Over-riding Constraints Report for 1st Quarter of 2024

26 December 2023 to 25 March 2024

May 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

In accordance with the Section 1.6.2 of the WESM rules, the Market Surveillance Committee (MSC) provided the details the results of the monitoring of over-riding constraints[1] imposed by the System Operator (SO) on generators for the 1st quarter of 2024 (26 December 2023 to 25 March 2024).

1.1. Over-riding Constraints by Region

The first quarter of 2024 billing period documented a total of 278,838 over-riding constraints[2].

A significant portion of these over-riding constraints, totaling 244,395 (around 87 percent), were applied to Luzon plants. In contrast, Mindanao and Visayas plants were imposed with 23,161 (or about 8 percent) and 11,282 over-riding constraints (or about 5 percent), respectively.

Figure 1 illustrates a steady increase in Luzon's over-riding constraints starting in November 2023, peaking in February 2024, and then declining towards the end of the quarter. This trend is attributed to the rise of non-security limits, as depicted in Figure 2.

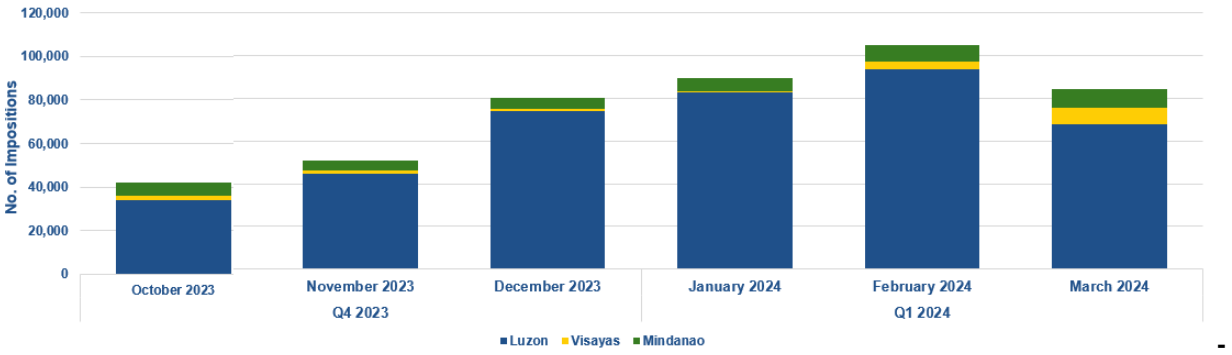


Figure 1. Monthly Comparison of Over-riding Constraints, by Region

[1] 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.

[2] The monitoring of the over-riding constraints 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 **over-riding constraints**. 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).

1.2. Over-riding Constraints by Category

During the period in review, a total of 265,005 over-riding constraints were attributed to non-security limits[3] which involved 39 plants in Luzon, and 14 plants each in Visayas and Mindanao. In contrast, most of the over-riding constraints classified as security limits[4] were imposed on two (2) plants located in Mindanao.

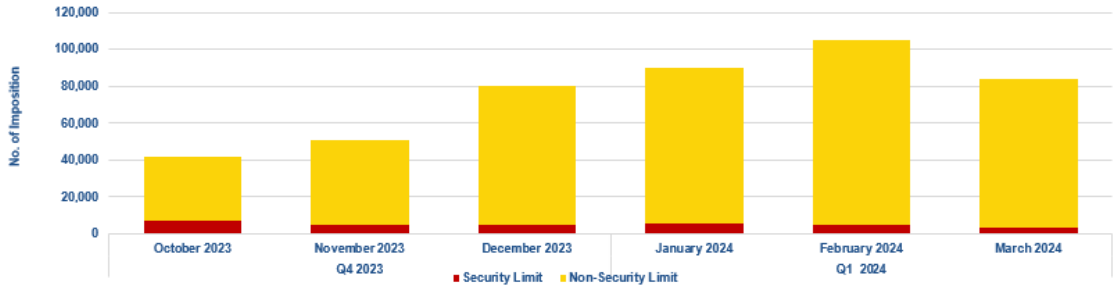


Figure 2. Monthly Comparison of Over-riding Constraints, by Category – System

Observing the trend in Figure 2, a consistent increase in over-riding constraints was noted starting from the previous quarter continuing into the first quarter of 2024. However, a noticeable decrease in non-security limits occurred in March 2024.

With respect to plants imposed as Must-Run Units[5] (MRU), a decreasing trend was observed throughout the reviewed billing quarter which likely resulted from the absence of plants being scheduled as MRUs in the Visayas and Luzon regions. The decreasing trend in MRU imposition in Mindanao suggests normal condition of the grid in Zamboanga area.

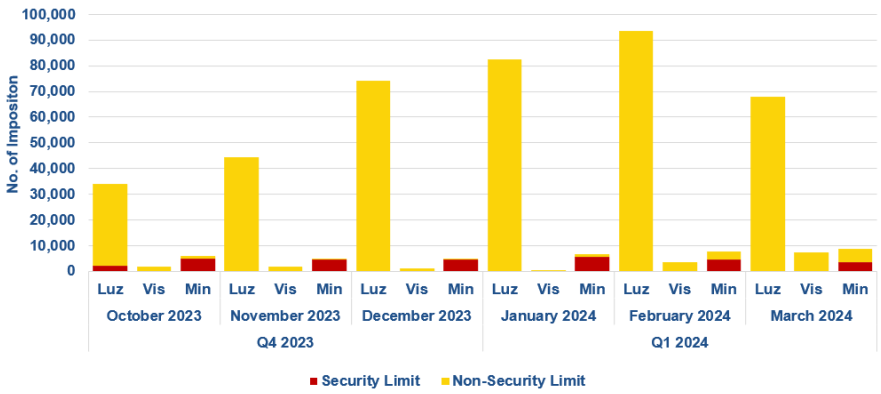


Figure 3. Monthly Comparison of Over-riding Constraints, by Category - Region

[3] 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.

[4] 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.

[5] 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.

