

**Sikorsky S-92A,
G-MCGY**

**Derriford Hospital in
Plymouth, Devon**

04 March 2022

Accident

Investigation Synopsis

The helicopter, G-MCGY, was engaged on a Search and Rescue mission to extract a casualty near Tintagel, Cornwall and fly them to hospital for emergency treatment. The helicopter flew to Derriford Hospital (DH), Plymouth which has a Helicopter Landing Site (HLS) located in a secured area within one of its public car parks. During the approach and landing, several members of the public in the car park were subjected to high levels of downwash from the landing helicopter. One person suffered fatal injuries, and another was seriously injured.

Safety Recommendation 2023-028

Justification

CAP 1264 contains references to CAP 738. The CAP 738 introductory text indicates that the guidance is applicable to certificated and licensed aerodromes, but it also states that non-licensed aerodromes, heliports and HLS may find the information of assistance. The focus of CAP 738 is to ensure the continued safety of aircraft operating at the location. It states that a downwash zone should be agreed with helicopter operators, and that someone should be responsible for monitoring this zone to ensure it is kept free of persons, property, and parked vehicles as necessary. CAP 738 is available on the CAA's website but, like CAP 1264, it is unlikely that many hospital Trusts will be aware of its existence or that its contents could be relevant to the routine operations of their own HLS. It would be of benefit to hospital Trusts, or any other organisation that manages an HLS, to be able to find all the applicable downwash guidance in one document without the need to cross refer.

Therefore, the following safety recommendation was made:

Safety Recommendation 2023-028

It is recommended that the UK Civil Aviation Authority includes the appropriate downwash guidance relevant to hospital helicopter landing sites in one published document.

Date Safety Recommendation made: 30 October 2023

LATEST RESPONSE

Response received: 03 January 2024

The CAA accepts this recommendation and will be publishing (Q1 2024) consolidated downwash guidance within Version 2 of CAP1264 - Standards for Helicopter Landing Sites at Hospitals.

Workstreams:

1.) The benefit of consolidation of downwash guidance had been identified before the publication of the Derriford Report; the appropriate Policy Specialist has worked closely with Flight Operations to update CAP1264 to Version 2.

2.) In conjunction with Recommendation 2023-29 (below), work on Version 3 of CAP1264 has now started, with the aim of expanding it further to adequately cover both the Design and Operational aspects of HHLs. This is estimated to be ready for publication Q4 of 2024

Safety Recommendation Status **Open**

AAIB Assessment **Adequate**

Action Status **Planned Action Ongoing Update Due 01 April 2024**

Feedback rationale

The AAIB notes the work proposed to consolidate the downwash guidance into CAP1264 and requests an update on progress by 1 April 2024. (EU Regulation 996/2010 article 18 refers).

RESPONSE HISTORY

N/A

Safety Recommendation 2023-029

Justification

For the HLS Site Keepers, performing adequate risk assessments is a task requiring specialist knowledge that is not readily available within the health service. Hospital HLS managers would benefit from enhanced guidance on how to risk assess their sites and the range of potential mitigations that might be used to reduce the risk of uninvolved persons being exposed to the hazards associated with HLS.

Therefore, the following safety recommendation was made:

Safety Recommendation 2023-029

It is recommended that the UK Civil Aviation Authority, in conjunction with the Onshore Safety Leadership Group and the relevant NHS organisations in the UK, develop and promulgate enhanced risk management guidance for hospital helicopter landing sites, and provide information on the range and use of potential mitigations for the protection of uninvolved persons from helicopter downwash.

Date Safety Recommendation made: 30 October 2023

LATEST RESPONSE

Response received: 03 January 2024

The CAA accepts this recommendation and has initiated the following workstreams:
Workstreams:

1.) The OnSLG HHLS Sub Committee met post publication of the Derriford Report and the Chair presented an Action Plan reporting to all of the AAIB's Recommendations. The OnSLG will continue to work closely with the CAA and NHS in order to ensure close cooperation across all workstreams.

2.) The stated tasks in Recommendation 2023-29 are 'to develop and promulgate enhanced risk management' and 'provide information on the range and use of potential mitigations'. Both will be achieved by a number of coordinated workstreams, including:

a.) Version 3 of CAP1264 to include specific and detailed chapters on:

- Downwash
- Risk Assessments
- Heliport Operations Manual (HOM - see below)
- ACANS (see below)
- Case studies and examples.
- Templates for Standardisation

b.) The development of a Heliport Operations Manual. This will mirror the system used for a regulatory AOC Operations Manual suite as follows:

Section Titles

General

Part A

1. Administration and Control of Manual
2. Organisation and Responsibilities
3. Operational Control and Supervision

4. Safety Management
5. Compliance Monitoring
6. Qualification Requirements
7. Dangerous Goods
8. Security
9. Handling and Notification of Accidents / Incidents

Site Specific Procedures

Part B

1. Normal Procedures
2. Emergency Procedures
3. Minimum Equipment List
4. Helicopter Operating Procedures

Change Management

Part C

1. Heliport Change Notification
2. Heliport Safeguarding Procedures
3. Operator / Airdesk Contact Details

Training

Part D

1. Awareness Course Applicability
2. Management Course Applicability
3. Training Records

c.) The CAAi led 'Responsible Person HHLS Awareness Training Courses' are now being offered to all NHS Trusts and the initial uptake has been very positive, with courses fully booked into 2024.

