



Australian Government

Department of Education, Employment and Workplace Relations

RIISAM402A Supervise operation of electrical equipment and installations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers supervising the operation of electrical equipment and installations in the extractive industries. It includes: accessing and sharing requirements and procedures; planning and implementing requirements; and monitoring, adjusting and reporting performance. This unit covers the electrical equipment and installations responsibilities of an employee with supervisory role.

Application of the Unit

This unit is appropriate for those working in supervisory or technical specialist roles, within:

- Extractive industries

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Access and share requirements and procedures	1.1. Access, interpret, apply and share with team members the compliance documentation relevant to the operation of electrical equipment and installations on the site 1.2. Provide information in a language, style and format that is understood by team members 1.3. Make clear the implications of electrical hazards and inefficiencies to all in the workplace
2. Plan and implement site requirement	2.1. Plan and implement control measures and work practices with team members to ensure compliance with legislative, organisation and manufacturer's requirements and procedures 2.2. Access, interpret and clarify conditions of electrical supply and take them into account in planning site use of electrical energy 2.3. Ensure all electrical work is carried out to legislative requirements by people with appropriate licenses and qualifications 2.4. Ensure electrical plans and drawings are kept up to date 2.5. Identify training needs and implement training, coaching and mentoring support to colleagues to ensure safe and efficient operation of electrical equipment and installations
3. Monitor, adjust and report performance	3.1. Ensure actual and potential electrical hazards and inefficiencies are identified, rectified and reported promptly and decisively 3.2. Manage activities so that potential hazards and inefficiencies with operation of electrical equipment are minimised 3.3. Ensure all electrical equipment is maintained in a safe condition 3.4. Interpret, clarify and apply information from monthly electricity account in optimising energy use 3.5. Submit recommendations on improvements

	in operation of electrical equipment to designated persons/groups 3.6. Inform individuals/teams of the results of improvements in operation of electrical equipment in the workplace 3.7. Maintain systems, records and reporting procedures
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Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to supervise operation of electrical equipment and installations:

- apply legislative, organisation and site requirements and procedures
- apply procedures for providing information
- apply electrical hazards identification procedures
- apply electrical risk assessment procedures
- read electrical diagrams
- apply procedures for the preparation of work procedure and instructions
- apply procedures for developing and introducing practices to improve the work environment
- use effective consultative mechanisms to negotiate processes and procedures appropriate to statutory/legal requirements
- explain complex information to superiors/subordinates
- apply coaching and mentoring support procedures

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to supervise operation of electrical equipment and installations:

- legislative, requirements and procedures
- organisation's requirements and procedures
- manufacturer's requirements and procedures
- potential electrical hazards
- plant interlocking and its consequences
- risk management procedures
- basic electrical terminology and theory of operation of common electric motors and control equipment
- type of electrical supply systems (e.g. high medium and low voltage systems)
- electrical risk treatment procedures
- potential electrical inefficiencies
- electrical monitoring requirements and procedures
- work practices that minimise the potential and impact of electrical hazards
- procedures for identifying training needs and implement training
- recording and reporting procedures

- human resource management
- providing information relating to electrical management
- work procedure/instruction writing

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following: • knowledge of the requirements, procedures and instructions for the management and operation of electrical equipment and installations • implementation of appropriate procedures and techniques for the safe, effective and efficient operation of electrical equipment and installations • working with others to plan, prepare and conduct the operation of electrical equipment and installations • provision of clear and timely instruction and supervision by the individual of those involved in the operation of electrical equipment and installations • evidence of the consistent successful supervision of the operation of electrical equipment and installations
Context of and specific resources for assessment	• This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery

	environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non English speaking background may have second language issues. • Assessment of this competency requires typical resources normally used in a resources and infrastructure sector environment. Selection and use of resources for particular worksites may differ due to the site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods: • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: • implementation of appropriate procedures and techniques for the safe, effective and efficient achievement of the required outcomes • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: • working with others to plan, prepare and conduct the operation of electrical equipment and installations • provision of clear and timely instruction and supervision by the individual of those involved in the conduct of the operation of electrical equipment and installations
Guidance information for assessment	Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.

Range Statement

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Team members may include:	• site personnel • off-site company personnel • contractors • suppliers
Relevant compliance documentation may include:	• legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
Control measures may include:	• isolation procedures • earthing procedures • lock-out procedures • tagging procedures • earth leakage installation and testing • formal authorisation requirements for carrying out of electrical work • use of appropriate tools, equipment, barriers and safety apparel • enclosures and/or guarding • procedures for restoring supply • start-up sequencing • routine maintenance
Work practices may be included:	• in site work instructions or standard operating procedures
Conditions of electrical supply may include:	• peak time rates • off-peak rates • special power payments • peak demand • general supply charges
People with appropriate licenses	• apply safe systems of work when carrying out

or qualifications must:	electrical work • carry out electrical wiring work to comply with AS/NZS 3000 (Wiring Rules), as amended by local regulations • ensure that they perform electrical work only of the type for which they are registered or licensed • ensure they test work in accordance with the local regulations • ensure that a Certificate of Electrical Safety is completed as required by the local regulations/power authorities • ensure that completed prescribed work is inspected by a Licensed Inspector prior to connection to electrical supply or reconnection as appropriate • report all electrical incidents, hazards and potential hazards, and take appropriate action to control risks • check the operation of portable Residual Current Devices (Safety Switches) before each use • electrical contractors: • keep a register of licensed electrical workers who are employed (directly or as sub-contractors) by the contractor • not permit a person to carry out on the contractor's behalf or direct a person to carry out electrical work that does not comply with the local legislative requirements
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Electrical plans and drawings should include:	• underground services • overhead services • electrical reticulation • control circuit diagrams
Training should include:	• awareness of the location of and safe clearances to overhead power lines, underground cables and electrical equipment • all electrical incidents, hazards and potential hazards reporting requirements • the need to check the operation of portable Residual Current Devices (Safety Switches) before each use • the need to check operation of portable electrical equipment • the need to operate electrical equipment in accordance with site requirements
Efficient operation may include:	• specified starting sequences • avoiding excessive loads caused by unnecessary mechanical resistance (jamming, blockages) • routine maintenance • routine inspections • minimising demand charges
Information from monthly electricity account may include:	• break down of charges • general supply charge • peak hour charges • off-peak charges • peak demand charges • prior year usage and costs
Optimisation of energy may include:	• identification of major uses of electrical energy • maximising the use of off-peak rates (e.g. hot water and out of hours automated pumping) • sequenced starting to minimise peak demand

Unit Sector(s)

Service and Maintenance

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.