

Safety Recommendation Number:	IRLD2021012
AAIU Event Reference:	IRL00917016
AAIU Report Number:	2021-008
Date of Publication of Safety Recommendation:	5 November 2021
Safety Recommendation Status:	In process of implementation

Safety Recommendation:

CHCI should formalise its monitoring of all SAR flights to ensure that use of any exemptions allowed under the National SAR Approval is monitored, that minimum horizontal visibility is always recorded and that missions and decision-making are routinely reviewed with crews to maximise safety margins and standardise launch criteria.

Response:

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

"All SAR flights are monitored via post flight reports however this will be formalised within the OMA at the next revision. (Expected to be completed by July 2022)

Following a review of the National SAR Approval and subsequent exemptions, the number of exemptions was reduced in 2021. In addition, the operator was directed by the IAA to remove the list of exemptions from the latest OMF. The OMF contains operational procedures only and crews are not in a position to interrogate the manual to know where the exemptions are and if they have utilised an exemption. As such crews are not in a position to record them;

Minimum horizontal visibility is recorded on flight documentation when relevant metrological data is received in flight;

The operator is not aware of any accurate mechanism to accurately record in-flight visibility in all circumstances, however the operator will keep this under review as technology becomes available;

Each iSAR report now includes an area to include post flight de-brief notes and the OMA provides guidance in relation to the content of the post flight de-brief.

Additionally, iSAR now includes a quick access button to the company's safety reporting system to more easily facilitate any lessons learned on a flight to maximise safety margins and lessons learned within the formal SMS."

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

"CHCI iSAR program is in the process of being updated to include a tick box option on all post flight reports to indicate any utilised exemptions.

This will allow flight operations to review and maximise safety margins and standardise launch criteria. This process will be defined within the OMA and integrated by May 2023.

CHCI have undertaken attempts to source technology capable of recording in-flight visibility, no such technology is currently available to record in flight visibility, however should such technology become available CHCI will consider its implementation."

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

"CHCI continue to work with iSAR to develop iSAR to record utilised exemptions, updated timeline for completion of this development Sept 2023."

AAIU Comment:

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

The AAIU Recommended that 'use of any exemptions allowed under the National SAR Approval is monitored'—the intent of the SR can be met by requiring a crew to indicate on its iSAR report, which it is obliged to complete for each and every flight, which exemptions were availed of. The AAIU does not believe that such recording on the post-flight iSAR report, conflicts with the contents of OMF i.e. although not listed in OMF, the exemptions can be listed on the iSAR report along with a tick-box to say if it was availed of, and if so a text entry to say why. Without such information the Operator will not in a position to exercise oversight of all flights pursuant to the National SAR Approval, nor will it be able to quantify the need for certain exemptions when the IAA is reviewing the National SAR Approval. Furthermore, without such information neither the Operator nor the IAA can form an objective impression of the actual risk profile of the Operator's SAR flying conducted pursuant to the National SAR Approval. Finally, the Operator is obliged to collect such information pursuant to Commission Regulation (EU) No 965/2012 of 5 October 2012, ORO.GEN.110 which states, inter alia, 'The operator shall establish and maintain a system for exercising operational control over any flight operated under the terms of its certificate.'—the AAIU considers that recording information on the use, or non-use, of exemptions, requested by and granted to the Operator under its National SAR Approval, is an integral part of the Operator's fulfilment of this obligation.

Without knowledge of the horizontal visibility in which SAR missions (and training) are actually carried out it is simply not possible for either the Operator or the IAA to have a detailed understanding of the actual risk profile of SAR missions (and training) carried out pursuant to the National SAR Approval. Under the National SAR Approval the Operator requested and was granted permission to operate in visibility less than VFR minima—it is therefore incumbent on the Operator to monitor how the exemption it sought is being utilised by its crews in their training and operations.

The Final Report, at section 2.2.8, pages 267 - 269 analyses the fact that Black Rock was not detected visually on the Accident Flight. As stated on page 268 of the Final Report 'At 00.43 hrs, the Commander commented 'okay again just got the surface

visual there anyway which is good [...]'. This indicates that the Commander had visual contact with the surface at that time. However, the assessment of horizontal visibility requires, by definition, that a known feature at a known distance can be seen. But, when operating at 200 ft, approximately 9 NM from shore, over the Atlantic Ocean, at night, in poor weather, there was no known, or discernible, feature to be seen. Furthermore, none of the potential sources of ambient light mentioned in OMF, 'moon light, light from coastal towns, light from adjacent vessels / installations or indeed flares deployed by top cover aircraft' would have been available to the Crew. Accordingly, horizontal visibility could not be determined, and consequently it was not possible for the Flight Crew to know that they had 'visibility sufficient to allow safe aircraft manoeuvre at selected airspeed / groundspeed', as required in OMF. In effect, the Crew was in a situation where they could not see whether there was an obstacle in their path.'