Table 1. Summary of Over-riding Constraints by Category

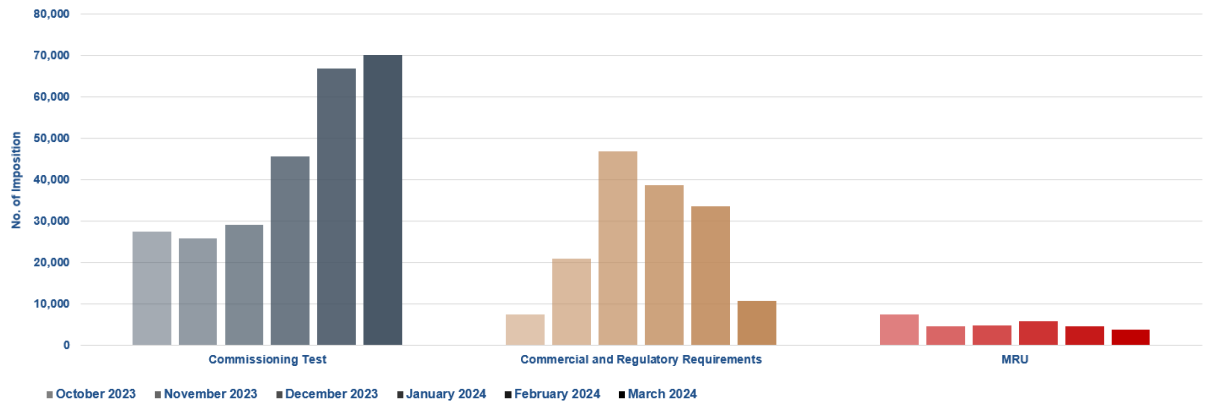
Category	Q4 2023		Q1 2024		Change	
	No. of Events	Percent of Total	No. of Events	Percent of Total	No. of Events	Percent of Change
Security Limit	16,644	9.6%	13,833	5.0%	453	-16.9%
Non-Security Limit	156,870	90.4%	265,005	95.0%	108,135	68.9%
Total	**173,514**	**100.0%**	**278,838**	**100.0%**	**108,588**	**60.7%**

Significant Decrease Significant Increase Neutral (below 20% change)

Consistent with previous quarters, the first quarter of 2024 saw most over-riding constraints attributed to non-security limits, comprising 95% of the total recorded incidents. As shown in Figure 3, Luzon experienced a steady increase in non-security limits from November 2023 to February 2024. This resulted in over 108,000 additional over-riding constraints, a 69% rise compared to the previous quarter. Non-security limits were a major factor in the overall 61% increase in total over-riding constraints, as detailed in Table 1.

Conversely, security limits decreased by 17% from the previous quarter, as no Luzon plants were scheduled as MRUs during this period. Additionally, a slight decrease in MRU-scheduled plants was observed in Mindanao towards the end of the first quarter, aiming to address the grid's voltage requirements in Zamboanga (see Figure 3).

1.3. Over-riding Constraints Imposition 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

A closer examination of over-riding constraints per incident, specifically those attributed to commissioning tests, reveals a steady increase throughout the billing

quarter. The increase is due to six (6) plants that recently received Provisional Certificate of Approval to Connect (PCATC) and started their respective commissioning tests. On the other hand, over-riding constraints related to commercial and regulatory requirements decreased over the quarter, primarily due to fewer performance tests of natural gas plants.

Regarding MRU impositions, only plants in Mindanao were scheduled as MRUs during the reviewed quarter, addressing system voltage requirements in Zamboanga. Despite a slight increase at the beginning of the first quarter (see Figure 3), MRU imposition gradually decreased over the following month.

Table 2. Summary of Over-riding Imposition by Incident

Incident	Q4 2023		Q1 2024		Change	
	No. of Events	Percent of Total	No. of Events	Percent of Total	No. of Events	Percent of Change
Commissioning Test	81,983	47.2%	182,234	65.4%	100,251	122.3%
Commercial and Regulatory Requirements	74,887	43.2%	82,771	29.7%	7,884	10.5%
Must Run Units	16,644	9.6%	13,833	5.0%	-2,811	-16.9%
Total	**173,514**	**100.0%**	**278,838**	**100.0%**	**105,324**	**60.7%**

Significant Decrease Significant Increase Neutral (below 20% change)

As shown in Table 2, a total of 105,324 increase in over-riding constraints were recorded in the first quarter, representing a substantial 61 percent rise. This uptick was primarily driven by a 122.3 percent increase in commissioning test-related over-riding constraints, amounting to 100,251, due to new plants entering their commissioning phase.

Despite a month-on-month decrease in over-riding constraints attributed to commercial and regulatory requirements, the first quarter of 2024 saw a 10.5 percent increase compared to the previous quarter, with an additional 7,884.

Conversely, there was a notable decrease of almost 17 percent in the number of plants scheduled as MRUs during the reviewed billing quarter.

