

Monitor inert gas systems, pressures and crude oil washing

Overview

This standard covers the competences you need to monitor inert gas systems, pressures and crude oil washing operation in jetty operations in accordance with approved procedures and practices.

You will be required to demonstrate that you can:

1 Monitoring inert gas systems, pressures and crude oil washing operation

During this work you must take account of the relevant operational requirements and safe working practices **AS THEY APPLY TO YOU**.

The activity is likely to be undertaken by someone in petro-chemical work setting, including individuals working in refineries, chemical plants and tank storage.

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Performance criteria

You must be able to:

- P1 obtain and monitor inert gas and O₂ concentrations and pressures
- P2 ensure that the vessel's inert gas system is operating within prescribed limits
- P3 monitor inert gas and O₂ concentrations and pressures, and take the appropriate action if they exceed prescribed limits
- P4 check and confirm that the crude oil washing operation is carried out according to prescribed procedures
- P5 ensure that the vessel is applying correct tank control measures
- P6 communicate all relevant information to the appropriate people
- P7 deal promptly and effectively with problems that are your responsibility, and report those that you cannot solve, and/or not your responsibility, to the relevant person
- P8 work safely in accordance with operational requirements

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Knowledge and understanding

You need to know and understand:

- K1 how to obtain inert gas and O₂ concentrations and pressures
- K2 how to interpret and monitor inert gas and O₂ concentrations and pressures
- K3 what are the prescribed limits for inert gas and O₂ concentrations and pressures
- K4 what is the appropriate action to take if limits are exceeded
- K5 how to check and confirm that the vessel's inert gas system is operating within prescribed limits
- K6 who to confirm with that the vessel's inert gas system is operating within prescribed limits
- K7 what are the correct procedures for crude oil washing operations
- K8 why is it important to adhere to these procedures
- K9 what are the vessel's tank atmosphere control measures
- K10 how to ensure that the tank atmosphere control measures are followed
- K11 what relevant information needs to be communicated
- K12 who are the appropriate/relevant people
- K13 how to ensure that all resources required are available and appropriate
- K14 your own responsibilities and duties and your duties under current environmental legislation
- K15 the problems that may occur and how to deal with them
- K16 who to refer to with problems that are not your responsibility and or you cannot solve
- K17 the appropriate methods of communication (including documentation) to use
- K18 how and when to obtain and use the appropriate PPE (Personal Protective Equipment) and how to select, use and care for PPE (to include sight and hearing protection, gloves, footwear, hard hats, respirators)
- K19 the implications of statutory and organisational requirements
- K20 how to interpret operational requirements (e.g. policies, procedures, Permit To Work, instructions, codes of practice, standards, schedules)
- K21 the risks and hazards associated with the activity
- K22 all relevant rules, regulations and guidelines

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Scope/range

1 Obtain, monitor and compare inert gas O₂ concentrations and pressures from vessel and terminal taking account of all of the following:

- 1.1 pressure, temperature relationships
- 1.2 units of measure and terminology
- 1.3 pressure and O₂ concentration limits for vessel and terminal

2 Ensure that the vessel's inert gas system is operating safely and effectively by confirming with personnel from the vessel, all of the following:

- 2.1 testing and adjustment of the O₂ analyser on the vessel's inert gas system
- 2.2 that O₂ concentration in inert gas is maintained within prescribed limits
- 2.3 that sufficient inert gas is being produced throughout the discharge to replace the discharged cargo
- 2.4 that the deck water seal and PV breaker are operating effectively

3 Check that the crude oil washing operation is carried out according to prescribed procedures, and confirm using the appropriate documentation

4 Ensure that the vessel is applying the correct tank atmosphere control measures and confirm with the vessel's personnel all of the following:

- 4.1 testing, spanning and/or adjustment of vessel's instruments used to monitor vessel's tank atmospheres
- 4.2 appropriate instruments are being used to monitor the vessel's tank atmospheres
- 4.3 vessel's personnel maintain tank pressures within prescribed limits

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