

Domain**MINERAL PROCESSING****Title:****Process lime products****Level: 3****Credits: 14****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 lime production operation; demonstrate knowledge relating to the processing of lime products; conduct pre-operational checks; operate crushed limestone feed systems; conduct lime kiln operations; monitor and control discharge of burnt lime to slaking plant storage; monitor and control milk of lime plant; carry out routine operator maintenance; and complete duties pertaining to the processing of lime products.

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 mineral 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: Plan and prepare for lime production operation

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 the processing of lime products

Performance Criteria

- 2.1 The actions and conditions pertaining to a safe, healthy work environment when processing lime products are described.
- 2.2 The importance of processing lime products is explained in terms of achieving specified production requirements.

- 2.3 The principal components of the crushed limestone feed systems are identified and their functions are explained in terms of design and operational requirements.
- 2.4 Hazards and associated risks pertaining to the processing lime products are identified through relevant risk assessment procedures.
- 2.5 Corrective actions, in case of sub-standards conditions and problems encountered, are described.

Element 3: Conduct pre-operational checks

Performance Criteria

- 3.1 Workplace hazards and associated risks are identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 3.2 The feed system is examined and substandard conditions are reported to appropriate personnel according to workplace procedures.
- 3.3 Start-up and shutdown procedures are conducted according to manufacturer's specifications.

Element 4: Operate crushed limestone feed systems

Performance Criteria

- 4.1 Workplace hazards and associated risks are identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 4.2 The feed system is started according to workplace procedures.
- 4.3 The feed system is monitored and controlled, and feed rates are adjusted to meet processing requirements, according to workplace procedures.
- 4.4 If necessary, corrective and/or reporting actions are taken according to workplace procedures.
- 4.5 The operation around feeder plant and equipment is consistent with environmental policy and other specified requirements.

Element 5: Conduct lime kiln operations

Performance Criteria

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

- 5.2 Kiln processing systems and media are operated according to workplace procedures.
- 5.3 Kiln processing systems and media, including burners, are monitored and controlled for safe, effective kiln operation. Burner components are adjusted or replaced to meet product quality, according to workplace procedures.
- 5.4 Discharge tables are operated and adjusted to meet production requirements.
- 5.5 Discharged limestone temperature is monitored and maintained within specified parameters according to workplace procedures.
- 5.6 If necessary, corrective and/or reporting actions are taken according to workplace procedures.
- 5.7 All operations are consistent with environmental policy and other specified requirements.

Element 6: Monitor and control discharge of burnt lime to slaking plant storage

Performance Criteria

- 6.1 Workplace hazards and associated risks are identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 6.2 Burnt lime conveyors or flow system for clear flow and delivery of burnt lime is monitored and controlled according to workplace procedures.
- 6.3 Temperature of burnt lime is monitored and controlled within specified parameters according to workplace procedures.
- 6.4 Crushing plant is monitored and controlled according to workplace procedures.
- 6.5 Input and discharge of silos is monitored and controlled according to workplace procedures.
- 6.6 Dust extraction plant and equipment is monitored and controlled to maintain a safe atmosphere and minimise production loss according to workplace procedures.
- 6.7 If necessary, corrective and/or reporting actions are taken according to workplace procedures.
- 6.8 All operations are consistent with environmental policy and other specified requirements.

Element 7: Monitor and control milk of lime plant

Performance Criteria

- 7.1 Workplace hazards and associated risks are identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 7.2 The process stream through the milk of lime plant is monitored and controlled according to workplace procedures.
- 7.3 Slaking plant operations are controlled according to workplace procedures.
- 7.4 Milk of lime density is monitored and controlled to meet specification according to workplace procedures.
- 7.5 Pumping of milk of lime is monitored and controlled according to workplace procedures.
- 7.7 If necessary, corrective and/or reporting actions are taken according to workplace procedures.
- 7.8 All operations are consistent with environmental policy and other specified requirements.

Element 8: Carry out routine operator maintenance

Performance Criteria

- 8.1 Workplace hazards and associated risks are described, identified, minimised or eliminated according to workplace procedures and legislative requirements.
- 8.2 The work area is prepared in readiness for maintenance work to be carried out
- 8.3 Maintenance, replacement or other maintenance is carried out within scope of responsibility according to manufacturer's specifications and workplace procedures.
- 8.4 System is restored to operational status and relevant documentation completed.

Element 9: Complete duties pertaining to the processing of lime products

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

- 9.1 Task-specific tools, personal protective and safety equipment, are cleaned, maintained and stored for further use according to workplace procedures.
- 9.2 Good housekeeping practices are maintained according to workplace procedures.
- 9.3 Reporting and recording requirements are met according to workplace procedures.
- 9.4 Work related documents are completed according to job requirements and workplace procedures.

Registration Data

Subfield:	Metallurgy
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