SECTION 2: COMMON STANDARDS

C1 Communicating in the aviation environment

1 Unit description

This unit describes the standards for communicating effectively that apply to flight crew using aeronautical radios for the purposes of safely conducting flight operations.

2 Elements and performance criteria

2.1 C1.1 – Communicating face-to-face

2.1.1 The person is able to communicate effectively in general English as follows:

(a) pronounces words clearly, using an accent that does not cause difficulties in understanding;

(b) conveys information in clearly structured sentences without confusion or ambiguity;

(c) uses an extensive vocabulary to accurately communicate on general and technical topics, without excessive use of jargon, slang or colloquial language;

(d) speaks fluently without long pauses, repetition or excessive false starts;

(e) responds to communications with actions that demonstrate that the information has been received and understood;

(f) exchanges information clearly in a variety of situations with both expert and non-expert English speakers while giving and receiving timely and appropriate responses;

(g) uses appropriate techniques to validate communications.

2.2 C1.2 – Operational communication using an aeronautical radio

2.2.1 The person must be able to demonstrate her or his ability to communicate adequately for the purpose of conducting flying operations safely as follows:

(a) maintain effective communication with others on operational matters;

(b) communicate effectively in unfamiliar, stressful or non-standard situations;

(c) apply the phonetic alphabet;

(d) transmit numbers;

(e) make appropriate transmissions using standard aviation phraseology;

(f) use plain English effectively when standard phraseology is inadequate;

(g) receive appropriate responses to transmissions;

(h) respond to transmissions and take appropriate action;

(i) recognise and manage communication errors and misunderstandings effectively;

(j) seek clarification in the time available if a message is unclear or uncertainty exists;

(k) react appropriately to a variety of regional accents;

(l) communicate effectively in unexpected, stressful or non-standard situations using standard phraseology or plan English.

3 Range of variables

(a) limited background noise associated with a typical work environment;

(b) aircraft environment in a routine operational setting;

(c) simulated conditions can be used;

(d) disruptions to normal communication patterns that might be encountered in an operational situation, including background noise, equipment malfunctions and other distractions.

4 Underpinning knowledge of the following:

(a) basic radiotelephony phraseology specified in the aeronautical information package (AIP) for visual flight rules (VFR) operations;

(b) common aviation terminology.

C2 Perform pre- and post-flight actions and procedures

1 Unit description

This unit describes the skills and knowledge required for a person to conduct pre- and post-flight actions and procedures for an aircraft of the applicable category, class or type.

2 Elements and performance criteria

2.1 C2.1 – Pre-flight actions and procedures

(a) complete all required pre-flight administration documentation;

(b) obtain, interpret and apply information contained in the required pre-flight operational documentation, including to the following:

(i) minimum equipment list (MEL);

(ii) maintenance release;

(iii) weather forecasts;

(iv) local observations;

(v) Notice to Airmen (NOTAM);

(vi) global navigation satellite system (GNSS) receiver autonomous integrity monitoring (RAIM) information;

(vii) En Route Supplement Australia (ERSA);

(viii) Aeronautical Information Package (AIP);

(c) identify special aerodrome procedures;

(d) identify all relevant radio and navigation aid facilities to be used during the flight (if applicable);

(e) determine the suitability of the current and forecast weather conditions for the proposed flight;

(f) using the aircraft documents, calculate the following for a given set of environmental and operational conditions:

(i) weight and balance;

(ii) in-ground and out-of-ground effect hover performance (rotorcraft only);

(iii) take-off and landing performance;

(iv) fuel requirements;

(g) determine whether the aircraft is serviceable for the proposed flight.

2.2 C2.2 – Perform pre-fight inspection

This element is not applicable when the training or assessment activity is being conducted in an FSTD that is approved for the training or assessment purpose.

