

Supplementary Instruction

CAP 493 MATS Part 1

Safety and Airspace Regulation Group
Airspace, ATM and Aerodromes



Number: CAP493/SI/2024/01

Issued: 19 July 2024

Effective: 19 July 2024

Distress and Diversion Cell

1. Introduction

- 1.1 The purpose of this Supplementary Instruction (SI) to the Manual of Air Traffic Services (MATS) Part 1 (CAP 493) is to clarify the role of the United Kingdom's Distress and Diversion (D&D) Cell.

2. Background

- 2.1 In 2023, the Air Accident Investigation Branch (AAIB) raised a safety recommendation (2023-015) with the CAA. It highlighted a misunderstanding of the role and function of the D&D Cell and the intent of the descriptions of 'executive control' and 'operational control' contained within the MATS Part 1.
- 2.2 The purpose of the amendment is to:
- provide greater clarity on the responsibilities of the pilot and the personnel providing air traffic services (ATS) to emergency aircraft; and,
 - better describe the functions and services offered by the D&D Cell and their interactions with civil ATS units.
- 2.3 In addition, the opportunity has been taken to review and, where necessary, refine other aspects of the text within the MATS Part 1 relating to the operation of the D&D Cell.
- 2.4 An impact analysis for the amendment is included at [Appendix A](#). Of note, the CAA considers this amendment to be editorial in nature, and not one that represents a change to the functional system.

3. Amendment to MATS Part 1 (CAP 493)

- 3.1 With effect from 19 July 2024, the MATS Part 1 is amended as shown at [Appendix B](#). This change will be incorporated into the MATS Part 1 at the next amendment in due course.
- 3.2 In addition, to assist industry in assessing the change, [Appendix C](#) includes the text of the amendment which has been arranged to show new, deleted or amended text. At relevant points, the CAA has recorded its rationale for specific changes that it considered important to highlight for industry and to record for audit purposes.

4. Queries

- 4.1 Any queries or further guidance required on the content of this SI should be marked for the attention of Airspace & ATM Policy and sent to ats.enquiries@caa.co.uk
- 4.2 Any queries relating to the availability of this SI should be marked for the attention of Rulemaking and Safety Publications and sent to ats.documents@caa.co.uk

5. Cancellation

- 5.1 This SI shall remain in force until incorporated into CAP 493 or is cancelled, suspended or amended.

Appendix A**Impact Analysis in Relation to CAP493 SI 2024/01****1 Introduction**

1.1 SI 2024/01 is intended to address the following:

- need for greater clarity on the responsibilities of the pilot and the personnel providing air traffic services (ATS) to emergency aircraft; and,
- to better describe the functions and services offered by the D&D Cell and their interactions with civil ATS units.

2 Impact Analysis**2.1 Safety Impact. ~~Positive~~ / **Negligible** / ~~No~~ / ~~Negative~~**

2.1.1 By addressing those aspects highlighted in 1.1 above, it is likely that there will be a small safety benefit; however, its impact is negligible.

2.2 Financial Impact. ~~Positive~~ / **Negligible / ~~No~~ / ~~Negative~~**

2.2.1 As the amendment is editorial in nature and does not place new or amended requirements upon UK industry, the CAA anticipates that negligible costs will be incurred; specifically, those associated with document management and highlighting the amended text to staff.

2.3 Security Impact. ~~Positive~~ / ~~Negligible~~ / **No / ~~Negative~~**

2.3.1 This amendment is not related to security.

2.4 Environmental Impact. ~~Positive~~ / ~~Negligible~~ / **No / ~~Negative~~**

2.4.1 This amendment is not related to the environment.

2.5 Efficiency Impact. ~~Positive~~ / ~~Negligible~~ / **No / ~~Negative~~**

2.5.1 This amendment does not affect ATM/ANS efficiency.

2.6 Equality Impact. ~~Positive~~ / ~~Negligible~~ / **No / ~~Negative~~**

2.6.1 This amendment does not affect people who are protected under the Equality Act 2010.

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Appendix B**MATS Part 1, Section 5, Chapter 1 Aircraft Emergencies****9. Distress and Diversion Cell**

