AIRSPACE CO-ORDINATION NOTICE

Safety and Airspace Regulation Group

ACN Reference:	Version:	Date:	Date of Original
2021-11-0669	1.0	**23/12/2021**	**15/12/2021**

RADAR CALIBRATION & COMMISSIONING DEADWATER FELL

NDS

Subject to NOTAM: No

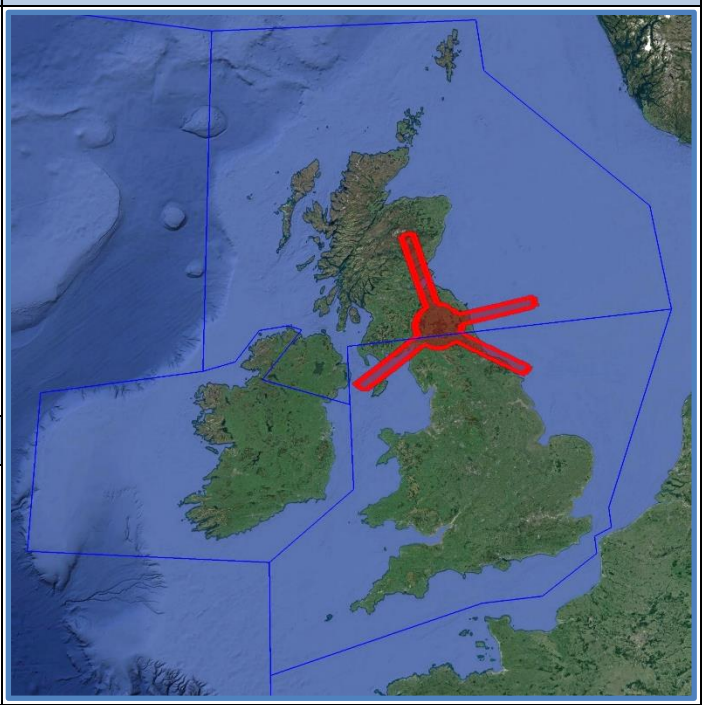
Date(s) of activity/Validity:	**Times (ALL TIMES UTC)**
24th January 2022 – 01st April 2022	09:00 – 21:00
Vertical Limits:	**Allocated Mode 3A (SSR):**
1,500ft **AGL** – 30,000ft AMSL **RVN** *(See Section 2)*	0024
Aircraft Details:	**NDS Approved:**
Type: B200 Callsign: CLB*xxx*	**Yes** – *Subject to the conditions in Section 2*
Event Sponsor(s):	**Aircraft Operator(s):**
The Operations Officer Thales Flight Inspection Service Durham Tees Valley Airport Darlington DL2 1NL 01325 335346	The Operations Officer Thales Flight Inspection Service Durham Tees Valley Airport Darlington DL2 1NL 01325 335346

ATS Units/ Controlling Agencies:

Edinburgh	0131 348 4828
Leuchars	01334 848287
Newcastle	0191 214 8130
Prestwick ACC	01294 655300
Spadeadam	01697 749485
Swanwick Mil (78 Sqn) – East	01489 612408
Swanwick Mil (78 Sqn) – North	01489 612943
Swanwick Mil (78 Sqn) – West	01489 612417
Teesside	01325 331020

Info To:
Belfast/Aldergrove, Carlisle, CRC, IoM, & Scottish Info

Geographical Limits:



Airspace Reservations:

EG D323	Southern MDA *B, C, F, G & H*	01489 612495
EG D405	Kirkcudbright	01412 248520
EG D510 (All)	Spadeadam	01697 749486
EG D512 (All)	Otterburn	01912 394261
EG D513B-C	Duridge Bay	01489 612495
TRAs	4, 5, 6, 7A/B, 8B	01489 612495

Departure/Destination Aerodrome(s)	**ACN Issued by:**
EGNV	AS3

SECTION 1: CO-ORDINATION ARRANGEMENTS (GENERAL)

1. The pilot/operator is requested to telephone the ATC authorities on the cover prior to departure in order to notify or update the sortie details including area(s) of operation and planned levels (quoting the ACN Reference). A minimum of 24 hours' notice should be given unless specified in Section 2.

2. There may be other aircraft and/or activities outside Controlled/Regulated Airspace unknown to ATC.

3. The carriage and operation of a serviceable transponder (including Mode 'C') has been specified.

4. The pilot will be responsible for obtaining all necessary ATC clearances and for maintaining R/T contact with appropriate ATC authorities.

5. The pilot/operator will be responsible for obtaining prior clearances to enter any UK Danger Areas affected by the flight profile from the appropriate Range Control Authority unless this is specifically detailed in Section 2.

6. Other Unusual Aerial Activities (UAAs) may be notified to the CAA Safety and Airspace Regulation Group (SARG) and may take place within the airspace encompassed by this flight. The pilot/operator is to ensure that UK Daily NOTAM Nav Warnings are consulted prior to each flight.

7. All flights within Controlled Airspace are subject to the requirements of a Flight Plan in accordance with UK AIP ENR1.10. The ACN Reference should be entered into Field 18 of the Flight Plan together with any relevant 'special handling' codes.

8. Flight prioritisation and Non-Deviating Status is in accordance with the information specified on the ACN Cover. Such status may be afforded to part or all of the flight – see Section 2.

9. Availability of an ATS from Plymouth Military, Swanwick Military (78 Sqn) or Western Radar is subject to unit capacity, priorities and limitations of radar and radio coverage. Minimum pre-flight notification as per UK AIP ENR 1.6 unless otherwise specified in Section 2 of this ACN.

10. The CAA actively encourages the use of Moving map technology in the planning and flying phases of flights to reduce the risk of airspace infringements.

PUBLICATIONS AND CHANGES

11. The activity area may lie within Controlled and Uncontrolled Airspace as well as airspace reserved for military use. Aircrew are to thoroughly familiarise themselves with UK airspace structures and procedures, in particular those laid down within the UK Aeronautical Information Publication (UK AIP), ENR 1.1 and be fully conversant with UK Flight Information Services in accordance with UK CAP 493 (MATS Pt 1).

