

October 5, 2023

Ms. Polly Trottenberg
Acting Administrator
Federal Aviation Administration
Washington, DC 20591

The attached letter from the NTSB Chair provides information about the NTSB's September 29, 2023, report *Abrupt Loss of Pitch Control and Water Impact, West Isle Air dba Friday Harbor Seaplanes, de Havilland DHC-3, N725TH*, NTSB/AIR-23-01. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, A-23-1 and -2).

We encourage you to submit your response to ExecutiveSecretariat@nts.gov. If your reply exceeds 20 megabytes, including attachments, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.



NTSB Executive Secretariat
Office of the Managing Director
National Transportation Safety Board
490 L'Enfant Plaza SW
Washington, DC 20594
Email: ExecutiveSecretariat@nts.gov

Our network limits replies, including attachments, to 20mb total. Please e-mail ExecutiveSecretariat@nts.gov directly for instructions on how to submit larger documents.

National Transportation Safety Board

Office of the Chair

Washington, DC 20594



October 5, 2023

Ms. Polly Trottenberg
Acting Administrator
Federal Aviation Administration
Washington, DC 20591

Dear Ms. Trottenberg:

This letter provides information about the National Transportation Safety Board's (NTSB) September 29, 2023, report *Abrupt Loss of Pitch Control and Water Impact, West Isle Air dba Friday Harbor Seaplanes, de Havilland DHC-3, N725TH*, NTSB/AIR-23-01. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- Potential failure modes of the horizontal stabilizer actuator lock ring preventing its proper engagement to secure the clamp nut to the eye bolt;
- The single-point-of-failure hazard represented by a missing or improperly installed lock ring, which is critical to secure the clamp nut to the eye bolt;
- The need for a secondary locking feature to ensure that the clamp nut remains attached to the eye bolt if the lock ring becomes disengaged or is not installed;
- The potential hazard of installing a moisture seal (a component not approved by the airplane manufacturer) on the horizontal stabilizer trim actuator, which could increase the rotational friction between the clamp nut and eye bolt; and
- The need for clear and concise guidance from the airplane manufacturer regarding the horizontal stabilizer actuator inspection and maintenance procedures.

Accordingly, the NTSB makes the following safety recommendations to the FAA. Additional information regarding these recommendations can be found in the noted sections of the report.

- Require operators of DHC-3 airplanes to install a secondary retention feature on the horizontal stabilizer actuator clamp nut to ensure it remains secured to the barrel in the event the lock ring is not installed or otherwise fails to retain the clamp nut (A-23-1) (See section 2.2.5).
- Require operators of DHC-3 airplanes to visually inspect both the horizontal stabilizer actuator lock ring and the associated torque seal at an interval that ensures safe flight or until a secondary retention feature is installed (A-23-2) (See section 2.2.5).

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (Safety Recommendations A-23-1 and -2). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

Sincerely,

[Original Signed]

Jennifer Homendy
Chair

October 5, 2023

The Honorable Pablo Rodriguez
Minister of Transport
Transport Canada
330 Sparks Street
Ottawa, Ontario
K1A 0N5

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable cause of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for any accident or event investigated by the agency. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The attached letter from the NTSB Chair provides information about the NTSB's September 29, 2023, report *Abrupt Loss of Pitch Control and Water Impact, West Isle Air dba Friday Harbor Seaplanes, de Havilland DHC-3, N725TH*, NTSB/AIR-23-01. The details of this accident investigation and the resulting safety recommendation may be found in the attached report, which can also be accessed at <http://www.nts.gov>. For more information about NTSB and our recommendation process, please see the attached one-page summary.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (for example, A-23-3, -4 and -5). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

All communications regarding safety recommendations will be stored by the NTSB and viewable by the public. Please do not send privileged or confidential communications in response to this recommendation. Responses marked as confidential or privileged (or similar designations) will be considered nonresponsive.

If you have concerns about this protocol, please contact us at ExecutiveSecretariat@ntsb.gov.



NTSB Executive Secretariat
Office of the Managing Director
National Transportation Safety Board
490 L'Enfant Plaza SW
Washington, DC 20594
Email: ExecutiveSecretariat@ntsb.gov

Our network limits replies, including attachments, to 20mb total. Please e-mail ExecutiveSecretariat@ntsb.gov directly for instructions on how to submit larger documents.

