Level 3 Maintenance and Operations Engineering Technician Standard (ST0154)

Product Information Sheet

Typical Duration to Gateway: 36 Months

Funding: £26,000

https://www.instituteforapprenticeships.org/apprenticeship-standards/maintenance-and-operations-engineering-technician/

- No mandated qualifications, but GET will deliver the Advanced Manufacturing Engineering (Development Knowledge) to support (603/1353/5 Year - Year 1 and 2)

Occupation Summary

Maintenance and Operations Engineering Technicians covers 7 roles: Electrical Technicians; Mechanical Technicians; Control and Instrumentation Technicians; Wind Turbine Technicians Electrical System and Process Control Technicians; Electromechanical Technicians and Plant Operations Technicians. They will maintain the safety, integrity and effective operation of plant and equipment in one or more of the following Industries that are part of or have activities that are part of the broader national infrastructure Engineering Sector: the electricity generating environment, which may use a range of different fuels including coal, gas, nuclear, wind and other renewable sources; telecommunications power plants; oil and gas refining; nuclear waste reprocessing; processing and production of chemicals; pharmaceuticals; human and animal food; cosmetics; petrochemicals; sewerage and the exploration and exploitation of oil and gas.

Electrical, Mechanical, Control and Instrumentation, and Wind Turbine Technicians will work on various types of plant and equipment commonly found throughout the Engineering Industry sectors and the Technicians can be expected to migrate through these sectors during their careers. Dependent upon the sector that they are employed in there may be subtle differences in terms of the composition and application of the plant and equipment. However, the fundamental principles of operation will be the same regardless of the engineering sector.

To support the business and operational requirements of modern integrated engineered production plant and services, Electrical Systems and Process Control Technicians and Electromechanical Technicians will need to apply a range of conventional skills and knowledge to undertake engineering activities on a selection of electromechanical and process control plant, systems, and equipment.

These Technicians will undertake installation, testing, servicing, removal, replacement, maintenance, and repair of a range of equipment, sometimes complex, as part of planned preventative and reactive maintenance programmes. They may also undertake decommissioning activities when plant is being removed from service.

Plant Operation Technicians will undertake the safe and efficient operation of complex integrated energy conversion and production plant and systems. These activities could include plant commissioning, isolation and testing, plant preparation, plant start-up and shut down, monitoring, and controlling plant and dealing with critical operational problems.

They will be responsible for the quality of their own work, possibly others' and ensuring the work is completed safely, meets stakeholder quality, time, and budget requirements, whilst maintaining the efficient running of plant and equipment.

NOTE: Please refer to the link above for Knowledge, Skills, Behaviours and duty requirements.

Professional Recognition

This standard will meet the professional standards of the Engineering Council for registration as Engineering Technician (Eng Tech) by an appropriate Professional Engineering Institution.

End Point Assessment (EPA)

Consists of 3 assessment methods. It uses the following assessment tools and should be undertaken in this order:

- Knowledge assessment (weighting 20%).
- A final observation of practical work (weighting 40%)
- A technical interview, based upon an evidence portfolio which will include all evidence of practical observations, progress reviews and work activities (weighting 40%)

On Programme Requirements

12 weekly progress and behavioural reviews.

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Specialist Roles Include:

Electrical Technician will:
Position, assemble, install, and dismantle electrical plant and equipment, which may include motors, switchgear, cables, and conductors, to agreed specifications.

Carry out planned, unplanned and preventative maintenance procedures on electrical plant and equipment.

Replace, repair, or remove components in electrical plant and equipment and ensure its return to operational condition.

Diagnose and determine the cause of faults in electrical plant and equipment.

Mechanical Technician will:
Position, assemble, install, and dismantle mechanical plant and equipment which may include pumps, valves, gearboxes, pipework, to agreed specifications.

Carry out planned, unplanned and preventative maintenance procedures on mechanical plant and equipment.

Replace, repair, or remove components in mechanical plant and equipment and ensure its return to operational condition.

Diagnose and determine the cause of faults in mechanical plant and equipment.

Control and Instrumentation Technician will:
Position, assemble, install, and dismantle plant and equipment which may include instrumentation and control of temperature, pressure, and flow systems to agree specifications.

Carry out planned, unplanned and preventative maintenance procedures on plant and equipment.

Replace, repair, or remove components in plant and equipment and ensure its return to operational condition.

Diagnose and determine the cause of faults in plant and equipment. Calibrate and configure instrument and control systems.

Electrical System and Process Control Technician will:
Position, assemble, install, and dismantle integrated electrical apparatus, systems, and process control equipment.

Carry out planned, unplanned and preventative maintenance procedures on integrated plant and equipment.

Replace, repair, or remove components within integrated plant and equipment and ensure its return to operational condition.

Diagnose and determine the cause of faults within integrated plant and equipment. Calibrate and configure integrated electrical apparatus, systems, and process control equipment.

Electromechanical Technician will:
Position, assemble, install, and dismantle integrated electromechanical power and control systems.

Carry out planned, unplanned and preventative maintenance procedures on integrated plant and equipment.

Replace, repair, or remove components within integrated plant and equipment and ensure its return to operational condition.

Diagnose and determine the cause of faults within integrated electromechanical power and control systems.

Plant Operations Technician will need to understand:
Complex thermal, chemical, mechanical, and electrical energy conversion processes the principles, design and operation of plant, systems and equipment used for energy conversion and production.

In addition, Safely and efficiently carry out routine and non-routine operating procedures on plant and equipment. Monitor and control the operation and performance of the plant and equipment.

Handover and accept responsibility for plant and equipment. Evaluate and solve complex problems within energy conversion plant and systems. Rapidly and correctly respond to contingencies and abnormal conditions, to maintain energy conversion and production plant and equipment within operational parameters.