ENR 1 GENERAL RULES AND PROCEDURES

ENR 1.1 GENERAL RULES

1 ATS Routes and Upper Control Areas (UTA)

1.1 ATS Routes — Description

1.1.1 ATS Routes are predicated upon significant geographical points which may or may not coincide with the location of a radio navigation aid. These significant points are shown in column 1 of the table depicted in ENR 3. Any coincident radio navigation aid is depicted immediately underneath.

1.1.2 Except where stated otherwise the width of an Airway is 5 nm either side of a straight line joining each two consecutive points shown in column 1 of the table. Upper ATS Routes have no declared width but for the purposes of ATS provision are deemed to be 5 nm either side of a straight line joining each two consecutive points. The vertical extent is shown in column 3 of the table. Where lower limits of Airways are defined as Flight Levels an absolute minimum altitude of 3001 ft applies unless otherwise stated in column 3 and the minimum cruising level shown in column 5 may not always be available.

1.1.3 If an ATS Route (Airway) crosses, terminates or commences at the UK FIR boundary, the extremity of the route is aligned with the boundary.

1.1.4 Unless otherwise stated the ATS Routes catalogued in the table in ENR 3 are designed to contain aircraft navigating to RNAV 5 (ICAO DOC 9613 - AN/937 refers).

1.1.5 The ATS Route network is hereby notified for the purposes of Articles 124 and 125 of the Air Navigation Order 2009.

1.1.6 When an ATS Route transits a TMA, the status of the TMA takes precedence in airspace classification and conditions of use. Aircraft filed to fly on an ATS route that transits a TMA are required to be a minimum of RNAV 5 compliant.

1.1.7 Conditional Routes (CDRs) are ATS Routes which are usable only under specified conditions. Three types of Conditional Routes are used as described below.

(a) Category One - A route which is permanently plannable during the times published in ENR 3. Additional availability outside the promulgated hours will be notified by NOTAM.

(b) Category Two - A route which is only plannable in accordance with the conditions stated in the daily Airspace Utilisation Plan (AUP) issued by the Directorate Network Management (DNM).

(c) Category Three - A route which is not plannable per se but may be used tactically at the discretion of ATC.

A CDR may have more than one Category.

1.1.8 In addition to published ATS routes, specific direct (DCT) options are allowed via the RAD Appendix 4. Specified DCT routes connecting the Reykjavik/Scottish boundary points and the UK Upper ATS route network should be used when flight planning to cross 61N between 000E and 006W.

1.2 ATS Route Designators

1.2.1 In accordance with ICAO Annex 11, the following prefix designators are used to indicate European Regional RNAV Routes, L, M, N, P and for non Regional RNAV Routes Q, T, Y, Z. Routes designated with these prefixes are compulsory RNAV at all levels except when otherwise notified.

1.3 Direct Route Airspace

1.3.1 Direct Route Airspace (DRA) is airspace in which the ATS route structure has been removed at levels indicated and is part of the evolution to Free Route Airspace operations. DRA implementation will enable aircraft to be able to flight plan and allow direct routeing between specific entry/exit points and defined intermediate waypoints.

Replacing the established ATS routes within this portion of airspace gives fuel saving benefits to operators and environmental benefit by reducing CO2 emissions.

DRA lateral and vertical limits are included in ENR 2.1 and depicted at ENR 6-3-2-1/2 and ENR 6-5-2-3.

1.3.2 Definition of Terms

DRA Entry Fix – A published NAV aid/Significant Point from which direct route options are available.
DRA Exit Fix - A published NAV aid/Significant Point to which direct route options are available.
DRA Intermediate Fix – A published NAV aid/Significant Point established to allow flight planning around segregated airspace.
DRA Arrival Transition Fix - A published NAV aid/Significant Point to which direct route operations are allowed for arriving traffic.
DRA Departure Transition Fix - A published NAV aid/Significant Point from which direct route operations are allowed for departing traffic.

1.4 Airspace Security Warnings by the Department for Transport

1.4.1 **Introduction**

1.4.1.1 Following the loss of a Malaysian airliner over Ukraine in July 2014, the Department for Transport (DfT), with partners including the CAA and NATS, undertook a review of the provision of security advice to UK air operators by government, seeking to enhance and streamline extant processes.

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1.4.1.2 Security advice to UK air operators by government is issued in the form of a NOTAM to provide guidance or direction on airspace security risks. The DfT has developed an Airspace Security Warning Protocol that culminates in the issue of an airspace security warning as V Series NOTAM. Most of these NOTAMs will relate to potential risks to civil aircraft from surface-to-air missiles. However, the use of a NOTAM could also be for other security related threats that may arise.

1.4.2 **Information**

1.4.2.1 The opening text of the NOTAM takes the form: "HAZARDOUS SITUATION WITHIN THE TERRITORY AND AIRSPACE OF [country/ies]". The NOTAM will clearly specify the particular FIR(s) affected, and, where appropriate, give more precise details of the geographic area of concern, using coordinates, or by other means of demarcation (e.g. "...IN THE xxxx FIR, EAST OF 0310000E"). This may be followed by a brief description of the type of threat, e.g. "POTENTIAL RISK EXISTS FROM DEDICATED ANTI-AIRCRAFT WEAPONRY".

1.4.2.2 Where the potential risk is from Man-Portable Air Defence Systems (MANPADS), there is likely to be a restriction on flying below 25,000 ft AGL. Where there is a potential threat from air defence systems with a greater operational ceiling, this is likely to be 'Surface to Unlimited'. NB In the case of a threat from missiles, it is possible to extend their effective ceiling by launching from elevated terrain. For that reason, any height restriction stated in an airspace security risk NOTAM will be noted as 'Above Ground Level' (AGL).

1.4.3 **Guidance**

1.4.3.1 Following the information on location and threat, there will (usually) be one of 3 forms of wording employed in expressing DfT's guidance to operators:

(a) "OPERATORS ARE ADVISED TO TAKE THIS POTENTIAL RISK INTO ACCOUNT IN THEIR RISK ASSESSMENTS AND ROUTEING DECISIONS".

(b) "OPERATORS ARE ADVISED NOT TO ENTER THE TERRITORY AND AIRSPACE OF [country] / THIS AREA / THIS FIR".

(c) "IN ACCORDANCE WITH DIRECTION UNDER THE AVIATION SECURITY ACT 1982 UK REGISTERED OPERATORS SO SERVED SHALL NOT ENTER THE TERRITORY AND AIRSPACE [(INCLUDING ??? FIR)] OF THE STATE OF [country]".

1.4.3.2 The wording will generally follow the patterns above, but could vary as, e.g., it may not always be possible to specify the precise nature of a potential security risk to aircraft, or, the geographic area may be complex to describe.

1.4.3.3 DfT will review the content of the NOTAM 60 days from the date of issue for further reissue after 90 days.

1.4.3.4 Queries can be made to:
International team, Aviation Security Division: 0207-944 3260, (0830-1630 Mon-Fri);
Or, DfT Threats Office: 0207-944 2872, (0830-1730 Mon-Fri).
If urgent, Threats Office On-Call officer, via the DfT Duty Office: 0207-944 5999.

1.4.4 **International Co-ordination**

1.4.4.1 As part of the international response to the loss of the Malaysian airliner over Ukraine, the International Civil Aviation Organisation has established a website from which links are available to relevant information from any participating State source to support the assessment of risks over conflict zones.

As part of the UK's contribution to this ICAO initiative, all UK NOTAMs relating to conflict zone issues will be made available on the AIS Website, to which a link will be provided from the ICAO website.

1.4.4.2 It is possible that other States' advice may differ from that provided by the UK. UK NOTAMs concerning conflict zones represent the best advice available from UK Government sources in support of airline risk assessments. Nonetheless, if operators are concerned about advice from other States that conflicts with, or does not align with, that issued by the UK they should contact the DfT Threats Office on the numbers provided above.

1.4.4.3 The European Aviation Safety Agency (EASA) issues its own Safety Information Bulletins, incorporating and disseminating States' advice to their own carriers in respect of flights over or into conflict zones.

1.4.5 **Current Airspace Warnings**

Serial	Location	Text	Lower Altitude	Upper Altitude	Date of Issue
1	Libya	**Hazardous Situation in Libya** Potential risk to aviation overflying from dedicated anti-aviation weaponry. In accordance with Direction under the Aviation Security Act 1982, UK registered operators so served shall not enter the territory and airspace (including Tripoli FIR) of the State of Libya. UK operators not currently subject to direction under the Aviation Security Act should contact UK Department for Transport (DfT) before operating in this area. Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	12 Jun 15

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2	Egypt	**Hazardous Situation in Egypt** Potential risk to aviation overflying Egyptian airspace in Northern Sinai Governate within the area bounded by 311400N 0322200E - 294000N 0324000E - 293000N 0345400E - 312000N 0341200E - 311400N 0322200E (Cairo FIR, Sinai Peninsula) at less than 25,000 ft above ground level (agl) from dedicated anti-aviation weaponry. Operators are strongly advised to avoid operating at less than 25,000 ft agl in this airspace. Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	18 Nov 15
3a	Ukraine	**Hazardous Situation in Ukraine** Potential risk to aviation overflying eastern Ukraine from dedicated anti-aviation weaponry. Operators are strongly advised not to enter the airspace of Dnipropetrovsk (UKDV) AND Simferopol (UKFV) FIRs. Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	24 Feb 15
3b	Ukraine	**Service Provision in Ukraine** As a result of the unrest within the territory and airspace of Ukraine, there remains the potential for confusion over service provision in the Simferopol (UKFV), in particular over the High Seas portion of the airspace. Capacity may also be impacted in this area while all remaining Ukrainian FIRS appear to be operating normally.	Surface	Unlimited	20 Feb 15
4	Iraq	**Hazardous Situation in Iraq.** Potential risk from dedicated anti-aviation weaponry. Operators are strongly advised not to enter the territory and airspace of Iraq (including the Baghdad FIR). Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	12 Jun 15
5	Syria	**Hazardous Situation in Syria** Potential risk to aviation overflying from dedicated anti-aircraft weaponry. In accordance with direction under the Aviation Security Act 1982, UK registered operators so served shall not enter the territory and airspace (including Damascus FIR) of the Syrian Arab Republic. UK operators not currently subject to direction under the Aviation Security Act should contact UK Department for Transport before operating in this area. Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	12 Jun 15
6	South Sudan	**Hazardous Situation within or over the territory and airspace of South Sudan** Potential risk to aviation overflying this area at less than 25,000 ft above ground level (agl) from dedicated anti-aviation weaponry. Operators are strongly advised to take this potential risk into account in their risk assessments and routing decisions. Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	12 Jun 15
7	Yemen	**Hazardous Situation in Yemen** Potential risk from dedicated anti-aviation weaponry. Operators are strongly advised not to enter the territory and airspace of Yemen (Sana'a FIR). This advice does not apply to those aircraft operating on Airways N315, UL425 and R401. Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	8 Sep 15

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8	Afghanistan	**Hazardous Situation in Afghanistan** Potential risk to aviation overflying Kabul FIR at less than 25,000 ft above ground level (agl) from dedicated anti-aviation weaponry. Operators are advised to take this potential risk into account in their risk assessments and routing decisions. Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	8 Oct 15
9	Pakistan	**Hazardous Situation in Pakistan** Potential risk to aviation overflying Karachi and Lahore FIRs at less than 25,000 ft above ground (agl) level from dedicated anti-aviation weaponry. Operators are advised to take this potential risk into account in their risk assessments and routing decisions. Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	8 Oct 15
10	Somalia	**Hazardous Situation in Somalia.** Potential risk to aviation overflying Somalia (Mogadishu FIR - HCSM) at less than 25,000 ft above ground level (agl) from dedicated anti-aircraft weaponry. Operators are advised to avoid operating at less than 25,000 ft agl in Somalia (Mogadishu FIR - HCSM). Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	15 Jan 16
11	Kenya	**Hazardous Situation in Kenya** Potential risk to aviation overflying Kenyan airspace and territory FIRs at less than 25,000 ft above ground level (agl) from dedicated anti-aircraft weaponry. Operators are advised to take this information into account in their own risk assessments and routeing decisions. Contact UK Department for Transport +44 (0)207-9443260 or +44 (0)207-9445999 out of hours.	Surface	Unlimited	12 Aug 16

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1.5 Flight Planning Restrictions

1.5.1 Flight planning restrictions applicable to UK airspace are published within the **DNM RAD (a pre-flight ATFCM Tool)**. UK restrictions are contained within the UK Annex (Annex EG) as well as Appendices 2, 3, 4, 5 and 6 which can be found via the DNM NOP Portal website within the RAD Home page section -

https://www.nm.eurocontrol.int/RAD/

1.5.1.1 Changes to the RAD are published in line with the AIRAC cycle. Any changes required between AIRAC Cycle publication dates, due to urgent operational reasons, will be notified by NOTAM.

1.5.1.2 Operators should refer to the RAD and its various appendices when constructing routes for an IFR flight within or overflying UK airspace.

1.5.2 For information on standard routings within UK airspace, and alternative routings during CDR closures, users should refer to the **United Kingdom & Ireland Standard Route Document (SRD)** as published via the UK AIS CD-ROM (bespoke database and Adobe PDF formats) or via the DNM NOP Portal RAD Homepage within the 'Additional Documentation' section.

1.5.2.1 The United Kingdom & Ireland SRD is issued in line with the AIRAC cycle and is available to assist aircraft operators in constructing RAD compliant UK and Irish portions of IFR flight plannable routes. The route listings contained should be considered as 'preferred' and are not mandatory, however they are promulgated to identify optimum routings for operators with due regard for the ATC system. Reference may be made to applicable RAD restrictions for a route, details of which may be found via the DNM NOP Portal RAD Home page website.

1.5.3 Temporal flight planning buffers are added to Special Use Airspace (SUA) activation times in order to allow for flights departing late (or early) on their scheduled ETD. The parent Area Control Centre Airspace Management Cell (AMC) define the buffer requirement and parameters during the airspace planning phase of Airspace Management.

When SUA areas are active, the AUP published activation time includes temporal buffer at the start and end of the activity. No extra buffer is required for flight planning purposes. SUA activation NOTAM define the actual parameters of the activity and do not include any element of a temporal flight planning buffer, therefore the NOTAM start and end time of the actual activity will be different to the AUP times.

1.6 Rules and Procedures

1.6.1 **Control Areas (Airways)**

1.6.1.1 **Radio Communications and Equipment**

1.6.1.1.1 The requirements for radio communications and equipment are set out in GEN 1.5.

1.6.1.2 **ATC Clearance**

1.6.1.2.1 One of the following phrases may be included in the initial clearance when the air traffic situation necessitates the regulation of departing flights:

(a) 'Clearance expires ..... (time)' - this indicates that if the aircraft is not airborne by the time stated, a fresh clearance will need to be obtained;

(b) 'Take-off not before ..... (time)' - this is given so that the pilot can calculate the best time to start engines;

(c) 'Unable to clear ..... (level planned)' - when ATC is unable to clear the flight at the level planned an alternative will be offered whenever possible, the acceptance of which will avoid or reduce delay;

(d) 'Join Airways at ..... (place and level) not before ..... (time)' - may be used when an Airways clearance is given to an aircraft, the first part of whose flight from the origination aerodrome is in uncontrolled airspace.

1.6.1.3 **Airborne Procedures (See also ENR 1.4, paragraph 2.1, Note 2)**

1.6.1.3.1 When an aircraft is cleared to leave or join an Airway at a certain point, it should be flown so as to cross the actual boundary of the Airway as near to that point as is practicable.

1.6.1.3.2 All aircraft flying Airways are required to adhere to IFR procedures in all weather conditions. However, when radar cover is not available ATC may offer VMC climb or descent clearances in order to avoid excessive traffic delays. Such clearances will be offered subject to the following:

(a) By day only in Visual Meteorological Conditions;

(b) subject to the agreement of the pilot concerned;

(c) the pilot will be responsible for effecting his own separation;

(d) essential traffic information will be given;

1.6.1.3.3 Unless otherwise authorized by ATC, aircraft flying along Airways are required, in so far as practicable, to operate along the defined centre-line.

1.6.1.4 **Flights Joining Airways**

1.6.1.4.1 Pilots wishing to join an Airway are required to file a flight plan either before departure or when airborne, and to request joining clearance when at least 10 minutes flying time from the intended joining point. If the destination or any part of the route is subject to Air Traffic Flow Management, pilots must have received the required authorisation/approval from the appropriate Air Traffic Flow Management Unit (ENR 1.9).

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1.6.1.4.2 Joining clearance should be obtained as follows: Initial call - '..... (identification) request joining clearance ..... (Airway) at ..... (position)'. When instructed by ATC the following flight details should be passed:

(a) Identification;

(b) Aircraft type;

(c) Position and heading;

(d) Level and flight conditions;

(e) Departure aerodrome;

(f) Estimated time at entry point;

(g) Route and point of first intended landing;

(h) True Airspeed;

(i) Desired level on Airway (if different from the above).

1.6.1.4.3 Requests for joining clearance of Airways for which the Controlling Authorities are London or Scottish Control should be obtained as follows:

(a) From the ATSU with which the aircraft is already in communication; or

(b) from the appropriate FIR Controller (if different from (a)); or, if it is not possible to obtain any form of clearance using (a) or (b), then

(c) on the published frequency of the Airway Controlling Authority.

1.6.1.4.4 In order to prevent confliction with other Airways traffic, pilots should ensure that they are at the cleared flight level when they cross the Airway boundary, unless specific permission to do otherwise has been given by ATC.

1.6.1.5 **Flights Crossing Airways in IFR**

1.6.1.5.1 Aircraft may, without ATC clearance, fly at right angles across the base of an en-route section of an Airway where the lower limit is defined as a Flight Level.

1.6.1.5.2 Pilots wishing to cross an Airway are required to file a flight plan either before departure or when airborne, and to request crossing clearance when at least ten minutes flying time from the intended crossing point.

1.6.1.5.3 Crossing clearance should be obtained as follows: Initial call - '..... (identification) request crossing ..... (Airway) at ..... (position)'. When instructed by ATC the following flight details should be passed:

(a) Identification;

(b) Aircraft type;

(c) Position and heading;

(d) Level and flight conditions;

(e) Position of crossing;

(f) Requested crossing level;

(g) Estimated time of crossing.

1.6.1.5.4 Requests for joining clearance of Airways for which the Controlling Authorities are London or Scottish Control should be obtained as follows:

(a) From the ATSU with which the aircraft is already in communication; or

(b) from the appropriate FIR Controller (if different from (a)); or, if it is not possible to obtain any form of clearance using (a) or (b), then

(c) on the published frequency of the Airway Controlling Authority.

1.6.1.5.5 Unless otherwise requested by ATC, aircraft crossing Airways will remain in communication with the FIR Controller and, after obtaining clearance, will report as follows when the aircraft is estimated to be at the boundary of the Airway:

'..... (identification) - Crossing ..... (Airway) ..... (position) ..... (time) ..... at ..... (level)'.

1.6.1.5.6 Except where otherwise authorized by ATC, aircraft are required to cross the Airway by the shortest route (normally, at right angles) and to be in level flight at the cleared flight level on entering the Airway.

1.6.1.6 **Airway Crossings or Penetrations in VMC - Civil Aircraft**

1.6.1.6.1 **Powered Aircraft - Airway Crossings (See also ENR 1.4, paragraph 2.1, Note 2)**

1.6.1.6.1.1 Aircraft may, without ATC clearance, fly at right angles across the base of an en-route section of an Airway where the lower limit is defined as a Flight Level.

1.6.1.6.1.2 Powered aircraft may cross an Airway in VMC by day without compliance with the full IFR requirements in relation to the aircraft equipment provided that the pilot holds a valid Instrument Rating and that clearance is obtained from the appropriate ACC. This

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clearance must be obtained by RTF (normally on the FIR frequency); the request for clearance and a crossing report should be made as shown in paragraphs 1.4.1.5.3 and 1.4.1.5.5.

1.6.1.6.2 **Powered Aircraft - Other penetrations of Airways (see also ENR 1.1, paragraph 4.1 and ENR 1.4, paragraph 2.1, Note 2).**

1.6.1.6.2.1 Other flights in VMC, for example photographic survey flights, may also do so without compliance with full IFR requirements, provided that:

(a) Prior arrangements are made with the appropriate ACC;

(b) specific ATC clearance is obtained for individual flights;

(c) the aircraft can communicate by RTF on the appropriate Airways frequency.

