Philippine Electricity
Market Corporation

MONTHLY FORECAST ACCURACY STANDARDS (FAS) REPORT

09-May-2022
Enforcement and Compliance Office

Contents

A. COVERAGE

This Monthly Forecast Accuracy Standards (FAS) Report covers:

1. Must Dispatch Generating Units (**MDGU**) or plants on commercial operation
    (Plants on test and commissioning are not yet included).
2. MDGU plants in Luzon and Visayas. (Plants in Mindanao are not included pending the commercial operation in WESM Mindanao.)
3. For the period 26 December 2021 to 25 February 2022 (**February 2022 Billing Period**).

B. RULE REFERENCE

1. <u>FAS Under the Enhanced WESM Design and Operations</u>

    On 16 March 2021, the WESM Manual "Procedures for the Monitoring of Forecast Accuracy Standards for Must Dispatch Generating Units" (WESM-FASMD) Issue 2.0 was promulgated by the Department of Energy (DOE). Said manual establishes the procedures for the monitoring, reporting, and review of the FAS for compliance by the must dispatch generating units **under the Enhanced WESM Design and Operations (EWDO).**

    On 25 June 2021, the DOE, through the Department Circular DC2021-06-0015, officially declared the commercial operation of the EWDO which necessitated the launching of the NMMS on 26 June 2021 by IEMOP. PEMC, on the other hand, commissioned the CPEMS in view of the directive of the DOE to monitor the compliance of the trading participants in the WESM under the EWDO.

    The FAS Manual Issue 2.0 that was promulgated in March 2021 thus became effective on 26 June 2021 or upon such declaration of commercial operation of the EWDO.

    Under the said revised manual, the **Enforcement and Compliance Office (ECO)** is tasked to monitor and evaluate the compliance of each must dispatch generating unit with the FAS.

2. <u>Transition Period</u>

    The compliance with the FAS Manual is determined on an annual basis. The Mean Absolute Percentage Error (MAPE) and Percentile 95 (Perc95) of each must dispatch generating unit shall be calculated over the period starting on the 26th of December of a year and ending on the 25th of December of the succeeding year.[1]

    As mentioned in the preceding paragraphs, the FAS Manual became effective on 26 June 2021 wherein the WESM switched from one-hour trading interval to 5-minute dispatch intervals. With the changes both in the resolution of trading intervals and the formula and conditions in computing the FAS, it becomes impossible to determine the *annual* compliance with the FAS Manual for 2021, *i.e,* from January 2021 to December 2021 billing periods.

    While the ECO already commenced the compliance monitoring of the FAS in July 2021, the monitoring of the FAS from July to December 2021 billing period shall serve as the transition period.

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[1] Section 4.1.2 of the FAS Manual 2.0

B. RULE REFERENCE

During the transition period, the must dispatch generating units who fail to meet the requisite forecast accuracy standards, as set out in the FAS Manual, shall not be liable for sanctions imposed under the relevant Market Manual.[2]

Period	Governing Manual	Monitoring Entity	Status
Jan – Jun 2021	FAS Manual 1.0 (Old)	IEMOP	Not subject to sanction
July – Dec 2021	FAS Manual 2.0 (Current)	PEMC	Not subject to sanction (transition period)
Jan – Dec 2022 and onwards	FAS Manual 2.0 (Current)	PEMC	Subject to sanction

3. FAS (MAPE and PERC95) Formula

   3.1 Forecast Accuracy Standards

   Each must dispatch generating unit shall comply with the following standards with respect to its mean absolute percentage error (MAPE) and percentile 95 of the forecasting error (Perc95)

Technology	MAPE	PERC95
Run-of-river	<9%	
Solar	<18%	<30%
Wind		

   MAPE and Perc95 shall be calculated over the period starting on the 26th of December of a year and ending on the 25th of December of the succeeding year. Failure to meet the requisite FAS may be liable for sanctions imposed under Clause 7.2 of the WESM Rules and the Penalty Manual.

