Australian Government

Assessment Requirements for AVIH0005 Plan a flight under instrument flight rules

Release: 1

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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 and performance criteria on at least one occasion and include:

- adapting to differences in equipment and operating environment in accordance with standard operating procedures
- applying altimetry procedures to all stages of an instrument flight
- applying published instrument flight rules (IFR) procedures
- applying precautions and required action to minimise, control or eliminate identified hazards
- applying relevant aeronautical knowledge
- applying relevant legislation and workplace procedures
- calculating fuel requirements
- communicating effectively with others
- completing relevant documentation
- identifying and correctly using relevant equipment
- implementing contingency plans
- implementing work health and safety (WHS)/occupational health and safety (OHS) procedures and relevant regulations
- interpreting IFR charts
- interpreting instrument meteorological conditions (IMC) forecasts
- modifying activities depending on 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 communications equipment to required protocol
- reading, interpreting and following relevant regulations, instructions, procedures, information and signs
- reporting and/or rectifying problems, faults or malfunctions promptly, in accordance with workplace procedures
- selecting and using required personal protective clothing and equipment conforming to industry and WHS/OHS standards
- selecting suitable navigation aids/systems
- 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 and performance criteria and include knowledge of:

- aerodrome and en route holding procedures
- aircraft fuel planning including holding, alternate, fixed reserve and usage rates
- aircraft transponder operation
- airspace requirements and procedures under IFR conditions
- CASR Part 61 Manual of Standards Schedule 3 Aeronautical Knowledge relevant to instrument flight operations
- continuous descent final approach (CDFA) techniques
- critical point and point of no return
- how to determine currency of operational documents
- factors affecting en route performance, range and endurance
- general operational information relevant to commercial pilots:
  - privileges and limitations
  - documentation
  - procedures, radio telephony and charts
  - meteorology
  - operational planning requirements
- ground and space navigation systems and infrastructure:
  - principles of operation, indications and limitations of ground-based navigation aids
  - rated coverage of radio navigation aids considering aircraft location, altitude and time of day
  - pilot navigation tolerances
  - non-directional beacons (NDB) lateral azimuth guidance
  - VHF omni directional radio range (VOR)
  - distance measuring equipment (DME)
  - instrument landing system (ILS)/localiser (LOC)
  - global navigation satellite system (GNSS):
    - operating procedure errors
    - mode selection

    - data entry
    - data validation and checking, including independent cross-checking procedures
    - automation induced complacency
    - non-standardisation of GNSS receiver units
    - human information processing
    - situational awareness
- human factors relevant to commercial pilots:
    - physiological factors:
        - vestibular system
        - vestibular disorientation
        - somatogravic/somatogyral illusions
        - visual illusions
- icing conditions and hazards
- IFR cruising levels, selection and hazards
- IFR route planning requirements
- in an Australian Defence Force (ADF) context, relevant Defence Orders and Instructions
- instrument flight documentation requirements
- instrument flight procedures:
    - flight instrument operations, errors and limitations
    - radio communication phraseology
    - lost communications procedures
    - air traffic service requirements
    - instrument chart symbology and information
    - reporting requirements
    - 2D/3D instrument approach operations
    - pilot responsibilities
    - altimeter accuracy and variations due temperature
    - flight plan validity
    - search and rescue time (SARTIME) and pilot obligations
    - missed approach requirements
    - alternate aerodrome weather minima
    - aircraft separation standards
- lowest safe altitude (LSALT):
    - calculate route LSALT not specified in aeronautical information publications (AIP)
    - missed approach minimum obstacle clearance
    - minimum obstacle clearance provided by minimum circling altitude
    - track establishment after take-off
    - establish aircraft above LSALT requirements
    - descent below LSALT or minimum safety altitude requirements by day/night/night visual flight rules (NVFR)

- limitations on use of radar on ground
- meteorological considerations for an IFR flight:
  - weather phenomena:
    - frontal weather
    - tropical cyclones
    - dust devils
    - thunderstorms
    - jet streams
    - fog
  - meteorological information requirements
  - interpreting forecasts to determine operational requirements
  - air temperature lapse rates
  - predicting probability of meteorological conditions:
    - airframe icing
    - hail
    - micro bursts and wind shear
    - turbulence, including clear air turbulence (CAT)
  - weather information services
  - pilot reporting obligations
  - altimeter QNH sources required for IFR operations
  - meteorological minimas
- navigation requirements:
  - position fixing requirements
  - aircraft performance categories and operational implications
  - waypoints, symbology and pilot requirements:
    - initial approach fix
    - final approach fix
  - visual circling by day or night
  - pressure error correction (PEC)
  - aerodrome operating minima (AOM)
  - decision altitude (DA)
  - normal segment gradient
  - tracking tolerances:
    - controlled area (CTA) avoidance
    - ground based navigation aids
    - navigation aids not available
    - notification requirements
    - order of precision of navigation aids/systems
  - speed limitations and restrictions:
    - operations below 10,000 feet above mean sea level (AMSL)

        - during holding procedures
        - during approach procedures
    - issued by air traffic services (ATS) and when cancelled
- NVFR operational requirements
- operational planning requirements:
    - flight planning:
        - route limitations
        - aircraft performance
        - forecast freezing levels
        - cruising altitude/level performance tables
        - required navigation performance (RNP) requirements
    - alternate aerodrome requirements:
        - weather
        - navigation aids
        - approach procedures
        - lighting
        - availability of weather reports
        - divert time
    - holding fuel requirements
- performance based navigation (PBN):
    - basic PBN principles including area navigation (RNAV) and required navigation performance (RNP) capabilities
    - core components
    - navigation system performance requirements
    - performance monitoring and alerting
    - RNP specifications and system requirements
    - RNP navigation system errors
    - RNP leg types
    - RNP leg transitions
    - RNP navigation authorisation requirements
    - GNSS receiver requirements for RNP APCH operations
    - GNSS receiver mode conditions and actions for RNP APCH
    - RNP instrument approach requirements
    - augmented and non-augmented approaches
    - interpret IAP charts for minima information and operational restrictions
    - validity and accuracy of QNH for RNP APCH types
    - RNP approach differentiation
    - Space based augmentation systems (SBAS)
    - APV Baro-VNAV instrument approach charts
    - vertical guidance information and operational considerations

    - Baro-VNAV vertical guidance principles
- pilot activated lighting (PAL)
- pilot responsibilities:
    - standard instrument departure (SID)
    - standard terminal arrival route (STAR)
    - noise abatement
    - missed approach
    - holding pattern and entry
- planned/alternate destination weather conditions below minima
- privileges and limitations conferred by an Instrument Rating
- receiver autonomous integrity monitoring (RAIM) prediction implications
- reduced vertical separation minima (RVSM) operations:
    - range of flight levels within Australian airspace
    - operational requirements
    - aircraft altimeter accuracy requirements
    - vertical height tolerances
    - procedures and standard communication phraseology
    - altimetry system failures
- relevant WHS/OHS and environmental procedures and regulations
- relevant sections of Civil Aviation Safety Regulations (CASRs) and Civil Aviation Orders for IFR and planning requirements
- requirements for an alternate aerodrome
- runway visual approach slope lighting system operation and limitations
- use of a navigational computer.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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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.

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

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 personal protective equipment currently used in industry.

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=4725260a-0af3-4daf-912b-ef1c2f3e5816