



Australian Government

Department of Education, Employment and Workplace Relations

UEPOPS437B Manage system re-start

Release: 1

UEPOPS437B Manage system re-start

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This competency unit deals with the skills and knowledge required to manage a system re-start after the islanding or shut down of a system/network.

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 4 Writing 4 Numeracy 4

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 Identify cause	1.1 Probable implications are identified and assessed in accordance with enterprise procedures
	1.2 Secondary threats to situation are identified and monitored in accordance with enterprise procedures
	1.3 The system configuration and/or generation capability is evaluated in accordance with enterprise procedures
	1.5 External information is sort, collated and assessed in accordance with enterprise procedures
	1.6 Probable cause of shutdown is identified from available information and resources
	1.7 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
	1.8 Communication with appropriate key stakeholders is established in accordance with enterprise procedures
	1.9 Communications with relevant personnel is established in accordance with enterprise procedures
	1.10 Team roles, both internal and external, are identified and conveyed to appropriate personnel in accordance with enterprise procedures
2 Restore system/network/generation	2.1 Response is managed in accordance with enterprise/site requirements and allowances for personnel/equipment limitations are made
	2.2 Responses are prioritised in accordance with enterprise procedures
	2.3 Contingency/re-start plans are actioned in accordance with enterprise/site policy and procedure

ELEMENT	PERFORMANCE CRITERIA
	2.4 Additional resources are coordinated and directed in accordance with enterprise procedures
	2.5 Re-start plans are monitored, evaluated and adjusted as necessary in accordance with enterprise procedures
3 Document	3.1 Equipment failure/problems are recorded and processed in accordance with enterprise procedures
	3.2 Feedback from stakeholders is recorded and in accordance with enterprise procedures
	3.3 Required reports and findings are generated and distributed to appropriate personnel in accordance with enterprise procedures
	3.4 Alternative contingencies/re-start plans and/or recommendations are communicated to appropriate personnel in accordance with enterprise 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 shall show that knowledge has been acquired managing system re-starts. All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

The extent of the Essential Knowledge and Associated Skills required follows:

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T1 Evidence shall show that knowledge has been acquired for safe working practices of:

- Relevant environmental, occupational health and safety legislation and regulations
- Enterprise procedures
- Plant drawings and manufacturers manuals
- Introduction to and typical arrangements of power production plant
- Relevant plant and equipment, its location and operating parameters
- Relevant state and territory regulations
- Switchgear types and characteristics
- Electrical protection types and characteristics
- Electrical principles
- a.c. generators types and characteristics
- Transformers types and characteristics
- Electrical system/network. types and characteristics
- Plant status
- Environmental awareness
- Enterprise recording procedures
- Equipment starting pre requisites
- Supervisory, alarm, protection and control equipment
- Auxiliary plant and plant operation
- Computers and software
- External authorities/bodies role
- Communication equipment

T2 Specific skills needed to achieve the Performance Criteria:

- Interpret plant drawings and manufacturers manuals
- Apply relevant state and territory regulations
- Apply enterprise recording procedures
- Locate relevant plant and equipment
- Operate plant within design parameters
- Identify plant status
- Communicate effectively

REQUIRED SKILLS AND KNOWLEDGE

- Apply diagnostic techniques
- Apply data analysis techniques and tools
- Recognise abnormal plant operating conditions
- Apply or determine appropriate corrective actions required
- Plan and prioritise work
- Maintain generator unit integrity
- Interpret remote indication of plant status and condition
- Delegate to and manage staff
- Apply stress management techniques.

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 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)

Longitude 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 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.

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 so as 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 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 OHS 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 procedure
- Demonstrated performance across a representative range of contexts from the prescribed items below:

- The knowledge and application of relevant sections of: Occupational Health and Safety legislation; Statutory legislation; Enterprise/site safety procedures; Enterprise/site emergency procedures
- The knowledge of the roles of external authorities/bodies
- The ability to establish and control emergency situations in operating the network system
- The ability to apply tactical decision making techniques in operating the network system
- 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 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 limited spaces with different types of plant and equipment and different structural/construction types and methods 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 unit applies. This requires

that the specified essential knowledge and associated skills are 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.

Safety standards may include relevant sections of Occupational Health and Safety legislation, relevant State and federal legislation, national standards for plant and enterprise safety rules.

Information and documentation sources may include verbal or written communications; enterprise safety rules documentation; enterprise operating instructions; dedicated computer equipment; enterprise/site standing and operating instructions; enterprise log books; manufacturer's operation and maintenance manuals; equipment and alarm manuals and external stake holder agreements.

Communications may be by means of telephone, two way radio, pager, computer (electronic mail), operating logs (written or verbal) and intercoms.

Appropriate personnel for consultation, to give or receive direction may include supervisor/team leader or equivalent, power plant operations personnel or equivalent, technical and engineering officers or equivalent, maintenance staff, power plant operations personnel, police, fire brigade, ambulance, emergency services, interconnected equipment personnel, public relations, management and system/network controllers.

Operating environment may be remote from plant and equipment being operated (operation is assisted by remote indicators of plant status and other parameters monitored) during inclement or otherwise harsh weather conditions, in wet/noisy/dusty areas, during night periods, continuous operation, during periods of stress, fatigue, work pressures, external influence (plant and people) and during high level intense work environment.

Types of incidents may include blackout, interconnected/isolated power system potential power system threat, disasters, accident, life threatening situations, generation plant and auxiliary plant faults/failures, system blacks, cyclone, multiple faults, floods, secondary threats, high winds and extreme electrical storms.

Key indicators are voltage, current, reactive power flows, load, equipment, loading limits, system node points and appropriate external indicators, e.g. radar.

System implications are machine and system stability, transmission line and transformer overloading, correct tap changer position, protection settings, voltage transformer selection, synchronising, generator stability limits, prime mover capability constraints, required load shedding selected and capacitor/confessor bank selection.

System conditions may be: voltage profiles, spare plant, generation/transmission capability limits, variation from normal trends and switching.

Documentation may include policy, procedure, standard operating instructions, contingency plans and emergency switching programs.

Liaison with key stakeholders may be system/network controllers/coordinators, oncoming shift change, field operators, support staff, asset centres, patrolmen, customers, other government bodies, co-generation authorities, generation plant operators, on call staff, police, fire, emergency services, private systems and independent power producers.

RANGE STATEMENT

Post incident debrief may be probable fault/failure cause, strategic/contingency plan, environmental implications, economic factors, policy, procedure, training, safety factors and emergency switching programs.

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