   Calculating Forecast Percentage Error

   The Forecast Percentage Error for a dispatch interval of a must dispatch generating unit shall be calculated using the following formula:

$$\mathbf{FPE_{i,t}} = \left| \frac{\mathbf{PQ_{i,t} - MQ_{i,t}}}{\mathbf{MQ_{max,i,bp,t}}} \right| \times \mathbf{100}\%$$

   Where:

   FPE$_{i,t}$ refers to the Forecast Percentage Error (in %) of must dispatch generating unit i for dispatch interval t

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[2] Section 4.5.2 of the FAS Manual 2.0

B. RULE REFERENCE

PQi,t refers to the Projected Quantity (in MWh) of must dispatch generating unit i for dispatch interval t. It shall be computed as follows.

$$PQ_{i,t} = \frac{1}{n} \; x \; \frac{IL_{i,t} + PO_{i,t}}{2}$$

Where:

ILi,t refers to the Initial Loading (in MW) of must dispatch generating unit i for dispatch interval t used in the scheduling process

POi,t refers to the Projected Output (in MW) of must dispatch generating unit i or dispatch interval t used during the scheduling process

n refers to the number of dispatch interval(s)

$MQ_{i,t}$ refers to the Metered Quantity (in MWh) of must dispatch generating unit i for dispatch interval t as provided by the Metering Services Provider

$MQmax_{,i,bp,t}$ refers to the Maximum Metered Quantity (in MWh) of must dispatch generating unit i during billing period where dispatch interval t belongs as provided by the Metering Services Provider

3.2 Calculating Mean Absolute Percentage Error

The MAPE is the average of the Forecast Percentage Errors for a given period. It is calculated as follows.

$$MAPE_{i,p} = \frac{\sum_{t=1}^{n_p} FPE_{i,t}}{n_p}$$

Where:

$MAPE_{i,p}$ refers to the mean absolute percentage error (in %) of must dispatch generating unit i for period p

np refers to the number of dispatch intervals within period p wherein forecast percentage errors were calculated

$FPE_{i,t}$ refers to the forecast percentage error (in %) of must dispatch generating unit i for dispatch interval t calculated in accordance with Section 4.2.3

3.3 Calculating Perc95

The Perc95 of a must dispatch generating unit for a period shall refer to the value (in %) not exceeding 95% of the forecast percentage errors of the must dispatch generating unit during the period and shall be calculated using the NIST method.

For a more detailed explanation of the NIST Method for Calculating Percentiles, please refer to Appendix A of the FAS Manual.

B. RULE REFERENCE

3.4 Additional Provision in Calculation

Section 4.2 of the FAS Manual Issue 2.0 also provides for the following conditions to be considered in the calculation of forecast percentage errors for each dispatch interval:

"4.2.5   A one hundred (100) percent FPE shall be imposed to a must dispatch generating unit on a particular dispatch interval where its maximum metered quantity is equal to zero (0) and a projected quantity is not equal to zero (0).

4.2.6   A one hundred (100) percent FPE shall be imposed to a must dispatch generating unit for non-submission of projected output.

4.2.7   A zero (0) percent FPE shall be imposed to a must dispatch generating unit on a particular dispatch interval where its projected quantity and maximum metered quantity are equal to zero (0)."

3.5 Exclusions

Forecast percentage errors occurring on the following conditions shall be excluded from the calculation of the MAPE and Perc95 of must dispatch generating units based on Section 4.3 of the FAS Manual:

3.5.1   The dispatch target of the must dispatch generating unit was restricted below its projected output;

3.5.2   The output of the must dispatch generating unit was restricted by the System Operator13 as indicated in the System Operator's report submitted to the Market Operator in accordance with the WESM Rules;

3.5.3   A market suspension or market intervention was declared for the dispatch interval;

3.5.4   An outage resulted in its derating; or

3.5.5   A natural calamity (e.g., typhoon, landslide) affected the ability of the must dispatch generating unit to forecast accurately.

The exclusions are already incorporated in the Final FAS Result by ECO, considering data and information provided by the Trading Participants.

4.   Penalty/Sanctions

Item 4 of the Section 5 (Schedule of Breach and Penalties) of the WESM Penalty Manual provides for the following:

4.1 Type of Breach: Failure to comply with forecast accuracy standards in respect to projected output submitted for a must dispatch generating unit.

One breach is counted for each year that the failure occurs.

One breach is counted for each category of forecast accuracy standard that was not complied with. That is, failure to comply with the prescribed mean absolute percentage error (MAPE) and failure to meet the prescribed percentile 95 of the forecasting error (Perc95) are counted as separate breaches even if they occur on the same periods.

B. RULE REFERENCE

4.2 Applicable Penalty: Level 1 – Reprimand; Level 2 - Financial Penalties; Level 3 – Escalated Financial Penalties; Suspension and Deregistration

4.3 Financial Penalty: PhP500,000/Breach of MAPE; and PhP500,000/Breach of PERC95

4.3.1   Level 2: PhP500,000/Breach of MAPE; and PhP500,000/Breach of PERC95

4.3.2   Level 3 (Escalated Penalty: PhP1,000,000/Breach of MAPE; and PhP1,000,000/Breach of PERC95

C. FAS INTERIM PROCEDURE

1. Processes and Timelines of Activities

   1.1 Publication of Results

   The Prelim FASR published by ECO is based on the data gathered from the Independent Electricity Market Operator of the Philippines (IEMOP) and the application of the formula set in the FAS Manual.

