

EUSTPO15

Organise and carry out the maintenance of process equipment



Overview

This unit is about determining what maintenance is needed and organising and carrying out work to ensure the processing plant operates efficiently.

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Performance criteria

You must be able to:

Determine the feasibility of maintenance work

- P1 assess the amount and level of wear or damage to components, equipment or instruments and determine what work is required to bring the plant back to the specified condition
- P2 determine the feasibility and viability of repairs
- P3 assess plant operating priorities and report on findings and conclusions on the feasibility and cost-effectiveness of repairs
- P4 make recommendations to designated personnel for repair or replacement of components, equipment or instruments where authority to make decisions to commission work is outside your responsibility

You must be able to:

Prepare for operational maintenance to be carried out safely

- P5 follow the plant operating instructions to organise and carry out all operational maintenance work
- P6 arrange for all materials, tools and parts to be available as recommended by manufacturers
- P7 issue instructions to the designated personnel for stopping electrical and mechanical instruments and equipment
- P8 arrange for operational maintenance on equipment and instruments requiring isolations to be done at a time appropriate to plant use
- P9 take steps to confirm safe working practices are known and understood by personnel planned for the work

You must be able to:

Restore equipment and the plant environment to operable conditions

- P10 make sure work is carried out safely and with equipment and tools and procedures specific to the site
- P11 follow manufacturers' specifications and safety procedures for dealing with instruments and equipment
- P12 confirm safety monitoring procedures and equipment are in place and functioning throughout the maintenance work
- P13 monitor work practices to make sure safety is maintained at all times
- P14 confirm the work team will start and re-commission equipment and instrumentation as specified in procedures
- P15 use work methods which maintain the instrumentation and plant equipment in a stable condition throughout the maintenance work
- P16 follow the employer's tools and parts accounting procedures
- P17 restore operational performance by servicing instrumentation and equipment and replacing components where required

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- P18 return the condition of the plant environment to the employer's specification when the maintenance is finished
- P19 make sure waste materials and unwanted components are disposed of in accordance with safe working practices and approved procedures

You must be able to:

Use and communicate data and information

- P20 provide reports to designated personnel where decisions outside your authority are required
- P21 inform the designated personnel in advance of the planned maintenance by the methods set down in the plant operating instructions
- P22 communicate regularly with the personnel doing the work to ensure work underway is according to plan
- P23 use performance checks, observation, noise, heat, vibration and remote monitoring to help identify malfunctions or other maintenance which might be required
- P24 record maintenance work accurately in the designated place
- P25 maintain up-to-date data audit trails and make sure they are accessible

You must be able to:

Resolve problems arising from the maintenance

- P26 report malfunctions of instrumentation, equipment or the plant environment promptly to the designated personnel
- P27 report malfunctions and maintenance requirements which are outside the responsibility for the job role and which require designated skilled people or maintenance work
- P28 put temporary arrangements in place to protect the operation of the plant until problems are resolved
- P29 report and resolve situations where maintenance over-runs the agreed timescales

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Knowledge and understanding

You need to know and understand:

General

- K1 UK and EC legislation, standards, codes of practice, and industry regulations for health, safety, and hygiene
- K2 UK and EC legislation, standards, codes of practice, and industry regulations for environmental protection and measures to reduce harmful emissions and substances
- K3 dealing with statutory inspectorates
- K4 dealing with emergency situations
- K5 safe working practices when dealing with equipment, instrumentation and environment
- K6 maintaining safety – smoking, eating, drinking and drugs
- K7 duty of care
- K8 protecting people and the environment from pollutants both inside and outside the workplace
- K9 personal conduct and behaviour and responsibilities towards colleagues and the general public
- K10 the role and purpose of data audit trails in quality assurance, health and safety and regulatory requirements

You need to know and understand:

Treatment processes and maintenance

- K11 working safely and use of risk assessments
- K12 using PPE effectively
- K13 working safely with tools and equipment
- K14 the role and purpose of data audit trails for quality assurance and regulatory requirements
- K15 safe working practices when dealing with equipment, instrumentation and environment which may have malfunctions and maintenance requirements outside the scope of the job holder
- K16 maintenance methods and procedures
- K17 reporting lines and procedures
- K18 maintenance authorisation procedures and limits of responsibility and authority
- K19 materials and parts availability and sources
- K20 potential faults and difficulties which can occur during isolation and re-commissioning
- K21 effects of inadequate maintenance
- K22 effects of equipment and instrumentation breakdown
- K23 characteristics of faulty equipment and instrumentation
- K24 identification of malfunction, operational and maintenance requirements in the equipment, instrumentation and environment as listed in the range

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statement

K25 methods to be used to divert flows, bypass treatment process units and operate temporary plant

K26 recording procedures

K27 keeping up-to-date with changes in legislation and standards

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Additional Information

Behaviours

You work in a manner which:

1. is vigilant to possible risks and hazards
2. uses a range of leadership styles appropriate to different people and situations
3. shows pride in achieving high quality work

Glossary

Equipment

electrical; mechanical

Maintenance

for equipment; greasing and lubrication; repacking of glands; replacing simple parts not requiring craftsmen; cleaning accumulations of dirt and debris; basic instrument maintenance

Plant environment

security systems; fences and gates; structural elements; ground areas; buildings

Safety procedures and practices

machinery system and electrical isolation; lubrication hygiene; machinery guarding

Malfunctions of

equipment; instrumentation; plant environment

Plant operating priorities

process performance; plant availability; final output quality; capacity requirements; reduced human resources

Temporary arrangements

divert flows; bypass a treatment process

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