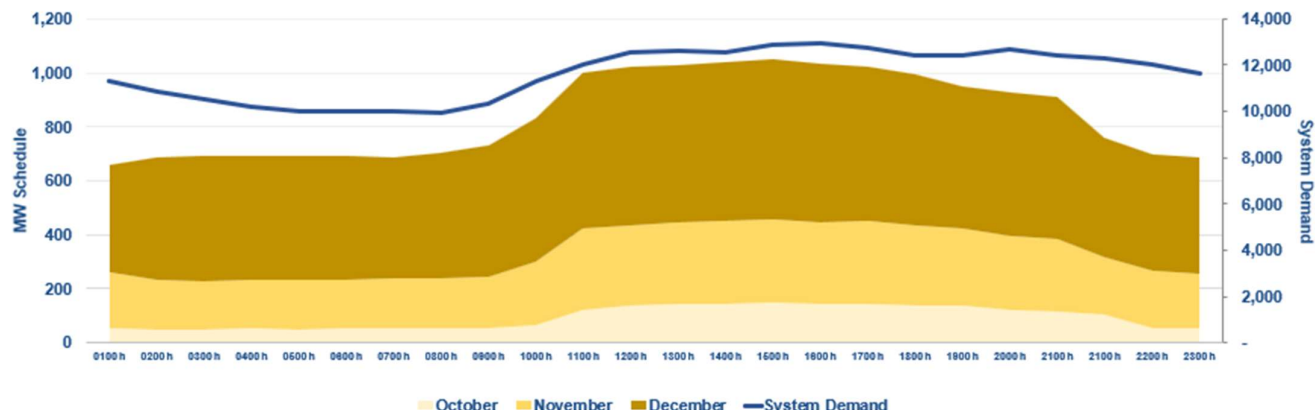
 Significant Decrease
  Significant Increase
  Neutral (below 20% change)

Table 2 illustrates the significant increase in commercial and regulatory requirement impositions during the review period. A total of 56,902 impositions were added during the fourth quarter, representing a substantial 316 percent increase as a result of the conduct of performance test of natural gas plants. However, the number of commissioning tests conducted decreased during the same review period as plants undergoing commissioning tests completed their activities. As a result, the overall change in the total number of impositions increased but below a significant percentage change of 20 percent, despite the notable increase caused by the imposition of commercial and regulatory requirements.



**Figure 5. Hourly Profile of Over-riding Impositions per Incident**

Figure 5 illustrates the trend of over-riding constraints imposition throughout the day. It is evident that the majority of impositions occur from early morning to early evening, specifically between 0500h and 2000h. This was mainly on account of the conduct of commissioning tests of solar plants. Furthermore, this pattern correlates with the variation of system demand, which exhibits the highest megawatt (MW) demand within the same timeframe of the day, as depicted in Figure 6.



**Figure 6. Hourly Profile of MW Scheduled to Over-riding Constraint Plants vs System Demand**

#### 1.4. Over-riding Constraints Imposition by Plant Type

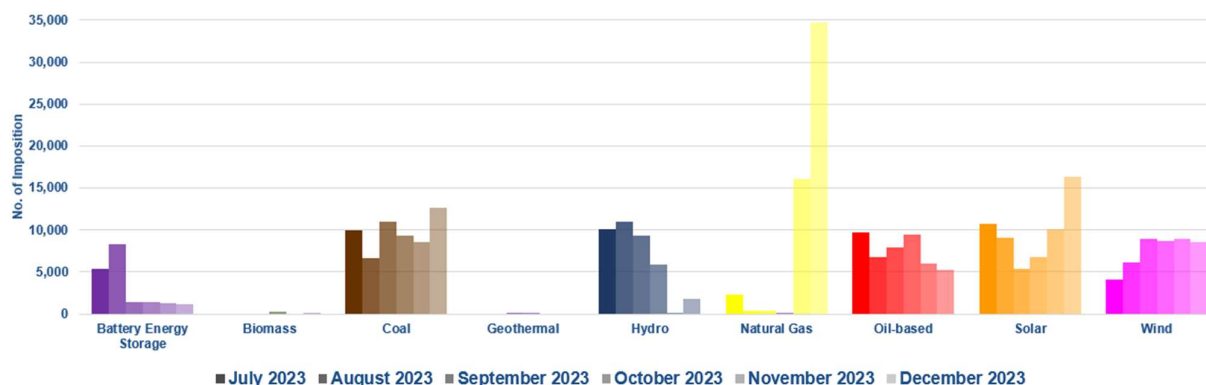
Among various types of plants in the market, a substantial number of over-riding constraints were imposed on natural gas plants followed by solar then coal, wind, and oil-based plants. Conversely, a smaller proportion of impositions was observed for hydro, battery energy storage systems, biomass, and geothermal plants.

