Australian Government

Department of Education, Employment and Workplace Relations

AVIY5034A Perform non-directional beacon (NDB) instrument approach

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to conduct an instrument approach using the NDB approach procedure. This includes a descent from a route Minimum Safe Altitude (MSA) or Lowest Safe Altitude (LSALT) in accordance with altitude restrictions on a prescribed track to the Minimum Descent Altitude (MDA) applicable to the aircraft category, and conducting a published missed approach. 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 compliance with the relevant licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA); relevant airspace control requirements and Instrument Flight Rules (IFR); and aircraft control principles, regulations, safety codes, protocols and procedures relevant to perform non-directional beacon (NDB) instrument approach as part of commercial aircraft activities.

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

Operations are conducted across a variety of operational contexts within the Australian aviation industry.

Work is performed under limited supervision.

This unit of competency is packaged at AQF V.

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 Select approach and determine applicable minima	1.1 Current Instrument Approach and Landing (IAL) chart for the NDB approach to be flown is selected 1.2 IAL is reviewed and briefed in relation to directing entry to the approach; maintaining LSALT or MSA prior to entry approach; maintaining tracks, distances, timing and descent limitations for the approach 1.3 Fuel availability and latest divert time procedures are enacted if required
2 Monitor aid signal integrity	2.1 NDB to be used for the selected approach is tuned and identified 2.2 Morse code identification and NDB indications are monitored throughout the approach to ensure signal integrity
3 Conduct initial approach	3.1 Altimeter is set to appropriate QNH 3.2 Inbound track at or above route MSA or LSALT is maintained in accordance with AIP, using the NDB
4 Conduct holding pattern	4.1 Holding pattern at or above LSALT or MSA is entered in accordance with the specified sector entry 4.2 Holding pattern is performed in accordance with AIP, using the NDB
5 Conduct instrument approach procedure	5.1 Instrument approach is conducted in accordance with tolerances specified in AIP, using the NDB 5.2 Landing runway is identified 5.3 After establishing visual reference, a visual circling or runway approach is conducted for a landing on the selected runway, in accordance with AIP
6 Conduct missed approach procedure	6.1 Conditions requiring a missed approach are recognised and missed approach is initiated 6.2 Aircraft is manoeuvred to Missed Approach Point (MAPt) 6.3 Missed approach procedure is conducted in accordance with the IAL chart 6.4 Obstacle clearance in IMC/simulated IMC is maintained

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge:

- NDB instrument approach procedures and limitations
- Sector entry join procedures for entering the holding pattern of the NDB approach
- Tracking tolerance and altitude limitations for flying the published DME arc of the NDB approach procedure
- Procedure for joining the circuit from a NDB approach procedure
- Minimum obstacle clearance criteria during a NDB approach procedure/missed approach procedure
- Missed approach procedure for an NDB approach
- Radio procedures during a NDB approach
- Loss of radio communication during a NDB approach procedure
- Abnormal operations and/or emergencies procedures during a NDB approach, including navigation aid failure
- Operating electronic communications equipment
- Requirements for completing relevant documentation
- Code of practice for working collaboratively with others
- Steps involved in planning the work activities
- Procedures for adjusting controls to optimise the operation of the equipment
- Procedures to be followed in the event of an emergency
- Relevant sections of national and state or territory regulatory requirements and codes of practice
- Relevant OH&S and environmental procedures and regulations
- Procedures for managing and controlling hazardous situations when carrying out work activities
- Sources of information on differences in equipment and related standard operating and servicing procedures

Required skills:

- Interpret NDB instrument approach procedure chart
- Determine NDB approach procedure applicable minima for aircraft
- Determine conditions permitting descent below minima
- Perform systematic scan techniques
- Communicate effectively with others when performing NDB instrument approach
- Read and interpret instructions, regulations, procedures and other information relevant to NDB

REQUIRED KNOWLEDGE AND SKILLS

instrument approach

- Interpret and follow operational instructions and prioritise workload
- Complete documentation related to NDB instrument approach
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when performing NDB instrument approach
- 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 performing NDB instrument approach in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events that may arise when performing NDB instrument approach
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when performing NDB instrument approach
- 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 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 clothing and equipment conforming to industry and OH&S standards
- Implement OH&S procedures and relevant regulations
- Identify and correctly use equipment required to perform a NDB instrument approach

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.

Tasks may be undertaken in:	• IMC • VMC with simulated IMC conditions
Performance may be demonstrated in:	• single engine aircraft • multi engine aircraft • synthetic training device approved by the appropriate authority • variable air traffic conditions • variable weather conditions • variable flight situations • abnormal situations • classes of airspace as designated by the Civil Aviation Safety Authority
Aircraft may include:	• fixed wing • helicopter • other commercial or military aircraft
Crew may include:	• single pilot • multi crew
Instruments may be:	• flight instruments suitable for instrument flight • head up display suitable for instrument flight
Limitations may be imposed by:	• local noise abatement requirements and curfews • airspace endorsements
Classes of airspace may be:	• as designated by the regulator • restricted and danger areas • military control zones • Air Defence Identification Zones
Navigation aids may include:	• ADF (Automatic Direction Finder) • navigation and approach aids appropriate to rating sought • DME (Distance Measuring Equipment) • FMS (Flight Management Systems) • Moving Map Displays
Conditions may include:	• a method of simulating IMC • simulated icing conditions • moderate turbulence • simulated hazardous weather • Autopilot/Flight Director • FMS/ other NAV system

RANGE STATEMENT

Dependent on the type of organisation concerned and the local terminology used, workplace procedures may include:	• simulation of emergency and abnormal procedures • company procedures • enterprise procedures • organisational procedures • established procedures • standard operating procedures
Information/documents may include:	• relevant sections of Civil Aviation Safety Regulations and Civil Aviation Orders • in Defence context, relevant Defence Orders and Instructions • Flight Manual/Pilot's Operating Handbook (POH) • Manual of Standards - Pilot Licensing (MOS-PL) • Aeronautical Information Publication (AIP) • En Route Supplement Australia (ERSA) • charts • operations manuals • approved checklists • workplace procedures and instructions and job specification • 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 • in Defence context, relevant Defence Orders and Instructions • relevant state/territory OH&S legislation • relevant state/territory environmental protection legislation • relevant Australian Standards
Performance includes tolerances specified in either of:	• relevant licence and aircraft rating requirements of the Civil Aviation Safety Authority (CASA) such as: • Manual of Standards • relevant Defence documentation such as: • Defence Orders and Instructions • approved curricula and training documentation

Unit Sector(s)

Not applicable.

Competency field

Competency Field Y - Aircraft Operation and Traffic Management