Safety and Airspace Regulation Group

Aeronautical Radio Station Operator's Guide

CAP 452

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Enquiries regarding the content of this publication should be addressed to:

Intelligence, Strategy and Policy, Safety and Airspace Regulation Group, Civil Aviation Authority, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR

E-mail: ats.enquiries@caa.co.uk

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Contents

Revision history

15th Edition **Effective: 30 October 2016**

This edition has been reformatted. Future editions will be issued to present updated content in complete new editions. The main changes will be described here, under Revision history.

Changes in this edition include:

- Air Navigation Order: References have been updated in line with ANO 2016.
- Glossary has been updated and amended.
- References to CAA departments and contact information have been updated.
- CAP 413 references have been updated
- The pass mark for written papers has changed from 70% to 75%

Foreword

Introduction

This document is a guide for persons who operate or wish to operate aeronautical radio stations.

CAP 452, together with CAP 413 Radiotelephony Manual (www.caa.co.uk/CAP413) are the main reference documents for radio station operators who have either obtained an aeronautical Radio Operator's Certificate of Competence (ROCC) or are studying for the written and practical examinations in order to obtain one.

This document is primarily based on International Civil Aviation Organization (ICAO) Standards and Recommended Practices (SARPs) contained in the ICAO Annexes to The Convention on International Civil Aviation and the International Telecommunications Union (ITU) Radio Regulations.

Gender

In the interests of simplicity, any reference to the masculine gender can be taken to mean either male or female.

Clarity and readability

In this document the following protocol is used:

a) The words '**must**' or '**shall**' indicate that compliance is compulsory.

b) The word '**should**' indicates a recommendation.

c) The word '**may**' indicates an opinion.

d) The word '**will**' is used to express the future.

Glossary

In addition to the terms that can be found in CAP 413 Radiotelephony Manual, the terms shown below may be relevant to the operation of an aeronautical radio station.

Terms annotated (A) are defined in The Air Navigation Order 2016 Schedule 1. Those annotated (ICAO) have been taken from ICAO documents and those annotated (B) have a different interpretation to ICAO. Those which have not been annotated are terms which are frequently used and are considered to need clarification or explanation.

AERODROME ELEVATION	The elevation of the highest point of the landing area. (ICAO)
AERONAUTICAL MOBILE SERVICE	A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radio beacon stations may also participate in this service on designated distress and emergency frequencies. (ICAO)
AERONAUTICAL RADIO STATION	A radio station on the surface, which transmits or received signals for the purpose of assisting aircraft. (A)
AERONAUTICAL (GROUND) RADIO STATION	Term used by Ofcom for aeronautical station.
AERONAUTICAL STATION	A land station in the aeronautical mobile service. In certain instances, an aeronautical station may be located, for example, on board ship or on a platform at sea. (ICAO)
NOTE: For the purposes of this publication, the terms Aeronautical Radio Station (Air Navigation Order), Aeronautical Station (ICAO), Mobile Surface Station (ICAO) and Aeronautical (Ground) Radio Station (Ofcom) will be covered by use of the single term Aeronautical Radio Station unless there is a need to refer to the other terms individually.	
AIRCRAFT STATION	A mobile station in the aeronautical mobile service, other than a survival craft station, located on board an aircraft.
ALERTING SERVICE	A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required. (ICAO)

ALTERNATE AERODROME	An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing. (Reg (EU) 923/2012)
APRON	A defined area, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance. (Reg (EU) 923/2012)
CLEARWAY	An area at the end of the take-off run available, selected or prepared as a suitable area over which an aircraft may make a portion of its initial climb to a specified height.
CLOUD CEILING	Cloud ceiling means the height above the ground or water of the base of the lowest layer of cloud below 6,000 metres which, when visible from the aerodrome, is sufficient to obscure more than half the sky. (A)
DESIGNATED OPERATIONAL COVERAGE (DOC)	The term designated operational coverage is used to refer to the combination of the designated operational range and the designated operational height (e.g. 200 NM FL 500). (ICAO) DOC is that volume of airspace needed operationally in order to provide a particular service and within which the facility is afforded frequency protection. (B) **NOTE:** This term is usually associated with a frequency assignment to denote the volume of airspace in which it may be used.
LOG	For Offshore Communications Service (OCS) operations the suffix 'LOG' will be added to an approved callsign when logistics information is being passed.
LOCATION INDICATOR	A four letter code group formulated in accordance with rules prescribed by ICAO and assigned to the location of an aeronautical fixed station. (ICAO)
MANOEUVRING AREA	The part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons. (Reg (EU) 923/2012)
MOBILE SURFACE STATION	A station in the aeronautical telecommunication service, other than an aircraft station, intended to be used while in motion or during halts at unspecified points. (ICAO)
NIGHT	The time between half an hour after sunset and half an hour before sunrise (both times inclusive), sunset and sunrise being determined at surface level. (A)

