



Australian Government

AVIW0021 Defuel aircraft

Release: 1

AVIW0021 Defuel aircraft

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Application

This unit involves the skills and knowledge required to defuel aircraft in compliance with relevant regulatory requirements and national operating standards.

It includes conducting pre-operational checks on defueller vehicle and auxiliary equipment, positioning defueller vehicle and conducting quality checks on product. It also includes defuelling aircraft, completing post-defuelling operations and completing documentation.

This unit addresses aviation technical skill requirements (physical, mental and task-management abilities) related to equipment and system operations of ground operations personnel and contributes to safe and effective performance in complex aviation operational environments.

Operations are conducted as part of recreational, commercial and military aircraft activities across a variety of operational contexts within the Australian aviation industry.

Work is performed independently or under limited supervision as a single operator or within a team environment.

Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Pre-requisite Unit

Not applicable.

Competency Field

W – Equipment and Systems Operations

Unit Sector

Not applicable.

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 Conduct pre-operational checks on defueller vehicle and auxiliary equipment | 1.1 Personal protective equipment (PPE) is selected and used in accordance with workplace procedures |
| | 1.2 Hazards are identified, risks are assessed and hazard management implemented |
| | 1.3 Reason for defuelling and quantity of fuel to be defueled is confirmed |
| | 1.4 Type of aircraft and requirement for overwing or underwing operation is confirmed |
| | 1.5 Pre-operational checks on vehicle and auxiliary equipment are made |
| | 1.6 Ullage in defuelling vehicle or auxillary equipment is checked |
| 2 Position defueller vehicle | 2.1 Defuelling vehicle is moved airside or landside to aircraft |
| | 2.2 Aircraft is approached following confirmation has been provided that is safe to approach the aircraft in accordance with the aircraft operator's manual suite and workplace procedures |
| | 2.3 Vehicle is positioned either underwing or standoff, depending on aircraft type |
| | 2.4 Appropriate precautions are taken to avoid risk of collision with aircraft control surfaces, aircraft engines and other vehicles |
| | 2.5 Defueller vehicle is parked in a position that provides easiest route for evacuation in an emergency |
| 3 Conduct quality checks on product | 3.1 Required documentation is obtained from airline engineer/representative |
| | 3.2 Sample of product on board aircraft is obtained and visual quality checks are made in accordance with workplace procedures |
| | 3.3 Defuelling operations are initiated in response to satisfactory fuel quality checks |

- | | | |
|--|------------|---|
| | 3.4 | Defuelling operations are initiated into contingency storage areas for further processing in response to unsatisfactory fuel quality checks |
| 4 Defuel aircraft | 4.1 | Vehicle is grounded and bonding lead is connected to aircraft |
| | 4.2 | Defuelling safety precautions are implemented prior to commencement of operations |
| | 4.3 | Defuelling operations are commenced either using auxiliary power unit (APU) or ground power unit (GPU) |
| | 4.4 | Quantity defuelled on completion is verified in accordance with workplace procedures |
| 5 Complete post-defuelling operations | 5.1 | Hoses are disconnected, retracted and stowed |
| | 5.2 | Fuel confirmed as acceptable for return to storage is discharged into designated segregated storage tank or retained in fueller for ongoing supply operations |
| | 5.3 | Fuel identified as contaminated is disposed of in accordance with workplace procedures and regulatory requirements |
| | 5.4 | Fueller used to transfer contaminated fuel is de-contaminated |
| 6 Complete documentation | 6.1 | Hard copy documentation and paperwork is completed as required and airline representative's signature is obtained |
| | 6.2 | Electronic fuel management systems are used to report, record and verify refuel operations |

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.

Unit Mapping Information

This unit replaces and is equivalent to AVIW3011 Defuel aircraft.

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>

Assessment Requirements for AVIW0021 Defuel aircraft

Modification History

Release 1. This is the first release of this unit of competency in the AVI Aviation Training Package.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures (SOPs)
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant legislation and workplace procedures
- communicating effectively with others
- identifying and correctly using relevant equipment
- identifying hazards, including:
 - contamination of, or from, materials being handled
 - dust
 - fuel vapours
 - hazardous or dangerous materials
 - hot engines, static electricity, sparks and other forms of ignition
 - jet blast
 - noise
 - other fuel additives
 - other vehicles on tarmac
 - rotating propellers
 - spill, leakages and ruptures
- implementing contingency plans
- implementing work health and safety (WHS) procedures and relevant regulations
- interpreting and following operational instructions and prioritising work
- modifying activities dependent on differing workplace contingencies, situations and environments
- monitoring and anticipating operational problems and hazards and taking appropriate action
- monitoring work activities in terms of planned schedule
- operating electronic communication equipment to required protocol
- reading and interpreting instructions, regulations, procedures and other relevant information
- reporting and/or rectifying any identified problems promptly in accordance with regulatory requirements, workplace procedures and local instructions

- selecting and using required personal protective equipment (PPE) conforming to industry and WHS standards
- working collaboratively with others
- working systematically with required attention to detail without injury to self or others, or damage to goods or equipment.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- differences in defuelling procedures for various types of aircraft
- emergency procedures
- hazard management and the principle of hierarchy of control – with elimination, substitution, isolation and engineering control measures being selected before safe working practices and PPE
- manufacturer instructions for defueller vehicle and auxiliary equipment
- people to consult about defuelling operations, including:
 - aircrew
 - airline engineers or representatives
 - ground support staff
 - other refuelling staff
 - supervisors and managers
 - technical staff
- principles of aircraft defuelling
- pre-operational checks of refueller vehicle, including:
 - auxiliary equipment
 - brake interlock override switch seal
 - brake test
 - PPE
 - radio check with base
 - required documentation
 - sampling equipment and water detection capsules
 - serviceability of ladder or portable steps fire extinguishers
 - sufficient ullage in defueller for planned defuelling operations
 - visual inspection for leaks, defects and obstructions
- problems that may occur when defuelling an aircraft and appropriate action that should be taken in each case
- relevant Australian Standards
- relevant information/documents:
 - conditions of service, legislation and industrial agreements, including workplace

- agreements and awards
- flight schedules
- fuelling operational checklists
- induction and training materials
- local instructions
- manufacturer specifications and instructions for fueller/dispenser vehicle and auxiliary equipment
- relevant International Air Transport Association (IATA) fuel guidelines
- workplace instructions and job specification
- relevant legislation and regulations such as the Australian Dangerous Goods (ADG) Code
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders and other regulations for the defuelling of aircraft
- relevant WHS and environmental procedures and regulations
- risks that exist when defuelling an aircraft and related risk control procedures and precautions
- selection and correct fitting of PPE, including:
 - approved uniform
 - gloves
 - hearing protection
 - high visibility clothing
 - mask or respirator
 - safety glasses
 - safety headwear and footwear
- workplace procedures for defuelling aircraft.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations. Where this is not appropriate, assessment must occur in simulated workplace operational situations that reflect workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- acceptable means of simulation assessment
- applicable documentation, including workplace procedures, regulations, codes of practice and operation manuals

- relevant materials, tools, equipment and PPE currently used in industry.

Links

AVI Training Package Companion Volume Implementation Guide available on VET Net: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816>