PT3.4: Isolate and Reinstate Process Plant and Equipment

This unit is about preparing the plant and equipment for isolation and reinstatement.

PT3.4.1 Prepare Plant and Equipment for Maintenance

PT3.4.2 Isolate Plant and Equipment

PT3.4.3 De-isolate Plant and Equipment

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

Unit Scope

Candidates must prove competence across the following items (or ‘systems’) as appropriate to the workplace and Evidence Specification:

• Wells
• Oil Storage/Discharge Process
• Gas Process
• Oil/Gas Process and Export
• Water Injection
• Metering
• Utilities

In addition, the following terms in bold relate directly to those shown in bold in the Performance Statements.

• Safe Systems of Work must include processes or systems that incorporate Hazard Identification, Risk Assessment, Permit to Work and any other associated systems.

Unit-wide Knowledge

• How to use ‘Safe Systems of Work’ processes to identify hazards and mitigate or reduce risks to as low as reasonably practicable (ALARP)
• How to select, use and care for PPE (to include sight/hearing protection, coveralls, coveralls, gloves, footwear, hard hats, respirators)
• The implications of statutory (e.g. HASAWA and COSHH) and organisational requirements
• How to interpret operational requirements (e.g. Policies, procedures, instructions, codes of practice, standards, schedules)
• Equipment internals and their function
• Functioning of process control including instrumentation and logic
• Methods and limitations of depressurisation/pressurisation, blowdown, temperature, relief systems, drains, flares, vents
• Sources of information and interpretation of drawings and manuals regarding the plant
• How to work with and within the relevant parts of the Safe Systems of Work system
• All relevant sources of energy to prime movers
• Properties of purging media
• Composition and properties of feedstock (to include toxicity, flammability, S G and temperature)
• Effects of Emergency Shut Down control systems
• Effects of Fire and Gas control systems
• Isolation devices and methods of installation

Element PT3.4.1 Prepare Plant and Equipment for Maintenance

Performance Statements

In achieving this unit you must have:

1. effectively obtained instructions and organised work correctly
2. ensured that the relevant parts of the Safe Systems of Work system are operated effectively
3. relevant personnel are briefed and work allocated to optimise effectiveness of preparation
4. correctly prepared plant and equipment
5. effectively maintained your work area to be clean and hazard free
6. ensured that all information supplied and recorded is accurate, complete and legible
7. worked safely in accordance with operational requirements and associated Safe Systems of Work

Knowledge and Understanding

You must know and understand:

1. how to access and interpret instructions (to include process system specification, production schedule, covering different plant and equipment)
2. how to deal with oral and written information (e.g. include work activity briefing provided to others, clarification of operational instructions, work activity recording)
3. the factors impacting upon optimising performance (to include layout, tools and equipment required, purging medium required)
4. how to identify hazards (to include spillages, uncontrolled emissions, extreme weather conditions)
Element PT3.4.2  Isolate Plant and Equipment

Performance Statements

In achieving this unit you must have:

1.  effectively monitored preparations and minimised risks to personnel, environment, process, plant and equipment
2.  effectively tested for ingress of liquid and gas and confirmed safety of the plant and equipment
3.  effectively monitored and maintained the status of the isolation
4.  ensured that all information supplied and recorded is accurate, complete and legible
5.  worked safely in accordance with operational instructions and associated Safe Systems of Work

Knowledge and Understanding

You must know and understand:

1.  how to carry out the tests for ingress of liquid and gas
2.  how to access and interpret operational instructions on safety, downtime, tools and equipment used
3.  how to minimise risks through appropriate reporting, adjusting, recording
Element PT3.4.3  De-isolate Plant and Equipment

Performance Statements

In achieving this unit you must have:

1. effectively de-isolated plant and equipment
2. monitored de-isolation and minimised risks to personnel, environment, process, plant and equipment
3. ensured that the relevant parts of the Safe Systems of Work system are operated effectively
4. effectively carried out leak detection tests and confirmed the plant and equipment safe to return to service
5. effectively maintained your work area to be clean and hazard free
6. ensured that all information supplied and recorded is accurate, complete and legible
7. worked safely in accordance with operational instructions and associated Safe Systems of Work

Knowledge and Understanding

You must know and understand:

1. the principles of de-isolation
2. the limits of your own responsibilities
3. how to access and interpret instructions (to include safety, downtime, integration of processes)
4. how to deal with oral and written information (to include reinstatement completion details, work activity details)