- 9.1 The UK Distress and Diversion (D&D) cell is part of 78 Squadron RAF, the MoD's autonomous radar unit at Swanwick. In addition to the services they provide to military aircraft on 243.0 MHz, the D&D Cell:
- (1) provide surveillance-based air traffic services to civil aircraft that have declared an emergency on 121.50 MHz;
 - (2) provide an emergency fixing service to enable the identification of the position of an aircraft in emergency; and,
 - (3) coordinate and facilitate the exchange of information between agencies involved in the handling of emergency aircraft: these may include other ATS units, the emergency services and the Joint Rescue Coordination Centre (JRCC).
- 9.2 ATSU's provide an alerting service in accordance with SERA.10001 and those provisions described within this Manual and unit MATS Part 2. At all times, the responsibility for the operation and safety of the aircraft rests with the pilot. Where the D&D Cell are providing an ATS to an emergency aircraft, they will consult with the pilot and relevant ATSU's to identify the most suitable aerodrome for landing taking into consideration at least the following:
- the nature of the emergency;
 - the pilot's qualifications;
 - equipment onboard the aircraft;
 - runway configuration;
 - the availability of approach aids and lighting facilities; and,
 - the prevailing weather conditions.
- 9.3 Once agreement has been reached that the selected aerodrome can accept the aircraft, the D&D Cell may opt to continue to provide a service to the aircraft on 121.50 MHz, or to complete a handover of the aircraft to an alternative ATSU that they believe is better placed to provide assistance to the pilot. The controller at the receiving ATSU should only accept the responsibility for providing a service to the emergency aircraft once they are satisfied that they have all the necessary information from the D&D controller to enable them to provide the best possible assistance to the pilot.
- 9.4 Controllers should consider the following points when interacting with D&D:
- (1) **Surveillance Cover**

The D&D cell is able to provide an ATS surveillance service using NATS' area ATS surveillance systems, which include a facility to detect the emergency SSR codes automatically. However, surveillance coverage at lower levels is poor; therefore, the D&D controller may seek an early handover to the aerodrome ATSU to avoid the need to stop the descent of an emergency aircraft.

(2) **VHF Auto-triangulation**

The D&D Cell can provide an instant VHF auto-triangulation fixing service on 121.5 MHz. In the London FIR, this service is expected to be available to aircraft operating over land to the east of Wales and south of Manchester at and above 3,000 ft amsl and at and above 2,000 ft amsl within 40 nm of Heathrow. In the Scottish FIR, this service is expected to be available at and above 8,500 ft amsl, reducing to 2,000 – 5,000 ft amsl over the sea, lowland areas and around the Scottish TMA. Outside these parameters, the service can be unreliable.

(3) **RTF Coverage**

D&D's low-level radio coverage (below 3,000 ft amsl) is poor and so an early handover to the diversion aerodrome may be sought by the D&D controller. In certain circumstances, (e.g. a UHF-only equipped aircraft diverting to a VHF-only equipped aerodrome ATSU), it may be impossible to transfer RTF communications with the aircraft to its destination aerodrome. In these circumstances, the D&D controller may request that the responsibility for the provision of the service to the emergency aircraft be transferred to the aerodrome ATSU, with the aerodrome ATSU issuing information, clearances and instructions on the landline telephone to the D&D controller, for relay to the pilot. In these circumstances, it is imperative that the controllers involved agree explicitly as to who is responsible for the provision of the service to the aircraft. Additionally, the D&D controller may opt to keep the aircraft high for as long as practicable to facilitate the passing of information, clearances and instructions before a loss of RTF occurs.

(4) **Minimum Sector Altitudes**

D&D controllers do not have a detailed knowledge of the local airspace, terrain or obstacles surrounding aerodromes. Therefore, the D&D controller may require guidance from relevant ATSUs on local minimum sector altitudes in order to provide the fullest possible service to actual emergencies.