Hospital Helipad – Aviation Awareness | Training Course by the UK CAA (caainternational.com)

d.) ACANs is currently used by all Blue Light Operators as an EFB mapping and information tool. Discussions with Airbox (developer of ACANS) indicate that a number of cross usage (Hospital and Operators) developmental safety features would be possible. These include:

- a. HHLS Warnings
- b. HHLS Incident Reporting
- c. HHLS 'Traffic Light' system
- d. Possible Webcam integration

Safety Recommendation Status **Open**

AAIB Assessment **Adequate**

Action Status **Planned Action Ongoing Update Due 01 January 2025**

Feedback rationale

The AAIB notes the proposed workstreams to address this Safety Recommendation and requests an update on progress by 1 January 2025. (EU Regulation 996/2010 article 18 refers).

RESPONSE HISTORY

N/A

Safety Recommendation 2023-030

Justification

There are currently no minimum competency requirements for those personnel who are responsible for managing hospital HLS. To manage the risks effectively, these personnel need to have the knowledge to understand the risks and to also have effective systems in place for the communication and management of safety risks that may be highlighted by other organisations.

Therefore, the following safety recommendation was made:

Safety Recommendation 2023-030

It is recommended that NHS England Estates, in conjunction with the Onshore Safety Leadership Group and the UK Civil Aviation Authority, develop competency requirements, and introduce training, for all hospital helicopter landing site managers that includes, as a minimum, a basic introduction to helicopter operations and safety management practices appropriate for such facilities.

NHS England Estates should seek participation from the healthcare organisations in Scotland, Wales, and Northern Ireland to develop these competency requirements.

Date Safety Recommendation made: 30 October 2023

LATEST RESPONSE

Response received: 04 February 2024

Competency requirements and management systems will be outlined within the Helipad Operations Manual (HOM), the outline of which will be set out in the revised CAP 1264 guidance. Organisations will be required to adapt the HOM to their own specific site reflecting, for example, where their HHLS is located etc.

Awareness training for all NHS responsible persons will be provided by the CAA International (CAAI), though other training suppliers need to be encouraged as well. NHS organisations have started to attend these courses, and their usage will be reviewed as work in this area progresses.

Safety Recommendation Status Open

AAIB Assessment Adequate

Action Status Planned Action Ongoing Update Due 31 December 2024

Feedback rationale

The AAIB notes that, with the appropriate participants, work is underway to address the intent of Safety Recommendation 2023-030. The AAIB requests an update on the progress of this work by 31 December 2024. (EU Regulation 996/2010 article 18 refers).

RESPONSE HISTORY

N/A

Safety Recommendation 2023-031

Justification

There are approaching 200 hospital HLS in the UK, many of which were built prior to the publication of CAP 1264. The AAIB safety investigation did not conduct a survey of these other sites, and so is unable to judge any degree of compliance with the guidance that is provided in CAP 1264, CAP 738 and current ICAO documents. In the absence of knowledge of the guidance provided in CAP 1264, it is possible that a number of these other sites do not have adequate downwash zones, nor effective measures in place to manage public movements in such hazardous areas.

If downwash zones were implemented to the guidance in CAP 1264 and ICAO documents at all hospital HLS in the UK, the risk of injuries to uninvolved persons would be reduced.

Therefore, the following safety recommendation was made:

Safety Recommendation 2023-031

It is recommended that NHS England Estates review all existing hospital helicopter landing sites for which it has responsibility against the latest guidance and instigate appropriate actions to minimise the risk of injury from downwash to uninvolved persons.

Date Safety Recommendation made: 30 October 2023

LATEST RESPONSE

Response received: 04 February 2024

NHS England has carried out a one-off data collection to gain a comprehensive picture of HHLS in England. We will share the outcomes of the data with the OnSLG group and devolved nations to encourage a similar approach.

NHS England has updated its NHS Premises Assurance Model (NHS PAM) collection to include information on assurance of the management of HHLS across England.

NHS England will use these data collections to assess the level of compliance, and will re-do this once the new CAP guidance has been launched. An internal resilience group is being set up to monitor all high-risk estates related risks, e.g. reinforced autoclaved aerated concrete (RAAC), oxygen, which is where we can take updates on this topic.