12. The CAA VFR 1:500,000 and 1:250,000 charts and the UK AIP ENR 5 depict some, but not all aviation activity sites and amendments should also be checked. Please refer to http://www.nats-uk.ead-it.com

13. This ACN details specific coordination essential to the activity taking place and does not remove the need for aircraft operators to comply with national flight planning and notification procedures. Pilots and ANSPs are required to ensure that all related aviation sites are aware of this planned activity and of subsequent changes not captured within this document.

14. The Sponsor or Event Organiser should co-ordinate any changes to this ACN with SARG quoting the ACN Reference at the top of the page.

Airspace Regulation (Utilisation) – AS3
Email: AROps@caa.co.uk
Tel: 01293 983880

SECTION 2: CO-ORDINATION ARRANGEMENTS (SPECIFIC)

15. This ACN details the serials and requirements to conduct flight trials and the subsequent initial calibration of the Deadwater Fell STAR NG PSR and the co-located SSR. The radar is located at 551602N 0023528W.

16. **Notification.** The sponsor is to notify the agencies listed on page one of this ACN at least 5 days prior to undertaking the task. In addition, the pilot or Radar Inspector is to contact the appropriate agencies at least 1 hour prior to departure to confirm final details and availability of an ATS. ATS Providers are requested to inform sectors/ATSUs in sectors that adjoin the chosen radial of the impending check and provide point outs where required.

17. **Dates.** The dates below have been notified for the engineering check and calibration; however, these are only anticipated dates and my change subject to operational requirements, as such the ACN is valid until the 01st April 2022:

a. Engineering Flight Trial 24th January 2022 – 28th January 2022

b. Commissioning & Calibration 31st January 2022 – 08th February 2022

18. **Priority.** This flight has been afforded Non-Deviating Status (NDS) whilst established on a measured run only and within Controlled Airspace (CAS), (*UK AIP ENR 1.1 (4.2) & CAP 493 – Section 1, Ch4, Para 17 refers*,). In order to reduce the impact to other airspace users, the controlling authority may request that the pilot hold, or accept radar vectors in order to make best use of the airspace, or to reduce overall delays.

19. **Levels.** The aircraft will be required to operate at the following vertical altitudes & heights. The D Value will then need to be added or subtracted, (value to be confirmed by the sponsor prior to departure), and the converted to a flight level. The sponsor is responsible for this conversion and confirming the exact requirement with the controlling agency prior to each run:

a. 30,000ft AMSL

b. 20,000ft AMSL

c. 10,000ft AMSL

d. 5,000ft AMSL

e. 3,000ft **AGL** Deadwater Fell Elevation 1,855ft

f. 1,500ft **AGL** Deadwater Fell Elevation 1,855ft

g. 500ft **AGL** Deadwater Fell Elevation 1,855ft

20. **RVSM Status.** The calibrator is Negative RVSM (RVN) for the entire duration of the flight.

21. **Radials.** The radials required by the aircraft are subject to wind speed and direction and may vary between subsequent days. Whilst the sponsor may opt for any radial, the expected radials are listed below:

a. Primary: 346°T SSR runs will only be down to 5,000ft.

b. Secondary (1): 080°T Preferred for airspace.

c. Secondary (2): 236°T Likely for PSR & SSR at 3,000ft and below due to airspace.

d. Tertiary: 122°T Last option due to airspace restrictions.

22. Individual serial distances are listed below, but for planning the maximum range from the radar overhead that a run will commence is:

a. PSR 80nm

b. SSR 109nm

23. **Serials.** The following serials have been notified. The Pilot / Radar Inspector will notify ATS providers of the preferred sequence during the prenote. Some serials are flexible and ATS providers are able to make requests to the Pilot / Radar Inspector to change the sequence for ATM purposes. The Pilot / Radar Inspector will inform ATS providers of those serials that must run to a set sequence.

a. PSR – Engineering Check

Serial	Alt/Hgt	No. Runs Option 1	No. Runs Option 2	Start Range	End Range
PSR 1 - Eng	30,000 AMSL	1 1	2 4	80nm 80nm	Radar -2nm 68nm
PSR 2 – Eng	10,000ft AMSL	1 1	2 4	69nm 69nm	Radar -2nm 49nm
PSR 3 – Eng	1,500ft **AGL**	1	1	50nm	30nm

b. PSR – Commissioning Check

Serial	Alt/Hgt	No. of Inbound Runs	Start Range	End Range
PSR1a	30,000ft AMSL	2 4	80nm 80nm	Radar -2nm 68nm
PSR 1b	30,000ft AMSL	6	80nm	68nm
PSR 2	20,000ft AMSL	6	80nm	65nm
PSR 3a	10,000ft AMSL	2 4	70nm 70nm	Radar -2nm 50nm
PSR 3b	10,000ft AMSL	6	69nm	49nm
PSR 4 (Opt) ***or*** PSR 5b	5,000ft AMSL ***or*** 3,000ft **AGL**	6 ***or*** 6	57nm ***or*** 56nm	37nm ***or*** 36nm
PSR 4 ***or*** PSR 5b	5,000ft AMSL ***or*** 3,000ft **AGL**	6	56nm ***or*** 55nm	36nm ***or*** 35nm
PSR 6	1,500ft **AGL**	6	50nm	30nm
PSR v1	500ft **AGL**	6nm	47nm	27nm
PSR 7	5,000ft AMSL 15nm Orbit	1	N/A	N/A