1.6.1.7 **Procedures for Military Aircraft**

1.6.1.7.1 These procedures apply to military aircraft in all weather conditions.

1.6.1.7.1.1 Military aircraft flying along Airways will conform to the normal Airways procedures.

1.6.1.7.1.2 Military aircraft crossing Airways will do so either:

(a) Under the control of an approved Air Traffic Control Radar Unit; or

(b) under a positive Air Traffic Control Clearance.

1.6.1.7.1.3 In an emergency, where neither a radar nor a procedural crossing can be obtained, an Airway may be crossed at an intermediate 500 ft level. The intermediate 500 ft levels referred to are flight levels of whole thousands plus 500 ft.

1.6.2 **Air Traffic Advisory Routes**

Not currently established in the UK FIRs.

1.6.3 **The Upper Airspace Control Area, Direct Route Airspace and the Hebrides UTA**

1.6.3.1 **Upper Airspace Control Area**

1.6.3.1.1 **Rules.** The following rules apply to aircraft flying in the Upper Airspace Control Area:

(a) A flight plan must be filed;

(b) ATC permission must be obtained before the Area is entered;

(c) a continuous RTF watch must be kept on the appropriate frequency;

(d) the flight must be conducted in accordance with ATC instructions.

1.6.3.1.2 **Altimeter Setting Procedures**

1.6.3.1.2.1 All aircraft flying in the Upper Airspace Control Area must use the standard altimeter setting of 1013.2 mb.

1.6.3.1.3 **Cruising Levels**

1.6.3.1.3.1 Cruising levels will be allocated in accordance with the semi-circular rules depicted in the Table of Cruising Levels at ENR 1.7, paragraph 6. ATC may allocate a level not appropriate to the aircraft track, e.g. to effect transition to and from Oceanic levels.

1.6.3.1.3.2 The providers of Air Traffic Services in the United Kingdom Upper Airspace may apply a reduced vertical separation minimum of 1000 ft, between FL 290 and FL 410 inclusive, in the London and Scottish UIRs between aircraft that are RVSM approved . Aircraft that are not RVSM approved will be provided with a minimum of 2000 ft separation.

1.6.3.1.4 **Exemptions**

1.6.3.1.4.1 By prior agreement, Research and Development flights may be exempted from some of the rules and procedures but ATC will co-ordinate such flights.

1.6.3.1.4.2 The above rules and procedures do not apply to gliders.

1.6.3.1.4.3 By prior agreement, civil aircraft operating on contract to the MoD, aircraft undergoing air tests, or aircraft calibrating navigation aids may be exempted from the RVSM requirements.

1.6.3.2 **Co-ordination of Civil and Military Aircraft**

1.6.3.2.1 NATS radars cover most of the Upper Airspace. Within this cover, procedures exist for the co-ordination of civil and known military aircraft and they receive a radar control and/or a procedural ATC Service. Outside radar cover, a procedural ATC service is provided.

1.6.3.2.2 Military aircraft are normally under the control of NATS or autonomous radar Units but outside the Mandatory Radar Service Area, they are not obliged to receive an ATC Service. In these circumstances it is not always possible for ATC to offer avoiding action because the behaviour of such aircraft is unpredictable. However, whenever practicable, ATC will pass traffic information on them to aircraft under control.

1.6.3.2.3 Due to the routine operation of high speed military aircraft within the UIRs, civil aircraft operators should flight plan only on the published ATS Route Structure. When traffic conditions permit, ATC may authorize aircraft to fly more direct tracks.

1.6.3.2.3.1 For individual flights within the Scottish UIR, operators may file outside the published ATS Route Structure subject to authorisation by the Scottish ACC ATC Watch Manager (Tel: 01292-692763, Fax: 01292-692872). Authorisation for routine

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operations outside the published ATS Route Structure must be obtained from ATC Operational Support at Scottish ACC (Tel: 01292-692611, Fax: 01292 - 692610).

1.6.3.2.4 There is a military TACAN route system in the Upper Airspace. Some of the routes join the published Upper ATS Route Structure at certain reporting points as well as to a similar TACAN route network over the rest of Europe. See chart of the military TACAN routes at ENR 6-3-5-1.

1.6.3.3 **Non-Standard Civil Flights and Unusual Aerial Activities in the UK Upper Airspace**

1.6.3.3.1 Certain civil flying activities such as training and general test flying in Class C Airspace above FL 195 may require a specialized radar service that can best be provided by military ATS Units. However, it should be borne in mind that the aircraft handling capacity of military ATS Units may be committed to the Units primary tasks, and therefore, it is advisable that aircraft operators requiring a service should discuss their proposed task with the relevant ATS Unit prior to commencement of the flight.

1.6.3.3.2 Information concerning the military ATS Units may be obtained from the RAF en-route documents or from civil ATS Units.

1.6.3.3.3 The approval of an Unusual Aerial Activity (UAA) in Class C Airspace above FL 195 can often only be given after extensive co-ordination and the request should be submitted at the earliest opportunity to Airspace Utilisation (AU) at the Directorate of Airspace Policy, CAA House, 45-59 Kingsway, London WC2B 6TE, as detailed at ENR 1.1, paragraph 4.3.

1.6.3.4 **Flight Plans, ATC clearance and other procedures**

The normal requirements for flight plans, ATC clearance, and the regulations, rules and procedures appropriate for flight in Control Areas apply.

1.6.3.4.1 **Clearance to enter the Hebrides UTA**

1.6.3.4.1.1 Directly from Shanwick OCA, Reykjavik OCA, Shannon UTA or from the Upper Airspace CTA: Aircraft will be cleared into the Hebrides UTA without specific entry clearance.

1.6.3.4.1.2 From outside Controlled Airspace:

Aircraft must obtain prior clearance from 'Scottish Control' in accordance with the procedures established for flight joining Airways.

1.6.3.4.2 **Eastbound and Westbound Flights**

1.6.3.4.2.1 Traffic transitting the Scottish UIR must Flight Plan along established Upper ATS Routes and exit via promulgated Reporting Points.

Specified exemptions will be notified to the appropriate operating companies.

1.6.3.4.2.2 Traffic operating within the Scottish UIR will be cleared along selected tracks based upon the VOR and NDB facilities at Talla, Glasgow, Machrihanish, Belfast, Tiree, Benbecula and Stornoway. These tracks may be varied at the discretion of ATC depending upon the pattern of North Atlantic traffic. If at any time an aircraft within the UTA is found to be off its cleared track, the pilot shall at once inform ATC of his true position and take an immediate action to return to the cleared track as quickly as possible.

Aircraft destined for the North Atlantic should, wherever possible, flight plan to use the routes contained within the Standard Routes Document published on the AIS CD-ROM.

1.6.3.4.3 **Night Time Fuel Saving Routes**

1.6.3.4.3.1 Night Time Fuel Saving Routes (NTFSR) are introduced in UK upper airspace and are routes that formalise the practice of giving flight plannable direct routings (DCT) to GAT at set times overnight. NTFSR will enable the proportion of flights flying direct to increase during their hours of operation and will thereby produce a reduction in CO_2 emissions. Details of the routes will be included in Appendix 4 of the UK RAD.

1.6.3.4.4 **Loss of Communication**

1.6.3.4.4.1 In the event of radio communication failure, pilots will follow the procedures shown at ENR 1.1, paragraph 3.4. Attempts should also be made to establish communication on other control channels available in the Scottish FIR/UIR or on NARTEL HF channels.

1.6.3.5 **Military Training Areas (MTA)**

1.6.3.5.1 MTAs are established in the UK for the operational freedom of military aircraft engaged in exercise or training, and the nature of this activity is incompatible with civil air traffic services procedures. Civil pilots should not therefore flight plan any route through active MTAs nor make in-flight requests for transit through these areas when they are active as ATC cannot authorise such flights. However, for the following categories of civil registered aircraft, an ATS may be available within an active MTA from the appropriate military air traffic control radar unit:

(a) Aircraft in emergency which may have to be routed through an active MTA for flight safety reasons;

(b) aircraft sponsored by DE&S;

(c) test flights by UK manufacturers of military and civilian aircraft;

(d) airtests by civil or military aircraft departing from or arriving at UK aerodromes;

(e) special flights authorised by HQ AIR (ATM Force);

(f) air ambulance flights, where the most expeditious routing is justifiable on humanitarian grounds.

ENR 1.1 GENERAL RULES (continued)

Note 1: *Pilots of such aircraft requiring this service should make their request to the UK Civil ATS Unit or Military Unit with which they are in contact.*

Note 2: *Military controllers may provide aircraft in the above categories with ATS Outside Controlled Airspace (ATSOCAS) (radar services detailed in ENR 1.6, paragraph 1.3) and pilots are to ensure that they are familiar with the types of services available.*

1.6.3.5.2 If pilots inadvertently flight plan to transit MTAs during notified periods of activity, ATS instructions will be issued to re-route the aircraft around those areas. To avoid such unexpected routing, pilots are requested to ensure that account is taken of the published periods of activity of any MTA near the route (detailed in ENR 5.2), when planning their flight.

1.6.3.5.3 MTAs are depicted on the charts at ENR 6-3-2-1 and ENR 6-5-1-1.

1.7 Reporting Points

1.7.1 Designated Reporting Points are marked with a ▲. Reporting Points marked with a Δ are 'on request' Reporting Points, at which a report will be made only when requested by the controlling authority.

1.7.2 In addition to the designated Reporting Points in the Hebrides Upper Control Area, ATC may ask for a position report from aircraft when they cross specified VOR radials.

1.8 Terrain Clearance

1.8.1 **Control Areas (Airways)**

1.8.1.1 Where the lower limit of a section of an Airway is defined as a Flight Level and therefore varies in height, an absolute minimum altitude applies. This minimum altitude for the Airway base is at least 1000 ft above any fixed obstacle within 15 nm of the centre-line. The lowest usable level will always be at least 500 ft above the Airway base, thus providing not less than 1500 ft terrain clearance within 15 nm of any position on the centre-line of the Airway.

1.8.1.2 On sections of Airways adjacent to Control Zones and Areas where the lower limit is established at not less than 700 ft above terrain, ATC clearances are designed to enable aircraft to remain at least 500 ft above the base of the Airway.

1.9 En-Route Holding

1.9.1 **Control Areas (Airways)**

1.9.1.1 Except where otherwise instructed by ATC, holding en-route will be carried out on tracks parallel to the centre-line of the Airway, turning right at the Reporting Point. Exceptions are shown at ENR 3.6.

1.9.1.2 Whenever possible, pilots will be given a specific time at which to leave the Reporting Point and the holding pattern should be adjusted accordingly.

1.9.1.3 Pilots are required to report as follows:

(a) The time and level of reaching a specific holding point to which cleared;

(b) when leaving a holding point;

(c) when vacating a previously assigned level for a new assigned level.

1.9.2 **En-Route High Level Holding**

1.9.2.1 Within the Upper Airspace, en-route holding patterns have been established for Eastbound Atlantic traffic. The 1.5 minute holding patterns, based on ICAO recommended speeds, are as shown at ENR 3.6. Also, within the Upper Airspace, en-route holding patterns have been established at Manchester (VOR MCT); MERLY; OKESI; PLYMO and Southampton (VOR SAM) and are shown at ENR 3.6.

1.10 Hazards and Danger Areas

1.10.1 **The Upper Airspace Control Area and the Hebrides UTA**

1.10.1.1 The Chart of the United Kingdom Airspace Restrictions at ENR 6-5-1-1 (as amended), NOTAM and AICs should always be consulted for information on activity in Danger Areas adjacent to the route being flown.

1.11 Glider Operations above FL 195

1.11.1 The paragraphs below set out the procedures for glider operations above FL 195 within the following airspace structures:

(a) Temporary Reserved Area (Gliding) (TRA (G)) in Class C Airspace between FL 195 - FL 240 (ENR 5-2-4/7);

(b) Temporary Reserved Area (Gliding) (TRA (G)) in Class C Airspace above FL 240 (ENR 5-2-4/7);

(c) Temporary Reserved Area (TRA) in Class C Airspace between FL 195 and FL 245 (ENR 5-2-2/3);

(d) Class C Airspace outside TRA and TRA (G) between FL 195 - FL 285.

1.11.2 Glider operations above FL 195 are to be conducted only in accordance with the following criteria:

1.11.2.1 VFR criteria:

Level	Distance from Cloud	Flight Visibility
At and above FL 195	1500 m Horizontally 1000 ft Vertically	8 km

ENR 1.1 GENERAL RULES (continued)

1.11.2.2 Operations shall be in accordance with a Letter of Agreement (LoA), or specific permission.

1.11.2.3 Operations shall be conducted on the SPS (1013.2 mb).

1.11.2.4 Radio contact must be maintained on the appropriate frequency.

Note: *Radio frequency requirements for VFR operations by gliders above FL 195 within a Temporary Reserved Area (TRA), Temporary Reserved Area (Gliding) (TRA (G)) or for a specified VFR permission outside a TRA, will be detailed in the respective TRA Letter of Agreement (LoA), or specific permission. It is anticipated that localised VFR activity within a TRA/TRA (G) will, in the medium term, be permitted to operate with a 25 kHz channel spaced radio. VFR operations seeking access to airspace where the ACC controlling agencies require 8.33 kHz, will require to be suitably equipped.*

1.11.3 **Procedures for non-SSR equipped Glider Operations within Temporary Reserved Area (Gliding) (TRA (G)) in Class C Airspace between FL 195 - FL 240**

1.11.3.1 TRA (G) have been provided to accommodate non-SSR equipped gliders. (See ENR 5.2 and ENR 6-3-0-3/4).

1.11.3.2 Gliders equipped with SSR transponders should squawk 7006 whilst operating in the TRA (G).

1.11.3.3 **Glider Operations in TRA (G) between FL 195 - FL 240 must comply with the following requirements:**

(a) Each TRA (G) shall have a nominated gliding club(s) to manage booking arrangements with the appropriate ACC.

(b) The nominated gliding club(s) will request booking of the required TRA (G) airspace 2 hours in advance on the day of operation.

(c) A requested upper flight level shall be specified at the time of booking.

(d) ACC civil and military supervisors shall co-ordinate booking request and agree initial access arrangements based on the prevailing and forecast GAT/OAT traffic situation.

(e) A request to activate the TRA (G) shall be made only when the club(s) have positively established that access is required. No glider will enter until a positive ATC clearance has been obtained to enter the TRA (G). This may be either by telephone or RTF contact with the ACC.

(f) Gliders shall monitor the appropriate gliding frequency specified in the LoA whilst operating within the TRA (G).

(g) Gliders shall remain within the lateral boundaries of the TRA (G) and below the agreed upper flight level.

(h) The gliding club(s) shall provide a contact telephone number to enable the parent ACC to close the TRA (G); if such a request is received the nominated gliding club(s) will direct gliders to vacate the TRA (G) as expeditiously as possible.

(i) The nominated gliding club(s) will notify the ACC that TRA (G) activity is complete.

(j) Additional requirements and detailed contact arrangements will be contained in a LoA between the responsible ACC and nominated gliding club.

1.11.4 **Procedures for non-SSR equipped Glider Operations within Temporary Reserved Area (Gliding) (TRA (G)) in Class C Airspace above FL 240**

1.11.4.1 All non-SSR equipped glider operations above FL 240 must be conducted in TRA (G).

1.11.4.2 The gliding representative will initiate a request to the appropriate area control supervisor (see paragraph 9.4.3) 2 hours in advance of the intended flight advising the intention to use the designated area and confirm the following details:

(a) Temporary Reserved Areas concerned (See ENR 5.2 and ENR 6-3-0-5/6);

(b) Requested upper limit (Scottish Upper Area (North) has an upper limit of FL 270);

(c) Expected time of entry into, and duration in the Upper TRA (G) (negotiated if any other priority ACC task);

(d) The number of gliders and associated callsign(s);

(e) Name and telephone contact number.

1.11.4.3 Area Control contact telephone numbers:

For Scottish, Spadeadam, Yorkshire and Northern Ireland areas, contact Scottish ACC, Civil ATC Watch Supervisor (WS) on Tel: 01292-692763.

For Welsh areas, contact Swanwick Military Supervisor (SMS) on Tel: 01489-612417.

1.11.4.4 Following notification, the Supervisor will contact the gliding representative to discuss the activity, and allocate the frequency to be employed, or, if the activity cannot be accommodated, advise the representative of the reason and negotiate a new period.

1.11.4.5 The glider pilot shall establish 2-way RTF contact passing FL 200 in the climb, obtain an ATC clearance to enter the TRA (G), maintain a listening watch on the frequency, and report again when passing FL 240 in descent.

1.11.4.6 The military controller will initiate a radio check with the glider pilot on the hour and half hour whilst the aircraft is above FL 240 to confirm continuing RTF contact. In the event of not receiving a radio check call the glider pilot will immediately attempt to re-establish 2-way contact and if unsuccessful shall descend below FL 240 within 15 minutes.

Note: *15 minutes after the last unsuccessful 'operations normal' radio check by the military controller the airspace above FL 240 will be deemed clear of gliders and GAT aircraft will be allowed access.*

ENR 1.1 GENERAL RULES (continued)

1.11.4.7 The glider pilot is responsible for remaining within the designated area. In addition, all gliders flying within TRA (G) above FL 240 are to be fitted with appropriate radio and navigational equipment. In the event of either of these equipments becoming unserviceable, gliders are to descend below FL 240.

1.11.4.8 Whilst operating within a designated area, glider pilots will be in receipt of a Flight Information Service with proximity warnings of either aircraft in emergency or Air Defence Flights, which need to transit the area. The glider pilots will be responsible for their own separation.

1.11.4.9 Whilst operating within a designated TRA (G) above FL 240, all position reports are to be made in relation to Airway/Upper ATS Route Reporting Points.

1.11.4.10 Additional requirements and detailed contact arrangements will be contained in a LoA between the responsible ACC and nominated gliding club(s).

1.11.5 **Procedures for SSR equipped Glider Operations within Temporary Reserved Area (TRA) in Class C Airspace between FL 195 - FL 245**

1.11.5.1 Gliders equipped with RTF and SSR transponder may operate in accordance with VFR within Temporary Reserved Areas (TRA) in Class C Airspace between FL 195 and FL 245 provided that the pilot:

(a) Files a flight plan (when specified an abbreviated flight plan will be acceptable).

(b) Obtains an ATC clearance to enter the TRA (See ENR 5.2 and ENR 6-1-6-5).

(c) Monitors ATC frequency.

(d) Selects SSR Code A/C as directed by ATC.

(e) Whilst operating within a designated area, glider pilots will be in receipt of a Flight Information Service.

1.11.5.2 Detailed access requirements to TRA will be detailed in the LoA between the ACC responsible for the airspace and the nominated gliding club(s) concerned.

1.11.6 **Procedures for Glider Operations in Class C Airspace outside TRA and TRA (G) between FL 195 - FL 285**

1.11.6.1 Glider operations in Class C Airspace between FL 195 - FL 285 must comply with the following requirements:

(a) The flight must be conducted in accordance with ATC instructions and/or conditions specified in LoAs or specific permission.

(b) A flight plan must be filed. Where specified an Abbreviated Flight Plan will be acceptable as detailed in the LoA between the ACC responsible for the airspace and the nominated gliding club(s) concerned.

(c) An ATC clearance must be obtained to fly within the airspace.

(d) Select SSR Code A/C as directed by ATC.

(e) Maintain listening watch on the ATC frequency.

(f) In the event that 2-way RTF contact is lost, pilots shall squawk 7600 and descend below controlled airspace (FL 195) as expeditiously as possible.

1.11.6.2 Other Gliding Activity

1.11.6.2.1 Gliding clubs seeking access to airspace above FL 195 to facilitate special events should contact AUS in accordance with procedures detailed at ENR 1.1, paragraph 4.1.9.

1.12 Procedures for Non-SSR Transponder equipped Glider Operations at and above FL 100 up to FL 195

1.12.1 Non-SSR Glider Areas have been established to accommodate non-transponder equipped glider operations at and above FL 100 up to FL 195 (See ENR 5.2 and ENR 6-3-0-1).

