Civil Aviation Safety Authority
of Papua New Guinea

Advisory Circular

AC65-8.1

Air Traffic Service Personnel Licences and Ratings – Aeronautical Station Operator Ratings – Oceanic Air – Ground Rating

Issue 1

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GENERAL

Civil Aviation Safety Authority Advisory Circulars (AC) contain information about standards, practices and procedures that the Director has found to be an Acceptable Means of Compliance (AMC) with the associated rule.

An AMC is not intended to be the only means of compliance with a rule, and consideration will be given to other methods of compliance that may be presented to the Director. When new standards, practices or procedures are found to be acceptable, they will be added to the appropriate Advisory Circular.

This advisory circular also includes **guidance material** to facilitate compliance with the rule requirements. Guidance material must not be regarded as an acceptable means of compliance.

PURPOSE

The advisory circular provides the syllabus for training and assessment for applicants for air traffic service personnel licences and ratings, holders of air traffic service personnel licences and ratings, air traffic service instructors, air traffic service examiners, training organisations, and air traffic service organisations.

RELATED CAR

This AC relates specifically to Civil Aviation Rule Part 65 Subpart F(1)(i).

CHANGE NOTICE

This AC replaces the Initial Issue dated 30 November 2017.

APPROVAL

This AC has been approved for publication by the Director of Civil Aviation

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Introduction

Civil Aviation Rules, Part 65 – *Air Traffic Service Personnel Licences and Ratings* was issued on 1 January 2004. This Part prescribes rules governing the issue of air traffic service licences and ratings, the conditions under which those licences and ratings are necessary, and the privileges and limitations of those licences and ratings.

This advisory circular and the associated series of advisory circulars, one for each Part 65 Subpart, and one for each rating where more than one rating is contained within a Subpart, support these rules.

Advisory Circular Intent and Process

This advisory circular provides guidance on how to comply with Civil Aviation Rule Part 65 Subpart F - *Air Traffic Service Personnel Licences and Ratings–Aeronautical Station Operator Ratings- Oceanic air-ground rating*..

The Civil Aviation Safety Authority (CASA) is actively managing the development of syllabuses into specific objective format. This format specifies exactly what has to be covered, and to what standard, so that no matter who studies, who instructs, and who assesses, all are working to exactly the same standards.

Subpart F – Aeronautical Station Operator Ratings – Oceanic Air-Ground Rating

65.351 Purpose

Subpart F(1)(i) and (2) prescribes the rules governing the issue and validation of Aeronautical Station operator ratings- oceanic air-ground ratings, and the privileges and limitations of those ratings.

65.353 Eligibility Requirements

Rule 65.353 requires an applicant for an oceanic air-ground rating to have satisfactorily completed a training course relevant to the rating and to have demonstrated to the holder of an applicable air traffic service instructor rating the required skill, judgement, and performance to provide the aeronautical service at the unit for which the rating is sought.

Successful assessment based on the syllabus given in Appendix A of this advisory circular would meet this requirement.

APPENDIX A – Aeronautical Station Operator Ratings Syllabus

Subject No 109 – Oceanic Air – Ground Rating

Each subject has been given a subject number and each topic within that subject a topic number. These reference numbers may be used on 'knowledge deficiency reports' and will provide valuable feed back to the examination candidate.

Sub Topic	Syllabus Item
Air Traffic Services	
109.2	**General**
109.2.2	Explain the objectives of air traffic services.
109.2.4	State the categories air traffic services are divided into.
109.2.6	Explain airspace classification.
109.2.8	Describe the different airspace designations.
109.2.10	Describe the general parameters for co-ordination between air traffic services and aircraft operator representatives.
109.2.12	Define air traffic control service.
109.4	**Oceanic Air-ground Service**
109.4.2	State the aircraft to which oceanic air-ground service shall be provided.
109.4.4	Describe the scope of the oceanic air-ground service
109.4.6	Define oceanic area control service.
109.6	**Flight Information Service**
109.6.2	Define flight information service.
109.6.4	Describe the scope of flight information service.
109.6.6	Explain the responsibility for the provision of flight information service.
109.6.8	Describe the information passed to a flight on first contact.
109.6.10	Explain the purpose of traffic information.
109.6.12	Describe the requirements for exchange of movement data for non-controlled flights
109.6.14	Describe the actions and requirements on receiving pilot reports on significant weather.
109.6.16	Describe the methods of dissemination of the flight information service.
109.6.18	Describe procedures for dissemination of NOTAM information and SIGMET reports, including the compilation of such reports.
109.6.20	Describe the practices and services of the PNG National Weather Service.
109.6.22	Describe the meteorological information passed to aircrew (mandatory).
109.6.24	Describe the meteorological information passed to aircrew (on request).
109.6.26	Describe the process to access ATIS information.

