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COURSE BROCHURE

Overhead Lines Maintenance and Construction Training Course

19 – 23 September 2027
Amman

Overhead Lines Maintenance and Construction Training Course

Ref: 1735_63608 **Date:** 19 – 23 September 2027 **Location:** Amman **Fees:** 4200 GBP

Overhead Lines Maintenance and Construction is a 1-week training course for line engineers, linesmen supervisors and distribution technicians who erect, patrol and repair overhead networks, and who leave with a Line Defect Repair Plan. Ageing conductors and growing demand make every unplanned outage more visible to customers. Jupiter Prime Training presents Overhead Lines Maintenance and Construction as one discipline from erection to repair.

Why Overhead Lines Maintenance and Construction Matters Now

Network operators face three pressures at once. Many poles, crossarms and conductors installed decades ago now approach the end of their service life, extreme heat and wind stress spans more often, and new connections for solar plants and industrial estates call for fast line extensions. A utility that builds lines to sound sag-tension and clearance practice, patrols them on a risk basis and repairs defects in a planned sequence keeps outages short and crews safe. One that reacts only to faults sees repeated trips and conductor failures.

Who Gains Most from Overhead Lines Maintenance and Construction

- Engineers responsible for line routes, structure selection and conductor stringing on new feeders
- Supervisors who lead linesmen crews on erection, repair and outage restoration
- Technicians who carry out foot, vehicle and drone patrols of distribution circuits
- Planners who schedule outages, materials and crews for defect correction
- Safety coordinators who set clearance, earthing and permit practice around energised lines

Distribution maintenance depots gain most when an engineer, a crew supervisor and a patrol technician attend together.

Overhead Lines Maintenance and Construction Capabilities

Participants connect conductor, insulator and structure choices with the patrol findings and repairs that follow years later.

- Specify conductors, insulators, poles, towers and fittings for a given span and duty — the line design approval
- Calculate basic sag and tension values and check ground clearances — the stringing crew leader
- Apply safe construction methods for pole erection, tower assembly and conductor pulling — the site supervisor
- Grade defects found on patrol inspection by urgency and consequence — the maintenance planner
- Assess live-line hazards, approach distances and earthing needs before work starts — the permit issuer
- Build a defect repair schedule that groups jobs into planned outages — the network control room

Key Overhead Lines Maintenance and Construction Terms

- Sag — the vertical distance between a conductor's lowest point and the straight line joining its two support points.
- Ruling span — an equivalent span length used to set tension for a section of unequal spans between strain structures.
- Insulator string — linked insulator units that hold a conductor clear of the structure.
- Strain structure — a pole or tower built to resist the full conductor pull at a line end, angle or section break.
- Patrol inspection — a scheduled visual check of a line route for damage, encroachment and clearance problems.
- Minimum approach distance — the closest a worker or tool may come to an energised part without specific live-line controls.

Overhead Lines Maintenance and Construction Day by Day

Day 1: Overhead Network Components and Duties

- Transmission and Distribution Line Layouts — Voltage Class and Route Choice
- Conductor Types and Current Ratings — Thermal Limits Under Heat
- Porcelain, Glass and Polymer Insulators — Pollution and Flashover Performance
- Wood, Concrete and Steel Poles and Lattice Towers — Structure Selection
- Clamps, Joints, Dampers and Earthwire Fittings — Hardware Compatibility

Day 2: Sag, Tension and Clearance Basics

- Sag-Tension Tables and Ruling Span Method — Stringing Values for Crews
- Wind and Temperature Loading Cases — Conductor and Structure Stress
- Ground, Road and Building Clearance Checks — Public Safety Margins
- Stay Wires and Foundation Types — Holding Angle and Terminal Loads
- Line Profile Drawings and Span Schedules — Construction Sign-Off

Day 3: Construction Methods on Site

- Route Survey, Pegging and Access Planning — Crew and Plant Logistics
- Pole Erection and Tower Assembly Sequences — Lifting and Fall Controls
- Conductor Pulling With Tensioners and Running Blocks — Damage Avoidance
- Jointing, Clamping and Sagging-In Checks — Acceptance Before Energising
- Earthing, Bonding and Commissioning Tests — Handover to Operations

Day 4: Patrol Inspection and Live-Line Awareness

- Foot, Vehicle and Drone Patrol Routines — Inspection Frequency by Risk
- Thermal Imaging of Joints and Clamps — Hot Spot Detection
- Vegetation and Encroachment Surveys — Clearance Enforcement Priorities
- Defect Grading Scales and Photo Records — Urgency of Repair
- Live-Line Approach Distances and Permit Controls — Isolation or Live Work

Day 5: Practising the Line Defect Repair Plan

- Patrol Findings Review From Two Networks — Urban Feeder and Industrial Spur
- Repair Method Selection per Component — Replace, Refurbish or Monitor
- Outage Grouping and Materials Lists — Customer Minutes Lost
- Crew Safety Briefing Sheet — Earthing, Clearance and Lifting Checks
- Line Defect Repair Plan Drafting — Jobs, Outages, Crews and Sequence

Applying Overhead Lines Maintenance and Construction After the Course

- Lead a graded patrol of one feeder using the defect scale and thermal imaging checks.
- Prepare a sag-tension check for the next new line section.

Overhead Lines Maintenance and Construction Questions FAQ

What is overhead lines maintenance and construction and why does it matter now?

It is the practice of building overhead power lines correctly and keeping them in safe service through inspection and repair. It matters now because ageing structures, harsher weather and new connections all add stress to existing networks.

Which roles gain most from overhead lines maintenance and construction?

Line engineers, linesmen supervisors, distribution technicians and outage planners gain most, because they decide how lines are strung, patrolled and repaired.

How does overhead lines maintenance and construction differ from a substation or protection course?

It concentrates on the line itself: conductors, insulators, structures, stringing and patrols. Substation and protection courses deal with switchgear, relays and fault clearing at the ends of the line.

What do you bring back from overhead lines maintenance and construction?

You bring back sag-tension and clearance checks, a defect grading scale, a crew safety briefing sheet and a defect repair plan for a circuit you look after.

Overhead Lines Maintenance and Construction: The Way Forward

The Line Defect Repair Plan first informs which defects are corrected in the next planned outage. Planners use it to book crews and materials, and supervisors to brief linesmen on each job. After the first repair round, it is worth revisiting the patrol frequency, since the defects found show where inspection effort was misplaced.