(5) **Other services**

The D&D Cell has a detailed knowledge of minor aerodrome availability within the London and Scottish FIRs, as well as a comprehensive database that enables rapid communication with aerodromes, aircraft operators, ATSUs, and the SAR organisation including Police Air Support Units and the regional emergency services. The D&D cell also provide facilities for practising emergency procedures to both civil and military pilots.

9.5 With exception to the following circumstances, ATSUs should not transmit on 121.5 MHz or 243.0 MHz without authorisation from the D&D cell:

- (1) A pilot in distress calls a specific ATSU that is local to the pilot concerned; or,
- (2) It is apparent that the D&D cell is not responding to an emergency transmission.

Appendix C

MATS Part 1, Section 5, Chapter 1 Aircraft Emergencies

9. Distress and Diversion Cell

9.1 The RAF UK Distress and Diversion (D&D) cell is part of 78 Squadron RAF, the MoD's autonomous radar unit at Swanwick. In addition to the services they provide to military aircraft on 243.0 MHz, the D&D Cell:

- (1) provide surveillance-based air traffic services to civil aircraft that have declared an emergency on 121.5 MHz;
- (2) provide an emergency fixing service to enable the identification of the position of an aircraft in emergency; and,
- (3) coordinate and facilitate the exchange of information between agencies involved in the handling of emergency aircraft: these may include other ATS units, the emergency services and the Joint Rescue Coordination Centre (JRCC).

9.2 ATSU's provide an alerting service in accordance with SERA.10001 and those provisions described within this Manual and local instructions. At all times, the responsibility for the operation and safety of the aircraft rests with the pilot. Where the D&D Cell are providing an ATS to an emergency aircraft, they will consult with the pilot and relevant ATSU's to identify the most suitable aerodrome for landing taking into consideration at least the following:

- the nature of the emergency;
- the pilot's qualifications;
- equipment onboard the aircraft;
- runway configuration;
- the availability of approach aids and lighting facilities; and,
- the prevailing weather conditions.

9.3 Once agreement has been reached that the selected aerodrome can accept the aircraft, the D&D Cell may opt to continue to provide a service to the aircraft on 121.50 MHz, or to complete a handover of the aircraft to an alternative ATSU that they believe is better placed to provide assistance to the pilot. The controller at the receiving ATSU should only accept the responsibility for providing a service to the emergency aircraft once they are satisfied that they have all the necessary information from the D&D controller to enable them to provide the best possible assistance to the pilot.

~~can provide assistance to civil aircraft in an emergency in addition to the service it provides for military aircraft on 243.0 MHz. The D&D cell has access to NATS ATS~~

~~surveillance systems, with a facility to detect emergency SSR squawks automatically; and although D&D can provide an ATC surveillance service to an emergency aircraft in transit to its diversion aerodrome, other ATC agencies and in particular controllers at aerodromes, should consider the following points when dealing with D&D:~~

~~(1) **Terms used by D&D for handling of emergency**~~

~~D&D use the terms 'Executive Control' and 'Operational Control.' If an aircraft calls on 121.5 MHz, the D&D controller has both executive and operational control. Once D&D hand the aircraft to another unit they pass over Operational Control but retain Executive Control. This means that D&D do not give up all responsibility for an emergency once the aircraft is working another unit. They retain responsibility for overall management until the emergency ends.~~

Origin.	Rationale.
Review of text following AAIB Safety Recommendation 2023-015	In addition to editorial amendments to paragraph 9.1 to improve the readability of the text, the proposed text is intended to better describe responsibilities of the pilot and the ATS personnel, the functions provided by the D&D Cell and the interactions between the D&D Cell and civil ATSU's.

