

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



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OPERATIONAL FACTORS

Group Chair's Factual Report

March 15, 2023

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ACCIDENT

Location: Mutiny Bay, Whidbey Island, Washington
Date: September 04, 2022
Time: 1509 pacific daylight time (PDT)¹
2209 coordinated universal time (UTC)
Airplane: N725TH, De Havilland Canada DHC-3 Otter, Serial No. 466

OPERATIONAL FACTORS GROUP

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SUMMARY

On September 4, 2022, about 1509, a de Havilland DHC-3 seaplane, N725TH, Serial No 466 was destroyed when it was involved in an accident in Mutiny Bay, Whidbey Island, Washington. The pilot and nine passengers were fatally injured. The airplane was owned by Northwest Seaplanes, Inc.² and operated as a *14 Code of Federal Regulations (CFR) Part 135* scheduled flight by West Isle Air dba Friday Harbor Seaplanes³. The flight originated at Friday Harbor Seaplane Base (W33), Friday Harbor, Washington with an intended destination of Will Rogers Wiley Post Memorial Seaplane Base (W36), Renton, Washington.

¹ All times in this report will be in PDT except as otherwise noted.

² Northwest Seaplanes, Inc. and West Isle Air, Inc d/b/a Friday Harbor Seaplanes were two separate companies with separate ownership. Northwest Seaplanes was an on-demand FAR 135 air carrier until June 2022. West Isle Air was an on-demand and commuter FAR 135 air carrier in operation on the day of the accident. Northwest Seaplanes provided maintenance and leased aircraft to West Isle Air.

³ Hereafter referred to as West Isle Air.

DETAILS OF THE INVESTIGATION

On September 4, 2022, the Operational Factors investigators were assigned to the event about 6 hours after it occurred and began collecting data for the investigation.

On September 5, 2022, the Operational Factors investigators traveled to Seattle and participated in the organizational meeting. The Operations group was formed, and the plan was made for the investigation.

On September 6, 2022, the Operations group went to the operator and documented the pilot's training records. The Operations group also copied company manuals and obtained fuel records from the local fixed base operator. In addition, the Operations group interviewed a pilot from another operator that had seen the accident airplane 5-10 minutes before the event traveling about the same altitude in the opposite general direction.⁴

On September 7, 2022, the Operations group assisted the Witness group and conducted twenty eyewitness phone interviews, examined and documented pictures and other information provided by witnesses. The Operations group reviewed live digital camera feeds that broadcast from several of the docks which the various seaplanes operators used for weather information. Unfortunately, none of them had the capability to be recorded, so actual weather around the time of the accident could not be viewed.

On September 8, 2022, the Operations group interviewed the West Isle Air chief pilot. The recording of the interview was sent for transcription which is in Operational Factors - Attachment 1 - Interview Transcript - West Isle Air Chief Pilot. The Operations group examined another operator's airplane and witnessed a preflight inspection demonstration. The Operations group completed and submitted field notes and returned to their respective duty stations.

On October 26-27, 2022, the Operations group reconvened at the FFA office in Des Moines, Washington and interviewed West Isle Air's current Federal Aviation Administration (FAA) Principal Operations Inspector (POI) and the former FAA POI. The interview summaries are in Operational Factors - Attachment 2 - Interview summaries - FAA POI and previous POI.

⁴ Operational Factors - Attachment 4 - "Interview Summary - Other Operator's Pilot."

FACTUAL INFORMATION

1.0 History of Flight

West Isle Air operated scheduled passenger air service from Renton, Washington to various seaplane bases in the San Juan Islands, as well as on-demand charter flights to lodges and resorts in Canada. The scheduled destinations were frequently adjusted to accommodate its guests, and the schedule was flexible enough to accommodate changes in the weather without impact to the business. The pilot had the discretion to vary the order in which he landed at the various destinations in the San Juan islands due to traffic congestion at the seaplane dock, the number of passengers departing/arriving at each, and/or weight and balance.⁵

The accident pilot was scheduled to fly the accident airplane on three multiple-leg roundtrips on September 4, 2022.