1.12.2 ATC clearance is required prior to access of that Class A, C and D Airspace lying within Non-SSR Glider Areas.

1.12.3 Other than that portion of airspace notified as Class A, C and D Airspace the background airspace classification of Non-SSR Glider Areas is Class G, with UK FIS provided on request, where available; and in accordance with ENR 1.1 and ENR 1.6.

1.12.4 The glider pilot is responsible for remaining within the designated area.

ENR 1.1 GENERAL RULES (continued)

2 UK Flight Information Services

2.1 Overview

2.1.1 The ICAO requirements for a Flight Information and Alerting Service are met in the UK FIRs through a suite of services, collectively known as the UK Flight Information Services (FIS), and are provided through the following provisions:

(a) To participating flights arriving at, departing from and overflying aerodromes located within Class G Airspace as listed at GEN 3.3.

(b) To participating VFR flights operating within Class E Airspace, as listed at ENR 3.1.

(c) To aircraft within Advisory Radio Areas as listed at ENR 1.1, paragraphs 5.2.5/6 and ENR 5.2.

(d) Lower Airspace Radar Services (LARS) and Radar Service - FL 100 and above (outside CAS), as listed at ENR 1.6.

(e) Area Control Centre (ACC) services, including the provision of service by ACC FISOs as detailed at GEN 3.3.

2.1.2 The UK FIS (Basic Service, Traffic Service, Deconfliction Service, Procedural Service) are detailed herein. Within the UK, the scope of FIS, as defined in ICAO Annex 11, is met through the provision of a Basic Service.

2.2 Service Principles

2.2.1 Within Class G Airspace, regardless of the service being provided, pilots are ultimately responsible for collision avoidance and terrain clearance, and they should consider service provision to be constrained by the unpredictable nature of this environment.

2.2.2 A pilot shall determine the appropriate service for the various phases and conditions of flight and request that service from the controller/FISO; a Deconfliction Service and Procedural Service shall only be provided to flights under IFR, irrespective of meteorological conditions. An Alerting Service will be provided in association with all services.

2.2.3 Controllers will make all reasonable endeavours to provide the service that a pilot requests. However, due to finite resources or controller workload, tactical priorities may influence service availability. FISOs are not licensed to provide Traffic Service, Deconfliction Service, or Procedural Service.

2.2.4 Instructions issued by controllers/FISOs to pilots operating outside controlled airspace are not mandatory; however, the services rely upon pilot compliance with the specified terms and conditions so as to promote a safer operating environment for all airspace users.

2.2.5 Agreements can be established between a controller and a pilot such that the operation of an aircraft is laterally or vertically restricted beyond the core terms of the Basic Service or Traffic Service. Unless safety is likely to be compromised, a pilot shall not deviate from an agreement without first advising and obtaining a response from the controller.

2.2.6 There may be circumstances that prevent controllers/FISOs from passing timely traffic information and/or deconfliction advice, eg high workload, areas of high traffic density, against unknown aircraft conducting high energy manoeuvres, or when traffic is not displayed to the controller or obscured by surveillance clutter. Controllers/FISOs shall inform the pilot of known reductions in traffic information along with the reason and the probable duration; however, it may not always be possible to provide these warnings in a timely fashion.

2.3 Basic Service

2.3.1 Basic Service provides advice and information useful for the safe and efficient conduct of flights. This may include weather information, changes of serviceability of facilities, conditions at aerodromes, general airspace activity information, and any other information likely to affect safety. The avoidance of other traffic is solely the pilot's responsibility.

2.3.2 Basic Service is available under IFR outside controlled airspace in any meteorological conditions, or under VFR.

2.3.3 Pilots should not expect any form of traffic information from a controller/FISO and the pilot remains responsible for collision avoidance at all times. However, where a controller/FISO has information that indicates that there is aerial activity in a particular location that may affect a flight, they should provide traffic information in general terms to assist with the pilot's situational awareness. This will not normally be updated by the controller/FISO unless the situation has changed markedly, or the pilot requests an update.

2.3.4 Basic Service is available at all levels and the pilot remains responsible for terrain clearance at all times.

2.3.5 Unless the pilot has entered into an agreement with a controller to maintain a specific course of action, a pilot may change heading, route, or level without advising the controller. A controller will not issue specific heading instructions; however, generic navigational assistance may be provided on request.

2.4 Traffic Service

2.4.1 Traffic Service is a surveillance based ATS, where in addition to the provisions of a Basic Service, the controller provides specific surveillance derived traffic information to assist the pilot in avoiding other traffic. The avoidance of other traffic is solely the pilot's responsibility.

2.4.2 Traffic Service is available under IFR outside controlled airspace in any meteorological conditions, or under VFR. If a controller issues a heading and/or level that would require flight in IMC, a pilot who is not suitably qualified to fly in IMC shall inform the controller and request alternative instructions.

2.4.3 The controller will pass traffic information on relevant traffic, and update the traffic information if it continues to constitute a definite hazard, or if requested by the pilot. However, high controller workload and RTF loading may reduce the ability of the controller to pass traffic information, and the timeliness of such information. Whether traffic information has been passed or not, a

pilot is expected to discharge his collision avoidance responsibility without assistance from the controller. Whilst operating in Class G Airspace, if after receiving traffic information a pilot requires deconfliction advice, an upgrade to Deconfliction Service shall be requested. Deconfliction Service is not available in Class E Airspace.

2.4.4 Subject to ATS surveillance system coverage, Traffic Service may be provided at any level and the pilot remains responsible for terrain clearance at all times.

2.4.5 A pilot may operate under their own navigation or a controller may provide headings and levels for the purpose of positioning, sequencing or as navigational assistance. If a heading or level is unacceptable to the pilot they shall advise the controller immediately. When operating under own navigation, pilots may alter course as required; however, unless safety is likely to be compromised, pilots shall not change their general route or manoeuvring area without first advising and obtaining a response from the controller. When following an ATC heading, or flying at a level allocated by ATC, unless safety is likely to be compromised, a pilot shall not change heading, level or level band without first advising and obtaining a response from the controller.

2.5 Deconfliction Service

2.5.1 A Deconfliction Service is a surveillance based ATS where, in addition to the provisions of a Basic Service, the controller provides specific surveillance derived traffic information and deconfliction advice.

2.5.2 A Deconfliction Service shall only be provided to flights under IFR in Class G Airspace, irrespective of meteorological conditions. The controller will expect the pilot to accept headings and/or levels that may require flight in IMC. A pilot who is not suitably qualified to fly in IMC shall not request a Deconfliction Service unless compliance permits the flight to be continued in VMC.

2.5.3 A controller will provide traffic information, accompanied with a heading and/or level aimed at achieving a planned deconfliction minima. High controller workload or RTF loading may reduce the ability of the controller to pass such deconfliction advice; furthermore, unknown aircraft may make unpredictable or high-energy manoeuvres. Consequently, controllers cannot guarantee to achieve these deconfliction minima; however, they shall apply all reasonable endeavors. The avoidance of traffic is ultimately the pilot's responsibility.

2.5.4 The pilot shall inform the controller if he elects not to act on the controller's deconfliction advice, and therefore accepts responsibility for initiating any subsequent collision avoidance against that particular conflicting aircraft.

2.5.5 A Deconfliction Service will only be provided to aircraft operating at or above a terrain safe level, unless on departure from an aerodrome when climbing to a terrain safe level, or when following notified instrument approach procedures. If a controller detects a confliction when an aircraft is departing from an aerodrome and climbing to the terrain safe level, or when following notified instrument approach procedures, traffic information without deconfliction advice shall be passed. However, if the pilot requests deconfliction advice, or the controller considers that a definite risk of collision exists, the controller shall immediately offer such advice.

2.5.6 Unless safety is likely to be compromised, a pilot shall not change heading or level without first obtaining approval from the controller.

2.6 Procedural Service

2.6.1 A Procedural Service is a non surveillance ATS where, in addition to the provisions of a Basic Service, the controller provides instructions, which if complied with, shall achieve deconfliction minima against other aircraft participating in the Procedural Service. Neither traffic information nor deconfliction advice can be passed with respect to unknown traffic.

2.6.2 A Procedural Service shall only be provided to flights under IFR, irrespective of meteorological conditions. The controller will expect the pilot to accept levels, radials, tracks, routes and time allocations that may require flight in IMC. A pilot who is not suitably qualified to fly in IMC shall not request a Procedural Service unless compliance permits the flight to be continued in VMC.

2.6.3 A Procedural Service is available at all levels and the pilot remains wholly responsible for terrain clearance at all times.

2.6.4 A controller will provide deconfliction instructions by allocating levels, radials, tracks, routes, time restrictions, approach clearances and holding instructions, or use pilot position reports, aimed at achieving a planned deconfliction minima. The pilot shall inform the controller if they elect not to act on the controller's deconfliction advice, and therefore accepts responsibility for initiating any subsequent collision avoidance against the aircraft in question and any other aircraft affected.

2.6.5 The controller will provide traffic information on conflicting aircraft being provided with a Basic Service and those where traffic information has been passed by another ATS unit; however, there is no requirement for deconfliction advice to be passed, and the pilot is wholly responsible for collision avoidance.

2.6.6 Unless safety is likely to be compromised, a pilot shall not change level, radial, track, route or time restriction without first obtaining approval from the controller. If a level, radial, track, route or time restriction is unacceptable to the pilot, they shall advise the controller immediately.

ENR 1.1 GENERAL RULES (continued)

3 General Flight Procedures

3.1 Position Reporting within the London and Scottish FIR/UIR

3.1.1 Pilots are to make a position report in the following circumstances:

(a) After transfer of communication;

(b) on reaching the limit of ATS clearance;

(c) when instructed by Air Traffic Control;

(d) when operating helicopters in the North Sea Low Level Radar Advisory and Flight Information areas of responsibility and on Helicopter Routes within the London Control Zone and London/City Control Zone (see ENR 1.6, subsection 4.5 and AD 2.EGLL 2.22, paragraph 11);

(e) when operating flights across the English Channel (see ENR 1.1, paragraph 3.7).

3.1.1.1 The initial call changing radio frequency shall contain only the aircraft identification and flight level. Any subsequent report shall contain aircraft identification, position and time except as provided for in respect of helicopter operations in the areas specified in paragraph 3.1.1 (d) above.

Note: *When changing frequency between the London or Scottish Control Centres, pilots are required to state their callsign and Flight Level/Altitudes only (plus any other details when specifically instructed by ATC). When the aircraft is in level flight but cleared to another FL/ALT, both FL/ALT should be passed.* ***Similarly, when the aircraft is not in level flight, the pilot should state the aircraft identification followed by the FL/ALT to which it is cleared only; it is not necessary to state passing FL/ALT in these circumstances.***

3.1.1.2 Certain Reporting Points on the UK/Amsterdam FIR Boundary are designated 'Compulsory' in the Netherlands AIP. Position Reports should therefore be made at these points when in communication with Amsterdam or Maastricht Control.

3.1.2 **Omit Position Report Procedure**

3.1.2.1 In order to reduce RTF communication a pilot may be instructed by Air Traffic Control to omit position reports provided that the aircraft is radar identified.

3.1.3 **DME Distance Reports to ATC**

3.1.3.1 Pilots, when requested by ATC to report their distance from a DME facility which they do not have displayed, should retune their equipment to that DME. If, for any reason, they are unable to report their distance from the requested DME, ATC is to be informed. Pilots should not calculate the distance based on the reading from another DME.

3.2 Climb and Descent

3.2.1 **Vacating (Leaving) Levels**

3.2.1.1 When pilots are instructed to report leaving a level, they should advise ATC that they have left an assigned level only when the aircraft's altimeter indicates that the aircraft has actually departed from that level and is maintaining a positive rate of climb or descent in accordance with published procedures.

3.2.2 **Level Restrictions**

3.2.2.1 For **all** stages of flight, clearances to climb or descend cancel any previous restrictions or levels, unless they are reiterated as part of the clearance.

3.2.2.2 When a departing aircraft on a SID is required to climb directly to the cleared level without complying with the published vertical restrictions on the SID, ATC will include the word ‘now’ in climb instructions (e.g. Jet 347 climb now FL 120).

3.2.2.3 **Maximum Rates of Climb and Descent**

3.2.2.3.1 In order to ensure the credible interaction of Airborne Collision Avoidance Systems and ground based safety nets, other than aircraft in emergency and certain specific conditions for military aircraft (as detailed in Military AIP and MAA Regulatory Publication RA 3000 Series), all aircraft when operating under normal circumstances, when inside Controlled Airspace within the London and Scottish FIRs/UIRs should not operate with a climb or descent rate exceeding 8000 ft per minute. Aircraft when first approaching a cleared flight level and/or when changing flight level in Controlled Airspace should ensure that the vertical closure speed is not excessive. It is considered that, with about 1500 ft to go to a cleared level, vertical speed should be reduced to a maximum of 1500 ft per minute and ideally to between 1000 ft per minute and 500 ft per minute. Pilots should ensure that the aircraft neither undershoots nor overshoots the cleared level by more than 150 ft, manually overriding if necessary.

3.2.2.4 **Minimum Rates of Climb and Descent**

3.2.2.4.1 In order to ensure that controllers can accurately predict flight profiles to maintain standard vertical separation between aircraft, pilots of aircraft commencing a climb or descent in accordance with an ATC Clearance should **inform the controller** if they anticipate that their rate of climb or descent during the level change will be less than 500 ft per minute, or if at any time during such a climb or descent their vertical speed is, in fact, less than 500 ft per minute.

3.2.2.4.2 This requirement applies to both the en-route phase of flight and to terminal holding above Transition Altitude.

Note: *This is not a prohibition on the use of rates of climb or descent of less than 500 ft per minute where necessary to comply with other operating requirements.*

3.2.2.5 **Noise Abatement Approach Techniques**

ENR 1.1 GENERAL RULES (continued)

3.2.2.5.1 The use of Continuous Descent Approach (CDA) and Low Power/Low Drag Approach (LP/LD) techniques (as defined at GEN 2.2) is required, subject to compliance with ATC requirements, at certain UK Airports as detailed in the appropriate AD 2 Sections. At other locations, although not required, these techniques are considered to be 'best practice' for the reduction of noise nuisance and emissions and should be adopted by pilots whenever operationally practicable, commensurate with the ATC clearance.

3.3 Speed Control

3.3.1 Pilots shall adhere to the speed limits associated with airspace classifications and the speed restrictions notified in procedures published in AD 2. Pilots shall also adhere to the speed (IAS or Mach Number) approved or assigned by ATC and shall request ATC approval before making any changes thereto. If it is essential to make an immediate temporary change in speed (e.g. due to turbulence), ATC shall be notified as soon as possible that such a change has been made. →

3.3.2 Pilots of aircraft unable to maintain the last assigned speed during any particular phase of flight (eg for aircraft performance reasons) shall inform ATC as soon as possible in order that another speed/alternative clearance can be issued.

3.3.3 At levels at or above FL 280, speed adjustments for aircraft in the cruise will be expressed in multiples of 0.01 Mach. At levels below FL 280, speed adjustments will be expressed in multiples of 10 kt based on indicated airspeed (IAS).

3.3.4 For aircraft at or above FL 280 that have been cleared to descend to levels below FL 280, speed adjustments may be based on IAS.

3.4 Radiotelephony, Radio Failure and Loss of Communication Procedures

3.4.1 **General Radiotelephony Procedures**

3.4.1.1 The English Language is used for all communications between aircraft and ATC in the UK.

3.4.1.2 VHF/RTF is used for all air-ground communications throughout the airspace under UK jurisdiction except that HF is also used in the Shanwick Oceanic Control Area and that UHF is also available at London Area Control (Swanwick) and at certain aerodromes (see ENR 1.6, subsection 4.5 and ENR 2.1 sections for details).

3.4.1.3 So far as possible, pilots should make use of the ICAO standard RTF phraseology in ICAO Doc. 4444, Chapter 12 when communicating with ATC. UK specific differences to ICAO phraseology are notified in GEN 1.7 section.

3.4.1.3.1 As a general principle all messages should be acknowledged by use of the aircraft callsign or 'Roger, (callsign)'.

3.4.1.3.2 Messages containing any of the following items must be read back in full:

(a) Taxi/towing instructions;

(b) Level instructions;

(c) Heading instructions;

(d) Speed instructions;

(e) Airways or route clearances;

(f) Approach clearances;

(g) Runway-in-use;

(h) Clearance to enter, land on, take-off, backtrack or cross or hold short of an active runway;

(i) SSR operating instructions;

(j) Altimeter Settings, including units when value is below 1000 hectopascals;

(k) VDF information;

(l) Frequency changes;

(m) Type of ATS surveillance service;

(n) Transition level.

3.4.1.3.3 Where data link communications are used to facilitate clearance delivery, voice read-back of data link messages shall not be required unless otherwise notified by the appropriate authority.

3.4.2 **Radio Failure Procedures For Pilots**

3.4.2.1 **Failure of Navigation Equipment**

3.4.2.1.1 If part of an aircraft's radio navigation equipment fails but two-way communication can still be maintained with ATC, the pilot must inform ATC of the failure and report his altitude and approximate position. ATC may, at its discretion, authorize the pilot to continue his flight in or into Controlled Airspace. When radar is available it may, subject to workload, be used to provide navigational assistance to the pilot.

3.4.2.1.2 If no authorization to proceed is given by ATC, the pilot should leave, or avoid Controlled Airspace and areas of dense traffic, and either:

(a) Go to an area in which he can continue his flight in VMC or (if this is not possible);

(b) select a suitable area in which to descend through cloud, fly visually to a suitable aerodrome and land as soon as practicable.

But before doing so, however, he should consult ATC who may be able to give him instructions or advice. He should also take into consideration the latest meteorological information and terrain clearance and should make full use of ground VHF DF stations. He must at all times keep ATC informed of his intentions.

3.4.2.2 **Failure of Two-way Radio Communications Equipment**

3.4.2.2.1 As soon as ATC know that two-way communication has failed they will, as far as practical, maintain separation between the aircraft experiencing the communication failure and other aircraft, based on the assumption that the aircraft will operate in accordance with radio communication failure procedures described below.

3.4.2.2.2 Flight crews should note that air traffic control might not be aware of the loss of communications, so should not anticipate that appropriate measures to facilitate a landing have been implemented. Flight crews intending to land should therefore be alert to the possibility that vehicles, personnel and or other traffic may be occupying or entering the runway.

3.4.2.2.3 It should be noted that for many aerodromes in the UK, the radio communications failure procedures published in the AD 2 section differ from, or amplify, the basic procedures published below.

3.4.2.2.4 **For the purposes of these procedures, ATC will expect an IFR flight following the ATS route structure to adopt the IMC procedure in paragraph 3.4.2.4. If there is an overriding safety reason, the pilot may adopt the VMC procedure.**

3.4.2.2.5 Flights operating outside controlled airspace, without reference to ATS, should only use these procedures when the pilot decides that there is a need to alert ATC that two-way radio communications failure has occurred.

3.4.2.2.6 It should be noted that the use of loss of two-way communications procedures may result in aircraft flying outside controlled airspace.

3.4.2.2.7 The procedures detailed in this section apply to two-way radio communications failure. In the event that an additional emergency situation develops, ATC will expect the pilot to select secondary radar transponder on Mode A, Code 7700.

3.4.2.2.8 The expression Expected Approach Time (EAT) will mean either an EAT given by the appropriate ATC Unit or, if the pilot has been given 'No delay expected', the ETA over the appropriate designated landing aid serving the destination aerodrome.

3.4.2.2.9 Pilots are given an EAT of 'Delay not determined' when the destination runways cannot be used for landing and it is not possible to accurately predict when they will become available. In some circumstances an EAT of 'Delay not determined' will also be given when a preceding flight has elected to remain over the holding facility pending an improvement in weather conditions at the destination. If 'Delay not determined' has been given, do not attempt to land at the destination aerodrome, divert to the alternate destination specified in the current flight plan or another suitable airfield.

3.4.2.2.10 The 'current flight plan' is the flight plan, as filed and acknowledged with an ATC Unit, by the pilot or a designated representative.

