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COURSE BROCHURE

Rotating Equipment Bad Actor Elimination Training Course

4 – 8 January 2027
Dar es Salaam

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Registered in the United Kingdom and Saudi Arabia

Rotating Equipment Bad Actor Elimination Training Course

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Rotating Equipment Bad Actor Elimination is a 1-week training course for rotating equipment engineers and reliability engineers who must stop the same pumps, compressors and turbines failing again and again, and who leave with a Bad Actor Elimination Roadmap. Chronic repeat failures drain budgets and raise process safety exposure. Jupiter Prime Training presents Rotating Equipment Bad Actor Elimination as a disciplined improvement cycle rather than a one-off repair campaign.

Why Rotating Equipment Bad Actor Elimination Matters Now

Three forces push repeat failures up the agenda. Ageing machine fleets run harder and longer between turnarounds, operations leaders expect higher availability from fewer technicians, and condition monitoring sensors now produce more evidence than most teams can act on. An organisation that ranks its worst machines, removes the true causes and locks in precision practices gains longer mean time between failures MTBF and steadier output. One that keeps replacing seals and bearings without asking why pays for the same defect repeatedly.

Who Gains Most from Rotating Equipment Bad Actor Elimination

- Engineers responsible for pump, compressor and turbine reliability across an operating unit
- Specialists who own vibration, oil and thermal condition monitoring routes
- Maintenance engineers who define repair standards and machine overhaul scopes
- Planners who turn failure history into work orders and spares decisions
- Technical leads who chair failure investigations and track corrective actions

Plant reliability groups gain most when a rotating equipment engineer, a condition monitoring specialist and a maintenance planner attend together.

Rotating Equipment Bad Actor Elimination Capabilities

Participants move from counting breakdowns to removing the defects behind them.

- Rank bad actors using repair frequency, downtime and consequence scoring — the unit reliability review
- Diagnose dominant failure modes of pumps, compressors and steam or gas turbines — the overhaul scope decision
- Apply structured root cause analysis to repeat seal, bearing and coupling failures — the investigation sign-off
- Specify precision maintenance standards for alignment, balance, lubrication and fastening — the craft supervisor
- Design condition monitoring triggers that catch defects before functional failure — the operations shift leader
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Build an improvement tracker that shows MTBF gains per machine — the plant manager

Key Rotating Equipment Bad Actor Elimination Terms

- Bad actor — a machine whose repeat failures cost far more than similar machines in the same service.
- Mean time between failures MTBF — the average running time between failures of a repairable machine.
- Root cause analysis RCA — a structured method tracing a failure to the physical, human and latent causes behind it.
- Precision maintenance — repair work to measured tolerances for alignment, balance, lubrication and fit.
- P-F interval — the time between the first detectable sign of a defect and the functional failure of the machine.
- Defect elimination — the routine removal of small defects before they grow into failures.

Rotating Equipment Bad Actor Elimination Day by Day

Day 1: Finding the Bad Actors

- Failure History Extraction From Work Orders — Which Machines Truly Repeat
- Pareto Ranking by Repair Count and Downtime — Where Effort Pays First
- Consequence Scoring for Safety and Production — Ranking Beyond Repair Cost
- Bad Actor List Format and Ownership — Who Leads Each Machine
- Cost of Unreliability Estimate — Case for Engineering Time

Day 2: Failure Modes of Pumps, Compressors and Turbines

- Centrifugal Pump Seal and Bearing Failure Patterns — Operating Window Limits
- Recirculation, Cavitation and Off-Design Running — Process Interface Decisions
- Reciprocating and Centrifugal Compressor Valve and Seal Failures — Overhaul Scope
- Steam and Gas Turbine Blading and Lube System Faults — Inspection Priorities
- Failure Mode Library for the Unit — Shared Diagnostic Reference

Day 3: Root Cause Analysis of Repeat Failures

- Evidence Preservation and Failed Part Examination — Investigation Quality
- Five Whys and Cause and Effect Diagrams — Moving Past Symptoms
- Logic Tree Analysis for Chronic Failures — Physical and Latent Causes
- Bearing and Mechanical Seal Damage Reading — Lubrication or Installation Fault
- Corrective Action Selection and Verification — Closing the Investigation

Day 4: Precision Maintenance and Condition Monitoring

- Laser Shaft Alignment and Soft Foot Tolerances — Craft Standards
- Field Balancing and Fastener Torque Control — Repair Acceptance Criteria
- Lubricant Cleanliness and Storage Practice — Bearing Life Protection
- Vibration, Oil and Thermal Monitoring Triggers — Intervention Within the P-F Interval
- Repair Quality Checklists and Run-In Tests — Handover to Operations

Day 5: Practising the Bad Actor Elimination Roadmap

- Site Bad Actor Ranking Exercise — Choosing the First Three Machines
- Root Cause Case Study From Two Sectors — Refinery Pump and Power Station Fan
- Precision Standard Selection per Machine — Matching Fixes to Causes
- MTBF Improvement Tracker Set-Up — Monthly Reliability Review
- Bad Actor Elimination Roadmap Drafting — Actions, Owners and Milestones

Applying Rotating Equipment Bad Actor Elimination After the Course

- Lead a ranking of the site's top ten rotating bad actors and agree an owner for each.
- Run one logic tree root cause analysis on the worst repeat failure and add the agreed precision standard to its repair procedure.

Rotating Equipment Bad Actor Elimination Questions FAQ

What is rotating equipment bad actor elimination and why does it matter now?

It is the practice of ranking the machines that fail most often and removing the causes behind them. It matters now because ageing fleets, leaner crews and more monitoring data make repeat failures costlier and easier to target.

Which roles gain most from rotating equipment bad actor elimination?

Rotating equipment engineers, reliability engineers, condition monitoring specialists and maintenance planners gain most. They own the history, diagnostics and repair standards that decide whether a machine fails again.

How does rotating equipment bad actor elimination differ from a longer reliability engineering course?

It concentrates on finding and removing chronic repeat failures within one week. A longer reliability engineering course spends more time on life data modelling and maintenance strategy selection.

What do you bring back from rotating equipment bad actor elimination?

You bring back a ranked bad actor list, tested root cause methods, precision standards and a roadmap with an MTBF tracker.

Rotating Equipment Bad Actor Elimination: The Way Forward

The Bad Actor Elimination Roadmap first informs which three machines receive engineering attention in the next quarter. Reliability engineers use it to assign investigations and planners to schedule precision repairs. After the first machines improve, it is worth revisiting the consequence scoring, as removing the worst machines reveals quieter offenders.