The first roundtrip was a scheduled 4-leg route departing about 0930 from W36 to W33, then Roche Harbor Seaplane Base, (W39) Roche Harbor, Washington, and Rosario Seaplane Base, (W49), Rosario, Orcas Island, Washington, before returning to W36. The flight was uneventful and arrived back at W36 about 1215.

See Table 1 for a list of pertinent Seaplane Base Codes.

See Figure 1 for relative positions of pertinent seaplane bases.

Table 1. List of pertinent Seaplane Base Codes

W36	Will Rogers Wiley Post Memorial Seaplane Base (Renton)
W33	Friday Harbor Seaplane Base
W39	Roche Harbor Seaplane Base
W49	Rosario Seaplane Base
W81	Lopez Seaplane Base

The second roundtrip was scheduled to depart W36 at 1230. However, the pilot decided to refuel the airplane so that he could complete the next two 5-leg roundtrips without having to stop again for fuel⁶. He uploaded 113.3 gallons at 1232⁷.

The scale of the FAA - Seattle Sectional Aeronautical Chart in Figure 1 was 1:500,000. The distance between W36 and W81 was about 67 nm. The distance from W81 to W33 was about 7 nm. The distance from W33 to W39 was about 8 nm. The distance from W33 to W36 is about 82 miles.

⁵ Source: Operational Factors - Attachment 1 - "Interview Transcript - West Isle Air Chief Pilot"

⁶ Source: Operational Factors - Attachment 1 - "Interview Transcript - West Isle Air Chief Pilot"

⁷ Source: Operational Factors - Attachment 10 - "Fueling Information - N725TH"



Figure 1. FAA Seattle VFR Sectional Aeronautical Chart (in part)

FAA tracking data showed that the second roundtrip departed W36 about 1253 and arrived at Lopez Seaplane base, (W81), Lopez Island, Washington about 1328. FAA tracking data showed the flight near W33 about 1351 and landed at W39 about 1356. The airplane departed W39 about 1432 and arrived at W33 about 1438. The accident occurred on the fifth leg of the second roundtrip, which departed W33 about 1450. The last ADS-B⁸ indication was near Oak Harbor, Washington about 1508.

FAA tracking data showed that after the accident flight departed W33, it initially flew on an approximate ground track of south and then turned to an approximate ground track of south-southeast, (see Figure 2).

The accident flight lasted about 18 minutes with the airplane cruising at altitudes mostly between 600 and 700 ft mean seal level (msl) and at groundspeeds between 115 and 125 knots. During the final minutes of the flight, the airplane began a climb, reaching a maximum altitude of about 1,000 ft msl before entering a rapid descent, and the data ended about 1509.



Figure 2. ADS-B track of accident flight on Google Earth overlay

⁸ ADS-B is an advanced surveillance technology that combines an aircraft's positioning source, aircraft avionics, and a ground infrastructure to create an accurate surveillance interface between aircraft and Air Traffic Control (ATC).

2.0 Pilot Information⁹

The pilot, age 43, held a commercial pilot certificate with a rating for airplane single-engine land, single-engine sea, multiengine land, and instrument airplane. He held an FAA second-class medical certificate, dated May 31, 2022, with no limitations. At the time of the accident, he was employed by West Isle Air and was based at W36.¹⁰

The pilot flew for both Northwest Seaplanes and West Isle Air on a seasonal basis, typically May through October from 2015 until the end of the 2021 season. The two companies transitioned to a single FAA Part 135 certificate - West Isle Air, in 2022. He initially checked out in the DHC-2 Beaver seaplane with Northwest Seaplanes on July 07, 2013, and his initial check in the DHC-3 Otter seaplane on June 19, 2017.¹¹

The pilot operated the aircraft the previous two days on similar routing logging a total flight time of 7.2 hours.¹²

2.1 FAA Pilot Certification Record¹³

Private Pilot - Airplane Single-Engine Land - certificate issued May 16, 2005.

Private Pilot - Airplane Single-Engine Land; Instrument Airplane; Limitations: English Proficient - certificate issued October 30, 2012.

Commercial Pilot - Airplane Single-Engine Land; Instrument Airplane; Limitations: English Proficient - certificate issued April 04, 2013.