c. SSR – Engineering Check

Serial	Alt/Hgt	Tx	No. Runs Option 1	No. Runs Option 2	Start Range	End Range
SSR 1a - Eng	30,000 AMSL	Mode S	1 Inbound	2 Inbound	109nm	Radar -2nm
SSR 3a – Eng	10,000ft AMSL	Mode S	1 Inbound	2 Inbound	109nm	Radar -2nm
PSR 3d – Eng	10,000ft AMSL	Mode A/C	1 Inbound 1 Outbound	1 Inbound 1 Outbound	109nm	89nm
SSR 6 – Eng	1,500ft **AGL**	Mode S	1 Inbound 1 Outbound	1 Inbound 1 Outbound	109nm - 080º/122º/236º 96nm - 346º	109nm - 080º/122º/236º 96nm - 346º
SSR v1 – Eng	500ft **AGL**	Mode S	1 Inbound 1 Outbound	1 Inbound 1 Outbound	100nm - 080º/122º/236º 82nm - 346º	100nm - 080º/122º/236º 82nm - 346º

d. SSR – Commissioning Check

Serial	Alt/Hgt	Tx	Number of Runs	Start Range	End Range
SSR 1a	30,000ft AMSL	Mode S	2 Inbound	109nm	Radar -2nm
SSR 1b	30,000ft AMSL		2 In / 2 Out	109nm	89nm
SSR 2	20,000ft AMSL		3 in / 3 Out	109nm	89nm
SSR 3a	10,000ft AMSL	Mode S	2 Inbound	109nm	Radar -2nm
SSR 3b	10,000ft AMSL	Mode S	2 In / 2 Out	109nm	89nm
SSR 3c	10,000ft AMSL	Mode S & PSR On	6 Inbound	109nm	50nm
SSR 3d	10,000ft AMSL	Mode A/C	1 In / 1 Out	109nm	89nm
SSR 4 ***or*** SSR 5	5,000ft AMSL ***or*** 3,000ft **AGL**	Mode S	3 Inbound / 3 outbound	109nm	89nm
SSR 6	1,500ft **AGL**	Mode S	3 Inbound / 3 Outbound	109nm - 080º/122º/236º 96nm - 346º	89nm - 080º/122º/236º 76nm - 346º
SSR v1	500ft **AGL**	Mode S	3 Inbound / 3 Outbound	100nm - 080º/122º/236º 82nm - 346º	80nm - 080º/122º/236º 62nm - 346º
SSR 7	5,000ft AMSL 25nm Orbit	Mode S	1	N/A	N/A

24. **Orbits.** A minimum of one orbit will need to be flown at 5,000ft AMSL at a range of 15nm from the radar head. The orbit will be flown anti-clockwise, and the aircraft will be positioned to start the profile at a point to be determined in conjunction with ATC. The range of the orbits for the PSR and SSR checks are as follows:

a. PSR 15nm

b. SSR 25nm

25. **Controlling Agencies.** The controlling agencies will depend on the anticipated flight profiles and status of the various Danger Areas. The pilot is responsible for arranging the required ATS provision prior to departure. Based on the information above, the following controlling agencies *may* be involved:

a. Primary Radial – 346º.

i.	30,000ft AMSL	Mil ACC (N), Prestwick ACC
ii.	20,000ft AMSL	Mil ACC (N), Prestwick ACC
iii.	10,000ft AMSL	Spadeadam, Mil ACC (N), Prestwick ACC, Leuchars
iv.	5,000ft AMSL	Spadeadam, Edinburgh, Prestwick ACC, Leuchars
v.	3,000ft **AGL**	Spadeadam, Edinburgh, Leuchars
vi.	1,500ft **AGL**	Spadeadam, Edinburgh, Leuchars
vii.	500ft **AGL**	Spadeadam, Edinburgh

b. Secondary Radial (1) – 080º.

i.	30,000ft AMSL	Mil ACC (N), Prestwick ACC
ii.	20,000ft AMSL	Mil ACC (N), Prestwick ACC
iii.	10,000ft AMSL	Spadeadam, Mil ACC (N), Prestwick ACC, Newcastle
iv.	5,000ft AMSL	Spadeadam, Mil ACC (N), Newcastle
v.	3,000ft **AGL**	Spadeadam, Newcastle
vi.	1,500ft **AGL**	Spadeadam, Newcastle
vii.	500ft **AGL**	Spadeadam, Newcastle

c. Secondary Radial (2) – 236º.

i.	30,000ft AMSL	Mil ACC (W), Prestwick ACC
ii.	20,000ft AMSL	Mil ACC (W), Prestwick ACC
iii.	10,000ft AMSL	Spadeadam, Mil ACC (W), Prestwick ACC
iv.	5,000ft AMSL	Spadeadam, Mil ACC (W), Prestwick ACC
v.	3,000ft **AGL**	Spadeadam
vi.	1,500ft **AGL**	Spadeadam
vii.	500ft **AGL**	Spadeadam

d. Tertiary Radial – 122º.

i.	30,000ft AMSL	Mil ACC (E), Prestwick ACC
ii.	20,000ft AMSL	Mil ACC (E), Prestwick ACC
iii.	10,000ft AMSL	Spadeadam, Mil ACC (E), Prestwick ACC, Newcastle
iv.	5,000ft AMSL	Spadeadam, Mil ACC (E), Newcastle, Teesside
v.	3,000ft **AGL**	Spadeadam, Newcastle, Teesside
vi.	1,500ft **AGL**	Spadeadam, Newcastle, Teesside
vii.	500ft **AGL**	Spadeadam, Newcastle, Teesside

26. **Air Traffic Service (ATS) Provision – CAS.** Access to controlled airspace is subject to the prevailing traffic situation and controller workload. The pilot is responsible for obtaining a clearance to enter controlled airspace prior to penetration.