109.6.28 Describe the in-flight briefing service provided to Datalink aircraft.

109.6.30 State the requirements for updating changes to the Papua New Guinea HF primary or secondary frequencies.

109.8 Alerting Service

109.8.2 Define alerting service.

109.8.4 Describe the scope of alerting service.

109.8.6 Explain the responsibility for the provision of the alerting service.

109.8.8 Explain the alerting service emergency phases.

109.8.10 Explain the initial checks carried out to confirm the operational status of an aircraft.

109.8.12 Define SARTIME.

109.8.14 Describe the process for PYRCC/Police/CASA notification.

Co-ordination and Clearance Delivery

109.10 ATS movement and control messages

109.10.2 Describe the different ATS movement and control messages.

109.10.4 Explain the process for transmission of ATS messages.

109.10.6 Describe the categories of ATS messages and their priorities.

109.10.8 Describe the addressing of ATS messages.

109.10.10 Describe the process for the preparation of ATS movement and control messages.

109.10.12 Describe the general co-ordination criteria for the provision of air traffic services, including:

(a) information about which agreement must be reached;

(b) when coordination is required.

109.12 ICAO Flight Plan

109.12.2 Describe the procedures for the submission of a flight plan.

109.12.4 Describe the procedures prior to departure.

109.12.6 Describe the delay procedures for a flight plan.

109.12.8 Describe the procedures for accepting a flight plan.

109.12.10 Describe the procedures for the completion of the flight plan form.

ATC Clearances

109.14.2 Describe the general co-ordination criteria for the provision of air traffic services, including;

(a) information about which agreement must be reached;

(b) when coordination is required.

109.14.4 Explain in general terms the application of co-ordination procedures.

109.14.6 Explain the clearance delivery requirements and procedures.

109.14.8 Describe the application of clearance delivery, including readback.

109.14.10 Define ATC clearance.

109.14.12 Describe the following conditions regarding an ATC clearance:

(a) validity;

(b) elements and what they are required to achieve;

(c) who requires a clearance;

(d) when it can be denied or withheld;

(e) methods for issuing, including relay through another agency.

109.14.14 List the elements of an ATC clearance that must be read back in full by a pilot.

109.14.16 Describe the requirements for issuing clearances to IFR flights to enter or leave controlled airspace.

109.14.18 List the objectives for instructions contained in an ATC clearance for an IFR flight.

109.14.20 Define the term 'clearance limit' for an IFR flight.

109.14.22 Describe procedures to follow in the event of unavailability of route and/or cruise level elements of an ATC clearance, including the phraseologies to be used.

109.14.24 Describe the procedures associated with route instructions, including:

(a) standard route clearances;
(b) route description, use of flight planned route;
(c) actions to be taken in the event of hazardous weather conditions;
(d) revised route instructions;
(e) direct routing and unevaluated routes.

109.16 Transfer of radio guard

109.16.2 Describe the procedures associated with transfer of radio guard, including;

(a) standard radiotelephony contact points;
(b) accepting controller responsibility.

Papua New Guinea Oceanic Air-ground

109.18 Port Moresby Oceanic Airspace

109.18.2 Describe the lateral limits of the Port Moresby Oceanic Airspace, including:

(a) vertical dimensions;

(b) easternmost and westernmost boundaries.