OFFSHORE INSTALLATION	A structure which is, will be or has been used while standing in relevant waters or on the foreshore, for the exploitation of mineral resources by means of a well, for the storage of gas, for the conveyance of things by means of a pipe or for the provision of accommodation for persons who work on or from a similar structure.
OPERATIONAL CONTROL COMMUNICATIONS	Communications required for the exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of a flight. **NOTE:** Such communications are normally required for the exchange of messages between aircraft and aircraft operating agencies (e.g. company frequencies). (ICAO)
PUBLIC CORRESPONDENCE	Any telecommunication which offices and stations must, by reason of their being at the disposal of the public, accept for transmission.
RADIAL	A magnetic bearing extending from VOR/VORTAC/TACAN. (B)
RESCUE CO-ORDINATION CENTRE	A unit responsible for promoting efficient organisation of search and rescue service and for co-ordinating the conduct of search and rescue operations within a search and rescue region. (ICAO)
VISIBILITY	Visibility for aeronautical purposes is the greater of: a. The greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognised when observed against a bright background; b. The greatest distance at which lights in the vicinity of 1,000 candelas can be seen and identified against an unlit background. (Reg (EU) 923/2012) **NOTE:** The two distances which may be defined by a given visibility have different values in air of a given extinction coefficient. Visibility based on seeing and recognizing an object (a above) is represented by the meteorological optical range (MOR). Visibility based on seeing and identifying lights (b above) varies with the background illumination. (Reg (EU) 923/2012) GM 1 Article 2(141)(a) GM1)

Abbreviations

A	
AGCS	Air Ground Communication Service
AFIS	Aerodrome Flight Information Service
AIC	Aeronautical Information Circular
AIS	Aeronautical Information Service
ANO	Air Navigation Order
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATIS	Aerodrome Terminal Information Service
ATM	Air Traffic Management
C	
CA	Continuous Assessment
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CDO	Clearance Delivery Officer
COM	Communications
D	
DOC	Designated Operational Coverage
DPC	Dedicated Practical Check
E	
ERRV	Emergency Response and Rescue Vessels
F	
FIS	Flight Information Service
FISO	Flight Information Service Officer

FL	Flight Level
FRTOL	Flight Radio Telephony Operators Licence
Ft	Feet
G	
GMC	Ground Movement Control
GMP	Ground Movement Planner
H	
HLO	Helideck Landing Officers
HM	Her Majesty's
I	
IAIP	Integrated Aeronautical Information Package
ICAO	International Civil Aviation Authority
ICAO FMG	ICAO Frequency Management Group
ITU	International Telecommunication Union
K	
kHz	Kilohertz
L	
LCE	Local Competence Examiner
LOG	Logistics
M	
MF	Medium Frequency
MHz	Megahertz
N	
NATS	NATS Ltd
NDB	Non-Directional Beacon
NM	Nautical Miles

O	
OCS	Offshore Communications Service
OJT	On-the-Job Training
OPC	Operational Control
R	
RLOS	Radio Line-of-Sight
ROCC	Radio Operator's Certificate Of Competence
RT	Radio Telephony
R&TTED	Radio And Telecommunications Terminal Equipment Directive
S	
SARPs	Standards and Recommended Practices
SARG	Safety and Airspace Regulation Group
T	
TACAN	Tactical Aid to Navigation
U	
UK	United Kingdom
UTP	Unit Training Plan
V	
VHF	Very High Frequency
VOR	VHF Omni-Ranging
VORTAC	Joint VOR / TACAN
W	
WTA	Wireless and Telephony Act (2006)

Units of measurement

The units of measurement to be used in connection with aircraft are:

Measurement of	Units
Distances used in navigation	Nautical miles (NM) and tenths but spoken as miles
Altitude, elevation and heights	Feet
Relatively short distances (e.g. runway lengths, distances of obstructions from runway	Metres
Depths of snow and slush	Centimetres or millimetres
Horizontal speed, including wind speed	Knots
Wind direction (for landing or take-off)	Degrees magnetic
Air temperature	Degrees Celsius
Barometric pressure	Hectopascals
Visibility	Metres / kilometres
Cloud base	Height in feet above aerodrome elevation
Cloud cover	Oktas (eighths) or ‘few, scattered, broken, and overcast’
In relation to non-static offshore locations:	
Roll	Degrees from vertical (left and right)
Pitch	Degrees from vertical (up and down)
Heave	Metres
Yaw	Degrees
Heading	Degrees magnetic
Sea state	On 0-9 scale

Pressure settings

A pilot normally assesses the height of his aircraft above obstacles by using an accurately set altimeter. It is imperative therefore that he is given the correct pressure setting and the read back from the pilot is correct.

Pressure settings may be expressed as QFE, QNH or QNE.