Therefore, on the accident flight the visibility was assessed as 'sufficient for the requirements of the task', 'sufficient to allow safe aircraft manoeuvre' and 'sufficient for the task', although the accident proved otherwise. Contributory Cause 9, on page 331 of the Final Report states 'It was not possible for the Flight Crew to accurately assess horizontal visibility at night, under cloud, at 200 ft, 9 NM from shore, over the Atlantic Ocean.' Accordingly, the AAIU considers it is imperative that the Operator provides crews with guidance on how to assess that visibility is indeed 'sufficient for the task', or that in the absence of an actual objective determination of the available visibility the Operator should provide explicit instructions to crews on how to proceed.

The Operator states 'Minimum horizontal visibility is recorded on flight documentation when relevant metrological data is received in flight', which suggests that crews are only aware of the horizontal visibility when it is provided to them by an outside agency. But SAR flying can be conducted in areas where no reliable meteorological data is available and therefore crews must rely on their own assessment; and it is that assessment, and the method by which it was made, that the SR seeks to have recorded.

The Operator states that it 'is not aware of any accurate mechanism to accurately record in-flight visibility in all circumstances', but it undertakes to keep the matter under review. As a consequence of this acknowledgement, and pending a possible technical solution in the future, it behoves the Operator to provide its crews with instructions on whether, and how, to proceed in conditions (such as poor weather and night) where visibility cannot be assessed.

The AAIU has requested the Operator to reconsider its response to this Safety Recommendation in light of the AAIU's observations, and a further response is awaited.

The AAIU considers the status of this Safety Recommendation to be 'Open'.

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

In particular, the AAIU notes the Operator's statement that its response to this SR will 'allow flight operations to review and maximise safety margins and standardise launch criteria.'

The AAIU notes the Operator's statement (echoing its 1 February 2022 response) 'CHCI have undertaken attempts to source technology capable of recording in-flight visibility, no such technology is currently available to record in flight visibility, however should such technology become available CHCI will consider its implementation.' The AAIU notes, as it has noted previously, that 'As a consequence of this acknowledgement, and pending a possible technical solution in the future, it behoves the Operator to provide its crews with instructions on whether, and how, to proceed in conditions (such as poor weather and night) where visibility cannot be assessed.' The matter is made all the more critical when one considers the difficulties involved in estimating visibility, even for a land-based, stationary observer (c.f. WMO Guide to Meteorological Instruments and Methods of Observation, (the CIMO Guide), WMO-No. 8 (2014 edition, Updated in 2017)), Chapter 9, Measurement of visibility. The WMO has found that by day, well-trained, land-based, stationary observers tend to significantly overestimate (15%) visibility vis-a-vis measured visibility; and the situation is more complicated at night due to the increased number of variable factors. When one adds the complications for a SAR commander of making such estimates at night, in poor weather, from a cockpit vantage point that may be moving at high speed, the imperative for this issue to be addressed by the Operator is self-explanatory. Finally, as the AAIU previously explained following the Operator's 1 February 2022 response, 'SAR flying can be conducted in areas where no reliable meteorological data is available and therefore crews must rely on their own assessment; and it is that assessment, and the method by which it was made, that the SR seeks to have recorded'. Therefore, the Operator's acknowledgement that there is no technological option to provide reliable in-flight visibility measurement further supports the impetus for this Safety Recommendation.

The AAIU awaits further updates on the ongoing work which the Operator anticipates completing by May 2023, and on the Operator's intentions regarding the recording (on the iSAR report) of in-flight visibility, the method of assessing in-flight visibility, and the Operator's instructions to its crews about how to proceed when visibility cannot be assessed.

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 believes that the upgrading of the Operator's iSAR system provides an ideal opportunity to include the recording (on the iSAR report) of in-flight visibility and the method of assessing in-flight visibility; such recording on the iSAR report, in conjunction with instructions from the Operator to its crews about how to proceed when visibility cannot be assessed, could achieve the intent of the Safety Recommendation in relation to the matter of inflight visibility.

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