National Transportation Safety Board

Office of the Chair

Washington, DC 20594



October 5, 2023

The Honorable Pablo Rodriguez
Minister of Transport
Transport Canada
330 Sparks Street
Ottawa, Ontario
K1A 0N5

Dear Minister Rodriguez:

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

We are providing the following information to urge Transport Canada to act on the safety recommendations in this letter because we believe your organization can help reduce the risk of future accidents. This letter includes information about our September 29, 2023, report *Abrupt Loss of Pitch Control and Water Impact, West Isle Air dba Friday Harbor Seaplanes, de Havilland DHC-3, N725TH*, NTSB/AIR-23-01. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- Potential failure modes of the horizontal stabilizer actuator lock ring preventing its proper engagement to secure the clamp nut to the eye bolt;
- The single-point-of-failure hazard represented by a missing or improperly installed lock ring, which is critical to secure the clamp nut to the eye bolt;

- The need for a secondary locking feature to ensure that the clamp nut remains attached to the eye bolt if the lock ring becomes disengaged or is not installed;
- The potential hazard of installing a moisture seal (a component not approved by the airplane manufacturer) on the horizontal stabilizer trim actuator, which could increase the rotational friction between the clamp nut and eye bolt; and
- The need for clear and concise guidance from the airplane manufacturer regarding the horizontal stabilizer actuator inspection and maintenance procedures.

Accordingly, the NTSB makes the following safety recommendations to Transport Canada. Additional information regarding these recommendations can be found in the noted sections of the report.

- Require operators of DHC-3 airplanes to install a secondary retention feature on the horizontal stabilizer actuator clamp nut to ensure it remains secured to the barrel in the event the lock ring is not installed or otherwise fails to retain the clamp nut. (A-23-3) (See section 2.2.5.)
- Require operators of DHC-3 airplanes to visually inspect the horizontal stabilizer actuator lock ring at an interval that ensures safe flight or until a secondary retention feature is installed. (A-23-4) (See section 2.2.5.)
- Require operators of DHC 3 airplanes to install a torque seal on the horizontal stabilizer actuator clamp nut and lock ring and inspect the torque seal at an interval that ensures safe flight until a secondary retention feature is installed. (A-23-5) (See section 2.2.5.)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (Safety Recommendations A-23-3 through -5). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

All communications regarding safety recommendations are stored by the NTSB and viewable by the public. Please do not send privileged or confidential communications in response to this/these recommendation(s). Responses marked as

confidential or privileged (or similar designations) will be considered nonresponsive. In the likely event that your company uses auto-generated and/or preformatted confidentiality statements on letterhead or outgoing e-mails, please include a statement in your letter indicating that the information can be publicly released. If you have concerns about this protocol, please contact us at ExecutiveSecretariat@ntsb.gov.

Sincerely,

[Original Signed]

Jennifer Homendy
Chair

October 5, 2023

Mr. Brian Chafe
Chief Executive Officer
Viking Air Limited
1959 de Havilland Way
Sidney, British Columbia
Canada V8L 5V5

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable cause of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for any accident or event investigated by the agency. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The attached letter from the NTSB Chair provides information about the NTSB's September 29, 2023, report *Abrupt Loss of Pitch Control and Water Impact, West Isle Air dba Friday Harbor Seaplanes, de Havilland DHC-3, N725TH*, NTSB/AIR-23-01. The details of this accident investigation and the resulting safety recommendation may be found in the attached report, which can also be accessed at <http://www.nts.gov>. For more information about NTSB and our recommendation process, please see the attached one-page summary.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendation by number (for example, Safety Recommendations A-23-6 through -8). We encourage you to submit your response to ExecutiveSecretariat@nts.gov. If your reply exceeds 20 megabytes, including attachments, please e-mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

All communications regarding safety recommendations will be stored by the NTSB and viewable by the public. Please do not send privileged or confidential communications in response to this recommendation. Responses marked as confidential or privileged (or similar designations) will be considered nonresponsive.

If you have concerns about this protocol, please contact us at ExecutiveSecretariat@ntsb.gov.



NTSB Executive Secretariat
Office of the Managing Director
National Transportation Safety Board
490 L'Enfant Plaza SW
Washington, DC 20594
Email: ExecutiveSecretariat@ntsb.gov

Our network limits replies, including attachments, to 20mb total. Please e-mail ExecutiveSecretariat@ntsb.gov directly for instructions on how to submit larger documents.

National Transportation Safety Board

Office of the Chair

Washington, DC 20594



October 5, 2023

Mr. Brian Chafe
Chief Executive Officer
Viking Air Limited
1959 de Havilland Way
Sidney, British Columbia
Canada V8L 5V5

Dear Mr. Chafe:

The NTSB is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in the other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

We are providing the following information to urge Viking Air Limited to act on the safety recommendations in this letter because we believe your organization can help reduce the risk of future accidents. For more information about the NTSB and our recommendation process, please see the attached one-page summary.

This letter also includes information about our September 29, 2023, report *Abrupt Loss of Pitch Control and Water Impact, West Isle Air dba Friday Harbor Seaplanes, de Havilland DHC-3, N725TH*, NTSB/AIR-23-01. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at <http://www.nts.gov>.