During the fourth quarter of 2023, most impositions come from conventional energy resources, making up almost 60% of the over-all impositions. Natural gas plants had the highest number with a total of 50,980 impositions, making up 29 percent of the total impositions. Coal plants made up 18 percent of the total impositions at 30,488 impositions during the review period. While oil-based plants were imposed with a total of 20,558 impositions accounting for 12 percent of the total impositions, majority of which were related to MRU designations.

On the renewable energy resource imposed with over-riding constraints, majority of impositions were attributed for solar plants with 33,190 impositions, constituting 19 percent of the total during the reviewed billing period. Wind plants had 26,157 impositions (or about 14 percent). Hydro power plants were imposed with 7,867 overriding constraints (or 4 percent), biomass with 347 impositions (1.2 percent), and geothermal with 120 impositions (0.8 percent).

In the field of energy storage systems, batteries recorded 3,807 impositions or 2 percent.





**Figure 7. Monthly Comparison of Over-riding Constraints, by Plant Type**

When comparing the imposition statistics with the previous quarter, notable changes were observed across several plant types, as shown in Table 3. The significant shift occurred in natural gas plants which was a result of the increase in the conduct of performance tests of San Gabriel Avion NGPP and Sta. Rita NGPP. This was due to the testing of plants of their new liquified natural gas fuel in November to December 2023.

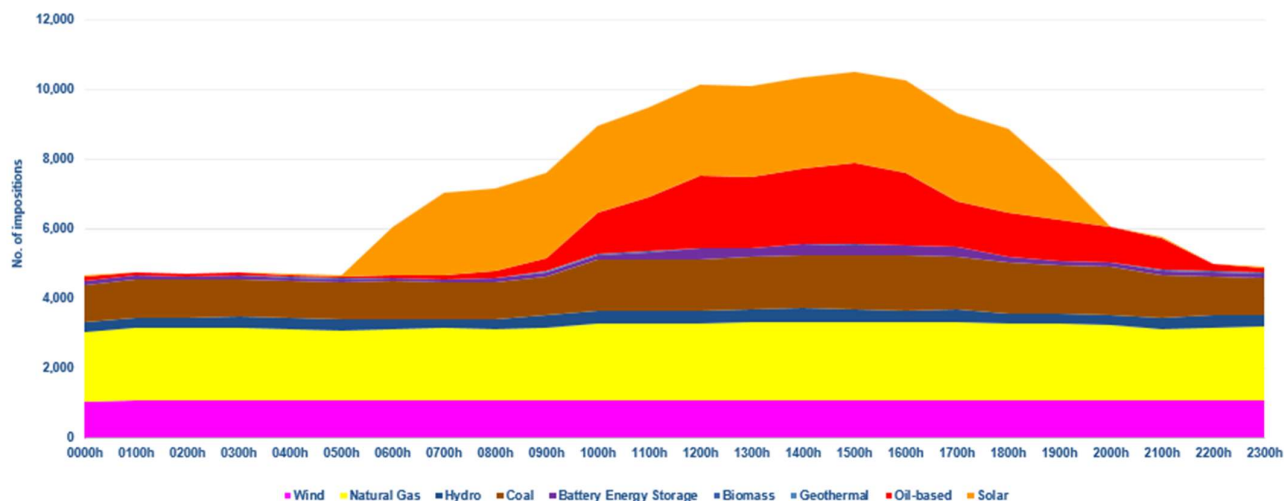
Another noteworthy change was the decline in impositions on battery plants, with a decrease observed from 15,201 impositions in Q3 to 3,807 impositions in fourth quarter of 2023, which is a result of completion of the commissioning test period of Magat Battery Energy Storage System (BESS) and Ubay BESS, as well as the expiration of commissioning test period of Concepcion BESS during the review period.