27. **ATS Provision – Outside CAS.** The calibration area is within the coverage of the following units:

a.	Leuchars	126.500 MHz	346º Radial
b.	Newcastle	124.380 MHz	080º & 122º Radials
c.	Spadeadam	128.725 MHz	
d.	Swanwick Mil – East	135.075 MHz	122º Radial
e.	Swanwick Mil – North	136.375 MHz	080º & 346º Radials
f.	Swanwick Mil – West	127.450 MHz	122º & 236 º Radials
g.	Teesside	118.855 MHz	122º Radial

28. Availability of an ATS service from a unit is not guaranteed, is subject to controller availability, unit workload and possible reduced hours of operations (due to COVID-19 or operations reasons). Amendments to the published hours of availability, as listed in the UK AIP ENR 1.6 – Para 4.1, AD2 or UK Military AIP, shall be notified via NOTAM.

29. **Flight at Low Level.** Some of the radials require flight below the Terrain Safe Level (TSL), as such only a Traffic Service or, in the case of flight below 3,000ft (for some ATS providers), a Basic Service may be available.

30. **ATS Provision above FL100.** This service is available to all aircraft flying outside Controlled Airspace in the UK FIRs between FL 100 and FL 190, and within active TRAs and is subject to Unit capacity. The Units providing this service together with their boundaries are depicted within the UK AIP on the chart ENR 6-12. ENR 1.6 (4.2) lists their hours of operation, the RTF operating frequency on which this service is normally provided and a telephone number for pre-flight contact. A FPL should be filed and include the following addresses:

a. EGZYOATT Swanwick Mil (78 Sqn)

31. Amendments to the published hours of availability, as listed in the UK AIP ENR 1.6 – Para 4.2, shall be notified via NOTAM.

32. Between the hours of 18:00 to 08:00 (local time) on a weekday, at any time on a weekend or during a UK public holiday, Swanwick Mil (78 Sqn) require at least two weeks prior notice in order to obtain an ATS in support of this task.

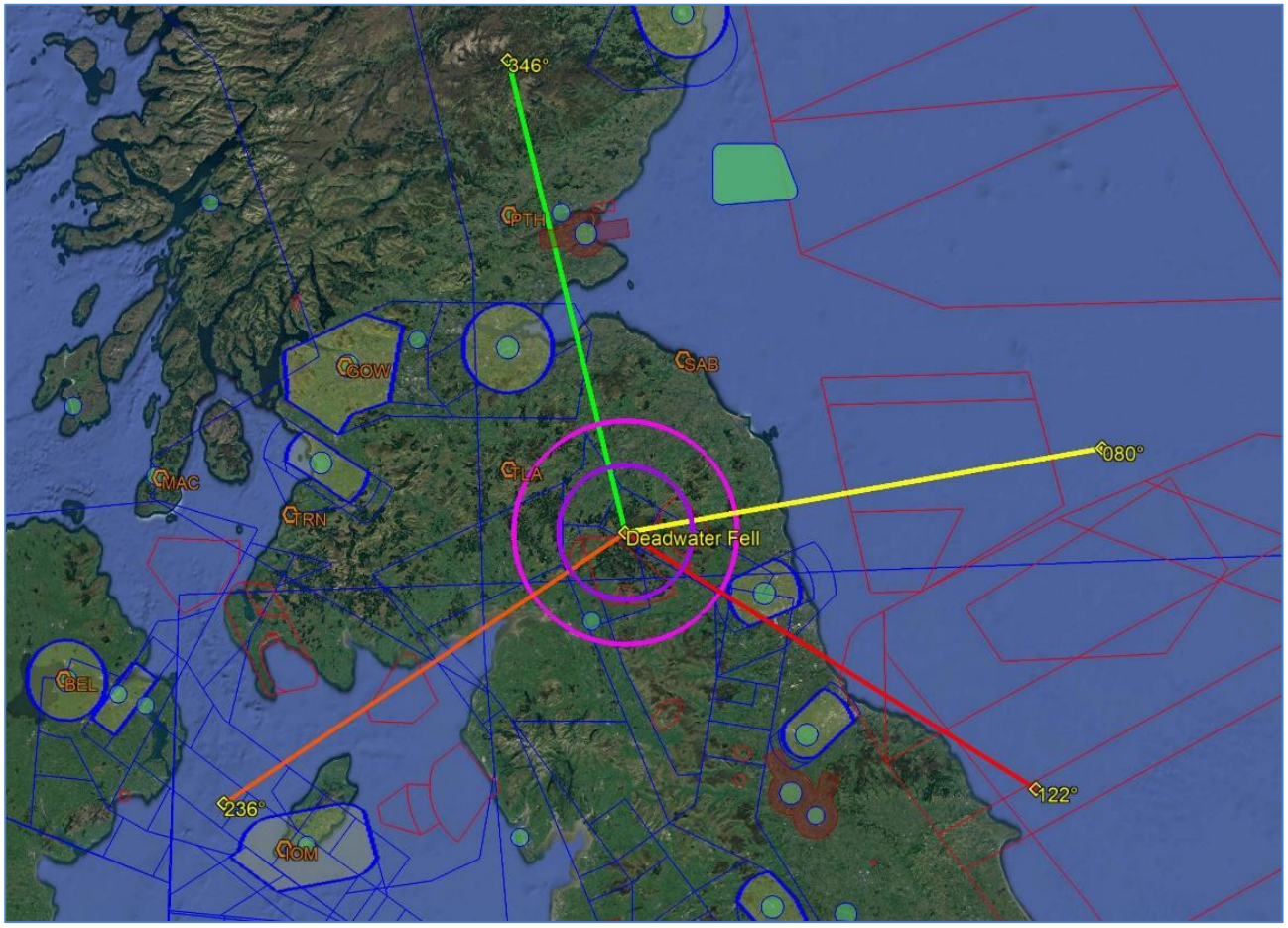
33. **Danger Areas (DAs).** Access to any DA is subject to military requirements and access is not guaranteed. The sponsor is to engage with the DA Authority at the earliest opportunity to coordinate access, noting that access may only be possible outside notified operating hours.