QFE	Refers to the atmospheric pressure at aerodrome elevation (QFE aerodrome), runway threshold (QFE threshold) or helideck (QFE helideck).
QNH	Refers to the barometric pressure at mean sea level at the aerodrome, i.e. and altimeter on the ground or helideck with subscale set to QNH would indicate height above mean sea level.

Chapter 1

Aeronautical radio stations

Introduction

Aeronautical radio stations provide analogue voice and data link communications with aircraft stations operating in the Aeronautical Mobile (R) Service Very High Frequency (VHF) allocation 117.975 MHz to 137.000 MHz.

Aeronautical radio station equipment may comprise fixed, stationary, vehicle, portable and hand held equipment consisting of transmitters, receivers and transceivers and are subject to Air Navigation Order 2016 (ANO) Article 205 Approval, Wireless Telegraphy (WT) Act Aeronautical Licensing and the Radio and Telecommunications Terminal Equipment Directive (R&TTED) 1999/5/EC which applies to all radio communication equipment.

Wireless Telegraphy (WT) Act aeronautical licence holder

The WT Act Licensee is responsible for ensuring that all individuals using the radio are in possession of an appropriate Radio Operator's Certificate of Competence (ROCC) where required (even when under training), and are competent in both the operation of the equipment and local procedures.

The WT Act Licensee shall provide written authorisations to each radio operator when their competence in the operation of the equipment and local procedures has been demonstrated. This may be achieved by the use of the reverse side of the Air Ground Communication Service (AGCS) and Offshore Communication Service (OCS) ROCC which has been designed for this purpose. The WT Act Licensee shall cancel any written authorisations when the radio operator is no longer required to operate at that aeronautical radio station.

Air Navigation Order 2016 (ANO) Article 205 approvals

Applications for ANO Article 205 approvals for aeronautical radio stations intended to provide AGCS are obtained from the appropriate Regional Office in which the service will be provided. For those aeronautical radio stations intended to provide OCS, Operational Control (OPC) and Recreational Aviation aeronautical information, ANO Article 205 approvals should be obtained from Aviation House, Gatwick.

CAP 670 Air Traffic Services Safety Requirements (www.caa.co.uk/CAP670), Part C, Section 1, COM 02 VHF Aeronautical Radio Stations, applies to those Aeronautical Radio Stations providing Air Traffic Services and AGCS.

The person or representative of the organisation to whom an ANO Article 205 Approval has been issued shall ensure that anyone who operates the associated aeronautical radio stations have read the conditions and notes which may be included with the approval and understood their responsibilities for complying with them.

Identification

Aeronautical radio station operators shall identify their transmissions by using the call signs on the Civil Aviation Authority (CAA) ANO Approvals and Ofcom WT Act Aeronautical Licences. Call signs commonly comprise the geographical location followed by a suffix to enable pilots easily to identify the type of service they are receiving.

Further information about the levels of service that may be provided and procedures for identification of the station can be found in CAP 413 Radiotelephony Manual.

Radio station operators are reminded that it is an offence under ANO Article 186 to use a call sign and/or suffix for a purpose other than that for which it has been notified.

VHF radio propagation and interference

VHF radio propagation, under standard tropospheric conditions, between the aircraft station and the aeronautical radio station is by a direct radio line-of-sight (RLOS) path which at maximum range is the sum of the distances to the radio horizon from the aircraft station and the aeronautical radio station.

The distance to the radio horizon is given by the formula:

$$D = K\sqrt{h}$$

Where:

D = distance in nautical miles (NM)

h = height of aircraft station, or height of aeronautical radio station transmitting antenna above ground level

K = 2.22 when h is expressed in metres; and

= 1.23 when h is expressed in feet

(factor corresponding to the effective earth's radius of 4/3 of the actual radius).

If you simplify the calculation by ignoring the height of the aeronautical radio station transmitting antenna, the RLOS is the radio horizon for the aircraft station only. For an aircraft flying at 3,000 ft, the formula above gives a radio horizon of 67 NM. This means that radio transmissions from this aircraft will be heard by any aeronautical radio station listening on the same frequency located within a 67 NM radius of the aircraft's position.

Tropospheric conditions can occur for a small percentage of the time which gives rise to anomalous propagation where the radio signal can be received beyond the radio horizon due to ducting or enhancement. Under these conditions radio interference between aircraft stations, or aircraft stations and aeronautical radio stations operating on the same frequency may occur. The use of alternative frequency assignments where these are available may provide a solution.

Further information can be found in ICAO Annex 10 Aeronautical Telecommunications, International Standards and Recommended Practices, Second

Edition July 2001 Volume V, Aeronautical Radio Frequency Spectrum Utilization, Chapter 4 Utilization of Frequencies above 30 MHz § 4.1.5 and Annex A.