Table 3 also shows that over-riding constraints impositions of wind and solar plants soar during the fourth quarter of 2023 due to the start of commissioning test of several solar plants, namely, Cayanga-Bugallon SPP, Cagayan SPP, Orion SPP, and Sta. Cruz SPP. For wind plants, the continuing conduct of commissioning test of Balaoi WPP and Caunayan WPP, which started from the previous quarter, has been noted until the end of this quarter in review. Hydro plants also saw a significant decrease in the number of impositions during the review period due to completion of commissioning test of Tibag HPP.

**Table 3. Summary of Over-riding Impositions by Plant Type**

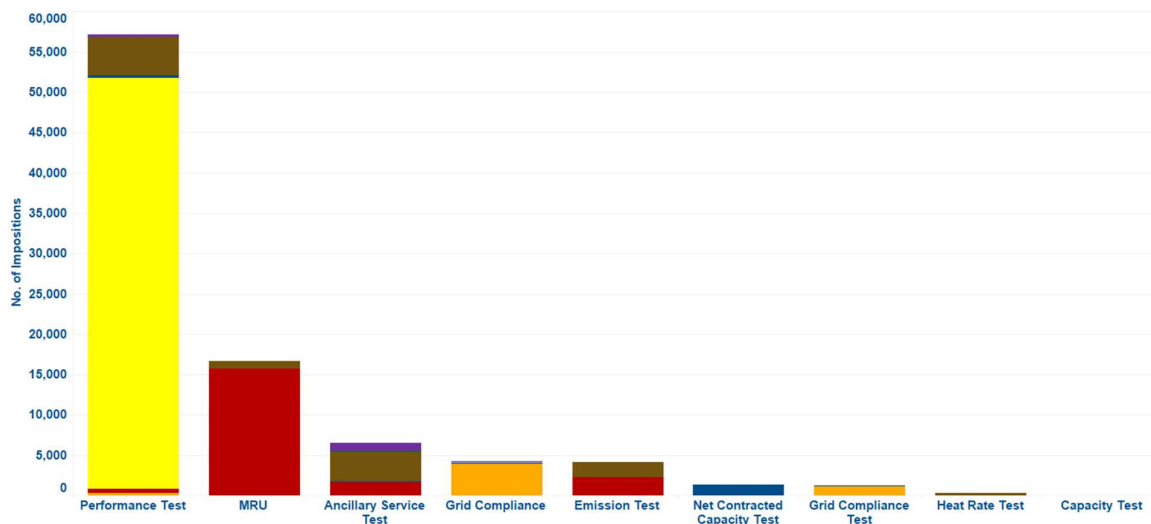
Plant Type	Quarter 3		Quarter 4		Change	
	No. of Events	Percent of Total	No. of Events	Percent of Total	No. of Events	Percent of Change
Battery Energy Storage	15,201	10.5%	3,807	2.2%	-11,394	▼ -75.0%
Biomass	-	0.0%	347	0.2%	347	-
Coal	27,612	19.0%	30,488	17.6%	2,876	▲ 10.4%
Geothermal	30	0.0%	120	0.1%	90	▲ 300.0%
Hydro	30,368	20.9%	7,867	4.5%	-22,501	▼ -74.1%
Natural Gas	3,163	2.2%	50,980	29.4%	47,817	▲ 1511.8%
Oil-based	24,546	16.9%	20,558	11.8%	-3,988	▼ -16.2%
Solar	25,209	17.4%	33,190	19.1%	7,981	▲ 31.7%
Wind	19,152	13.2%	26,157	15.1%	7,005	▲ 36.6%
<b>Total</b>	<b>145,281</b>	<b>100.0%</b>	<b>173,514</b>	<b>100.0%</b>	<b>28,233</b>	▲ 19.4%

