



Australian Government

DEFSIM001 Fault find and repair simulator power distribution and control systems

Release: 1

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Modification History

Release	Comments
1	This unit was released in DEF Defence Training Package release 1.0 and meets the Standards for Training Packages.

Application

This unit describes the skills required to conduct fault finding and repairs to the simulator power distribution and control systems. This includes analysing fault reports, identifying and rectifying faults, conducting functional tests and the documentation and certification processes. In the context of this unit, simulators are used to replicate land, air, sea and undersea systems to facilitate training and development.

Power distribution systems include power distribution software interfaces, programmable logic controllers, uninterruptible power supplies and control systems, power distribution cabinets/units, circuit breakers, emergency power/communication systems, emergency stop circuits and fire protection systems.

Simulator control systems include DC low voltage supplies, DC high voltage supplies, AC low voltage supplies (less than 600VAC), uninterrupted power supplies and control systems, power distribution cabinets/units, hydraulic systems and electric systems.

This unit was developed in a Defence environment but may be relevant to others who work in this field.

The skills and knowledge described in this unit must be applied within the legislative, regulatory and policy environment in which they are carried out. Organisational policies and procedures must be consulted and adhered to.

Those undertaking this unit would work independently, or as part of a team, with minimal supervision, while performing complex tasks, including complex problem solving, in a limited range of contexts. They would use discretion and judgement and take responsibility for the quality of their outputs.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Competency Field

Simulator Operations

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section.
1. Receive and analyse fault report	1.1 Receive and analyse simulator power distribution and/or control system fault report. 1.2 Identify and select appropriate fault finding method(s) that will apply across the range of power distribution and control systems. 1.3 Prepare the simulator power distribution and/or control system for fault finding, including the isolation of all energy sources.
2. Identify and find fault	2.1 Apply fault finding method(s). 2.2 Identify and analyse fault indicators. 2.3 Identify the power distribution and/or control system fault. 2.4 Confirm that the fault is the one initially reported.
3. Repair fault	3.1 Identify and confirm cause of fault. 3.2 Identify and confirm repair method(s). 3.3 Complete power distribution and/or control systems repair. 3.4 Conduct post repair safety check. 3.5 Restart simulator power distribution and/or control system.
4. Conduct functional test	4.1 Test simulator power distribution and/or control systems to ensure operational integrity. 4.2 Confirm operational parameters.
5. Finalise repair process	5.1 Finalise simulator power distribution and/or control system repair reports including a detailed synopsis of the fault and the repair process and any certification requirements. 5.2 Report the operational status of the simulator power distribution and/or control system.

Foundation Skills

The foundation skills demands of this unit have been mapped for alignment with the Australian Core Skills Framework (ACSF). The following tables outline the performance levels indicated for successful attainment of the unit.

ACSF levels indicative of performance:

1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Learning					Reading					Writing					Oral communication					Numeracy				
Performance variables																								
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Support					Context					Text complexity					Task complexity									

Further information on ACSF and the foundation skills underpinning this unit can be found in the Foundation Skills Guide on the GSA website.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=6bdbab1e-11ed-4bc9-9cba-9e1a55d4e4a9>

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Assessment Requirements for DEFSIM001 Fault find and repair simulator power distribution and control systems

Modification History

Release	Comments
1	These Assessment Requirements were released in DEF Defence Training Package release 1.0 and meet the Standards for Training Packages.

Performance Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the candidate must demonstrate evidence of performance of the following on at least one occasion.

- undertaking research and analysis related to simulator power distribution and control systems
- following logical complex fault finding techniques
- using measuring instruments such as megaohmmeters, multimeters, cathode ray oscilloscopes (CRO), 240-415v portable appliance testers, 240-415v phase angle meters and 240-415v clamp meters
- applying simulator power distribution and control systems repair methodologies
- following configuration management processes
- using appropriate information technology and software including general online diagnostic tools and proprietary simulator management databases
- identifying, reviewing and analysing information that may impact on the simulator power distribution and control systems fault finding
- conducting simulator power distribution and control systems functional testing
- negotiating and communicating with key stakeholders

Knowledge Evidence

Evidence required to demonstrate competence must satisfy all of the requirements of the elements and performance criteria. If not otherwise specified the depth of knowledge demonstrated must be appropriate to the job context of the candidate.

- operational capabilities and limitations of the relevant simulator
- operational capabilities and limitations of the relevant simulator power distribution and control systems
- simulator operating modules comprising the simulator system being worked on
- fault indicators related to the simulator power distribution and control systems being worked on

- repair methodologies related to the simulator power distribution and control systems being worked on
- legislative and regulatory requirements related to the simulator being worked on
- organisational policy and procedures related to the relevant simulator power distribution and control systems
- configuration management related to the simulator power distribution and control systems being worked on
- product knowledge related to systems and/or equipment in service

Assessment Conditions

Competency should be assessed in an actual workplace or in a simulated environment, with access to equipment and infrastructure appropriate to the outcome. Competency should be demonstrated over time to ensure the candidate is assessed across a variety of situations.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

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