As a result of this investigation, we identified the following safety issues:

- Potential failure modes of the horizontal stabilizer actuator lock ring preventing its proper engagement to secure the clamp nut to the eye bolt;

- The single-point-of-failure hazard represented by a missing or improperly installed lock ring, which is critical to secure the clamp nut to the eye bolt;
- The need for a secondary locking feature to ensure that the clamp nut remains attached to the eye bolt if the lock ring becomes disengaged or is not installed;
- The potential hazard of installing a moisture seal (a component not approved by the airplane manufacturer) on the horizontal stabilizer trim actuator, which could increase the rotational friction between the clamp nut and eye bolt; and
- The need for clear and concise guidance from the airplane manufacturer regarding the horizontal stabilizer actuator inspection and maintenance procedures.

Accordingly, the NTSB makes the following safety recommendations to Viking Air Limited. Additional information regarding these recommendations can be found in the noted sections of the report.

- Develop inspection criteria for maintenance personnel to determine whether the horizontal stabilizer trim actuator lock ring is airworthy or needs to be replaced; the inspections should be performed at an interval that ensures safe flight. (A-23-6) (See section 2.2.4.)
- Notify DHC-3 operators of the circumstances of this accident and instruct them to remove moisture seals that are installed within horizontal stabilizer actuators and are not approved by Viking Air or a regulatory agency. (A-23-7) (See section 2.2.6.)
- Revise the DHC-3 aircraft maintenance manual to include inspection and overhaul procedures for the horizontal stabilizer actuator that specify how many holes can be drilled into the clamp nut and how to determine if the holes are airworthy, a proper torque value for installing the clamp nut, and how to install the lock ring and verify that it is properly seated and functions as intended (A-23-8) (See section 2.3).

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (Safety Recommendations A-23-6 through -8). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e-mail us at the same

address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

All communications regarding safety recommendations are stored by the NTSB and viewable by the public. Please do not send privileged or confidential communications in response to this/these recommendation(s). Responses marked as confidential or privileged (or similar designations) will be considered nonresponsive. In the likely event that your company uses auto-generated and/or preformatted confidentiality statements on letterhead or outgoing e-mails, please include a statement in your letter indicating that the information can be publicly released. If you have concerns about this protocol, please contact us at ExecutiveSecretariat@ntsb.gov.

Sincerely,

[Original Signed]

Jennifer Homendy
Chair



NTSB Recommendations and You

The National Transportation Safety Board (NTSB) is an independent federal agency charged with investigating and determining the probable cause of transportation accidents. We do not make regulations, but we do issue recommendations to organizations such as yours when we discover shortcomings in the transportation system that increase the risk of accidents. **As a result of our investigative activities, we have issued one or more safety recommendations that we believe you can act on to improve transportation safety.**

Why did the NTSB issue my organization a safety recommendation?

We issue safety recommendations to organizations that can bring about change to reduce the risk of accidents, either through their direct role in the transportation industry, their legislative or regulatory authority, or the significant influence they have among others in the industry. We believe your organization is able to make or influence such changes.

What does the NTSB expect of safety recommendation recipients?

First and foremost, we encourage you to promptly take the recommended action to improve safety. Because we're eager to see recommendations implemented before more accidents occur, we follow recipients' efforts to implement each recommendation. We ask that you update us any time you achieve a significant milestone in your progress toward implementing the attached recommendation(s), or at least annually. We will provide feedback on your efforts by classifying each recommendation as open or closed, acceptable or unacceptable.¹ Information about your actions associated with your recommendation(s) is available at our [website](https://www.nts.gov) so that the public can see our combined efforts to improve transportation safety.

¹ For a full description of our safety recommendation classifications, see the [Status Explanation](#) page on our website.

What should our response to the NTSB include?

Please respond to us within **90 days (30 for urgent recommendations)** explaining the specific actions you have taken or intend to take in response to the safety recommendation(s), and propose a timeline for completion. We understand organizations today are faced with competing priorities and limited resources, which can make implementing our recommendations a challenge. If, for any reason, you are not able to take the recommended action, or if you believe an alternate action would be more appropriate for your organization, please explain why. When you respond, please provide an e-mail address for future communications. We will review your response and provide feedback.

What if my organization doesn't believe the recommended action is the best way to improve safety?

We base our recommendations on the evidence, facts, and circumstances of the accidents we investigate. Sometimes industry leaders identify ways to attain the same safety objective more efficiently, and we encourage recipients to share their ideas with us. In these cases, we will evaluate the alternate means of achieving the safety objective and provide feedback. We believe safety is a collaborative effort, and we're happy to work with your organization to set goals and make improvements.

Why does the NTSB expect us to take action, even though our organization wasn't responsible for the accident that resulted in the safety recommendation?

Our goal is to prevent accidents. Often, the factors we identify as causing or contributing to an accident are not unique—they represent common practices or situations that may be accidents waiting to happen. In such instances, we may make recommendations intended to raise the minimum standard for safety throughout the industry.

How do we contact the NTSB to provide updates or obtain further information?

Please contact us electronically at executivesecretariat@ntsb.gov. If you wish to send us supporting documentation that, with your response, exceeds 10 megabytes, please contact us at the same e-mail address for instructions.

NTSB | National
Transportation
Safety Board
www.nts.gov

We look forward to working with you to prevent accidents and save lives!