

Hydropower Plants Maintenance

Kuala Lumpur (Malaysia)

28 July - 1 August 2025

UK Traininig

PARTNER



Hydropower Plants Maintenance

Code: OG28 From: 28 July - 1 August 2025 City: Kuala Lumpur (Malaysia) Fees: 4900 Pound

Introduction

Hydropower plants play a pivotal role in sustainable energy production. Effective maintenance is a key factor in ensuring the operational efficiency, reliability, and longevity of these plants. This training program provides in-depth knowledge and practical skills for maintaining various components of hydropower plants, focusing on modern techniques, preventive maintenance strategies, and troubleshooting methods.

Course Objectives

By the end of the course, participants will be able to:

- Understand the structure and function of hydropower plants.
- Identify common maintenance needs and strategies.
- Apply preventive and corrective maintenance techniques.
- Diagnose and resolve common operational problems.
- Enhance overall operational efficiency and safety in hydropower plants.

Course Outlines

Day 1: Overview and Fundamentals

- Introduction to hydropower and types of plants.
- Basic components and principles of operation.
- Importance of maintenance in hydropower plants.
- Overview of preventive versus corrective maintenance.
- Health, safety, and environmental considerations.

Day 2: Mechanical Systems Maintenance

- Turbines: types, functions, and common issues.
- Bearings and shaft alignment techniques.
- Maintenance of gates, penstocks, and valves.
- Lubrication systems: importance and maintenance procedures.
- Vibration monitoring and fault diagnosis.

Day 3: Electrical Systems Maintenance

- Generators: construction and maintenance practices.
- Transformers: inspection and testing.
- Switchgear and protection systems.
- Overview of control and automation systems.
- Troubleshooting and repairing electrical faults.



Day 4: Civil Works and Auxiliary Systems Maintenance

- Inspection and maintenance of dams and reservoirs.
- Maintenance of water conveyance systems.
- Cooling and ventilation systems.
- Fire protection and alarm systems.
- Management of sedimentation and debris.

Day 5: Maintenance Management and Case Studies

- Planning and scheduling maintenance activities.
- Condition monitoring and predictive maintenance.
- Spare parts management and inventory control.
- Failure analysis and root cause investigation.
- Case studies and sharing best practices.

Why Attend this Course: Wins & Losses!

- Gain comprehensive knowledge of maintaining all components of hydropower plants, from mechanical and electrical systems to civil works and auxiliary systems.
- Learn modern maintenance strategies like preventive and predictive maintenance, which help reduce downtime and improve efficiency.
- Develop the skills to diagnose and resolve common operational issues, ensuring the continued smooth operation of hydropower plants.
- Apply best maintenance practices through case studies and practical insights.
- Improve operational efficiency and reliability of plants, supporting the growth of sustainable energy production.

Conclusion

By the end of this training program, participants will have gained comprehensive knowledge in all aspects of hydropower plant maintenance, from mechanical and electrical components to civil works and auxiliary systems. They will be capable of applying modern maintenance strategies to enhance operational efficiency and ensure the safe, continuous operation of the plants.

This program will empower them to implement professional maintenance plans, minimize downtime, and increase the reliability of energy production, supporting sustainability and meeting the growing demand for clean energy.



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