



Australian Government

PMAOPS260A Conduct screening operations

Release 1

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Modification History

Release 1 – New unit

Unit Descriptor

This unit of competency covers the skills and knowledge needed to conduct screening operations in metalliferous processing, extractive and other industries using screens to separate coarser from finer solids. It includes the planning and preparing for operations, conducting screening plant operations and carrying out post-operational procedures.

Application of the Unit

This unit applies to a person who has the responsibility for starting, stopping and monitoring screening operations and covers a variety of screen types.

This unit applies to an individual working alone or as part of a team or group and working in liaison with other shift team members and the control room operator, as appropriate.

This unit has a relationship with other materials handling competencies, such as *PMC552008B Operate crushing equipment*, *PMC562070B Move materials and* *PMAOPS210B Operate particulates handling equipment*, which may apply as part of the processing operation.

This unit requires a detailed knowledge of screening operations, screen types and operating principles.

This unit has been written to apply to screening/sizing operations as they occur with crushed/ground solid material. However, it should also be applicable to applications wherever particulates of different sizes need to be separated/classified, such as plastic pellets, and where solids feed to a process, with appropriate contextualisation.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency. Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

1	Plan and prepare for operations	1.1	Identify work requirements
		1.2	Coordinate with appropriate personnel
		1.3	Check screen feed and discharge areas for obstructions and hazards
		1.4	Check operational status of equipment
		1.5	Complete any required pre-start checks
2	Operate screening plant	2.1	Ensure start-up sequence for screen and ancillary equipment follows workplace requirements
		2.2	Start up and shut down screening equipment according to standard operating procedures
		2.3	Monitor feed and discharge rates to ensure efficient and safe screen operation
		2.4	Complete routine checks, taking appropriate action on unexpected operating conditions
3	Rectify routine problems	3.1	Identify the range of faults that can occur during the operation
		3.2	Determine and rectify fault causes by procedures/work

- instructions
 - 3.3 Identify and rectify equipment failure causes in accordance with procedures/work instructions
 - 3.4 Ensure appropriate records and log books of equipment operations are maintained to meet procedures/work instructions
 - 3.5 Identify non-routine problems and report to designated person
- 4 Control hazards
- 4.1 Identify hazards in the screening area
 - 4.2 Assess the risks arising from those hazards
 - 4.3 Implement measures to control those risks in line with procedures and duty of care
 - 4.4 Carry out basic maintenance and inspection practices

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- recognising conditions which will lead to out of specification operation
- implementing enterprise procedures within time constraints and in a manner relevant to the correct use of the equipment
- conveying information relevant to the operation clearly and effectively
- maintaining appropriate levels of quality assurance
- reading and numeracy to interpret workplace documents and technical information

Required knowledge

Required knowledge includes:

- principles of operation of screening equipment
- process parameters and limits
- types of screen cloths
- effects of bed density
- causes of contamination
- routine problems, faults and their symptoms and the corrective action to be taken
- relevant alarms and actions
- plant process idiosyncrasies
- physical principles, including:
 - sinusoidal vibration or gyratory vibration
 - gravity
 - density of materials
 - electrostatic force
 - stratification
- screening terminology, including:
 - amplitude
 - acceleration
 - blinding
 - brushing
 - contamination

- deck
- frequency

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria required skills and knowledge range statement and the Assessment Guidelines for the Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Critical aspects for assessment and evidence are:

- early warning signs of equipment/processes needing attention or with potential problems are recognised
- the range of possible causes can be identified and analysed and the most likely cause determined
- appropriate action is taken to ensure a timely return to full performance
- obvious problems in related plant areas are recognised and an appropriate contribution made to their solution.

Context of and specific resources for assessment

Assessment of this competency will occur over a range of situations which will include typical disruptions to normal, smooth operation. This will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability. Where safety, lack of opportunity or significant cost is an issue an industry-based simulation may be employed to assist the process. It may be appropriate to consider assessment concurrently with the following units:

- *PMC552008B Operate crushing equipment*
- *PMC562070B Move materials*
- *PMAOPS210B Operate particulates handling equipment.*

Guidance information for assessment

Assessment processes and techniques must be appropriate to the language, competency and safety requirements of the site and consistent with workplace systems or procedures.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Procedures

Procedures may be written, verbal, computer-based or in some other form. They may include, but are not limited to:

- all work instructions
- standard operating procedures
- temporary instructions
- any similar instructions provided for the smooth running of the plant
- good operating practice as may be defined by industry codes of practice

Procedures would be expected to comply with any relevant government regulations.

Logs and reports

Logs and reports may include:

- paper or electronic-based logs and reports
- verbal/radio reports
- reporting items found which require action

Appropriate action

Appropriate action includes, but is not limited to:

- determining problems needing action
- determining possible fault causes
- rectifying predictable problems using appropriate solution from procedures
- following through items initiated until final resolution has occurred
- reporting problems outside area of responsibility/scope of procedures to designated person

Typical problems

Typical problems may include, but are not limited to:

- feed or discharge blockages
- blinding
- screen cloth blockages
- electro-static build-up

Screening equipment types

- aggregate size contamination

Screening applications include:

- wet screening
- dry screening

Screening equipment covered by this unit includes:

- moving screen
- static screen
- rotary screens
- circle-throw vibrating equipment
- high frequency vibrating equipment
- gyratory equipment

Health, safety and environment (HSE)

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between Performance Criteria and HSE requirements, the HSE requirements take precedence.

Work requirements

Work requirements may come from briefings, handovers, and work orders and may include:

- compliance documentation
- product specifications
- nature and scope of tasks
- achievement targets
- operational conditions
- geological data
- site survey data
- site layout and out of bounds areas
- worksite inspection requirements
- lighting conditions
- plant or equipment defects
- hazards and potential hazards
- coordination requirements or issues

Appropriate personnel

Appropriate personnel may include:

- other process operators
- contractors
- laboratory personnel
- mobile plant operators
- maintenance personnel

Unit Sector(s)

Unit Sector(s)

Operational/technical

Competency field

Custom Content Section

Not applicable.