SECTION 3

Area of Operation

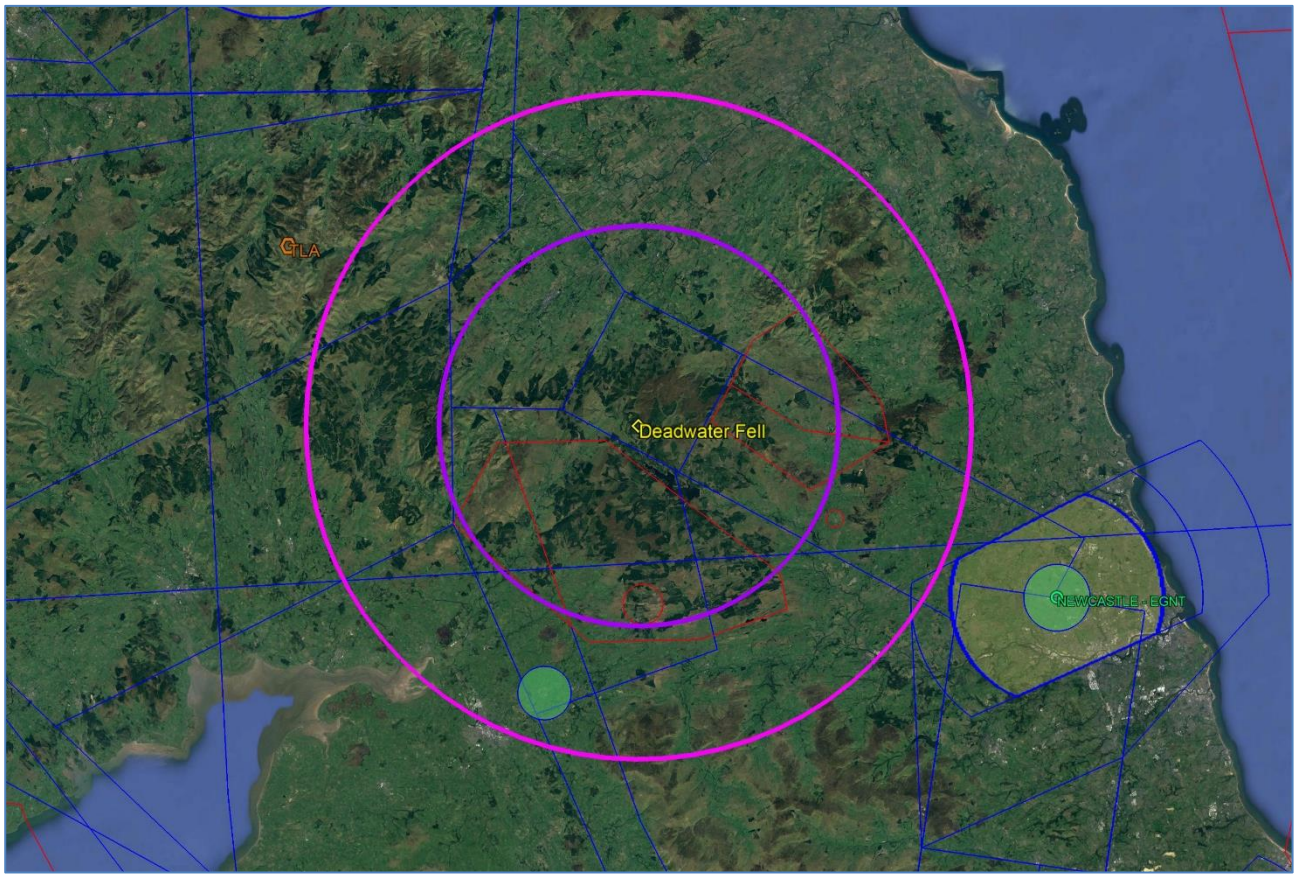
34. Charts highlighting the various areas of operation are shown below. These are for illustrative purposes only and not for operational planning.