9.4 Controllers should consider the following points when interacting with D&D:

~~(1)~~(2) **Surveillance Cover**

~~D&D controllers only have access to the Area Control ATS surveillance systems at their parent unit, which may have poor low-level coverage. The D&D cell is able to provide an ATS surveillance service using NATS' area ATS surveillance systems, which include a facility to detect the emergency SSR codes automatically. However, surveillance coverage at lower levels is poor; therefore, the D&D controller may seek an early handover to the aerodrome ATSU in order to avoid the need to stop the descent of an emergency aircraft.~~

(2) **VHF Auto-triangulation**

The D&D Cell can provide an instant VHF auto-triangulation fixing service on 121.5 MHz. In the London FIR, this service is expected to be available to aircraft operating over land to the east of Wales and south of Manchester at and above 3,000 ft amsl and at and above 2,000 ft amsl within 40 nm of Heathrow. In the Scottish FIR, this service is expected to be available at and above 8,500 ft amsl, reducing to 2,000 – 5,000 ft amsl over the sea, lowland areas and around the Scottish TMA. Outside these parameters, the service can be unreliable.

~~(3)~~(4) **RTF Coverage**

D&D's low-level radio coverage (below 3,000 ft amsl) is poor and so an early handover to the diversion aerodrome may be sought by the D&D controller. In certain circumstances, (e.g. a UHF-only equipped aircraft diverting to a VHF-only equipped aerodrome ATSU), it may be impossible to transfer RTF

communications with the aircraft to its destination aerodrome. In these circumstances, the D&D controller may request that the ~~control of the aircraft~~ responsibility for the provision of the service to the emergency aircraft be transferred to the aerodrome ATSU, with the aerodrome ATSU issuing information, clearances and ~~which would necessitate all subsequent control instructions being passed on the landline telephone, through to the D&D controller, for relay to the pilot.~~ In these circumstances, it is imperative ~~when this happens~~ that the controllers ~~are agreed~~ involved agree explicitly as to who is responsible for the ~~control of~~ provision of the service to the aircraft. Additionally, the ~~D&D controller~~ aircraft may initially need to be kept high and/or very early landing clearances passed to the pilot, so that all necessary ~~control instructions are completed~~ may opt to keep the aircraft high for as long as practicable to facilitate the passing of information, clearances and instructions before a loss of RTF occurs.

~~(4)~~(3) **Minimum Sector Altitudes**

D&D controllers do not have a detailed knowledge of the local airspace, terrain or obstacles surrounding aerodromes. Therefore, the D&D controller may require guidance from relevant ATSUs on local minimum sector altitudes in order to provide the fullest possible service to actual emergencies.

(5) Other services

The D&D Cell ~~have~~has a detailed knowledge of minor aerodrome availability within their ~~area~~ London and Scottish FIRs, as well as a comprehensive database that enables rapid communication with aerodromes, aircraft operators, ATSUs, and the SAR organisation including Police Air Support Units and the regional emergency services. ~~The D&D cell can assist a pilot of an aircraft in an emergency and the civil ATSU to select the most suitable diversion aerodrome.~~ The D&D cell also provide facilities for practising emergency procedures to both civil and military pilots.

~~9.4 Successful VDF fixing also depends to a great extent upon the quality of additional information that the pilot and controller can give to the D&D cell.~~

9.5 With exception to the following circumstances, ATSUs should not transmit on 121.5 MHz or 243.0 MHz without authorisation from the D&D cell:

- (1) A pilot in distress calls a specific ATSU that is local to the pilot concerned; or,
- (2) It is apparent that the D&D cell is not responding to an emergency transmission.

Origin.	Rationale.
Review of text following AAIB Safety Recommendation 2023-015	In addition to work on editorial aspects of the text, two specific issues are being addressed in the proposed amendment to paragraph 9.4(3). First, in order to make the text agnostic of airspace classification, references to 'control' have been replaced with references to 'responsibility for the provision of service'. Second, in reviewing the extant text, the CAA considered that it did not adequately describe the situation and actions required where communications

	with the emergency aircraft remained with the D&D Cell and where responsibility for the provision of service had been transferred to another ATSU.
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