▼ Significant Decrease   
 ▲ Significant Increase   
 ▲ Neutral (below 20% change)



**Figure 8. Hourly Profile of Over-riding Impositions per Plant Type**

Examining the hourly profile of over-riding constraint impositions per plant type, it can be observed that impositions during daytime were related to the conduct of commissioning tests of solar plants. In addition, chunks of impositions to oil-based plants and battery plants were likewise observed during peak hours. In contrast, wind, natural gas, hydro, coal, and battery plants experienced relatively consistent impositions throughout the 24-hour period.



**Figure 9. Number of Impositions of Incidents per Plant Type (excluding Commissioning Test)**

In terms of incidents per plant type (excluding commissioning tests), majority of impositions during the period was attributed to performance tests of natural gas plants. San Gabriel Avion NGFPP and Sta. Rita NGPP conducted performance tests as part of

the commissioning process for their new liquefied natural gas fuel. MRU impositions continued to be primarily imposed on oil-based plants. A smaller portion is attributed to ancillary service tests of coal and oil-based plants, grid compliance tests of solar plants, and emission tests of oil-based and coal plants.

## **2. PLANTS UNDER COMMISSIONING TEST**

As part of its mandate to monitor trading participants' over-riding constraints<sup>7</sup> including those plants under commissioning tests, the MSC regularly conducts a monitoring of the reasons for extended tests, and if the same is aligned with the procedures set forth in the Market Rules, Manuals, and relevant issuances.

Throughout the covered period, there was a notable decline in over-riding constraints attributed to plants undergoing commissioning tests in the fourth quarter of 2023 due to the completion of commissioning test periods for seven (7) plants, consisting of two (2) battery plants, one (1) biomass plant, one (1) coal plant, one (1) hydro plant, one (1) oil-based plant, and one (1) solar plant<sup>8</sup>. These plants received their Final Certificate of Approval to Connect (FCATC) within the review period, enabling them to submit nominations or offers via their Market Participant Interface (MPI). Additionally, the expiration of the commissioning test period for Concepcion BESS contributed to the decrease in battery plant impositions.

Furthermore, this portion provides for updates on the status of commissioning test implementation as of writing this report. The conclusion of commissioning test periods for Pinugay SPP and Currimao 2 SPP led to a reduction in impositions on solar plants in the September 2023 billing period. Similarly, the observed decrease for Mariveles CTPP Unit 1 due to commissioning test is linked to the expiration of its PCATC in August 2023. An extension was subsequently granted to the plant in September 2023, resulting in an increase in commissioning test impositions during that period.

An increase in December 2023 (as depicted in Figure 10) can be attributed to the commencement of commissioning tests for several solar plants, namely Cayanga-Bugallon SPP, Cagayan SPP, Orion SPP, and Sta. Cruz SPP.