Frequency assignments and designated operational coverage

The CAA is responsible for the management of the aeronautical radio spectrum in the UK and provide appropriate frequency assignments for the operation of aeronautical radio stations as part of the application process for ANO Approvals and WT Act aeronautical licences.

Whilst some frequencies are 'pre-assigned' and available for use by aeronautical radio stations for specific purposes, most are subject to international co-ordination according to the process defined by the ICAO Frequency Management Group (FMG) and adopted for use within Europe, which may result in a delay of several weeks before a WT Act Licence and ANO Approval can be issued.

Frequency assignments for onshore use of aeronautical radio stations are generally protected within their DOC from co-channel and adjacent channel interference. However, in order to provide a frequency assignment in some of the more congested areas of the UK, some sharing may be necessary or limited co-channel or adjacent channel interference may have to be tolerated depending on the nature of the aerodrome operations.

Frequency assignments for offshore use of aeronautical radio stations are generally protected within their DOC from co-channel and adjacent channel interference when they are used for Traffic or Traffic/Logistics communications. Frequencies for Logistics communications are assigned on a non-protected basis in a similar manner to OPC assignments. Some sharing may be necessary or limited co-channel or adjacent channel interference may have to be tolerated.

Frequency assignments for OPC aeronautical radio stations are generally assigned on a non-protected basis and are shared between users so as to provide an efficient use of the radio spectrum. 6.6 Frequencies for data link aeronautical radio stations are assigned according to an ICAO plan and are not shared with any aeronautical radio stations providing analogue voice communications.

Frequency assignments for Recreational Aviation aeronautical radio stations are generally 'pre-assigned' on a non-protected basis and are shared between users. The aeronautical radio station radio operators, WT Act Licensees and aircraft stations flight crew are responsible for ensuring that they use correct radiotelephony procedures and discipline so that these assignments are shared in a reasonable manner between all users.

Reports of radio interference have been attributed to aircraft station transmissions outside the DOC of the aeronautical radio station with who they are in contact. Radio operators and WT Act Licensees should endeavour to reduce the potential for co-channel interference from aircraft station transmissions outside the DOC by ensuring that aircraft operators, airlines and pilots have access to, or are made aware of, information on frequency assignments and their DOCs for the aeronautical radio stations under their control and by refraining from calling aircraft stations where they are known to be outside the DOC unless an emergency situation exists.

Chapter 2

Communications techniques, procedures and phraseology

Reference material

Information about communications techniques, procedures and phraseology are contained in CAP 413 Radiotelephony Manual (www.caa.co.uk/CAP413).

Operators of aeronautical radio stations are reminded that only the phraseology appropriate to the service being provided is to be used. Not all phraseology shown in CAP 413 Radiotelephony Manual is available to station operators.

Radio operators should have access to reference material related to the operation of the aeronautical radio station. This might include the CAA publications: CAP 413 Radiotelephony Manual and Supplements, CAP 032 UK Aeronautical Information Publication and Aeronautical Information Circulars (AICs) which are published by NATS (www.nats-uk.ead-it.com).

Radio operators should have access to the CAA website (www.caa.co.uk) where practical so that they can be informed of new and amended requirements, procedures, guidance and other information related to the operation of the aeronautical radio station.

General communication procedure

As a general rule, it rests with the aircraft station to establish communication with the aeronautical station. For this purpose, the aircraft station may call the aeronautical station only when it comes within the DOC area of the latter.

An aeronautical station having traffic for an aircraft station may call this station if it has reason to believe that the aircraft station is keeping watch and is within the DOC area of the aeronautical station.

When an aeronautical station receives calls in close succession from several aircraft stations, it decides on the order in which these stations may transmit their traffic. Its decision shall be based on the priority in CAP 413 paragraph 2.102.

Before transmitting, a station shall take precautions to ensure that it will not interfere with a communication already in progress and that the station called is not in communication with another station.

When a radiotelephone call has been made to an aeronautical station, but no answer has been received, a period of at least ten seconds should elapse before a subsequent call is made to that station.

Aircraft stations shall not radiate carrier waves between calls.

Categories of message

The categories of messages handled by the aeronautical mobile service and the order of priority in the establishment of communications and the transmission of messages shall be in accordance with CAP 413 paragraph 2.102:

a) Distress calls, distress messages and distress traffic
b) Urgency messages, including messages preceded by the medical transports signal
c) Communications relating to direction finding
d) Flight safety messages
e) Meteorological messages
f) Flight regularity messages
g) Messages relating to the application of the United Nations Charter
h) Government messages for which priority has been expressly requested
i) Service communications relating to the working of the telecommunication service or to communications previously exchanged
j) Other aeronautical communications

Public correspondence in the frequency bands allocated exclusively to the aeronautical mobile service or to the aeronautical mobile satellite service is not permitted.

