

EUSTPO06 - SQA Unit Code F5DP 04

Monitor and maintain the quality of treatment processes



Overview

This unit is about using data and information to monitor the treatment processes in treatment plants and to make adjustments where required.

**Performance
criteria**

You must be able to:

Collect and monitor treatment process data

- P1 use the monitoring data collected to confirm flow recording instruments, quality monitors and level indicators are working as required in the plant specification
- P2 use readings and other data to compare the plant with the schedule and operating instructions
- P3 make sure the procedures for collecting data from on-site visual assessment and quality tests remain adequate and conform to operating instructions
- P4 make sure the procedures for taking samples for off-site testing remain adequate and conform to operating instructions
- P5 monitor the collation and use of flow, quality and operational data and make sure they comply with schedule and operating instructions
- P6 instigate special monitoring of process inputs and outputs where process adjustments have been made

You must be able to:

Use data and make decisions which will maintain optimum process performance

- P7 assess process performance from flow, quality, and operational records, and direct observations
- P8 analyse data from records and direct observations and determine what adjustments are required
- P9 prioritise corrective measures and resource them within a programme of work
- P10 assess process inputs and outputs to determine whether the plant has responded to corrective adjustments and conforms to the plant specification
- P11 implement day-to-day activities which maintain the conditions for the treatment process
- P12 implement day-to-day activities to make sure the disposal of process by-products meet with the requirements of legislation, standards, and codes of practice
- P13 implement work procedures to ensure there is a consistent approach to responding to alarms
- P14 use energy monitoring of the pumping plant to maximise energy performance

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You must be able to:

Use and communicate data and information

- P15 monitor completed plant and process documentation and ensure it provides accurate and up-to-date data in the timescale required
- P16 ensure the systems for storing and transmitting data and information are being complied with
- P17 provide the designated operating personnel with clear information and instructions for adjusting processes
- P18 provide the designated management personnel with clear information about the adjustments to processes which are being made
- P19 record and report process defects, the corrective measures taken, and the results and outcomes
- P20 maintain up-to-date data audit trails and make sure they are accessible

You must be able to:

Resolve problems affecting treatment quality

- P21 resolve issues with team members where there are shortfalls in the supply of data from treatment processes
- P22 resolve issues where there are problems which arise from inaccurate or incomplete data from treatment processes
- P23 investigate and resolve failures of process adjustments through instruments, configurations, flow, and doses
- P24 consult and liaise with management personnel on further measures to be taken where there are failures to adjustments

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

- K11 using energy efficiently and cost-effectively
- K12 own role, responsibilities, and actions in sustaining favourable environmental conditions
- K13 how negative impacts on the environment are reduced or kept to a minimum
- K14 applying fundamental principles to the treatment process and unit processes for treating water or waste water
- K15 disposing of the various process by-products
- K16 predicting changes in quality and flow and the effects of these changes on the unit processes and the final outflow
- K17 assessing the effects of changes in quality and flow
- K18 assessing the performance of each unit process
- K19 assessing variations in unit process performance and the effects of these variations in the total treatment process
- K20 assessing the effect of process failure
- K21 implementing corrective actions to ensure the process meets its target performance
- K22 assessing the effects of a breach of consent for discharges from the process plant
- K23 assessing the adverse effect of variations from the predetermined

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- performance level for each process, and the impact on the local environment
- K24 dealing with technical queries arising from deviations to predetermined performance levels for unit processes
- K25 ensuring that the total treatment process and the disposal of process by-products meet with the requirements of current uk and ec legislation, standards and relevant codes of practice

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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

Samples

inflow, partially treated flows, outflow, by-products, return liquors

Adjustments to processes

timers, flow rate, configuration, flow distribution, chemical doses

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Developed by Energy and Utility Skills

Version number 1

Date approved January 2010

Indicative review date January 2015

Validity Current

Status Original

Originating organisation Energy and Utility Skills

Original URN TPO06

Relevant occupations Engineering; Science and Engineering Technicians

Suite Treatment Process Operations

Key words monitor, maintain, quality, treatment, processes, operations, samples, adjustments, records, observations