Commercial Pilot - Airplane Single-Engine Land; Airplane Sea; Instrument Airplane; Limitations: English Proficient - certificate issued on April 26, 2013.

Commercial Pilot - Airplane Single-Engine Land; Airplane Single-Engine Sea; Airplane Multi-Engine Land; Instrument Airplane; Limitations: English Proficient - certificate issued on September 15, 2019.

⁹ Source: Operational Factors - Attachment 1 - "Interview Transcript - West Isle Air Chief Pilot"

¹⁰ W36 is a water runway with a public seaplane dock located at Renton Municipal Airport (RNT), Renton, Washington.

¹¹ Source: Attachment 11 - Pilot Training Record Summary

¹² Source: Table 2. Pilot's Flight Times table supplied by West Isle Air Chief Pilot.

¹³ Source: FAA pilot records

2.2 FAA Pilot Certificates and Ratings Held at Time of the Accident

Commercial Pilot (issued September 15, 2019)
Airplane Single Engine Land; Airplane Single-Engine Sea; Airplane Multiengine Land;
Instrument Airplane
Limitations: English Proficient

Medical Certificate Second Class (issued May 31, 2022)
Limitations: None

2.3 Pilot's Training and Proficiency Checks Completed

For a summary of the pilot's recent training events, see Table 2.

Table 2. Pilot's Training and Proficiency Checks

Date of hire - (West Isle Air)	May 29, 2015
Initial proficiency check DHC-2 - (Northwest Seaplanes)	July 07, 2013
Initial proficiency check DHC-3 - (Northwest Seaplanes)	June 19, 2017
Most recent recurrent ground training DHC-2 ¹⁴	May 02, 2022
Most recent recurrent ground training DHC-3 ¹⁵	June 30, 2022
Most recent competency check ¹⁶	July 29, 2021
Most recent takeoff and landing currency DHC-3	September 04, 2022
Most recent emergency procedures training ¹⁷	June 30, 2022
Most recent emergency evacuation drill	June 30, 2022

The chief pilot confirmed that the pilot's base month was August 2021, therefore, on the date of the accident, the pilot was in his late grace month¹⁸ with a check scheduled that week.

¹⁴ Recurrent ground training consisted of general subjects to include aircraft systems, systems integration, emergency training, and a written test.

¹⁵ Recurrent ground training consisted of general subjects to include aircraft systems, systems integration, emergency training, and a written test.

¹⁶ The captain's requalification proficiency check was conducted under 14CFR Part 135.293 and included 24 satisfactory items including, in part, Pre-Flight Inspection, Powerplant Checks, Approaches to Stall, Unusual Attitude, Powerplant Failure, Normal/Abnormal and Emergency Procedures. The result of the check was listed as "Approved."

¹⁷ Completed emergency procedures training including a written test and conducted emergency drills.

¹⁸ 14 CFR § 135.301 Crewmember: Tests and checks, grace provisions, training to accepted standards. (a) If a crewmember who is required to take a test or a flight check under this part, completes the test or flight check in the calendar month before or after the calendar month in which it is required, that crewmember is considered to have completed the test or check in the calendar month in which it is required.

2.4 Pilot's Flight Times¹⁹

The pilot's approximate flight times were based on information supplied by West Isle Air, (see Table 3).

Table 3. Pilot's Flight Times

Previous 24 hours	2.8 hours
Previous 48 hours	7.2 hours
Last 14 days	43.2 hours
Last 30 days	111.4 hours
Last 90 days	297.2 hours
Last 12 months	397.6 hours
Total DHC-3	1,300+ hours
Total flight hours	3,686 hours

2.5 Pilot's Recent Activities²⁰

During an interview, the chief pilot stated that in the 72 hours before the accident, the pilot stayed overnight in a recreational vehicle on the airport property. He did that routinely because his family lived about 3 hours away. Normally, the pilot worked Friday to Monday.

The pilot flew the accident seaplane on three roundtrip flights to the San Juan Islands on Friday, for a total of 4.4 hours of flight time, all uneventful.

