



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **UEPOPS245B Conduct chemical batching operations**

**Release: 1**

## **UEPOPS245B Conduct chemical batching operations**

### **Modification History**

Not applicable.

### **Unit Descriptor**

#### **Unit Descriptor**

#### **1) Scope:**

##### **1.1) Descriptor**

This unit deals with the skills and knowledge required to conduct mixing of chemicals for the treatment of a primary substance.

### **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

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
1 Plan and prepare work	1.1 Work requirements are identified from request/work orders or equivalent and clarified/confirmed with appropriate parties
	1.2 Occupational Health and Safety standards, statutory requirements, relevant Australian standards, codes of practice, manufacturers' specifications, environmental requirements and enterprise procedures are identified, applied and monitored throughout the work procedure
	1.3 Potential hazards are identified and prevention and/or control measures are selected in accordance with the work plan and site procedures
	1.4 Resources required to satisfy the work plan are identified, obtained and inspected for compliance with the job specifications
	1.5 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 Perform chemical batching	2.1 Relevant staff are notified on commencement and completion of work in accordance with enterprise/site procedures
	2.2 Amount of chemical needed is calculated in accordance with job requirements
	2.3 Correct chemical is added to tank or plant in accordance with job requirements
	2.4 Demineralised water is added to correct level in accordance with job requirements
	2.5 Mixing device is operated in accordance with job requirements
	2.6 Work site is left in a condition that ensures personnel safety and plant integrity

**ELEMENT****PERFORMANCE CRITERIA**

3 Complete documentation

3.1 Documentation is updated and plant problems, movements, abnormalities and status are reported and logged in accordance with 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 shall show that knowledge has been acquired of conducting chemical batching operations.

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

T1 Relevant Environmental, Occupational Health and Safety legislation and regulations

T2 Enterprise procedures

T3 Plant drawings and manufacturers manuals

T4 Introduction to and typical arrangements of power production plant

T5 Relevant plant and equipment, its location and operating parameters

T6 Electric motor types and characteristics

T7 Pump and compressor types and characteristics

T8 Valve, damper and actuator types and characteristics

T9 Switchgear types and characteristics

T10 Electrical protection types and characteristics

T11 Water chemistry

T12 Plant status

T13 Enterprise recording procedures

T14 Relevant chemicals, uses and hazards

T15 Properties of matter

T16 Lubrication and bearings

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Specific skills needed to achieve the Performance Criteria:

T1 Interpret plant drawings and manufacturers manuals

T2 Apply enterprise recording procedures

T3 Identify plant status

T4 Prepare plant/equipment for operation

T5 Organise resources

T6 Apply diagnostic and testing techniques

T7 Plan and prioritise work

T8 Use relevant hand tools

T9 Communicate effectively

T10 Conduct chemical batching operation.

## 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
  - Knowledge of the types of chemicals, properties and precautions taken
  - Conducting chemical batching operations
  - Knowledge of and ability to safely handle hazardous materials
  - 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, in limited 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. Chemicals may include ammonia, sulphuric acid, caustic soda, hydrochloric acid, biocides, corrosion inhibitors and aluminium polyelectrolytes. Safety standards may include relevant sections of Occupational Health and Safety legislation and enterprise safety rules. Information and documentation sources may include verbal and written communications, enterprise/site safety rules documentation/form(s), equipment and alarm manuals, dedicated computer equipment, enterprise/site operating instructions, enterprise/site log book, manufacturer's operation and maintenance manuals, enterprise standing instructions and plant notes and material safety data sheets. Technical and operational indicators may include stimuli (audio, smell, touch, visual), remote or local indicators and recorders and alarms (visible and or audible). Communications may be by means of telephone, two way radio, pager, operating log (written or verbal), computers (electronic mail) and public address system. Appropriate personnel to consult, give or receive direction may include supervisor/team leader or equivalent, technical and engineering officers or equivalent, power plant operations personnel or equivalent. Operating environment may be remote from plant and equipment being operated (operation is assisted by remote indicators of plant status and other parameter monitors), during inclement or otherwise harsh weather conditions, in wet/noisy/dusty/hot areas or during continuous operation. Equipment used may include personal safety equipment, flexible barrier equipment, portable pumps valving and associated pipe work. 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