   1.2 Validation

   The trading participants will have the opportunity to review the monthly initial results of MAPE and PERC95.

   The trading participants may submit request for exclusion of dispatch intervals and/or replacement of data for a specific dispatch interval within the current billing month through Accomplished FAS Forms together with the relevant evidence and justifications.

   The requested action by TP will be subject to the validation by ECO.

   1.3 Publication of Final Results

   The Final FASR will be issued after due verification and assessment of the relevant data or information.

   In summary –

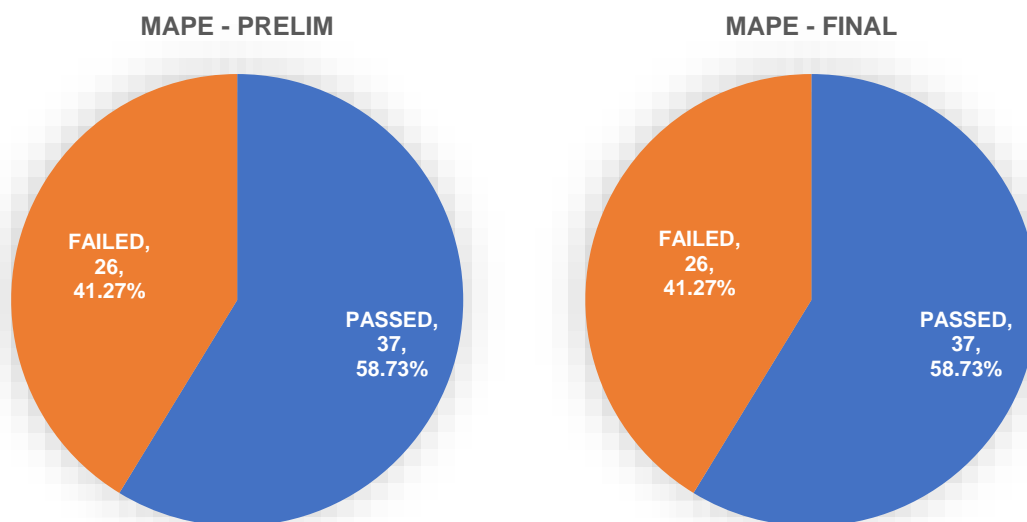| Process	Report/Forms	Platform/Tool	Timeline
Publication of the Initial FAS Results	Prelim FASR	CPEMS	Every end of the month following the covered month of monitoring
Validation by TP	Accomplished FAS Form (AFASF)	FTP	Within 15 calendar days from the publication of Prelim FASR
Validation by ECO	Submitted AFASF and Supporting Documents	CPEMS	Within 15 calendar days from the receipt of AFASF
Publication of the Final FAS Results	Final FASR	CPEMS	30 calendar days from the publication of Prelim FASR
Publication of the Annual Final FAS Results	Annual FASR	CPEMS	Within 2 calendar months from the end of monitoring period

D. OVERALL FAS RESULTS

This monthly report covers the forecast accuracy performance of MDGUs in **Luzon and Visayas** as of **February 2022**. Considered in the calculation of the FAS results are the exclusions mentioned in Section (B) (3.5) of this Report.

As of 25 February 2022, there are 78 facilities registered as MDGU in the WESM. From the facilities monitored, 15 Mindanao facilities performances were exempted from the evaluation pending declaration of commercial operation of the WESM Mindanao.

Technology	No. of Resources in Luzon	No. of Resources in Visayas	No. of Resources in Mindanao	Total
Run of River	14	1	10	25
Solar	29	12	5	45
Wind	5	2	0	7
Total	48	15	15	78

Table 1. Summary of WESM Registration on Must Dispatch Generating Units as of 25 Feb 2022

Below shows the Preliminary and Final FAS Results –

MAPE - PRELIM

MAPE - FINAL

FAILED, 26, 41.27%

PASSED, 37, 58.73%

FAILED, 26, 41.27%

PASSED, 37, 58.73%

Graph 1. MAPE Prelim FAS Results vs. Final FAS Results for Luzon and Visayas

Graph 1 shows the comparison of MAPE Preliminary Forecast Accuracy Standards Results (Prelim FASR) and Final Forecast Accuracy Standards Results (Final FASR) for Luzon and Visayas must dispatch generators.