3.4.2.2.11 The procedure that should be used by Special VFR Flights is detailed at ENR 1.2, paragraph 2.9.

3.4.2.2.12 Essential information may be relayed by ATC using the ACARS/Data Link. Pilots may endeavour to use alternative methods for communicating with ATC such as HF. The Distress and Diversion Cell (D&D) serving the London FIR/UIR and the Scottish FIR/UIR may be contacted by phone by aircraft that have approved installations that can access the UK telephone network. The telephone number is:

London D&D Tel: 01489-612406

3.4.2.3 **Visual Meteorological Conditions (VMC)**

3.4.2.3.1 A VFR flight experiencing communication failure shall:

When VMC can be maintained, the pilot should set transponder on Mode A, Code 7600 with Mode C and land at the nearest suitable aerodrome. Pilots should take account of visual landing aids and keep watch for instructions as may be issued by visual signals from the ground. The pilot should report arrival to the appropriate ATC unit as soon as possible. When VMC cannot be maintained, the pilot should adopt the procedures for IMC detailed below.

3.4.2.3.2 Subject to the provisions of paragraph 3.4.2.2.3, an IFR flight experiencing communication failure in VMC shall:

When VMC can be maintained, the pilot should set transponder to Mode A, Code 7600 with Mode C and land at the nearest suitable aerodrome. Pilots should take account of visual landing aids and keep watch for instructions as may be issued by visual signals from the ground. The pilot should report arrival to the appropriate ATC unit as soon as possible. If it does not appear feasible to continue the flight in VMC, or if it would be inappropriate to follow this procedure, the pilot should adopt the procedures for flights in IMC detailed below.

Note: *Pilots already in receipt of an ATC clearance may enter controlled airspace and follow the procedures referred to above.* ***Those flights, that have not received an ATC clearance, should not enter controlled airspace unless an overriding safety reason compels entry.***

3.4.2.4 **Instrument Meteorological Conditions (IMC)**

3.4.2.4.1 A flight experiencing communications failure in IMC during an approach directed by radar shall:

(a) Operate secondary radar transponder on Mode A code 7600 with Mode C.

(b) Continue either visually, or by means of promulgated Initial Approach Procedures and an appropriate approved final approach aid, to land. If this is not practical, carry out the missed approach procedure and continue to a holding facility

appropriate to the airfield of intended landing for which an instrument approach is notified and then carry out that procedure.

3.4.2.4.2 Except where communications failure occurs during an approach directed by radar, a flight experiencing communication failure in IMC shall:

(a) Operate secondary radar transponder on Mode A code 7600 with Mode C.

(b) (i) Maintain for a period of seven minutes, the current speed and last assigned level or minimum safe altitude, if this is higher. The period of seven minutes begins when the transponder is set to 7600 and this should be done as soon as the pilot has detected communications failure.

(ii) If failure occurs when the aircraft is following a notified departure procedure such as a Standard Instrument Departure (SID) and clearance to climb, or re-routing instructions have not been given, the procedure should be flown in accordance with the published lateral track and vertical profile, including any stepped climbs, until the last position, fix, or waypoint, published for the procedure, has been reached. Then, for that part of the period of seven minutes that may remain, maintain the current speed and last assigned level or minimum safe altitude if this is higher.

(iii) Following the period of seven minutes, adjust the speed and level in accordance with the current flight plan and continue the flight to the appropriate designated landing aid serving the destination aerodrome. Attempt to transmit position reports and altitude/flight level on the appropriate frequency when over routine reporting points.

(c) If being radar vectored, or proceeding offset according to RNAV, without a specified limit, continue in accordance with ATC instructions last acknowledged for three minutes only and then proceed in the most direct manner possible to rejoin the current flight planned route. Pilots should ensure that they remain at, or above, the minimum safe altitude.

(d) Comply with the loss of communications procedures notified for the destination aerodrome in the AD 2 section of the UK AIP.

(e) (i) Arrange the flight to arrive over the appropriate designated landing aid serving the destination aerodrome as closely as possible to the ETA last acknowledged by ATC. If no such ETA has been acknowledged, the pilot should use an ETA derived from the last acknowledged position report and the flight-planned times for the subsequent sections of the flight.

(ii) Arrange the flight to arrive over the appropriate designated landing aid serving the destination aerodrome at the highest notified Minimum Sector Altitude taking account of en-route terrain clearance requirements.

(iii) If following a notified Standard Arrival Route (STAR), after the seven minute period detailed in paragraph (b) (i) has been completed, pilots should arrange descent as close as possible to the published descent planning profile. If no descent profile is published, pilots should arrange descent to be at the minimum published level at the appropriate designated Initial Approach fix.

(f) On reaching the appropriate designated landing aid serving the destination aerodrome, begin further descent at the last acknowledged EAT. If no EAT has been acknowledged, the descent should be started at the ETA calculated in (e) (i), above, or as close as possible to this time. If necessary, remain within the holding pattern until the minimum holding level, published for the facility, has been reached. The rate of descent in holding patterns should not be less than 500 ft per minute. If ‘Delay not determined’ has been given, do not attempt to land at the destination aerodrome, divert to the alternate destination specified in the current flight plan or another suitable airfield.

(g) Carry out the notified instrument approach procedure as specified for the designated navigational aid and, if possible, land within 30 minutes of the EAT or the calculated ETA. When practical, pilots should take account of visual landing aids and keep watch for instructions that may be issued by visual signals from the ground.

3.4.3 **Actions taken by ATC**

(a) As far as is practical, ATC shall maintain separation between the aircraft experiencing the communication failure and other aircraft based on the assumption that the aircraft will operate in accordance with published radio communication failure procedures. This includes making allowance for the fact that an aircraft following an approach, whether or not it has received a landing clearance, may either land or may carry out the missed approach procedure.

(b) ATC will assume that an aircraft's receiver may be functioning and will transmit instructions for routing and other relevant information such as the EAT, weather information, altimeter settings and runway in use at destination (or alternate) aerodromes.

(c) ATC will use all means possible to monitor the flight's progress and inform other flights where necessary.

(d) ATC will attempt to re-establish communications with the pilot by monitoring standby frequencies (where available) and by contacting the aircraft operator, or handling agent or by use of ACARS/Data Link when available.

(e) ATC will co-ordinate the flight with other ATC agencies as required.

(f) If the flight re-establishes communications with an ATC unit during flight, or after the aircraft has landed, the ATC unit will relay the pilot's intentions, or that the aircraft has landed, to the ATC Unit that was providing an ATS when the communications failure occurred.

(g) If the aircraft's progress cannot be monitored by radar and there has been no other indication of the aircraft's progress, or landing, normal overdue action will commence 30 minutes after the ETA for the destination airfield.

ENR 1.1 GENERAL RULES (continued)

3.5 Use of Airborne Collision Avoidance Systems (ACAS) in the United Kingdom FIR and UIR

3.5.1 **General**

3.5.1.1 ACAS indications shall be used by pilots in the avoidance of potential collisions, enhancement of situational awareness, and the active search for, and visual acquisition of, conflicting traffic. The ability of ACAS to fulfil its role of assisting pilots in the avoidance of potential collisions is dependent on the correct and timely response by pilots to ACAS indications.

3.5.1.2 The Traffic Alert and Collision Avoidance System (TCAS) II is accepted by the Civil Aviation Authority (CAA) as a suitable ACAS system provided its installation is certificated by the State of Registry, and that its operation by flight crew is in accordance with appropriate operating instructions.

3.5.2 **Procedures to be Established**

3.5.2.1 An operator shall establish procedures to ensure that:

(a) When ACAS is installed and serviceable, it shall be used in flight in a mode that enables Resolution Advisories (RAs) to be produced unless to do so would not be appropriate for conditions existing at the time, and

(b) When undue proximity to another aircraft is detected by ACAS, the commander or the pilot to whom conduct of the flight has been delegated shall ensure that corrective action is initiated immediately to establish safe separation.

(c) The circumstances when it is appropriate to operate ACAS in the Traffic Advisory (TA)-only mode are specified in the Flight Operations Manual. This should be limited to particular in-flight failures, during take-offs or landings in limiting performance conditions (for example at high altitude airports), and locations where States have approved specific procedures permitting aircraft to operate in close proximity, only.

3.5.3 **TCAS II Operating Characteristics**

3.5.3.1 TCAS II will issue a TA only when another aircraft with a compatible operating transponder is close in both range and altitude. If the transponder in the potentially conflicting aircraft is providing altitude data, an RA may be issued.

3.5.3.2 TAs and RAs can be issued on the basis of 'time to closest point of approach (CPA)' or 'fixed distance' thresholds being penetrated. On most occasions, TAs and RAs will be issued on the 'time to CPA' basis, but in RVSM penetration of airspace fixed range and altitude thresholds are likely to be a more frequent cause.

Note: *In cases where a vertical speed of closure causes RAs to be issued, TCAS II in the climbing/descending aircraft may advise a reduction in the climb or descent rate, whilst TCAS II in the other aircraft may advise a 'Climb' or 'Descend' RA. If the climbing/descending aircraft in this pair is diverging in range at a slow rate, the 'Climb' or 'Descend' RA issued to the Flight Crew in the other aircraft may remain displayed for several minutes, even though the former has levelled off at its cleared flight level. Although this particular circumstance is likely to be rare, even when it does occur, excessive altitude excursions need not result.*

3.5.4 **Operation of Aircraft When ACAS II is Unserviceable**

3.5.4.1 The current TCAS II Minimum Equipment List permits TCAS II equipped aircraft to operate for up to 10 days with the equipment out of service. This position will be kept under review.

3.5.4.2 Due to the safety benefits arising from TCAS operations and the collaborative way in which it arrives at collision avoidance solutions any aeroplane with an unserviceable transponder as well as an unserviceable TCAS will not be permitted in UK airspace for which mandatory carriage of a transponder is required.

3.5.5 **Operation of TCAS II in RVSM Airspace**

3.5.5.1 Above FL 290, TAs and RAs are most likely to occur in airspace where aircraft change altitude to reduce separation from 2000 ft to 1000 ft: this airspace is described as a 'Transition Area'. Specifically:

(a) TAs can be expected when aircraft vertically separated by 1000 ft pass each other. If the speed at which they pass is low, such as when one is overtaking the other, TAs may be intermittent or they may last for long periods.

(b) RAs can be expected when the vertical speed of closure, which may be the sum of the vertical speeds of both aircraft or the vertical speed of one of the aircraft, exceeds approximately 1500 ft/min. RAs might also be issued when either aircraft experiences turbulence sufficient to cause TCAS to project the vertical separation between both aircraft to be less than 800 ft at CPA, or when a 'soft altitude hold' function in either aircraft achieves the same result.

3.5.6 **Guidance for Aircraft Operators and Flight Crews**

3.5.6.1 Flight Crews can reduce the likelihood of TAs and RAs occurring above FL 290 where separation is less than 2000 ft vertically and 5 nm horizontally by confining vertical speeds to less than 1500 ft/min. Desirably, the vertical speed should be between 500 and 1000 ft/min.

3.5.6.2 The TCAS II function control selector should not be moved from the 'TA/RA' or 'Normal' position upon entering RVSM Airspace. Although it is implicit that such TAs and RAs as have been described could be termed 'unnecessary', this might not always be the case. For this reason, Flight Crews would be unwise either to disable an effective collision avoidance device without sound reason, or to assume that any TA or RA issued in this airspace is other than genuine.

3.5.6.3 Flight Crews shall not manoeuvre an aircraft solely in response to a TA. TAs are intended to alert the pilot to the possibility of an RA, and to assist in visual acquisition of conflicting traffic. However, visually acquired traffic may not be the same traffic causing a TA, and visual perception of an encounter may be misleading, particularly at night.

3.5.6.4 In the event that an RA is issued, Flight Crews shall:

ENR 1.1 GENERAL RULES (continued)

(a) Respond immediately and manoeuvre as indicated by the ACAS unless doing so would jeopardise the safety of the aircraft;

(b) follow the RA even if there is a conflict between that RA and an air traffic control (ATC) instruction to manoeuvre;

(c) not manoeuvre in the opposite sense or direction to that of the RA;

(d) limit RA manoeuvres to the minimum extent necessary to comply with the RA.

3.5.6.5 Flight Crews should note that:

(a) Other critical warnings such as Stall Warning, Windshear Warning and Ground Proximity Warning Systems have priority over ACAS.

(b) visually acquired traffic may not be that causing an RA, as the visual perception of an encounter may be misleading, particularly at night.

(c) ATC may not know when an ACAS system issues an RA. It is possible for ATC to issue instructions to an aircraft that are unknowingly contrary to RA instructions on that aircraft. Therefore, it is essential that ATC be notified when an ATC instruction is not being followed because it conflicts with an RA.

(d) a manoeuvre opposite to the sense of an RA may result in a reduction in vertical separation with the 'threat' aircraft and therefore must be avoided at all times; this is particularly true in the case of an ACAS-ACAS co-ordinated encounter, when the RAs complement each other in order to reduce the potential for collision. Manoeuvres, or lack of manoeuvres, that result in vertical rates opposite to the sense of an RA could result in a collision with the threat aircraft.

3.5.6.6 A pilot who has deviated from an air traffic control instruction or clearance in response to an RA shall:

(a) As soon as possible, as permitted by flight deck workload, notify the appropriate ATC unit of the RA, including the direction of any deviation from the current ATC instruction or clearance.

(b) when they are unable to comply with a clearance or instruction that conflicts with an RA, notify ATC as soon as possible consistent with flying the aircraft.

(c) promptly comply with any modified RAs.

(d) return to the terms of the ATC instruction or clearance when the conflict is resolved.

(e) after initiating a return to, or resuming the current clearance, notify ATC as soon as possible consistent with flying the aircraft.

3.5.6.6.1 Verbal reports should be made to Air Traffic Control at the first practicable moment and written reports submitted to the designated Authority as soon as possible after the flight has ended.

3.5.7 **Guidance for Air Traffic Service Providers and for Air Traffic Controllers**

3.5.7.1 The operation of TCAS II equipment will affect ATC operations to some extent, irrespective of the type of airspace. ATC will expect Flight Crew to react to RAs and to notify any manoeuvres initiated in response to RAs in accordance with standard practice. The Manual of Air Traffic Services Part 1, Section 1, Chapter 9 provides information on TCAS II to Air Traffic Controllers: it reiterates the phraseology that Flight Crews will use and the replies that Air Traffic Controllers should make.

3.5.7.2 It will be apparent from paragraph 3.5.5.1 that TAs will be more frequent in North Atlantic RVSM Airspace than elsewhere. Air Traffic Controllers should be aware of this and, where possible, be prepared to provide requested traffic information to Flight Crews.

3.5.7.3 As pilots are not required to take avoiding action on the basis of TA information alone, ATC does not expect requests for traffic information to be made unless the other aircraft cannot be seen and the pilots believe their aircraft is about to be endangered.

3.5.7.4 ATC expects pilots to respond immediately to an RA. Pilots are expected to restrict their RA manoeuvres to the minimum required to resolve the confliction, advise the Air Traffic Control Unit as soon as is practical thereafter and return to their original flight path as soon as it is safe to do so.

3.5.7.5 Pilots should be aware that any deviation from an ATC clearance has the potential to disrupt the controller's tactical plan and may result in a reduction of standard separation between aircraft other than those originally involved. It is vital that Flight Crew maintain a good look out and return to their original flight path as soon as it is safe and practical to do so.

ENR 1.1 GENERAL RULES (continued)

3.6 Diversion

3.6.1 Diversion is the act of flying to an aerodrome other than the planned destination with the intention of landing there.

3.6.2 Normally diversion is made when one of the following circumstances occurs at the planned destination:

(a) The weather is reported to be below the operating company's minima;

(b) there are obstacles on the manoeuvring area constituting a hazard to landing aircraft which cannot be cleared within a reasonable time;

(c) there is a failure of an essential ground aid which is required for the landing;

(d) there is likely to be an unacceptable delay to landing.

3.6.3 Diversion may be originated by either the pilot or his operating company, or exceptionally by ATC.

3.6.3.1 When a pilot decides to divert he should inform ATC. ATC will, if possible, advise his operating company or a nominated addressee of his diversion when this is specifically requested by the pilot.

3.6.3.2 An operating company proposing to divert one of its aircraft should consult ATC before any decision on diversion is passed to the pilot. The message to the pilot will be in this form:

'Company advise divert to . . . . . (aerodrome). Weather at . . . . . (diversion aerodrome) . . . . . Reason for diversion . . . . . (clearance instructions). Acknowledge'.

The pilot should either follow this advice or if he is unable to do so, give his reasons and state what he intends to do.

3.6.3.3 In exceptional circumstances, it may be necessary for ATC to advise a pilot to divert before being able to consult his operating company. In such a case, the company will be told as soon as possible and the message to the pilot will be in the form:

'Request divert to . . . . . (aerodrome). Weather at . . . . . (diversion aerodrome) . . . . . Reason for diversion . . . . . (clearance instructions). Acknowledge'.

If the pilot is unable to comply with this request, he should give his reasons and state his intention.

3.7 Low Level Cross-Channel Operations - UK/France

3.7.1 Pilots undertaking Cross-Channel flights are reminded that a flight plan **MUST** be filed for all flights to or from the United Kingdom which will cross the United Kingdom/France FIR Boundary.

3.7.2 When filing the flight plan with the UK and French Authorities, pilots are to ensure that well defined significant points/features, at which the aircraft will cross the UK and French coast-lines, are included in Item 18 (Other Information) of the flight plan form (eg Beachy Head, Berck-sur-Mer, Lydd, Boulogne, Dover, Cap Gris Nez, etc). This is for Search and Rescue purposes but will also assist ATC.

3.7.3 Pilots should plan their flights, where possible, at such altitudes which would enable radio contact to be maintained with the appropriate ATC Unit whilst the aircraft is transitting the Channel. In addition, the French Authorities have requested that aircraft fly at altitudes which will keep them within Radar cover. The carriage of Secondary Surveillance Radar (SSR) equipment is recommended.

3.7.4 Position reports are required when crossing the coast outbound, inbound and when crossing the FIR Boundary.

3.7.5 Pilots undertaking Cross-Channel flights under IFR, are reminded that the normal IFR Rules will apply particularly regarding altitudes and flight levels. Pilots are also reminded that the IMC rating is not recognized by the French Authorities.

3.7.6 In UK Airspace a bi-directional Recommended VFR Route between the Solent CTA and the Channel Islands CTR routing towards the Cherbourg Peninsula is established (See AD 2-EGJJ-3-1). All traffic using the route above 3000 ft amsl are advised to maintain the appropriate cruising level irrespective of the flight rules being observed. Pilots flying above 3000 ft amsl are reminded of the requirement to maintain an appropriate semi-circular level whilst within the French FIR.

ENR 1.1 GENERAL RULES (continued)

4 Arrangements for Particular Types of Flight (Non-Standard, Non-Deviating, Unusual, Royal, Observation, Special, VFR Access to Class C Airspace Above FL 195, and Civilian Formation Flights)

4.1 Non-Standard Flights (NSFs) in Controlled Airspace

4.1.1 A Non-Standard Flight (NSF) in Controlled Airspace is an aerial task that may not necessarily follow published routes or notified procedures; a formation flight of civil aircraft other than for VFR transit of CTA/CTR/TMA; or flights to and from a temporary landing site for multiple short term operations.

4.1.1.1 Applications for NSFs within Controlled Airspace should primarily be made via the NATS Non-Standard Flight Application website (www.nats.co.uk/nsf) with the minimum 21 or 28 days notice (see paragraphs 4.1.2 and 4.1.6). If applicants are unable to utilise this website, applications may be submitted to the units listed below.

(a) For flights south of 5230N and within the East Midlands CTA:

Post: London Control (Swanwick)
ATC Operations, PO Box 30, NATS Ltd, Sopwith Way, Swanwick, Southampton, Hants, SO31 7AY.
Phone: 01489-444181.
Phone: 01489-444182.
Email: **NonStandard.FlightApplications@nats.co.uk**

(b) for flights north of 5230N and over Northern Ireland:

Post: Scottish AC (Prestwick)
ATC Airspace Reservation Cell, NATS Prestwick, Room F-059, Prestwick Centre, Fresson Avenue, Prestwick, Ayrshire, KA9 2GX.
Phone: 01292-692431.
Fax: 01292-692042.
Email: **Reservation.Cell@nats.co.uk / PCDUTYOPS@nats.co.uk**

(c) for flights within 15 nm and up to 7000 ft of Manchester Airport:

Post: Manchester Airport Operations
Control Tower Building, Manchester Airport Ltd, Wythenshawe, Manchester, M90 2PL.
Phone: 0161-499 5316/5305.
Email: **manchesterairport.atcops@nats.co.uk**

(d) for localised VFR flights above FL 195 south of 55N not requiring reserved airspace and outside of the ATS route structure:

Post: Swanwick(Mil) West Bank Supervisor
RAF(U) Swanwick, Sopwith Way, Swanwick, Southampton, Hants, SO31 7AY.
Phone: 01489-612417
Fax: 01489-612611
Email: **SwanwickMilitary-West@nats.co.uk**

(e) for localised VFR flights above FL 195 north of 55N not requiring reserved airspace and outside of the ATS route structure:

Post: Swanwick(Mil) North Supervisor
RAF(U) Swanwick, Sopwith Way, Swanwick, Southampton, Hants, SO31 7AY.
Phone: 01489-612943
Fax: 01489-612611
Email: **SwanwickMilitary-North@nats.co.uk**

See Swanwick (Mil) Sector Dimensions chart at ENR 6-1-6-4.

