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| NOGRR Number | [245](https://www.ercot.com/mktrules/issues/NOGRR245) | NOGRR Title | Inverter-Based Resource (IBR) Ride-Through Requirements |

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| Date | May 3, 2023 |

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| Market Segment | Independent Generators |

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| Comments |

The Advanced Power Alliance (APA) appreciates ERCOT’s focus on ensuring and maintaining reliability. APA agrees with establishing requirements for future projects but applying NOGRR245 to existing Generation Resources is a fundamentally different approach. APA staff is fully engaged with our members and Original Equipment Manufacturers (“OEMs”) working on action plans to address these additional requirements.

We agree and support ERCOT’s objective to prevent the tripping offline of Inverter-Based Resources (IBRs) (wind, solar and storage) leading to reliability concerns. However, implementing before appropriate technical feasibility/timing review has been completed is inconsistent with Good Utility Practice and could force generation out of the market which could adversely impact grid reliability.

OEMs need time to design, prototype, model, study, test, manufacture, transport and install the equipment necessary for compliance with NOGRR245. Any implementation schedule must also account for real world supply chain and installation constraints. With the adoption of this new standard by Federal Energy Regulatory Commission (FERC) and the North American Reliability Corporation (NERC), we anticipate significant demand and potential supply chain bottlenecks when the hardware needs to be deployed at thousands of IBRs.

With the technical feasibility review, we may discover that some resources would be able to implement the new requirements even quicker than the timeline ERCOT is proposing, thereby reducing the risk of reliability concerns faster than the December 2024/2025 timeframe. A significant majority of existing IBRs currently do not comply with these requirements including new IBRs that signed interconnect requests after January 1, 2023. The full extent of capacity exposure will not be available until the technical feasibility review is well underway.

NOGRR245 places additional frequency ride-through requirements for IBRs consistent with the Institute of Electrical and Electronics Engineers (IEEE) Standard for Interconnection and Interoperability of Inverter-Based Resources (IBRs) Interconnecting with Associated Transmission Electric Power Systems (“IEEE 2800-2022”). It also clarifies additional IBRs voltage ride-through requirements, so they are consistent with or beyond the IEEE 2800-2022 standard.

IEEE 2800-2022 is a uniform technical minimum performance requirement for the interconnection, capability, and lifetime performance of IBRs interconnecting with transmission and sub-transmission systems. IEEE standards are considered voluntary until they become mandatory when adopted by the appropriate authorities (FERC and/or NERC). FERC and NERC are currently working to implement the new standard but also recognize the technical feasibility and possible inability of existing IBRs to comply.

In addition, currently no procedures are available to verify that IBRs comply with requirements. IEEE’s Recommended Practice for Test and Verification Procedures for Inverter-Based Resources (IBRs) Interconnecting with Bulk Power Systems (“IEEE 2800.2”) is under development and will not be ready until mid to late 2025. APA is concerned that even more changes will be required again after compliance testing and model validation requirements are completed.

ERCOT system planning needs to expand their weak grid analysis to include the addition of grid forming inverter resources to help meet reliability requirements. With grid forming or advanced inverters, these resources will be able to provide essential system stability services across the ERCOT grid. They will strengthen the grid by increasing the stability of the voltage waveform previously provided by synchronous sources which will in turn increase system security, support weak grid interconnection, and assist local operation.

Rather than setting a compliance timeline for new resources that neither ERCOT nor IBRs currently have enough information to know is achievable, APA recommends ERCOT continue working with IBRs and manufacturers to identify a set of requirements for new resources coming into service that is based on timelines OEMs indicate they can meet. A separate set of requirements may be developed for existing resources after a technical feasibility review is completed. This will send the proper signals to new resources while allowing adequate time to develop a more realistic, comprehensive set of solutions for existing resources.

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| Revised Cover Page Language |

None

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| Revised Proposed Guide Language |

None