Australian Government

PMAOPS264 Operate solvent extraction equipment

Release: 1

PMAOPS264 Operate solvent extraction equipment

Modification History

Release 1. Supersedes and is equivalent to PMAOPS264A Operate solvent extraction equipment

Application

This unit of competency covers the skills and knowledge required to operate solvent extraction equipment and ancillary equipment.

This unit of competency applies to a variety of solvent extraction processes as used in a metalliferous processing plant. Examples of solvent extraction equipment include:

- mixer/settlers
- organic treatment units.

This unit of competency applies to operators who are required to start up and shut down and operate solvent extraction equipment, monitor its performance and make adjustments, and identify problems with solvent extraction processes and equipment, including any ancillary equipment, and take action.

This unit of competency applies to an individual who may work alone although under routine direction and supervision. They may work as part of a team or group and will work in liaison with other shift team members and the control room operator, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Operations

Unit Sector

Elements and Performance Criteria

Elements describe the essential outcomes.		Performance criteria describe the performance needed to demonstrate achievement of the element.
1	**Prepare for work**	1.1 Receive and give shift handover

		1.2	Identify work requirements
		1.3	Identify and control hazards
		1.4	Coordinate with appropriate personnel
		1.5	Check for recent work undertaken on solvent extraction equipment
		1.6	Note any outstanding/incomplete work
		1.7	Check operational status of solvent extraction equipment
2	**Operate solvent extraction equipment in accordance with procedures**	2.1	Identify the type of solvent extraction equipment and duty
		2.2	Adjust process variables as appropriate to type of solvent extraction equipment and duty
		2.3	Complete routine checks, logs and paperwork, taking appropriate action on unexpected readings and trends
3	**Recognise and take action on abnormal situations in accordance with procedures**	3.1	Monitor solvent extraction and ancillary equipment frequently and critically throughout shift using measured/indicated data and senses
		3.2	Identify impacts of any changes upstream and downstream
		3.3	Recognise situations which may require action
		3.4	Resolve routine problems
		3.5	Take actions on other abnormal situations to make safe and have the situation resolved
4	**Isolate and de-isolate solvent extraction equipment**	4.1	Complete any required pre-start checks
		4.2	Start up/shut down /changeover solvent extraction equipment according to the plant type and duty in liaison with other personnel
		4.3	Isolate solvent extraction equipment

4.4 Make safe for required work

4.5 Check solvent extraction equipment is ready to be returned to service

4.6 De-isolate and prepare solvent extraction equipment for return to service

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework

The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used, and include one or more of the following:

- legislative requirements, including work health and safety (WHS)
- industry codes of practice and guidelines
- environmental regulations and guidelines
- Australian and other standards
- licence and certification requirements

All operations to which this unit applies are subject to stringent health, safety and environment (HSE) requirements, which may be imposed through state/territory 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.

Procedures

All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other

form, include one or more of the following:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant

Hazards

Hazards include one or more of the following:

- electricity
- gas
- gases and liquids under pressure
- structural hazards
- structural collapse
- equipment failures
- industrial (machinery, equipment and product)
- equipment or product mass
- noise, rotational equipment or vibration
- plant services (steam, condensate and cooling water)
- working at heights, in restricted or confined spaces, or in environments subjected to heat, noise, dusts or vapours
- flammability and explosivity
- hazardous products and materials
- unauthorised personnel
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- extreme weather
- other hazards that might arise

Routine problems

Routine problems must be resolved by applying known solutions.

Routine problems are predictable and include one or more of the following:

- process leaks
- variations in throughput or feed
- blockages/build-up/fouling
- erosion/wear
- driver problems

Known solutions are drawn from one or more of the following:

- procedures
- training
- remembered experience

Non-routine problems must be reported according to according to relevant procedures.

Logs and reports

Logs and reports include one or more of the following:

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

Ancillary equipment variables

Ancillary equipment variables include the following:

- temperature
- amps
- pressure
- vibration

Action

Action in accordance with procedures includes the following:

- determining problems needing action
- accessing and applying relevant technical and plant data
- applying appropriate problem solving techniques to determine possible fault causes
- rectifying problem using appropriate solution within area of responsibility
- following through items initiated until final resolution has occurred
- reporting problems outside area of responsibility/ability to designated person

Resolve routine problems

Resolving routine problems includes one or more of the following:

- making adjustments to the equipment
- carrying out minor maintenance within operator's skill level
- identifying and reporting problems outside operator's scope of ability
- identifying and controlling hazards related to solvent extraction equipment and surrounding areas

Start up/shut down as required

Start up/shut down as required includes the following:

- start up and shut down to/from normal operating conditions
- start up and shut down to/from isolated, cold or empty
- start up and shut down to/from other conditions/situations experienced on the plant

Work requirements

Work requirements come from briefings, handovers and work orders, and include one or more of the following:

- compliance documentation
- product specifications
- nature and scope of tasks
- achievement targets
- operational conditions
- lighting conditions
- plant or equipment defects
- hazards and potential hazards
- coordination requirements or issues

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=9fc2cf53-e570-4e9f-ad6a-b228ffdb6875