- From the initial results of monitoring of MAPE, it appears that 37 out of 63 facilities performed within the <9% and <18% threshold which resulted to a MAPE passing rate of 58.73%, while 26 out of 63 facilities failed to meet the MAPE standards.

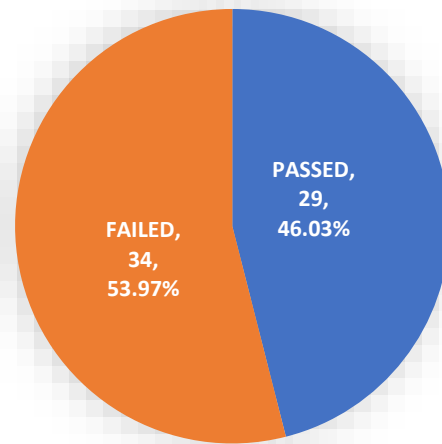**Philippine Electricity Market Corporation**

D. OVERALL FAS RESULTS

- The ECO performed validation and recalculation, as stated in Section C of this report, and determine the Final FASR-MAPE. There was no change in the overall rating of Final FASR-MAPE. While the performance of 7 out of the 63 facilities shows an improvement in the individual MAPE performance; 4 facilities declined rating in the Final FASR; and there was no change in the performance with respect to the other 52 facilities.

PERC95 - PRELIM

PASSED, 30, 47.62%
FAILED, 33, 52.38%

PERC95 - FINAL

PASSED, 29, 46.03%
FAILED, 34, 53.97%
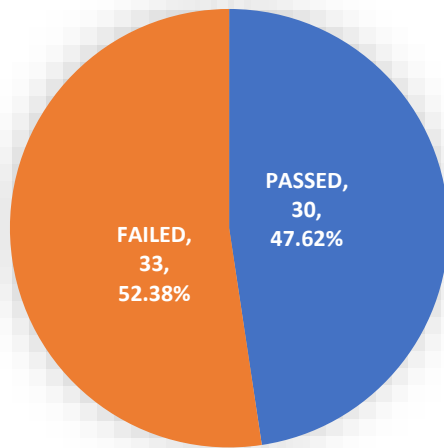
Graph 2. PERC95 Prelim FAS Results vs. Final FAS Results for Luzon and Visayas

Graph 2, on the other hand, shows the comparison of PERC95 Prelim FASR and Final FASR for Luzon and Visayas MDGUs.

- The initial computation of the PERC95 yielded the following results: 30 out of 63 facilities performed within the <30% threshold or a PERC95 passing rate of 47.62%.

- The ECO likewise performed validation and recalculation, as stated in Section C of this report and determine the Final FASR-PERC95. Twenty-nine (29) out of the 63 facilities showed an overall Final FASR-PERC95 result of 46.03%, with a declined in PERC95 passing rate by 1.59%. While the performance of 2 out of the 63 facilities shows an improvement in the individual PERC95 performance; 3 facilities declined performance in the Final FASR; and there was no change in the performance with respect to the other 58 facilities.

In summary, there was no change in the MAPE passing rate and with declined rating in PERC95 final monthly result as of February 2022 billing period by more than 1.5%

By Resource Type and Technology

The MAPE and PERC95 performance of MDGUs per region and per technology was assessed and compared based on the Preliminary FAS Results and Final FAS Results.
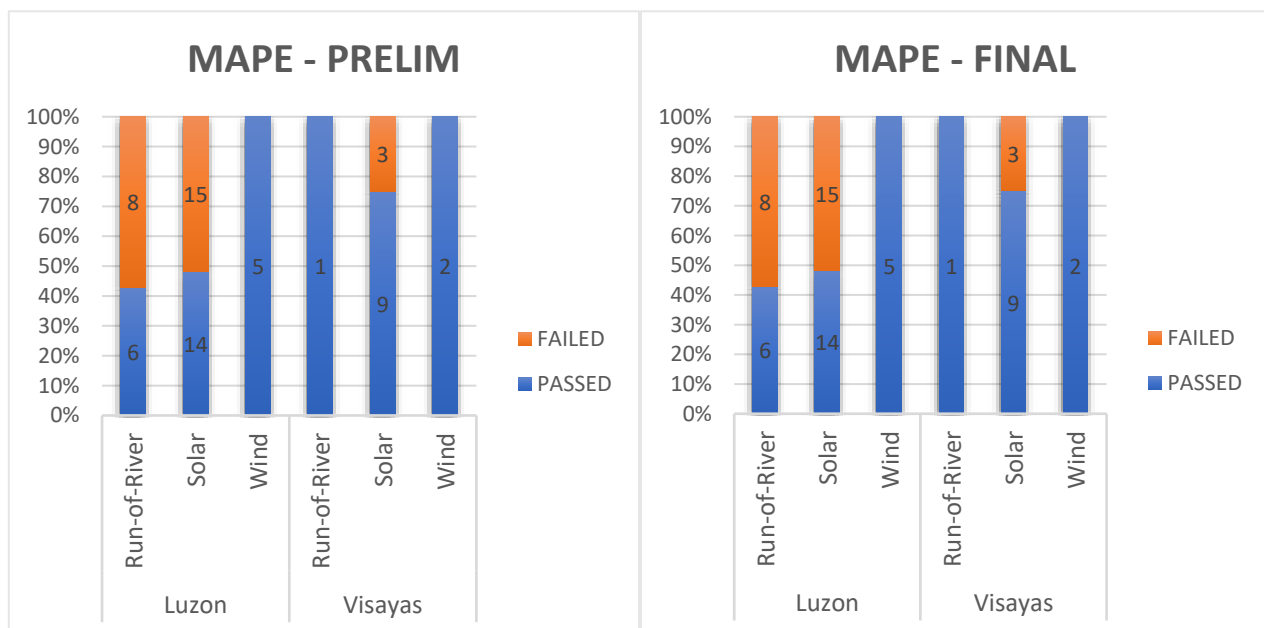
D. OVERALL FAS RESULTS

