STANDARD OPERATING PROCEDURE

Equipment Breakdown Response SOP

Document no.	SOP-MNT-004
Revision	1.0
Owner	Maintenance Manager
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Review cycle	Every 12 months

1. Purpose

To make sure an unplanned equipment breakdown is reported, made safe, diagnosed and repaired quickly, and that the cause is reviewed so repeat failures are reduced.

2. Scope

Applies to unplanned breakdowns of production or facility equipment that stop or degrade normal operation. Scheduled preventive maintenance and routine work order requests are covered by separate SOPs.

Definitions

Breakdown	An unplanned stoppage or loss of function in a piece of equipment during normal operation.
Root cause	The underlying reason a failure occurred, as opposed to the immediate symptom that was repaired.
Mean time to repair	The average time from a breakdown being reported to the equipment being back in service.
Critical asset	Equipment whose failure has a major impact on safety, production or customer service, requiring the fastest response.

3. Responsibilities

Equipment Operator	Stops the equipment safely, reports the breakdown immediately, and stays available to describe the fault to maintenance.
Maintenance Technician	Diagnoses the failure, performs the repair, and documents the cause and actions taken.
Maintenance Supervisor	Coordinates the response, expedites parts, and decides when to escalate a critical asset failure.
Production Supervisor	Manages the operational impact of the downtime and confirms the equipment is ready to resume production.

RACI matrix

Activity	Equipment Operator	Maintenance Technician	Maintenance Supervisor	Production Supervisor
Stop the equipment safely and report the breakdown	R/A	I	I	I

Activity	Equipment Operator	Maintenance Technician	Maintenance Supervisor	Production Supervisor
Assess severity and dispatch a technician	C	I	R/A	C
Diagnose and repair the failure	I	R/A	C	I
Approve expedited parts orders	-	R	A	I
Conduct the root cause review	C	R	A	C

R = Responsible, A = Accountable, C = Consulted, I = Informed

4. Materials and PPE

Materials, tools and systems

- CMMS for breakdown reporting and history
- Lockout/tagout devices
- Diagnostic and hand tools for the equipment type
- Spare parts inventory records
- Root cause analysis form

Personal protective equipment

- Safety glasses
- Gloves appropriate to the equipment
- Hearing protection
- Arc-rated clothing for electrical diagnostics where required

5. Procedure

Step	Task	Owner	Done
5.1	**Stop the equipment safely** Operator stops the equipment using the normal or emergency stop as the situation requires, and moves clear of any hazard such as a jam, spill or exposed moving part. **Warning:** Never reach into a jammed machine or attempt a quick fix on energized or moving equipment.	Equipment Operator	☐
5.2	**Report the breakdown immediately** Operator reports the breakdown to maintenance and the production supervisor right away, describing the equipment, what happened, and any warning signs beforehand.	Equipment Operator	☐
5.3	**Assess severity and dispatch a technician** Maintenance supervisor assesses whether the asset is critical and safety- or production-impacting, and dispatches the appropriately skilled technician. **Checkpoint:** Critical asset breakdowns are dispatched to a technician within the site's target response time.	Maintenance Supervisor	☐
5.4	**Apply lockout/tagout before inspection** Technician isolates and locks out all energy sources on the equipment before inspecting or touching any component, per the site's lockout tagout procedure. **Warning:** Do not inspect or repair the equipment before lockout/tagout is applied and verified.	Maintenance Technician	☐

Step	Task	Owner	Done
5.5	**Interview the operator and review recent history** Technician asks the operator what happened immediately before the failure and checks the asset's recent PM and repair history in the CMMS for clues.	Maintenance Technician	☐
5.6	**Diagnose the failure** Technician inspects and tests the equipment to identify the failed component and the likely root cause, rather than only the symptom that stopped the machine.	Maintenance Technician	☐
5.7	**Expedite parts if not in stock** If the needed part isn't in the spare parts inventory, the technician requests expedited sourcing from the maintenance supervisor, who approves the cost or arranges a temporary workaround.	Maintenance Supervisor	☐
5.8	**Execute the repair** Technician repairs or replaces the failed component per the manufacturer's instructions or the applicable maintenance procedure.	Maintenance Technician	☐
5.9	**Remove lockout and test under load** Technician removes lockout/tagout in the correct sequence, then runs the equipment under normal operating load to confirm the failure does not recur. **Checkpoint:** Equipment runs under normal load without recurrence of the fault before being released to production.	Maintenance Technician	☐
5.10	**Return the equipment to production** Technician confirms with the production supervisor and operator that the equipment is ready, and documents the handback time.	Production Supervisor	☐
5.11	**Document the breakdown in the CMMS** Technician records the failure mode, root cause, downtime duration, parts used and actions taken on the breakdown work order in the CMMS.	Maintenance Technician	☐
5.12	**Conduct a root cause review for repeat or critical failures** Maintenance supervisor leads a root cause review with the technician and production supervisor for any repeat failure or critical asset breakdown, and assigns corrective actions to prevent recurrence.	Maintenance Supervisor	☐

6. Quality checks

- Critical asset breakdowns are dispatched within the target response time at least 90 percent of the time.
- Every breakdown work order records a root cause, not only the immediate symptom.
- Repeat failures on the same asset within a set period trigger a root cause review.
- Corrective actions from root cause reviews are tracked to completion.

7. Records

- Breakdown work order in the CMMS
- Root cause analysis forms
- Expedited parts order log
- Downtime and mean time to repair log

8. KPIs

- Mean time to repair
- Mean time between failures for critical assets

- Percentage of breakdowns dispatched within target response time
- Repeat failure rate on the same asset

9. Common mistakes

- Restarting equipment to see if the problem clears itself instead of diagnosing it.
- Skipping lockout/tagout because the repair looks quick.
- Repairing the symptom without identifying or recording the root cause.
- Not interviewing the operator, missing clues about what happened before the failure.
- Skipping the root cause review after a repeat failure on the same asset.

10. Revision history

Revision	Date	Description	Reviewed by
1.0	September 15, 2026	Initial release	Ilia Pirozhenko

Approval

Prepared by	Approved by	Date

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