SNAP GROUP PROPOSED AMENDMENT TO THE ANCILLARY SERVICES MONITORING MANUAL

March 24, 2026

THE PROPONENT

- SN Aboitiz Power-Magat, Inc. and SN Aboitiz Power-Benguet, Inc. (collectively, the “SNAP Group”) are registered members and trading participants of the Wholesale Electricity Spot Market (WESM).

- The SNAP Group owns and operates four hydroelectric power plants and one battery energy storage system in North Luzon.

REASON FOR URGENCY

- Proposed FDE qualification could reduce unjustified Non-Compliance taggings by up to 50%, ensuring RCS assessments align with the inherent physical limitation of the plants.
- **Despite continuous provision of AS to the grid**, ASPs incur penalty* and non-payment. Through this proposal, ASPs would mitigate stringent penalties and non-payment.
- Unjustified NC taggings not only create financial burden but also pose **significant reputational risks**. For publicly-listed ASPs, penalties are reported to the Philippine Stock Exchange (PSE), which can **negatively affect market perception and credibility, lowers investor confidence, and increases public scrutiny**.
- ASPs can participate in RM with more confidence if there is less concern on stringent NC tagging from FDE anomalies.

*For instance, SNAP incurred approximately more than MPHP 2 (based on 2024-2025 record) on Mutliple FDE taggings alone.

OUTLINE

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ACTION REQUESTED

SNAP Group is proposing an amendment to the Section 5.6.2 of the ASMM 1.2 by introducing additional conditions for an event to qualify as a FDE. The proposed amendments are highlighted in **bold and underlined** as follows:

The event will qualify as Frequency-Driven Event, for this purpose, if:
a. the event lasts for more than five (5) seconds; ~~**and**~~

b. the frequency deviation exceeds the deadband setting by 0.02 Hz for conventional generating units and 0.01 Hz for battery energy storage systems;

c. The frequency deviation normalizes below the deadband setting by 0.02 Hz for conventional generating units and 0.01 Hz for battery energy storage

d. The frequency deviation normalizes below the threshold for at least 25 seconds

For clarity, item (a) and item (b) determine the start of a FDE, while item (c) and item (d) determine the end of a FDE.

RATIONALE OF THE PROPOSAL

This rule change seeks to provide Reserve Facilities with an additional tolerance for FDE qualification, with the following key considerations:

- Introduce a buffer "normalization threshold" of +/-0.02 Hz above 59.84 Hz (i.e., 59.86 Hz) that must be reached before a new FDE is qualified. Thus, multiple oscillatory FDE around the threshold (multiple FDEs) will be excluded from the measurement of RCS.
- It prevents premature classification of short-lived or oscillatory frequency dips as FDE. Thus, response of ASPs to the same will not be unfairly measured.
- This ensures that the system frequency has sufficiently recovered, marking the end of the previous FDE, before registering a new event.
- Account for frequency discrepancies between the Unit (plant-level) and the ECO readings when classifying an event FDE, by incorporating a tolerance of ±0.02 Hz to align plant-level and system-level frequency measurements.
- This proposal ensures that units are not unfairly penalized due to inherent differences in frequency sensing, or measurement points.

SUMMARY OF THE PROPOSAL

- This proposal seeks to amend the Section 5.6.2 of the ASMM 1.2 by introducing additional conditions for an event to qualify as a FDE, applicable to both conventional generating units and Battery Energy Storage Systems (BESS).

- The current rule determines the Start of a FDE **while the proposed amendment determines the End of a FDE.**

SUMMARY OF THE PROPOSAL

- This proposed amendment will provide an additional tolerance to ensure that the system frequency has sufficiently recovered and prevents triggering of multiple FDE's caused by short-lived or oscillatory frequency deviations around the threshold.

- It also incorporates a tolerance to align plant-level and system-level frequency measurements to ensure that the reserve facilities are not unfairly penalized due to inherent differences in frequency sensing, or measurement points.