Aircraft stations may communicate, for the purposes of distress, and for public correspondence with stations of the maritime mobile or maritime mobile-satellite services, as long as watch is maintained on the frequencies provided for safety and regularity of flight.

Chapter 3

Radio operator's certificate of competence

Introduction

Under the WT Act 2006 it is an offence to install or use radio transmission equipment without a licence. Ofcom is responsible for managing that part of the radio spectrum used for civil purposes in the UK as set out in the Communications Act 2003 and has contracted the CAA administers WT Act radio licences for aircraft, aeronautical ground stations and navigation aids on their behalf.

The Radio Operator's Certificate of Competence (ROCC) is a document issued by the CAA after an applicant has passed certain written and practical examinations that have demonstrated their competence to safely and correctly operate an aeronautical radio station.

The ROCC should not be confused with the Flight Radiotelephony Operator's Licence (FRTOL) which is required to be held by those persons operating aeronautical radio equipment in UK registered aircraft.

An Individual must hold an ROCC if they are providing any of the following:

a) AFIS;
b) AGCS;
c) OCS;
d) information for parachutists; and/or
e) clearances as part of the Clearance Delivery Officer (CDO) task.

The requirement to hold an ROCC is applicable to those operating aeronautical radio stations in the following circumstances:

a) On the UK Mainland;
b) On the internal waterways of the UK Mainland;
c) Within the UK's territorial waters; and/or
d) Within the limits of the UK's continental shelf.

In particular, offshore, an ROCC is required to be held by Helideck Landing Officers (HLO), Helideck assistants, crews of Emergency Response and Rescue Vessels (ERRV) and persons on other support or supply vessels who are required to operate VHF aeronautical radio equipment in UK Internal Waters, UK Territorial Waters or within the limits of the UK Continental Shelf.

The minimum age for the issue of a Radio Operator's Certificate of Competence is 18 years.

No medical certificate is required in order for the holder of an ROCC to operate an aeronautical radio station.

The UK CAA does not currently approve any training courses associated with written or practical examinations for the issue of any ROCCs.

Further information on the ROCC can be found on the CAA website: http://www.caa.co.uk/Commercial-industry/Airspace/Air-traffic-control/Licences/Radio-Operator-s-Certificate-of-Competence/

Chapter 4

Air ground communications service

Introduction

Air Ground Communications Service (AGCS) is a service provided to pilots at specific UK at aerodromes. However, it is not viewed by the UK as an Air Traffic Service because it does not include an alerting service as part of its content.

AGCS radio station operators provide traffic and weather information to pilots operating on and in the vicinity of the aerodrome. Such traffic information is based primarily on reports made by other pilots. Information provided by an AGCS radio station operator may be used to assist a pilot in making a decision; however, the safe conduct of the flight remains the pilot's responsibility. Additional material regarding AGCS can be found in CAP 413 Chapter 4, paragraph 5 Aerodrome Air/Ground Communication Service Phraseology.

AGCS is to be made available to aircraft during notified hours.

Identification

Radio operators shall ensure that the full call sign, including the suffix 'RADIO', is used in response to the initial call from an aircraft and on any other occasion that there may be doubt about the service being provided.

Limitations

From time to time air traffic controllers and flight information service officers are invited by aerodrome authorities to provide an AGCS. They are permitted to do so in certain circumstances provided they hold a Radio Operator's Certificate of Competence (ROCC). However, air traffic controllers, in particular, must appreciate that there is a considerable difference between the service they normally provide and AGCS. Therefore, they must be careful not to lapse into giving an air traffic control

service or any part thereof, Aerodrome Flight Information Service (AFIS) or any implied control.

Personnel providing an AGCS shall ensure that they do not pass a message which could be construed to be either an air traffic control (ATC) instruction or an instruction issued by Flight Information Service Officers (FISOs) for specific situations. Clearances initiated by an air traffic control unit may be relayed, but the name of the authority must be included in the message, e.g. 'London control clears you to join controlled airspace...'

NOTE: Air traffic control clearances passed to radio operators to be issued on behalf of the ATC unit are to be read back in full to the issuing authority. The pilot is to read back, in full, the clearance relayed by the radio operator.

Phraseology

The phraseology specific to AGCS can be found in CAP 413 Radiotelephony Manual Chapter 4, paragraph 5.

Those who operate Aeronautical Radio Stations and provide an AGCS are reminded that they must not use the expression 'at your discretion' as this is associated with the service provided by a FISO.

ROCC application – AGCS

Application for an ROCC shall be made on form SRG 1413 Application for the Grant of an Air Ground Communication Service (AGCS) Radio Station Operator's Certificate of Competence. This form is available on the CAA website at www.caa.co.uk/SRG1413

Persons who hold the following aeronautical qualifications may apply directly for a Radio Operator's Certificate of Competence for the provision of AGCS without having to take the written and practical radiotelephony examinations:

- UK CAA Air Traffic Controller's Licence holder with a current Unit Licence Endorsement;
- UK CAA FISO Licence holder with a current validation at an Aerodrome/Area Control Centre;
- Holder of an ATC Certificate of Competence issued to a member of HM Forces with a current unit validation.