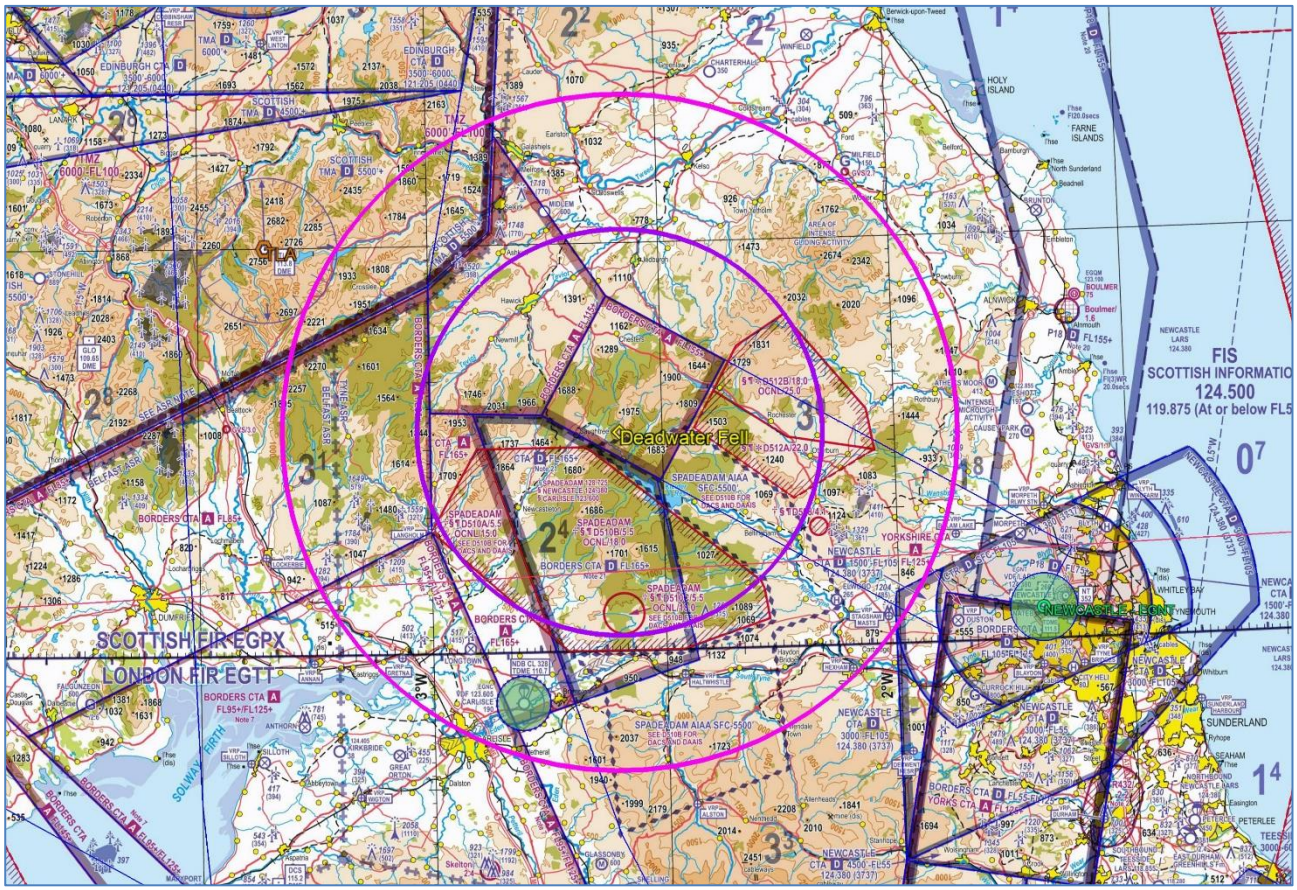
Chart 1 – Overview



Charts 2 & 3 – Anti-Clockwise Orbits @ 5,000ft AMSL

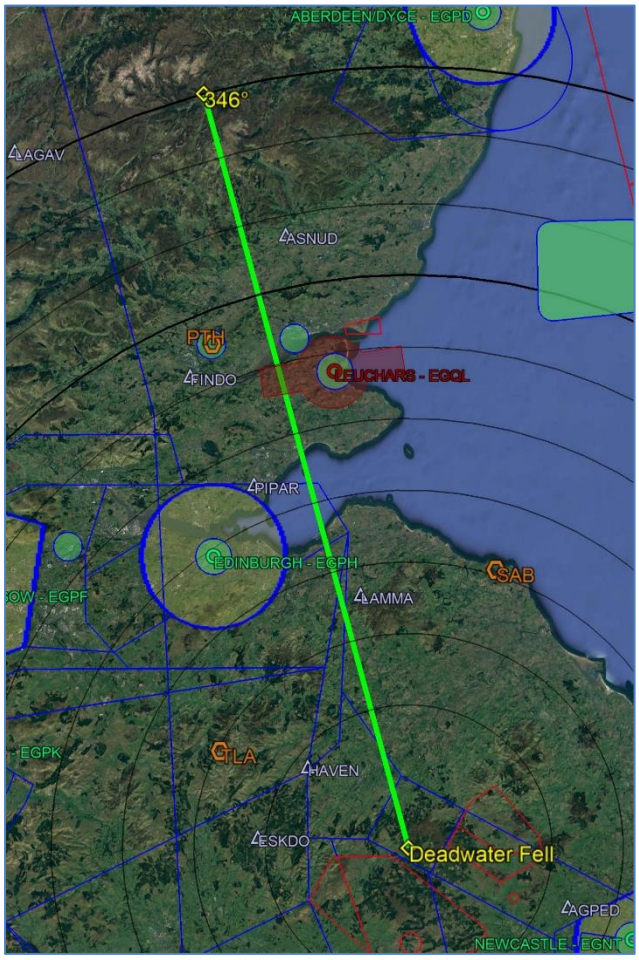
15nm – PSR | 25nm – SSR

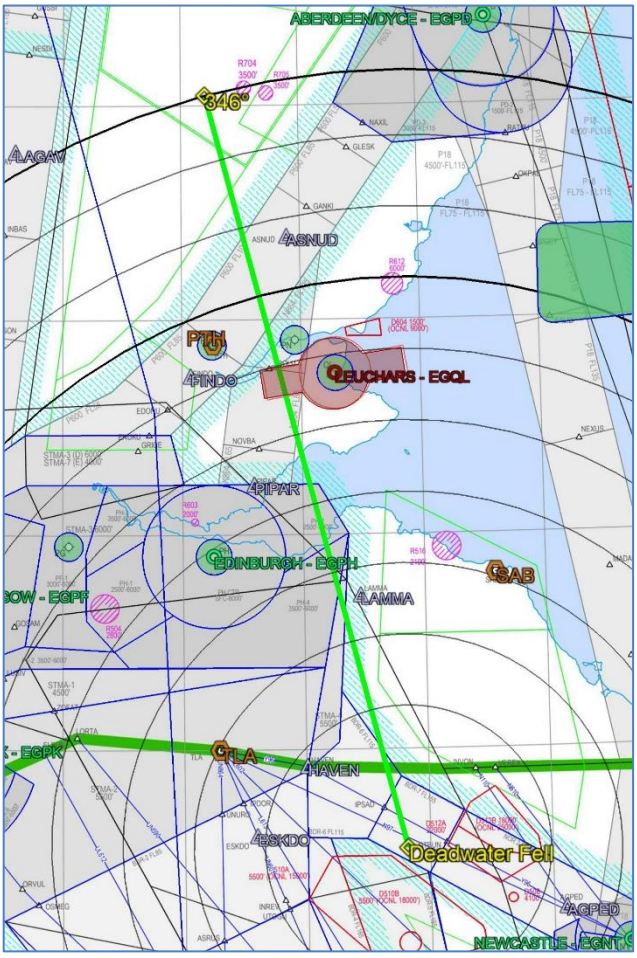




