OpsPilot

Asset Criticality — User Manual

SAE JA1011 Criticality Assessment · AI Engineering Co-Pilot

What this guide covers — what asset criticality assessment is, how the OpsPilot module runs a structured SAE JA1011 workshop, what to have ready, and the Excel criticality register you receive.

1. What is asset criticality?

An asset criticality assessment ranks your equipment by how much its failure would hurt — across safety, environment, production, cost and other dimensions — so that maintenance effort, spares investment and reliability attention go to the assets that matter most. It is the foundation every other reliability decision rests on: you cannot sensibly set maintenance strategy or spares holdings without first knowing what is critical.

OpsPilot runs the assessment as a structured *SAE JA1011 workshop* — seven weighted criteria — and then adjusts the raw score for redundancy and spare-parts availability, because an asset with a hot standby and shelf spares carries less real risk than an identical asset with neither.

2. What the OpsPilot module does

Role	Responsibility
🎯 **AI Coach (OpsPilot)**	Suggests scores against SAE JA1011 best practice, challenges vague or inconsistent reasoning, flags dangerous risk combinations, and applies the redundancy and spares adjustments.
👷 **Plant Expert (you)**	Provides plant reality — failure history, process detail, redundancy arrangements and spares status — then validates, accepts or edits each suggestion.

3. Before you start — three things to have ready

- **Asset list.** The assets to assess — attach an Excel/CSV or type them in.
- **Redundancy arrangement per asset.** Single / duty-standby / full redundancy.
- **Spare-parts availability per asset.** On-site stocked / regional / not stocked.

You can also upload your organisation's own criticality matrix; if you don't have one, OpsPilot uses the SAE JA1011 standard (seven weighted criteria with the redundancy and spares adjustments).

4. How it works

- Confirm the matrix — your own, or the SAE JA1011 standard.
- For each asset, OpsPilot suggests a score on each of the seven criteria with a short justification; you accept or edit.
- It applies the redundancy and spares adjustments to turn the raw consequence score into a realistic criticality rating.
- It flags inconsistencies (“this is scored the same as that, but it has no standby and no spares”).
- It compiles the ranked register and unlocks the Excel report.

5. What you receive — the output

A professional Excel criticality register, ready to drive your maintenance and spares strategy. It contains, per asset:

- Asset tag and description.
- The score on each of the seven SAE JA1011 criteria, with the weighted total.
- Redundancy and spares adjustments applied.
- The final criticality class (e.g. A / B / C / D) and rank.

Because it is a live spreadsheet, you can re-rank the fleet as conditions, redundancy or spares change.

6. Worked example (illustrative)

Two identical transfer pumps score the same on raw consequence — both feed an important process. But the first is a single pump with no shelf spare; the second is one of a duty/standby pair with a spare in the storeroom. After the redundancy and spares adjustments, the first lands as Class A (highest priority for proactive maintenance and reliability attention) while the second drops to Class B. Same hardware, different real risk — which is exactly the distinction the adjustments exist to capture, and the reason raw consequence scoring alone misleads.

7. Getting the best result

- **Be honest about redundancy and spares.** These adjustments are what make the ranking real rather than theoretical.
- **Score consequence, not familiarity.** The asset you know best is not automatically the most critical.
- **Let OpsPilot flag clashes.** Inconsistent scores across similar assets are where the workshop earns its keep.
- **Treat it as the foundation.** The register feeds RCM, FMEA and spares decisions — keep it current.