For MAPE

- The MAPE performance of Luzon and Visayas Run-of-River, Solar and Wind Power Plants remains the same.

See Graph 3 below for the summary illustration:

Graph 3. MAPE Prelim vs. Final Performance of MDGUs per Region/Technology for Luzon and Visayas
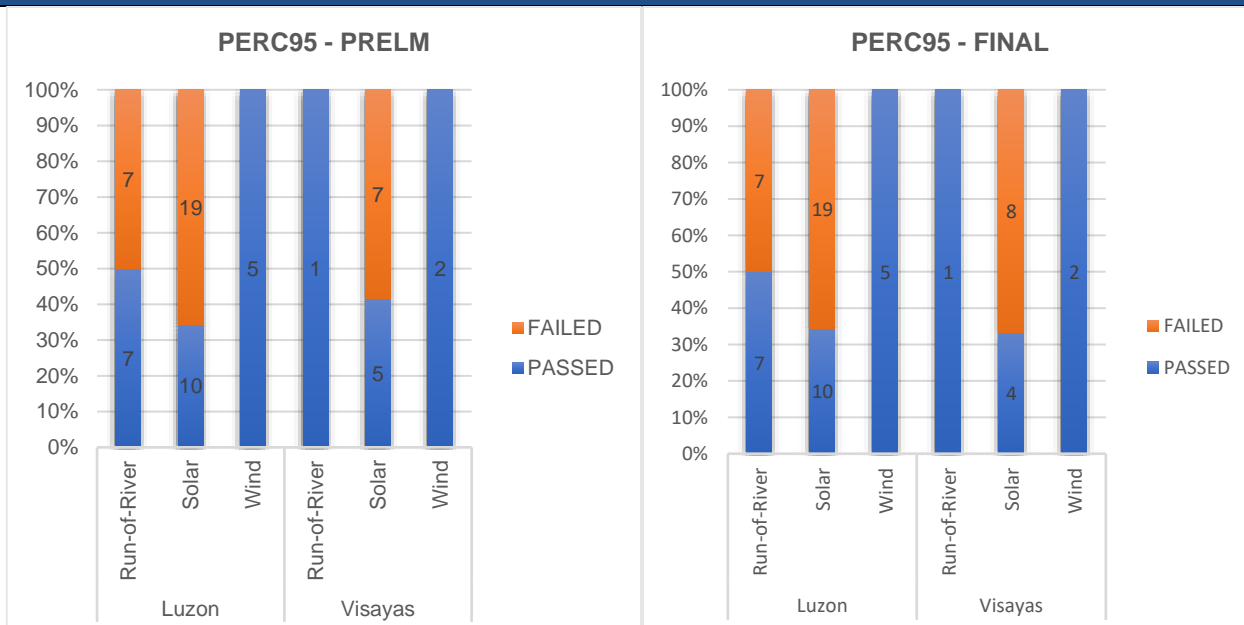
For PERC95

- The PERC95 performance of Luzon Run-of-river, Solar and Wind Power Plants remains the same
- The PERC95 performance of Visayas Run-of-river and Wind Power Plants remains the same; While the PERC95 performance of Visayas Solar Power Plants declined from 41.66% to 33.33%.