4.1.1.2 Applicants using either the website based application or any e-mail address listed above should ensure that the file sizes do not exceed 5MB. Zipped files are acceptable.

4.1.2 New applications or a renewal of a previously approved application shall give a minimum of **21 days** notice and include the information listed below (Any modification to a previously approved NSF application, without a change to the validity date, shall give a minimum of 10 days notice from the date of modification):

(a) Purpose of flight;

(b) the area of operation and proposed tracks to be flown, to include graphical depiction on a suitable **aeronautical chart** plus a list of National Ordnance Survey Grid and/or WGS84 co-ordinates detailing the requested areas of operation in relation to Controlled Airspace;

(c) estimated duration of aerial task;

(d) operating levels;

(e) aircraft type, callsign and registration letters on any aircraft likely to be used;

(f) aerodrome of departure;

(g) planned date of operation and requested validity period;

ENR 1.1 GENERAL RULES (continued)

(h) communications equipment (including transponder fit).

4.1.2.1 Those applications which are agreed will be allocated a non-standard flight reference number. This is only an approval in principle and prior clearance must be obtained from the appropriate ATC Watch Supervisor on the day. This is normally obtained by telephone 1 hour prior to departure. However, since many tasks are weather-dependent, some have to be abandoned after the aircraft is airborne. To overcome the particular difficulty of having to land and co-ordinate another detail by telephone, the following procedures may be adopted by pilots of those NSFs which have been previously allocated a NSF number by London Area Control (Swanwick) or London Terminal Control (Swanwick), and who wish to abandon the original task co-ordinated prior to take-off and proceed to another location.

4.1.2.1.1 The aircraft commander will establish RTF contact on the London FIS frequency (callsign 'London Information') appropriate to the area of the country over which the new task is required to be flown, prefixing the message with the phrase 'Non-Standard Flight Request'. The following information will then be passed to the Flight Information Service Officer (FISO):

(a) The Non-Standard Flight number;

(b) the requested area of activity (this is essential as many NSF numbers refer to several sites);

(c) ETA at site;

(d) the requested Flight Level or Altitude for the task;

(e) the duration of the task;

(f) the aircraft callsign.

4.1.2.1.2 The FISO will relay these details to the appropriate ATC Unit and, in due course, will advise the pilot whether or not the NSF is approved, together with any special conditions and a contact frequency for the ATC Unit concerned. Pilots should not call for an approval directly on an operational ATC frequency. This is particularly important in the case of frequencies in use by London Terminal Control (Swanwick) or London Area Control (Swanwick).

4.1.2.1.3 In the case of NSFs affecting Airspace for which London Terminal Control (Swanwick) is responsible, it may sometimes be necessary for the pilot to land at a convenient aerodrome and telephone Terminal Control Senior Watch Assistant to discuss the requirements of the task in detail.

4.1.2.1.4 Operators are to note that in no circumstances can any discussion be entered into on any frequency in the event that permission is refused or withdrawn.

4.1.3 ATC clearance does not imply exemption from the requirements of the Air Navigation Order (ANO) or the Rules of the Air Regulations. Applications for flights which require exemption or written permission under the ANO are to be forwarded to:

Post: The Civil Aviation Authority,
Flight Operations Division, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR.

4.1.4 Because of the nature of ATC operations (and notwithstanding the requirements of GEN 1.5, paragraph 5.3 concerning the carriage of SSR transponders), the approval of an application for a Non-Standard Flight will depend on the carriage of SSR transponder equipment normally with Mode C.

4.1.5 Due to the inherent difficulties of handling a formation flight in a busy traffic situation, pilots should be aware that it may not always be possible to issue an ATC clearance at the time requested.

4.1.6 **Enhanced Non-Standard Flights (ENSFs) - Entry into EG R157 (Hyde Park)/EG R158 (City of London)/EG R159 (Isle of Dogs) Restricted Areas**

4.1.6.1 For those aircraft not already exempted (see individual entry for Restricted Area at ENR 5.1), ENSFs are required for flights within EG R157, EG R158 and EG R159. Requests should be made using the NSF website (www.nats.co.uk/nsf) as detailed at paragraph 4.1.1.1 giving a minimum of 28 days notice. Any modification to a previously approved ENSF application shall give a minimum of 28 days notice from the date of modification.

4.1.6.2 ENSFs are subject to security considerations by the Metropolitan Police and may be refused on public interest grounds.

4.1.6.3 Once the security process is complete and London Terminal Control (Swanwick) provisional ATC approval in principle is granted, an 'ENSF Notification - Approval' form will be returned to the operator. Details of how to obtain a Metropolitan Police authorisation number for an ENSF and the ATC tactical approval on the day of flight are detailed on the 'ENSF Notification - Approval' form.

4.1.7 **Single-Engine Fixed Wing Aircraft Over Central London**

4.1.7.1 With the exception of the Northolt RMA (see AD 2.EGWU AD 2.17) and the Local Flying Areas at Denham and Brooklands (see AD 2.EGLL AD 2.22), NSF or ENSF permissions will not be granted to single-engine fixed wing aircraft requesting to operate within those parts of the London and London City Control Zones between a North-South line extending through the LON VOR and a North-South line extending through the LCY NDB. In accordance with a directive from the CAA Safety and Airspace Regulation Group (SARG), applications which fall within the above criteria will be refused upon application to the NSF Coordinator due to the inability of such aircraft, in the view of the CAA, to be able to comply with SERA.3105 Minimum Heights.

4.1.8 **Small Unmanned Aircraft**

4.1.8.1 Flights within controlled airspace by Small Unmanned Aircraft which have a mass of more than 7 kg, are considered as Unusual Aerial Activities and are required to be notified to the relevant Air Traffic Control unit using the NSF process. NSF approval is given conditional upon the SUA operation remaining entirely within the limits of the stated lateral and vertical operating area and that no safety assurance against other Unusual Aerial Activities taking place in the same area is given or implied. Compliance with Articles 137, 166 and 167 of the Air Navigation Order is required at all times.

ENR 1.1 GENERAL RULES (continued)

4.1.8.2 Flights by Small Unmanned Aircraft of any mass into Restricted Areas EG R157, R158 and R159 within the London and London City Control Zones require specific approval via the ENSF process.

4.1.9 **Unusual Aerial Activities Both Within and Outside Controlled Airspace**

4.1.9.1 Normally, requests for the approval of Unusual Aerial Activities remaining within Controlled Airspace at all times are treated by the controlling authority as Non-Standard Flights.

4.1.9.2 Requests for the approval of Unusual Aerial Activities (UAA) operating within Controlled Airspace (Class A-E) and Class G airspace are treated differently from the Non-Standard Flight (NSF) type. Such UAAs are more complex and time-consuming to resolve because of the need for additional negotiation needed between ATC and airspace users, and should be notified to ATC at the earliest opportunity. A UAA of this nature is processed by the CAA Airspace Regulation section, which consults all agencies affected, arranges NOTAM action, and publishes an Airspace Coordination Notice (ACN). The ACN details the agreements reached about the activity inside and outside Controlled Airspace and reflects the NSF approval issued by the relevant controlling authority.

4.1.9.3 Details of UAAs/NSFs operating within Controlled Airspace (Class A-E) and Class G airspace are to be submitted as per paragraph 4.1.2 with a copy to:

Post: CAA Safety and Airspace Regulation Group,
Airspace Regulation (AR), K6, CAA House, 45-59 Kingsway, London, WC2B 6TE.
Phone: 020-7453 6599
Email: ausops@caa.co.uk

4.1.10 **VFR Flight in Class C Airspace Above FL 195**

4.1.10.1 VFR flight by civil aircraft above FL 195 shall not be permitted unless it has been accorded specific arrangements by the appropriate ATS authority. VFR flight shall only be authorised:

(a) In reserved airspace;

(b) Outside reserved airspace up to FL 285, and then only when authorised in accordance with the procedures detailed for Non-Standard Flights in Controlled Airspace.

4.1.10.2 If utilising permanently established reserved airspace, the established booking procedures for that airspace should be followed. If there is a need for the establishment of temporary reserved areas then procedures for conducting Unusual Aerial Activities in Controlled Airspace shall be followed as detailed in paragraph 4.1.9. Standing arrangements for temporary reserved areas for gliding in Class C airspace are shown at ENR 1.1, paragraph 1.11.

4.1.10.3 It is anticipated the demand for VFR access outside of an airspace reservation will be minimal. Such access will be accommodated within the context of safety, capacity and effect on the ATS network as a whole; consequently VFR access to the ATS route structure is only likely to be permitted in exceptional circumstances. In this case the appropriate civil ATC Unit will coordinate provision of ATS. Operators seeking to operate in such areas should contact the appropriate ACC Operations Department as detailed at paragraphs 4.1.1 to 4.1.5. Applications for VFR flight to avoid IFR ATS route flow restrictions will not be granted.

4.1.10.4 Operators seeking localised VFR flight above FL 195 not requiring reserved airspace and clear of the ATS route structure should contact the relevant Military Supervisor located at London Area Control (Swanwick) who will co-ordinate access arrangements and military ATC provision within unit capacity. Contact details are shown at paragraph 4.1.1.1 (d) and (e). Such flights shall only be permitted where procedures are established with the controlling authority.

Note: *Specific arrangements for gliding operations above FL 245 are shown at ENR 1.1, paragraph 1.11.*

4.1.11 **VFR Flight in Class C Areas of Delegated ATS**

4.1.11.1 Charts depicting these areas are detailed at ENR 6-2 pages. These delegated areas of ATS are busy international interfaces. Consequently, approval for VFR flight will only be granted in exceptional circumstances and after co-ordination with and agreement of the respective ATS provider. Applications for VFR access to these areas should in the first instance be made to AUS as detailed in paragraph 4.1.9.

ENR 1.1 GENERAL RULES (continued)

4.2 Non Deviating Status (NDS)

4.2.1 NDS may be agreed by prior arrangement with the appropriate controlling authorities for certain flights within Controlled Airspace excluding in the UIR active Danger and Military Training Areas.

4.2.2 The requirement for NDS may be expressed as all, or part, of a notified flight profile and not merely for a constant heading and, or, flight level. Application for NDS should only be made where an inability to maintain specific track(s) and or flight level(s) could render a task operationally ineffective. NDS would not be appropriate for, nor would it be granted to, GAT aircraft carrying freight or passengers between destinations or GA aircraft general handling etc or in transit.

4.2.3 NDS affords priority of passage over all other OAT and GAT except for: aircraft in emergency; Royal Flights; Air Defence Priority Flights; GAT with higher civil priority category or other higher priority Special flights.

4.2.4 The Airspace Utilisation Section (AUS), is the central authority for authorising NDS and is the focal point for NDS applications, inter unit negotiations and approvals.

4.2.5 AUS normally requires a minimum of 21 days notice of pre-flight requests for NDS in order to obtain agreement from the affected Air Traffic Service Units (ATSUs) and, or, Airborne Surveillance and Control (ASAC) Units. A request for NDS should include:

(a) Operating authority, including a point of contact;

(b) type of aircraft operation (e.g. flight trial, calibration etc);

(c) reference number or other discrete nomenclature;

(d) aircraft registration(s) and/or callsign(s);

(e) details of flight(s);

(i) departure aerodrome and destination;

(ii) route or area;

(iii) profiles (if appropriate);

(iv) times;

(v) altitudes or Flight Levels;

(vi) facilities to be used (if appropriate);

(vii) any non-ATC agencies involved;

(viii) any specific requirements eg frequencies to be used etc.

(f) details of any specific flexibility, limitation or critical aspect.

Shorter notice applications may be considered on merit, but AUS may direct aircraft operating authorities to refer their requests for NDS direct to the appropriate ATSU(s) or ASAC unit(s) involved if the application cannot be processed in time by AUS.

4.2.6 Units will attempt to agree to short notice requests for NDS but, if given insufficient time, may decline or modify the request. Profile adjustments may, in any event, need to be negotiated if such changes would result in less disruption to other traffic.

4.2.7 Flights granted NDS will remain under radar control or procedural service. If in the interest of flight safety it should become necessary to give NDS flights avoiding action, such instructions from a controller are **Mandatory.**

ENR 1.1 GENERAL RULES (continued)

4.3 Unusual Aerial Activities (UAA) Outside Controlled Airspace

4.3.1 A UAA may constitute a hazard if pilots of non-participating aircraft are not aware that it is taking place. The Civil Aviation Authority and in particular the Directorate of Airspace Policy, Airspace Utilisation Section (AUS) require appropriate prior notification of a UAA to enable either AUS to co-ordinate and notify the event, or for the Authority to issue a Permission or Exemption under the Air Navigation Order (ANO) and the Regulations. Event or display organisers are advised to utilise the CAA Publication CAP 403 'Flying Displays and Special Events: A Guide to Safety and Administrative Arrangements'. The document is available from The Stationery Office (Tel: 0870-6005522) and on the CAA web site: http//www.caa.co.uk/publications

4.3.2 Individual participating pilots are advised to check that the event or display organiser has made proper application for any required Permission or Exemption.

4.3.3 While there are many types of UAA, most fall within one of the following categories:

(a) A concentration of aircraft significantly greater than normal, eg a Rally or Fly-in;

(b) Activities requiring the issue of a Permission or an Exemption from the ANO and the Regulations, eg low flying near assemblies of people, the dropping of articles or parachutists, or balloon or kite flying;

(c) Air Shows, Displays, Air Races and other aeronautical competitions, aerial surveys and avoidance of ground events and hazards;

(d) Activities requiring the establishment and approval of a temporary ATC Unit. (See CAP 670 'ATS Safety Requirements' and CAP 403 for requirements and recommendations). In the case of the provision of a Flight Information Service (FIS) at a temporary FIS Unit refer to CAP 797 'Flight Information Service Officer Manual' and CAP 1032 'Aerodrome Flight Information Service Officer Licensing'. All are available on the CAA web site, as above.

4.3.4 All event or display organisers wishing to arrange a UAA are to use the standard notification forms SRG 1303 (Flying Display Notification Form) or SRG 1304 (Special Events and Unusual Aerial Activity Application Form) as appropriate.

4.3.5 The length of notice required by the Authority and AUS is as follows:

(a) UAA at a licensed aerodrome or site where a temporary aerodrome licence is required - 60 days;

(b) UAA at an aerodrome or a site where an aerodrome licence is not necessary - 42 days;

(c) If an activity is intended to attract more than 100 aircraft it is essential that proposals are discussed with both the Aerodrome Standards Department (ASD) and the appropriate Regional Manager - Air Traffic Services (ATS) prior to any firm arrangements being made. These discussions should be initiated at least **90 days** prior to the date of the Activity. If the organiser has any doubt on the level or type of Air Traffic Service that should be provided, he/she is strongly recommended to contact the relevant Regional Manager (ATS) for guidance;

(d) If it is intended to establish a Temporary Air Traffic Control Unit (ATCU) at an event, it is essential that organisers refer to the document CAP 670 'ATS Safety Requirements' which contains comprehensive information and requirements for the establishment of such a unit. This document is available on the CAA web site: http//www.caa.co.uk/publications

A provider of Air Traffic Control must be nominated and he/she is required to apply to the appropriate CAA ATSSD Regional Office in advance of the event for unit approval. A copy of the proposed Manual of Air Traffic Services Part 2 (MATS Part 2) should be submitted as soon as possible but no later than 60 days before the event. The format of the MATS Part 2 is laid out in CAP 670 - Part B, Section 2, Annex A to ATC 02 with further information in Part B, Section 1, APP04, Page 3.

Established ATS Units intending to hold a Flying Display or Special Event are required to notify their ATSSD Regional office if the event requires changes to safety related procedures at that unit.

Copies of Form SRG 1417, which also may be used for the application for a temporary VHF frequency, are available from CAA ATSSD Regional Offices or on the CAA web site. A minimum of 90 days notice is required for a temporary assignment of VHF aeronautical channels.

Note: *Air Traffic Services Standards Department (ATSSD) - Regional Offices*

Post: Regional Manager ATS
Southern Regional Office, Floor 2W, Aviation House, Gatwick Airport South, West Sussex RH6 0YR.
Phone: 01293-573426.
Fax: 01293-573974.

Post: Regional Manager ATS
Central Regional Office, Manchester International Office Centre, Suite 5, Styal Road, Wythenshawe, Manchester M22 5WB.
Phone: 0161-499 3055 x242.
Fax: 0161-499 3048.

Post: Regional Manager ATS
Northern Regional Office, 7 Melville Terrace, Stirling, FK8 2ND.
Phone: 01786-431400.
Fax: 01786-448030.

Post: ATS Standards Department, Aviation House, Gatwick Airport South, West Sussex RH6 0YR.
Phone: 01293-573329.
Fax: 01293-573974.

ENR 1.1 GENERAL RULES (continued)

See chart at ENR 6-1-1-2 for Area of Responsibility of the ATSSD Regional Offices.

4.3.6 Display organisers and pilots are advised that, although every effort will be made to deal with late notification forms, no guarantee can be given that they will be processed in time for the event.

4.3.7 Forms SRG 1303 and SRG 1304 can be obtained from the CAA website, and when completed should be returned to:

Post: Civil Aviation Authority, General Aviation Department, 1W, Aviation House, Gatwick Airport South, West Sussex RH6 0YR
Phone: 01293-573227 / 573517 / 573525
Fax: 01293-573973

To arrive at least 28 days before the event, a copy of the form should be sent to:

Post: Directorate of Airspace Policy, Airspace Utilisation Section (AUS), K6, CAA House, 45-59 Kingsway, London, WC2B 6TE.
Phone: 020-7453 6599
Fax: 020-7453 6593

4.3.8 Event or display organisers should note that whenever military aircraft participate in a civil aviation event, the Ministry of Defence (MoD) requires the organiser to complete a special questionnaire which is separate from, and additional to, the notification required by the Authority. Event organisers will receive copies of the military questionnaire from the MoD when the military participation is confirmed. The completed questionnaires are to be sent to AUS.

ENR 1.1 GENERAL RULES (continued)

4.4 Royal Flights

4.4.1 **Introduction**

4.4.1.1 A Royal Flight within UK airspace is defined as the movement of an aircraft specifically tasked to carry one or more members of The Royal Family afforded such status by the Head of Royal Travel, The Royal Household.

4.4.1.2 When so directed by the Directorate of Airspace Policy (DAP) Assistant Director Airspace Policy 1, certain flights within UK airspace by reigning Sovereigns and Heads of State of foreign countries and, where appropriate, Prime Ministers of Commonwealth countries may also be afforded Royal Flight status.

4.4.2 **Special ATC Arrangements for Royal Flights in Fixed-Wing Aircraft**

4.4.2.1 **Establishment of Temporary (Class D) Controlled Airspace (CAS-T)**

4.4.2.1.1 Royal Flights in fixed-wing aircraft will, whenever possible, take place within the national ATS route structure. Standard ATC procedures shall be applied to Royal Flights when operating in permanent Class A, C and D Airspace. In all other instances, the airspace around the route will be designated CAS-T.

4.4.2.1.2 CAS-T of appropriate height/width bands, and levels, will be established to encompass any portion of the track and flight level of the Royal aircraft that lies **outside** of permanent Class A, C and D Airspace. Temporary Control Zones and Control Areas will be established, where not permanent/extant, around airfields, with an appropriate level of service provision, used for the departure or arrival of a Royal Flight.

