
Electrical Asset Care Strategy: Criticality, Inspection Intervals and Spares Training Course

22 – 26 August 2027
Muscat





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Programme Summary

Electrical asset care strategy is the subject of this five-day training course for maintenance, engineering and asset managers at managerial level, ending in an electrical asset care plan for one site or fleet. Electrical equipment is often maintained on fixed habits, so effort is spread evenly while the failures that matter most go unprepared. The programme moves from criticality and failure modes, through condition evidence and inspection intervals, to spares and shutdown scope, then builds a costed plan. Mars Training Centre UK delivers this programme in electrical asset care strategy.

The Business Case

Electrical failures are rare compared with mechanical ones, yet their consequence for production and safety is often severe. Maintenance budgets therefore face two pressures: spending on low-risk equipment that does not need it, and too little attention on the assets whose loss would stop a site. A strategy built on criticality and evidence directs effort where it protects the most value.

- Unplanned Electrical Outages: Fall as high-consequence equipment receives targeted inspection and testing.
- Maintenance Cost per Asset: Reduces as intervals follow condition evidence instead of habit.
- Spares Holding: Becomes leaner as stock is matched to criticality and lead time.

Principles and Evidence Base

- ISO 55001: Its asset management system requirements frame how value, risk and cost are balanced in Sessions 1 and 5.
- IEC 60812: Its failure modes and effects analysis method guides the failure mode review in Session 1.
- Criticality Ranking: Consequence and likelihood scoring decides where effort is concentrated, as applied in Session 1.
- Condition-Based Maintenance Principles: Evidence from inspection and testing sets the intervals developed in Sessions 2 and 3.

Intended Participants

- Managers accountable for the availability of electrical equipment on a site or fleet.
- Maintenance planners who set inspection intervals and shutdown scope.
- Engineering managers who review electrical failure history and defend maintenance budgets.
- Asset managers who decide spares holding and renewal priorities.

The programme serves oil and gas, power utility, manufacturing and facilities organisations.



Learning Outcomes

1. Participants will be able to rank electrical assets by consequence and likelihood of failure.
2. Participants will be able to analyse failure modes and the evidence that would reveal each one early.
3. Participants will be able to evaluate inspection, thermography and test results to judge equipment condition.
4. Participants will be able to construct inspection intervals that match risk and condition.
5. Participants will be able to prioritise spares and shutdown work by criticality and cost.
6. Participants will be able to justify an electrical asset care plan and budget to senior management.

Programme Structure

Day 1: Electrical Asset Care Strategy and Criticality

Which electrical assets matter most, and how can they fail?

- Electrical Asset Register and Hierarchy
- Consequence and Likelihood Scoring
- Criticality Ranking Matrix
- Failure Mode Review Under IEC 60812
- Value, Risk and Cost Balance Under ISO 55001

Day 2: Condition Evidence and Diagnosis

What does the equipment condition data show, and how reliable is it?

- Infrared Thermography Report Reading
- Insulation and Partial Discharge Test Interpretation
- Oil Analysis for Transformers
- Visual and Ultrasonic Inspection Findings
- Failure History and Defect Trend Review

Day 3: Intervals and Maintenance Tasks

How often should each asset be inspected, tested or overhauled?

- Time-Based and Condition-Based Task Selection
- Interval Setting From Failure Evidence
- Inspection Route and Task List Design
- Outage Window and Shutdown Scope Planning
- Contractor and In-House Task Allocation



Day 4: Spares, Renewal and Cost Control

What stock, renewal and budget decisions follow from the strategy?

- Critical Spares Stocking Rules
- Lead Time and Obsolescence Review
- Repair Versus Replace Economics
- Maintenance Budget Build-Up
- Maintenance Cost and Outage Indicators

Day 5: Applying Asset Care to a Site

Is the electrical asset care plan ready for approval?

- Applying Day 1 Criticality Ranking to the Chosen Site
- Testing Day 2 Condition Evidence Against Failure Modes
- Checking Day 3 Intervals Against Outage Windows
- Costing Day 4 Spares and Renewal Choices
- Completing the Electrical Asset Care Plan

Methodology

The programme is built around case analysis and data exercises. Participants work with anonymised asset lists, inspection reports and failure histories from different industries, build the ranking and interval logic themselves and defend their choices in group review. Discussion centres on the trade-offs managers face between risk, outage time and cost.

- Suggested activity: Ranking a sample list of transformers, switchgear and motors by criticality.
- Suggested activity: Reading a thermography report and deciding which findings need action.
- Suggested activity: Presenting a maintenance budget case to a simulated management committee.

Capstone Output

Each participant completes an electrical asset care plan for one site or fleet, real or case-based. It holds a criticality ranking, a failure mode summary, a condition evidence review, an inspection interval table, a spares list and a costed budget. It is used to brief management, to set the next maintenance cycle and to plan shutdown scope.



Frequently Asked Questions

Is this electrical asset care strategy course suitable for managers who are not electrical engineers?

Yes. It is set at managerial level for those who direct electrical maintenance, and assumes plant or maintenance experience rather than detailed electrical design knowledge.

Which standards does electrical asset care strategy training rest on?

It rests on ISO 55001 for asset management systems, IEC 60812 for failure modes and effects analysis, criticality ranking and condition-based maintenance principles.

How is the electrical asset care plan used at work?

The plan briefs management on risk and cost, sets the next maintenance cycle and inspection intervals, and defines spares and shutdown scope.