



Australian Government

RIIMSM307E Install and maintain ventilation systems and equipment

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0.

Application

This unit describes the skills and knowledge required to install and maintain ventilation systems and equipment in the resources and infrastructure industries.

It applies to those working in supervisory and technical specialist roles. They generally work under minimal supervision to undertake a broad range of skilled applications in varied work contexts, using some discretion and judgement in selecting equipment, services or contingency measures.

Licensing, legislative and certification requirements may apply to this unit and can vary between states, territories and industry sectors. Users must check requirements with relevant body before applying the unit.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and prepare for installation and maintenance of ventilation systems and equipment	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to install and maintain ventilation systems and equipment 1.3 Identify and address potential risks, hazards and environmental issues, and implement control measures according to workplace procedures 1.4 Select and wear personal protective equipment appropriate for work activities 1.5 Inspect and evaluate the mine configuration, or obtain advice from the appropriate source, to identify the most effective mine ventilation method 1.6 Determine the ventilation systems configuration and the location of ventilation equipment and devices

ELEMENT	PERFORMANCE CRITERIA
	1.7 Identify and obtain required ventilation equipment and devices 1.8 Obtain and interpret emergency procedures, and be prepared for emergency situations
2. Install/construct ventilation system	2.1 Coordinate activities with relevant personnel prior to commencement of, during, and on completion of the work 2.2 Establish and monitor a safe work environment 2.3 Install ventilation equipment in the designated work area according to workplace procedures 2.4 Construct the ventilation device in the designated work area according to workplace procedures 2.5 Identify and respond to risks and hazards situations and ensure the safety of self, other personnel and plant and equipment
3. Monitor and maintain mine ventilation system	3.1 Conduct inspections of ventilation equipment, devices and systems according to workplace procedures 3.2 Detect and measure airflow and adjust the ventilation system to maintain adequate flow of air through the mine according to workplace procedures 3.3 Monitor and maintain the air quality in the mine to identify impurities and contaminants to ensure respirability of the air 3.4 Obtain and prepare necessary replacement materials and equipment required for the maintenance work 3.5 Carry out minor maintenance and repairs according to manufacturer specifications 3.6 Process written and verbal records and reporting requirements according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Reading	Identifies and interprets information from workplace procedures, documentation and regulations
Writing	Produces and completes written documents required for workplace procedures
Self-management	Monitors and minimises own exposure to worksite risks and hazards during activities

Unit Mapping Information

Supersedes and is equivalent to RIIMSM307D Install and maintain ventilation systems and equipment.

Links

Companion Volume implementation guides is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIIMSM307E Install and maintain ventilation systems and equipment

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- install and maintain ventilation systems and equipment on at least two occasions, including:
 - determining ventilation system configuration and location requirements
 - inspecting ventilation equipment, devices and system to ensure safe efficient operation
 - measuring airflow and adjusting the ventilation system to maintain an adequate flow of air through the mine
 - selecting and using relevant tools and equipment
 - measuring and testing air flow and gas levels
 - identifying impurities
 - identifying and obtaining required ventilation materials, equipment and devices.

During the above, the candidate must:

- locate and apply relevant documentation, policies and procedures and confirm that the work activity is compliant
- implement the requirements, procedures and techniques for installing and maintaining ventilation systems and equipment
- work effectively with others to install and maintain ventilation systems and equipment in a way that meets all required outcomes
- communicate clearly and concisely with others to receive and clarify work instructions and to determine coordination requirements prior to commencing and during work activities.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key policies, procedures and documentation required to install and maintain ventilation systems and equipment, including:
 - mine operation
 - risk management
 - gas monitoring and testing
 - air flow measurement
 - site environmental requirements and constraints
- principles and techniques for accessing, interpreting and applying:
 - basic mine geology and survey information related to ventilation systems
 - types and applications of ventilation systems
 - ventilation equipment and device construction, processes and operating characteristics
 - ventilation device equipment and material characteristics
- principles and techniques for identifying and addressing changing environmental conditions
- principles and techniques for identifying relevant hazards and emergencies
- techniques for coordinating and communicating job activities with others.

Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
 - personal protective equipment
 - equipment related to installing and maintaining ventilation systems and equipment
 - relevant documentation
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,
- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations (RTOs) 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed

- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current** work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

Industry sector	AQF indicator level***	Required assessor or industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure	1	1 year
	2	2 years
Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure	3-6	3 years
Other sectors	Where this unit is being assessed outside of the resources and infrastructure sectors assessor and/or industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no industry standard is specified should comply with any relevant regulation.	

*Guidance on simulated environments has been stipulated in the Companion Volume Implementation Guide located on VETNet.

**Assessors can demonstrate current work experience through employment within industry in a role relevant to the outcomes of the unit; or, for external assessors this can be demonstrated through exposure to industry by conducting a minimum number of site assessments as determined by the relevant industry sector, across various locations.

*** While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

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