Australian Government

PMAOPS226 Monitor and operate flare systems

Release: 1

PMAOPS226 Monitor and operate flare systems

Modification History

Release 1. Supersedes and is equivalent to PMAOPS226A Monitor and operate flare systems

Application

This unit of competency covers the skills and knowledge required to monitor and operate flare systems.

The flare system may be an elevated flare, ground flare or vent (sometimes called 'cold flare'). The flare system includes all items from the safety relief device through to the flare inclusive.

This unit of competency applies to operators who, as part of their duties, are required to monitor flare systems, start up and shut down according to procedures, identify problems with flare systems and take appropriate action.

This unit of competency applies to an individual who may work alone although under the routine direction and supervision of a person who is competent to undertake the complete operation of the plant/plant area. 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	**Monitor flare system**	1.1 Identify and control flare system hazards
		1.2 Visually inspect the flare and flare system components for compliance to requirements
		1.3 Take relevant readings

		1.4	Check for process causes of identified problems
		1.5	Check for other causes of identified problems
		1.6	Take actions specified in the procedures
		1.7	Complete logs as required
2	**Shut down flare system**	2.1	Obtain required authorisations for a flare shutdown
		2.2	Notify other relevant plants/units of planned shutdown
		2.3	Identify and control flare shutdown hazards
		2.4	Purge and isolate flare system
		2.5	Complete other preparations for flare shutdown according to procedures
		2.6	Shut down according to procedures
3	**Start up flare system**	3.1	Check all required work has been completed
		3.2	Check integrity of components
		3.3	Notify other relevant plants/units of planned start-up
		3.4	Identify and control flare start-up hazards
		3.5	De-isolate and purge flare system
		3.6	Complete other preparations for flare start-up according to procedures
		3.7	Start up flare system according to procedures
4	**Solve flare system problems**	4.1	Recognise and respond to abnormal conditions
		4.2	Identify other problems in flare system
		4.3	Take action to remedy flare problems in accordance with procedures
		4.4	Communicate relevant information

4.5 Complete required documentation

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, and 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

Routine problems

Routine problems must be resolved by applying known solutions.

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

- iced lines
- high levels in pots/vessels
- smoke from flare
- flame out
- lack of header purge flow
- flash back
- inconsistent header composition
- blockage
- cold feed to warm header

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.

Abnormal conditions

Abnormal conditions include one or more of the following:

- weather
- loss of pilot fuel
- loss of utilities
- flame out
- high flare system back pressure
- cross connection between dissimilar systems

Responding to abnormal conditions

Responding to abnormal conditions 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 resolve to designated person

Flare system

The flare system includes one or more of the following:

- elevated flare
- ground flare
- vents (sometimes called 'cold flare')

The flare system includes all items from the safety relief device through to the flare inclusive.

Hazards

Hazards include one or more of the following:

- access and exclusion zone
- heat
- blow backs
- leaks/loss of containment (LOC)
- ineffective isolations
- inadequate ventilation
- air ingress
- liquid carryover
- high liquid levels in knock out pots/separation vessels
- contraction and expansion (cold vapours)
- dislodgement of burning coke
- noise
- cryogenic temperatures
- radiation
- liquid hammer

Visual inspection

As relevant to the type of flare, visual inspection includes one or more of the following:

- pilot flame condition
- burn pattern
- ice on header lines
- vessel levels

- damage or deterioration
- smoke density

Logs and reports

Logs and reports include one or more of the following:

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

Unit Mapping Information

Release 1. Supersedes and is equivalent to PMAOPS226A Monitor and operate flare systems

Links

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