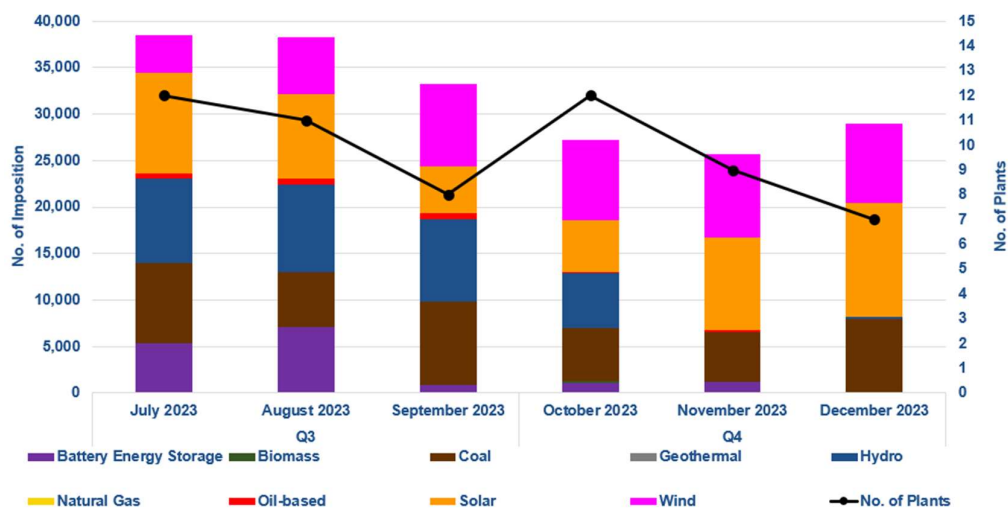
Furthermore, Annex B outlines the status of plants under commissioning test, with seven (7) plants receiving their FCATC during the review period. Out of these, two (2) plants have initiated commercial operation, while four (4) plants are currently submitting nominations to the MPI. However, one (1) plant, despite receiving FCATC and being allowed to submit nominations in the MPI, is currently opting not to submit nomination until it obtains either a Certificate of Compliance (COC) or Provisional Authority to Operate (PAO).

An important point to note is that Concepcion BESS, prior to the expiration of its PCATC, had its commissioning period extended twice. Meanwhile, several other plants have also received multiple extensions to their PCATC, including Mariveles CTPP Unit 2 and Trust SPP (twice), Lower Labayat HPP (once), and Balaoi and Caunayan WPP (six times).

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<sup>7</sup> Market Surveillance Manual Issue 1.0 Section 5.5

<sup>8</sup> For further details, kindly refer to Annex A of this report.



**Figure 10. Monthly Comparison of the Over-riding Constraints due to Commissioning Test and Number of Plants**

**APPENDIX A. LIST OF GENERATING PLANTS WITH OVER-RIDING CONSTRAINTS IMPOSITION**

Plant/Unit Name	Plant Type	Registered Capacity (MW) <sup>9</sup>
<b>LUZON</b>		
Arayat-Mexico Solar Power Plant Project Phase 2	Solar	30.8
Balaoi and Caunayan Wind Power Project Phase 1	Wind	80
Bataan Energy Storage System (ESS)	Battery	0.5
Cagayan North Solar Power Plant	Solar	115
Casecnan Hydro Electric Power Plant	Hydro	165
Cayanga-Bugallon Solar Power Plant	Solar	75.1
Bunker C-Fired Diesel Power Plant	Oil-Based	20
Concepcion Battery Energy Storage System	Battery	60
GNPower Dinginin Coal Plant - Unit 1	Coal	668
GNPower Dinginin Coal Plant - Unit 2	Coal	668
Bataan Combined Cycle Power Plant Unit 3	Oil-Based	60
Bataan Combined Cycle Power Plant Unit 5	Oil-Based	60
Bataan Combined Cycle Power Plant Unit 6	Oil-Based	60
Bataan Combined Cycle Power Plant Unit 7	Oil-Based	60
Bataan Combined Cycle Power Plant Unit 8	Oil-Based	90
Magat Battery Energy Storage System	Battery	24
Mariveles Solar Power Plant	Solar	16
Mariveles Coal Fired Thermal Power Plant Unit 1	Coal	316
Mariveles Coal Fired Thermal Power Plant Unit 2	Coal	316
Mariveles Coal-fired Thermal Power Plant- Phase 1	Coal	150
Mariveles Coal-fired Thermal Power Plant Unit 2	Coal	150
Masinloc Coal-Fired Thermal Power Plant Unit 1	Coal	344
Masinloc Coal-Fired Thermal Power Plant Unit 2	Coal	344
Masinloc Coal-Fired Thermal Power Plant Unit 3	Coal	335
Orion Solar Power Plant	Solar	16.2
Refinery Solid Fuel-Fired Boiler Power Plant	Coal	140
Pantabangan Hydro Electric Power Plant Unit 2	Hydro	60
San Marcelino Solar Power Project	Solar	326.4
Sual Coal-Fired Power Plant 1	Coal	647
Sual Coal-Fired Power Plant 2	Coal	647
Trust Solar Power Plant	Solar	15.4
Navotas Bunker C-Fired Diesel Power Plant Power Barge 1 / Mobile 3	Oil-Based	63.8
Navotas Bunker C-Fired Diesel Power Plant Power Barge 2 / Mobile 4	Oil-Based	51.5
Navotas Bunker C-Fired Diesel Power Plant Power Barge 3 / Mobile 5	Oil-Based	55.2

