



UNITED KINGDOM

AERONAUTICAL INFORMATION CIRCULAR

AIC 126/2006
(Pink 109)
7 December

NATS Limited

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REPORTING AND INVESTIGATION OF INTERFERENCE CAUSED TO AIR TRAFFIC SERVICES USING THE FREQUENCIES IN AERONAUTICAL BANDS

1 Introduction

1.1 Various types of radio transmitters which may or may not be type approved or licensable in the UK are freely available from various sources, including mail order via the internet, and this is giving some cause for concern. There is a wide range of unapproved/untested electronic consumer equipment incorporating radio technology in one form or another that may be imported directly to the UK without having been tested for conformity. Users of such equipment are often unaware of the problems such devices are capable of causing and that they may also be breaking the law by operating such devices.

1.2 There is a whole range of legally operated industrial, scientific and medical (ISM) equipment using radio energy which may develop fault conditions unnoticed by the user which give rise to radio interference.

1.3 Further, transmitting equipment operated illegally by unlicensed radio broadcasters - so called UBRs or radio 'pirates' - is generally of such poor build quality that it frequently emits unwanted, out-of-band signals which interfere with aircraft communications.

1.4 There are also many electrical devices in wide use such as electrical switches, contractors, thermostats and fluorescent lighting which can cause huge interference problems when faulty.

1.5 The reporting and investigation of radio interference to aeronautical radio services is important to ensure the safe operation of aeronautical communications, navigation and surveillance systems and aircraft avionics. The monitoring and analysis of interference reports can provide information on developing trends which can be addressed by the CAA and Ofcom.

1.6 The objective of the CAA CAP 382 'Mandatory Occurrence Reporting (MOR) Scheme' is to contribute to the improvement of air safety by ensuring the reporting, collection and storage of relevant information in order to prevent accidents and incidents. Whilst the MOR Scheme may be used to report radio interference, it is not designed to provide reports direct to Ofcom for the investigation and resolution of radio interference in a timely manner.

2 Scope

2.1 This Circular details the procedure to be followed in order to report cases of interference to the Ofcom, which is the UK regulator of the civil radio spectrum. Ofcom is responsible for investigation of all reported interference problems caused to authorised users of the aeronautical spectrum.

2.2 The reporting procedure in this Circular complements that of the MOR scheme and does not abrogate any responsibilities under the MOR scheme.

2.3 The reporting of 'malicious interference to VHF communications' is described in CAP 493 Manual of Air Traffic Services, Section 6 Chapter 4 and should be read in conjunction with this Circular.

3 Radio Interference Reporting

3.1 Only suspected or confirmed 'external' radio interference reports shall be reported to Ofcom.

Note: 'External' in this context means a source of interference which is outside the control of the users experiencing it.

3.2 Radio interference considered by the reporter to be in Categories 1 and 2 shall be reported to the Ofcom as soon as possible.

3.3 Radio interference considered by the reporter to be in Categories 3 and 4 should be reported to the Ofcom on a monthly basis or sooner.

3.4 All reports must include the following information:

- (a) Radio interference categorisation;
- (b) frequency on which the interference occurs, ie 129.275 MHz in the case of VHF communications, or ident of the navigational aid affected;
- (c) description of interference;
- (d) location of equipment experiencing the interference;
- (e) system or station receiving the reported interference;
- (f) any other relevant details.

3.5 Reports shall be sent to the Ofcom Radio Monitoring Station at Baldock:

Baldock Radio Monitoring Station (24 hour Operations Room)

Tel: 01462-428528

Fax: 01462-428510

Email: opsroom@ofcom.org.uk

Note: It is advisable to use email only by mutual agreement to back up for information already provided by telephone.

4 Radio Interference Categorisation

4.1 Reports to Ofcom of interference shall be submitted with a categorisation chosen according to the following paragraphs which will be assessed by Ofcom after tactical discussions with the user/licensee/reporter:

Category 1 - Major impact on air traffic safety

Interference being experienced is such that the continued provision of a safe air traffic service is impossible or severely impaired. This includes 'malicious interference to VHF communications' described in CAP 493 Manual of Air Traffic Services, interference from unauthorised radio transmissions or radio frequency emissions causing noise interference, levels of which are such that:

- (a) Normal voice communication between aeronautical stations and one or more aircraft is impossible due to the lack of available alternative frequency;
- (b) for en-route or airfield navigational aids the aid is rendered unreliable due to the interference and such unreliability is considered to severely impair the ability to provide a safe air traffic service;
- (c) for radar systems the radar is rendered unreliable due to the interference and such unreliability is considered to severely impair the ability to provide a safe air traffic service;
- (d) this category also includes interference affecting Instrument Landing Systems (ILS) and Microwave Landing Systems (MLS) avionics in aircraft flying within the Designated Operational Coverage (DOC) of the aid, and so making the safe landing of aircraft using the ILS or MLS impossible.

Category 2 - Significant Impact on air traffic safety

Interference being experienced is such that a continued safe air traffic service is threatened. This includes interference from unauthorised radio transmissions or radio frequency emissions causing noise interference, levels of which are such that:

- (a) Normal voice communication between aeronautical stations and one or more aircraft may be compromised, or may not be possible without recourse to the use of an alternative frequency where available;
- (b) for en-route or airfield navigational aids the aid is rendered unreliable due to the interference and such unreliability is considered a threat to the continued provision of a safe air traffic service;
- (c) for radar systems the radar is rendered unreliable due to the interference and such unreliability is considered a threat to the continued provision of a safe air traffic service;
- (d) this category also includes interference affecting the ILS or other navigational avionics in aircraft flying outside the DOC of the navigational aid when the increase in RTF traffic reporting the problem unreasonably increases ATC workload.

Category 3 - Nuisance to air traffic

Interference being experienced is such that the ability to provide a safe air traffic service is not threatened but that measures should be taken to eliminate the problem as soon as practicable.

Category 4 - Interference reported for information only

Interference is reported but details are only passed to the Ofcom to provide a case history for possible future remedial action.

Operational requirements may escalate categorisations 2 to 4.

This Circular is issued for information, guidance and necessary action.