Individuals who do not hold any of the above qualifications are required to take a written and practical examination.

Chapter 5

Offshore communication service

Introduction

An Offshore Communication Service (OCS) (also known as an Offshore Aeronautical Service) involves the transmission of messages to helicopters operating in the vicinity of offshore oil rigs, platforms and vessels through the use of aeronautical radio stations and Non-Directional Radio Beacons (NDBs) located on these installations.

Information about Radio Navigational Services, MF NDBs installed on some offshore fixed platforms is contained within the UK AIP at, GEN 3-4 Communication Services (available through the AIS website at http://www.nats-uk.ead-it.com/public/index.php.html).

Identification

Radio operators shall ensure that the full call sign is used in response to the initial call from an aircraft and on any other occasion that there may be doubt about the service being provided.

The call sign suffix 'LOG' shall be used to denote the communication of 'Logistics' messages.

The absence of a call sign suffix shall be used to denote the communication of 'traffic' information messages.

Offshore operations: frequencies for fixed and mobile installations

Offshore Mobile Installations and Vessels are required to use different VHF and NDB frequencies depending on their location.

Details of the frequency assignments can be found in the UK AIP, (available through the AIS website at http://www.nats-uk.ead-it.com/public/index.php.html) and include the following:

a) For offshore fixed and mobile installations
   - ENR 1.6 Para 4.5 offshore operations,
   - RTF and NDB frequencies for fixed installations,
   - RTF and NDB frequencies used on offshore installations in the UK areas under concession.

b) For offshore mobile installations:
   - ENR 6 en-route charts ENR 6-1-15-8, ENR 6-1-15-9 and ENR 6-1-15-10, Please note that Aeronautical NDBs may need to be able to tune over the frequency range of 435 kHz to 949 kHz depending on the area of operation.

Phraseology

The phraseology specific to an OCS can be found in CAP 413 Radiotelephony Manual Chapter 4, paragraph 5.5.

The radio operator must be ready to volunteer information which may affect the safety of helicopter operations e.g: "Caution flare venting" or "I am shipping light/heavy spray on deck."

ROCC application – OCS

Application for an ROCC-OCS shall be made on form SRG 1413. Application for the Grant of an ROCC-OCS is available on the CAA website at www.caa.co.uk/SRG1413.

NOTE: The Restricted (VHF only) Radiotelephone Operator's Certificate, Maritime Radio Operator's Certificates or other Radio Operator's qualifications issued or obtained inside or outside the UK are not accepted to allow exemptions from completion of the relevant written or practical examinations to obtain a UK ROCC.

Chapter 6

Clearance delivery officer - aerodrome

Introduction

The passing of pre-flight Air Traffic Control (ATC) departure clearances is an essential element of effective ATC arrangements. Most ATC units combine this activity with a Ground Movement Control (GMC) or Ground Movement Planner (GMP) position; however, it was proposed by some ATC units that they be able to establish a dedicated and separate Clearance Delivery Officer (CDO) position to undertake this administrative task. Depending on unit specific operational need, this could be either in addition to or instead of the GMC/GMP role.

Role and responsibilities

A CDO's role and responsibilities have been narrowly and clearly defined to avoid 'task creep' into elements of Air Traffic or Alerting Service provision, and the regulatory requirements that would consequently be required. Therefore, a CDO's responsibilities are to, in accordance with unit procedures:

a) obtain and relay pre-flight ATC departure clearances; and

b) pass on to the appropriate Air Traffic Control Officer (ATCO) relevant information related to an aircraft on frequency that requires immediate assistance.

A CDO is not to:

a) exercise positive control over an aircraft; or

b) provide an ATC Service, Flight Information Service (FIS), Air Ground Communication Service (AGCS) or Alerting Service.

NOTE: It is essential that CDO provision does not stray into FIS, ATC or Alerting Service, as this would introduce more demanding licensing and oversight arrangements.

A CDO shall be identified on RT using the suffix "Delivery", and clearances must be transmitted on a discrete and dedicated VHF frequency. These shall be recorded in accordance with the requirements of CAP 670, part C Section 1, COM 01.

At units where the GMP also provides pre-flight clearances, this shall also be done using the suffix "Delivery". GMP responsibilities beyond the CDO role shall be conducted in accordance with CAA requirements for ATCOs; however, in using the call sign "Delivery", the service provided on the frequency shall not exceed the limits of the CDO task as defined herein.

NOTE 1: The rationale for recording CDO RT transmissions is the same as per Aeronautical Terminal Information Service (ATIS), in that it is a service only available in association with ATC. CDO actions could have a direct input into ATC Investigations.

