GEN 3.4 COMMUNICATION SERVICES

1. RESPONSIBLE SERVICE

The Aeronautical Communications Services in Ireland are administered by:

Post: AirNav Ireland,
The Times Building,
11-12 D'Olier Street,
Dublin 2.
D02 T449
Ireland

Phone: + 353 (0)1 671 8655

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1.1 Applicable ICAO Documents

ICAO standards, Recommended Practices and Procedures contained in the following documents are applied (subject to any differences recorded in the Supplement there to).

- Annex 2 - Rules of the Air
- Annex 10 - Aeronautical Telecommunications
- Annex 11 - Air Traffic Services
- Annex 15 - Aeronautical Information Services
- DOC 4444 - Procedures for Air Navigation Services - Air Traffic Management (PANS-ATM)
- DOC 7030 - Regional Supplementary Procedures
- DOC 7910 - Location Indicators
- DOC 8400 - Abbreviations and Codes
- DOC 8585 - Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services
- Doc 9694 - Manual of Air Traffic Services (ATS) Data Link Applications. Global Air Navigation Plan for CNS/ ATM Systems (Doc 9750-AN/963,).
- Global Operational Data Link Document (GOLD)(DOC 10037)
- Satellite Voice Operations Manual (SVOM) (DOC 10038)

2. AREA OF RESPONSIBILITY

Aviation Communication, Navigation and Surveillance Services are provided for

2.1. The SHANNON Flight Information Region (FIR) and the SHANNON Upper Flight Information Region (UIR).

2.2. The SHANNON Oceanic Transition Area (SOTA) is an area of UK controlled airspace, where ATS is delegated through international agreement to the Irish nominated ATS provider, The Irish Air Navigation Service who trade as AirNav Ireland.

2.3. The Northern Oceanic Transition Area (NOTA) is an area of UK controlled airspace, where ATS is delegated through international agreement to the Irish nominated ATS provider, The Irish Air Navigation Service who trade as AirNav Ireland.

2.4. Aeronautical Communication Services in the SHANWICK Oceanic Control Area of the ICAO North Atlantic region are provided, through international agreement, by SHANWICK Aeradio, an aeronautical communications facility operated by AirNav Ireland.

The Aeronautical communications Facility is located at:

Post: SHANWICK Aeradio,
AirNav Ireland,
Ballygireen,
Newmarket-on-Fergus,
Co. Clare.
V95 E061
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Phone: + 353 61 471 199

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3. TYPES OF SERVICE

3.1 Radio Navigation Services

- MF non-directional Beacon - (NDB)
- Fan-Marker - (MKR)
- Surveillance Radar - (SRH)
- Terminal Area Radar - (TAR)
- Instrument Landing System - (ILS)
- VHF Omnidirectional Radio Range - (VOR)
- Distance Measuring Equipment - (DME)
- Locator - (L)

3.2 Fixed Services

Messages to be transmitted over the Aeronautical Fixed Service are accepted only if they satisfy the relevant requirement of ICAO Annex 10.

Aircraft Operating Agencies having direct connection to the Irish AFTN are required, in accordance with the provisions of Annex 10, to retain copies of all messages transmitted by them for a period of thirty days.

The regulations governing the acceptance and handling of communications on the AFTN are contained in Annex 10 Vol. II Chapters 3 and 4.

3.3 SHANWICK Radio Aeronautical Mobile Radio telephony Operations in the North Atlantic Area (NAT)

- HF Aeromobile operations in the NAT are available for use in groups known as “families” and will be assigned as appropriate on first contact.
- As a general guide, the following frequency allocation principles are used;

Table 1:

NAT Frequency Allocation Principles	
Frequency Family	**Usage**
NAT A	Assigned to aircraft flying routes with reporting coordinates between 43N and 47N
NAT B & C	Assigned to aircraft flying routes with reporting coordinates between 47N and 64N. Primary assignment for aircraft flying central routes
NAT D	Assigned to aircraft flying routes with reporting coordinates north of 62N
NAT F	Assigned to aircraft flying routes entirely within the Gander and SHANWICK Areas. Assigned on a tactical basis and coordinated between SHANWICK Radio and Gander Radio
NAT H, I & J	Regional Domestic Air Route Area: Assigned on a tactical basis

- HF Families are designated as follows

Table 2:

