



Australian Government

RIIRAI609D Establish and maintain electrical installations, reticulation and protection system

Release: 3

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Modification History

Release	Comment
1	This unit replaces RIIQAI609A Establish and maintain electrical installations, reticulation and protection system
2	Plan and Prepare element added.
3	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.

Application

This unit develops a participant's skills and knowledge required to establish and maintain electrical installations, reticulation and protection systems in Coal mining.

This unit is appropriate for those working in management or technical specialist roles.

No licensing, legislative or certification requirements apply to this unit at the time of publication

Unit Sector

Coal mining

Elements and Performance Criteria

1. Plan and prepare for electrical installations, reticulation and protection	1.1 Access, interpret and apply electrical installations, reticulation and protection system documentation and ensure the work activity is compliant 1.2 Obtain, read, interpret, clarify and confirm work requirements 1.3 Identify and address potential risks, hazards and environmental issues and implement control measures 1.4 Select and wear personal protective equipment appropriate for work activities 1.5 Identify design/selection specifications and critical aspects of
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	the systems from a comprehensive analysis of operating requirements 1.6 Identify systems options from an analysis of all relevant technical, operational and financial information 1.7 Select the preferred systems options on the basis of performance against specification requirements
2. Provide power supply systems for the mine site	2.1 Install, maintain, review and modify mine power supply systems 2.2 Undertake processes and procedures and ensure reliability and quality of supply taking into account transients, harmonics, over-voltages, voltage regulation, lightning and stray currents 2.3 Plan and install alternative power supply associated with mine site conditions and safety needs 2.4 Undertake processes and procedures to protect high energy sources (sub stations and transformers) through the selection and installation of switchgear and protective devices 2.5 Provide mine illumination systems and equipment 2.6 Plan and install battery and associated charging equipment 2.7 Review, audit, report and maintain all power supply systems
3. Provide electrical protection system for mine sites	3.1 Access, interpret and apply the compliance documentation requirements related to mine electrical protection system 3.2 Install and maintain the electrical protection system 3.3 Identify, isolate, rectify faults in electrical installations and verify ability of the system through recognised decision-making processes, including the use of fault level calculations, discrimination and component ratings 3.4 Apply management decision-making processes for the maintenance, examination and testing of electrical protection systems relative to mine site and safety needs 3.5 Review, modify, audit and maintain all electrical protection systems and devices
4. Provide cables from power source to point of usage	4.1 Access, interpret, apply and implement the compliance documentation requirements related to provision and use of mine cables 4.2 Identify, select and install mine cables 4.3 Identify, report and rectify mine cable faults and hazards in accordance with mine site and hazard control requirements 4.4 Inspect mine cables for their integrity, usage, consequence of fault/damage and previous repairs

	4.5 Carry out management, inspection, application, testing, fault finding and repair
5. Provide mobile machinery and electrical apparatus	5.1 Access, interpret, clarify and apply the compliance documentation requirements related to provision and use of mobile machinery and electrical apparatus 5.2 Identify, select and install mobile machinery and electrical apparatus 5.3 Inspect, monitor, report and rectify mobile machinery and electrical apparatus faults and hazards 5.4 Carry out testing
6. Provide overall electrical services that apply to production systems	6.1 Access, interpret, clarify and apply the compliance documentation requirements related to overall electrical services that apply to production systems 6.2 Select, install, monitor and maintain mine communication systems 6.3 Select, install, monitor, modify and maintain the electrical components of the gas monitoring and detection systems 6.4 Select, install, monitor, modify and maintain control systems 6.5 Control, monitor and rectify electromagnetic interference that may affect the safe use of electrical systems and other mining equipment 6.6 Select, install, monitor, modify and maintain remote control systems on mining equipment 6.7 Select, install, monitor, modify and maintain welding equipment and energy delivery sources, including pre and post operations 6.8 Identify, control and manage hazards from electrostatic charges
7. Provide safe electrical work procedures	7.1 Access, interpret, clarify and implement the compliance documentation requirements related to safe electrical work procedures 7.2 Monitor and audit safe electrical work procedures 7.3 Determine and implement training needs

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

No equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

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