<sup>9</sup> As of 26 February 2024

Plant/Unit Name	Plant Type	Registered Capacity (MW) <sup>9</sup>
Navotas Bunker C-Fired Diesel Power Plant Power Barge 4 / Mobile 6	Oil-Based	52
Alaminos Battery Energy Storage System Subplant 2	Battery	20
San Gabriel Avion Natural Gas-Fired Power Plant Unit 1	Natural Gas	47.2
San Gabriel Avion Natural Gas-Fired Power Plant Unit 2	Natural Gas	45.8
Botocan Hydro Electric Power Plant	Hydro	20.8
Caliraya Hydro Electric Power Plant	Hydro	28
Kalayaan Hydro Electric Power Plant 1	Hydro	183
Kalayaan Hydro Electric Power Plant 2	Hydro	183
Kalayaan Hydro Electric Power Plant 3	Hydro	184.6
Kalayaan Hydro Electric Power Plant 4	Hydro	185
Lower Labayat Hydroelectric Power Plant	Hydro	1.5
Malaya Thermal Power Plant Unit 2	Oil-Based	130
Majestics Energy Solar PV Plant	Solar	32.9
Makban-Binary 1 Geothermal Power Plant	Geothermal	6
Pagbilao Coal-Fired Power Plant 1	Coal	382
Pagbilao Coal-Fired Power Plant 2	Coal	382
Pagbilao 3 Power Plant	Coal	420
San Gabriel Power Plant	Natural Gas	420
Sta. Rita Natural Gas Power Plant 1	Natural Gas	257.3
Sta. Rita Natural Gas Power Plant 2	Natural Gas	255.7
Sta. Rita Natural Gas Power Plant 3	Natural Gas	265.5
Sta. Rita Natural Gas Power Plant 4	Natural Gas	264
San Lorenzo Combined-Cycle Gas Turbine Power Plant Unit 50	Natural Gas	265
San Lorenzo Combined-Cycle Gas Turbine Power Plant Unit 60 (San Lorenzo CCGTPP)	Natural Gas	265
Tibag Hydroelectric Power Plant	Hydro	5.8
<b>VISAYAS</b>		
Calbayog Bunker C-Fired Diesel Power Plant	Oil-Based	11.2
Isabel Modular Diesel Power Plant Sector 1	Oil-Based	10
Isabel Modular Diesel Power Plant Sector 2	Oil-Based	10.1
Isabel Modular Diesel Power Plant Sector 3	Oil-Based	15.1
Isabel Modular Diesel Power Plant Sector 4	Oil-Based	10.2
Isabel Modular Diesel Power Plant Sector 5	Oil-Based	15.1
Isabel Modular Diesel Power Plant Sector 6	Oil-Based	10.2
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
Cebu Coal-Fired Thermal Power Plant (Cebu CFTPP) Unit 1	Coal	103
Cebu Coal-Fired Thermal Power Plant (Cebu CFTPP) Unit 2	Coal	103
Sangji Coal Fired Power Plant	Coal	83.6
Unit 1 Calumangan Bunker C-Fired Diesel Power Plant	Oil-Based	4.5