The pilot reported to work about 0830 for his 0930 flight in accordance with company policy on Saturday, the day prior to the accident. The Saturday flights were delayed due to weather but there was an allowance for that built into the schedule so there was no impact.

The pilot flew the accident seaplane on one roundtrip flight to the San Juan Islands on Saturday, for a total of 2.8 hours. After his flight on Saturday, he watched a sporting event that night. The chief pilot did not know what time the pilot went to bed.

The chief pilot stated that on the day of the accident, the pilot once again reported at 0830 for his 0930 flight. The chief pilot also stated that the pilot appeared rested, and he did not notice any sign of fatigue.

¹⁹ Flight times were provided by the chief pilot and do not include the accident flight nor simulator experience.

²⁰ Source: Operational Factors - Attachment 1 - "Interview Transcript - West Isle Air Chief Pilot"

3.0 Airplane Information

The accident airplane was a single engine de Havilland DHC-3 Otter seaplane, registration N725TH, serial number 466, (see Figure 3). It was manufactured in 1967 and was purchased by Northwest Seaplanes Inc. of Renton, Washington, and registered with the FAA on December 18, 2018. It was powered by a Walter GE Aviation M601E-M turbine engine²¹ and was driven by an Avia V508E-AG/106A propeller.

The minimum crew required was one pilot, seated in the left seat.²²



Figure 3. Accident airplane - Source: jetphotos.com

3.1 Weight and Balance

Passenger weights were normally provided to the pilot by the passenger manifest. Passenger baggage was weighed by the pilot prior to loading at each dock. The weight and balance was then calculated by the pilot before each flight. Neither

²¹ Engine was modified in accordance with Supplemental Type Certificate STC SA09857SC.

²² Source: Attachment 6 - DHC-3 Otter Flight Manual - de Havilland

the baggage weights nor the weight and balance were required to be transmitted to the operator, consequently, some information for the accident flight was destroyed in the crash. All numbers in parentheses were estimates provided by the chief pilot based on his personal experience flying that route, (see Table 4).

Table 4. Accident flight weight and balance. (All weights are in lbs.)

Basic Operating Weight	4,757.15
Pilot Weight ²³	150
Passenger Weight ²⁴	1,270
Passenger Baggage ²⁵	(340)
Approx. Zero Fuel Weight ²⁶	(6,517.15)
Fuel Weight ²⁷	(1,000)
Ramp Weight	(7,517.15)
Maximum Ramp Weight	8367
Taxi Fuel	(20)
Takeoff Weight	(7,497.15)
Maximum Takeoff Weight	8,367
Fuel Burn	(214)
Landing Weight ²⁸	(7,283.15)
Maximum Landing Weight	8367
Center of Gravity (CG)	(-13.4)
CG limits	-25.8 FWD -8.6 AFT

The West Isle Air, Inc., Flight Operations Manual, Section-1 General Operations - Loading, dated 4-15-14 [sic] listed the following regarding the weight and balance program:

(a) *PASSENGER WEIGHTS*

- (1) *Actual or "asked" passenger weights plus 10 pounds shall be used on all flights.*

²³ Pilot weight was obtained from the FAA Second Class medical issued to the pilot on May 31, 2022.

²⁴ The passenger weights were based on actual weights listed on a manifest provided by the operator. The manifest listed 8 adult passengers and had a note of 1 lap child under 2 years of age. The company's Ops Specs required the use of the asked weight of each passenger with an additional 10 lbs. per passenger.

²⁵ The operator was unsure how many bags if any were loaded onto the return flight that began in Roche Harbor and stopped in Friday Harbor. Calculations were made assuming 40-lb. bags per adult passenger and 20 lbs. for the lap child resulting in 340 pounds.

²⁶ Maximum Zero Fuel Weight was never published by the manufacturer.

²⁷ Estimate based on fuel load leaving Renton of 1,400 lbs. and estimated fuel burn of 400 lbs. to Friday Harbor.

²⁸ Estimated landing weight at point of intended landing.

