



Australian Government

Department of Education, Employment and Workplace Relations

RIIENV502A Undertake process or project environmental impact assessment

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit covers undertaking of process or project environmental impact assessment in the mining or extractive industries. It includes: describing the process or project and the development environment; identifying their environmental issues; assessing environmental impacts; and evaluating alternatives.

Application of the Unit

This unit applies to undertaking a local environmental impact assessment of site based processes or projects dealing with mine operations. It may include conduct of a simple checklist audit against company and local requirements. It is appropriate for those working in a management or technical specialist role, within:

- Coal mining
- Extractive industries
- Metalliferous mining

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

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>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.</p>
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Describe process or project and the development environment	1.1. Access, interpret and apply <i>compliance documentation</i> relevant to the work activity 1.2. Prepare detailed description of the process or <i>project</i> environment before development 1.3. Prepare process or project life cycle with detailed information on all phases
2. Identify environmental issues for process or project	2.1. Work with engineers and scientists to identify <i>environmental issues</i> 2.2. Assess each part of the process or project for impact on the local ecosystem 2.3. State assessment criteria clearly 2.4. Identify both positive and negative impacts 2.5. Evaluate risks and hazards associated with the process or project, both short and long term
3. Assess environmental impact	3.1. Assess process or project against environmental regulations, site terms, conditions and licences and company policy 3.2. Make qualified and justified assessment of impact on environment 3.3. Ensure <i>assessment documents</i> are used as the scientific basis for assessment 3.4. Present assessment in clearly written and illustrated format
4. Evaluate alternatives	4.1. Ensure all practical solutions to impact assessment are included in analysis 4.2. Prepare objective and scientifically valid alternatives 4.3. Prepare comparisons using cost benefit analysis where possible 4.4. Identify alternative processes or amended project to minimise environmental impact

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 undertake process or project environmental impact assessment:

- apply legislative, organisation and site requirements and procedures
- write advanced reports
- solve problems
- operate computer data analysis systems (database, spreadsheet, specialist programs)
- assess risks and hazards
- perform financial assessments
- plan projects

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 undertake process or project environmental impact assessment:

- company environmental policy and procedures
- process or project and/or proposal phases
- physical environment as impacted by mining operations
- ecological environment as impacted by mining operations
- land use profiles
- social issues as impacted by mining operations
- impact of mining operations on infrastructure
- legislation, regulation, licences and permit requirements for mining operations
- data analysis systems, including statistical analysis
- support professions role and function (engineers, scientists etc)
- budgeting and cost cycle planning

Evidence Guide

<p>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.</p>	
<p>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>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:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for undertaking process or project environmental impact assessment • implementation of procedures and techniques for the safe, effective and efficient undertaking of process or project environmental impact assessment • the identification of the relevant information and scope of the work required to meet the required outcomes • the identification of viable options and the selection of the options that best meet the required outcomes • working with others to undertake and complete process or project environmental impact assessment • consistent successful completion of process or project environmental impact assessment
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • 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

	<p>required on the job.</p> <ul style="list-style-type: none">• 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 civil works environment. Selection and use of resources for particular worksites may differ due to 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.
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<p>Method of assessment</p>	<p>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:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's knowledge required to undertake process or project environmental impact assessments • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • implementation of appropriate procedures and techniques for the safe, effective and efficient achievement of the required outcomes • identification of the relevant information and scope of the work required to meet the required outcomes • identification of viable options and the selection of options that best meet the required outcomes • consistently achieving the required outcomes • first hand testimonial and documentary evidence of the candidate's: <ul style="list-style-type: none"> • working with others to undertake and complete process or project environmental impact assessments • provision of clear and timely required support and advice on the undertake of process or project environmental impact assessments
<p>Guidance information for assessment</p>	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

Range Statement

<p>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.</p>	
<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • 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
<p>Environment assessment documents may include:</p>	<ul style="list-style-type: none"> • EIA - Environmental Impact Assessment • EIS - Environmental Impact Statement • PER - Public Environmental Report • NOI - Notice of Intention
<p>Environment may include:</p>	<ul style="list-style-type: none"> • physical • biological • social • regional • land uses • tenures • climate • geology • landforms • soils • surface and ground water • water quality • air quality • hydrology • dust and noise • pollutants • contaminants • vegetation, plant diseases, clearance and weeds • animal life, habitats, mobility, threats • rare and endangered species • community infrastructure

	<ul style="list-style-type: none">• ethnography of area• archaeology• regional and local demography
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<p>Environmental issues may include:</p>	<ul style="list-style-type: none"> • physical issues including: <ul style="list-style-type: none"> • significant land disturbance • erosion, subsidence and instability • alteration of water courses • effects on quality, quantity or availability of surface water or groundwater • salination of water or land • acid drainage • heavy metal contamination • impact on coastal processes • ecological issues including: <ul style="list-style-type: none"> • direct impacts on vegetation • loss of habitat • displacement of fauna • impact on ecological processes • loss of biodiversity • potential for spreading plant diseases and noxious weeds • impact of toxic or hazardous materials • creation of new habitats • land use issues including: <ul style="list-style-type: none"> • major changes of land use • compatibility of development with surrounding land uses • preclusion of alternative land use e.g. conservation or recreation • increased demand on scarce natural resources • creation of new water storage and supplies • creation of opportunities for alternative beneficial land uses • social issues including: <ul style="list-style-type: none"> • influx of population • impact on health and safety • changes in community character • creation of employment • increased revenue for local communities • community and cultural aspects • infrastructure issues including: <ul style="list-style-type: none"> • load on existing roads • impact on services including utilities, health,
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	education, community services
Project phases may include:	<ul style="list-style-type: none">• site preparation• construction• operations• proposed expansions• decommissioning• rehabilitation• site closure

Unit Sector(s)

Environment

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.