

Unit ID: 1496

Domain METALLURGICAL PROCESSING - CORE
Title: Monitor and coordinate waste and
process water treatment

Level: 4

Credits: 10

Purpose

This unit standard is intended for those who carry out metallurgical processing operations. People holding credit for this unit standard are able to: Monitor treatment plant performance; control chemical use; and monitor and control processes.

Special Notes

1. Entry information:

Prerequisite

- 1449 - *Comply with health, safety and environmental rules and regulations pertaining to processing operations; or demonstrated equivalent knowledge and skills.*

2. Assessment evidence may be collected from a real workplace or a simulated workplace in which processing operations are carried out.

3. Safe working practices include day-to-day observation of safety policies and procedures and compliance with emergency procedures.

4. Specifications refer to any, or all of the following: manufacturer's specifications and recommendations, and workplace specific requirements.

5. Performance of all elements in this unit standard must comply with relevant regulatory, legislative, workplace requirements and/or manufacturers' specifications.

6. Regulations and legislation, including subsequent amendments, relevant to this unit standard may include but are not limited to the following:

- Labour Act, No. 11, 2007
- Mineral Act, No. 33, 1992
- Mine Health and Safety Regulations, 1999
- Regulations relating to the Health and Safety of employees at work, 1997 and all industry specific regulations, legislations, code of practice, or code of conduct.

Quality Assurance Requirements

This unit standard and others within this subfield may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority and the Namibia Training Authority. All approved unit standards, qualifications

and national assessment arrangements are available on the Namibia Training Authority website www.nta.com.na.

Elements and Performance Criteria

Element 1: Monitor treatment plant performance

Range

Inspections may include but are not limited to interaction and communication with other employees, authorities, general public; visual observation; and implementation of reporting procedures, which may also include procedures for implementation of by-laws, organisational policy, statutory requirements.

Process tests may include but are not limited to gravimetric analysis; spectrophotometric analysis; volumetric analysis; digestion techniques; ion selective electrodes; microscopy and routine jar testing; microbiology; settling tests; microscopic observation; single bugger pH; dissolved oxygen; and chlorine residuals.

Process data may include but is not limited to plant performance data; environmental reports; and chemical usage.

Process may include but is not limited to pre-treatment (e.g. screens, grit removal, shredding, odour control); primary treatment (e.g. primary sedimentation); secondary treatment (e.g. trickling filters, rotating biological contractors, activated sludge and lagoon systems); solids handling (e.g. aerobic or anaerobic digesters and sludge disposal); disinfection (e.g. maturation ponds, chlorination, ultraviolet irradiation, ozonation); and tertiary treatment (e.g. chemical nitrogen removal, biological nitrogen removal, biological phosphorus removal)

Performance Criteria

- 1.1 Documentation, including plans, specifications, quality requirements and operational details are obtained, interpreted, and applied to the monitoring and coordinating of waste and process water treatment.
- 1.2 Routine plant inspections are carried out according to workplace procedures.
- 1.3 Samples are collected and process tests conducted and analysed in order to determine performance against plant operational requirements.
- 1.4 Process data are collected, interpreted, recorded and reported according to workplace procedures.
- 1.5 Calculations to determine process performance are conducted.

Element 2: Control chemical use

Performance Criteria

- 2.1 Workplace hazards and associated risks are identified, minimised or eliminated according to workplace procedures and legislative requirements.

- 2.2 Chemicals are used, handled and stored according to workplace procedures.
- 2.3 Chemical dosing is determined, prepared and conducted according to plant processes and workplace procedures.
- 2.4 Information related to chemical supply and usage is maintained according to workplace procedures.

Element 3: Monitor and control processes

Range

Records may include but is not limited to plant performance data; environmental reports; and chemical usage.

Performance Criteria

- 3.1 Workplace hazards and associated risks are identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 3.2 Processes to maintain parameters of operation are monitored according to workplace procedures.
- 3.3 Process faults and operational condition of plant are identified and reported according to workplace procedures.
- 3.4 Records and reports from plant and system data are compiled according to workplace procedures.

Registration Data

Subfield:	Metallurgy
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