Illustration: Frequency-Driven-Events (FDE) based on current rule

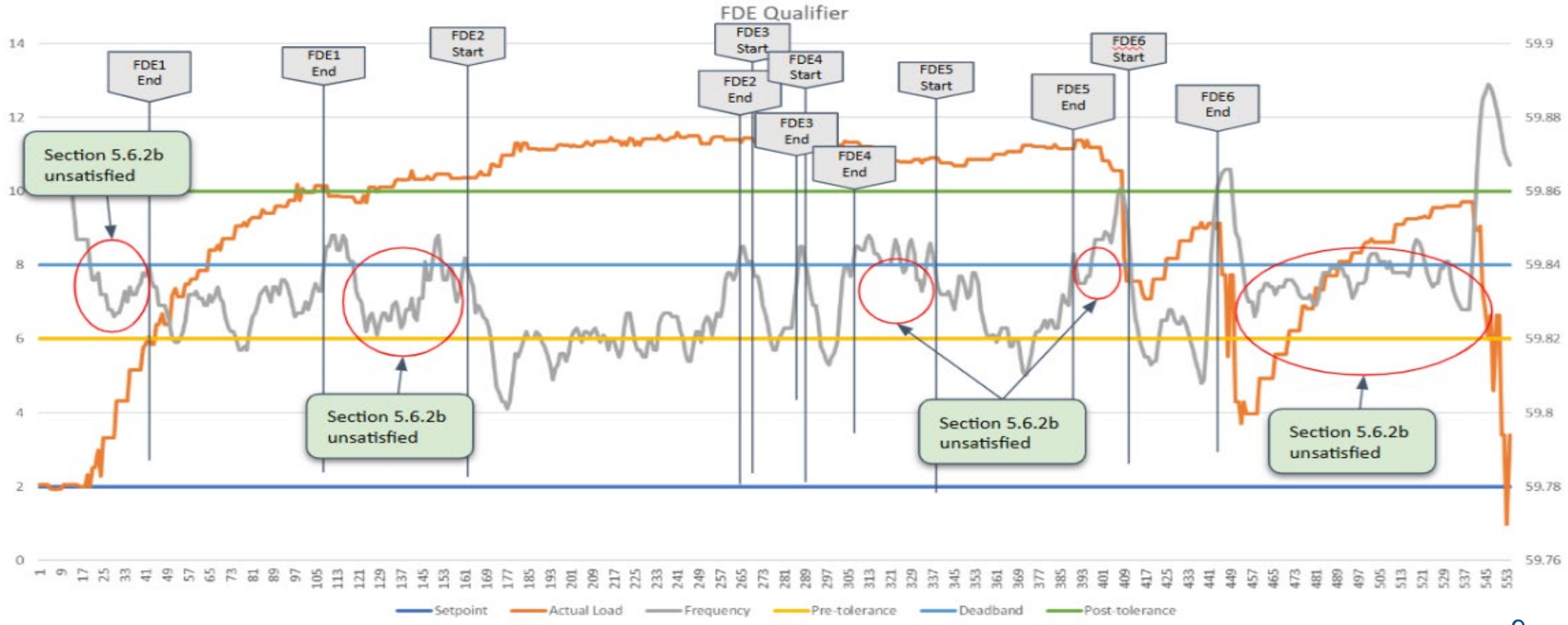

Illustration: Frequency-Driven-Events (FDE) based on current rule

- During the first frequency deviation,when the frequency falls beyond the deadband setting, a generating unit with CR provision responds by increasing its generation from Pmin. Consistent with the ASMM definition of an FDE, the 1st Frequency Driven Event (FDE) started once i.) the event lasted for more than five (5) seconds; and ii.) the frequency deviation exceeded the deadband setting by 0.02 Hz. The FDE will then end when the frequency goes back within the deadband setting.
- Ideally, the loading of the generating unit should also return to Pmin as the frequency stabilizes within the deadband setting. However due to physical constraints such as mechanical limitations and inherent inertia, as well as discrepancies between the system and plant frequency measurement, there is a slight delay in normalizing the loading back to Pmin.
- The issue arises when the frequency quickly falls beyond the deadband setting while the generating unit is still normalizing back to Pmin. In this situation, the generating unit postpones its normalization and will prioritize providing support to the grid. This has been observed multiple times, as shown in the chart, where frequency deviations oscillated around deadband settings, triggering multiple short-lived FDEs up to six (6) times in a single event.
- In this scenario, the ASP which continuously supported the grid throughout these intermittent frequency deviations and multiple FDEs within a short period, was penalized several times without accounting for its physical constraints and frequency discrepancies (system vs. plant frequency measurement).