See below Graph 4 for summary results –

D. OVERALL FAS RESULTS

Graph 4. PERC95 Prelim vs Final Performance of MDGUs per Region/Technology for Luzon and Visayas

The table below shows the running MAPE results as of February 2022 of each MDGU in Luzon and Visayas. The summary MAPE performance rating refers to the **February 2022 Prelim FASR and Final FASR.**

Seven (7) facilities had an improved Final FASR as compared to the Prelim FASR; while the final monthly rating for 4 facilities had declined after re-validation and/or recalculation. There was no change in the ratings with respect to the other 52 facilities. Improved recalculated ratings are in GREEN font, while ratings which declined are noted in RED.

Table 2. Individual Performance of MDGUs (Running MAPE)

Resource Name	MAPE Performance as of Feb 2022	
	Prelim FASR	**Final FASR**
RUN OF RIVER		
01AMPHAW_G01	1.52%	**2.04%**
01BAKSIP_G01	33.75%	**33.76%**
01BAKUN_G01	1.45%	1.45%
01BINENG_G01	43.82%	43.82%
01NMHC_G01	92.85%	**92.87%**
01NMHC_G03	92.57%	**92.08%**

E. MAPE RESULTS

Resource Name	MAPE Performance as of Feb 2022	
	Prelim FASR	**Final FASR**
RUN OF RIVER		
01SABANG_G01	4.44%	4.44%
01SLANGN_G01	0.00%	0.00%
01SMBELL_G01	4.67%	4.67%
03BALUG_G01	20.59%	20.59%
03BART_G01	35.62%	35.62%
03CLBATO_G01	33.10%	33.10%
03MAJAY_G01	6.63%	6.63%
03PALAK_G01	9.17%	9.17%
08SUWECO_G01	0.86%	0.86%
SOLAR		
01ARMSOL_G01	54.15%	54.15%
01BOSUNG_G01	66.79%	66.79%
01BTNSOL_G01	5.48%	5.48%
01BULSOL_G01	59.31%	59.31%
01BURGOS_G02	58.57%	**58.56%**
01BURGOS_G03	60.68%	**60.67%**
01CABSOL_G01	5.87%	5.87%
01CLASOL_G01	58.93%	58.93%
01CONSOL_G01	29.21%	29.21%
01DALSOL_G01	54.70%	54.70%
01GIGSOL_G01	2.98%	2.98%
01MAEC_G01	10.76%	10.76%
01MARSOL_G01	52.49%	52.49%
01PETSOL_G01	3.66%	3.66%
01PETSOL_G02	51.12%	51.12%
01RASLAG_G01	13.69%	**13.46%**
01RASLAG_G02	13.93%	**13.67%**
01SPABUL_G01	10.68%	10.68%

E. MAPE RESULTS

Resource Name	MAPE Performance as of Feb 2022	
	Prelim FASR	**Final FASR**
01SUBSOL_G01	3.28%	3.28%
01TERASU_G01	3.62%	3.62%
01YHGRN_G01	58.94%	58.94%
01ZAMSOL_G01	4.25%	4.25%
02ECOPRK_G01	5.42%	**4.79%**
02ECOTAGA_G01	5.20%	5.20%
02SMNRTH_G01	67.86%	67.86%
02VALSOL_G01	5.37%	5.37%
03ADISOL_G01	63.35%	63.35%
03CALSOL_G01	27.37%	27.37%
03SOLACE_G01	20.53%	20.53%
04PHSOL_G01	8.94%	8.94%
04SEPSOL_G01	2.99%	**2.96%**
05TOLSOL_G01	61.99%	61.99%
06CARSOL_G01	7.46%	7.46%
06HELIOS_G01	9.62%	9.62%
06MANSOL_G01	2.10%	2.10%
06MNTSOL_G01	2.60%	2.60%
06SACASL_G01	4.09%	4.09%
06SACASL_G02	6.76%	6.76%
06SACSUN_G01	7.42%	**15.42%**
06SLYSOL_G01	63.02%	63.02%
08COSMO_G01	100.00%	100.00%

E. MAPE RESULTS

Resource Name	MAPE Performance as of Feb 2022	
	Prelim FASR	Final FASR
WIND		
01BURGOS_G01	6.74%	6.74%
01CAPRIS_G01	3.40%	3.40%
01NWIND_G01	4.81%	4.81%
01NWIND_G02	4.36%	4.36%
03AWOC_G01	6.43%	6.43%
08PWIND_G01	9.76%	9.76%
08SLWIND_G01	4.00%	4.00%

F. PERC95 RESULTS

Table 3, on the other hand, shows the running Perc95 as of February 2022 of each MDGU in Luzon and Visayas. The PERC95 summary performance rating refers to the **February 2022 Prelim FASR and Final FASR**.