Plant/Unit Name	Plant Type	Registered Capacity (MW) <sup>9</sup>
Unit 2 Calumangan Bunker C-Fired Diesel Power Plant	Oil-Based	4.5
Unit 3 Calumangan Bunker C-Fired Diesel Power Plant	Oil-Based	4.5
Unit 4 Calumangan Bunker C-Fired Diesel Power Plant	Oil-Based	6.7
Unit 5 Calumangan Diesel Power Plant	Oil-Based	6.7
Kabankalan Bagasse-Fired Biomass Power Plant	Biomass	20
Power Barge 104 Unit 1	Oil-Based	7
Power Barge 104 Unit 2	Oil-Based	7
Power Barge 104 Unit 3	Oil-Based	7
Ubay Battery Energy Storage System (BESS)	Battery	20
PEDC Coal-Fired Thermal Power Plant Unit 1	Coal	83.7
PEDC Coal-Fired Thermal Power Plant Unit 2	Coal	83.7
PEDC Unit 3 Circulating Fluidized Bed Power Plant	Coal	150
Power Barge 101- Unit 1	Oil-Based	6
Power Barge 101- Unit 2	Oil-Based	6
Power Barge 101- Unit 3	Oil-Based	6
Power Barge 101- Unit 4	Oil-Based	6
<b>MINDANAO</b>		
Biomass Power Plant	Biomass	6
Misamis Occidental Bunker C-Fired Power Plant 2 Unit 1	Oil-Based	7.8
Misamis Occidental Bunker C-Fired Power Plant 2 Unit 2	Oil-Based	7.8
Bunker-C Fired Diesel Power Plant Unit 1	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 2	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 4	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 5	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 6	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 7	Oil-Based	10
Bunker-C Fired Diesel Power Plant Unit 8	Oil-Based	10.1
Bunker-C Fired Diesel Power Plant Unit 9	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 10	Oil-Based	10.2
GNPK's Coal Fired Power Plant Unit 1	Coal	151.9
GNPK's Coal Fired Power Plant Unit 2	Coal	151
NBPC 6.20 MW Bunker C Fired Diesel Power Plant	Oil-Based	5
Bunker C. Fired Diesel Power Plant	Oil-Based	10.4
Villanueva Battery Energy Storage System	Battery	20
Surigao Del Sur Power Plant	Oil-Based	7.8
Mobile 2 Bunker C-Fired Power Plant Unit 1	Oil-Based	50
Mobile 2 Bunker C-Fired Power Plant Unit 2	Oil-Based	50
Bunker C-Fired Diesel Power Plant	Oil-Based	13