- (2) *Schedulers will advise customers the need for passenger weight list along with the manifest. If no weights are given on the manifest the pilots shall ask each passenger their weight.*
- (b) **CARGO AND ALL BAGGAGE WEIGHTS**
Actual cargo weights shall always be used. A calibrated scale will be used to weigh baggage.²⁹
- (c) **CREW WEIGHTS**
Actual crew weights shall be used.

The West Isle Air Flight Operations Manual, Section 1 General Operations - Loading, dated 4-15-14 [sic] listed the following information on load manifests:

LOAD MANIFEST

(a) **AIR CARRIER FLIGHTS**

No load manifest form is required to be prepared or carried with single engine aircraft. The PIC will ensure that the aircraft is operated within weight and balance limitations of the aircraft.

The West Isle Air Flight Operations Manual, Section 1 General Operations - Flight Preparations, Preflight Action, dated 4-15-14 [sic] listed the following requirements for performing the weight and balance:

(b) **WEIGHT AND BALANCE**

- (1) *The PIC must ensure that airplane weight and balance limitations are complied with.*
- (2) *PIC's may use the manifest printouts as their weight and balance documentation.*
- (3) *If load conditions later change the PIC must ensure that weight and balance limitations are complied with.*

The West Isle Air's Flight Training Manual - Air Carrier Training Program dated 12-15-20 [sic] directs pilots to use the See Gee Calculator³⁰ to ensure the CG is within operating limits.

²⁹ Figure 4 depicts a sample baggage scale used to weigh bags at docks.

³⁰ Attachment 9 - See Gee Calculator and Instructions - DHC-3

The West Isle Air Flight Operations Manual, Section 1 General Operations - Loading, dated 4-15-14 [sic] listed the following information on load manifests:

LOAD MANIFEST

(a) AIR CARRIER FLIGHTS

No load manifest form is required to be prepared or carried with single engine aircraft. The PIC will ensure that the aircraft is operated within weight and balance limitations of the aircraft.

3.2 On-Board Baggage Scale

The airplane was equipped with a hand-held baggage scale that a pilot would use to get the bag weights for any passenger bag that was being loaded. The photo below in Figure 5 was of a similar bag scale that would have been on the accident airplane, according to the chief pilot.



Figure 4. Sample baggage scale used to weigh bags at docks.

3.3 Airspeed Limitations

West Isle Air utilized the DHC-3 Otter Flight Manual produced by de Havilland Aircraft of Canada Limited, Downsview, Ontario, supplemented by Supplemental Type Certificate STC SA09857SC, produced by Stolairus Aviation, Inc. Kelowna, B.C. as their Aircraft Operating Manual. The airspeed limits below in Table 5 were from the STC Section 2 - Limitations.

Table 5. Airspeed Limitations (mph)

SPEED (mph)	IAS³¹	REMARKS
Maneuver (V _a)	126	No full or abrupt control movements above this speed
Max Flap Extended (V _{fe})	94	Do not exceed with fully extended flaps.
Maximum Structural Cruising (V _{mo})	144	Seaplane

3.4 Airspeed Indicator Markings (mph)

West Isle Air utilized the DHC-3 Otter Flight Manual produced by de Havilland Aircraft of Canada Limited, Downsview, Ontario, supplemented by Supplemental Type Certificate STC SA09857SC, produced by Stolairus Aviation, Inc. Kelowna, B.C. as their Aircraft Operating Manual. The airspeed indicator markings listed below in Table 6 were from the STC Section 2 - Limitations.

Table 6. Airspeed Indicator Markings (mph)

Marking	IAS Value or Range (mph)	Significance
White Arc	56 to 94	Full flap limit. Lower limit is maximum weight stalling speed and upper limit is maximum permissible speed with flaps extended.
Red Line	144	Maximum speed for all operations.

4.0 Meteorological Information³²

The nearest recorded weather was Jefferson County International Airport (KOS9), Port Townsend, Washington located about 8 miles to the west of the accident site. The following weather was recorded around the time of the accident:

*KOS9 042235Z AUTO 30008KT 10SM BKN038 BKN075 OVC095 20/14 A3002
RMK AO2*

*KOS9 042215Z AUTO 31010KT 10SM FEW040 FEW075 BKN090 20/14 A3002
RMK AO2*

Accident ~2209 UTC

KOS9 042155Z AUTO 31009KT 10SM FEW038 BKN090 20/14 A3001 RMK AO2

³¹ Indicated Air Speed

³² Source: National Weather Service

KOS9 042135Z AUTO 31008KT 10SM SCT038 BKN095 21/14 A3001 RMK AO2

For further weather information reference the NTSB Meteorological Specialist Report located in the docket for this accident investigation.