Illustration: Frequency-Driven-Events (FDE) based on Proposal

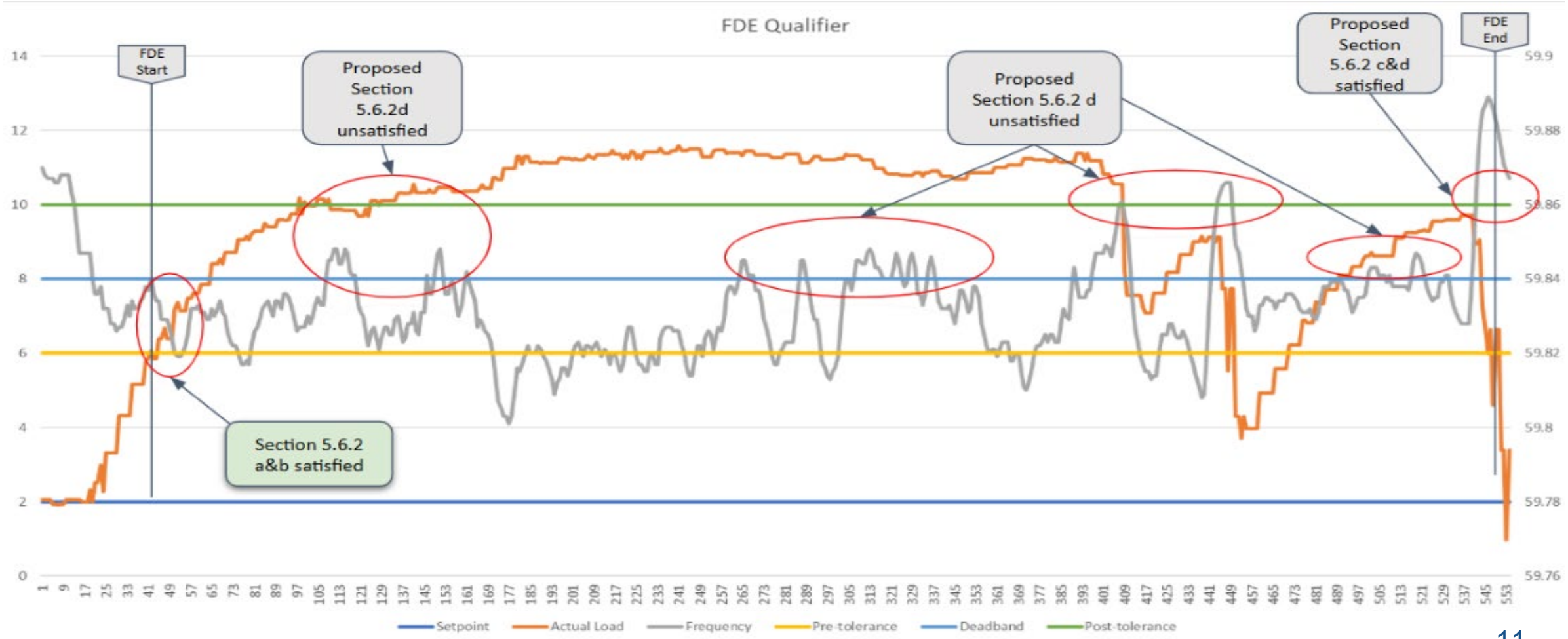

Illustration: Frequency-Driven-Events (FDE) based on Proposal

- During the first frequency deviation, when the frequency falls below the deadband, a generating unit with CR provision responds by increasing its generation from Pmin. Consistent with the ASMM definition of an FDE, the first Frequency Driven- Event (FDE) started once i.) the event lasted for more than five (5) seconds; and ii.) the frequency deviation exceeded the deadband setting by 0.02 Hz. Since frequency deviations can be intermittent, frequently crossing above and below the deadband, the generating unit continues providing support to the grid, and such intermittent activity should be considered part of the current FDE.
- We propose that the FDE should end when both of the following conditions are met i.) the frequency deviation normalizes below the deadband setting by 0.02 Hz; and ii.) the frequency deviation normalizes below the threshold for at least 25 seconds.
- These proposed end conditions ensure that the frequency has fully returned to the frequency level of 60Hz and is sustained. As seen in the chart, there are instances where the frequency briefly returns within the deadband setting of 0.02Hz but then quickly deviates again, indicating that the grid has not fully stabilized. The 25-seconds sustained period ensures that the generating unit continues to cover the disturbance in the grid until the system normalizes back.
- Implementing this proposal will enhance the operational flexibility of the ASP, allowing them to support a more robust and reliable grid while accounting for their physical constraints and system and plant frequency discrepancies. It also prevents premature triggering of multiple FDEs caused by short-lived or oscillatory frequency deviations around the threshold.

Illustration: Operational Examples

- RCS Response Accuracy Comparison - the proposed FDE Qualifier will reduced the number of FDE events resulting to higher computed response accuracy.

Current FDE Qualifier

Event #	ID No.	RCS1	RCS2
1	2116	120%	2
2	2120	46%	4
3	2121	-5.70%	17
4	2122	7%	1
5	2126	22%	22
6	2128	93%	8

Hourly Average RCS	47%

Proposed FDE Qualifier

Event #	ID No.	RCS1	RCS2
1		120%	2

ACTION REQUESTED

- In light of the above, SNAP Group respectfully recommends the adoption of the proposed amendment to Section 5.6.2 of the ASMM 1.2. This change introduces a technically sound and operationally fair enhancement to the qualification criteria for FDEs. It ensures that ASPs are assessed based on complete and accurate event information and protects against unjustified compliance penalties.

- We respectfully submit this proposal to the Rules Change Committee (RCC) of the Philippine Electricity Market Corporation (PEMC) for review, evaluation, and approval.

THANK YOU!