(a) identify and secure equipment and documentation that is required for the flight;

(b) complete an internal and external check of the aircraft;

(c) identify all defects or damage to the aircraft;

(d) report to, and seek advice from, qualified personnel to determine the action required in relation to any identified defects or damage;

(e) ensure all aircraft locking and securing devices, covers and bungs are removed and stowed securely;

(f) certify the aircraft flight technical log entering any defects or endorsements to permissible unserviceabilities as appropriate;

(g) complete and certify the daily inspection (if authorised to do so).

2.3 C2.3 – Post-flight actions and procedures

(a) shut down aircraft;

(b) conduct post-flight inspection and secure the aircraft (if applicable);

(c) complete all required post-flight administration documentation.

3 Range of variables

(a) an aircraft of the specified aircraft category;

(b) any class or type of aircraft within that aircraft category;

(c) activities are performed in accordance with published procedures

(d) alternatively, competency is demonstrated in an FSTD that is approved for the purpose.

4 Underpinning knowledge of the following:

(a) standard operating procedures for the category, and class or type of aircraft and the operator;

(b) fuel requirements for day VFR flight operation;

(c) MEL;

(d) airworthiness requirements applicable to the aircraft category, and class or type;

(e) local weather patterns;

(f) local aerodrome requirements.

C3 Operate aeronautical radio

1 Unit description

This unit describes the skills and knowledge required for a person to operate radiotelephone and intercom equipment under normal and emergency conditions.

2 Elements and performance criteria

2.1 **C3.1 – Operate radio equipment**

(a) confirm serviceability of radio equipment;

(b) conduct transmission and receipt of radio communications using appropriate procedures and phraseology;

(c) maintain a listening watch and respond appropriately to applicable transmissions;

(d) conduct appropriate emergency and urgency transmissions.

2.2 **C3.2 – Manage R/T equipment malfunctions**

(a) perform radio failure procedures;

(b) use fault finding procedures and perform corrective actions.

2.3 **C3.3 – Operate transponder**

(a) operate a transponder during normal, abnormal and emergency operations;

(b) recall transponder emergency codes.

3 Range of variables

(a) activities are performed in accordance with published procedures;

(b) aircraft fitted with a common radio system and transponder;

(c) VFR procedures.

4 Underpinning knowledge of the following:

(a) the phonetic alphabet;

(b) documented radio procedures relevant to the VFR;

(c) the components of an aeronautical radio system:

(i) power source or battery switch, radio master, microphone;

(ii) transmitter;

(iii) receiver;

(iv) antenna;

(v) location of aerial antennas in buildings (except aircrew);

(vi) headphones and speaker;

(vii) the procedures for using an aeronautical radio system;

(viii) setting up an aeronautical radio (except aircrew);

(ix) use of radio transmit and receive selector switches (VHF, HF, I/C, PA);

(x) turning a radio on and off;

(xi) selecting correct frequencies;

(xii) use of squelch control;

(xiii) correct use of a microphone;

(d) characteristics of radio waves, wave propagation, transmission and reception (except aircrew):

(i) radio frequency band ranges (MF, HF, VHF, UHF);

(ii) properties of radio waves;

(iii) propagation of paths of radio waves:
(A) ground waves;
(B) sky waves;
(iv) factors affecting the propagation of radio waves:
(A) terrain;
(B) Ionosphere;
(C) sun spot activity;
(D) interference from electrical equipment;
(E) thunderstorms;
(F) power attenuation;
(v) radio antennas:
(A) characteristics of antennas;
(B) use of antennas;

(e) the responsibilities of an aeronautical radio operator (except aircrew) for the following:
(i) secrecy of communications;
(ii) unauthorised transmissions;

(f) light signals, including interpretation and actions required.

C4 Manage fuel

1 Unit description

This unit describes the skills and knowledge required to effectively manage fuel for an aircraft operation.

2 Elements and performance criteria

2.1 C4.1 – Plan fuel requirements

(a) determine the required fuel reserves;

(b) determine the quantity of fuel required taking into account operational requirements and relevant abnormal or emergency conditions and contingencies;

(c) determine the total fuel required for the flight.