5.0 Operator

West Isle Air was issued an Air Carrier Certificate on September 01, 1989. According to their Operation Specifications (OpSpecs)³³, West Isle Air provided on-demand charter and cargo operation as a 14 CFR Part 135 operator. At the time of the accident, the operator had one DHC-3 Otter seaplane (accident airplane) and five DHC-2-MKI Beaver seaplanes listed on their OpSpecs. The DHC-3 was listed as having a maximum capacity of nine passengers.

5.1 Duties and Responsibilities for Pilot in Command

The West Isle Air, Inc., Flight Operations Manual, Section-1 General Operations - ORGANIZATION, dated 4-15-14 listed the following duties and responsibilities for the pilot in command:

FLIGHT OPERATIONS MANUAL Section-1 General Operations

(d) PILOT-IN-COMMAND

- (1) Is responsible to the Chief Pilot.*
- (2) Is the final authority for the safe operation of the aircraft (FAR 91.3)*
- (3) Insures [sic] that the assigned aircraft is airworthy and that all proper documents are on board the aircraft.*
- (4) Insures [sic] that the proper amount and grade of fuel is loaded on the aircraft.*
- (5) Insures [sic] that a flight plan or other authorized flight locating procedure is followed on each flight.*
- (6) Insures [sic] that the aircraft is loaded within the weight and balance limits and personally assists all passengers in the loading and unloading process.*
- (7) Reports all known or suspected FAA violations or incidents to the Chief Pilot.*

³³ Operation Specifications were a contract between the FAA and the Carrier. It granted permission for the carrier to operate and contains the permissions for several parts of the operation.

- (8) *Maintains a current medical certificate as required by the company and notifies the Chief Pilot if a medical (physical or mental) condition may impair their ability to perform the flight.*
- (9) *Insures [sic] the passengers have been briefed.*
- (10) *Insures [sic] that the minimum weather conditions can be met appropriate to the FAR under which the flight is being conducted.*
- (11) *Maintains his or her flight and duty record at the end of each duty day.*
- (12) *At the end of the day, insures [sic] that all maintenance write-ups are passed to the maintenance personnel and that dispatch is alerted to the current status of the aircraft.*
- (13) *Determines the applicability of the air carrier regulations to each flight.*
- (14) *Insures [sic] that a current copy of the Operations Manual is aboard the aircraft.*
- (15) *Maintains a radio or telephone contact with the base (schedulers/management) often enough during the course of a flight to insure [sic] that operational messages are promptly relayed.*
- (16) *Will perform the scheduler's activities when no one is available for that position.*
- (17) *Will enter aircraft time-in-service meter times to generate an aircraft release when requested to do so.*
- (18) *When the PIC is authorized for exercising operational control (other than the one assigned to the flight) he/she cannot delegate the exercise of operational control to any unqualified company personnel. Such authority can only be delegated up the chain of command.*
- (19) *Maintains a current US Passport for International flights into Canada and notifies scheduler of any changes to Passport information.*

5.2 Duties and Responsibilities of the Chief Pilot

The West Isle Air Flight Operations Manual, Section 1 General Operations - ORGANIZATION, listed the following duties and responsibilities for the chief pilot:

(b) CHIEF PILOT

- (1) Reports to the Director of Operations and Assistant Director of Operations.*
- (2) Meets the requirements of FAR 119.71*
- (3) Performs duties as a flight crewmember when required.*
- (4) Is responsible for maintain a liaison with the Director of Operations in all operations matters.*

(5) Trains and coordinates training needs to insure [sic] that adequately trained pilots are available for all trip needs.

(6) Is responsible for crewmember standardization.

(7) Insures [sic] that revisions to the Operations Manual are made available to all pilots.

