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COURSE BROCHURE

Maintenance Resilience for Critical Facilities Training Course

15 – 19 March 2027
New York

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Registered in the United Kingdom and Saudi Arabia

Maintenance Resilience for Critical Facilities Training Course

Ref: 1645_60301 **Date:** 15 – 19 March 2027 **Location:** New York **Fees:** 9500 GBP

Maintenance Resilience for Critical Facilities is a 1-week training course for maintenance managers, reliability engineers and operations leaders in hospitals, data centres, utilities and process plants, ending with a maintenance resilience plan. When a chiller, transformer or pump train fails in a critical site, the cost reaches patients, customers and public services within hours. Jupiter Prime Training runs this course to strengthen how maintenance teams prepare for, absorb and recover from equipment failures.

Why Maintenance Resilience for Critical Facilities Matters Now

Three pressures meet in critical facilities: service users who expect uninterrupted supply, insurers and owners who ask how quickly operations recover, and supply chains that leave key spares weeks away. A site that knows its single points of failure, holds the right spares and rehearses breakdown response keeps service running; one that relies on luck learns its weak points during an outage. The course draws on criticality analysis, N+1 redundancy thinking, recovery time objectives RTO and the business continuity cycle applied to maintenance activities.

Who Gains Most from Maintenance Resilience for Critical Facilities

- Managers accountable for keeping essential plant and building systems available
- Reliability engineers who assess redundancy and single points of failure
- Operations leaders who coordinate response when critical equipment stops
- Stores and materials leads who hold insurance and long-lead spares
- Facility engineers who maintain power, cooling and water systems

A critical site gains most when its maintenance manager, reliability engineer and duty operations leader attend together and rehearse one shared breakdown scenario.

Maintenance Resilience for Critical Facilities Capabilities

Participants learn to find where a site is fragile, decide where backup pays off and prepare crews to recover quickly.

- Assess critical assets and single points of failure — investment priorities
- Weigh redundancy options such as N+1 and standby units — capital decisions
- Specify insurance spares and long-lead items to hold — stores and finance
- Design breakdown response procedures and call-out arrangements — duty managers
- Calculate recovery time objectives for key systems — service owners
- Test response through tabletop exercises — operations and maintenance leaders

Key Maintenance Resilience for Critical Facilities Terms

- Single point of failure — a component whose failure alone stops a critical service because no backup exists.
- N+1 redundancy — a configuration with one more unit than needed, so a single failure does not interrupt service.
- Insurance spare — a costly, rarely used part held because its absence would cause a long, damaging outage.
- Recovery time objective — the target time to restore a critical service after an equipment failure.
- Tabletop exercise — a guided discussion in which a team walks through its response to a simulated failure.
- Breakdown response procedure — the agreed steps, roles and contacts used when critical equipment fails unexpectedly.

Maintenance Resilience for Critical Facilities Day by Day

Day 1: What Makes a Facility Critical

- Critical Service Mapping — Linking Equipment to Patients, Users and Customers
- Asset Criticality Assessment — Ranking Systems by Consequence of Loss
- Single Point of Failure Search — Finding Hidden Dependencies in Utilities
- Failure History Review — Learning From Past Outages and Near Misses
- Recovery Time Objectives — Setting Restoration Targets With Service Owners

Day 2: Designing Redundancy and Protection

- N+1 and Standby Configurations — Choosing Backup Levels for Key Systems
- Automatic Transfer and Changeover Testing — Proving Backups Actually Work
- Temporary Equipment Arrangements — Pre-Agreeing Hire Generators and Chillers
- Maintenance Windows Without Service Loss — Planning Work on Live Systems
- Redundancy Cost Comparison — Justifying Backup Investment to Owners

Day 3: Spares and Supply Resilience

- Insurance Spares Selection — Deciding Which Costly Parts to Hold
- Long-Lead Item Register — Tracking Parts With Extended Delivery Times
- Supplier Response Agreements — Securing Emergency Call-Out and Delivery
- Shared Spares Pools — Cooperating Across Sites to Reduce Holdings
- Spares Condition and Readiness Checks — Keeping Stored Parts Usable

Day 4: Breakdown Response and Recovery

- Breakdown Response Procedure Design — Assigning Roles, Steps and Contacts
- Call-Out and Escalation Rosters — Ensuring Skilled Cover Around the Clock
- Fault Isolation and Safe Restoration — Bringing Systems Back Without New Risk
- Maintenance Continuity Planning — Linking Repairs to Organisational Recovery
- Post-Incident Learning Reviews — Turning Outages Into Resilience Actions

Day 5: Practising the Maintenance Resilience Plan

- Hospital Cooling Failure Tabletop — Applying Response Procedures
- Data Centre Power Scenario — Applying Redundancy and Transfer Checks
- Spares Gap Review for a Case Site — Applying Insurance Spares Criteria
- Recovery Target Validation — Applying RTO Rules to Key Systems
- Maintenance Resilience Plan — Combining Criticality, Redundancy, Spares and Response

Applying Maintenance Resilience for Critical Facilities After the Course

- Walk one critical system with operations and list every single point of failure with a proposed fix.
- Run a one-hour tabletop exercise on a likely failure and update the breakdown response procedure.

Maintenance Resilience for Critical Facilities Questions FAQ

What is maintenance resilience for critical facilities, and why does it matter now?

It is the ability of a maintenance function to prevent, absorb and recover quickly from equipment failures at essential sites. It matters now because service users tolerate little downtime while spares and skills are harder to secure.

Which roles gain most from maintenance resilience for critical facilities?

Maintenance managers, reliability engineers, operations leaders and stores leads at hospitals, data centres, utilities and process plants gain most, since their equipment failures affect people and services directly.

How does maintenance resilience for critical facilities differ from a business continuity management course?

It stays at equipment and maintenance level: redundancy, spares and breakdown response. Business continuity courses address whole-organisation recovery, crisis communication and impact analysis across all functions.

What do you bring back from maintenance resilience for critical facilities?

You bring back a maintenance resilience plan covering critical assets, redundancy choices, spares holdings and breakdown response for a case site, ready to adapt to your facility.

Maintenance Resilience for Critical Facilities: The Way Forward

The maintenance resilience plan brings critical assets, backup arrangements, spares and response roles into one document. Its first use is deciding which single point of failure receives investment first. Maintenance managers and operations leaders own it together, and after the first real or simulated outage the recovery targets deserve fresh review against what actually happened.