NOTE 2: The call sign "delivery" must be understood by pilots to be limited to the provision of pre-flight ATC clearances, and that no element of ATC, FIS, AGCS, or Alerting Service will be provided on this frequency, regardless of whether this is provided by an ATCO or not. However, this does not inhibit ATCOs performing a CDO function to also act as a GMP in accordance with unit procedures.

A CDO should routinely only interact with an aircraft prior to engine start.

The CDO position may be manned by unlicensed personnel. However, satisfactory arrangements shall be established by the ATC unit to ensure the competence and suitability of persons undertaking the CDO role. Personnel operating without the supervision of an instructor must have completed the Unit CDO training plan and been assessed as competent.

NOTE: Training for the provision of CDO services does not constitute commencing training in accordance with a Unit Training Plan (UTP) for the purposes of ATCO and/or FISO license training.

Prior to the commencement of training, a person chosen to undertake the role of CDO shall have a valid Radio Operator's Certificate of Competence (CA 1308) signed by an appropriate member of the local unit management.

Where an incident occurs involving a CDO whose actions may have been a contributory factor, the CDO shall be withdrawn from duty pending completion of further investigations. Unit managers should follow procedures already established for licensed personnel involved in Air Traffic Management events. Subsequent actions are to be in accordance with the procedures detailed in unit instructions.

Requirements for the establishment of a CDO position

ATC units wishing to establish a CDO shall provide the relevant CAA ATS Regional Inspectorate with the following:

a) Assurance that the establishment of the position is acceptably safe. The scope of this assurance shall include an assessment of the hazards and risks pertaining to the whole scope of ATM and shall therefore encompass personnel, procedures and equipment.
b) Operational procedures for the integration of the CDO task in the unit MATS Part 2.
c) A Unit CDO Training Plan in accordance with the requirements set out in the Training section below.

Once an ATC Unit has been approved by CAA to establish a CDO the accountable manager shall ensure unit compliance with ANO Article 205 approval notes regarding frequency allocation for the CDO task.

It is acceptable for CAA ATS Regional Inspectorate to approve Greenfield site procedures for a unit to initially introduce a CDO position.

Training

The layout of the CDO Training Plan should be similar to Unit Training Plans outlined in CAP 584 Air Traffic Controllers - Training. The Unit CDO Training Plan shall specify:

a) The means to ensure that CDOs are appropriately qualified, trained and physically and mentally fit to undertake safety-related tasks;
b) The actions to be taken if the required standard of training is not achieved;

c) The means by which the CDO qualification will be recorded;
d) Procedures detailing how the ongoing competence of CDOs will be maintained assessed and documented (See below for suggested content); and
e) The staff that may provide CDO training and/or CDO competence assessments.

Units shall ensure that staff identified to provide CDO training that do not hold an On the Job Training (OJT) endorsement or do not have previous experience of instructing are provided with sufficient guidance on instructional techniques to allow them to fulfil their responsibilities adequately.

Units shall ensure that staff identified to provide CDO competence assessments that do not hold an Examiner endorsement or do not have previous experience of competence assessment are provided with sufficient guidance to allow them to fulfil their responsibilities adequately

Recommended content for a CDO competence document is as follows:

a) A minimum number of hours of CDO provision required over a specified time period should be detailed;
b) Either a Dedicated Practical Check (DPC) or Continuous Assessment (CA) process to assess continuing competence;
c) The frequency of competence renewal;
d) The requirement for an oral check of theoretical knowledge along with either a DPC or review of the CA documentation as part of the renewal process;
e) The requirement that records are retained of the assessment and renewal process (for a period to be determined by unit instructions);
f) Procedures in the event of declining performance or a failure to maintain competence.

Chapter 7

Operational control communications

Introduction

An aeronautical radio station which is licensed and established for company operational control communications (OPC) may be used only for communication with company aircraft or aircraft for which the company is the operating agency. A Radio Operator's Certificate of Competence issued by the UK CAA is not required in order to use an aeronautical radio station when providing an OPC.

Identification

Radio operators shall ensure that the full call sign, including the suffix 'OPS' or 'OPERATIONS', is used in response to the initial call from an aircraft and on any other occasion that there may be doubt about the service being provided.

Limitations

Generally, only flight regularity and flight safety messages may be transmitted and received under the remit of OPC. A full description and scope of OPC can be found in CAP 413: Aircraft Operating Agency Messages.

Categories of message

Flight regularity messages

Flight regularity messages comprise the following:

a) Messages regarding the operation or maintenance of facilities essential for the safety or regularity of aircraft operation;
b) Messages concerning the servicing of aircraft;
c) Instructions to aircraft operating agency representatives concerning changes in requirements for passengers and crew caused by unavoidable deviations from

normal operating schedules. Individual requirements of passengers or crew are not admissible in this type of message;

d) Messages concerning non-routine landings to be made by the aircraft;

e) Messages concerning aircraft parts and materials urgently required;

f) Messages concerning changes in aircraft operating schedules.

