Australian Government

UEEEC0020 Develop solutions for air surveillance apparatus and systems

Release: 1

UEEEC0020 Develop solutions for air surveillance apparatus and systems

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to develop engineering solutions for air surveillance apparatus and systems in compliance with relevant regulatory requirements of the Civil Aviation Safety Authority (CASA) and national operating standards.

It includes working safely, interpreting diagrams, applying logical engineering solution methods of air surveillance apparatus and systems, conducting safety inspections and functional testing, and completing the necessary service documentation.

Permits may be required for some work environments, such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

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

Pre-requisite Unit

UEEEC0038 Find and repair microwave amplifier section faults in electronic apparatus

UEEEC0068 Troubleshoot communication systems

UEEEC0053 Provide engineering solutions to air traffic control system problems

Competency Field

Electronics and Communications

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential	Performance criteria describe the performance needed to

outcomes.	demonstrate achievement of the element.
1 Identify air surveillance apparatus and system problems	**1.1** Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for a given work area are identified and applied
	1.2 Operational safety workplace procedures for air surveillance work areas are obtained and applied
	1.3 WHS/OHS risk control measures and workplace procedures are followed in preparation for work activities
	1.4 Safety hazards that have not previously been identified are documented on job safety assessments, risks assessed and control measures devised and implemented in consultation with appropriate person/s
	1.5 Extent of air surveillance apparatus problems is determined from reports, diagrams, relevant documentation and discussions with appropriate person/s
	1.6 Appropriate person/s is consulted to ensure the work activity is coordinated effectively with others
	1.7 Tools, equipment, inspection and testing devices needed to provide engineering diagnosis are obtained in accordance with workplace procedures and checked for correct operation and safety
2 Provide air surveillance apparatus and systems engineering solution	**2.1** WHS/OHS risk control measures and workplace procedures for carrying out work activities are followed
	2.2 Need to inspect, test and measure live work is determined in accordance with WHS/OHS requirements and conducted within workplace safety procedures
	2.3 Circuits/machines/plant are checked and isolated in accordance with WHS/OHS requirements and workplace procedures
	2.4 Logical diagnostic methods are applied to provide engineering solutions to problems in air surveillance apparatus and systems using measurements and estimations of system operating parameters with reference to system operational requirements

	2.5	Suspected air surveillance problem scenarios are tested to determine the source of system problems
	2.6	Source of the fault is identified and an appropriately competent person/s engaged to rectify the fault in accordance with workplace procedures
	2.7	Problems in the electronic components of the system are rectified in accordance with air surveillance and observation system operation standards
	2.8	Air surveillance system is inspected and tested to verify that the system operates as intended and to specified requirements
	2.9	Unplanned situations are responded to in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
	2.10	Decisions for dealing with unexpected situations are made from discussions with appropriate persons and job specifications and requirements
	2.11	Rectification activities are carried out efficiently without waste of materials or damage to apparatus, the surrounding environment or services using sustainable energy practices
3 Complete and report air surveillance apparatus and system engineering solution activities	**3.1**	WHS/OHS work completion risk control measures and workplace procedures are followed
	3.2	Worksite is made safe in accordance with workplace safety procedures
	3.3	Engineering solutions for air surveillance apparatus and systems are documented in accordance with workplace procedures
	3.4	Appropriate person/s is notified in accordance with workplace procedures that the system faults have been rectified

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Diagnosing and rectifying engineering solutions in air surveillance and observation systems must include at least the following:	• two engineering solutions in two of the following:
	  • primary surveillance radar (PSR)
	  • secondary surveillance radar (SSR)
	  • mode S SSR
	  • radar track processors
	  • radar remote control monitoring system (RCMS)
	  • air defence system (ADS)
	  • multilateration (MLAT)
	  • surveillance track messages
	  • airborne collision avoidance system (ACAS)/traffic alert and collision avoidance system (TCAS)

Unit Mapping Information

This unit replaces and is equivalent to UEENEEH192A Develop solutions for air surveillance apparatus and systems.

Links

Companion Volume implementation guides are found in VETNet - - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6