Safety Recommendation Status Open

AAIB Assessment Partially Adequate

Action Status Planned Action Ongoing Update Due 31 December 2024

Feedback rationale

The AAIB notes the work carried out to date on data collection and looks forward to receiving details of safety actions to address the intent of Safety Recommendation 2023-031.

The AAIB requests an update by 31 December 2024 on the progress made on reviewing the safety of the existing hospital helicopter landing sites in England for which NHS England has responsibility and on any consequential actions taken. (EU Regulation 996/2010 article 18 refers).

RESPONSE HISTORY

N/A

Safety Recommendation 2023-032

Justification

There are approaching 200 hospital HLS in the UK, many of which were built prior to the publication of CAP 1264. The AAIB safety investigation did not conduct a survey of these other sites, and so is unable to judge any degree of compliance with the guidance that is provided in CAP 1264, CAP 738 and current ICAO documents. In the absence of knowledge of the guidance provided in CAP 1264, it is possible that a number of these other sites do not have adequate downwash zones, nor effective measures in place to manage public movements in such hazardous areas.

If downwash zones were implemented to the guidance in CAP 1264 and ICAO documents at all hospital HLS in the UK, the risk of injuries to uninvolved persons would be reduced.

Therefore, the following safety recommendation was made:

Safety Recommendation 2023-032

It is recommended that NHS Wales Health Boards and Trusts review all existing hospital helicopter landing sites for which they have responsibility against the latest guidance and instigate appropriate actions to minimise the risk of injury from downwash to uninvolved persons.

Date Safety Recommendation made: 30 October 2023

LATEST RESPONSE

Response received: Awaiting Response

Safety Recommendation Status Open

AAIB Assessment Awaiting Response

Action Status

RESPONSE HISTORY

N/A

Safety Recommendation 2023-033

Justification

There are approaching 200 hospital HLS in the UK, many of which were built prior to the publication of CAP 1264. The AAIB safety investigation did not conduct a survey of these other sites, and so is unable to judge any degree of compliance with the guidance that is provided in CAP 1264, CAP 738 and current ICAO documents. In the absence of knowledge of the guidance provided in CAP 1264, it is possible that a number of these other sites do not have adequate downwash zones, nor effective measures in place to manage public movements in such hazardous areas.

If downwash zones were implemented to the guidance in CAP 1264 and ICAO documents at all hospital HLS in the UK, the risk of injuries to uninvolved persons would be reduced.

Therefore, the following safety recommendation was made:

Safety Recommendation 2023-033

It is recommended that NHS Scotland Assure review all existing hospital helicopter landing sites for which it has responsibility against the latest guidance and instigate appropriate actions to minimise the risk of injury from downwash to uninvolved persons.

Date Safety Recommendation made: 30 October 2023

LATEST RESPONSE

Response received: 02 February 2024

In response to the recommendation set out within the report, NHSScotland Assure have been working to establish where the responsibility for helicopter landing sites lies across the NHSScotland estate, as this is information we do not currently hold centrally. We have also made all boards aware of the report recommendation, and a short life working group has been established to develop a plan on how to take this forward with the relevant boards.

In addition, our Incident Reporting and Investigation Centre (IRIC) have approached all boards to gather data on any incidents relating to the down wash from a helicopter landing at a site.

Please note that NHSScotland Assure is also a member of the Onshore Safety Leadership Group (OnSLG) working on the implementation of a national hospital helicopter landings sites (HLS) database and the creation of a training handbook. As part of the work of this group we have identified three of our boards to volunteer to take part in a pilot study.

Safety Recommendation Status Open

AAIB Assessment Response Received - Awaiting liC review

Action Status Planned Action Ongoing Update Due 31 December 2024

Feedback rationale

The AAIB notes that a short life working group has been established. The AAIB requests an update by 31 December 2024 on the progress made on reviewing the safety of existing hospital helicopter landing sites in Scotland and on any consequential actions taken. (EU Regulation 996/2010 article 18 refers).

RESPONSE HISTORY

N/A

Safety Recommendation 2023-034

Justification

There are approaching 200 hospital HLS in the UK, many of which were built prior to the publication of CAP 1264. The AAIB safety investigation did not conduct a survey of these other sites, and so is unable to judge any degree of compliance with the guidance that is provided in CAP 1264, CAP 738 and current ICAO documents. In the absence of knowledge of the guidance provided in CAP 1264, it is possible that a number of these other sites do not have adequate downwash zones, nor effective measures in place to manage public movements in such hazardous areas.

If downwash zones were implemented to the guidance in CAP 1264 and ICAO documents at all hospital HLS in the UK, the risk of injuries to uninvolved persons would be reduced.

