

<b>Safety Recommendation Number:</b>	IRLD2017005
<b>AAIU Event Reference:</b>	IRL00917016
<b>AAIU Report Number:</b>	2017-006
<b>Date of Publication of Safety Recommendation:</b>	13 April 2017
<b>Safety Recommendation Status:</b>	In process of implementation

**Safety Recommendation:**

CHC Ireland should review/re-evaluate all route guides in use by its SAR helicopters in Ireland, with a view to enhancing the information provided on obstacle heights and positions, terrain clearance, vertical profile, the positions of waypoints in relation to obstacles and EGPWS database terrain and obstacle limitations.

**Response:**

On 10 October 2017, the Operator advised the AAIU by letter that:

*"1. CHCI Manager of Flight Operations (MFO) issued Flight Staff Instruction (FSI) – 030 CHCI Route Guide on 14th April 2017 (see attached). This FSI put immediate additional weather controls on the use of all routes within the current route guide, pending the full review in accordance with the Safety Recommendation, and is still in force today.*

*2. A review of all routes in the CHCI route guide was conducted between April and June 2017 culminating in a general communication sent to all staff by email on the 4th July 2017 (see attached files:*

*a. Email sent to all CHCI flight and technical crew which provided an update to all personnel on the progress and methodology being used to review the route guide.*

*b. Plates\_Preamble\_and\_Guides\_2017-Jun-30 which provides a detailed explanation of the process for 'proving' the routes as well as introducing the new format and content of each route.*

*c. Proving flight check list\_v2 which is the actual checklist to be completed by the crews allocated to conduct each of the proving flights.*

*3. The first review of 'proving flight check lists' provided by crew having flown the revised routes, was conducted on 5th September 2017. The review takes into consideration obstacle heights and positions, terrain clearance, vertical profile, positions of waypoints in relation to obstacles and EGPWS database terrain and obstacle limitations. Any revisions required are currently being input and this process is due for completion by 30th October 2017."*

The operator further advised by email on 12th March 2018 that:

*"The Route Guide has been reviewed and re-evaluated in line with the Safety Recommendation contained within the Preliminary Report dated 14 April 2017. Following an extended period of 'proving' the revised routes (a process undertaken by a number of crews from across the bases), pre-publication of the revised FMS Route Guide details had been circulated to crews via a company Ops Memo. The new FMS Route Guide will be formally encapsulated in the relevant Operations Manual (OMC) as part of the next scheduled revision to be submitted to the IAA at the end of March 2018."*

On 12 March 2019, the Operator informed the AAIU that:

*"The following is the latest information in relation to Safety Recommendation No. IRLD2017005.*

*On the 12th March 2018, CHCI advised the AAIU that:*

*'The Route Guide has been reviewed and re-evaluated in line with the Safety Recommendation contained within the Preliminary Report dated 14 April 2017. Following an extended period of 'proving' the revised routes (a process undertaken by a number of crews from across the bases), pre-publication of the revised FMS Route Guide details had been circulated to crews via a company Ops Memo. The new FMS Route Guide will be formally encapsulated in the relevant Operations Manual (OMC) as part of the next scheduled revision to be submitted to the IAA at the end of March 2018'.*

- 1. CHCI Ops Memo No 06/2018 was issued on the 12th March 2018 to inform flight and technical crew of how to access the newly formatted 'FMS Route Guide' in order to review changes prior to its operational introduction.*
- 2. OPS Memo No 07/2018 was issued on the 27th March 2018 delaying the introduction of the new 'FMS Route Guide' until the next FMS cycle update due at end April 2018 and also to permit the routes to be overlaid on the new IRE Aeronautical Charts.*
- 3. The 'go live' date for the new FMS Route Guide was anticipated to be in April 2018. The assumption was that the new IRE Aeronautical charts would be available to CHCI by then. The optimal solution in introducing the new FMS route guide for operational use, would be to have the same revision of IRE Aeronautical charts on the Euronav display, Toughbook, Hard Copy (paper charts) and on the 'cockpit/cabin FMS Route Guide'. As the introduction of the new IRE Aeronautical charts was delayed, OPS Memo No: 09/2018(27 Apr '18) was issued to advise all flight and technical crew that the issue of the new FMS Route Guide would be deferred until the publication of the new aeronautical charts.*
- 4. The following updates to the FMS Route guide were made on completion of the review process. The roll out date for the new FMS Route Guide was scheduled for the end of September 2018.*
  - Coastal Routes and Onshore Routes are overlaid on the 2018 Aeronautical charts (except 2 x Heathrow routes)*
  - New presentation of 'Route description' information*
  - Introduction of 'joining arc' for each route and location of 'initial' waypoint over sea on each Coastal Route.*
  - 'Significant obstacle' information displayed on 'Route Description' page and corresponding reference on the respective 'Route Map' page.*
  - Redesign of routes following crew feedback after proving flights*
  - Amalgamation of routes:*
    - o Inisboffin – reduction from 3 to 2 Coastal routes*
    - o Dublin – reduction from 2 to 1 Coastal routes*
    - o Sligo – reduction from 2 to 1 Coastal routes*
    - o Blacksod – reduction from 3 to 1 Coastal Routes*
  - Removal of routes following proving flight feedback*
    - o Cork – 2 Coastal Routes*
    - o Carlingford – removal of Coastal route*