SHANWICK Radio Frequencies And Hours Of Operation		
	Frequency	**Normal Hours of Operation***
NAT Family A	3016 kHz	0100-0900, 1800-2200
	5598 kHz	H24
	8906 kHz	0900-2100
	13306 kHz	As Required
NAT Family B	2899 kHz	0000-0900, 1800-2400
	5616 kHz	H24
	8864 kHz	0900-2100 Daily
	13291 kHz	As Required
NAT Family C	2872 kHz	0000-0900, 1800-2400
	5649 kHz	H24
	8879 kHz	0900-2100
	11336 kHz	As Required
	13306 kHz	As Required
NAT Family D	2971 kHz	0100-0800
	4675 kHz	0100-0800, 1100-1800
	8891 kHz	As Required
	11279 kHz	As Required
NAT Family F	3476 kHz	0100-0800 Daily
	6622 kHz	1000-1800 Daily
	8831 kHz	1000-1800 Daily
	13291 kHz	As Required
	17946 kHz	As Required
VHF GP Frequency	127.900 MHz	H24
	124.175 MHz	H24
	128.360**	H24

*This information is provided for guidance only. Hours of service of individual frequencies, or groups of frequencies, may vary as HF propagation conditions or operational requirements demand.

**Channel 128.360 is reserved for intervention or emergency purposes only for T9 and T290.
See UK AIP ENR 2.2.

- Additionally on a tactical basis, SHANWICK Radio operates Regional and Domestic Air Route Area (RDARA) frequencies. These frequencies are used individually or by common network agreement between the NAT Aeronautical Stations.

Table 3:

Regional Domestic Air Route Area (RDARA) Frequencies						
Family	**Frequencies**					
Family H	2965 kHz	3491 kHz	5583 kHz	6556 kHz	6667 kHz	10021 kHz
	10036 kHz	11363 kHz				
Family I	2860 kHz	2881 kHz	2890 kHz	3458 kHz	3473 kHz	3488 kHz
	5484 kHz	5568 kHz	6550 kHz	6595 kHz	10066 kHz	
Family J	2869 kHz	2944 kHz	2992 kHz	3446 kHz	3473 kHz	4651 kHz
	4666 kHz	4684 kHz	5460 kHz	5481 kHz	5559 kHz	5577 kHz
	6547 kHz	8954 kHz	11276 kHz			

3.4 SELCAL Operation in the NAT Region

During the time that they depended on HF communications, pilots should maintain a listening watch on the assigned frequency. This will not be necessary, however, if SECAL is fitted and used correct
Correct SELCAL use includes:

i. The provision of the SELCAL code in the flight plan:

ii. The issue of a correction to the SELCAL code if subsequently altered due to change of aircraft or equipment and

iii. A check on the operation of the SELCAL equipment at or prior to initial entry into oceanic airspace with the appropriate radio station. This SELCAL check must be completed prior to commencing SELCAL watch.

3.5 Use of VHF Channel 128.360

i. 128.360 is reserved for intervention or emergency purposes only on airways T9 and T290, and is to be continuously monitored to facilitate direct controller pilot communications by Shanwick OAC using the Shanwick Control Callsign.

ii. Prior to entering T9/T290 crews will be requested to monitor Channel 128.360 and shall continuously monitor the frequency while in the Shanwick OCA - there is no requirement to check in on frequency. In the event that Shanwick Radio need to contact an aircraft on this frequency they will use the Shanwick Radio Callsign.

iii. Routine communications, position reports, oceanic clearance or flight profile change requests are to be made directly to Shanwick Radio via assigned frequencies on HF

iv. For full conditions of use refer to UK AIP ENR 2.2

3.6 Broadcasting Service

Meteorological Broadcasts designed primarily for aircraft in flight are provided on HF and VHF.
Full details are given in GEN 3.5

3.7 Satellite Voice Services

Pilots of suitably equipped aircraft on North Atlantic (NAT) routes may contact SHANWICK Radio via satellite telephone (SATVOICE). Access Code is 425002.

3.8

SHANWICK Radio also have the HF SAR frequencies 2182 kHz, 3023 kHz and 5680 kHz for co-ordination purposes with SAR/Coastguard aircraft as Scene of Search frequencies.

3.9 Controller Pilot Data Link Communication Services (CPDLC)

Limited Controller Pilot Data Link Communication Services (CPDLC) for suitably equipped aircraft will be available for use in areas of the SHANNON Upper Airspace (SHANNON UIR), NOTA & SOTA under the responsibility of SHANNON ACC.