Therefore, the following safety recommendation was made:

Safety Recommendation 2023-034

It is recommended that the Northern Ireland Health and Social Care Trusts review all existing hospital helicopter landing sites for which they have responsibility against the latest guidance and instigate appropriate actions to minimise the risk of injury from downwash to uninvolved persons.

Date Safety Recommendation made: 30 October 2023

LATEST RESPONSE

Response received: 30 January 2024

I am writing in response to the publication of the above report and the safety recommendation 2023-034 applicable to the Northern Ireland Health and Social Care (HSC) Trusts . Please note that we have written to the HSC Trusts in Northern Ireland requesting that they review their current risk assessments for any Helicopter Landing Site (HLS) considering the latest version of CAP 1264 guidance and any relevant adverse incidents (Annex 1). If the design of any HLS is found to be noncompliant with the current guidance they have been requested to develop an action plan to mitigate any risk .

Safety Recommendation Status Open

AAIB Assessment Partially Adequate

Action Status Planned Action Ongoing Update Due 31 December 2024

Feedback rationale

The AAIB notes the work carried out to date. The AAIB requests an update by 31 December 2024 on the progress made on reviewing the safety of the existing hospital helicopter landing sites in Northern Ireland and on any consequential actions taken. (EU Regulation 996/2010 article 18 refers).

RESPONSE HISTORY

N/A

Safety Recommendation 2023-035

Justification

Prior to this accident, progress had been slow with regular meetings not starting until mid-2022 and with a focus on a national database. A national database would avoid some duplication of work by operators and be highly beneficial for the industry to have a centralised database of HLS that is able to be updated quickly in an operational environment by helicopter operators and HLS Site Keepers.

An HLS database could, provided that everyone is able to openly share information, lead to better cooperation and communication between the HLS Site Keepers and the helicopter operators using them.

Therefore, the following safety recommendation was made:

Safety Recommendation 2023-035

It is recommended that the Onshore Safety Leadership Group (OnSLG), in conjunction with the UK Department for Transport, facilitate and support the development and introduction of a dedicated national hospital helicopter landing sites (HLS) database that can be updated in an operational environment by helicopter operators and hospital HLS Site Keepers.

In addition to helicopter operators and other stakeholders, the OnSLG should seek participation from the healthcare organisations in England, Scotland, Wales, and Northern Ireland.

Date Safety Recommendation made: 30 October 2023

LATEST RESPONSE

Response received: 01 February 2024

The OnSLG accepts this recommendation.

Work is currently underway to design and develop an appropriate tool to provide a national HLS database.

The ambition is that this system will allow near real time updates of operational information, which can be utilised by helicopter operators and HLS site keepers.

The healthcare organisations in England, Scotland, Wales and Northern Ireland have been engaged and are participating.

Safety Recommendation Status Open

AAIB Assessment Adequate

Action Status Planned Action Ongoing Update Due 31 December 2024

Feedback rationale

The AAIB notes that, with the appropriate participants, work is underway to address the intent of Safety Recommendation 2023-035. The AAIB requests an update on the progress of this work by 31 December 2024. (EU Regulation 996/2010 article 18 refers).

RESPONSE HISTORY

N/A

Safety Recommendation 2023-036

Justification

Although there have been some steps towards addressing the issues raised in this report, progress could be accelerated if there was centralised leadership from an organisation in a position to secure resources and drive the improvements in safety required. There are a diverse range of stakeholders involved in the decisions around hospital HLS; business needs, local planning, design, risk assessment and ongoing risk management responsibilities are distributed over a number of government departments and current improvement efforts appear to be somewhat fragmented. Healthcare, emergency services and transport are all State functions in the UK, so it would be appropriate for a State organisation with the necessary expertise and channels of communication between other government departments to provide the necessary leadership. The DfT has such expertise and remit for aviation safety policy and therefore:

Therefore, the following safety recommendation was made:

Safety Recommendation 2023-036

It is recommended that the UK Department for Transport, in conjunction with the Onshore Safety Leadership Group, establish and lead a national initiative to improve the protection of uninvolved persons from helicopter operations at hospital helicopter landing sites (HLS).

This initiative should have sufficient authority, representation, resources, and expertise to ensure that coordination between the various risk owners and stakeholders is effective.

The various stakeholder roles and responsibilities (in particular those of HLS Site Keepers and helicopter operators) should be clear to all those involved, and the planning, design, and ongoing risk management of hospital HLS should be considered appropriately.

Date Safety Recommendation made: 30 October 2023

LATEST RESPONSE

Response received: Awaiting Response

Safety Recommendation Status Open

AAIB Assessment Awaiting Response

Action Status

RESPONSE HISTORY

N/A