2.2 C4.2 – Manage fuel system

(a) verify fuel quantity on-board aircraft prior to flight using 2 independent methods;

(b) ensure the fuel caps are secured;

(c) perform fuel quality check prior to flight;

(d) ensure fuel drain cocks are closed;

(e) monitor fuel usage during the flight;

(f) accurately maintain fuel log;

(g) calculate and state endurance at any point during flight;

(h) perform fuel tank changes correctly;

(i) maintain fuel load within aircraft limits;

(j) operate the fuel cross-feed system correctly (if fitted);

(k) operate fuel pumps and engine controls correctly;

(l) except for RPL and PPL, configure the aircraft correctly to achieve best range performance and correctly calculate the revised range of operation;

(m) configure the aircraft correctly to achieve best endurance performance and correctly calculate the revised operational endurance.

2.3 C4.3 – Refuel aircraft

(a) identify the correct type of fuel to be used;

(b) ensure aircraft is earthed prior to refuelling and defueling operations;

(c) correctly load and unload fuel;

(d) ensure required fuel quantity is loaded;

(e) ensure fuel caps are closed and secured after fuelling operations;

(f) perform fuel quality checks.

3 Range of variables

(a) activities are performed in accordance with published procedures;

(b) aircraft of the applicable category;

(c) VFR.

4 Underpinning knowledge of the following:

(a) minimum fuel requirements for day VFR operations;

(b) fuel sources and fuel grades, including methods for identifying difference grades;

(c) methods of verifying the quantity of fuel on board an aircraft;

(d) fire extinguishers that can be used for fuel-related fires, including requirements and how to use them in the event of a fire;

(e) location of refuelling places;

(f) limitations on using drum stock fuel;

(g) health and safety requirements applicable to fuelling operations;

(h) variations to planned fuel consumption.

C5 Manage passengers and cargo

1 Unit description

This unit describes the skills and knowledge required to ensure the following:

(a) passengers are safe, informed and controlled;

(b) provision is made for passenger comfort and wellbeing;

(c) cargo is managed.

2 Elements and performance criteria

2.1 C5.1 – Manage passengers

(a) supervise passenger safety;

(b) encourage passengers to participate in and contribute to the safe outcome of the flight;

(c) conduct pre-flight passenger safety briefing;

(d) ensure passengers are aware of, and avoid interference with, flight and systems controls;

(e) ensure passengers are aware of, and comply with, the use of seat harnesses;

(f) ensure passengers are aware of the use of escape hatches, exits and emergency equipment on board the aircraft;

(g) manage passenger safety in the event of abnormal or in-flight emergency situations.

2.2 C5.2 – Aid and assist passengers

(a) establish and maintain clear communications with passengers;

(b) assist with passenger comfort both when airside and in flight.

2.3 C5.3 – Manage cargo

(a) manage loading, unloading and security of cargo during flight operations;

(b) identify dangerous goods and apply procedures to ensure safety and security.

3 Range of variables

(a) activities are performed in accordance with published procedures;

(b) single or multi-engine aircraft;

(c) propeller wash, rotor wash and jet blast (may be simulated);

(d) simulated abnormal or emergency situations;

(e) real or simulated passengers and cargo.

4 Underpinning knowledge of the following:

(a) managing passengers during abnormal or emergency situations;

(b) local procedures for movement of passengers;

(c) security requirements;

(d) dangerous goods awareness;

(e) health and safety regulations and best practice.

NTS1 Non-technical skills 1

1 Unit description

This unit describes the knowledge and skills required to manage a safe flight.

2 Elements and performance criteria

2.1 NTS1.1 – Maintain effective lookout

(a) maintain traffic separation using a systematic visual scan technique at a rate determined by traffic density, visibility and terrain;

(b) maintain radio listening watch and interpret transmissions to determine traffic location and intentions;

(c) perform airspace-cleared procedure before commencing any manoeuvre.

