



Australian Government

Department of Education, Employment and Workplace Relations

MSS014006A Contribute to sustainability related audits

Release: 1

MSS014006A Contribute to sustainability related audits

Modification History

Not applicable.

Unit Descriptor

This unit of competency covers contributing to sustainability related audits either as an audit team member or through specifically nominated research and investigations for the audit team. The unit includes understanding the context of the sustainability audit; concepts of usage of resources and wastes; and how they can be expressed as carbon and carbon equivalents; as it applies to sustainability and the type of decisions that information from a sustainability related audit will help to inform.

Application of the Unit

This unit applies to sustainability related audits of a part or whole organisation or its value chain. The unit has been developed with manufacturing operations as a focus. However, because of the range of organisations in a typical manufacturing value chain it may also be applied to other types of organisations.

The audits may be conducted to assist in regulatory compliance or as part of a strategy to improve the sustainability of an organisation's operations.

This unit applies to team leaders, technicians or others who may be required to assist in such an audit as part of their work role.

The unit does not cover the skills needed to lead sustainability related audits.

Where detailed operational and process knowledge is required to understand the processes being audited or measure specified inputs, outputs or waste, the relevant skills should be gained through selection of appropriate technical units or alternatively technical assistance obtained.

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 Identify scope of audit | 1.1 Identify target area of audit within the organisation or value chain |
| | 1.2 Identify sustainability related activities to be audited |
| | 1.3 Identify and confirm own role in audit |
| | 1.4 Identify and confirm own timelines and reporting processes |
| 2 Identify work areas, processes and equipment covered by own audit responsibility | 2.1 Identify inputs to processes or area being audited |
| | 2.2 Identify material changes or other relevant changes that occur in the work area |
| | 2.3 Identify key items of equipment and their purpose and relevance to the audit |
| | 2.4 Identify measurable outputs of work area and the extent that they are relevant to the audit |
| 3 Undertake measurement tasks | 3.1 Identify need, if any, for technical assistance from employees in work area or support sections |
| | 3.2 Measure specified inputs to process or work area |
| | 3.3 Measure specified outputs for process or work area |
| | 3.4 Calculate difference between input and output |
| | 3.5 Calculate measurable sources of waste for process or work area |
| | 3.6 Determine difference between measurable and theoretical waste for process or work area |

- 3.7 Compare results to external targets where appropriate
- 3.8 Communicate results to audit team
- 4 Assist in developing strategies for reducing the use of specified input
 - 4.1 Rank equipment or processes by use of specified input and waste generation
 - 4.2 Calculate current minimum input use by unit of product
 - 4.3 Develop strategies individually or with others to reduce input use for process or work area
 - 4.4 Develop strategies individually or with others to minimise waste for process or work area
 - 4.5 Identify strategies that may have regulatory implications
- 5 Prepare recommendations for consideration by audit team and stakeholders
 - 5.1 Consult with key stakeholders in area or processes subject to audit
 - 5.2 Rank strategies by benefit/cost ratio
 - 5.3 Short-list strategies
 - 5.4 Prepare recommendations for consideration by audit team and stakeholders

Required Skills and Knowledge

Required knowledge includes:

- typical sources of material and energy wastage, including:
 - inefficiency
 - poor maintenance
 - poor design
 - poor layout
 - lack of sufficient training or skill
- balancing techniques for process and process steps
- methods of measuring actual process amount/flows
- concepts of carbon and carbon equivalence as it applies to sustainability
- waste reduction strategies and methods along with costs, effectiveness and alternative strategies
- cost-benefit analysis
- relevant legislation, regulation and protocols
- process mapping with regard to sustainability
- process and changes which occur within the process
- environmental impacts of materials and energy used/emitted in both actual and carbon equivalents
- environmental sensitivities of all areas impacted by the work/process area (and related areas where impact spreads beyond immediate area, e.g. by loss of containment)
- root cause analysis and problem solving
- sustainability issues relevant to the work/process area
- AS/NZS ISO 14000 Environmental Management Standards

