Australian Government

Department of Education, Employment and Workplace Relations

MSS015015A Evaluate sustainability impact of a process

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

MSS015015A Evaluate sustainability impact of a process

Modification History

Not applicable.

Unit Descriptor

This unit of competency covers evaluating the impact on sustainability of an entire process (manufacturing, logistics, office or other process) or the product from such a process. It does not specifically address the regulatory requirements for an environmental impact statement.

Application of the Unit

This unit applies to establishing the overall or broad sustainability impact of a process and making recommendations for mitigating negative sustainability impacts. It may apply to value chains beyond the boundary of an organisation, or the entire value chain within an organisation. The unit scope includes products made, services offered, and use of sites by an organisation or part or all of its value chain. This unit covers the application to substantial portions of value chains and may be beyond the boundaries of the organisation. For portions of value chains within an organisation consider MSS014002A Evaluate sustainability impact of a work or process area.

Environmental sensitivities referred to in this unit are at the issue level. The technical measurement of operational performance or measurement of emissions or other environmental impact is not covered by this unit.

If the impact is to be evaluated across a value chain and the extent of the value chain is not known, MSACMS601A Analyse and map a value chain should also be selected.

It would typically be undertaken by a manager or technical specialist who had a major responsibility for sustainability as part of a broader work role, or sustainability may be their primary work responsibility. The manager or technical specialist may undertake this alone or as part of a team.

The technical measurement of operational performance or measurement of emissions or other environmental impact is not covered by this unit.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills

Elements and Performance Criteria Pre-Content

Not applicable.

Elements and Performance Criteria

1 Evaluate the value chain for the selected process	1.1 Select portion of the value chain for analysis 1.2 Identify process steps along the chain 1.3 Identify the change which occurs at each step 1.4 Define the interactions with the environment at each step
2 Determine sustainability issues for the process	2.1 Identify environmental sensitivities at each step in the value chain 2.2 Identify other sustainability issues at each step in the value chain 2.3 Short-list sustainability issues which will require action to mitigate or eliminate negative sustainability impacts
3 Analyse sustainability issues for the process	3.1 Determine root cause of each short-listed issue 3.2 Develop possible solutions to root causes 3.3 Develop alternative mitigation strategies where needed 3.4 Estimate resources required for solutions and alternative mitigation strategies 3.5 Rank possible solutions strategies by desirability 3.6 Produce and present report to stakeholders

Required Skills and Knowledge

Required knowledge includes:

- value chain mapping and analysis with regard to sustainability
- process and changes which occur within the process
- environmental impacts of materials and energy used/emitted
- environmental sensitivities of all areas impacted by the value chain (and related areas where impact spreads beyond immediate area, e.g. by loss of containment)
- root cause analysis and problem solving
- mitigation strategies
- benefit/cost analyses techniques
- methods of dealing with sustainability issues and the benefits arising from each
- AS/NZS ISO 14000 Environmental Management Standards

Required skills include:

- analysing and prioritising issues
- consulting and negotiating with stakeholders on possible solutions and strategies for sustainability improvement
- using problem-solving techniques, including root cause analysis
- mapping the value chain

Evidence Guide

Overview of assessment	A person who demonstrates competency in this unit must be able to evaluate the sustainability impact of a whole process or internal or external value chain, determine root cause for sustainability issues and propose and rank solutions.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Assessors must be satisfied that the candidate can competently and consistently apply the skills covered in this unit of competency in new and different situations and contexts. Critical aspects of assessment and evidence include: • identifying steps in the process and portion of manufacturing value chain • determining ecological and sustainability impacts of processes • determining root causes of impacts • evaluating solution and mitigation strategies.
Context of and specific resources for assessment	• This unit of competency is to be assessed in the workplace or a simulated workplace environment. • Assessment should emphasise a workplace context and procedures found in the candidate's workplace. • This unit of competency may be assessed with other relevant units addressing sustainability at the enterprise level or other units requiring the exercise of the skills and knowledge covered by this unit. • The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team.
Method of assessment	• In all cases, practical assessment should be supported by questions to assess underpinning knowledge and those aspects of competency which are difficult to assess directly. • Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability. • The language, literacy and numeracy demands of assessment should not be greater than those required to undertake the unit of competency in a work-like environment.
Guidance information for assessment	

Range Statement

Process	Process may include: • any operational, manufacturing, logistics, administrative, information technology or business process in a manufacturing value chain (e.g. manufacturer, supplier of goods or services or a customer)
Interactions with the environment	Interactions with the environment may include: • drawing physical resources from the environment • releasing materials to the environment (e.g. emissions) • drawing energy from/releasing energy to the environment
Environmental sensitivities	Environmental sensitivities may include: • fragile areas and rare or threatened species • heritage or religious issues • hazardous emissions • regulated emissions or other regulatory issues • community perceptions or other issues

Sustainability issues	Sustainability issues may include:
	• resource footprint (e.g. carbon and water) of product and process
	• current and future availability of raw materials
	• current and future availability of energy
	• waste generation and disposal
	• efficiency of process
	• the extent to which the production process and product affects the environment, including effects on:
	    • climate
	    • quality of local air and water
	    • ecology
	    • noise
	• relationship with the local and broader community (e.g. effect of operations on aesthetic appearance, preservation of heritage, and proximity to schools and religious facilities)
	• extent of regulatory oversight and cost of compliance

Desirability ranking	Desirability ranking includes: • direct dollar benefit/cost • customer benefit • stakeholder perception:

	- shareholders - employees - community - financial community - other - life cycle improvements

Unit Sector(s)

Sustainability

Custom Content Section

Not applicable.