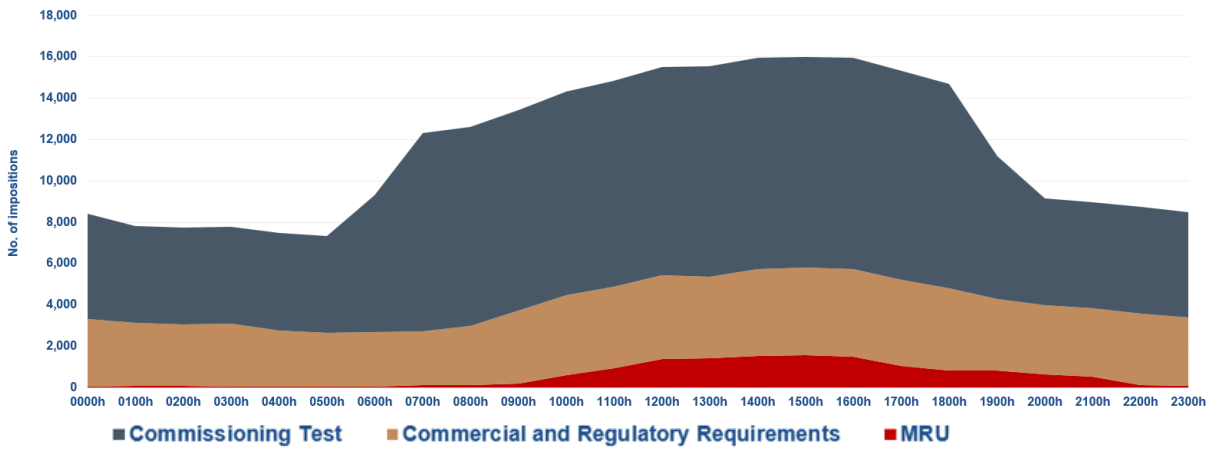


Figure 5. Hourly Profile of Over-riding Imposition per Incident

Figure 5 illustrates the trend of over-riding constraints throughout the day. It is evident that the majority of over-riding constraints occur from early morning to early evening, specifically starting at 0500h and beginning to decrease at 2000h. This was mainly on account of the conduct of commissioning tests of solar plants, and most plants conducting their regulatory requirements test during peak hours. Furthermore, this pattern compares 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.

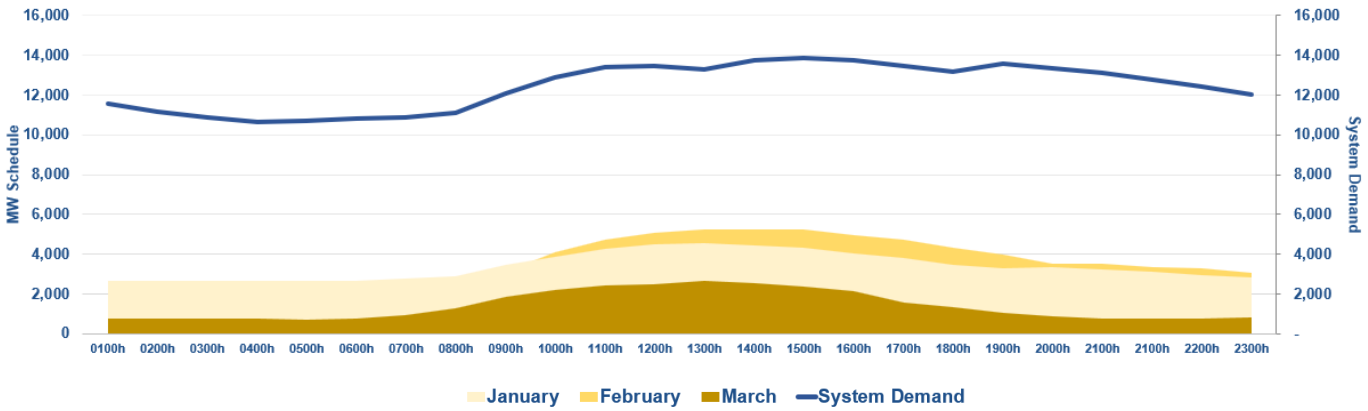


Figure 6. Hourly Profile of MW Scheduled to Over-riding Constraint Plants vs System Demand

1.4. Over-riding Constraints Imposition by Plant Type

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

During the first quarter of 2024, most over-riding constraints come from renewable energy resources, making up almost 58 percent of the over-all figure. Solar plants had the highest number of over-riding constraints with a total of 63,820, making up 23 percent of the total over-riding constraints recorded during the billing period. Hydro plants made up 12 percent of the total over-riding constraints at 33,742 during the review period, followed by wind plants with a total of 32,053 accounting for 11.5 percent of the total over-riding constraints. Meanwhile, the remaining 11 percent were attributable to renewable energy resources from Geothermal, and biomass

In terms of energy storage system, BESS saw a drop of 57 percent from the previous quarter due to completion of one (1) BESS plant.

On the conventional plants imposed with over-riding constraints, the majority of which were attributed to natural gas plants with 56,59, constituting 20 percent of the total over-

riding constraints during the reviewed billing quarter. Coal plants had 39,648 imposition (or about 14 percent). While oil-based plants recorded 20,829 over-riding constraints or 8 percent of the total.

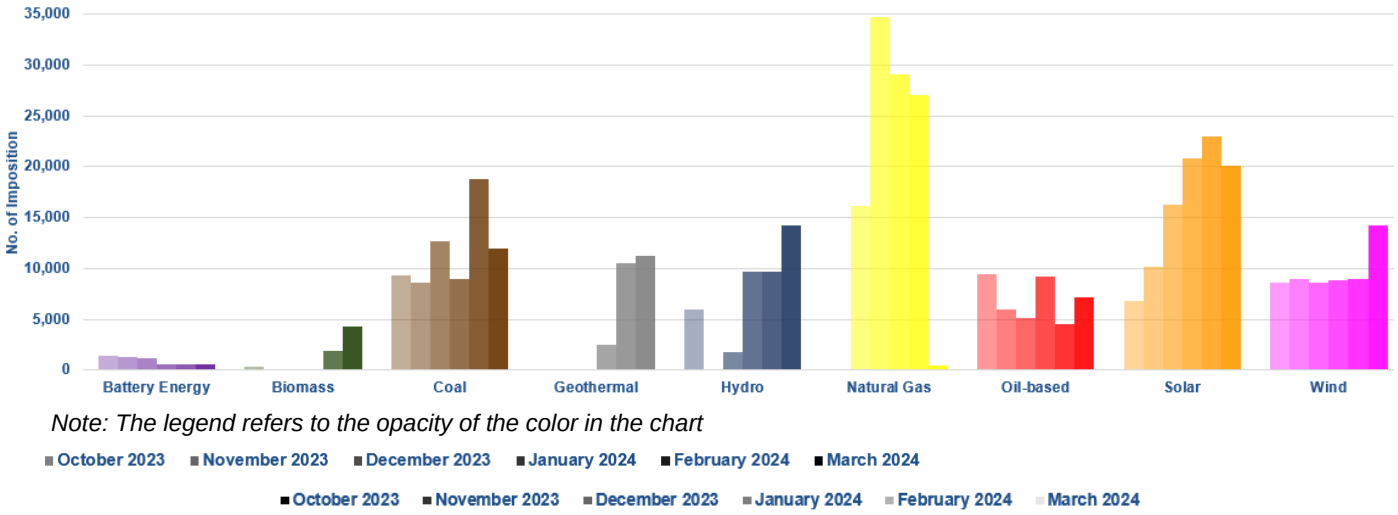


Figure 7. Monthly Comparison of Over-riding Constraints, by Plant Type

When comparing the over-riding constraints statistics with the previous quarter, notable changes were observed across several plant types, as shown in Table 3.

