



Australian Government

**Assessment Requirements for RIUND603D
Manage, operate and maintain the mine
ventilation system**

Release: 2

Assessment Requirements for RIIUND603D Manage, operate and maintain the mine ventilation system

Modification History

Release	Comment
1	This unit replaces RIIUND603A Manage, operate and maintain the mine ventilation system
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies relevant legislation, documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient management, operation and maintenance of the mine ventilation system including:
 - accessing and analysing archival and historical ventilation information
 - interpreting and applying mathematical and scientific theorems/laws related to ventilation
 - interpreting and applying design criteria for ventilation systems and devices
 - interpreting computer spreadsheets and ventilation modelling/simulations
 - analysing and reporting on ventilation training needs
- demonstrates completion of the management, operation and maintenance of the mine ventilation systems that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - identifying mine ventilation system hazards and risks
 - determining measures and control of risks to mine ventilation systems
 - developing a system for early warning for each identified hazard including action requirements for each event and incorporate
 - identifying, analysing and evaluating ventilation control options and measures
 - coordinating maintenance activities, including inspections, repair and maintenance

- preparing and maintaining ventilation management plan and associated activity
- communicating the ventilation management plan to others, clarify intent and ensure compliance
- auditing and reviewing the effectiveness of the mine ventilation system
- accessing data from monitoring systems and equipment and conducting enquiries/investigations for noncompliance, discrepancies or deficiencies and preparing audit reports

Knowledge Evidence

The candidate must demonstrate knowledge in managing, operating and maintaining the mine ventilation system through:

- methods of mine ventilation and their applications/limitations
- methods of panel ventilation and their applications/limitations
- impact of mining techniques and mine and panel design on ventilation
- inertisation techniques and applications
- impact of differing geological features and conditions on ventilation including faults, dykes, intrusions and strata deformities
- impact of coal characteristics and coal seam gradients on mine ventilation design
- effects of ventilation on the spontaneous combustion risk
- mine gases; the types and their characteristics, sources, physiological effects and methods of detection
- dust and other particulate matter; the types, sources, physical and physiological effect, and control/mitigation methods
- mine fires; the types, sources of ignition, possible effects on the ventilation circuit and prevention/control/mitigation methods
- mine explosions; the types, ignition sources, possible effects on the ventilation circuits and prevention/control/mitigation methods
- pressure changes; causes, the impacts on the ventilation system, responses (to include the causes and effects of natural ventilation and re-circulation)
- heat, humidity; the sources and factors which may impact on mine ventilation and personnel
- mine roadways and shafts; their design parameters and impact on mine ventilation
- mine fans; fan laws, fan types, performance characteristics, configurations, applications and limitations
- ventilation control devices; the types, purposes, design criteria and specifications, distribution/placement criteria and limitations
- de-gassing; methods of control – including brattice, auxiliary fans, compressed air venturis, sails, hurdles and bleeders
- ventilation networks and individual circuit design criteria, specifications and design processes
- fixed ventilation monitoring systems types, uses/limitations, design criteria, specifications and design processes
- portable monitoring equipment, types, uses/limitations, design criteria and specifications

- the use of computer modelling and simulation techniques and applications relevant to mine ventilation planning; their functions, capabilities, advantages and limitations

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,
- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 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.
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*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 frequent site assessments across various locations.

**Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level

Links

Companion Volume implementation guides are found in VETNet -

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