4.4.2.1.3 Regardless of the prevailing meteorological conditions, aircraft shall only fly within CAS-T when ATC clearance has been obtained from the controlling authorities specified in the following sub-paras:

(a) **Temporary Control Zones.** Temporary Control Zones, Class D, will be established, where appropriate, around airfields of departure and destination where no permanent control zones exist. Control Zones for Royal Flights will extend between 5 and 10 nm radius from the centre of the aerodrome from ground level to an upper level designated for each Royal Flight dependant upon the Royal aircraft type and the aerodromes surrounding airspace. The Control Zone will be established for a period (for outbound flights) of 15 minutes before, until 30 minutes after, the ETD of the Royal aircraft or, for inbound flights, a period of 15 minutes before, until 30 minutes after, the ETA of the Royal aircraft at the airfield concerned. Overall control of these Control Zones is to be exercised, as appropriate, by the Commanding Officer of a military airfield or the appropriate ATS authority of a civil airfield.

(b) **Temporary Control Areas.** Temporary Control Areas, dimensions and duration thereof, will be established to meet the specific requirements of a Royal Flight. The controlling authority will be the appropriate civil or military ATCC.

(c) **Permanent Control Zones and Areas.** The controlling authority will be the designated controlling authority for the Permanent Zone or Area and the duration will be as laid down in sub-paras 4.4.2.1.3 (a) and (b). Where an airfield has its own Control Zone, then the requirement to establish a Temporary Control Zone of the dimensions specified in para 4.4.2.1.3 (a) may be waived. The ATC Supervisor is to ensure that, when a Royal Flight is active or expected in the same airspace, Special VFR clearances stipulate conditions that provide separation standards against the Royal Flight mirroring IFR separation standards (para 4.4.2.2.2 refers).

(d) **Temporary Controlled Airways.** Temporary Controlled Airways, Class D, will be established to join temporary or permanent Control Zones or Control Areas, as appropriate, for 15 minutes before ETA at start point of the temporary airway until 30 minutes after ETD from the end/departure point of the temporary airway. The lateral dimensions of such airways will be 5 nm each side of the intended track of the Royal Flight and vertical limits will be designated. The controlling authority will be the appropriate civil or military ATCC.

4.4.2.1.4 A Temporary Control Zone, Area or airway may be cancelled at the discretion of the Military Commander or Civil ATC Supervisor, as appropriate, when the Royal aircraft has left the temporary zone, area or airway and is established en-route in permanent Class A, C or D Airspace, or has landed.

4.4.2.1.5 Training Flights, including parachute-training flights, by any member of The Royal Family planned and carried out under VFR or IFR, and under the control of an ATCRU or aerodrome radar, will normally be classified as Royal Flights. CAS-T, where required, will be established as agreed by the aircraft operating organisation and the Directorate Airspace Policy, Airspace Utilisation Section.

4.4.2.2 **Procedures Applicable to Royal Flight CAS-T**

4.4.2.2.1 CAS-T will be notified as Class D Airspace; applicable access criteria and separation standards apply.

4.4.2.2.2 SVFR may be applied within CAS-T CTRs in accordance with ENR 1.2 para 2 of the UK AIP and CAP 493 (Manual of Air Traffic Services) Part 1, Section 1, Chapter 2, Para 8, whereby ATC will provide standard separation between all Special VFR flights and other aircraft under IFR.

4.4.2.2.3 CAS-T established outside of existing Class A/C Airspace is hereby notified respectively as either Control Zones or Control Areas (as appropriate) as defined in Article 255(1) of the Air Navigation Order 2009.

4.4.2.3 **Promulgation of Royal Flight Information**

4.4.2.3.1 Dissemination of information concerning a Royal Flight is made via a Notification Message on a Royal Flight Collective, giving full flight details. Information on the establishment of CAS-T, including vertical limits, is promulgated by NOTAM.

4.4.3 **Royal Flights in Helicopters**

4.4.3.1 CAS-T is not normally established for Royal Flights in helicopters.

ENR 1.1 GENERAL RULES (continued)

4.4.3.2 Royal helicopter flights will be afforded the protection of a Royal Low Level Corridor (RLLC). A RLLC is marked by a series of check-points and will be promulgated by Notification Message. These check-points, approximately 20 minutes flying time apart, will coincide with turning points. The Notification Message will indicate the ETDs/ETAs for given check-points. Within the RLLC, protected sectors applying to military aircraft only are established extending 5 nm either side of the helicopter's intended track and from ground level to 1000 ft above the maximum cruise altitude. Military flying within these sectors is strictly controlled and, such aircraft, with the exception of military light aircraft and helicopters with an IAS of 140 kt or less, are to maintain a lateral separation of at least 5 nm from the Royal Helicopter. This may be reduced to 3 nm subject to the military ATC conditions for reduced radar separation being met. Military light aircraft or helicopters, with an IAS of 140 kt or less, and civilian pilots flying near the route should keep a good look out and maintain adequate separation from the Royal aircraft.

4.4.3.3 The Notification Message will include a list of callsigns and frequencies of certain nominated aerodromes from which pilots may obtain information on the progress of the Royal helicopter.

4.4.4 **Royal Flight Callsigns**

4.4.4.1 The flight plan aircraft identification and the radiotelephony designators for flights flown in aircraft of No. 32 (The Royal) Squadron, the Queen's Helicopter Flight (TQHF) or in civilian chartered aircraft are as follows:

(a) **Royal Flights.** Royal flight callsigns are as follows:

(i) **No. 32 (The Royal) Squadron (See note).** The 3-letter operator designator KRF followed by an identification number and the letter R, eg KRF 1R, and the radiotelephony callsign 'KITTYHAWK' followed by an identification number and the letter R.

(ii) **TQHF.** The 3-letter designator TQF followed by an identification number and the letter R, eg TQF 1R, and the radiotelephony callsign 'RAINBOW' followed by an identification number and the letter R.

(iii) **Civilian Chartered Aircraft.** The 3-letter designator KRH followed by an identification number and the letter R, eg KRH 1R, and the radiotelephony callsign 'SPARROWHAWK' followed by an identification number and the letter R.

(b) **Flights by Passengers entitled to CAA Priority.** Callsigns for flights by aircraft carrying passengers entitled to CAA priority are as follows:

(i) **No. 32 (The Royal) Squadron (See note).** The 3-letter operator designator KRF and the radiotelephony callsign 'KITTYHAWK' followed by an identification number.

(ii) **TQHF.** The 3-letter operator designator TQF and the radiotelephony callsign 'RAINBOW' followed by an identification number and the letter S.

(iii) **Civilian Chartered Fixed-wing Aircraft.** The 3-letter operator designator KRH and the radiotelephony callsign 'SPARROWHAWK' followed by an identification number.

(iv) **Civilian Chartered Rotary-wing Aircraft.** The 3-letter operator designator KRH and the radiotelephony callsign 'SPARROWHAWK' followed by an identification number and the letter S.

(c) **Positioning Flights.** Callsigns for positioning flights are as follows:

(i) **No. 32 (The Royal) Squadron (See note).** The 3-letter operator designator RRF and the radiotelephony callsign 'KITTY' followed by an identification number.

(ii) **TQHF.** The 3-letter operator designator will be TQF and the radiotelephony callsign 'RAINBOW' followed by an identification number.

(iii) **Civilian Chartered Fixed-wing Aircraft.** The normal aircraft callsign will be used.

(iv) **Civilian Chartered Rotary-wing Aircraft.** The 3-letter operator designator KRH and the radiotelephony callsign 'SPARROWHAWK' followed by an identification number.

(d) **Other Flights by Aircraft of No. 32 (The Royal) Squadron (See note).** All other flights carried out by No. 32 (The Royal) Squadron will use the 3-letter designator RRR and the radiotelephony callsign 'ASCOT' followed by the required identification number.

(e) **Helicopters flown by HRH The Duke of York.** For helicopters of TQHF flown by HRH The Duke of York, the 3-letter operator designator will be LPD and the radiotelephony callsign will be 'LEOPARD'.

Note: *The rule also applies whenever No. 10 Squadron or No. 216 Squadron aircraft are being utilised for Royal/VIP flights.*

ENR 1.1 GENERAL RULES (continued)

4.5 Observation Flights Conducted Under the Treaty on Open Skies

4.5.1 Introduction

4.5.1.1 The Treaty on Open Skies was signed on 24 March 1992 by 25 Countries, including the UK, to promote greater transparency in military activities and thereby enhance international security. The Treaty has now been expanded to include 27 Countries. To fulfil its obligations under the terms of the Treaty, the UK is committed to accept Observation Flights by Observation Teams from any of the signatory Countries over **any** part of UK territory, including Controlled Airspace.

4.5.2 Observation Flights

4.5.2.1 Observation Flights may be conducted from RAF Brize Norton. RAF Lossiemouth may be used as a refuelling airfield only.

4.5.2.1.1 Occasionally, an Observation Flight may overfly several Western European Union (WEU) Countries in one mission – Combined Observation Flight. In this case, the Observation Flight could commence and/or end within the UK, or merely overfly the UK during the mission. Additionally, a refuelling stop within the UK may be required.

4.5.2.1.2 The aircraft used during the Observation Flight may be provided by either the UK or the visiting Country. In either case, a UK Flight Monitor will always be available on the flight deck to act as an interface with ATC agencies.

4.5.2.2 Although Her Majesty's Government will receive at least 3 days notice of the arrival of an Observation Team within the UK, the intended route and profile of the Observation Flight (Mission Plan) will not be known until approximately 24 hours prior to commencement. Upon receipt of the MIssion Plan, the Airspace Utilisation Section (AUS) will initiate any Danger Area closure action and notify details of the route to the appropriate ATC agencies by means of an Airspace Co-ordination Notice (ACN). AUS will also take NOTAM action to notify other agencies and airspace users.

4.5.2.3 Under the terms of the Treaty, aircraft undertaking Observation Flights are to be afforded due priority over other aircraft, **(see Note 1)**. Observation Flights within UK airspace are therefore granted Category B Status (as detailed in MATS Part 1, Section 1, Chapter 4, para 10C). In addition, when within Controlled Airspace, flights are to be afforded non-deviating status (ENR 1.1.4.2), and when outside of Controlled Airspace, as far as possible flights are to be afforded priority over all other aircraft except those in an emergency or performing roles where the safety of life is involved.

4.5.2.4 All Observation Flights within UK airspace shall be conducted in compliance with published National ATC rules, procedures and guidelines on flight safety, **(see Note 2)**.

4.5.2.5 For flight safety reasons and to assist in affording priority over other traffic, whilst operating in Class G airspace, Observation Flights are strongly recommended to remain within the bounds of radio and radar coverage. In addition, whilst operating in the Scottish Highlands Area, Observation Flights are strongly recommended to operate under Instrument Flight Rules (IFR) and not to fly below the IFR Minimum Levels over high terrain as detailed in SERA.5015(b)(1).

4.5.2.6 The Open Skies Scottish Highland Area is within the area bounded by straight lines joining the following coordinates: 555300N 0050000W – 560400N 0045200W – 560100N 0044200W – 565400N 0022900W – 572800N 0025300W – 572600N 0044000W – 573700N 0043100W – 581300N 0032800W – 583500N 0045500W – 571200N 0062100W – 561800N 0061200W.

Note 1: *Treaty on Open Skies – Article VI Section 1, para 15.*

Note 2: *Treaty on Open Skies – Article VI Section 1, para 14.*

ENR 1.1 GENERAL RULES (continued)

4.6 Special Flights

4.6.1 Introduction

4.6.1.1 Special Flight Notifications (SFNs) can be applied to a variety of special aerial tasks which may take place throughout an extended period of time. The most common are Police Authority Air Support Unit (ASU) and Air Operations Unit (AOU) flights, Helicopter Emergency Medical Service (HEMS) flights and HM Government-sponsored flights, (including Ministry of Defence and other flights). The nature of SFN flights is such that they will often require to be afforded priority over most other flights.

4.6.1.2 The purpose of an SFN is to ensure that those ATC agencies likely to provide services to the subject aircraft are aware of any special handling requirements, and that aircraft operators are aware of the conditions under which priority over most other flights is afforded.

4.6.2 Content

4.6.2.1 SFNs will contain details of:

(a) The purpose of the subject flight.

(b) The priority(ies) of the subject flight, to be in accordance with flight categories defined at CAP 493 Manual of Air Traffic Services Part 1, Section 1, Chapter 4 and as authorised by the CAA as follows:

(i) Police Authority ASU and AOU flights - Category A (Police Emergencies), Category B (the normal operational priority) or Category Z (training, test and other flights involving Police Authority aircraft).

(ii) HEMS flights - A, E or Z as described in AIC Y 9/2014 dated 20 February 2014.

(iii) HM Government-sponsored flights, subject to the nature of the activity but usually Category B for special surveys. Category E applies to time-critical test and training flights, Category Z to all routine training, test and other flights.

(c) The period(s) during which flights may take place.

(d) The period of validity of the SFN.

(i) A Special Flight Notification should normally be issued for no longer than twelve months from the date of issue.

(ii) Exceptionally, subject to the approval of the NATS SFN Co-ordinator and the CAA, this period may be extended to no longer than fifteen months from the date of issue when the period of operation of the flight is expected to be longer than twelve, but no longer than fifteen months from the date of issue and/or to assist in the timely administration of notices of renewal.

(e) The name of the operator and the type of aircraft.

(f) The callsign(s) to be used and the main operating base(s).

(g) The routine operating area of the activity.

(h) The operating level (or levels), where appropriate to include minimum and/or maximum levels and/or level bands.

(i) The minimum weather criteria required for the particular operation.

(j) Points of contact for the operator and ATC agencies responsible for the area in which the flight is to be undertaken.

(k) The rules under which the aircraft captain is to operate the aircraft.

(l) Available communications and (if applicable) discrete SSR codes to be used.

(m) Pre-flight notification and co-ordination requirements for the flight, to include the minimum pre-notification period where appropriate or possible.

(n) The action by the aircraft captain in the event of loss of communications (AIP ENR 1.1, subsection 3 refers to basic national procedures).

(o) Any special considerations.

4.6.3 Promulgation

4.6.3.1 Responsibility for the drafting, amendment, promulgation and distribution of SFNs is vested in the NATS SFN Co-ordinator. All queries concerning, and requests for, Special Flight Notification are to be submitted to the:

Post: NATS SFN Co-ordinator, Room 3115/Box 3115, London Area Control (Swanwick), Sopwith Way, Swanwick, Hants, SO31 7AY
Phone: 01489-444182 (alternate 01489-444181)
Email: special.flights@nats.co.uk

4.6.4 Enquiries

4.6.4.1 All enquiries concerning SFN policy may be addressed to the CAA at:

Post: Airspace Regulation, Directorate of Airspace Policy, CAA House, 45-59 Kingsway, London, WC2B 6TE
Phone: 020-7453 6512
Fax: 020-7453 6565
Email: airspaceregulation@caa.co.uk

ENR 1.1 GENERAL RULES (continued)

4.7 Civilian Formation Flights - ATC Procedures

4.7.1 **General**

4.7.1.1 ATC will consider formations to be a single unit for separation purposes provided that:

(a) The formation elements are contained within 0.5 nm laterally and longitudinally, and within 100 ft vertically from the formation leader. Within Class G Airspace and subject to ATC approval, these limits may be increased to 3 nm and/or up to 1000 ft vertically.

(b) For the purposes of SERA.3135(d) Formation Flights: Military aircraft flying in formation must be flown at a distance not exceeding 1 nm laterally and longitudinally and 30 m (100 ft) vertically from the leading aircraft in the formation.

(c) The formation, although operating outside the parameters above, has NSF approval.

4.7.1.2 The formation leader is responsible for ensuring safe separation between aircraft comprising the formation.

4.7.1.3 In making initial contact with the ATC unit, the formation leader shall clearly state the number of aircraft in the formation.

4.7.1.4 Where a flight plan is required, the identification of the formation leader and the number of aircraft in the formation must be shown.

4.7.1.5 All ATC instructions and clearances will be addressed to the leader.

4.7.2 **Controlled Airspace**

4.7.2.1 VFR formation flights by civilian aircraft transiting CTA/CTR/TMA are subject to the normal airspace requirements as detailed at ENR 1.4. All other civilian formation flights in Controlled Airspace are subject to NSF approval.

4.7.2.2 Formations in Controlled Airspace shall be contained within 1 nm laterally and longitudinally and at the same level. Where this is not possible, the formation must be split into individual elements before entering Controlled Airspace. In the event that aircraft within the formation are unable to maintain within these parameters, the formation leader must immediately inform ATC.

4.7.2.3 Prior to entering Controlled Airspace, the formation leader shall confirm that all aircraft within the formation are within 1 nm laterally and longitudinally, and if in level flight, are at the same level.

4.7.2.4 When a formation has been cleared to climb or descend in Controlled Airspace, the formation leader shall confirm that all elements have reached the new assigned level.

4.7.2.5 All aircraft in the formation are to monitor the relevant ATC frequency.

4.8 Air tests with Swanwick(Mil) within the London FIR.

4.8.1 All civil operators wishing to file an airtest using a service provided by Swanwick(Mil) must comply with the following guidance.

4.8.1.1 Ideally, an air test request form is to be sent prior to midnight (local) the day before the test; this is to ensure that Swanwick(Mil) is able to offer a deconfliction service for the civil operator against busy military flying periods. However, should this notice period not be possible, the request to Swanwick(Mil) is to be made no less than 2 hours prior to the airtest commencing. If requests are made with only 2 hours notice then these must be made as early in the day as possible; this is to enable controller workload planning. Requests made late in the day are at risk of postponement until the following day.

4.8.1.2 Captains of test flights are also requested to call the Swanwick(Mil) Supervisor on 01489-612408 prior to engine start to ensure that the Unit has the capacity to provide an Air Traffic Service outside of the civil airways structure.

Note: *The above procedure should only be considered as a request for a service to be provided by Swanwick(Mil) and should not be construed as the filing of a flight plan. All normal flight plan procedures should be adhered to.*

ENR 1.1 GENERAL RULES (continued)

REQUEST FOR SWANWICK (Mil) TO PROVIDE AN ATS TO A CIVIL TEST FLIGHT

Civil aircraft operators, including military contractors, should inform Swanwick(Mil) of their requirements for a test flight before midnight the previous day; the minimum notice required is 2hrs on the day. The timings requested cannot be guaranteed, due to occasional high intensity periods of fast-jet flying but Swanwick(Mil) may be able to suggest an appropriate timing to both parties. Swanwick(Mil) has a very limited controlling capacity between 1700 and 0900 daily, at weekends and on UK Public Holidays; during these times operators should be aware they may be required to use the normal ATS structure as GAT, or reschedule their test flight.

Once completed, this form is to be returned to the Swanwick(Mil) Supervisor via email:
SwanwickMilitary-East@nats.co.uk, SwanwickMilitary-West@nats.co.uk
AND SwanwickMilitary-North@nats.co.uk

OPERATORS ARE TO ENSURE THAT FLIGHT PLANS ARE ADDRESSED TO EGWDZQZX - FAILURE TO DO SO MAY RESULT IN A DELAY TO THE FLIGHT

Aircraft Operator								
Contact Telephone No								
Date	**Day**	**Month**	**Year**		**Requested Date of Airtest**	**Day**	**Month**	**Year**
Callsign					**Aircraft Type**			
RVSM Status								
Departure Aerodrome					**Destination Aerodrome**			
ETD (Z)					**ETA (Z)**			
Planned Manoeuvring Area								
Flight Profile								
1	**FL (or level band)**		**Duration**	**mins**	**Remarks**			
2	**FL (or level band)**		**Duration**	**mins**	**Remarks**			
3	**FL (or level band)**		**Duration**	**mins**	**Remarks**			
4	**FL (or level band)**		**Duration**	**mins**	**Remarks**			
5	**FL (or level band)**		**Duration**	**mins**	**Remarks**			
Detail Any Special Handling Requirements / Remarks								

Captains of test flights are requested to call the Swanwick(Mil) Supervisor on (01489) 612408 prior to engine start to ensure that the Unit has the capacity to provide an Air Traffic Service outside of the civil airways structure.