Table 3. Summary of Over-riding Imposition by Plant Type

Plant Type	Q4 2023		Q1 2024		Change	
	No. of Events	Percent of Total	No. of Events	Percent of Total	No. of Events	Percent of Change
Battery Energy Storage	3,807	2.2%	1,655	0.6%	-2,152	-56.5%
Biomass	347	0.2%	6,319	2.3%	5,972	1721.0%
Coal	30,488	17.6%	39,648	14.2%	9,160	30.0%
Geothermal	120	0.1%	24,176	8.7%	24,056	20046.7%
Hydro	7,867	4.5%	33,742	12.1%	25,875	328.9%
Natural Gas	50,980	29.4%	56,596	20.3%	5,616	11.0%
Oil-based	20,558	11.8%	20,829	7.5%	271	1.3%
Solar	33,190	19.1%	63,820	22.9%	30,630	92.3%
Wind	26,157	15.1%	32,053	11.5%	5,896	22.5%
Total	**173,514**	**100.0%**	**278,838**	**100.0%**	**105,324**	**60.7%**

Significant Decrease Significant Increase Neutral (below 20% change)

BESS plants have seen a significant 56.5 percent decrease in imposition as a result of Ormoc BESS receiving its Final Certificate of Approval to Connect (FCATC) and is allowed to submit its nomination to the Market Participant Interface (MPI). Also, Concepcion BESS has an expired PCATC and has not been issued an FCATC, hence, preventing them from having over-riding constraints.

The significant increase in over-riding constraints for biomass plants, from 347 in the previous billing quarter to 6,319 starting in February 2024, was due to the

commencement of commissioning tests for the Cotobato COGEN power plant, which continued through March 2024.

The 30% increase in over-riding constraints on coal plants was primarily due to the extension of the PCATC for MPGC CFTPP Unit 2, allowing it to operate and be scheduled by the SO. Additionally, the commencement of commissioning tests for MPGC CFTPP Unit 3 contributed to the increase. Furthermore, the GN Power Kauswagan plant was dispatched as MRU during the February 2024 billing period to address the thermal line limitations in the Mindanao grid.

The substantial increase in geothermal plant over-riding constraints from 120 in the fourth quarter of 2023 to 24,176 in the first quarter of 2024 was primarily due to the commencement of commissioning test for the Palayan Binary power plant. The entry and subsequent commissioning test period of the Biliran geothermal power plant further contributed to the overall increase in over-riding constraints during this period.

The resumption of commissioning tests for the Lower Labayat and Matuno HEPs at the beginning of the reviewed billing quarter resulted in a significant increase of 25,875 over-riding constraints. Additionally, ancillary service tests conducted at several plants further contributed to the overall increase.

The significant decline occurred in natural gas plants seen during March 2024 billing period which was a result of the completion of performance tests of San Gabriel Avion NGPP and Sta. Rita NGPP for the testing of plants of their new liquified natural gas fuel which previously the majority of the reason of the over-riding constraints. Despite this, a slight 11 percent rise was still observed during the reviewed billing quarter.

The decrease in ancillary service tests for oil-based plants during the February 2024 billing period explains the dip seen in Figure 7. However, the over-riding constraints then soar again in March 2024. Additionally, there was a notable reduction in the number of plants scheduled as MRUs in the Mindanao grid suggesting a stabilization of the grid during this period.

Another notable change was the 92.3 percent surge in over-riding constraints for solar plants compared to the previous billing quarter. This was due to the commencement of commissioning tests for San Marcelino Solar and Subic PV Solar, as well as the extension of the PCATCs for Cagayan North Solar, Cayanga-Bugallon Solar, and PAVI Green Orion Solar.

Meanwhile, the 22.5 percent increase in wind power plant over-riding constraints was due to the commencement of commissioning tests for the Caparispisan Wind Farm on 05 March 2024.

