



Australian Government

Department of Education, Employment and Workplace Relations

AVIW3011B Defuel aircraft

Revision Number: 1

AVIW3011B Defuel aircraft

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to defuel an aircraft in accordance with workplace procedures and regulatory requirements, including completing preliminary checks and operations, positioning the fueller/dispenser vehicle, conducting required quality checks, and carrying out defuelling operations. It also includes the required knowledge and skills to complete all documentation and post-defuelling operations. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

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Work must be carried out in accordance with workplace procedures and relevant regulatory requirements.

Use for ADF Aviation is to be in accordance with relevant Defence Orders and Instructions and applicable CASA compliance.

Work is performed under some supervision usually within a team environment.

Work involves the application of operational procedures and regulatory requirements to the defuelling of aircraft across a variety of operational contexts within the Australian aviation industry.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Complete preliminary checks and operations	1.1 Reason for defuelling and the quantity of fuel to be defuelled is confirmed 1.2 Type of aircraft and requirement for overwing or underwing operation is confirmed 1.3 Pre-operational checks on vehicle and auxiliary equipment are made 1.4 Ullage in fueller/defuelling vehicle is checked
2 Position fueller/dispenser vehicle	2.1 Fueller vehicle is started and driven to aircraft in accordance with workplace procedures, regulatory requirements and local instructions 2.2 The aircraft is approached only after checks are made to confirm that aircraft engines have stopped and aircraft wheel chocks are in place 2.3 Vehicle is positioned and parked either underwing or standoff depending on aircraft type in accordance with workplace procedures, regulatory requirements and local instructions 2.4 Appropriate precautions are taken to avoid risk of collision with aircraft control surfaces, aircraft engines and other vehicles 2.5 Parking position of fueller vehicle provides easiest route for evacuation in the event of 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 If quality checks are satisfactory, decision is made to proceed with defuelling 3.4 If quality checks are unsatisfactory, action is taken to report situation to supervisor. If defuelling is to continue, aircraft fuel is defuelled into either an empty tank or into a drained fueller and, if approved, the fuel is delivered back to the same airline
4 Defuel aircraft	4.1 Vehicle is grounded and the bonding lead is connected to the aircraft in accordance with workplace procedures and regulatory requirements 4.2 All required pre-defuelling safety precautions are taken in accordance with workplace procedures and regulatory requirements 4.3 Defuelling operations are commenced either using the auxiliary power unit (APU) or the ground power unit (GPU) in accordance with workplace procedures and regulatory

ELEMENT	PERFORMANCE CRITERIA
	requirements
	4.4 At the completion of defuelling operations, the quantity defuelled is verified in accordance with workplace procedures
5 Complete documentation	5.1 All required defuelling documentation is completed in accordance with workplace procedures
6 Complete post-defuelling operations	6.1 Hoses are disconnected, retracted and stowed in accordance with workplace procedures 6.2 Defuelled fuel confirmed as acceptable for return to storage is either discharged into designated segregated storage tank or retained in fueller for delivery back to airline concerned 6.3 Defuelled fuel found to be contaminated is disposed of in accordance with workplace procedures and regulatory requirements 6.4 Fueller used to transfer contaminated fuel is de-contaminated in accordance with workplace procedures and regulatory requirements

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders and other regulations pertaining to the defuelling of aircraft
- Relevant OH&S and environmental procedures and regulations
- Principles of aircraft defuelling
- Differences in defuelling procedures for various types of aircraft
- Workplace procedures for defuelling aircraft
- Manufacturers instructions for fueller vehicle and auxiliary equipment
- Risks that exist when defuelling an aircraft and related risk control procedures and precautions
- Problems that may occur when defuelling an aircraft and appropriate action that should be taken in each case

Required skills:

- Communicate effectively with others when defuelling aircraft
- Read and interpret instructions, regulations, procedures and other information relevant to defuelling aircraft
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to defuelling aircraft
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when defuelling aircraft
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour, communication and interactions with others
- Promptly report and/or rectify any identified problems that may occur when defuelling aircraft in accordance with regulatory requirements, workplace procedures and local instructions
- Implement contingency plans for unexpected events that may arise when defuelling aircraft
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when defuelling aircraft
- Monitor and anticipate operational problems and hazards and take appropriate action
- Monitor work activities in terms of planned schedule
- Modify activities dependent on differing workplace contingencies, situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Adapt to differences in equipment and operating environment in accordance with standard operating procedures

REQUIRED KNOWLEDGE AND SKILLS

- Select and use required personal protective equipment conforming to industry and OH&S standards
- Implement OH&S procedures and relevant regulations
- Identify and correctly use equipment required when defuelling aircraft

Evidence Guide

EVIDENCE GUIDE

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

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

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.

Defuelling operations may be carried out:	• for any aircraft types • at major or minor airports • in any allowable operating and weather conditions • in accordance with regulatory requirements, operational requirements and local instructions
Performance may be demonstrated:	• in an approved simulated defuelling situations and/or • during defuelling operations at an airport
Pre-operational checks may include:	• serviceability of ladder or portable steps (cracks or damage that would render them unsafe) • fire extinguishers (correctly stowed and fully charged) • personal protection equipment (PPE) • sampling equipment and water detection capsules • visual inspection for leaks, defects and obstructions • sufficient fuel in fueller for planned refuelling job (fueller must be manually dipped prior to shift and measured volume recorded and reported) • radio check with base • required documentation • check that brake interlock override switch seal is intact • auxiliary equipment is functional • brake test (after moving but before leaving depot)
Personal protection equipment may include:	• gloves • safety headwear and footwear • hearing protection • safety glasses • mask or respirator • high visibility clothing • approved uniform
Persons consulted during refuelling operations may include:	• aircrew • airline engineers or representatives • other refuelling staff • supervisors and managers • ground support staff • technical staff
Hazards may include:	• hot engines, static electricity, sparks and other forms of ignition

RANGE STATEMENT

	• contamination of, or from, materials being handled • spill, leakages, ruptures • fuel vapours • other vehicles on tarmac • jet blast • rotating propellers • hazardous or dangerous materials • noise • dust • other additives (e.g. water, methanol, icing inhibitors)
Hazard management is:	• consistent with the principle of hierarchy of control with elimination, substitution, isolation and engineering control measures being selected before safe working practices and personal protective equipment
Dependent on the type of organisation concerned and the local terminology used, workplace procedures may include:	• company procedures • enterprise procedures • organisational procedures • established procedures • local instructions • standard operating procedures
Information/documents may include:	• sections of Civil Aviation Safety Regulations and Civil Aviation Orders relevant to defuelling operations • IATA Guidelines for Aviation Fuel Quality Control, and Operating Procedures for Joint Inter Plane Fuelling Services (JIG Guidelines) • OH&S and environmental protection regulations • workplace procedures and instructions and job specification • fuelling operational checklists • emergency procedures • flight schedules • manufacturers specifications and instructions for the fueller/dispenser vehicle and auxiliary equipment • induction and training materials • local instructions • conditions of service, legislation and industrial agreements including workplace agreements and awards
Applicable regulations and legislation may include:	• relevant Civil Aviation Safety Regulations and Civil Aviation Orders • IATA Guidelines for Aviation Fuel Quality Control, and Operating Procedures for Joint Inter Plane Fuelling

RANGE STATEMENT

Services (JIG Guidelines)

- Australian Dangerous Goods Code (ADG Code)
- relevant OH&S legislation
- environmental protection legislation
- relevant Australian Standards
- industrial relations and workplace compensation legislation

Unit Sector(s)

Not applicable.

Competency field

Competency Field

W - Equipment and Systems Operations