Two (2) facilities had an improved Final FASR as compared to the Prelim FASR; while the final monthly rating for 3 facilities had declined after re-validation and/or recalculation. There was no change in the ratings with respect to the other 58 facilities. Improved recalculated ratings are in GREEN font, while ratings which declined are noted in RED.

Table 3. Individual Performance of MDGUs (Running PERC95)

Resource Name	PERC95 Performance as of Jan 2022	
	Prelim FASR	Final FASR
RUN OF RIVER		
01AMPHAW_G01	4.16%	**6.03%**
01BAKSIP_G01	63.39%	**63.39%**
01BAKUN_G01	4.48%	4.48%
01BINENG_G01	100.00%	100.00%
01NMHC_G01	100.00%	100.00%
01NMHC_G03	100.00%	100.00%
01SABANG_G01	7.20%	7.20%
01SLANGN_G01	0.00%	0.00%
01SMBELL_G01	16.49%	16.49%
03BALUG_G01	61.61%	61.61%

F. PERC95 RESULTS

Resource Name	PERC95 Performance as of Jan 2022	
	Prelim FASR	**Final FASR**
03BART_G01	100.00%	100.00%
03CLBATO_G01	46.73%	46.73%
03MAJAY_G01	17.44%	17.44%
03PALAK_G01	29.32%	29.32%
08SUWECO_G01	1.47%	1.47%
SOLAR		
01ARMSOL_G01	100.00%	100.00%
01BOSUNG_G01	100.00%	100.00%
01BTNSOL_G01	24.44%	24.44%
01BULSOL_G01	100.00%	100.00%
01BURGOS_G02	100.00%	100.00%
01BURGOS_G03	100.00%	100.00%
01CABSOL_G01	25.93%	25.93%
01CLASOL_G01	100.00%	100.00%
01CONSOL_G01	100.00%	100.00%
01DALSOL_G01	100.00%	100.00%
01GIGSOL_G01	16.70%	16.70%
01MAEC_G01	100.00%	100.00%
01MARSOL_G01	100.00%	100.00%
01PETSOL_G01	19.98%	19.98%
01PETSOL_G02	100.00%	100.00%
01RASLAG_G01	100.00%	100.00%
01RASLAG_G02	100.00%	100.00%
01SPABUL_G01	51.15%	51.15%
01SUBSOL_G01	16.74%	16.74%
01TERASU_G01	18.23%	18.23%
01YHGRN_G01	100.00%	100.00%

F. PERC95 RESULTS

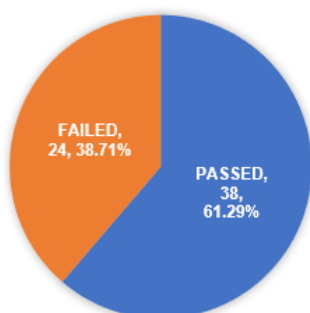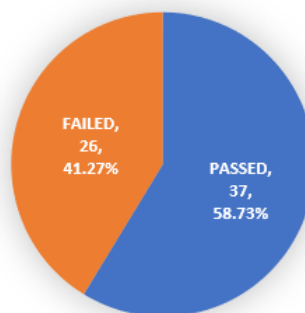| Resource Name	PERC95 Performance as of Jan 2022	
	Prelim FASR	Final FASR
01ZAMSOL_G01	23.59%	23.59%
02ECOPRK_G01	29.47%	**25.23%**
02ECOTAGA_G01	24.66%	24.66%
02SMNRTH_G01	100.00%	100.00%
02VALSOL_G01	25.22%	25.22%
03ADISOL_G01	100.00%	100.00%
03CALSOL_G01	100.00%	100.00%
03SOLACE_G01	85.55%	85.55%
04PHSOL_G01	100.00%	100.00%
04SEPSOL_G01	18.11%	**17.94%**
05TOLSOL_G01	100.00%	100.00%
06CARSOL_G01	38.24%	38.24%
06HELIOS_G01	100.00%	100.00%
06MANSOL_G01	13.05%	13.05%
06MNTSOL_G01	14.79%	14.79%
06SACASL_G01	19.84%	19.84%
06SACASL_G02	34.20%	34.20%
06SACSUN_G01	29.24%	**58.15%**
06SLYSOL_G01	100.00%	100.00%
08COSMO_G01	100.00%	100.00%
WIND		
01BURGOS_G01	19.49%	19.49%
01CAPRIS_G01	10.37%	10.37%
01NWIND_G01	17.80%	17.80%
01NWIND_G02	15.33%	15.33%
03AWOC_G01	17.33%	17.33%
08PWIND_G01	25.10%	25.10%
08SLWIND_G01	14.37%	14.37%

G. ECO GENERAL OBSERVATION

Enforcement and Compliance Office observed the following based on the **February 2022** FAS result:

1. Out of the 78 facilities monitored, 32 facilities or 41% submitted justifications and supporting documents requesting for exclusion as mentioned in Section (C) (1.2) of this report.