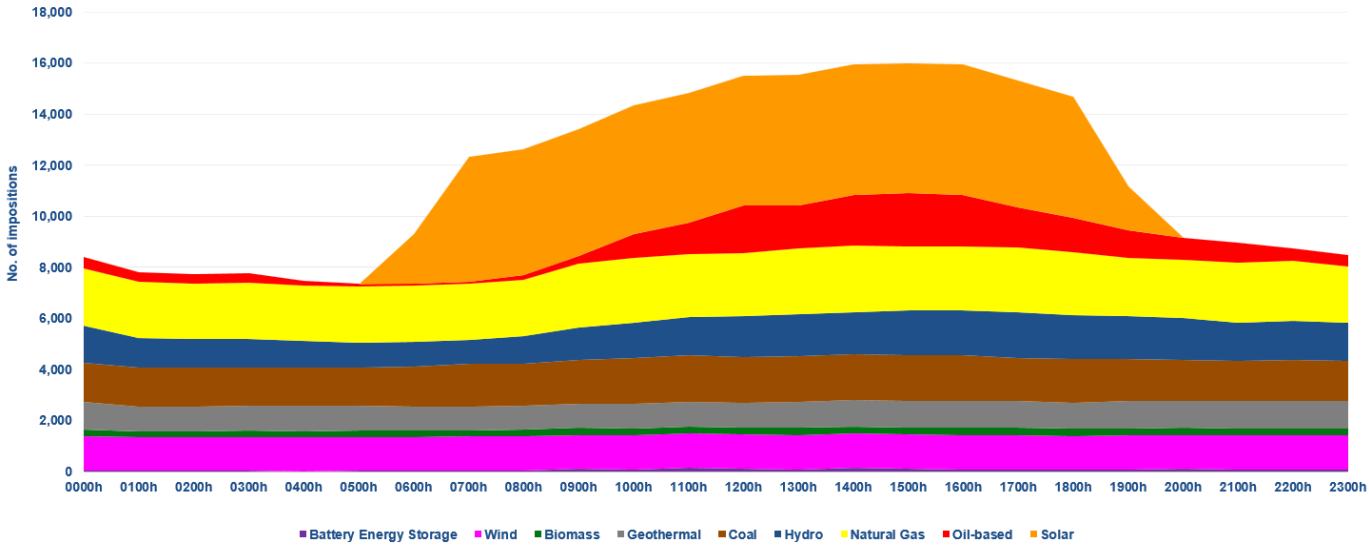


Figure 8. Hourly Profile of Over-riding Imposition per Plant Type

Examining the hourly profile of over-riding constraints by plant type reveals that daytime imposition (0700h to 1800h) was primarily related to solar plant's commissioning tests. Additionally, oil-based plants experienced notable imposition during peak hours related to plants scheduled as MRU. In contrast, BESS, wind, biomass, geothermal, coal, hydro, and natural gas plants exhibited relatively consistent over-riding constraints throughout the day.

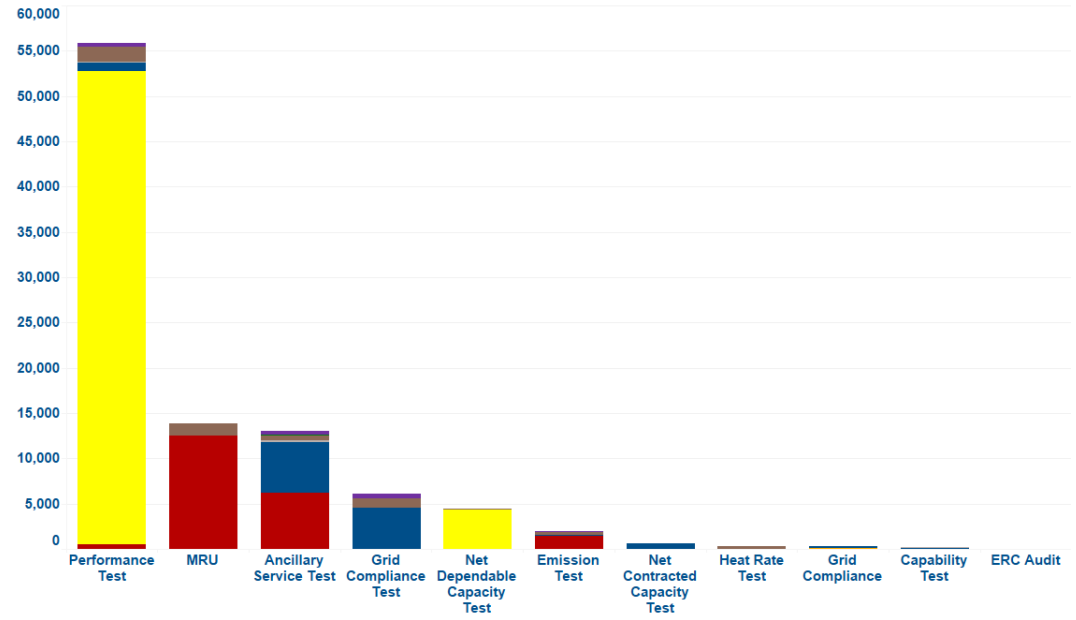


Figure 9. Number of Imposition of Incidents per Plant Type (excluding Commissioning Test)

In terms of incidents per plant type (excluding commissioning tests), bulk of imposition during the period were attributed to performance tests of natural gas plants. Despite completion of the performance test conducted by San Gabriel Avion NGFPP and Sta. Rita NGPP as part of the commissioning process for their new liquefied natural gas fuel,

performance tests is still the major reason for the over-riding constraints during the reviewed billing quarter. MRUs continued to be primarily imposed on oil-based plants. A smaller portion is attributed to ancillary service tests of hydro and oil-based plants, grid compliance tests of hydro plants, net dependable capacity test of natural gas 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[6] 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 and Manuals and relevant issuances.

Throughout the reviewed period, a significant increase in over-riding constraints was attributed to plants undergoing commissioning tests in the first quarter of 2024. This was due to the extension of commissioning test periods for nine plants (four solar, two hydro, two coal, and one wind) and the commencement of commissioning tests for three new plants, as shown in Figure 10.

Further analysis of imposition reveals an increase for solar plants starting in January 2024, primarily due to the commissioning test of San Marcelino Solar (326.4 MW) and PCATC extensions for Cagayan North Solar, Cayanga-Bugallon Solar, and PAVI Green Orion Solar.

Additional contributors to the increase were the commissioning tests of:

- Cotobato COGEN Power Plant (3 MW)
- MPGC CFTPP Unit 3 (150 MW)
- Biliran GPP (2 MW)
- Subic PV Solar (62.7 MW)
- Caparispisan Wind (50 MW)

The commissioning tests of two geothermal plants, Palayan Binary and Biliran GPP, further increased the over-riding constraints from February to March 2024, as illustrated in Figure 10. The resumption of commissioning tests for Lower Labayat HEP and Matuno HEP likewise contributed to this increase.

Notably, several plants received multiple extensions to their PCATCs during this period. Baloi Caunayan Wind received nine extensions, MPGC CFTPP Unit 2 received six, Lower Labayat HEP and Matuno HEP received five each, while Cagayan North Solar, Cayanga-Bugallon Solar, and Subic PV Solar received three and two extensions, respectively.