CIVIL AIRTESTS ARE ALWAYS ACCEPTED SUBJECT TO MILITARY TRAFFIC LEVELS

Received at Swanwick(Mil) by at *(DTG)*

ENR 1.1 GENERAL RULES (continued)

5 Airspace Restrictions, Danger Areas and Hazards to Flight

5.1 Airspace Restrictions

5.1.1 **Restriction of Flying Regulations**

5.1.1.1 The Secretary of State for the Department for Transport (DfT) is empowered under Article 96 of the Air Navigation Order (ANO) to make regulations prohibiting, restricting or imposing conditions on flight by civil aircraft in United Kingdom airspace and by any United Kingdom registered civil aircraft in any other airspace within which the United Kingdom, under international arrangements, has undertaken to provide navigational services to aircraft. Restriction of Flying Regulations are made only when the Secretary of State deems it necessary in the public interest.

5.1.1.2 **Prohibited Area** - An airspace of defined dimensions within which the flight of aircraft is prohibited.

5.1.1.3 **Restricted Area** - An airspace of defined dimensions within which the flight of aircraft is restricted in accordance with certain specified conditions.

5.1.1.4 Prohibited and Restricted Areas established under these Regulations may be temporary or permanent. When time permits, details of temporary Prohibited and Restricted Areas are promulgated by Supplements to the UK AIP or AIC but in the case of Emergency Restriction of Flying Regulations (see paragraph 5.1.2) the information will be promulgated by NOTAM. Permanent Prohibited and Restricted Areas are tabulated at ENR 5.1.

5.1.2 **Emergency Restriction of Flying Regulations**

5.1.2.1 An Emergency Controlling Authority (ECA) may seek to inhibit flight in the vicinity of an emergency incident on land or at sea within the United Kingdom Flight Information Regions if it considers it essential for the safety of life or property and particularly for the protection of those engaged in Search and Rescue action.

5.1.2.2 Depending upon the nature of the incident the initial action will normally be the establishment of a Temporary Danger Area (see paragraph 5.1.3.2) notified by NOTAM. However, if a Temporary Danger Area fails to meet the objective or is deemed to be inappropriate for a particular incident, Emergency Restriction of Flying Regulations may be introduced. The Regulations will make it an offence to fly within the designated Restricted Area (Temporary) without the permission of the appropriate ECA. Notification of the coming into force of Emergency Restriction of Flying Regulations and details of the Restricted Area (Temporary) will be made by NOTAM and at the same time any previously established Temporary Danger Area will be withdrawn.

5.1.2.3 The ECA is the only authority which may grant permission for aircraft to be flown within the notified airspace. Subject to overriding considerations of safety, flights by aircraft directly associated with the emergency will invariably be given priority over those seeking to overfly for any other reason.

5.1.3 **Danger Area** - Airspace which has been notified as such within which activities dangerous to the flight of aircraft may take place or exist at such times as may be notified.

5.1.3.1 Certain aircraft operating within some Danger Areas may be unable to comply with SERA.3135 Formation Flights, SERA.3201 General, SERA.3205 Proximity and SERA.3210 Right-of-Way. Pilots in the vicinity of these areas are strongly advised to make use of a Radar Service.

5.1.3.2 Areas within which activities dangerous to the flight of aircraft may take place or exist during the promulgated 'Hours of Activity (UTC)'. See ENR 5.1, column 3.

5.1.3.2.1 Danger Areas encompass for example; weapon ranges, including test and practice ranges for all types of weapons (guns, bombs, aircraft cannons and rockets etc) aerial combat training, parachutist training and demolition areas. It is emphasized that only the types of hazardous activities most likely to be encountered are listed. Areas will not be reserved for one type of activity only and various hazards may be encountered in one area simultaneously. Pilots are warned that, in addition to the hazards already mentioned, military aircraft may be towing targets with cable lengths which, although normally 6000 ft, may extend to 24000 ft. The target itself may be anything up to 2500 ft below the towing aircraft and therefore the combination of towing aircraft, cable and target presents a considerable hazard. Pilots are reminded that aircraft in the towing configuration have right of way over other converging powered aircraft under the provisions of the SERA Section 3 - General Rules and Collision Avoidance for avoiding aerial collisions and pilots must realise that, although the cable and target may not be immediately apparent, this does not absolve them from giving way to the towing aircraft. The potential hazards of flying through active Danger Areas cannot be overstressed.

5.1.3.2.2 In the immediate vicinity of Danger Areas in which military aircraft operate many of those aircraft fly arrival, holding and departure patterns. Pilots of itinerant aircraft flying close to Danger Areas are advised to keep an especially sharp lookout for such aircraft and, by taking any necessary evasive action (unless the Rules for avoiding aircraft collisions require otherwise) in good time, permit them to continue their manoeuvres.

5.1.3.2.3 **Byelaws.** Unauthorised entry into many Danger Areas is prohibited within the Period of Activity of the Danger Area as listed at ENR 5.1 by reason of Bye-laws made under the Military Lands Act 1892 and associated legislation. For those Danger Areas where Bye-laws which prohibit entry apply, the Remarks column 3 of ENR 5.1 includes the year and number of the relevant Statutory Instruments (SI).

5.1.3.2.4 ENR 5.1 contains details only of those UK Danger Areas which have an upper limit in excess of 500 ft above ground level. There are many ranges (rifle, small arms etc) with upper limits of 500 ft or less above ground level, see paragraph 5.3.1 Small Arms Ranges and details as listed at ENR 5.3. Pilots should therefore satisfy themselves that they are clear of such Small Arms Ranges when flying at or below 500 ft.

5.1.3.2.5 Temporary Danger Areas may be established at short notice around the scene of emergency incidents when it is considered that the activity associated with the incident could be hazardous to flight (see paragraph 5.1.2).

ENR 1.1 GENERAL RULES (continued)

5.1.3.3 **Danger Area Crossing Service**

5.1.3.3.1 A Danger Area Crossing Service (DACS) is an inflight service available for over 24% of UK Danger Areas. Details of unit contact frequencies and availability are given for the applicable areas under the 'Remarks' Column 3 at ENR 5.1 and on the legend to chart ENR 6-5-1-1 (United Kingdom Airspace Restrictions and Hazardous Areas). The contact frequencies are also printed on the 1:500 000 UK ICAO Aeronautical Charts legends.

5.1.3.3.2 The DACS Unit will, when the DA activity permits, provide a clearance for an aircraft to cross the Danger Area under a suitable type of service. It should be noted that, dependent on the activity, it may be possible to accommodate a crossing of a DA during its notified hours of operation.

5.1.3.3.3 The crossing clearance is only in relation to DA activity. The provision of deconfliction advice and/or traffic information in relation to other traffic, either inside or operating close to the DA, will be in accordance with the scope of the specific ATS provided, ie Deconfliction Service, Traffic Service or Basic Service.

5.1.3.3.4 Where possible, the pilot should provide the DACS Unit with an estimated crossing time as shown in the following example. When used by a DACS Unit, the term 'active' means that the DA is notified as active and there is activity taking place. Where there is no possibility of confusion, the number of the DA may be replaced by the name, eg 'Danger Area Loudwater'.

5.1.3.3.5 To obtain a DACS pilots should call the appropriate Nominated Service Unit (NSU) on the relevant frequency. The following example shows the phraseology to be used when a pilot requests a DACS and the DA is active:

Aircraft: ‘Westbury Approach, G-ABCD, request Crossing Service for Danger Area 113 between 1430 and 1445’.

ATS: ‘G-ABCD, Westbury Approach, Danger Area 113 active remain outside’.

5.1.3.3.6 When a DA is notified as not active, or is notified as active and there is no DA activity taking place, the DACS Unit may provide a clearance for the aircraft to cross the DA. The following example shows the phraseology to be used when a pilot requests a DACS, the DA is not active, and crossing may be permitted:

Aircraft: ‘Westbury Approach, G-ABCD, request Crossing Service for Danger Area 701A between 1430 and 1445’.

ATS: ‘G-ABCD, Westbury Approach, Danger Area 701A crossing approved between 1430 and 1445, report vacating’.

Aircraft: ‘G-ABCD, Danger Area 701A crossing approved between 1430 and 1445, wilco, G-ABCD’.

5.1.3.4 **Danger Area Activity Information Service**

5.1.3.4.1 A Danger Area Activity Information Service (DAAIS) is an inflight service available for over 68% of UK Danger Areas. For a few Danger Areas this includes periods of activity outside the hours of availability of a DACS.

5.1.3.4.2 The purpose of the DAAIS is to enable pilots to obtain, via a NSU, an airborne update of the activity status of a participating Danger Area whose position is relevant to the flight of the aircraft. Such an update will assist pilots in deciding whether it would be safe to penetrate the (inactive) area. It is strongly emphasized that information obtained from a NSU is only pertinent to the ACTIVITY STATUS of a Danger Area and is not a clearance to cross that Danger Area, whether or not it is active. The DAAIS does not absolve pilots from the responsibility of obtaining as much information as possible on a relevant Danger Area by existing methods of notification, as part of normal pre-flight briefing procedures. Details including frequencies of NSUs providing a DAAIS are tabulated in the 'Remarks' Column 3 of ENR 5.1 and on the legend to chart ENR 6-5-1-1 (United Kingdom Airspace Restrictions and Hazardous Areas). The contact frequencies are printed on the legend of the 1:500 000 UK ICAO Aeronautical Charts.

5.1.3.4.3 To obtain a DAAIS, which is pronounced ‘DAY-ES’ in radio transmissions, pilots should call the appropriate NSU on the relevant frequency using the following phraseology:

'(NSU callsign), (aircraft callsign), request DAAIS for Danger Area (number)'.

The reply from the NSU will depend upon:

(a) The notified activity status of the Danger Area;

(b) the actual state of activity at the time of call.

Generally the reply will be:

'(Aircraft callsign), (NSU callsign), Danger Area (number) active/not active'.

The reply may be qualified by a statement indicating when or for what period of time the area will be active or when any temporary activity may restart.

5.1.3.4.4 Pilots are advised to assume that a Danger Area is active and remain outside if no reply is received from the appropriate NSU.

5.1.3.4.5 DAAIS is not available to aircraft operating on Airways and Upper Air Routes where such Airways and Routes cross Danger Areas. For these situations procedures exist which are specifically detailed in relevant ATC Unit instructions.

5.1.4 **Pilotless Target Aircraft/Unmanned Aerial Targets**

5.1.4.1 Pilotless Target Aircraft/Unmanned Aerial Targets are operated and manoeuvred within certain Danger Areas as indicated in the list at ENR 5.1.

5.1.4.2 Pilotless Target Aircraft/Unmanned Aerial Targets may be painted in a variety of colours including orange, black, or red and yellow and may be flown day and night in all weather conditions. Navigation lights are not always displayed and the aircraft occasionally trail smoke as a method for visual acquisition. They often trail flares and other decoys and may or may not be

equipped with transponders depending upon type and mission profile. The size and speed of these aircraft/targets vary considerably ranging from 20 kilograms to hundreds of kilograms and speeds between 50 and 650 kts.

5.1.4.3 Within the EG D201 Aberporth Danger Areas, Pilotless Target Aircraft/Unmanned Aerial Targets are operated under the control of MoD Aberporth and the aircraft are flown in accordance with the instructions of ground based intercept controllers. Similar arrangements are in place at EG D701 Hebrides Danger Areas under the control of MoD Hebrides. Pilotless Target Aircraft/ Unmanned Aerial Targets are also flown within EG D115 Manorbier.

5.1.5 **Temporary Reserved Areas (TRA)**

5.1.5.1 **Introduction**

5.1.5.1.1 The Single European Sky (SES) Airspace Classification Regulation Commission (Regulation (EC) No 730/2006) required EU member states to implement Class C Airspace above FL 195 by 1 July 2007. The UK introduced Class C Airspace above FL 245 on 16 March 2006 and the lowering of Class C Airspace to FL 195 was implemented on 15 March 2007.

5.1.5.1.2 In complying with the EC Regulation lowering Class C Airspace to FL 195, Temporary Reserved Areas (TRA) between FL 195 and FL 245 have been established to accommodate the various VFR UK airspace users including military autonomous operational requirements above FL 195. TRAs may be used simultaneously by both civil and military aircraft, including aircraft in en-route transit through a TRA. Operations will be conducted in accordance with the Rules of the Air, or as agreed via the Unusual Aerial Activities regulations, and required equipment carriage and operation. Although the background classification between FL 195 and FL 245 within UK airspace is Class C, to avoid operational restrictions, military aircraft may operate autonomously or be in receipt of an ATS from approved ATS units within a TRA. ATS in TRAs will be provided in accordance with the UK Flight Information Services (UK FIS).

5.1.5.1.3 A Temporary Reserved Area (TRA) is a defined volume of airspace normally under the jurisdiction of one aviation authority and temporarily reserved, by common agreement, for the specific use by another aviation authority and through which other traffic may be allowed to transit under an ATS authority.

5.1.5.1.4 Where other airspace structures, such as Controlled Airspace (ATS Routes), Managed Danger Areas, Danger Areas, etc, overlap a TRA the airspace structure with the more restrictive criteria is to take precedence.

5.1.5.1.5 The dimensions, operating hours and full details of all UK TRAs are at ENR 5.2. Specific access and operating rules are detailed below.

5.1.5.1.6 The requirement for VFR operations by civil aircraft above FL 195 has been assessed to be very small. Therefore, other than the schematic charts included at ENR 6-1-6-5, details of the TRAs will not be included in the CAA 1:500,000 chart series, but are represented on the military En-Route Low Altitude chart series, available from RAF AIDU, Customer Services Department, Tel: 020-8833 8587 or 020-8833 8209.

5.1.5.2 **ATS Routes**

5.1.5.2.1 **ATS Routes between FL 195 and FL 245 embedded within TRA.** Some Class C airways exist within the lateral limits of TRAs 001, 002, 007 and 008 during certain weekday periods and throughout weekends and PHs. Airspace users are to ensure they remain clear of these ATS routes unless they are in receipt of an appropriate Radar Control service from military or civil ATS units, as appropriate. Details of such ATS routes are detailed in ENR 3.1.

5.1.5.3 **TRA Air Traffic Services and Separation Requirements**

5.1.5.3.1 Class C requirements for the provision of ATS do not apply within an activated TRA. ATS will be provided in accordance with UK Flight Information Services (UK FIS) by the appropriate military or civil Air Traffic Service Providers. Autonomous operations are permitted in TRAs in accordance with paragraph 5.1.5.7.

5.1.5.3.2 Airspace users are to note that the lateral limits of TRAs are coincident with adjacent Lower ATS routes. Aircraft operating within a TRA receiving a UK FIS will be advised of the proximity of aircraft operating within adjacent Class C Airspace and offered appropriate advice.

5.1.5.3.3 ATS above FL 195 will be provided by existing ACCs/ATCCs, approved military ATS and ASACS units and autonomous radar units in accordance with established operating limitations. Specified military ATS units may be authorised by the CAA to provide ATS within an active TRA to below FL 245 in accordance with the approval conditions. Unless approved by the CAA, provision of ATS by ATC Approach Units/Military ATC Terminal Units will be restricted to below FL 195.

5.1.5.4 **Operations within a TRA**

5.1.5.4.1 Operations within a TRA should normally be conducted on SPS (1013.2 mb).

5.1.5.4.2 IFR flights within a TRA should conform to the semicircular cruising levels at ENR 1.7 paragraph 6.1 within an active TRA.

5.1.5.4.3 Aircraft in receipt of a radar service may operate to the extremities of the TRA and will be provided with advice from the controller that is appropriate to the service being received in order to remain clear of aircraft operating in adjacent Controlled Airspace.

5.1.5.4.4 Details for autonomous operations are included in the access requirements at paragraph 5.1.5.7.

5.1.5.4.5 Military airspace users and ANSPs should note that transponder equipped Gliders are permitted to enter TRA under appropriate ATS. However, gliders without transponders are only permitted to enter TRA (G) that have been specifically designed to cater for non-transponder equipped gliders. Airspace users and ANSPs should note that due to a CAA Safety Regulatory Requirement, no IFR traffic is permitted to enter a TRA (G) (except aircraft in emergency or Air Defence Priority Flights).

5.1.5.4.6 Glider access requirements to a TRA are detailed in ENR 1.1, paragraph 1.11.

5.1.5.4.7 Mandatory carriage of 8.33 kHz in Controlled Airspace above FL 195 was implemented by the CAA on 15 March 2007.

ENR 1.1 GENERAL RULES (continued)

(a) VFR operations seeking to access airspace where the controlling agencies require 8.33 kHz will need to be suitably equipped. Within a TRA, derogations from airborne carriage obligations may be approved.

(b) Specific arrangements for military aircraft operations in 8.33 kHz airspace are detailed separately in the Military AIP.

5.1.5.5 **VFR Weather Minima**

5.1.5.5.1 Unless pilots' licensing privileges impose more restrictive criteria, pilots are to maintain 1500 m horizontally, and 1000 ft vertically from cloud, and a flight visibility of 8 km.

5.1.5.6 **TRA Access Requirements**

5.1.5.6.1 **IFR**

(a) A flight plan must be filed. Abbreviated flight plans are permissible in accordance with AIP ENR 1.10 and CAP 493, MATS Pt 1, Section 1, Chapter 2, Paragraph 10. Abbreviated Flight Plans will only be acceptable for military aircraft operating under the control of a military ATS or ASACS unit.

(b) An ATC clearance must be obtained to fly within the airspace.

(c) Radio contact must be maintained on the appropriate frequency.

(d) The flight must be conducted in accordance with ATC instructions.

(e) Aircraft in IFR transit through a TRA from/to adjacent CAS will be in receipt of an ATC service and will not require to obtain an additional ATC clearance to transit the TRA.

(f) Traffic operating under the IFR shall not be cleared to transit through an activated TRA (G) (except aircraft in emergency or Air Defence Priority Flights). Aircraft in receipt of a radar service under ATSOCAS will be offered a re-route in these circumstances.

5.1.5.6.2 **VFR**

(a) File a flight plan (when specified an abbreviated flight plan will be acceptable).

Note: *Not applicable to gliders operating within TRA (G) under LoA conditions.*

(b) Obtain an ATC clearance to enter the TRA.

(c) Select SSR Code A/C as directed by ATC.

(d) Monitor ATC frequency.

5.1.5.7 **Military Autonomous Operations**

5.1.5.7.1 Autonomous operations within a TRA are to be conducted under VFR. Pilots of aircraft operating within a TRA are responsible for the avoidance of collision in accordance with SERA and the Rules of the Air Regulations 2015.

5.1.5.7.2 Military aircraft operating autonomously within a TRA are to select SSR code 7006 with Mode C prior to entering a TRA. This code is to be retained when vertical profiles result in operations above and below FL 195 until such time as flight within a TRA is complete.

5.1.5.7.3 Autonomous operations by aircraft transponding Mode A and C data should aim to operate no closer than 3 nm to the lateral boundary or within 500 ft of the vertical limit of an active TRA where contiguous with Controlled Airspace.

5.1.5.7.4 Military aircraft do not require a clearance to operate autonomously within an active TRA.

5.1.5.8 **TRA Booking Procedures Outside Promulgated Hours of Activity**

5.1.5.8.1 For booking TRAs outside the published operating hours, military pilots are to submit requirements by fax or e-mail to the MABCC (except for TRA 005, which is controlled by RAF Spadeadam) by 1100L, D-1 (1100L Friday for Mondays, and by 1100L on the day before a stand-down, to include the whole of the stand-down period and the first day back at work). This requirement is in accordance with the MoDs commitment to FUA.

5.1.5.8.2 Bookings are non-exclusive, and there is no limit on the number of bookings accepted for each TRA.

5.1.5.8.3 Late notice bookings may be accepted on D-Day, provided that another user has already booked the TRA at D-1.

5.1.5.8.4 Outside the promulgated hours of the MABCC the Duty Air Traffic Control Officer at nominated military area units will have responsibility for airspace management of the TRA. Full details are in the Military AIP, ENR 5.

ENR 1.1 GENERAL RULES (continued)

5.2 Hazards to Flight

5.2.1 **Military Training Area (MTA)** - An area of Upper Airspace of defined dimensions within which intense military flying training takes place.

5.2.1.1 In the Upper Airspace, intense military flying training normally takes place in delineated Military Training Areas. Because of the random nature of the activity within these areas it is not possible to provide civil air traffic control service in an MTA during the published hours of activity. Details are at ENR 5.2 and further information is contained at ENR 1.1, paragraph 1.6.3.5.

5.2.2 **Area of Intense Air Activity (AIAA)** - Airspace within which the intensity of civil and/or military flying is exceptionally high or where aircraft, either singly or in combination with others, regularly participate in unusual manoeuvres.

