Australian Government

Department of Education, Employment and Workplace Relations

AVIJ4002B Conduct quality control operations related to refuelling/defuelling aircraft

Release: 1

AVIJ4002B Conduct quality control operations related to refuelling_defuelling aircraft

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to conduct quality control operations related to refuelling/defuelling aircraft, including taking samples from dispensers/fuellers, conducting a visual check of fuel samples, testing membrane filtration (millepore sampling) and measuring pressure differential on filter vessels. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

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 quality control procedures and regulatory requirements to the conduct of quality control operations related to refuelling/defuelling 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
1Conduct dispenser sampling processes	1.1 Fuel samples are taken from the dispenser for visual testing at the commencement of daily operations and during fuelling operations in accordance with workplace procedures and regulatory requirements
2Conduct fueller sampling processes	2.1 Fuel samples are taken from the fueller for visual testing at the commencement of daily operations and during fuelling operations in accordance with workplace procedures and regulatory requirements 2.2 Additional samples are taken from the fueller after defuelling operations, vehicle washing, maintenance and heavy rain
3Conduct visual check of fuel samples	3.1 Fuel sample is inspected and the colour correctly identified and interpreted to determine the grade of fuel in accordance with workplace procedures and established colour criteria 3.2 Sample is correctly inspected for free water and dirt particles in accordance with workplace procedures and established manual or automated processes 3.3 Water detector capsules are correctly used to check for suspended water in accordance with manufacturers instructions and workplace procedures 3.4 Results of visual checks are recorded/reported in accordance with workplace procedures and regulatory requirements
4Test membrane filtration (millepore sampling)	4.1 Hydrant dispenser vehicle is correctly positioned at the test rig and interlocked/chocked in accordance with workplace procedures 4.2 Fuellers are correctly tested independent of the test rig by circulating product through the delivery hose back to tank to achieve required flow rates 4.3 Bonding leads are attached in accordance with workplace procedures 4.4 In the case of fuellers/dispensers, the delivery hoses are connected to achieve a flow rate of at least 50% of rated flow of filter 4.5 In the case of a hydrant dispenser, lanyard is connected to the pit valve and inlet hose is correctly connected in accordance with workplace procedures 4.6 Colorimetric capsule is loaded in accordance with manufacturers instructions and workplace procedures (Note: for gravimetric testing and microbiological testing [black millepore] capsules are generally pre-loaded in a laboratory) 4.7 Checks are made to ensure capsule is correctly located in the housing with the millepore monitor inlet facing upstream 4.8 Apparatus is correctly connected to filter outlet millepore sample connection or nozzle millepore sample point

ELEMENT	PERFORMANCE CRITERIA
	4.9 Pressure and flow rate are adjusted to workplace specifications 4.10 Apparatus is flushed 4.11 In case of monthly calorimetric test, sample is drawn 4.12 In case of three-monthly gravimetric and microbiological tests, initial sample is drawn for gravimetric test then gravimetric capsule is replaced with microbiological capsule and another sample drawn in accordance with workplace procedures 4.13 Apparatus is disconnected and capsule is removed 4.14 Gravimetric and microbiological samples are labelled and despatched to laboratory in accordance with workplace procedures 4.15 Colorimetric assessment is conducted in accordance with manufacturers instructions and workplace procedures 4.16 Results of tests are documented in accordance with workplace procedures and regulatory requirements
5Measure pressure differential on filter vessels	5.1 Gauge is checked in accordance with manufacturers instructions and workplace procedures 5.2 Flow through vessel into aircraft or test rig is started in accordance with workplace procedures 5.3 Pressure differential at maximum flow rate obtained is read 5.4 Results are analysed and recorded in accordance with workplace procedures and regulatory requirements 5.5 In situations where the differential pressure exceeds filter manufacturers recommended differential pressure, at flow rates above 50% of the maximum rated flow of the filter vessel, the situation is to be reported immediately to supervisor in accordance with workplace procedures and regulatory requirements for investigation

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 quality control processes carried out when refuelling/defuelling aircraft
- Relevant OH&S and environmental procedures and regulations
- Knowledge of quality control principles and processes as they apply to aircraft fuelling/defuelling operations
- Workplace procedures for conducting various quality control operations related to refuelling/defuelling aircraft
- Manufacturers instructions for equipment used in quality control processes
- Risks that exist when conducting quality control operations during the refuelling/defuelling of aircraft and related risk control procedures and precautions
- Problems that may occur when conducting quality control operations during the refuelling/defuelling of aircraft and appropriate action that should be taken in each case

Required skills:

- Communicate effectively with others when conducting quality control operations related to refuelling/defuelling aircraft
- Read and interpret instructions, regulations, procedures and other information relevant to quality control operations related to refuelling/defuelling aircraft
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to quality control operations related to refuelling/defuelling aircraft
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when conducting quality control operations related to refuelling/defuelling aircraft
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems that may occur when conducting quality control operations related to refuelling/defuelling aircraft in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may arise when conducting quality control operations related to refuelling/defuelling aircraft
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when conducting quality control operations related to refuelling/defuelling aircraft
- Monitor and anticipate operational problems and hazards and take appropriate action

REQUIRED KNOWLEDGE AND SKILLS

- 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
- 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 conducting quality control operations related to refuelling/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.

Sampling and quality control 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 and operational requirements
Performance may be demonstrated:	• in approved simulated quality control processes • during quality control operations during the refuelling/defuelling of aircraft at an airport
Quality control processes may include:	• dispenser sampling • fueller sampling • visual checks of fuel samples • membrane filtration tests (millepore sampling) • measurement of pressure differential on filter vessels
Personal protection equipment may include:	• gloves • safety headwear and footwear • hearing protection • safety glasses • mask or respirator • safety vest • high visibility clothing • approved uniform
Hazards may include:	• sparks and other forms of ignition • 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
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
Persons consulted during quality	• aircrew

RANGE STATEMENT

control operations may include:	• airline engineers or representatives • other refuelling staff • supervisors and managers • ground support staff • technical staff
Dependent on the type of organisation concerned and the local terminology used, workplace procedures may include:	• company procedures • enterprise procedures • organisational procedures • established procedures • standard operating procedures
Information/documents may include:	• sections of Civil Aviation Safety Regulations and Civil Aviation Orders relevant to quality control operations when refuelling/defuelling aircraft • 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 • quality control process checklists • emergency procedures • flight schedules • manufacturers specifications and instructions for the quality control equipment • induction and training materials • 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 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 J - Quality