- *Operations Manual text changes in OMC and OMF providing to be used when using the FMS Route Guide.*
- *Introduction of a '90 day' currency item in OMF for the use of the FMS Route Guide for flight and technical crew*
- *Control and Management of FMS Route Guide comes under the direct control of the MFO*

5. *The introduction of the new FMS Route guide was delayed from September 2018, due to the ongoing process of configuring the new IRE Aeronautical charts onto the cockpit 'Euronav display'. This was completed with the various 3rd party agencies in October 2018. The revised FMS Master Waypoint database (19 Sept 2018) list was sent for configuration to Euroavionics and a delivery date for this update was given as 21 November 2018. As a result, a 'go live' target date was set for 30th November 2018. The following Ops memos were issued to inform flight and technical crew of the ongoing process:*

- 18/2018 (10 July '18) – IRE Aeronautical charts*
- 19/2018 (1 Aug '18) – Clarification of weather minima for flying the CHCI Route Guide*
- 25/2018 (16 Oct '18) – Euronav system chart revisions*
- 26/2018 (1 Nov '18) – Toughbook update*
- 27/2018 (17 Nov '18) – FMS Route Guide*
- 28/2018 (26 Nov 2018) – FMS Route Guide*

6. *In addition the following FSI's were issued in advance of the 'go live' date for both OMC and OMF.*

- FSI – 2018 -064 FMS Route Guide information in OMC*
- FSI - 2018 – 417 Changes to OMF*

7. *The new FMS Route Guide went 'live' on the 30th November 2018 while FSI 2017 – 030 'CHCI Route Guide' issued on the 13th April 2017 (reissued as FSI 2018 – 027 CHCI Route Guide dated 26th April 2018) remained in force until the 14th December 2018 when it was withdrawn.*

8. *OMC Rev 02 and associated FMS Route Guide were accepted by the IAA on the 4th December 2018.*

9. *The unrestricted 'FMS Route Guide' came into use with CHCI on the 14th December 2018."*

On 01 February 2022, and in subsequent engagement with the AAIU, the Operator provided the following response to the AAIU:

*"Following the original review of the Route Guides in 2017 taking into consideration obstacle heights and positions, terrain clearance, vertical profile, position of waypoints in relation to obstacles and EGPWS database terrain and obstacle limitations the operator published a revised Route Guide with enhanced information. The modified FMS RG was subsequently submitted to and accepted by the IAA.*

*The operator has introduced minimum visibility and minimum descent heights for the continuation of a route to be flown in VMC conditions.*

*The operator currently has an OMC submitted to the authority, which removes paper copies of the FMS Route Guide. The FMS Route Guide will only be*

*available in digital format on the approved EFB's, which enhances readability in all light conditions, including a zoom in / out function.*

*The operator has submitted a revised OMC and Route Guide. This amends item g of OMC 4.2.4.1 and FMS Route Guide 0.2.4.1 (g) to 'Additional Information' (previously called Route Brief).*

*Cognisant of the fact that the re-introduced FMS RG is in place since 2018, the operator will carry out a further review taking into considering this recommendation. This review will consider procedures and processes for all aspects of route guide design, format, usage, briefing, and operational limitations.*

*This review is expected to be completed by October 2022."*

On 12 January 2023, the Operator provided the following update to the AAIU:

*"OMC submitted to IAA in September 2022. OMC currently in review with IAA and CHCI. Operational re-evaluation in progress regarding requirement for FMS routes taking into consideration recommendation IRLD2017005. OMC to be shared with AAIU on approval, estimated end of March 2023."*

On 31 March 2023, the Operator provided the following update to the AAIU:

*"CHCI submitted latest revision of the OMC to IAA on the 27th March 2023, awaiting IAA approval."*

**AAIU Comment:**

The AAIU notes the Operator's response and awaits further updates in relation to this Safety Recommendation. While references are made in the Operator's response to files which were provided to the AAIU as supporting material, these files will not be made available by the AAIU to any third party. The Operator provided the Investigation with a copy of the revised Route Guide referred to in its response of 12 March 2019, and the Investigation provided the Operator with some observations.

The AAIU Notes the Operator's response of 01 February 2022.

The AAIU awaits further updates on the ongoing work which the Operator plans to complete by October 2022.

The AAIU Notes the Operator's response of 12 January 2023.

The AAIU awaits further updates on the ongoing work which the Operator anticipates completing by end of March 2023.

The AAIU Notes the Operator's response of 31 March 2023.

The AAIU awaits further updates from the Operator on this ongoing work.

The AAIU considers the status of this Safety Recommendation to be 'In process of implementation'.