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| NOGRR Number | [272](https://www.ercot.com/mktrules/issues/NOGRR272) | NOGRR Title | Advanced Grid Support Requirements for Inverter-Based ESRs |

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| Date | August 1, 2025 |

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| Comments |

Mortenson appreciates the opportunity to provide feedback on Nodal Operating Guide Revision Request (NOGRR) 272, Advanced Grid Support Requirements for Inverter-Based ESRs.

Mortenson is a top-25 builder, developer, and engineering serving the commercial, institutional, and energy sectors. From gigawatt-scale renewable energy generation and storage to commercial microgrids, and everything in between, our team brings comprehensive expertise in the design and execution of complex energy projects to our customers navigating the new world of energy.

As the #1 ranked *Engineering News-Record* battery storage contractor, Mortenson is one of the most experienced BESS builders in Texas with nearly 6,000 megawatt—hours completed or under construction in the state.

**COMMENTS TO NOGRR272**

1. Mortenson is concerned about variations in technical and procedural requirements across different markets within the US.
   1. If OEM vendors are required to satisfy the requirements for multiple markets, they may need to create configuration settings that change behavior depending on where the equipment is installed.  This will cause OEMs to have more variations in settings that need to be evaluated during their development and verification efforts, leading to increased testing durations.
   2. To address this Mortenson proposes that technical requirements be harmonized with those being developed in other markets.  This will save time for OEMs during development periods, and for developers when deploying projects.  Standardization is key towards streamlining this process.
2. The ability to 'perform grid forming within the limits of the PCS' ignores other limits that may impact the operation of the facility. These impacts can generally be broken into two types of projects:
   1. Projects where the BESS and PCS are provided by a single vendor, with operation between the components closely coordinated.  These vendors may be able to provide solutions that do not require headroom to avoid tripping during GFM response behavior.  This does not mean that the OEMs currently have this behavior, and the development of such behavior (if not already available) can typically be counted in years when following a traditional design process.
   2. Projects where the BESS and PCS are provided by multiple vendors, with the coordination provided by a third vendor (i.e. EMS/PPC) will face significant challenges when integrating equipment to provide the requested GFM behavior.  Coordination between BESS and PCS equipment is generally performed in the field without an equivalent design process.  This leads to a significant increase in undesired behavior during operating on boundary conditions.
3. Requesting non-standard behavior, or rushing the roll out of GFM, may increase the opportunity for mistakes in development or deployment.  This increases the likelihood of nonconformant behavior during expected GFM operation.
4. Mortenson shares the concern of vendors that have suggested that adding or replacing PCSs that differ from the remaining equipment within a facility presents a potential risk of unexpected behavior during fault responses.
   1. Configuration settings must be coordinated across units within a facility.  The PPCs role within a grid forming facility may include the coordination of settings across units.  When a PCS from a second OEM, or an updated variant of a PCS from the same OEM is introduced into an existing facility, it is very likely that those resources are not going to be compatible with the existing GFM control strategy.
   2. When multiple control philosophies are used within the same facility, the impedance required to provide the buffer between competing philosophies does not exist.  With the high speed of controls performed by GFM equipment, this increases the risk of interactions between the varying resources within a single facility.
   3. Mortenson proposes that any additional resources are exempt from contributing to the GFM control operation, and that the Facility is only required to maintain the GFM capabilities of the original facility.

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| Revised Cover Page Language |

None.

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| Revised Proposed Guide Language |

None.