Asset Criticality Ranking Template

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Purpose	Template for ranking site assets by safety, production, quality, environmental and maintenance impact
Use for	PPM creation, maintenance scheduling, spares planning and reliability improvement
Document type	Client resource and maintenance planning template
Scoring method	1 = low impact, 5 = high impact

1. Why asset criticality matters

A planned maintenance system should not treat every asset the same. Criticality ranking helps focus time, spares, inspection frequency and engineering effort on the equipment that has the greatest impact on safety, production, quality, environmental risk and repair cost.

This template can be used as a starting point for manufacturing, production, utility, service and facilities assets. Scores should be agreed with the client team because operational impact, safety risk and downtime cost vary by site.

2. Suggested scoring guide

Score	Meaning	Typical interpretation
1	Low impact	Failure has little or no effect on safety, production, quality or cost. Repair is simple and spares are easy.
2	Minor impact	Failure causes limited disruption or local inconvenience. Short repair time and low risk.
3	Moderate impact	Failure affects production flow, quality, safety control or maintenance time but can usually be managed.
4	High impact	Failure causes significant downtime, quality loss, safety concern, environmental concern or difficult repair.
5	Critical impact	Failure stops production, creates serious risk, causes major quality loss, environmental risk or long lead-time repair.

3. Recommended categories

Category	What to consider
Safety impact	Could failure injure people, defeat guarding, create stored energy risk or make access unsafe?
Production impact	Would failure stop a line, reduce throughput, block a process or affect a bottleneck asset?
Quality impact	Could failure cause scrap, rework, contamination, dimensional issues or customer quality risk?
Environmental impact	Could failure cause leaks, spills, waste, emissions, excessive energy use or uncontrolled waste?
Downtime / repair time	How long would the asset take to repair and restart?
Spares / lead time	Are parts available on site, common, obsolete, special order or long lead time?
Failure history	Has the asset failed repeatedly, caused repeat call-outs or shown poor reliability?

4. Blank asset criticality ranking table

set	Asset / equipment	Location	Safety	Production	Quality	Environmental	Repair	Spares	History	Total	Criticality

Suggested criticality bands: 7-14 = Low, 15-23 = Medium, 24-30 = High, 31+ = Critical. Adjust bands to suit client risk profile.

5. Actions after scoring

- Critical assets should have clear PPM tasks, suitable frequency, defect escalation and spares review.

- High assets should have planned checks and known follow-up actions for common failure modes.

- Medium assets should have routine inspection or maintenance where justified by risk and cost.

- Low assets may be managed by basic checks, operator reporting or run-to-failure where appropriate and safe.

- Criticality should be reviewed after major failures, process changes, new equipment, safety incidents or repeated defects.

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