Flight safety messages

Flight safety messages comprise the following:

a) Movement and control messages (e.g. flight plans, clearances);

b) Messages originated by an aircraft operating agency, or by an aircraft, of immediate concern to an aircraft in flight;

c) Meteorological advice of immediate concern to an aircraft in flight or about to depart (individually communicated or for broadcast);

d) Other messages concerning aircraft in flight or about to depart.

Chapter 8

Distress and urgency procedures

Information about emergency procedures and phraseology can be found in CAP 413 Radiotelephony Manual (chapter 8).

Appendix A

Syllabus for the written and practical examinations for the issue of a radio operator's certificate of competence

Candidates for the written and practical examinations for the issue of a Radio Operator's Certificate of Competence are expected to demonstrate their knowledge and understanding of the topic listed below at a level comparable to that contained in this document and CAP 413 Radiotelephony Manual.

CAP 452

Glossary of aeronautical terms

Communications techniques, procedures and phraseology (Chapter 1)

- General communications procedures

Aeronautical radio stations (Chapter 2)

- VHF radio propagation and radio interference
- Frequency assignments and designated operational coverage
- Categories of messages
- Radio operator's certificate of competence
- Wireless Telegraphy (WT) Act aeronautical licence

CAP 413

Glossary (Chapter 1)

- Terms: definitions and abbreviations

Radiotelephony – general procedures (Chapter 2)

- Introduction
- Transmitting technique

- Transmission of letters
- Transmission of numbers
- Transmission of time
- Standard words and phrases
- Call signs for aeronautical stations
- Call signs for aircraft
- Continuation of communications
- Corrections and repetitions
- Acknowledgement of receipt
- Transfer of communications
- Clearance issue and read back requirements
- Withholding clearances
- Simultaneous transmissions
- Complying with clearances and instructions
- Communication failure
- Test transmissions
- Hours of service and communications watch
- Categories of message

Aerodrome phraseology (Chapter 4)

- AGCS radio operator's certificate **only**:
  Aerodrome air / ground communication service phraseology
- OCS radio operator's certificate **only**:
  Offshore communication service
  Aerodrome information
  Meteorological conditions

Emergency phraseology (Chapter 8)

- Distress and urgency communication procedures

Miscellaneous phraseology (Chapter 9)

- Other communications
- Oil pollution reporting
- Aircraft operating agency messages

Appendix B

Examination details

Examination arrangements

Candidates may enter the examination(s) leading to the issue of either an ROCC-AGCS or ROCC-OCS. The practical communications test and written paper leading to the issue of an ROCC must, at all times, be conducted by an examiner approved by the CAA. Details of approved examiners can be found on the CAA website http://www.caa.co.uk/Commercial-industry/Airspace/Air-traffic-control/Licences/Radio-Operator-s-Certificate-of-Competence/ or by contacting the CAA directly.

Applicants should make their own arrangements with the approved examiner. It is recommended that providers of courses preparing candidates for the practical and written examinations should make arrangements with approved examiners in good time to ensure that they will be available to conduct the examinations.

The written test takes the form of a test paper of approximately 25 questions to which the candidate provides a written answer. The time allowed for the written paper is one hour and the pass mark is 75%.

The practical test takes the form of simulated exchanges of communication between the candidate acting as an AGCS radio station operator at an aerodrome or an OCS radio station operator at an offshore installation and the examiner acting as aircraft stations (and other agencies). The test is normally split into a number of sections in which various scenarios are simulated. The result of the test is PASS or FAIL.

The written and practical examinations will be conducted in the English language. The use of reference material such as notes, dictionaries and translators is not permitted during either of the examinations.

The written and practical examinations are designed to test candidates' knowledge and understanding of the appropriate contents of this document and CAP 413 Radiotelephony Manual.

Unsatisfactory conduct during the examination may result in the candidate being disqualified.

Applicants who are claiming exemption from the written and/or practical tests should submit a copy of their licence to the ATS Licensing Section. Holders of military certificates of competence should submit a copy of the complete certificate to the ATS Licensing Section.

Examination failures: re-sit arrangements

Candidates must pass both the written and practical examination for the issue of a Radio Operator's Certificate of Competence. A re-sit examination may be taken if the candidate fails the written examination, practical test, or both.

In order to allow for additional training or instruction and, subject to examiner availability, at least three days should elapse before a candidate re-takes the written or practical test. However, in exceptional circumstances and at the discretion of the approved examiner, candidates may be allowed to re-sit the examinations within this period.

Failure in six sittings will result in a one year exclusion from the examinations leading to the issue of a Radio Operator's Certificate of Competence. A sitting is any attempt at the written examination and practical test, either taken together or singly, depending on the individual circumstances.