Required skills include:

- communicating with operational and support employees
- mapping processes and flows of material and energy within a work area or part of a value chain
- interpreting operating procedures, schematics, drawings and other sources of technical information
- calculating, manipulating and interpreting numerical data including totals and proportions, averages and series data
- ranking consumption and waste based on materials or energy balancing within a work area or process
- consulting with technical and operative staff on possible non-obvious energy wastes
- consulting and negotiating with stakeholders on strategies for sustainability improvement
- preparing recommendations

Evidence Guide

| | |
|---|---|
| Overview of assessment | A person who demonstrates competency in this unit must be able to identify the scope of a sustainability audit, measure inputs and outputs as directed and recommend sustainability improvements for a process or work area. |
| Critical aspects for assessment and evidence required to demonstrate competency in this unit | <p>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:</p> <ul style="list-style-type: none"> • identifying appropriate boundaries for the sustainability related audit • identifying own role and reporting arrangements in audit • accurately measuring inputs and outputs of a process or work area • undertaking benefit/cost ratio analyses. |
| Context of and specific resources for assessment | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • 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 | <p>Process may include:</p> <ul style="list-style-type: none"> • any manufacturing, logistics, administrative, information technology or business process which could be in a manufacturing value chain |
| Audit process | <p>Audit processes covered by this unit may include:</p> <ul style="list-style-type: none"> • audits for regulatory, Global Reporting Initiative (GRI) or other compliance • audits related to responding to a government initiative, incentive • audits against externally set targets (e.g. set by governments, industry codes and clients/customers) • audits of carbon and carbon equivalence usage • energy audits • water audits • emission audits • sustainability related transport audits • efficiency audits, including audits of rejects and reworks |
| Sustainability related activities | <p>Sustainability related activities may include:</p> <ul style="list-style-type: none"> • carbon emissions • specific consumption or emission: <ul style="list-style-type: none"> • energy • water • raw materials • specific wastes • life cycle analyses |
| Environmental sensitivities | <p>Environmental sensitivities may include:</p> <ul style="list-style-type: none"> • fragile areas and rare or threatened species • heritage or culturally sensitive issues • hazardous emissions • regulated emissions or other regulatory issues • community perceptions or other issues |
| Sustainability issues | <p>Sustainability issues (as relevant to the work/process area) may include:</p> <ul style="list-style-type: none"> • need to reduce the carbon footprint of product and process through reduction in use of: <ul style="list-style-type: none"> • energy • water • raw materials • emissions |

| | |
|--------------------------|---|
| | <ul style="list-style-type: none"> • embedded carbon in transport, storage, rework and errors, and inefficient processes and design <p>Sustainability related issues may also exist irrespective of the carbon equivalence aspects of the issue. This may include:</p> <ul style="list-style-type: none"> • current and future availability of raw materials • current and future availability of energy • extent and type of waste generation and disposal • efficiency of process in terms of consumption of materials and energy regarded as in short supply or which are regarded as environmentally sensitive • the extent to which the production process, product and waste affects the environment, including effects on: <ul style="list-style-type: none"> • 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 extent and cost of compliance • AS/NZS ISO 14000 Environmental Management Standards |
| Data and records | <p>Historical data and records may include:</p> <ul style="list-style-type: none"> • orders, project briefs or customer specifications • hazard logs • incident reports • maintenance records • errors and non-conformance reports • production records |
| Inputs to process | <p>Inputs to process include:</p> <ul style="list-style-type: none"> • water • energy • materials • carbon equivalence of inputs, where appropriate |
| Procedures | <p>Procedures include:</p> <ul style="list-style-type: none"> • all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant |

| | |
|--|---|
| | <ul style="list-style-type: none">• good operating practice as may be defined by industry codes of practice (e.g. good manufacturing practice (GMP) and responsible care) and government regulations Procedures may be: <ul style="list-style-type: none">• written, verbal, computer-based or in some other form |
|--|---|

Unit Sector(s)

Sustainability

Custom Content Section

Not applicable.