



Australian Government

Department of Education, Employment and Workplace Relations

MSS015013A Conduct a sustainability related transport audit

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit of competency covers conducting an audit for the specific resource of transport and to develop recommendations to improve the sustainability of transport operations.

Application of the Unit

This unit applies to organisations and their value chains (e.g. supplier of goods or services or customer) that are seeking to determine their current and desirable future use of transport resources as part of a sustainable strategy. 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 transport audit may be conducted individually or as part of a team. The need for a transport audit may be the result of an organisation's own decisions to increase the sustainability of its operations or be required for regulatory or other purposes.

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. However, there is a requirement to present and organise data. The complexity of this requirement will vary according to the type and scale of the organisation's processes. Where required, appropriate mathematics and statistics units should be selected from the MEM05 Metal and Engineering Training Package or other appropriate Training Package.

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

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| 1 Identify all transport used | 1.1 Define boundaries of value chain or part of value chain to be analysed |
| | 1.2 Identify all transport to a site |
| | 1.3 Identify all transport within a site |
| | 1.4 Identify all transport from a site |
| 2 Analyse transport requirements | 2.1 Identify current specifications for required transport |
| | 2.2 Identify transport that is not essential to product or process as defined from the perspective of a customer |
| | 2.3 Identify transport arrangements used which are inefficient |
| | 2.4 Determine transport required to increase utility |
| 3 Determine total cost of transport | 3.1 Calculate direct financial cost of transport |
| | 3.2 Determine emissions from transport |
| | 3.3 Calculate working capital costs of transport |
| | 3.4 Calculate cost impost of transport which does not meet requirements |
| | 3.5 Calculate costs of transport which does not increase utility |
| 4 Develop strategies for reducing the use of the resource/material | 4.1 Rank transport by total costs |
| | 4.2 Rank unnecessary transport by total costs |
| | 4.3 Develop strategies to reduce total transport costs |
| 5 Prepare a recommendation for a resource use reduction strategy | 5.1 Consult with key stakeholders |
| | 5.2 Identify strategies required to meet regulatory or similar requirements |

5.3 Rank strategies by benefit/cost ratio

5.4 Short-list preferred transport improvement strategies

5.5 Prepare recommendations for improving transport

Required Skills and Knowledge

Required knowledge includes:

- value chain and transport within the value chain
- modes of transport used within and external to site
- alternative modes of transport which could achieve same outcomes
- requirements of transport to meet required outcomes (transport specifications)
- waste (muda) as used in competitive manufacturing/lean manufacturing
- utility as a concept and as applied to transport
- transport costs and emissions
- working capital, including inventory costs of transport
- methods of calculation of costs
- strategies for reducing transport and transport costs
- cost-benefit calculation
- AS/NZS ISO 14000 Environmental Management Standards

Required skills include:

- negotiating with relevant stakeholders
- calculating, manipulating and interpreting numerical data, including establishing series, means, correlations and rates of change
- analysing and ranking options
- consulting with technical and operative staff
- preparing recommendations

Evidence Guide

Overview of assessment	A person who demonstrates competency in this unit must be able to conduct a sustainability related transport audit, including calculation of transport related emissions and preparation of recommendations for improved resource use.
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: • mapping of transport use to part of value chain to be analysed • applying concept of utility to transport • ranking of transport by cost and utility • developing transport improvement 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

Transport	Transport includes: transport used in a value chain whether by vehicle, ship/boat, train, aeroplane, conveyor or other means
Financial costs	Financial costs include: purchase, lease, and hire costs and maintenance costs where these are included in a lease or hire agreement
Utility	Utility is: the economic usefulness of the transport from a customer's perspective i.e. does the transport add value from a customer perspective (e.g. transporting from plant to consumer increases the utility from the customer's perspective whereas moving between one process and another does not)
Transport arrangements	Transport arrangements include: departure, arrival and waiting times, and choice of equipment, fuel and mode
Inefficient transport	Inefficient transport is: - transport which uses more time, fuel or larger capacity of transport than is needed or causes more stock to be held than is necessary, such as: - not travelling by the most direct route - taking more time than necessary - not correctly matching load to capacity of transport vehicle - not correctly matching delivery and pick up times to production requirements
Essential transport	Essential transport is: the minimum transport requirements needed to transport goods as defined by the customer
Muda cost	Muda cost includes: transport that does not meet specification required, or that does not increase utility
Unnecessary transport	Unnecessary transport is: transport which does not increase utility and therefore would be classified as muda or waste in a lean manufacturing analysis

Unit Sector(s)

Sustainability

Custom Content Section

Not applicable.