

Unit ID: 1436

**Domain Title: HYDROMETALLURGICAL PROCESSING
Shut-down a sulphur dioxide gas system
for maintenance**

Level: 3

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: Plan and prepare for shutting down a sulphur dioxide gas system; demonstrate knowledge relating to shutting down sulphur dioxide gas system for maintenance; determine maintenance requirements; shut-down a sulphur dioxide gas system; and complete duties pertaining to the shutting down process.

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 hydrometallurgy operations are carried out.

3. 'Gas system' refers to gas absorption and gas generation systems.

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

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

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

7. 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: Plan and prepare for work

Performance Criteria

- 1.1 Work instructions, including plans, specifications, quality requirements and operational details are obtained, explained, clarified and applied to the allocated task.
- 1.2 Safety and security requirements, including personal protective clothing and equipment are obtained from the site safety plan, workplace policies and procedures, explained, and applied to the allocated task.
- 1.3 Equipment, tools, accessories selected to carry out tasks are checked for consistency with the requirements of the job, their usability and any faults rectified or reported prior to commencement of work.
- 1.4 Environmental protection requirements are identified from the project environmental management plan and applied to the allocated task.
- 1.5 Work area is inspected and prepared according to workplace procedures.

Element 2: Demonstrate knowledge relating to shutting down sulphur dioxide gas system for maintenance

Performance Criteria

- 2.1 The importance of the shut-down is explained in terms of achieving specified production requirements.
- 2.2 Hazards and associated risks pertaining to the shut-down process are identified through relevant risk assessment procedures.
- 2.3 The sulphur dioxide gas system components are identified and their specifications and functions described.

- 2.4 The specified lock-out procedures and interlock system pertaining to maintenance operation are described.
- 2.5 Corrective actions, in case of sub-standards conditions and problems encountered, are described.

Element 3: Determine maintenance requirements

Performance Criteria

- 3.1 Workplace hazards and associated risks are identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 3.2 Lock-out procedures for converter access and exit are implemented according to workplace procedure.
- 3.3 The gas system components are examined and replacement requirements are determined according to workplace procedure.
- 3.4 Reporting requirements are met according to workplace procedure.

Element 4: Shut-down a sulphur dioxide gas system

Performance Criteria

- 4.1 Workplace hazards and associated risks are identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 4.2 Liner components are replaced according to workplace procedure.
- 4.3 If necessary, corrective and/or reporting actions are taken according to workplace procedures.

Element 5: Complete duties pertaining to the shutting down process

Range

Housekeeping may include but is not limited to ensure the work area is ready for next user; remove work materials to designated locations; correctly identify waste and re-usable material; and remove waste and re-usable materials to designated locations.

Performance Criteria

- 5.1 Task-specific tools, personal protective and safety equipment, are cleaned, maintained and stored for further use according to workplace procedures.
- 5.2 Good housekeeping practices are maintained according to workplace procedures.

- 5.3 Reporting and recording requirements are met according to workplace procedures.
- 5.4 Work related documents are completed according to job requirements and workplace procedures.

Registration Data

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| Subfield: | Metallurgy |
| Date first registered: | 28 September 2016 |
| Date this version registered: | 28 September 2016 |
| Anticipated review: | 2021 |
| Body responsible for review: | Namibia Training Authority |