COGPEM12 - SQA Unit Code FP6V 04

Remove components from mechanical process plant and equipment

Overview

This unit is about your competence in removing mechanical components. You will be required to identify, remove, check the condition, mark and store for further use. You will be following your organisation's safe working practices and working within the work permit procedures. This unit deals with the following:

1. Remove components from mechanical process plant and equipment

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

Previous Version:

Adapted from Unit M2.5 of Process Engineering Maintenance NOS – version February 2004. This unit is a contextualised version of a unit produced by the OSC Eng Engineering Competence Standards which was originally designated ECS 5.03.

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Performance criteria

You must be able to:

P1 work safely at all times, complying with health and safety and other relevant regulations and guidelines
P2 establish, and where appropriate, mark component orientation for re-assembly
P3 ensure that any stored energy or substances are released safely and correctly
P4 remove the required components using approved tools and techniques
P5 take suitable precautions to prevent damage to components, tools and equipment during removal
P6 check the condition of the removed components and record those that will require replacing
P7 label and store the removed components in an appropriate location
P8 store or discard the removed components in accordance with approved procedures
P9 maintain documentation in accordance with organisational requirements

Knowledge and understanding

You need to know and understand:

K1 you must have a working knowledge and understanding of what your responsibilities are in respect of Health, Safety and Environment. This should include the limits of your personal responsibility, your legal responsibility for your own health and safety and the health and safety of others

K2 you must have a working knowledge of the relevant regulations and the safe working practices and procedures required within your work area

K3 you must have an appreciation of engineering drawings and related specifications and the specifications to which you will be expected to work, including: technical drawings (component, assembly, general arrangements, isometrics, 1st and 3rd angle projections), method statements and product worksheets, tolerances

K4 you must have a working knowledge of what the types of component removal methods and techniques, i.e. isolations and connections, are that have to be made, and which tools, equipment and methods can be used to remove specific components from specific products/assets

K5 you must have an appreciation of how to assess and identify the condition of removed components

K6 you must have a working knowledge of how to label and store components for re-use including the marking systems for specific components and connections

K7 you must have an appreciation of how to dispose of unwanted components and substances. This should include what substances could be released during the removal of components, which risks are associated with the release of substances, and where to access information on the environmental standards, including an appreciation on COSHH, SEPA and company procedures

K8 you must have an appreciation of what your responsibilities are for ensuring the care and security of tools and equipment that you use

K9 you must have an appreciation of your responsibilities with regard to the reporting lines and procedures in your working environment

Additional Information

Scope/range

1 The level and extent of responsibility in the context of this standard, extends to interpreting a specification, selecting and applying appropriate methods and tests to achieve the best possible result in the conditions applying. You will be accountable for the integrity of the work site and ensuring the work is recorded in a formal manner albeit you will be expected to refer to others. Authorisation for proceeding with the work will be given by authorised signatories within the Permit to Work system

2 The equipment to be worked on will be operational assets and could include:
- 2.1 Heat Exchangers
- 2.2 Pumps
- 2.3 Components of process systems

3 The type of components to be removed will be robust. Robust components are those which are resistant to most forms of damage or disruption during their working lives. Typical robust components could be:
- 3.1 Components of engines
- 3.2 Actuators
- 3.3 Valves
- 3.4 Components of pumps

4 The removal techniques or procedures to be followed could include:
- 4.1 Percussion
- 4.2 Pressure
- 4.3 Mechanical Strip
- 4.4 Thermal Techniques
- 4.5 Manual Handling
- 4.6 LOLER

5 The removal operations will be simple. Simple removal of components refers to situations where the component is quickly and easily removed from its position. Typical examples could include lifting out of plug-in components and undoing threaded fasteners to release the component.

Scope/range related to knowledge and understanding

The Knowledge and Understanding levels expressed indicate the minimum level of knowledge and understanding sufficient to perform your role in a manner that would normally be associated with the minimum acceptable performance of a competent person undertaking your role.

The expression “an appreciation” is intended to indicate a level of knowledge and understanding equating to:

1. An awareness of the existence, the scope and the background to the content covered by the knowledge and understanding statement
2. How and where to find further detail and information that you will need
3. Having obtained the information, you will be expected to check your interpretation and then to be able to apply it to your situation

The expression ”working knowledge and understanding” indicates you are able to:

4. Identify and apply relevant information, procedures and practices to your usual role in your expected working environments needing only occasional recourse to reference materials
5. Describe, in your own words, the principles underlying your working methods. This does not mean the ability to quote “Chapter and verse”. Rather you must know what supporting information is available, how and where to find it and from whom to seek further guidance and information confirm any additional required detail
6. Interpret and apply the information obtained to your role, your working practice and in your expected working environment

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