



ERCOT Comments on NOGRR272 PGRR121 and NPRR1278

**Shun Hsien (Fred) Huang
ERCOT Operations Support**

**ERCOT Reliability and Operations
Subcommittee (ROS) Meeting**

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Outline

- Need to timely adopt advanced grid support (AGS) requirements for new Energy Storage Resources (ESRs)
- ERCOT's review and feedback on NPRR1278
- Revisions to NOGRR272 and PGRR121
- Propose a one-time AGS new technology incentive concept to encourage AGS adoption for existing IBRs

Need to timely adopt advanced grid support IBRs

- Existing IBRs, including wind, solar, and energy storage, are considered to be grid following (GFL) IBRs, which are prone to stability issues especially in existing weak grids and the areas that will become weak as more GFL IBRs are integrated.
- A total of ~82 GW of GFL IBRs are operational. An additional ~50 to ~70 GW of IBRs are projected to connect to the ERCOT Transmission Grid by 2028.
 - ~12 GW of ESRs are operational, ~19 GW of ESRs with signed interconnection agreement (SGIA) and financial security, and ~9 GW of ESRs with SGIA only
- Highest instantaneous IBR penetration has reached to 76%.
- Recent improvements to mitigate stability challenges
 - Installing more synchronous condensers and sponsoring NOGRR 245
- Adoption of NOGRR272 and PGRR121 is imperative to continue to support reliable grid operation and to facilitate the continued integration of new Resources and Loads

ERCOT's review and feedback on NPRR1278

Review and Comments

- Would need to have consistent technical requirements as NOGRR272 and PGRR121
- Would require ERCOT to identify the need in advance on an annual basis in advance both for the quantity and location of AGS and to procure sufficient AGS to meet the need through an annual Request for Proposal (RFP).
- AGS-ESR does not change the voltage support requirements for Resources and does not address PUCT Blueprint requirement to create a service to compensate voltage support services.

NOGRR272/PGRR121	NPRR1278
<ul style="list-style-type: none">• Mandatory for new ESRs• Voluntary for the existing ESRs	Establish market service through an annual RFP process

ERCOT's review and feedback on NPRR1278

Concerns

- Lack of defined services:
 - Stability service in NESO as mentioned in NPRR1278 for grid forming battery energy storage has different performance requirements compared with NOGRR272. Specific inertia and short-circuit contribution that are components of AGS in those region typically require higher hardware specifications or require to maintain headroom to meet the performance requirements.
 - NOGRR272 clarifies that ESRs are required to meet AGS when operating within their current limits.
 - Specific service needs, such as inertia or short-circuit current contribution, would still need to be defined in NPRR1278 though.
 - Currently, the ERCOT System has not reached the identified minimum needed inertia level and ERCOT has not identified specific additional short circuit current contribution needed from IBRs.

ERCOT's review and feedback on NPRR1278

Concerns

- Lack of details on how the proposed framework can be implemented:
 - Identification of stability needs depends on accurate models and specific grid conditions such as new generation, load, transmission, and outages. Therefore, identification of the annual need for AGS will require a significant technical assessment effort and may necessitate changes to existing interconnection processes to ensure that all required information is available well in advance of the technical assessment.
 - Given that grid conditions and stability challenges will vary, it would be best to require all new Energy Storage Resources (ESRs) to provide AGS. Therefore, it is not clear if it is practical to obtain a market service via an RPF to procure AGS from all new ESRs though.

ERCOT's review and feedback on NPRR1278

Concerns

- Cost and resources:
 - NPRR 1278 will require an ERCOT project to implement that entail significant cost and time commitment.
- Launch complications:
 - There are no existing ESRs with AGS capability available to bid in this service, so it is unclear how the initial round of this RFP would occur.
 - It is also not clear what the performance requirement is if the service is no longer awarded to a Resource, which could further increase the challenges to and complexity of the technical assessments

Revisions to NOGRR272

- Section 2.14, change the effective date of new ESRs to provide advanced grid support.
 - An ESR that interconnects to the ERCOT Transmission Grid pursuant to a Standard Generation Interconnection Agreement (SGIA) executed before October 1, 2025, and that has paid the required financial security in full to the TSP before October 1, 2025, is not required to comply with the requirements of this Section
- Clarify an ESR with AGS are required to meet modeling requirements described in the Planning Guide 6.2 Dynamic Model Development.

One-time AGS New Technology Incentive – Concept

- ERCOT plans to propose a one-time AGS incentive for the existing IBRs.

	Preliminary Concept of One-Time AGS Incentive
Eligibility	IBRs that can implement AGS in operation by 12/31/2027
Application Submittal	<ul style="list-style-type: none">Basic project informationImplementation schedule (must be operational by 12/31/2027)Model related tests requirements as defined in NOGRR272
Evaluation Criteria	<ul style="list-style-type: none">Must meet AGS model performance requirements as defined in NOGRR272Must be operational by 12/31/2027May consider a maximum cap of ~xx millions in this incentive
Payment	<ul style="list-style-type: none">Will be made in the first quarter after 12 months of the initial AGS implementationWill be calculated based on project capacity (MW) * Incentive Price * availability factor (for example: 1 if more than 90%, proportional if below 90%)

*Incentive price is only intended to be sufficient to encourage existing IBRs that can adopt AGS without going through significant hardware changes



Conclusion

- ERCOT encourages stakeholders to approve NOGRR272 and PGRR121 in time to be considered at the September 25 ERCOT Board of Directors meeting.
- ERCOT recommends that NPRR 1278 not move forward, as written its current form.
- ERCOT plans to submit an NPRR with a more detail implementation plan for a one-time AGS adoption incentive to existing IBRs in summer 2025.
- ERCOT will work with stakeholders on future NPRRs to provide an opportunity cost payment or for a future inertia service or similar service if such a service becomes necessary in the future.