Charts 4 & 5 – Primary Radial – 346ºT

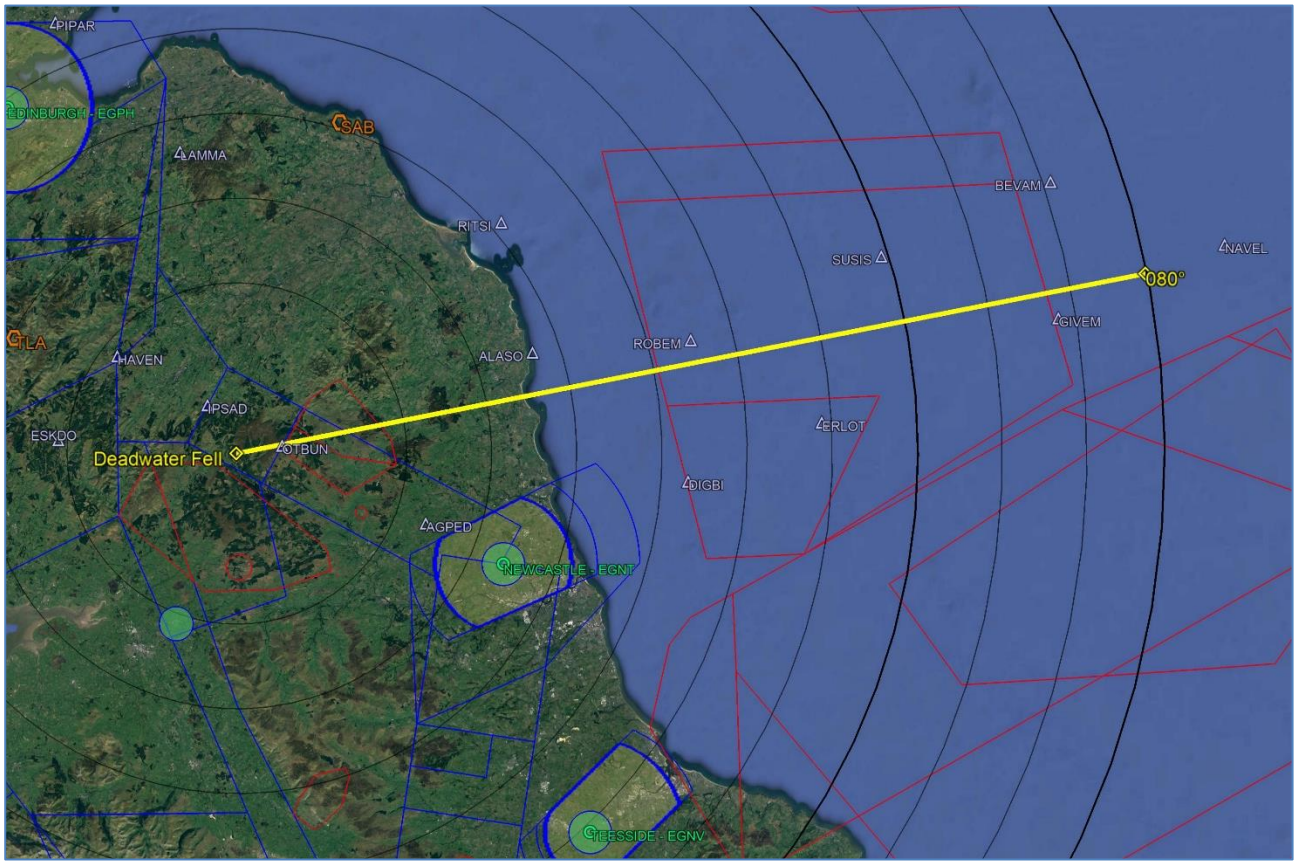
Ghost range rings are 10nm intervals (starting at 20nm from the radar)
Solid black rings denote the maximum PSR (80nm) and SSR (109nm) ranges