2.2 NTS1.2 – Maintain situational awareness

(a) monitor all aircraft systems using a systematic scan technique;

(b) collect information to facilitate ongoing system management;

(c) monitor flight environment for deviations from planned operations;

(d) collect flight environment information to update planned operations.

2.3 NTS1.3 – Assess situations and make decisions

(a) identify problems;

(b) analyse problems;

(c) identify solutions;

(d) assess solutions and risks;

(e) decide on a course of action;

(f) communicate plans of action (if appropriate);

(g) allocate tasks for action (if appropriate);

(h) take actions to achieve optimum outcomes for the operation;

(i) monitor progress against plan;

(j) re-evaluate plan to achieve optimum outcomes.

2.4 NTS1.4 – Set priorities and manage tasks

(a) organise workload and priorities to ensure optimum outcome of the flight;

(b) plan events and tasks to occur sequentially;

(c) anticipate events and tasks to ensure sufficient opportunity for completion;

(d) use technology to reduce workload and improve cognitive and manipulative activities.

2.5 NTS1.5 – Maintain effective communications and interpersonal relationships

(a) establish and maintain effective and efficient communications and interpersonal relationships with all stakeholders to ensure the optimum outcome of the flight;

(b) define and explain objectives to stakeholders;

(c) demonstrate a level of assertiveness that ensures the optimum completion of the flight.

3 Range of variables

(a) simulated conditions may be used where appropriate.

4 Underpinning knowledge of the following:

(a) effective communication under normal and non-normal circumstances;

(b) task management.

NTS2 Non-technical skills 2

1 Unit description

This unit describes the knowledge and skills required to recognise, direct and manage threats and errors during flight operations.

2 Elements and performance criteria

2.1 NTS2.1 – Recognise and manage threats

(a) identify relevant environmental or operational threats that are likely to affect the safety of the flight;

(b) identify when competing priorities and demands may represent a threat to the safety of the flight;

(c) develop and implement countermeasures to manage threats;

(d) monitor and assess flight progress to ensure a safe outcome, or modify actions when a safe outcome is not assured.

2.2 NTS2.2 – Recognise and manage errors

(a) apply checklists and standard operating procedures to prevent aircraft handling, procedural or communication errors;

(b) identify committed errors before safety is affected or the aircraft enters an undesired state;

(c) monitor the following to collect and analyse information to identify potential or actual errors:

(i) aircraft systems using a systematic scan technique;

(ii) the flight environment;

(iii) other crew;

(d) implement countermeasures to prevent errors or take action in the time available to correct errors before the aircraft enters an undesired state.

2.3 NTS2.3 – Recognise and manage undesired aircraft state

(a) recognise an undesired aircraft state;

(b) prioritise tasks to ensure an undesired aircraft state is managed effectively;

(c) apply corrective actions to recover an undesired aircraft state in a safe and timely manner.

3 Range of variables

(a) Reserved;

(b) simulated conditions may be used where appropriate.

4 Underpinning knowledge of the following:

(a) effective communication under normal and non-normal circumstances;

(b) threat and error management detailing processes that can be used to identify and mitigate or control threats and errors;

(c) the application of situational awareness to identifying real or potential environmental or operational threats to flight safety;

(d) developing and implementing plans of action for the following:

(i) removing and mitigating threats;

(ii) removing and mitigating errors;

(e) undesired aircraft states, including prevention, identifying and controlling;

(f) how an undesired aircraft state can develop from an unmanaged threat or error;

(g) what aspects of multi-crew operations (if applicable) can prevent an undesired aircraft state;

(h) use of checklists and standard operating procedures to prevent errors.

(i) task management, including:
  (i) workload organisation and priority setting to ensure optimum safe outcome of the flight;
  (ii) event planning to occur in a logical and sequential manner;
  (iii) anticipating events to ensure sufficient opportunity is available for completion;
  (iv) using technology to reduce workload and improve cognitive and manipulative activities;
  (v) task prioritisation and protection whilst filtering and managing real time information.