[6] Market Surveillance Manual Issue 1.0 Section 5.5

Finally, Trust Solar and Ormoc BESS were granted FCATCs and are now able to submit nominations in the MPI.

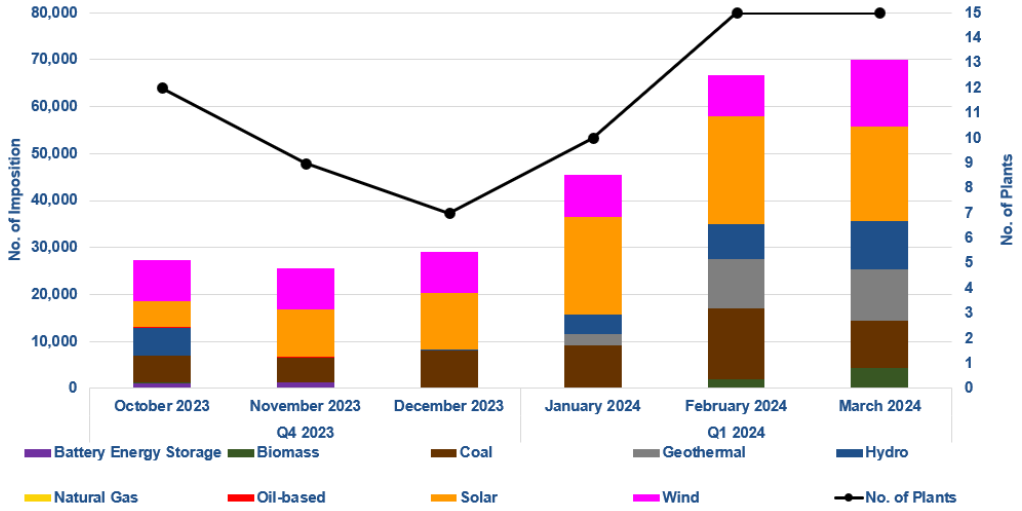


Figure 10. Monthly Comparison of the Over-riding Constraints due to Commissioning Test and Number of Plants

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

Plant/Unit Name	Plant Type	Registered Capacity (MW)[7]
LUZON		
Ambuklao Hydroelectric Power Plant Unit 1	Hydro	37.5
Ambuklao Hydroelectric Power Plant Unit 2	Hydro	37.5
Ambuklao Hydroelectric Power Plant Unit 3	Hydro	37.5
80.000 MW Balaoi and Caunayan Wind Power Project Phase 1	Wind	80
Binga Hydroelectric Power Plant - Unit 1	Hydro	35
Binga Hydroelectric Power Plant - Unit 2	Hydro	35
Binga Hydroelectric Power Plant - Unit 3	Hydro	35
Binga Hydroelectric Power Plant - Unit 4	Hydro	35
Cagayan North Solar Power Plant	Solar	115
Cayanga-Bugallon Solar Power Plant	Solar	75.1
Concepcion Battery Energy Storage System	Battery	60
Bataan Combined Cycle Power Plant Unit 1	Oil-Based	60
Bataan Combined Cycle Power Plant Unit 2	Oil-Based	60
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
Magat Battery Energy Storage System	Battery	24
Mariveles Coal-fired Thermal Power Plant Unit 2	Coal	150
Orion Solar Power Plant	Solar	16.2
Bunker-C Fired Thermal Power Plant (BCFDPP)	Oil-Based	110
San Marcelino Solar Power Project	Solar	326.4
San Roque Hydro Electric Power Plant Unit 1	Hydro	145
San Roque Hydro Electric Power Plant Unit 2	Hydro	145
San Roque Hydro Electric Power Plant Unit 3	Hydro	145
PPGC Diesel Power Plant	Oil-Based	50
Trust Solar Power Plant	Solar	15.4
Botocan Hydro Electric Power Plant	Hydro	20.8
Caliraya Hydro Electric Power Plant	Hydro	28
Pililla Diesel Power Plant Sector 1	Oil-Based	28
Pililla Diesel Power Plant Sector 2	Oil-Based	22
Pililla Diesel Power Plant Sector 3	Oil-Based	22
Pililla Diesel Power Plant Sector 4	Oil-Based	28
Pililla Diesel Power Plant Sector 5	Oil-Based	22
Pililla Diesel Power Plant Sector 6	Oil-Based	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

[7] As of 26 May 2024

Plant/Unit Name	Plant Type	Registered Capacity (MW)[7]
Kalayaan Hydro Electric Power Plant 4	Hydro	185
Lower Labayat Hydroelectric Power Plant	Hydro	1.5
Palayan Binary Power Plant	Geothermal	31
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
Angat Hydroelectric Power Plant Unit A	Hydro	19.6
GNPower Dinginin Coal Plant - Unit 2	Coal	668
Mariveles Coal Fired Thermal Power Plant Unit 2	Coal	316
Mariveles Coal-fired Thermal Power Plant Unit 3	Coal	150
Pantabangan Hydro Electric Power Plant Unit 1	Hydro	60
Pantabangan Hydro Electric Power Plant Unit 2	Hydro	60
Pagbilao Coal-Fired Power Plant 1	Coal	382
Pagbilao Coal-Fired Power Plant 2	Coal	382
Pagbilao 3 Power Plant	Coal	420
QPPL Coal-Fired Power Plant	Coal	460
SBPL Coal Fired Power Plant	Coal	455
South Luzon Thermal Energy Corporation Coal-Fired Thermal Power Plant Unit 1	Coal	122
South Luzon Thermal Energy Corporation Coal-Fired Thermal Power Plant Unit 2	Coal	124
Caparispisan II Wind Power Project	Wind	168
Magat Hydroelectric Power Plant Unit 2	Hydro	97
Matuno River Hydroelectric Power Plant	Hydro	8.7
Refinery Solid Fuel-Fired Boiler Power Plant	Coal	140
Subic New PV Power Plant Project	SOLAR	62.7
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
Subplant 1 Alaminos Battery Energy Storage System	Battery	20
Bacman Geothermal Power Plant Unit 3	Geothermal	20
VISAYAS		
Ormoc Battery Energy Storage System	Battery	40
Kabankalan Bagasse-Fired Biomass Power Plant	Biomass	20