109.18.4 Describe the geographical dimensions of the Huon Sector.

109.18.6 Describe the geographical dimensions of the Makau Sector.

109.18.8 Describe the geographical dimensions of the Talai Sector.

109.18.10 Describe the geographical dimensions of the Hiri Sector.

109.18.12 Reserved.

109.18.14 Describe the adjacent international FIRs.

109.18.16 Describe the Port Moresby FIR.

109.18.18 Describe the general weather patterns within this area.

109.18.20 Define the area of responsibility for Papua New Guinea oceanic airspace.

109.18.22 Derive from appropriate maps and charts relevant information, including;

(a) controlled airspace and uncontrolled airspace ;

(b) route system;

(c) major aerodromes within the Port Moresby FIR;

(d) special use airspace;

(e) most commonly used routes;

(f) frequencies;

(g) navigational aids.

109.18.24 Explain user preferred routes (UPR).

109.20 Air-ground operations

109.20.2 Describe in general terms the responsibilities of the international air-ground radio operator.

109.20.4 Describe the requirements for operation of the airlog by air-ground operators, including:

(a) oceanic control system (OCS) message processing;

(b) out of conformance AIREP processing;

(c) penultimate AIREPs;

(d) message priorities.

109.20.6 Describe the requirements for relaying of instructions from area controllers through air-ground operators.

109.20.8 Describe air-ground operator's responsibilities in terms of ensuring readbacks.

109.20.10 State the main HF frequencies monitored by Moresby Radio.

109.20.12 Describe the process for clearance issue and coordination of flight departing from aerodromes within the PNG Oceanic FIR.

109.20.14 Describe the process for flights arriving Port Moresby from Oakland FIR.

109.20.16 Describe the position responsibilities of the air-ground operator.

109.20.18 Describe the priorities for an air-ground operator.

109.20.20 List the ICAO documents relevant to oceanic air-ground service.

109.20.22 Describe the types of oceanic communications.

109.20.24 Describe the requirements for position reporting.

109.20.26 Describe the elements of a position report.

109.20.28 Describe the elements of a position report special.

109.20.30 Describe the requirements for addressing position reports

109.20.32 Describe the requirements for a request message.

109.20.34 Describe the requirements for a request message due to weather.

109.20.36 Describe the requirements for a weather related request.

109.20.38 Describe the requirements for the processing of a clearance message.

109.20.40 Describe the criteria format and phraseology for the relay of clearances and instructions.

109.20.42 Describe the requirements for the processing of a readback message.

109.20.44 Describe the requirements for a CLE message.

109.20.46 Describe the requirements for a RPE message.

109.20.48 Describe the requirements for an arrival message.

109.20.50 Describe the process of FMC WPR.

109.20.52 List the types of messages that can be sent via FMC WPR.

109.20.54 Reserved

109.20.56 Describe the actions to be followed on the receipt of a penultimate FMC WPR.

109.20.58 Describe the fault reporting procedures for the air-ground position

109.20.60 Describe the procedures for flights entering the Port Moresby FIR from the Oakland Oceanic FIR, with respect to level information and SSR codes.

109.20.62 Describe the requirements relating to communications, position reports, traffic information and an alerting service for a long range maritime patrol aircraft.

