



ATTACHMENT 5

EMERGENCY FLOTATION SYSTEM GROUP FACTUAL REPORT

NTSB No. ERA18MA099

**Responses from the accident pilot regarding the emergency flotation system
(3 Pages)**

NTSB Questions for Mr. Vance

1. Can you describe in detail the locations on your hands where you had received bruises, during the accident flight, as well as what you believe caused those bruises? **I had a bruise on my right hand between my thumb and index finger. That bruise was caused by squeezing the cyclic prior to impact. I also had a cut at the base knuckle of my left index finger. This occurred when I scraped my finger as I put the emergency fuel cutoff switch back to the floor.**
2. Can you describe (step-by-step) how you activated the emergency floatation system during the accident flight? **When it became time to activate the floats, I took my left hand off the collective and placed it on top of the cyclic. I then gripped the float deployment handle with my right hand and pulled it back fully and completely. After pulling the float handle, I returned my hands to the regular positioning and grip on the collective and cyclic.**
 - a. In your account, please also describe any aural or visual cues you recall hearing or seeing related to the float system during its deployment. **Upon pulling the float handle, I heard a pop indicating that the floats were deployed. Upon activation and deployment, the aircraft shuttered a bit due to the force. Visually, I could tell that there was some extra drag when the floats were deployed. I could also see parts of the left front float and the right front float.**
 - b. Please also describe how you determined whether the deployment action had been completed. **I pulled the float handle back completely per my training, at which point I heard the pop of floats activating/deploying and I could actually see the floats after deployment.**
3. Prior to the accident, have you ever deployed a helicopter float system, either in flight or on the ground during maintenance? **Yes.**
 - a. If yes, please describe to the best of your recollection when this occurred, as well as the model of aircraft and the activation method (mechanical or electrical). **This occurred in December of 2017 at Liberty Helicopters, Inc. ("Liberty"). The aircraft was the accident aircraft, N350LH, a model AS350B2. The activation method was mechanical; I pulled the float handle.**
 - b. Please also describe any difficulties or malfunctions observed during the deployment as well as any follow up communication from Liberty about the activation of the floats that you might have received following such testing. **No malfunctions occurred; the floats activated and deployed properly. There were no difficulties in activating the floats. You must ensure to pull the handle with sufficient force, but Liberty pilots are specifically trained how to properly do so. Although it was not a difficulty, the hand positioning to activate the floats is not ideal. After deploying the floats, the training captain confirmed that it was done successfully and reinforced how to operate the float system based upon the successful deployment demonstration.**
4. Have you witnessed a deployment of a helicopter float system, either in flight or on the ground during maintenance? **In addition to what is discussed above, I saw videos of two separate instances of a deployment of a helicopter float system on the ground during maintenance. Both instances occurred at Liberty.**
 - a. If yes, please describe to the best of your recollection when this occurred, as well as the model of aircraft and the activation method (mechanical or electrical). **To the best of my knowledge and recollection, one of the float deployments occurred in 2014 and the other**

occurred in 2015. Both instances involved model AS350B2 aircraft and the activation was done mechanically.

- b. Please also describe any difficulties or malfunctions observed during the deployment as well as any follow up communication from Liberty about the activation of the floats that you might have received following such testing. No malfunctions occurred in either instance. In one instance, the floats only partially deployed at first because the handle was only partially pulled. In that one instance, the handle was then pulled the rest of the way and the floats then fully deployed. As a result, Liberty routinely enforced in its training the importance and necessity of pulling the float deployment handle fully and to completion.
5. Prior to the accident, did you have any concerns regarding the Apical/Dart emergency float system? Although I personally prefer an electric float system over a mechanical float system, I did not have any concerns regarding the Apical/Dart emergency float system. The float handle requires some force to pull completely, but Liberty specifically trains the pilots for it and I was able to do so when I successfully deployed the float system in December of 2017.
 - a. If yes, what were those concerns and did you address those concerns to anyone in the company? N/A.
 - b. Do you recall if any corrective measures were implemented? N/A.

Shin, Chihoon

From: Paul Tramontana <[REDACTED]>
Sent: Friday, November 30, 2018 10:03 AM
To: Shin, Chihoon
Subject: RE: Follow Up Questions for Mr. Vance (NTSB No. ERA18MA099)

Chichi

I followed up with Rick regarding your question below. Rick confirmed that he misremembered the date and that the float deployment referred to in his answer to question 3 indeed occurred in December 2016, not December 2017.

Feel free to contact me with any other questions.

Have a great day.

Paul Tramontana
Chief Pilot, DER
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165 Western Road
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Office: [REDACTED]
Cell: [REDACTED]

From: Shin, Chihoon [mailto:[REDACTED]]
Sent: Thursday, November 29, 2018 2:49 PM
To: Paul Tramontana
Subject: RE: Follow Up Questions for Mr. Vance (NTSB No. ERA18MA099)

Paul,

I have one question to Mr. Vance's responses. In question 3, he said he had previous experience deploying the floats, specifically in December 2017 on N350LH (the accident helicopter). The maintenance records for N350LH show the 36-month inspection for the floats was performed in December 2016, and one of the float inflation videos provided by Liberty was dated December 14, 2016. By chance did Mr. Vance mean December 2016 instead of December 2017? If not, I can follow up with Rod on this as I did not see an ADMR on this in December 2017. Thank you.

Respectfully,
Chich

From: Paul Tramontana <[REDACTED]>
Sent: Wednesday, November 21, 2018 1:17 PM
To: Shin, Chihoon <[REDACTED]>
Subject: RE: Follow Up Questions for Mr. Vance (NTSB No. ERA18MA099)

Hi Chich,