



Equipment Preservation and Plant Mothballing Course: Long-Term Storage, Lay-Up and Reactivation



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Introduction:

Equipment preservation and plant mothballing, covering long-term storage, lay-up and reactivation, is a 1-week course for owner and EPC preservation, storage yard, mechanical, electrical and instrument units that ends with a Preservation and Lay-Up Plan for a case organisation. Pumps, compressors, vessels, switchgear and analysers that wait months or years for start-up, or sit in an idled unit, corrode, seize and lose warranty when preservation is improvised. Nominees already receive, store or inspect such equipment, and learning is by inspection walkthrough of stored items, records and yard layouts. CoreConcept Training Center delivers this equipment preservation course.

Course Objectives:

- Write a preservation philosophy and equipment preservation matrix that assign a method, interval and owner to every stored tag from factory to start-up
- Lay out laydown yards, covered stores and climate-controlled rooms that match each equipment class to its storage category
- Apply volatile corrosion inhibitors, desiccants, dehumidification and nitrogen blanketing correctly to rotating, static, electrical and instrument equipment
- Run periodic preservation inspection rounds, shaft rotation and insulation resistance checks and keep preservation records that support warranty claims
- Plan wet and dry lay-up of an idled unit and the reactivation of mothballed plant and stored capital spares
- Produce a Preservation and Lay-Up Plan with an inspection schedule, budget and reactivation sequence for a case organisation

Target Audience:

- Owner and EPC preservation coordination units responsible for preservation matrices, inspection rounds and records
 - Laydown yard, warehouse and materials receiving units responsible for storing project equipment and bulk materials
 - Mechanical and rotating equipment units responsible for shaft rotation, lubrication and internal protection of machines
 - Electrical and instrument units responsible for keeping motors, switchgear, cables and analysers dry and serviceable
 - Asset and operations units responsible for idling a unit and returning it to service
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Course Outline:

Day 1: Preservation Fundamentals and the Idle Equipment Risk Picture

- Corrosion Mechanisms on Idle Carbon Steel and Alloy Surfaces
- Factory to Start-Up Preservation Chain and Custody Points
- Vendor Preservation Instructions and Warranty Preservation Conditions
- Preservation Responsibility Matrix Across Owner, EPC and Vendor
- Current Preservation Condition Survey of a Stored Equipment Population

Day 2: Preservation Philosophy, Matrices and Storage Categories

- Preservation Philosophy Document Structure and Approval Route
- Equipment Preservation Matrix by Class, Method and Interval
- Storage Category Rules for Open, Covered and Conditioned Areas
- Laydown Yard Layout With Dunnage, Drainage and Access Lanes
- Packing, Crating and Seaworthy Wrapping Requirements for Shipment

Day 3: Preservation Methods for Rotating, Static, Electrical and Instrument Equipment

- VCI Films, Emitters and Fogging Oils Application Practice
- Desiccant Bags, Humidity Indicator Cards and Dew Point Checks
- Nitrogen Blanketing of Vessels, Exchangers and Piping Spools
- Shaft Rotation, Bearing Lubrication and Seal Protection Routines
- Space Heaters, Insulation Resistance Tests and Cable End Sealing

Day 4: Plant Lay-Up, Long Storage Failures and Reactivation

- Wet Lay-Up Versus Dry Lay-Up Selection for Boilers
- Dehumidified Air Lay-Up of Columns, Tanks and Ductwork
- Mothballing Scope Decisions for Idled Units and Capital Spares
- Preservation Failure Cases With Seized Bearings and Pitted Internals
- Reactivation Sequence With Depreservation, Flushing and Condition Checks

Day 5: Inspection Walkthrough and the Preservation and Lay-Up Plan

- Inspection Walkthrough of a Case Laydown Yard and Store
 - Preservation Record Audit Against the Equipment Preservation Matrix
 - Lay-Up Method Selection for a Case Idled Process Unit
 - Preservation Budget, Manpower Loading and Inspection Calendar Build
 - Preservation and Lay-Up Plan Completion and Peer Review
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Skills You Will Gain:

- Preservation Matrix Development
- Storage Category Assignment
- Corrosion Inhibitor Application
- Humidity and Dew Point Control
- Rotating Equipment Preservation
- Electrical Insulation Protection
- Lay-Up Method Selection
- Reactivation Planning

Why Attend This Course:

- Deliver a Preservation and Lay-Up Plan to the project director or asset manager for approval before equipment arrives or a unit is idled
- Decide which storage category, preservation method and inspection interval each equipment class needs, and when to choose wet or dry lay-up
- Avoid seized machines, flooded motors, pitted internals and lost warranties that delay start-up and add repair cost
- Share preservation matrix, inspection checklist and record templates with yard, mechanical and electrical colleagues

Conclusion:

Back at work, the participant gives the project director or asset manager a Preservation and Lay-Up Plan that sets storage categories, preservation methods, inspection intervals, records and a reactivation sequence for the equipment in their care. Project and operations leads use it to approve yard space, preservation budgets and contractor scopes, and to decide how an idled unit is laid up and brought back. After the first full cycle of inspection rounds, the organisation should compare recorded findings, humidity readings and defects with the plan and adjust methods or intervals where they fell short.

Frequently Asked Questions FAQ:

What should participants know before an equipment preservation and plant mothballing course?

Participants should already receive, store, inspect or maintain industrial equipment and read vendor data sheets. Bringing an anonymised preservation procedure, inspection checklist or storage yard photo set helps them apply the inspection walkthrough to their own project or plant.

How does equipment preservation and plant mothballing differ from a commissioning or spare parts course?

It covers the period when equipment is idle: storage, preservation methods, inspection rounds, lay-up and reactivation. Commissioning courses start at mechanical completion and first start, while spare parts courses address stocking levels, criticality and cataloguing rather than physical protection.

How long can equipment stay in long-term storage under an equipment preservation programme?

There is no single limit. Storage life depends on the equipment class, the storage category, the preservation method and vendor conditions, so the preservation matrix sets inspection intervals and reprereservation points, and records show whether equipment remains fit for start-up.

What does a participant take back from the equipment preservation and plant mothballing course?

Participants take back a Preservation and Lay-Up Plan for a case organisation, with an equipment preservation matrix, storage categories, inspection schedule, record templates and a reactivation sequence they can adapt for their own project or idled unit.