3.9.1 COMMUNICATION INFRASTRUCTURE

The introduction and Implementation of CPDLC Data Link Service in areas of the SHANNON UIR, NOTA & SOTA, will provide a limited CPDLC message set for FANS 1/A and ATN equipped aircraft.

The initial SHANNON UAC ground communications will be provided by ARINC Communication Service Provider.

SITA airline customers can avail of the SHANNON ACC CPDLC service via the SITA-ARINC ground-ground communications gateway. The address for SHANNON Control CPDLC is EISN

3.9.2 MESSAGES

The following uplink/downlink messages are accommodated by SHANNON.

Message	Description	FANS	ATN
UM0	UNABLE	Yes	Yes
UM1	STANDBY	Yes	Yes
UM3	ROGER	Yes	Yes
UM237	REQUEST AGAIN WITH NEXT ATC UNIT	N/A – Accommodated as UM169	Yes
UM19	MAINTAIN [level]	No	Yes
UM20	CLIMB TO [level]	Yes	Yes
UM23	DESCEND TO [level]	Yes	Yes
UM74	PROCEED DIRECT TO [position]	Yes	Yes
UM79	PROCEED TO [position] VIA [position]	Yes	Yes
UM117	CONTACT [unitname frequency]	Yes	Yes
UM123	SQUAWK [code]	Yes	Yes
UM157	CHECK STUCK MICROPHONE [frequency]	Yes	Yes
UM159	ERROR [errorinformation]	Yes	Yes
UM160	NEXT DATA AUTHORITY	Yes	Yes
UM161	END SERVICE	Yes	N/A
UM162	SERVICE UNAVAILABLE	N/A accommodated using UM159 ERROR+ UM169 freetext MESSAGE NOT SUPPORTED BY THIS ATC UNIT	Yes
UM163	[icaofacilitydesignation]	Yes	N/A
UM169	[freetext]	Yes	Yes
UM179	SQUAWK IDENT	Yes	Yes
UM183	[freetext]	N/A – accommodated as UM169	Yes
UM227	LOGICAL ACKNOWLEDGEMENT	N/A	Yes

Message	Description	FANS	ATN
DM0	WILCO	Yes	Yes
DM1	UNABLE	Yes	Yes
DM2	STANDBY	Yes	Yes
DM3	ROGER	Yes	Yes
DM6	REQUEST [level]	Yes	Yes
DM9	REQUEST CLIMB TO [level]	Yes	Yes
DM10	REQUEST DESCENT TO [level]	Yes	Yes
DM22	REQUEST DIRECT TO [position]	Yes	Yes

Message	Description	FANS	ATN
DM48	POSITION REPORT [positionreport]	Yes	Yes
DM55	PAN PAN PAN	Yes	Yes
DM56	MAYDAY MAYDAY MAYDAY	Yes	Yes
DM62	ERROR [errorinformation]	Yes	Yes
DM63	NOT CURRENT DATA AUTHORITY	Yes	Yes
DM64	[icaofacilitydesignation]	Yes	N/A
DM65	DUE TO WEATHER	Yes	Yes
DM66	DUE TO AIRCRAFT PERFORMANCE	Yes	Yes
DM73	[versionnumber]	Yes	N/A
DM89	MONITORING [unitname][frequency]	Yes	Yes
DM98	[freetext]	N/A	Yes
DM99	CURRENT DATA AUTHORITY	N/A	Yes
DM100	LOGICAL ACKNOWLDEDGEMENT	N/A	Yes
DM107	NOT AUTHORISED NEXT DATA AUTHORITY	N/A	Yes
DM112	SQUAWKING 7500	N/A	Yes

3.9.3 CPDLC SERVICES

ATS Data Link CPDLC will be implemented by SHANNON in the airspace above FL285 in the SHANNON UIR, SOTA and NOTA but may be available in certain sectors from FL160 and above.

In this airspace voice communications and voice instructions shall have precedence over data link communications at all times.

NOTE: With the exception of the requirements outlined in the section **"Aircraft entering from the SHANWICK Area"** No voice read-backs are required for CPDLC messages.

Aircraft departing EI airports

Aircraft departing from Irish airports and planning to enter the SHANNON UIR, SOTA and NOTA above FL285 are requested to only LOG ON climbing through FL160.