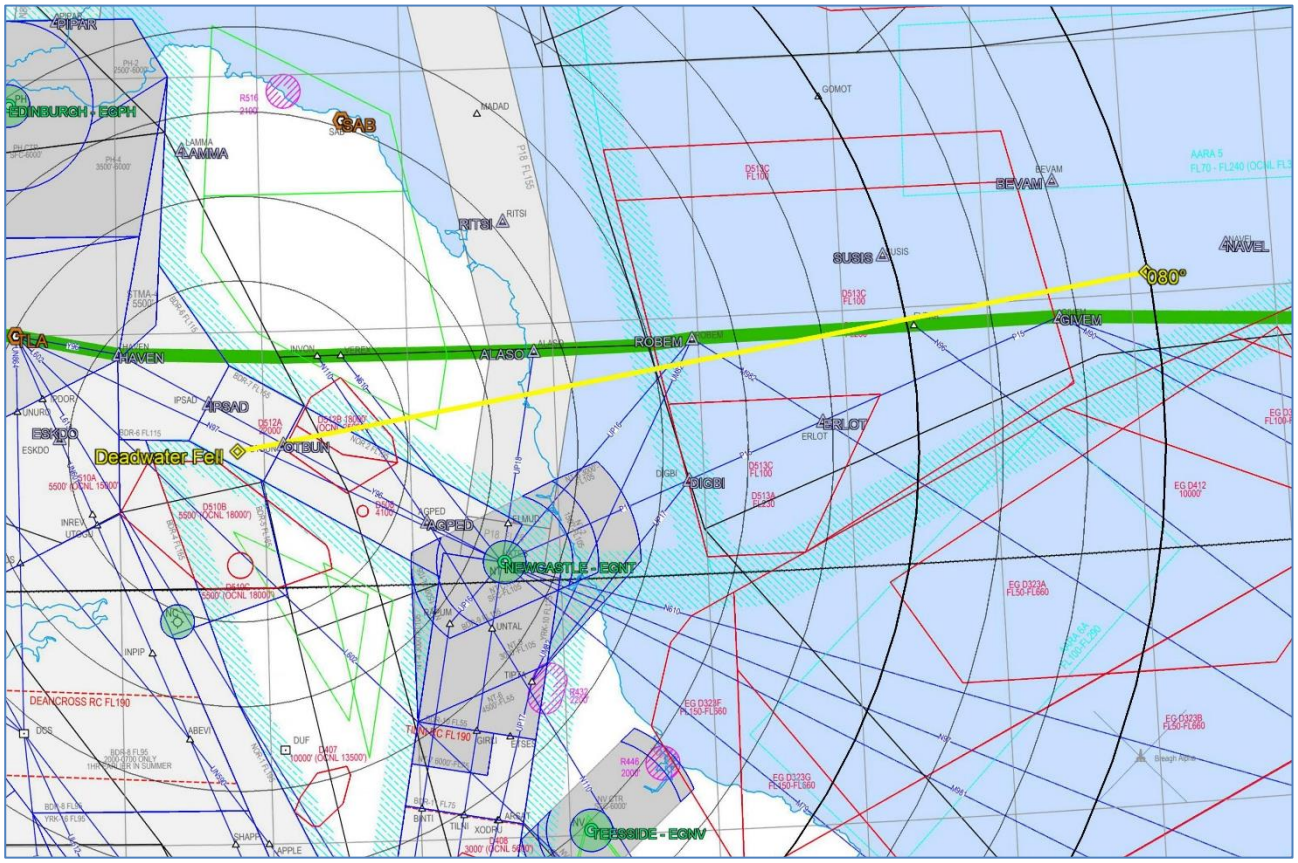




Charts 6 & 7 – Secondary Radial (1) – 080ºT

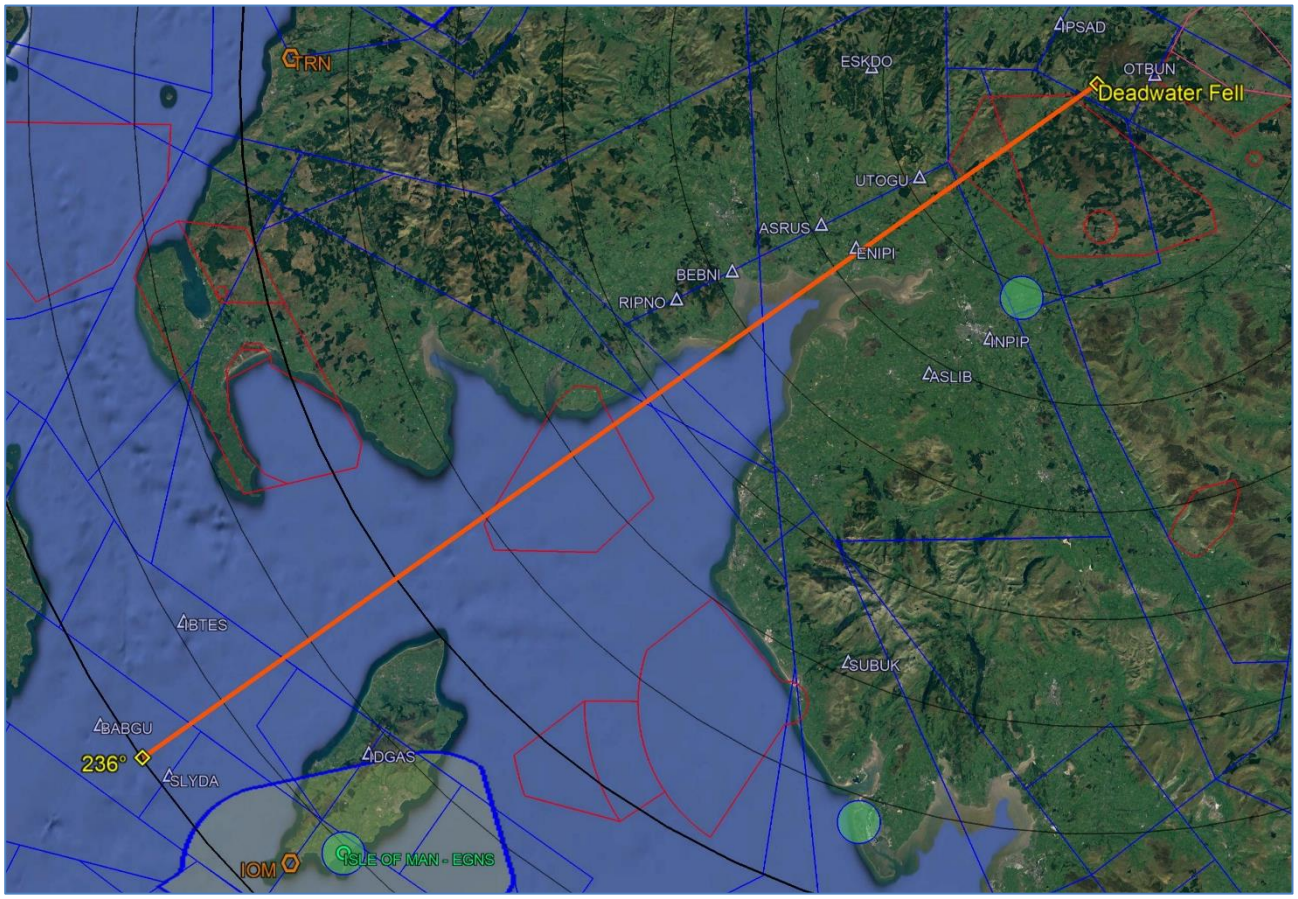
Ghost range rings are 10nm intervals (starting at 20nm from the radar)
Solid black rings denote the maximum PSR (80nm) and SSR (109nm) ranges





Charts 8 & 9 –Secondary Radial (2) – 236ºT

Ghost range rings are 10nm intervals (starting at 20nm from the radar)
Solid black rings denote the maximum PSR (80nm) and SSR (109nm) ranges



Charts 10 & 11 – Tertiary Radial – 122ºT

Ghost range rings are 10nm intervals (starting at 20nm from the radar)
Solid black rings denote the maximum PSR (80nm) and SSR (109nm) ranges