Critical-Load & Outage-Scenario Worksheet

1. Define the service and interruption limits

Record one site boundary and named outage scenario. Use additional copies for more loads or scenarios; cross-reference load IDs. Mark unknowns and label every value measured, estimated or required. This worksheet records discussion inputs; it does not size resources, approve engineering or confirm H2PWR capability.

Site, boundary and record owner

Utility/site; electrical boundary or drawing reference; scenario ID; preparer, role and date.

Critical service and priority basis

What service must continue, who sets its priority, and what consequence defines unacceptable loss?

Load register - one line per load or group

Load ID; service; circuit/location; priority; maximum allowable interruption with units; basis/owner.

Conditional priorities and deferrable loads

Which loads may be deferred or shed, by whom, and under what scenario? Record proposed order only.

Transfer, restart and continuity requirements

By load ID: required transfer time, restart delay, manual actions and any no-break power requirement.

Existing backup evidence

By load ID: backup path, startup time, supported duration, test date/conditions and unresolved limits.

Critical-Load & Outage-Scenario Worksheet

2. Record time-varying demand and pickup needs

Attach an interval record or reference rather than substituting a monthly bill or equipment nameplate for an outage load profile. Keep real power (kW), energy (kWh), apparent power (kVA) and current (A) distinct. Interval averages do not establish transient pickup capability.

Demand evidence and boundary

Load IDs; meter/file reference; date range, time zone and sampling interval; units; gross or net boundary.

Demand by time window

Load IDs; window/season; minimum, typical and peak demand with units; concurrent loads; evidence basis.

Demand changes during the outage

Scenario ID; loads added/removed; duty cycles, weather/occupancy/process assumptions and uncertainty.

Pickup events and sequence for evaluation

Load ID; proposed pickup order; running demand; step change; motor start/transformer inrush and duration.

Electrical and startup evidence still needed

Voltage/phase, kVA or power factor, starting method, equipment/test reference; distinguish data from estimates.

Pickup and transition review questions

What remains to be studied for controls, protection, voltage/frequency and restart? Name owner and evidence.

Critical-Load & Outage-Scenario Worksheet

3. Define outage duration, dependencies and evidence gaps

Distinguish allowable interruption from total outage duration. Do not assume resupply survives the same event that causes the outage. Record separate cases with and without resupply when relevant; no duration here is a prediction of resource runtime.

Outage scenario and duration basis

ID; hazard; start time/season; duration and units with historical, assumed or required basis. Load IDs; service/reduced-duty windows; restoration requirements to evaluate.

Supply and resupply assumptions

Fuel/feedstock, water or other supply: initial availability; resupply timing/route/agreement; no-resupply case.

Common-cause dependencies

Pipeline, roads, communications, controls, auxiliary power and staffing: event impact; evidence; fallback gap.

Evidence gaps and follow-up

Unknown/input; document, measurement or study needed; responsible owner; target date; affected scenario.

Site discussion summary

Highest-priority service; controlling interruption limit; outage case; key uncertainty; requested next review.

Source basis - reviewed 24 November 2026

PNNL-33549 (2023), sections 2, 3.1.1.2, 4.2: loads, interruption limits and backup evidence.
https://www.osti.gov/servlets/purl/1923379

NREL/TP-7A40-72586 (rev. 2020), sections 2.4, 2.6, 3.1, 3.4.2, 4.3.1, 4.4.4, 4.5: load and outage evidence.
https://docs.nlr.gov/docs/fy19osti/72586.pdf

Guidance is adapted from federal-site and defense-microgrid planning; it is not a utility requirement or product endorsement.