JUPITER PRIME

Consulting • Training • Advisory

جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

Rotating Machinery Auxiliaries and Governor Control Training Course

7 – 11 March 2027
Abu Dhabi

jupiterprime.uk

info@jupiterprime.uk

Registered in the United Kingdom and Saudi Arabia

Rotating Machinery Auxiliaries and Governor Control Training Course

Ref: 1431_53350 **Date:** 7 – 11 March 2027 **Location:** Abu Dhabi **Fees:** 6500 GBP

Rotating Machinery Auxiliaries and Governor Control is a 1-week training course for rotating equipment engineers, operators and maintenance technicians, built around an auxiliary system health checklist that covers the lube oil console, seal support, governor and protection loops of each compressor, steam turbine and pump train. Many unplanned trips start in these support systems rather than in the main rotor. Jupiter Prime Training delivers this rotating machinery auxiliaries and governor control course.

Why Rotating Machinery Auxiliaries and Governor Control Matters Now

Three forces shape this work today. Older mechanical-hydraulic governors are being replaced by electronic speed controllers, and crews must trust new logic without losing the instincts that kept machines safe. Plants run trains longer between overhauls, so lube oil coolers, filters and accumulators must stay healthy for years. Operators and maintainers also share fewer handover hours, which lets small auxiliary alarms grow into trips. Sites that look after auxiliaries keep machines on line and avoid bearing wipes and overspeed events; sites that ignore them lose production for faults that cost little to fix. The course draws on ISO 55001 for asset management and EN 13306 for maintenance terminology.

Who Gains Most from Rotating Machinery Auxiliaries and Governor Control

- Engineers responsible for compressor, steam turbine and pump train reliability
- Operators who start, load and monitor machines from the field and control room
- Mechanical technicians who service lube oil consoles, coolers and filters
- Instrument technicians who calibrate governors, trip valves and speed probes
- Planners who schedule auxiliary checks between major overhauls

A refinery, gas plant or power station gains most when its operators and mechanical and instrument technicians attend together.

Rotating Machinery Auxiliaries and Governor Control Capabilities

Participants move from treating auxiliaries as background equipment to reading them as the early warning layer of every rotating train.

- Assess lube oil console performance from pressure, temperature and filter readings — bearing protection decisions
- Test governor response, droop and overspeed trip settings — safe start-up and load changes
- Specify seal support arrangements for pumps and compressors — leakage and seal life
- Interpret performance curves with surge and cavitation limits — operating envelope choices
- Apply vibration and bearing temperature limits to auxiliary faults — run or trip calls
-

Build preventive tasks for coolers, accumulators and standby pumps — planners and supervisors

Key Rotating Machinery Auxiliaries and Governor Control Terms

- Lube oil console — the skid of tank, pumps, coolers, filters and valves that feeds clean, cool oil to machine bearings.
- Governor — the controller that adjusts steam or fuel flow to hold a turbine at the required speed or load.
- Speed droop — the planned drop in speed as load rises, allowing machines in parallel to share load steadily.
- Overspeed trip — an independent protection that shuts a turbine down when speed exceeds a safe limit.
- Rundown tank — an elevated oil reserve that keeps bearings lubricated while a machine coasts to rest after a trip.
- Seal support system — the piping, coolers and controls that keep a mechanical seal or gas seal supplied with clean fluid.

Rotating Machinery Auxiliaries and Governor Control Day by Day

Day 1: Machine Principles and Operating Envelopes

- Centrifugal and Reciprocating Compressor Principles — Duty and Capacity Choices
- Steam Turbine Stages and Extraction — Load and Steam Balance
- Pump and Compressor Performance Curves — Operating Point Selection
- Surge and Cavitation Limits — Safe Operating Envelope
- Train Layouts with Gearboxes and Couplings — Auxiliary System Scope

Day 2: Lube Oil and Seal Support Systems

- Lube Oil Console Components — Pump Changeover and Pressure Control
- Oil Coolers, Filters and Temperature Control — Bearing Inlet Conditions
- Accumulators and Rundown Tanks — Coast-Down Protection
- Mechanical Seal Flush Plans — Pump Seal Reliability
- Compressor Seal Gas and Buffer Systems — Leakage Monitoring

Day 3: Governors, Speed Control and Protection

- Mechanical-Hydraulic and Electronic Governors — Upgrade Considerations
- Droop, Isochronous and Load Sharing Modes — Parallel Operation
- Steam Admission Valves and Servo Actuators — Response and Stability
- Overspeed Trip Testing Methods — Protection Proof Intervals
- Speed Probes and Trip Logic — Spurious Trip Reduction

Day 4: Monitoring and Maintenance Practice

- Vibration Patterns Linked to Auxiliary Faults — Oil Whirl and Misalignment
- Bearing Temperature and Oil Pressure Trends — Alarm and Trip Limits
- Lube Oil Condition Sampling — Varnish and Water Control
- Standby Pump Auto-Start Testing — Changeover Confidence
- Auxiliary Maintenance Intervals — Work Between Major Overhauls

Day 5: Practising the Auxiliary System Health Checklist

- Console Walkdown on a Sample Train — Applied Pressure and Temperature Checks
- Governor Response Case Review — Applied Droop and Trip Settings
- Trip Investigation Exercise — Applied Vibration and Oil Evidence
- Criticality Ranking Under ISO 55001 Principles — Auxiliary Task Priorities
- Auxiliary System Health Checklist — Console, Seal, Governor and Trip Items

Applying Rotating Machinery Auxiliaries and Governor Control After the Course

- Walk down the lube oil console of one critical train and record filter differential, cooler outlet temperature and standby pump status.
- Review the last overspeed trip test record and governor droop setting with instrument staff and close any gaps.

Rotating Machinery Auxiliaries and Governor Control Questions FAQ

What is rotating machinery auxiliaries and governor control and why does it matter now?

It covers the oil, seal, governor and trip systems that support compressors, steam turbines and pumps. Longer runs and new electronic controls make these systems a frequent source of trips.

Which roles gain most from rotating machinery auxiliaries and governor control?

Rotating equipment engineers, operators and mechanical and instrument technicians gain most, since each touches the consoles, governors or protection loops.

How does rotating machinery auxiliaries and governor control differ from a turbomachinery overhaul course?

It focuses on the support systems around the rotor. An overhaul course concentrates on dismantling casings, rotors and bearings, while this one keeps auxiliaries healthy between overhauls.

What do you bring back from rotating machinery auxiliaries and governor control?

You bring back a checklist of console, seal, governor and trip items for each critical train, with limits your crew can use on rounds.

Rotating Machinery Auxiliaries and Governor Control: The Way Forward

The auxiliary system health checklist first informs which train needs cooler cleaning, filter changes or a governor test before the next run period. Operators use it on rounds, technicians to plan tasks and engineers to review trips. After the first few months, revisit the alarm limits, since actual oil temperatures and pressures often differ from vendor defaults.