2. In comparison with the previous month's rating (January 2022 FAS results), the February 2022 FAS results are generally low in terms of the compliance of the MDGUs with both the MAPE and PERC95.

    a. Three (3) facilities declined in rating, and two (2) facilities had an improvement, while the performance of the additional one (1) facility as of February 2022 was not able to meet the MAPE standards which resulted in a declined passing rate from 61.29% to 58.73%.
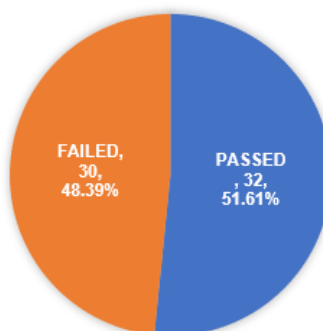

JAN MAPE / **FEB MAPE**

JAN MAPE: FAILED, 24, 38.71% / PASSED, 38, 61.29%
FEB MAPE: FAILED, 26, 41.27% / PASSED, 37, 58.73%

    b. Five (5) facilities declined in rating, and two (2) facilities had an improvement, while the performance of the additional (one) 1 facility as of February 2022 was not able to meet the PERC95 standard which resulted in a declined passing rate from 51.61% to 46.03%.

JAN PERC95 / **FEB PERC95**

JAN PERC95: FAILED, 30, 48.39% / PASSED, 32, 51.61%
FEB PERC95: PASSED, 29, 46.03% / FAILED, 34, 53.97%
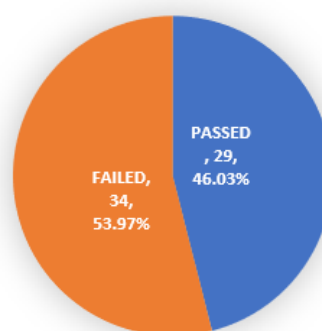
3. For this period, the common request for exclusion which was considered in the recalculation is/are Outages, Market Suspension/Intervention and replacement of data for a specific dispatch interval in case of Data Variances.

G. ECO GENERAL OBSERVATION

Events	No. of Facilities with Submission	Accepted
• Outages	7	86%
• System Operator Instructions	0	0%
• Market Suspension/Intervention	1	0%
• Force Majeure	0	0%
• Data Variances	15	47%
• Others (Resource Constraints)	7	0%
• Without Request	12	0%
• Mindanao	0	Exempted
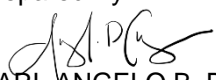
4. The non-submission of nominations resulted in 100% Forecast Percentage Error (FPE) in some dispatch intervals:

   It must be noted that under Section 4.2.6 of the FAS Manual, the nomination of zero (0) MW in times of zero projection in the generation would carry some weight in the calculation of the FPE. Thus, for a solar plant which has expected zero generation during nighttime and nominates zero (0) MW would have less error than a solar plant who does not nominate at all.

5. A huge difference between Metered Quantity and Projected Quantity resulted in a high FPE in some dispatch intervals.

6. For those intervals which have been recalculated due to the occurrences of some incidents that qualify as "exclusions," within the meaning of Section 4.3 of the FAS Manual, it was observed that the resulting FPE varies depending on the plant's performance with respect to the intervals that have not been covered by exclusions. The exclusions had either yielded a higher FPE for some plants and an improved FPE for others.

7. For those intervals which have been recalculated due to the occurrences of data error or non-updating/bad data in the NMMS that qualify as "data variance" and which allows replacement or substitution of corrected/validated data in observance of a due process, it was observed that the resulting FPE varies depending on the plant's performance using the correct data in place of the bad data.

   As can be seen in Table 2, there are seven (7) plants with improved ratings and four (4) with declined MAPE ratings after the recalculation based on the submitted and validated data. On the other hand, only two (2) plants obtained an improved ratings from preliminary to final results, while three (3) plants had declined PERC95 ratings as a result of the recalculation (see Table 3).
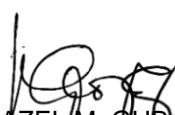
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