



Australian Government

Department of Education, Employment and Workplace Relations

MSACMT261A Use SCADA systems in manufacturing

Revision Number: 1

MSACMT261A Use SCADA systems in manufacturing

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the knowledge and skills needed by an employee to interact with a System Control and Data Acquisition (SCADA) system as part of their job.
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Application of the Unit

Application of the unit	<p>In a typical scenario, an organisation has introduced a SCADA system which employees now must interface with. The employee will need to access this system as part of their routine and take actions based on the information they get from the SCADA system in accordance with procedures.</p> <p>This unit requires the application of skills associated with using communication tools and technology for management of own work, planning and problem solving.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	
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Employability Skills Information

Employability skills	This unit contains employability skills.
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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. Use operator interface	1.1. Use keyboards, track ball, monitor and/or stand alone controllers to access/interrogate system 1.2. Find all relevant screens and information 1.3. Acknowledge messages 1.4. Input and output information
2. Use information	2.1. Obtain data and information from the SCADA as required, including process, <i>supply</i> and <i>product</i> chain data 2.2. Interpret data and information as required by own job 2.3. Find and use relevant historical data and information 2.4. Use manufacturer manuals or specifications as required to expand knowledge of SCADA system relevant to own work 2.5. Determine and prioritise required actions
3. Make required changes in accordance with procedures	3.1. Adjust production/process in response to SCADA information 3.2. Record adjustments and variations to specifications/ schedules and report to appropriate personnel 3.3. Seek feedback and information on adjustments to further improve procedures where required

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- keyboarding/mousing
- communication
- teamwork
- problem solving

Required knowledge

- technical knowledge and skills needed to operate process
- hierarchy of SCADA system and operation
- information available from and controls exercised by/through the SCADA system

Evidence Guide

EVIDENCE GUIDE

The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, the range statement and the assessment guidelines for this training package.

Overview of assessment requirements	The employee will routinely use the relevant parts of the SCADA system for their job.
What are the specific resource requirements for this unit?	Access to an organisation using a SCADA system.
What critical aspects of evidence are required to demonstrate competency in this unit?	Evidence of routine use of SCADA as part of their job is required.
In what context should assessment occur?	Assessment needs to occur in a workplace using a SCADA system or using a SCADA simulation program.
Are there any other units which could or should be assessed with this unit or which relate directly to this unit?	This unit should be assessed concurrently with relevant technical units for the process. This unit covers the lowest skill level aspects of SCADA. <i>MSACMT461A Facilitate SCADA systems in manufacturing team or work area</i> and <i>MSACMT660A Develop the application of enterprise systems in manufacturing</i> cover the intermediate and highest skill levels of SCADA in CM respectively.
What method of assessment should apply?	Assessors must be satisfied that the person can consistently perform the unit as a whole, as defined by the Elements, Performance Criteria, skills and knowledge. A holistic approach should be taken to the assessment. Assessors should gather sufficient, fair, valid, reliable, authentic and current evidence from a range of sources. Sources of evidence may include direct observation, reports from supervisors, peers and colleagues, project work, samples, organisation records and questioning. Assessment should not require language, literacy or numeracy skills beyond those required for the unit. The assessee will have access to all techniques, procedures, information, resources and aids which

EVIDENCE GUIDE	
	<p>would normally be available in the workplace.</p> <p>The method of assessment should be discussed and agreed with the assessee prior to the commencement of the assessment.</p>
What evidence is required for demonstration of consistent performance?	<p>Evidence of routine use over an extended period should be available. SCADA systems will typically log all interactions with it. Interrogation of the SCADA system will therefore provide evidence of the operator's use of it. Actions taken may also be accessible from the SCADA system itself, or may need other evidence available from the process.</p>

Range Statement

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.

System Control and Data Acquisition (SCADA)

System Control and Data Acquisition (SCADA) is a general term applied to a number of systems which automatically collect critical process data, perform required mathematical manipulations on it and then make control decisions and/or give required information to personnel for action.

In the continuous manufacturing sector, the SCADA system is sometimes integrated into other sophisticated computer control systems such as Distributed Control System (DCS) and indeed these systems do merge in advanced systems. These organisations may simply refer to their SCADA as the DCS or other similar term (such as the proprietary name of the computer system).

SCADA systems may provide information from outside of the process, such as stock/material levels in a customer plant and/or available supply, supply rates and pricing from a supplier plant. This information may all be accessed by the SCADA system and the employee using it in order to make production rate and other control decisions (either automatically or human assisted) about their own process.

Supply and product chains

The supply chain is all suppliers in the chain from the initial raw material up to the current step in the manufacturing process.

The product chain is all steps after the current step up to the final customer.

Competitive manufacturing organisations encompass the entire production system, beginning with the customer, and includes the product sales outlet, the final assembler, product design, raw material mining and processing and all tiers of the value chain (sometimes called the supply chain). Any truly 'competitive' system is highly dependent on the demands of its customers and the reliability of its suppliers. No implementation of competitive manufacturing can reach its full potential

RANGE STATEMENT	
	without including the entire 'enterprise' in its planning.
Procedures	<p>Procedures include all work instructions, standard operating procedures, formulas/recipes, batch sheets, temporary instructions and similar instructions provided for the smooth running of the plant. They may be written, verbal, computer based or in some other form.</p> <p>For the purposes of this Training Package, 'procedures' also includes good operating practice as may be defined by industry codes of practice (eg Good Manufacturing Practice (GMP), Responsible Care) and government regulations.</p>

Unit Sector(s)

Unit Sector	CM Tools
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Co-requisite units

Co-requisite units	
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Functional area

Functional Area	
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