RESILIENT POWER WORKS

UTILITY ENGINEERING • REQUEST REGISTER

Distributed Generation Interconnection

Evidence-request checklist

Use this blank request register to scope a site-specific distributed generation (DG) review. Request documents from the project team and confirm requirements with the serving utility. A recorded response is evidence received, not technical acceptance.

General U.S. distribution-interconnection planning guidance, not a utility application, compliance certification or permission to operate. The serving utility and governing authority determine applicable rules, adopted standard editions, settings, studies and approvals. This checklist gives no live switching or test-execution instructions.

Utility / site / location

Request date / prepared by

1. Candidate connection point and electrical boundary

General request scope [1, 2]; confirm site boundary with utility.

- ☐ Site/location and feeder or substation identifier; proposed point of common coupling, service voltage/phase, metering and equipment ownership boundaries.
- ☐ Boundary drawing showing utility-side or behind-the-meter connection, existing DG/storage, served loads, and any proposed intentional-island boundary.
- ☐ Serving-utility application route, current technical manual/tariff and governing authority; record edition, effective date, application ID and utility reviewer. Confirm the applicable reference point for requirements.

Evidence / document ID or link, revision/date and finding

Open question / missing evidence

Owner / next review date

2. Proposed equipment and configuration

General request scope [1, 2]; evidence must match the proposed assembly.

- ☐ Equipment schedule: manufacturer/model, technology, unit count, nameplate kW/kVA, voltage, transformer data and inverter or machine interface; include existing parallel resources.
- ☐ Configuration-specific data sheets: net output boundary and auxiliary loads, reactive capability, fault-current contribution and models; identify operating conditions and any estimates.
- ☐ Applicable certification and type-test reports, tested model/firmware and limitations; identify gaps between tested equipment and the proposed installed system. Equipment certification alone is not site approval.

Evidence / document ID or link, revision/date and finding

Open question / missing evidence

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For each category, record the document ID/link, revision/date and relevant finding; label measured results, estimates, projections or plans. Record unresolved questions and the person responsible. Use an attachment register if more space is needed. Mark non-applicable requests with a reason; do not treat blanks as approval.

Project / application ID

3. Permitted operating modes and export

General request scope [1, 2]; proposed modes are not permitted modes until confirmed.

- ☐ Mode schedule: grid-parallel, non-export/limited-export, standby and intentional islanding, where proposed. Identify proposed versus utility-permitted modes and the document authorizing each.
- ☐ Proposed import/export limits at the agreed measurement point, load/generation profiles, export-limiting design and evidence of response to load changes or loss of measurement/control.
- ☐ Functional descriptions and evidence for transitions, loss of grid and return to parallel service; distinguish unintentional-island protection from intentional-island operation. Identify decision authority and operating restrictions; do not assume non-export avoids review.

Evidence / document ID or link, revision/date and finding

Open question / missing evidence

Owner / next review date

4. One-line and protection information

General request scope [1, 2]; utility determines required functions and settings.

- ☐ Revision-controlled one-line with connection point, transformers/grounding, conductors, metering, isolation/paralleling devices, protective devices and current/voltage sensing locations.
- ☐ Protection narrative and coordination evidence addressing faults/open phase, voltage/frequency response, unintentional islanding and utility reclosing; identify transfer-trip or other mitigation if required by the utility.
- ☐ Proposed setting files, function ownership and change-control process; identify utility-selected performance categories and enabled voltage/reactive-power functions where applicable. Record utility review status separately from vendor capability.

Evidence / document ID or link, revision/date and finding

Open question / missing evidence

Owner / next review date

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Request only the studies and interfaces relevant to the proposed site. Confirm scope and acceptance criteria with the serving utility; log unsupported claims as open questions.

Project / application ID

5. Controls and communications

General request scope [1-3]; local interface capability is not a complete utility communications design.

- ☐ Control architecture: DG/plant or microgrid controller, utility interface, command authority/priority, control-power dependencies and documented behavior on communications/control loss.
- ☐ Required monitoring, alarms and set points; supported and selected protocol, point list, units, timestamps and interface test evidence. Identify the boundary between local DG interface and external utility communications.
- ☐ Utility-specific telemetry/availability requirements and responsibilities for network provision, access control, cybersecurity, firmware changes and maintenance. IEEE 1547 interoperability guidance does not by itself define the external network or cybersecurity requirements.

Evidence / document ID or link, revision/date and finding

Open question / missing evidence

Owner / next review date

6. Relevant studies and mitigations

Planning questions derived from [1, 2]; utility selects study scope, models and acceptance criteria.

- ☐ Utility screening/study determination and required inputs. As applicable, request load-flow/voltage/thermal, short-circuit/protection, grounding, power-quality, islanding and dynamic/transition assessments.
- ☐ Study revision, model files, assumptions and evaluated scenarios: minimum/peak load, other DG, export limits, feeder configurations, and proposed island operation where relevant.
- ☐ Results, limitations, required upgrades/mitigations, responsible parties and unresolved conditions. Identify which configuration and modes were studied; ask whether later equipment, firmware, mode or site changes require re-review.

Evidence / document ID or link, revision/date and finding

Open question / missing evidence

Owner / next review date

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Evidence-request checklist

Project / application ID

7. Commissioning and acceptance evidence

General request scope [1, 2]; confirm applicable IEEE 1547.1 edition and local test/witness requirements.

- ☐ Agreed commissioning/acceptance plan: criteria, responsible parties, required inspections/witnesses, and evidence for protection, export controls, communications and any permitted island transitions.
- ☐ As-built one-line, installed equipment/firmware inventory, final settings and dated installation/commissioning reports with conditions, results, exceptions and corrective-action closure. Distinguish type tests from installed-system evidence.
- ☐ Utility acceptance and written authorization required before parallel operation, including remaining conditions; periodic test/maintenance records and change/retest obligations. A completed checklist or vendor test report does not authorize energization.

Evidence / document ID or link, revision/date and finding

Open question / missing evidence

Owner / next review date

References reviewed and application limits

[1] IEEE 1547-2018 — public IEEE SA scope/status page

https://standards.ieee.org/ieee/1547/5915/

Reviewed 23 Nov 2026: listed Active; links amendment 1547a-2020 and errata. Public scope reviewed, not the paid standard text. Confirm adopted edition and applicability locally.

[2] NREL/TP-5D00-75290 — A Guide to Updating Interconnection Rules and Incorporating IEEE Standard 1547 (Oct 2021)

https://docs.nlr.gov/docs/fy22osti/75290.pdf

Reviewed 23 Nov 2026: sec. 1.4.1, 2.3, 2.4.3-2.4.4 and 3.3 (printed pp. 17, 25-29, 38-40, 42-43). General rulemaking/technical background, not this site's utility requirements.

[3] NREL/TP-5D00-77959 — Informative Background on the Interoperability Requirements in IEEE Std 1547-2018 (Jul 2021)

https://docs.nlr.gov/docs/fy21osti/77959.pdf

Reviewed 23 Nov 2026: introduction and sec. 1 (printed pp. 1-7). Separates local interface capability from implementation, external communications and cybersecurity decisions.

Discuss a specific utility application

Discuss your site requirements with Resilient Power Works. Send your utility name, site/location, candidate connection point and proposed operating need to resilient-power-works@brainer.one. Identify the evidence gaps you want to discuss; use your approved secure channel for sensitive drawings or protection details.