109.20.64 Describe the requirements for processing early pilot reports.

109.20.66 Describe the recommended handover technique, equipment checks and use of sign on strips.

109.20.68 Describe the requirements for an adequate pre duty briefing.

109.22 Air-ground administration

109.22.2 Describe the Personnel Licensing requirements for this rating including the training plan objectives.

109.22.4 Explain the feedback/ assessment mechanisms available for a trainee within the training plan for this rating.

109.22.6 Describe the medical fitness requirements for exercising an air-ground rating.

109.22.8 Describe the recent experience requirements for exercising an air-ground rating.

109.22.10 Reserved.

109.22.12 Describe the procedure for storage of oceanic flight plans.

109.22.14 Describe the requirements for keeping an air traffic services log.

109.22.16 Describe the procedures to ensure air-ground service continuity.

Equipment

109.24 HF Radio Theory

109.24.2 Describe the types of radio waves.

109.24.4 Describe the propagation and properties of each type of radio wave.

109.24.6 Define the atmosphere.

109.24.8 Describe the factors that affect HF communications.

109.24.10 Describe the Major World Air Route Areas (MWARA) SP6 HF network.

109.24.12 Define the network responsibilities.

109.24.14 Describe the HF receivers.

109.24.16 Describe the HF transmitters.

109.24.18 Describe the HF aerials.

109.24.20 Describe the operation of SELCAL.

109.24.22 Describe the HF air-ground system.

109.24.24 Describe the HF by-pass system.

109.26 Air-ground position equipment

109.26.2 Describe the air-ground system progress board operation.

109.26.4 Describe the air-ground GEO display.

109.26.6 Describe the operation of the AFTN.

109.26.8 Describe the airlog system.

109.26.10 Explain in general terms the operation of SELCAL.

109.28. HF network operations

109.28.2 List the MWARA SP HF frequencies.

109.28.4 List the Operation Deep Freeze frequencies.

109.28.6 List the VOLMET frequencies.

109.28.8 List the HF stations in the ICAO MWARA SP6 group.

109.28.10 List the AFTN addresses of each of the HF stations in the MWARA SP6 group.

109.28.12 Describe HF frequency notification advice to adjacent international facilities.

109.28.14 Describe the HF frequency notification advice to domestic area radar sectors.

109.28.16 Describe the practices to decrease HF frequency congestion.

109.28.18 Describe what is meant by HF over transmissions.

109.28.20 Describe the procedures for accepting primary HF guard.

109.28.22 Describe the procedures for intercepting HF traffic.

109.28.24 Describe the procedures on the receipt of an intercepted ARP.

109.28.26 State where you would locate the table of frequency designators and assignments used by Moresby Radio.

109.30 Aeronautical telecommunications

109.30.2 Describe in general terms the responsibilities and requirements of the aeronautical telecommunications system.

109.30.4 Describe regular and network stations.

109.30.6 Describe regular station responsibilities.

109.30.8 Describe primary guard.

109.30.10 Describe transfer of primary guard.

109.30.12 Describe network station responsibilities.

109.32 Oceanic Control System

109.32.2 Explain in general terms the FANS 1/A CNS/ATM system.

109.32.4 Explain the characteristics of the OCS system architecture.

109.32.6 Explain the characteristics of the OCS data transmission process.

Emergencies

109.34 Emergency procedures

109.34.2 Describe the action to be taken by air-ground operators in the event of an aircraft emergency.

109.34.4 Describe the actions taken in the event of a CPDLC or ADS-C emergency message.

109.34.6 Describe the procedures for a loss of airlog HF transmitter/receivers or both.

109.34.8 Describe the requirements for confirmation of emergency, acknowledging emergency and executive control responsibility.

109.34.10 Describe the requirements for suspension of communications watch by an aircraft station or aeronautical station.

109.34.12 Describe the requirements for HF message handling when communication is unable to be established

109.36 Contingency procedures

109.36.2 State the three OCS contingency phases.

109.36.4 State the objective of the “recovery phase’.

109.36.6 State the time at which aircraft are permitted to enter the Port Moresby FIR during the recovery phase.

109.36.8 Describe the objective of the limited ATS phase and any restrictions.

109.36.10 Explain what is meant by ‘third level contingency’.

109.36.12 Explain actions taken in the event evacuation from work place is required, including traffic recovery.

109.36.14 State where you would locate documentation for handling unusual/emergency situations, such as bomb threat and evacuation.

109.36.16 State where you would locate information on procedures and initial actions for handling aviation accidents and incidents.

109.38 ATS equipment failure

109.38.2 Describe the notification process in the event of equipment failure.

109.38.4 Describe the procedures to be followed in the event of a partial or total ground-ground voice

communication system (VCS) equipment failure.

109.38.6 Describe the effects on operation of a power failure, including reference to UPS/generator back up.

109.38.8 Describe in general terms the process in the event of failure of HF transmitters and/or receivers.

109.38.10 Describe in general terms the effect on operations of the total failure of the X25 ARINC gateways.

109.38.12 Describe in general terms the effect on operations of the total failure of the AFTN.

109.38.14 Describe the process for the air-ground operator to follow in the event of the failure of airlog.

109.38.16 Explain in general terms the co-ordination requirements in the event of an equipment failure.