Plant/Unit Name	Plant Type	Registered Capacity (MW)[7]
Panay Diesel Power Plant 1 (Unit 2)	Oil-Based	5
Panay Diesel Power Plant 1 (Unit 3)	Oil-Based	5
Panay Diesel Power Plant 1 (Unit 5)	Oil-Based	5
Panay Diesel Power Plant 3 (Unit Charlie)	Oil-Based	12
Panay Diesel Power Plant 3 (Unit Echo)	Oil-Based	12
Panay Diesel Power Plant 3 (Unit Golf)	Oil-Based	13
Panay Diesel Power Plant 3 (Unit Hotel)	Oil-Based	13
(Phase 1) Biliran Geothermal Power Plant Project	Geothermal	2
Naga Oil-Fired Power Plant Unit 3	Oil-Based	5.5
Naga Oil-Fired Power Plant Unit 4	Oil-Based	5.5
Naga Oil-Fired Power Plant Unit 5	Oil-Based	5.5
Naga Oil-Fired Power Plant Unit 6	Oil-Based	5.5
Unit 1 Calumangan Bunker C-Fired Diesel Power Plant	Oil-Based	4.5
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
BOHECO I Sevilla Mini Hydro Power Plant	Hydro	2.5
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
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
CPPC Bunker C-Fired Diesel Power Plant Unit 1	Oil-Based	6.5
CPPC Bunker C-Fired Diesel Power Plant Unit 2	Oil-Based	6.5
CPPC Bunker C-Fired Diesel Power Plant Unit 3	Oil-Based	6.5
CPPC Bunker C-Fired Diesel Power Plant Unit 4	Oil-Based	6.5
CPPC Bunker C-Fired Diesel Power Plant Unit 5	Oil-Based	6.5
CPPC Bunker C-Fired Diesel Power Plant Unit 6	Oil-Based	6.5
CPPC Bunker C-Fired Diesel Power Plant Unit 7	Oil-Based	6.5
CPPC Bunker C-Fired Diesel Power Plant Unit 8	Oil-Based	6.5
CPPC Bunker C-Fired Diesel Power Plant Unit 9	Oil-Based	6.5
CPPC Bunker C-Fired Diesel Power Plant Unit 10	Oil-Based	6.5
Circulating Fluidized Bed Coal-Fired Power Plant Unit 1	Coal	169
Circulating Fluidized Bed Coal-Fired Power Plant Unit 2	Coal	169
Palinpinon Geothermal Power Plant I	Geothermal	110.5

Plant/Unit Name	Plant Type	Registered Capacity (MW)[7]
MINDANAO		
Bunker-C Fired Diesel Power Plant Unit 1	Oil-Based	10.2
Bunker-C Fired Diesel Power Plant Unit 3	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 10	Oil-Based	10.2
Agus II Hydroelectric Power Plant Unit 2	Hydro	60
Agus II Hydroelectric Power Plant Unit 3	Hydro	60
Agus VI Hydroelectric Power Plant Unit 3	Hydro	50
Agus VI Hydroelectric Power Plant Unit 4	Hydro	25
Agus VI Hydroelectric Power Plant Unit 5	Hydro	43.8
Agus VII Hydroelectric Power Plant Unit 1	Hydro	26.1
Jasaan Battery Energy Storage System	Battery	20
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 Unit 9	Oil-Based	10.2
Agus I Hydroelectric Power Plant Unit 1	Hydro	35
Agus I Hydroelectric Power Plant Unit 2	Hydro	35
Agus II Hydroelectric Power Plant Unit 1	Hydro	60
Agus IV Hydroelectric Power Plant Unit 1	Hydro	52.7
Agus IV Hydroelectric Power Plant Unit 2	Hydro	52.7
Agus IV Hydroelectric Power Plant Unit 3	Hydro	52.7
GNPK's Coal Fired Power Plant Unit 2	Coal	151
GNPK's Coal Fired Power Plant Unit 3	Coal	151.3
GNPK's Coal Fired Power Plant Unit 4	Coal	151
10.42 MW Bunker C. Fired Diesel Power Plant	Oil-Based	10.4
8MW ASIGA Hydroelectric Power Plant	Hydro	8.6
Maco Battery Energy Storage System (BESS)	Battery	20
15 MW Bunker C-Fired Diesel Power Plant	Oil-Based	13
Mobile 1 Bunker C-Fired Power Plant Unit 1	Oil-Based	49
Mobile 1 Bunker C-Fired Power Plant Unit 2	Oil-Based	50
Biomass Power Plant	Biomass	12.4
Cotabato Cogeneration Power Plant	Biomass	3.4
Misamis Occidental Bunker C-Fired Diesel Power Plant 3 Unit 2	Oil-Based	8
Bunker-C Fired Diesel Power Plant Unit 2	Oil-Based	10.2
Agus VI Hydroelectric Power Plant (HEPP) Unit 1	Hydro	31.5
Agus VI Hydroelectric Power Plant Unit 2	Hydro	31.1
25 MW CFB Coal-Fired Thermal Power Plant	Coal	20
Mindanao I Geothermal Power Plant	Geothermal	51.4

APPENDIX B. SUMMARY OF STATUS OF GENERATING PLANTS UNDER COMMISSIONING TEST [8]

