



Australian Government

Department of Education, Employment and Workplace Relations

UEPOPS209B Perform process plant inspections

Release: 1

UEPOPS209B Perform process plant inspections

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit deals with the skills and knowledge required to conduct the inspection of generation production plant and associated equipment.

Application of the Unit

Application of the Unit 2)

This unit is intended to augment formally acquired competencies. It is suitable for employment-based programs under an approved contract of training.

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit do not require a licence to practise in the workplace. However, practice in this unit is subject to regulations directly related to Occupational Health and Safety and where applicable contracts of training such as apprenticeships and the like.

Pre-Requisites

Prerequisite Unit(s) 4)

Competencies 4.1)

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must be have been completed.

There are no pre-requisite units.

Literacy and numeracy skills 4.2)

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following levels. A description of what each level entails is provided in Section 2.3.1 Language, Literacy and Numeracy.

Reading 2 Writing 2 Numeracy 2

Employability Skills Information

Employability Skills 5)

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element.
Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare for inspection	1.1 Relevant maintenance and operating history is obtained in accordance with work requirements
	1.2 Needs and outcomes for plant inspections are defined in accordance with work requirements
	1.3 Appropriate method sheets/check sheets are obtained in accordance with work requirements
	1.4 Availability and access to plant is determined in accordance with work requirements
	1.5 Preparations for inspection are undertaken in accordance with enterprise/site procedures
	1.6 Where appropriate, the teams and individuals roles and responsibilities within the team are identified and, where required, assist in the provision of the on-the-job training
2 Inspect process plant	2.1 Process plant is inspected in accordance with relevant sections of enterprise, state, or national standards
	2.2 Process plant is identified and operational status determined in accordance with enterprise/site procedures
	2.3 Inspection is conducted using appropriate methods in accordance with enterprise/site procedures
	2.4 Needs and outcomes for the inspection are achieved in accordance with work requirements
3	3.1 Relevant records and documentation are updated in accordance with job requirements and enterprise/site procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) This describes the essential skills and knowledge and their level, required for this unit.

Evidence must show that knowledge has been acquired of safe working practices and basic generation plant inspections.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-PO209B Electrical Generation Plant Inspections - basic

Evidence shall show an understanding of how to inspect electrical generation plant equipment to an extent indicated by the following aspects:

T1 Accessing historical records

T2 Instruction sheets, including:

- Enterprise, state or national standards
- Enterprise-specific work instructions or job sheets
- Manufacturers' operating instructions and manuals
- Plant drawings
- Equipment checklists

T3 Perform inspection of plant equipment associated with electricity generating plants by use of sight, sound and smell.

• Types of equipment includes:

- i. pipe work
 - ii. valves and fittings
 - iii. pumps
 - iv. photovoltaic panels
 - v. solar collectors
 - vi. wind turbines
 - vii. chemical and water treatment processes
 - viii. instrumentation and process control
 - ix. civil, electrical, thermal and mechanical works
 - x. DC supplies
 - xi. security equipment
 - xii. fire prevention and fire management equipment
 - xiii. data recorders
 - xiv. compressed air systems
 - xv. environmental containment systems
 - xvi. general purpose lighting
 - xvii. communication systems
- telephones
 - public address systems
 - emergency warning systems and alarms
- Checks include:

REQUIRED SKILLS AND KNOWLEDGE

- i. general condition
- ii. corrosion
- iii. correct positioning and settings
- iv. leaks
 - water
 - steam
 - oil
 - air
- v. noise and vibration
- vi. odours
- vii. housekeeping
- viii. availability and condition of personal protective equipment (PPE)
- ix. availability of spares
- x. availability of procedure manuals (including emergency procedures)

T4 Health, Safety and Environment practices and procedures, including:

- Risk assessment
- Control of hazards
- Identification and correct use of personal protective equipment
- Compliance with 'Permit-to-Work' requirements and equipment isolation procedures
- Emergency procedures
- Operation of plant equipment according to Legislative requirements, Regulations and Codes of Practice applicable to the industry.

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the competency standard unit and must be read in conjunction with the Performance Criteria and the Range Statement of the competency standard unit and the Training Package Assessment Guidelines. The Evidence Guide forms an integral part of this competency standard unit and shall be used in conjunction with all components parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment 9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that

can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

**Critical aspects
of evidence
required to
demonstrate
competency in
this unit** 9.2)

Before the critical aspects of evidence are considered all pre-requisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each Element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the "Assessment Guidelines – UEP12". Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this

shall incorporate evidence that shows a candidate is able to:

- Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and Range Statement
- Apply sustainable energy principles and practices as specified in the Performance Criteria and Range Statement
- Demonstrate an understanding of the Essential Knowledge and Associated Skills as described in 6) Essential Knowledge and Associated Skills of this unit
- Demonstrate an appropriate level of employability skills
- Conduct work observing the relevant Anti-Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated performance across a representative range of contexts from the prescribed items below:
 - Knowledge and application of relevant sections of: Occupational, health and safety legislation; Statutory legislation; Enterprise/site safety procedures; Enterprise/site emergency procedures
 - The process plant and its operating parameters
 - Inspection procedures and techniques
 - Identifying worn, damaged or faulty plant and equipment
 - Dealing with an unplanned event by drawing on Essential Knowledge and Skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

Context of and specific resources for assessment 9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this competency standard unit

Competency Standards should be assessed in the workplace or simulated workplace and under the normal range of workplace conditions.

Assessment of this unit will be supported with documentary evidence, by means of endorsement stating type and application of

work.

In addition to the resources listed above in Context of assessment', evidence should show competency working in confined spaces, with different types of plant and equipment as well as different structural/construction types and method and in a variety of environments.

**Method of
assessment**

9.4)

This unit shall be assessed by methods given in Section 1.3.00 Assessment Guidelines.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this competency standard unit applies. This requires that the specified Essential Knowledge and Associated Skills be assessed in a structured environment, which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the Essential Knowledge and Skills described in this unit.

**Concurrent
assessment and
relationship with
other units**

9.5)

There are no recommended concurrent assessments with this unit, however in some cases efficiencies may be gained in terms of learning and assessment effort being concurrently managed with allied competency standard units where listed.

Nil

Range Statement

RANGE STATEMENT

10) This relates to the competency standard unit as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

Generation plant and/or equipment may include fired and unfired pressure vessels; pipe work; valves and fittings; turbines and generators; chemical and water treatment processes; instrumentation and process control; and civil, electrical, thermal and mechanical works.

Relevant standards may include sections of Occupational Health and Safety legislation, enterprise safety rules and procedures, relevant state and federal legislation, national standards or codes of practices for plant.

Information and documentation sources may include verbal or written communications; enterprise safety rules documentation; equipment and alarm manuals; dedicated computer equipment; drawings, logic diagrams; plant records; enterprise/site log books; and manufacturer's operation and maintenance manuals.

Technical and operational indicators may include stimuli (audio, smell, touch, visual): remote or local indicators, recorders, and alarms (visible and/or audible).

Inspection results may be conveyed to supervisor/team leader or equivalent; technical and engineering officers or equivalent; power system control personnel or equivalent; maintenance staff, power plant operations personnel; contractor and external specialist personnel.

Inspection environment may be remote from plant; aided by indicators and monitors; during inclement or otherwise harsh weather conditions; in wet/noisy/dusty areas; during night periods and in confined spaces.

Generic terms are used throughout this Training Package for vocational standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms are given in Section 2.1 Preliminary Information and Glossaries.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field

11)

Operations