MCO Manage flight during multi-crew operations

1 Unit description

This unit describes the skills, knowledge and behaviours required to plan, direct and control all aspects of a flight in a multi-crew environment as pilot in command or crew member.

2 Elements and performance criteria

2.1 MCO.1 – Operate effectively as a crew member

(a) utilise standard operating procedures (SOP) and phraseology to conduct and manage flight;

(b) ensure crew members are aware of changes when operating aircraft systems;

(c) ensure changes to responsibility for flying aircraft are clearly stated;

(d) listen critically and request clarification when necessary;

(e) apply assertive strategies when working with others;

(f) present ideas in a way that shows respect for others;

(g) verbalise observations in a calm and concise manner;

(h) consider the condition (ability) of other crew members to perform crew duties;

(i) monitor and appraise crew members' performance;

(j) interact with crew members in a supportive and constructive way;

(k) assist other crew members to manage workload;

(l) motivate and support other crew members;

(m) identify the signs, stages and possible causes of stress and conflict;

(n) apply strategies to manage stress and conflict;

(o) ensure pilot flying manages and monitors flight path;

(p) manage distractions and interruptions to cockpit activities.

2.2 MCO.2 – Demonstrate effective leadership and authority

(a) conduct briefings to share common plan and set priorities;

(b) ensure crew members are aware of their role and responsibilities throughout a flight;

(c) establish an atmosphere to encourage open communications;

(d) manage flight deck gradient relative to task;

(e) identify and manage threats and errors;

(f) maintain crew member motivation and commitment to task;

(g) monitor the effectiveness of crew performance;

(h) correct crew member deviations from standards;

(i) set realistic performance standards;

(j) monitor outcomes, and evaluate performance;

(k) collect information and identify key issues and relationships relative to achieving determined roles;

(l) break down tasks and establish courses of action to accomplish specified goals;

(m) encourage monitoring of performance by other crew members;

(n) allocate sufficient resources and time to complete workload;

(o) maintain patience and focus when processing large amounts of data or multiple tasks;

(p) identify when crew members become ineffective or incapacitated;

(q) manage time and resources to ensure that work is completed safely and effectively;

(r) ensure responsibility for flight path management is always assigned;

(s) take action to resolve crew member confusion.

2.3 **MCO.3 – Maintain situational awareness**

(a) actively monitor flight path, aircraft configuration and systems to achieve desired performance using a systematic scan technique;

(b) advise pilot flying of deviations from planned operations;

(c) utilise available resources to collect flight environment information and modify planned operations when required;

(d) analyse aircraft systems and flight environment information to identify actual and potential threats or errors;

(e) cross-check the actions of other crew members.

2.4 **MCO.4 – Make effective decisions**

(a) identify problems and their associated causal factors and review them with other crew members;

(b) break down systematically and logically problems or processes into component parts;

(c) employ analytical techniques to identify solutions and consider the value and implications of each;

(d) generate, in the time available, solutions with crew members;

(e) assess alternative solutions and risks with other crew members;

(f) decide on a course of action and address crew member concerns;

(g) communicate plans of action and direct crew members to complete specified tasks;

(h) take actions to achieve optimum outcomes for the operation;

(i) monitor progress against agreed plan;

(j) evaluate decisions in line with changing circumstances;

(k) decision making is improvement-focused and directed towards achieving optimum outcomes.

3 Range of variables

(a) activities are performed in accordance with published procedures;

(b) operations may be VFR or IFR;

(c) approved flight simulation training device or aircraft;

(d) normal and simulated non-normal flight and ground operations;

(e) simulated hazardous weather conditions;

(f) simulated interaction involving ground and ATC personnel relevant to aviation activities.

4 Underpinning knowledge of the following:

(a) the topics mentioned in Unit 1.6.3, ATPL human factors in Schedule 3 of this MOS;

(b) threat and error management (TEM) principles, with particular emphasis on multi-crew operations.