Aircraft entering from the SHANWICK area

SHANWICK system shall automatically send the NDA (Next Data Authority) message, followed by the contact advisory (FN-CAD) message to the flight 18 minutes prior to the transfer of control point. This instructs the avionics to logon to SHANNON making SHANNON the Next Data Authority (NDA.). Aircraft will receive the CPDLC connection request (corresponds to IMI CR1 "Connect Request" including the UM163 [icaofacilitydesignation] prior to the SHANNON Boundary. Flights entering SHANNON airspace from Oceanic Airspace will receive a UM123 (Squawk Code) message before the oceanic boundary. The up linked code shall be regarded as valid.
Aircraft shall then try to establish voice communications with SHANNON on the assigned SHANNON Frequency in order to make the required position report. Flights shall include their current Flight Level and uplinked ASSR also for verification by SHANNON Control on first contact on the assigned frequency.

Westbound aircraft entering SHANNON **UIR**/**SOTA** and **NOTA**

Westbound aircraft entering SHANNON UIR, SOTA and NOTA, which are not logged onto another ANSP may log on 5 minutes before the SHANNON boundary. Logged on Aircraft will automatically be offered a CPDLC connection (ATN: the CPDLC connection request corresponds to CPDLC_Start_Request) (FANS: the CPDLC connection request corresponds to IMI CR1 "Connect Request" including the UM163 [icaofacilitydesignation]) prior to the SHANNON boundary. Except for exceptional circumstances, SHANNON shall not uplink messages until aircraft are under the control of SHANNON Control.

Aircraft connected to EISN, routing into Oceanic airspace

Oceanic clearances shall continue to be requested as normal from SHANWICK Oceanic. For flights connected to SHANNON (EISN) with SHANWICK (EGGX) as next ATC unit a message (UM160)shall be sent by SHANNON to the flight advising of the NDA (next data authority) 18 minutes prior to the boundary. At 17 minutes prior to the boundary a FN_CAD (FN Contact Advisory) will be sent to FANS connected flights specifying the next ATC unit with which the aircraft has to initiate data link logon

Aircraft connected to EISN and contacting SHANWICK Radio.

SHANNON will transfer suitably equipped aircraft to SHANWICK Radio, via message (UM117) CONTACT [unitname frequency]. SHANWICK Radio will assign an appropriate secondary frequency on first contact.
In the event that crews do not establish contact on the assigned primary frequency attempt to contact on a published frequency as per
GEN 3.4 Table 2 or using the table below.

Frequency	Opening Hours
2872KHZ	0000-0800,1900-2400
5649KHZ	H24
8879KHZ	0800-1200
124.175MHZ	H24

Emergency Messages

The use of CPDLC to indicate emergency situations shall only be used if other methods are not possible/available.

Transition from ATN to FANS for Westbound Oceanic traffic

Westbound Oceanic Aircraft that are connected to SHANNON CPDLC on FANS will receive both an NDA and a contact advisory message (FN-CAD) for SHANWICK Oceanic control.
Westbound Oceanic aircraft that are connected to the ATN network will not be nominated to SHANWICK by SHANNON. Flight crew will be required to Disconnect from SHANNON and log onto SHANWICK manually.

"Important Notes"

IF A FLIGHT CREW HAS ANY DOUBT REGARDING THE CONTENT, VALIDITY OR EXECUTION OF A CPDLC MESSGE THEY MUST REVERT TO VOICE IMMEDIATELY TO CLARIFY THE SITUATION.

Flight crews must ensure that upon receiving an uplink message, the CPDLC address corresponds to the unit name to which the flight is in voice communications.
If a CPDLC instruction is superseded by a voice instruction, in order to avoid a time-out the flight crew are requested to respond 'UNABLE' to close the original CPDLC dialogue and follow the voice instruction.
Controllers may be required to respond to a downlink request with 'UNABLE' to close dialogue.
Due to the potential for FANS message duplication flight crew are requested to report any suspected instances of duplicated CPDLC messages to ATC on the assigned frequency.

3.9.4 DATA LINK EXEMPTIONS AND FLIGHT PLANS

Aircraft which are not required to be CPDLC equipped (Commission Regulation (EC) No. 29/2009, is not applicable in accordance with Article 3(3), or aircraft types/models are exempted by Commission Implementing Decision 2019/ 2012) shall include the letter "Z" in item 10 and the indicator "DAT/CPDLCX" in item 18 of each flight plan.

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