## APPENDIX B. SUMMARY OF STATUS OF GENERATING PLANTS UNDER COMMISSIONING TEST<sup>10</sup>

Billing Period	Plant/Unit Name	Registered Capacity (MW)	No. of Impositions	Registration Date	Start Date of Over-riding Constraint	End Date of Over-riding Constraints	Extended PCATC?	No. of PCATC Extension	Remarks	Date of FCATC
October 2023	01CNCEP_BAT	60	504	18 August 2021	14 February 2023	15 October 2023	Y	1		
	01MAGAT_BAT	24	551	12 May 2023	26 September 2023	25 October 2023	Y	2		
	<b>Sub-total</b>	<b>84</b>	<b>1,055</b>							
November 2023	01CNCEP_BAT	60	979	18 August 2021	16 October 2023	15 November 2023	Y	2		
	01MAGAT_BAT	24	110	12 May 2023	26 October 2023	25 November 2023	N	3	with valid FCATC	29 November 2023
	07UBAY_BAT	20	128	29 January 2023	18 August 2021	06 December 2023	N		with valid FCATC	07 December 2023
December 2023	<b>Sub-total</b>	<b>104</b>	<b>1,217</b>							
	<b>TOTAL (BATTERY)</b>	<b>188</b>	<b>2,272</b>							
October 2023	09LIBPOWR_G01	6	288	30 September 2023	30 September 2023	30 October 2023	N		with valid FCATC	13 October 2023
	<b>Sub-total</b>	<b>6</b>	<b>288</b>							
November 2023										
December 2023										
October 2023	<b>TOTAL (BIOMASS)</b>	<b>6</b>	<b>288</b>							
	01MPGC_U01	150	4,605	11 March 2023	12 September 2023	11 October 2023	N	2	with valid FCATC	12 October 2023
	01MPGC_U02	150	1,062	14 October 2023	14 October 2023	29 October 2023	N/A			
November 2023	<b>Sub-total</b>	<b>300</b>	<b>5,667</b>							
	01MPGC_U02	150	5,600	14 October 2023	30 October 2023	10 November 2023	Y	1		
	<b>Sub-total</b>	<b>150</b>	<b>5,600</b>							
December 2023	01MPGC_U02	150	8,031	14 October 2023	22 November 2023	21 December 2023	Y	2		
	<b>Sub-total</b>	<b>150</b>	<b>8,031</b>							
	<b>TOTAL (COAL)</b>	<b>600</b>	<b>19,298</b>							
October 2023	03LWERLAB_G01	2	1,824	17 June 2023	15 September 2023	15 November 2023	N/A			
	03TIBAG_G01	6	4,112	17 June 2023	24 September 2023	24 October 2023	N	2	with valid FCATC	29 September 2023
	<b>Sub-total</b>	<b>7</b>	<b>5,936</b>							
November 2023										
December 2023										
October 2023	<b>TOTAL (HYDRO)</b>	<b>9</b>	<b>6,116</b>							
	04CLBYBNK_G01	12	84	18 May 2023	14 September 2023	14 October 2023	Y	1	with valid FCATC	20 November 2023
	<b>Sub-total</b>	<b>12</b>	<b>84</b>							
November 2023										
December 2023										
October 2023	<b>TOTAL (OIL-BASED)</b>	<b>12</b>	<b>84</b>							
	01ARAYSOL_G02	31	168	08 February 2023	27 August 2023	26 September 2023	N		with valid FCATC	27 September 2023
	01CAYBSOL_G01	90	488	20 October 2023	23 October 2023	22 December 2022	N/A			
November 2023	01TRUSTSOL_G01	15	4,957	21 September 2023	21 September 2023	20 November 2023	N/A			
	<b>Sub-total</b>	<b>137</b>	<b>5,613</b>							
	01CAGYSOL_G01	115	1,848	24 August 2023	05 November 2023	04 January 2024	N/A			
December 2023	01CAYBSOL_G01	90	3,022	20 October 2023	23 October 2023	22 December 2022	N/A			
	01PAVGSOL_G01	18	553	13 October 2023	18 November 2023	17 January 2024	N/A			
	01TRUSTSOL_G01	15	4,516	21 September 2023	20 November 2023	20 December 2023	Y	1		
October 2023	<b>Sub-total</b>	<b>237</b>	<b>9,939</b>							
	01CAYBSOL_G01	90	4,050	20 October 2023	22 December 2023	21 January 2024	Y	1		
	01PAVGSOL_G01	16	4,032	13 October 2023	18 November 2023	17 January 2024	N/A			
November 2023	01SNMARSOL_G01	326	461	30 November 2023	23 December 2023	21 February 2024	N/A			
	01TRUSTSOL_G01	15	3,669	21 September 2023	20 December 2023	19 January 2024	Y	2		
	<b>Sub-total</b>	<b>448</b>	<b>12,212</b>							
December 2023	<b>TOTAL (SOLAR)</b>	<b>822</b>	<b>27,764</b>							
	01BALWIND_G01	80	8,637	08 February 2023	29 September 2023	28 October 2023	Y	5		
	<b>Sub-total</b>	<b>80</b>	<b>8,637</b>							
November 2023	01BALWIND_G01	80	8,926	08 February 2023	29 October 2023	28 December 2023	Y	6		
	<b>Sub-total</b>	<b>80</b>	<b>8,926</b>							
	01BALWIND_G01	80	8,594	08 February 2023	29 October 2023	28 December 2023	Y	6		
December 2023	<b>Sub-total</b>	<b>80</b>	<b>8,594</b>							
	<b>TOTAL (WIND)</b>	<b>240</b>	<b>26,157</b>							

<sup>10</sup> 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).