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	FCATC? If no, Certification	Date of FCATC	No. of PCATC Extension
January 2024	01CNCEP_BAT	60	152	18 August 2021	14 February 2023	15 November 2023	No (Expired PCATC)		1
	Sub-total	***60***	***152***						
February 2024	04ORMOC_BAT	40	38	10 September 2022	16 January 2023	06 October 2023	Y	06 October 2023	[3]
	Sub-total	***40***	***38***						
March 2024									
	TOTAL (BATTERY)	***100***	***190***						
January 2024									
February 2024	14COTSUGR_G01	3	1,925	12 January 2024	12 January 2024	11 March 2024	No (PCATC)		
	Sub-total	***3***	***1,925***						
March 2024	14COTSUGR_G01	3	4,318	12 January 2024	12 January 2024	11 March 2024	No (PCATC)		
	Sub-total	***3***	***4,318***						
	TOTAL (BIOMASS)	***7***	***6,243***						
January 2024	01MPGC_U02	150	8,926	14 October 2023	30 October 2023	21 February 2024	No (Extended PCATC)		4
	Sub-total	***150***	***8,926***						
February 2024	01MPGC_U02	150	8,911	14 October 2023	30 October 2023	23 March 2024	No (Extended PCATC)		5
	01MPGC_U03	150	6,210	30 January 2024	03 February 2024	03 April 2024	No (Extended PCATC)		1
	Sub-total	***300***	***15,121***						
March 2024	01MPGC_U02	150	4,321	14 October 2023	30 October 2023	22 April 2024	No (Extended PCATC)		6
	01MPGC_U03	150	5,842	30 January 2024	03 February 2024	03 May 2024	No (Extended PCATC)		2
	Sub-total	***300***	***10,163***						
	TOTAL (COAL)	***750***	***34,210***						
January 2024	03PALAYAN_G01	31	2,475	08 July 2023	13 December 2023	08 March 2024	No (Extended PCATC)		1
	Sub-total	***31***	***2,475***						
February 2024	03PALAYAN_G01	31	8,774	08 July 2023	13 December 2023	08 March 2024	No (Extended PCATC)		1
	04BILGPP_G01	2	1,737	12 January 2024	17 February 2024	17 April 2024			
	Sub-total	***33***	***10,511***						
March 2024	03PALAYAN_G01	31	8,344	17 June 2023	16 November 2023	15 December 2023	No (Extended PCATC)		1
	04BILGPP_G01	2	2,573	12 January 2024	17 February 2024	17 April 2024	No (PCATC)		
	Sub-total	***31***	***8,344***						
	TOTAL (GEOTHERMAL)	***95***	***21,330***						
January 2024	03LWERLAB_G01	1.5	4,215	17 June 2023	16 November 2023	18 March 2024	No (Extended PCATC)		4
	Sub-total	***1.5***	***4,215***						
February 2024	03LWERLAB_G01	1.5	7,321	17 June 2023	16 November 2023	18 March 2024	No (Extended PCATC)		4
	Sub-total	***1.5***	***7,321***						
March 2024	03LWERLAB_G01	1.5	8,804	17 June 2023	16 November 2023	18 May 2024	No (Extended PCATC)		5
	01MATUNO_G01	8.7	1,422	26 July 2023	19 July 2023	24 April 2024	No (Extended PCATC)		5
	Sub-total	***10.2***	***10,226***						
	TOTAL (HYDRO)	***13***	***21,762***						
January 2024	01CAGYSOL_G01	115.0	4,464	24 August 2023	05 November 2023	03 February 2024	No (Extended PCATC)		1
	01CAYBSOL_G01	75.1	3,273	20 October 2023	23 October 2023	21 January 2024	No (Extended PCATC)		1
	01PAVGSOL_G01	16.2	4,579	13 October 2023	18 November 2023	16 February 2024	No (Extended PCATC)		1
	01SNMARSOL_G01	326.4	3,912	30 November 2023	23 December 2023	21 February 2024	No (PCATC)		
	01TRUSTSOL_G01	15.4	4,556	21 September 2023	20 December 2023	19 March 2024	No (Extended PCATC)		3
	Sub-total	***548.1***	***20,784***						
February 2024	01CAGYSOL_G01	115.0	4,394	24 August 2023	05 November 2023	04 March 2024	No (Extended PCATC)		2
	01CAYBSOL_G01	75.1	4,391	20 October 2023	23 October 2023	21 March 2024	No (Extended PCATC)		2
	01PAVGSOL_G01	16.2	4,915	13 October 2023	18 November 2023	16 April 2024	No (Extended PCATC)		2
	01SNMARSOL_G01	326.4	4,374	30 November 2023	23 December 2023	22 March 2024	No (Extended PCATC)		1
	01TRUSTSOL_G01	15.4	4,887	21 September 2023	20 December 2023		Yes	20 February 2024	[3]
	Sub-total	***548.1***	***22,961***						
March 2024	01CAGYSOL_G01	115.0	4,174	24 August 2023	05 November 2023	03 May 2024	No (Extended PCATC)		3
	01CAYBSOL_G01	75.1	3,957	20 October 2023	23 October 2023	22 April 2024	No (Extended PCATC)		3
	01PAVGSOL_G01	16.2	4,149	13 October 2023	18 November 2023	16 April 2024	No (Extended PCATC)		3
	01SNMARSOL_G01	326.4	4,133	30 November 2023	23 December 2023	22 May 2024	No (Extended PCATC)		2
	01SUPSOL_G01	62.7	3,662	27 February 2024	28 February 2024	28 April 2024	No (PCATC)		
	Sub-total	***595.4***	***20,075***						
	TOTAL (SOLAR)	***822***	***27,764***						
January 2024	01BALWIND_G01	80	8,895	08 February 2023	29 September 2023	28 January 2024	No (Extended PCATC)		7
	Sub-total	***80***	***8,895***						
February 2024	01BALWIND_G01	80	8,912	08 February 2023	29 September 2023	28 April 2024	No (Extended PCATC)		8
	Sub-total	***80***	***8,912***						
March 2024	01BALWIND_G01	80	8,912	08 February 2023	29 September 2023	28 April 2024	No (Extended PCATC)		8
	01CAPRIS_G02	50	5,903	09 February 2024	05 March 2024	04 May 2024	No (PCATC)		
	Sub-total	***130***	***14,815***						
	TOTAL (WIND)	***290***	***32,622***						

[8] 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).