

**DRAFT**

## DER and Inverter-based Resources Subcommittee (DIRS)

### Mission

The DER and Inverter-based Resources Subcommittee (DIRS) is an ongoing subcommittee established by the Market Implementation Committee (MIC) at its XX/XX/2020 meeting. The purpose of the DIRS is to provide a stakeholder forum to investigate and resolve specific issues and procedures in accordance with PJM stakeholder process protocols related to Distributed Energy Resources and inverter-based resources. For the purposes of this subcommittee, a Distributed Energy Resource (DER) is defined as any generation or electric energy storage resource connected to the distribution system and/or behind a load meter. Inverter-based resources are any resource-type using power electronic equipment to convert direct current to alternating current (DC-to-AC) in order to synchronize to the electric system. This includes but is not limited to wind, solar, and energy storage technologies. If deemed appropriate by the MIC, this subcommittee may also investigate issues related to other resource types that are not conventional thermal units, such as but not limited to run-of-river hydro, pumped storage hydro, or fuel cells.

### Responsibilities

- Review ongoing participation of DER resources in the wholesale market and recommend enhancements to ensure transparent, fair, and efficient participation.
  - Any market rules developed by this subcommittee related to DER must respect the distribution system and state/local jurisdictional agency standards and protocols to ensure safety and reliability. Rules should adhere to all pertinent jurisdictions and respect the Relevant Electric Retail Regulatory Authority (RERRA).
- Review issues, requirements, and/or procedures regarding the deployment of non-wholesale DER.
- Develop new coordination practices, protocols, and/or other information sharing techniques between PJM, transmission owners, electric distribution companies, municipal utilities, cooperatives, and DER providers regarding the safe and reliable operation of DER with respect to both the Bulk Electric System and the distribution system
- Review ongoing participation of inverter-based resources in the energy, capacity, and ancillary services markets.
- Recommend improvements to PJM systems, tools, and procedures that ensure effective operation of inverter-based resources in the PJM energy, capacity, and ancillary service markets.
- Monitor the status of other potential issues related to inverter-based resources, and raise these to the MIC at the appropriate time, including but not limited to:
  - Pairing intermittent resources with more controllable resources (e.g. solar PV and batteries), and how these are to be integrated into wholesale markets;
  - Load forecasting issues (recognizing jurisdictional concerns) with respect to behind the meter resources;
  - Assessing and, to the extent reasonable, developing proposals addressing any operational, market, or other reliability impacts, positive or negative, due to increased amounts of inverter-based resources connected to the grid.

## Administration

- This subcommittee reports to the Market Implementation Committee (MIC).
  - Some of the issues addressed by this subcommittee are likely to impact planning and operations and therefore may need to be vetted at the Planning Committee (PC) or Operating Committee (OC). When appropriate, this subcommittee will inform the PC and OC of potential solutions affecting their respective subject areas and encourage participation in the DIRS and any associated voting at the MIC.
  - To the extent that a solution developed by this subcommittee impacts a PJM business manual that is solely the purview of either the PC or OC, endorsement of those revisions shall be handled by the relevant standing committee.
- All PJM stakeholders may appoint representatives to the subcommittee.
- PJM will designate a subcommittee chairperson and secretary.
- The chair and secretary will be responsible for preparing and issuing all reports, scheduling periodic meetings and conference calls as necessary, and recording and preparing the minutes of each meeting.
- The subcommittee is expected to meet both in-person and via teleconference monthly, or as determined by the workload of the subcommittee or the discretion of the chair.
- This is a non-voting subcommittee. Decision making will be aided by the use of non-binding polling in accordance with Manual 34.
- Each member should have the authority to commit resources in order to support the requirements of the DER and Inverter-based Resources Subcommittee (DIRS).