

Exemptions from PFR Requirements

Only the following generators and storage resources can be exempted from having Primary Frequency Response (PFR) capability:

1. Existing generating facilities regulated by the U.S. Nuclear Regulatory Commission (NRC).
2. Any generator/storage resource that has submitted a request to PJM to be deactivated.
3. Existing generator/storage resources less than or equal to 20 MW as measured/aggregated at the point of interconnection.

Figure 1 below illustrates how the proposed PFR requirements differ between PJM Package 'A' and PJM Package 'D' (Option 'B').

Resources required to have capability to provide Primary Frequency Response

<u>Resource Type</u>	<u>PJM Package 'A'</u>	<u>PJM Package 'D' PJM Option 'B'</u>
<u>New generator / storage resource</u>	<u>Yes</u>	<u>Yes</u>
<u>Existing** non-renewable generator &gt;20 MW</u>	<u>Yes</u>	<u>Yes *</u>
<u>Existing** renewable generator &gt;20 MW</u>	<u>Yes</u>	<u>No</u>
<u>Retiring generator</u>	<u>No</u>	<u>No</u>
<u>Nuclear unit</u>	<u>No</u>	<u>No</u>
<u>Resources operating under a WMPA (new &amp; existing)</u>	<u>No</u>	<u>No</u>

\* All units identified in an approved System Restoration Plan must provide an annual confirmation that they have the ability to implement processes to ensure units are capable of sustained primary frequency response (i.e. disable outer loop controls, etc.) within 30 minutes during system restoration situations.

\*\* Existing resources are defined as resources that are in commercial operation or have a signed ISA or Pseudo-Tie Agreement, at time of FERC approval of PFR requirements.

Figure 1

Once an exemption is approved by PJM, it is considered permanent unless preempted by a new Interconnection Services Agreement (ISA), FERC order or new/updated NERC standard or other regulatory requirement, requiring resource to provide Primary Frequency Response.

Existing resources are defined as resources that are in commercial operation or have a signed ISA or Pseudo-Tie Agreement, at time of FERC approval of PFR requirements.

All other ~~new and~~ existing resources are expected to have the capability, within 24 months of the implementation date of business rule changes recommended by PFRSTF, to provide PFR, and have a functional governor or equivalent speed control device, with a deadband of less than or equal to 36 mHz, and droop of less than or equal to 5% as specified in PJM manuals, unless an exemption from PFR requirements is submitted to PJM and approved as described below.

**Exemption for technical reason:**

Those generators that otherwise would be required to provide PFR but cannot technically be retrofitted with Primary Frequency Response capability shall submit a request to PJM within 6 months of the implementation date of business rule changes recommended by PFRSTF. The request should explain the technical infeasibility, including data to justify the exemption request such as OEM documentation, or other regulatory restrictions, etc. Economics cannot be used as exemption criteria; the technical infeasibility has to be a physical restriction that cannot be rectified using available commercial alternatives. Cost of physical modifications and modes of operation (i.e. sliding pressure control) are examples of economic considerations.

Those generators for which Primary Frequency Response is technically infeasible as determined by PJM, with input from the IMM, may be granted a permanent exemption from the requirement. PJM/IMM review will consider the justification for the exemption along with the system impact from a reliability perspective.

PJM will make a determination within 90 calendar days following receipt of the request and required documentation. If PJM does not grant an exemption, the generator shall acquire the capability to provide Primary Frequency Response within 24 months being notified of that determination. An attestation to PJM will be required confirming that unit is compliant with endorsed business rules regarding Primary Frequency Response requirements. PJM and IMM will monitor performance and follow up as required.

(Note: This exemption is similar to that allowed in [BAL-001-TRE-1](#), Primary Frequency Response in the ERCOT Region, [ISO-NE OP-14](#), & [ISO-NE M/LCC 10](#).)

**NOTE:** If a generator or storage resource requests an exemption for technical reason, which is denied by PJM, and cannot acquire the capability to provide Primary Frequency Response within 24 months of being notified of that determination the resource owner is required to file a mitigation plan with PJM. This mitigation plan would include reasons for not being able to meet the 24 month deadline, and timeline for completion of required modifications, including an expected date of completion.

For example, when a resource owner requests an extended timeframe, perhaps 48 months, for the remaining 25% of solar units to have inverter software upgraded to allow for PFR, the process should include submission of a request with a mitigation plan outlining the technical issues and justification for the additional timeframe. Additionally, if an entity submits a request for a partial exemption because a unit has mechanical controls that are unable to set deadband, a mitigation plan outlining the technical issues and what performance the unit is capable of could be submitted. PJM and IMM will monitor performance and follow up as required.

**Examples of what PJM would consider justifying technical infeasibility:**

- Original Equipment Manufacture's documentation
- A state or federal mandated regulation
- A federal, state, or local jurisdiction mandated permit, or safety requirement

**Examples of what PJM would NOT consider justifying technical infeasibility:**

- Economic Decisions on how to operate the unit
- Outdated or degraded technology or lack of enhancements to bring the unit or equipment to modern operating standards (unless the unit has a firm retirement date)
- A conservative operations approach to operating the unit or equipment to reduce equipment maintenance
- Marketing or operational strategies to limit unit response

**Exemption for Governor Settings**

Generators or storage resources that do have a functional governor or equivalent speed control device, but cannot meet the requirements for droop and/or deadband as specified above, can request an exemption for settings. The process, supporting data/documentation, and timeline are identical to the exemption process described above.