5.2.2.1 Intense civil and/or military air activity takes place within the areas listed in ENR 5.2. Pilots of non-participating aircraft who are unable to avoid AIAAs are to keep a good lookout and are strongly advised to make use of a radar service if available; these areas are depicted at ENR 6-5-1-2.

5.2.3 **Aerial Tactics Area (ATA)** - Airspace of defined dimensions designated for air combat training within which high energy manoeuvres are regularly practiced by aircraft formations. Autonomous operations are only permitted within ATAs above FL 195 when the overlying TRA is active.

5.2.3.1 Air combat training by military aircraft practicing high energy manoeuvres regularly takes place in the areas listed in ENR 5.2. Pilots unable to avoid these areas are strongly advised to make use of a radar service; these areas are depicted at ENR 6-5-1-2.

5.2.4 **Air-to-Air Refuelling Area (AARA)** - Airspace of defined dimensions within which air-to-air-refuelling takes place under radar service.

5.2.4.1 Areas in which air-to-air refuelling under radar service takes place are listed in ENR 5.2. Refuelling aircraft will not necessarily conform with the semicircular cruising levels at ENR 1.7 paragraph 6.1 and are unable to take rapid avoiding action.

5.2.5 **Boscombe Down Advisory Radio Area** (As depicted at ENR 6-5-1-2)

5.2.5.1 Test flight aircraft are routinely flown from MoD Boscombe Down in the Advisory Radio Area as shown at ENR 5.2. A test profile involves manoeuvres that are required to take place overland but which may place the aircraft at the limits of its flight envelope. Consequently, whilst the test pilot remains responsible for the safe conduct of the flight, there could be occasions when the pilot would be unable to manoeuvre the aircraft in compliance with SERA and the Rules of the Air Regulations 2015.

5.2.5.2 Pilots of other aircraft flying in the area are strongly advised to call Boscombe Down (ENR 5.2), who will provide pilots with information on any relevant test flight activity and, if requested, advice on arranging a detour of the test area.

5.2.5.3 Participation in the Advisory Radio Area, which is highly recommended, is designed to enhance flight safety. It does not afford any form of increased separation or right of way for the test flights and is not intended to inhibit the passage of other aircraft in the area.

5.2.6 **Warton Advisory Radio Area** (As depicted at ENR 6-5-1-2)

5.2.6.1 Test flight aircraft are routinely flown from BAe Warton in the Advisory Radio Area as shown at ENR 5.2. A test profile involves manoeuvres that are required to take place overland, or sea, but which may place the aircraft at the limits of its flight envelope. Consequently, whilst the test pilot remains responsible for the safe conduct of the flight, there could be occasions when the pilot would be unable to manoeuvre the aircraft in compliance with SERA and the Rules of the Air Regulations 2015.

5.2.6.2 Pilots of other aircraft flying in the area are strongly advised to call Warton (ENR 5.2), who will provide pilots with information on any relevant test flight activity and, if requested, advice on arranging a detour of the test area or provision of an air traffic service subject to controller workload.

5.2.6.3 Participation in the Advisory Radio Area, which is highly recommended, is designed to enhance flight safety. It does not afford any form of increased separation or right of way for the test flights and is not intended to inhibit the passage of other aircraft in the area.

5.2.7 **UK Military Low Flying System**

5.2.7.1 Military low flying occurs in most parts of the United Kingdom at any height up to 2000 ft above the surface. However, the greatest concentration is between 250 ft and 500 ft and civil pilots are advised to avoid flying in that height band whenever possible. See also ENR 1.10, subsection 7 Military Low Flying Training in the UK.

5.2.7.2 Military aircraft are considered to be low flying when:

(a) Fixed-wing aircraft, except light propeller-driven aircraft, are flying below 2000 ft above the surface;

(b) Light propeller-driven aircraft and helicopters are flying below 500 ft above the surface.

5.2.7.3 **Military helicopter operations in the Salisbury Plain Area**

5.2.7.3.1 A considerable number of helicopters operate to and from the military establishments in, and around, the Salisbury Plain Area.

5.2.7.3.2 In addition to the intensive daytime activities, military helicopters may be encountered operating during the hours of darkness without, or with restricted, navigation lights within the area enclosed by the following co-ordinates:

513000N 0014200W - 513600N 0011336W thence anti-clockwise by an arc of a circle radius 5 nm centred on 513654N 0010543W 513324N 0010000W - 513000N 0010000W - 513000N 0010600W - 512400N 0010600W - 511821N 0010036W thence clockwise by an arc of a circle radius 5 nm centred on 511403N 0005634W - 511114N 0005000W - 505336N 0005000W - 505654N 0011305W 510115N 0011039W thence anti-clockwise by an arc of a circle radius 8 nm centred on 505701N 0012124W (EGHI ATZ) - 510459N 0012017W - 510123N 0012722W - 505512N 0013047W - 505003N 0020205W - 505027N

0020549W - 505718N 0021200W 511109N 0021749W - 512036N 0020922W - 512224N 0020257W - 512909N 0014402W - 513000N 0014200W.

5.2.7.4 Geographical details of military low flying activities within the United Kingdom are shown on the chart ENR 6-5-1-2, copies of which may be obtained from:

Post: Communisis UK, Balliol Business Park West, Newcastle upon Tyne NE12 8EW
Phone: 0191-203 2329
Fax: 0191-201 5001
Email: nats.services@communisis.com

5.3 Activities of a Dangerous Nature

5.3.1 **Small Arms Ranges**

5.3.1.1 Small arms ranges in the UK with a vertical hazard height of 500 ft agl do not attract UK Danger Area status. However, firing at some ranges can take place across open areas of ground over which an aircraft might legally be flown below 500 ft agl.

5.3.1.2 Listed at ENR 5.3 are the details of the small arms ranges notified to the Authority which might pose a hazard to flight below 500 ft agl. The small arms ranges may be in use at any time and pilots are strongly advised to avoid these areas. The list includes small arms ranges, located within the lateral boundaries of UK Danger Areas, which may be in use outside the activity hours of those Danger Areas.

5.3.2 **High Intensity Radio Transmission Area (HIRTA)** - Airspace of defined dimensions within which there is radio energy of an intensity which may cause interference with and on rare occasions damage to communications and navigation equipment.

5.3.2.1 Areas within which there is radio energy of an intensity which could cause interference with and on rare occasions, cause damage to, communications and navigation equipment such as Radio Altimeter, VOR, ILS and Doppler are listed at ENR 5.3. The intensity may be sufficient to detonate electrically initiated explosive devices carried or fitted in aircraft.

5.3.2.2 Only the most significant sources are listed and in some of these areas the intensity of the radio energy may be such that it would be injurious to remain for more than one minute in the immediate vicinity of the energy source. This is especially relevant to helicopter operations and the list contains appropriate warnings; however it would be prudent for helicopter pilots to avoid lingering closer than 100 m to any radar aerial. Pilots approaching oil production platforms on which dish aerials can be observed should, wherever possible, approach from a direction out of the general line-of-shoot of such aerials.

5.3.2.3 Airborne Early Warning (AEW) aircraft operate within United Kingdom airspace and due to possible radiation hazards, all aircraft should maintain a minimum separation of 1000 m lateral and 1000 ft vertical from such aircraft. AEW aircraft can be identified as follows:

(a) RAF/NATO/USAF E-3 - a Boeing 707 with a large rotodome mounted on the upper fuselage (E-3 Orbit Areas are listed at ENR 5.3);

(b) USN E-2C - a medium size twin turboprop with a four-finned cantilever tail and a large rotodome mounted on the upper fuselage.

5.3.3 **Gas Venting Operations**

5.3.3.1 Severe turbulence and power fluctuations in turbine engines could be experienced over gas venting sites during venting of natural (methane) gas under high pressure. Locations of gas venting sites are listed at ENR 5.3.

5.3.4 **Laser Sites**

5.3.4.1 Laser sites, as listed at ENR 5.3, are locations where laser sources are located permanently and which have been notified to the Airspace Utilisation Section. Only those sites which radiate sufficient power to cause distraction or eye damage, and which intentionally emit laser beams into airspace or are likely to in the event of a malfunction, are included.

5.3.5 **Radiosonde Balloon Ascents**

5.3.5.1 The Met Office releases helium or hydrogen filled balloons from a number of locations throughout the United Kingdom which are listed at ENR 5.3. These balloons carry a small radio transmitter which sends back atmospheric information about temperature, pressure and humidity; by way of a tracking system the balloons also provide data on wind speed and direction at various levels. A typical installation consists of a balloon, diameter at launch approximately 1.5 metres, to which is attached a small parachute. The radiosonde is attached underneath the parachute on a suspension string of approximately 33 metres in length. The distance the balloons travel away from the launch site is dependant on the wind strength, but they can attain altitudes of over 80000 ft.

5.3.5.2 Balloon launches from all other sites by organisations and members of the public require written permission from the CAA in accordance with the Air Navigation Order before releasing meteorological balloons into notified airspace. Article 163 specifies the requirements for notification and permission for the launch of balloons; such permission may be conditional. Organisations and members of the public wishing to obtain permission for the above activity shall contact Airspace Utilisation (AU) at the Directorate of Airspace Policy, CAA House, 45-59 Kingsway, London WC2B 6TE, e-mail: ausops@caa.co.uk at least five working days in advance, to allow AU to take appropriate notification action.

5.3.5.3 Radiosondes, minus the balloon, may also be air dropped; this activity will be promulgated by NOTAM.

5.4 Air Navigation Obstacles

5.4.1 **List of Air Navigation Obstacles**

5.4.1.1 The majority of air navigation obstacles listed in ENR 5.4 are solely identified by a combined Area Code and Reference Number e.g. UK0105A052F. The first four digits refer to the area in which the obstacle is sited and these areas are shown on the chart at

ENR 1.1 GENERAL RULES (continued)

ENR 6-5-4-1. These obstacles do not meet the accuracy requirements of original field work as specified in Annex 11, Chapter 2, and Annex 14, Volumes I and II, Chapter 2. Those obstacles identified additionally with an aerodrome ICAO identification code followed by the survey reference number are derived from aerodrome surveys and do meet the accuracy requirements of the original field work. The current Data Management Process does not provide assurance of the integrity of air navigation obstacles listed in ENR 5.4.

5.4.1.2 Air Navigation Obstacles listed in ENR 5.4 with an elevation but no height indicated are Off-Shore obstacles.

5.4.1.3 The Civil Aviation Authority does not guarantee that the list of Air Navigation Obstacles in ENR 5.4 is complete.

5.4.2 **Aerodrome Obstacles**

5.4.2.1 An aerodrome obstacle is one that is located on an area intended for the surface movement of aircraft or that extends above a defined surface intended to protect aircraft in flight. Obstacle limitation surfaces can extend up to 15 km from the runway thresholds. Details of aerodrome obstacles selected as significant are listed in the AD Section and are shown on Aerodrome and Instrument Approach Charts where these have been published. The rationale for selection of aerodrome obstacles listed is detailed in CAP 232 'Aerodrome Survey Information'. The method of lighting aerodrome obstacles is detailed in CAP 168 'Licensing of Aerodromes' and is briefly described in CAP 637 'Visual Aids Handbook'.

5.4.3 **Land Based Air Navigation Obstacles**

5.4.3.1 In the United Kingdom a land based air navigation obstacle is defined as any building or work, including waste heaps, which attains or exceeds a height of 300 ft agl. Details of those obstacles of which the Civil Aviation Authority has been informed are listed in ENR 5.4. In cases where a number of structures form the obstacle, the position of the highest is given. In the case of masts, the position of the centre of the mast is given (but it should be noted that the stays or guys may spread out for a considerable distance). It is recommended that they should be lit if:

(a) they are 150 metres (492 ft) agl or more in height;

(b) they are less than 150 metres (492 ft) agl in height, but are by virtue of their nature or location considered never-the-less to present a significant hazard to air navigation.

5.4.3.2 Advice on the scale of lighting to be displayed may be obtained from:

Post: Directorate of Airspace Policy, Airspace Regulation (AR), CAA House, 45-59 Kingsway, London WC2B 6TE.
Phone: 020-7453 6545.

5.4.3.3 Details of un-serviceability and return to service of lights on such obstacles, when notified to UK AIS, will be promulgated by NOTAM. Land based air navigation obstacles with a height of less than 150 metres are sometimes lit, but details of un-serviceability of lights on these obstacles are not normally promulgated. Obstacles listed in ENR 5.4 annotated 'FLR' in Column 2 are those that burn off high pressure gas; the flame, which may not be visible in bright sunlight, can extend for 600 ft.

5.4.3.4 Details of all land based air navigation obstacles known at the date of the chart's preparation are shown on certain Aeronautical Charts published by the Civil Aviation Authority. These charts indicate whether or not the obstacle is normally lighted. Pilots should be aware that obstacle lighting is not necessarily located at the structure's highest point.

5.4.4 **Off-shore Air Navigation Obstacles**

5.4.4.1 Numerous fixed installations associated with off-shore exploration of oil and gas from the Continental Shelf sea bed, exist within the United Kingdom Off-shore Concession Area and Flight Information Regions. A part of the United Kingdom Concession Area lies within the Norwegian Flight Information Region and parts of some foreign Concession Areas lie within the United Kingdom Flight Information Regions (ENR 2.2 refers). These fixed installations vary in height up to 541 ft amsl and display navigation warning lights. Details of those installations of which the Civil Aviation Authority has been informed which attains or exceeds an elevation of 300 ft amsl within the United Kingdom Flight Information Regions and Concession Area within the Norwegian Flight Information Region are listed in ENR 5.4. Most of the installations are equipped with a helideck, which comes within the definition of an aerodrome. Many installations burn off high pressure gas and the flame, which may not be visible in bright sunlight, can extend for 600 ft. Pilots should be aware that even if no flame is visible there is still danger from the venting of high pressure gas. Pilots should also be aware of high intensity radio transmissions from some installations (see paragraph 5.3.2).

5.4.4.2 Details of wind turbine generators and associated meteorological masts located off-shore, of which the Civil Aviation Authority has been informed, which attains or exceeds an elevation of 300 ft amsl are also listed in ENR 5.4. Such installations display a navigation warning light on the top of the supporting structure. Pilots should be aware that the rotor blades of wind turbines rotate up to 210 ft above the nacelle mounted light. Where wind turbines are located together as a group only those on the periphery are fitted with obstacle lighting.

5.5 Aerial Sporting and Recreational Activities

5.5.1 **Glider Launching Sites**

5.5.1.1 Glider launching may take place from designated sites which are regarded as aerodromes. The sites are listed at ENR 5.5. Where launching takes place within the Aerodrome Traffic Zone of an aerodrome listed within the AD section, details are also shown at AD 2 and AD 3.

5.5.1.2 Gliders may be launched by towing (T) aircraft, or by winch (W) and cable or ground tow up to a height of 2000 ft agl. At a few sites the height of 2000 ft may be exceeded (see paragraph 5.5.3).

5.5.1.3 Sites are listed primarily to identify hazards to other airspace users and listing does not imply any right for a glider or powered aircraft to use the sites.

5.5.2 **Hang Gliding, Paragliding and Parascending Sites**

ENR 1.1 GENERAL RULES (continued)

5.5.2.1 Hang Gliding and/or parascending may take place from sites which, because of the low speed characteristics of hang gliders, paragliders and parascenders and the difficulty of seeing them in certain conditions, are listed as hazards to other airspace users.

5.5.2.2 The locations of cable-launched hang/paragliding sites are listed at ENR 5.5. Foot launched activity sites are severely affected by wind speed and direction existing at the time. Although activity is usually at a peak during weekends, hang-gliding and/or parascending may take place at any time, particularly in the summer months. Airspace users should be aware that single or groups of soaring and motorised hang/para-gliders can be found flying anywhere in the open FIR up to 15,000 ft, and are therefore not listed.

5.5.2.3 At certain sites hang gliders and/or parascenders may be launched by winch/auto-tow and cables may be carried up to 2000 ft agl. At a few sites the height of 2000 ft may be exceeded (see paragraph 5.5.3). The cable launching of the aircraft may be encountered within the airspace contained in a circle radius 1.5 nm of the notified position of the site.

5.5.3 **Cable Launching of Gliders, Hang Gliders and Parascending Parachutes**

5.5.3.1 The launching of gliders, hang gliders and parascending parachutes by winch and cable or by ground tow to above 200 ft (60 m) agl requires permission in writing under Article 97 of the Air Navigation Order from the Civil Aviation Authority.

5.5.3.2 At sites where cable launching is permitted, cables may be carried up to heights of 2000 ft agl. At a few sites the heights of 2000 ft may be exceeded. It is a condition of the permission that when cable launching is taking place, a white ground conspicuity signal as described in SERA Appendix 1 Signals paragraph 3.2.8.1 shall be displayed.

5.5.3.3 Sites which have permission to cable launch above 200 ft agl are listed at ENR 5.5.

5.5.4 **Free-fall Parachuting Drop Zones**

5.5.4.1 Intensive free-fall parachuting may be conducted up to FL 150 at any of the Drop Zones listed at ENR 5.5 and in several Danger Areas. Listing of a Drop Zone does not imply any right to a parachutist to use that Drop Zone. Some Government and licensed aerodromes where regular parachuting takes place are included in the list but parachuting may also take place during daylight hours at any Government or licensed aerodrome. Drop Zone activity information may be available from certain Air Traffic Service Units (ATSUs) but pilots are advised to assume a Drop Zone is active if no information can be obtained.

5.5.4.2 Parachuting also takes place at temporary sites, eg for display purposes, and will normally be notified by NOTAM as Temporary Navigation Warnings. Night parachuting may take place at any Drop Zone: Club Chief Instructors will notify in writing all forthcoming night parachuting, at least five working days in advance, to the Airspace Utilisation Section (AUS), at Directorate of Airspace Policy, K6, CAA House, 45-59 Kingsway, London, WC2B 6TE, to allow AUS to take appropriate notification action.

5.5.4.3 Visual sighting of free-falling bodies is virtually impossible and the presence of an aircraft within the Drop Zone may be similarly difficult to detect from the parachutists' point of view. Parachute dropping aircraft and, on occasions, parachutists may be encountered outside the notified portion of airspace. Pilots are strongly advised to give a wide berth to all such Drop Zones where parachuting may be taking place.

5.5.4.4 Where permission is obtained for drops within Controlled Airspace, dropping aircraft are to have serviceable SSR with Mode C.

5.5.5 **Microlight Flying sites**

5.5.5.1 Those Microlight Flying Sites where flying is known to take place are listed at ENR 5.5 and are regarded as aerodromes. Sites are listed primarily as hazards to other airspace users and the listing does not imply any right for aircraft to use the sites. Microlight aircraft might be encountered at sites not included in the listing (See also AD Section).

5.5.6 **Captive and Free Flight Manned Balloon Launch Sites**

5.5.6.1 Frequent launchings by free flight and captive passenger carrying balloons take place at sites identified in ENR 5.5.

5.5.7 **Kites**

5.5.7.1 High flying kites may be hazardous to aircraft because of the possibility of collision with the towline. Kite flying sites are identified in ENR 5.5.

5.5.8 **Training and Unusual Activity Aerodromes**

5.5.8.1 Training Aerodromes - Designated Training Aerodromes are listed in ENR 5.5 and are regarded as an aerodrome. Flight Training including circuit practice is known to take place from these sites, the list and chart symbol are published to identify the hazards to other airspace users and the listing does not imply any right for an aircraft to use these aerodromes. Where training takes place at a licensed aerodrome and within the defined Aerodrome Traffic Zone, the aerodrome will be listed within the AD section.

5.5.8.2 Unusual Activity Aerodromes - Designated Unusual Activity aerodromes are listed in ENR 5.5 and are regarded as an aerodrome. Activities such as aerobatic, formation flights and other aerial activities are known to take place from these sites, the list and chart symbol are published to identify the hazards to other airspace users and the listing does not imply any right for an aircraft to use these aerodromes. Where flights takes place at a licensed aerodrome and within the defined Aerodrome Traffic Zone, the aerodrome will be listed within the AD section.

6 Other Temporary Hazards

6.1 Hazards of a temporary nature will be notified, whenever time permits, by NOTAM as Temporary Navigation Warnings.

6.2 Activity of a hazardous nature may occur without notification within the Aerodrome Traffic Zones of active aerodromes not normally available to civil aircraft (see ENR 2.2).