(8) Shall participate in the investigation of, and make a report to the Director of Operations, on any aircraft accident, reportable incident, records discrepancy, or airman flight violation.

(9) The duties and responsibilities may be delegated to the Director of Operations as necessary; however, such delegation does not relieve him or her of the overall responsibility.

(10) Is responsible for aircraft charts, GPS database revisions and related publications.

5.3 Duties and Responsibilities of the Director of Operations

The West Isle Air Flight Operations Manual, Section 1 General Operations - ORGANIZATION, listed the following duties and responsibilities for the Director of Operations:

(a) DIRECTOR OF OPERATIONS

(1) Meets the qualifications required by FAR 119.71.

(2) Ensures that flight following procedures are met.

(3) May perform duties as a flight crewmember when properly qualified in the aircraft.

(4) Is responsible for carrying-out the company's policies and for compliance with all laws, rules, and regulations governing those flight operations.

(5) Has final approval, when required, on the selection, training, and retention of all flight operations personnel.

(6) IS responsible for the safe operation of all aircraft owned, operated, or managed by the company.

5.4 Dispatch of Aircraft

The West Isle Air Flight Operations Manual, Section 1 General Operations - ORGANIZATION, listed the following responsibilities for the Dispatch of Aircraft:

DISPATCH

RESPONSIBILITIES

(a) CHIEF PILOT

(1) Ensures that schedulers coordinate with maintenance to effectively utilize the available aircraft for all company operations.

(2) Ensures that the schedulers are thoroughly familiar with the applicable FARs and their applicability to company operations.

(b) SCHEDULERS

(1) Coordinate with maintenance to ensure accurate availability status of all carrier aircraft on a timely basis.

(2) Coordinates with the Chief Pilot and the Director of Operations to ensure accurate determination of available qualified and rested flight crewmembers.

(3) Prepares the following day(s) Aircraft Manifests with known passenger and flight information.

(4) Coordinates with the Chief Pilot to arrange US and Canada Customs for international flights.

(5) Makes pilot trip arrangements according to the manual and the directions of the Chief Pilot.

(6) When no FAA flight plan is used, monitors flights to ensure that proper locating procedures can be used to find an overdue aircraft.

(7) Notifies the Chief Pilot and the Director of Operations when a flight is suspected of being overdue.

(8) *Determines from the customer the proposed itinerary, the names, citizenship for international flights and the weights of the passengers.*

(c) **PILOT-IN-COMMAND**

(1) *Keep the scheduling personnel informed of any known or anticipated changes in the flight itinerary. Calls the scheduler to update any changes in the ETA and or if there is a change in the trip's itinerary or manifest.*

(2) *Ensure that if an FAA or NAVCANADA flight plan is not used that the scheduler is kept continuously aware of the flight's location and schedule.*

(3) *Ensures that end-of-day manifests are accurate and forwarded to the scheduler for processing along with the trip receipts.*

(4) *Determines the proper FAR status of each flight leg and plans the trip accordingly.*

(5) *May dispatch their own flights when other coordination with the scheduler is not possible or practical.*

5.5 Flight Following

West Isle Air used FlightRadar24³⁴ to follow flights en route, while any irregularities were normally reported by the pilot via cell phone text messages.³⁵ On the accident flight, the chief pilot had been monitoring the flight periodically and had not received any text messages. All seemed normal until he noticed that the plane appeared to have "landed at Port Townsend which, obviously, was strange and cued me to what's going on".³⁶ He then attempted to contact the pilot by cellphone.

5.6 Flight Locating Procedures

The West Isle Air Flight Operations Manual, Section 3 General Operations listed the following responsibilities for Flight Locating Procedures:

FLIGHT LOCATING PROCEDURES - RENTON

The basic procedures our company uses for flight locating will be as described in the Dispatch chapter or this manual located in Section 1.

³⁴ FlightRadar24 is a Swedish internet-based service that shows real-time aircraft flight tracking information on a map.

³⁵ Source: Operational Factors - Attachment 1 - "Interview Transcript - West Isle Air Chief Pilot"

³⁶ Source: Operational Factors - Attachment 1 - "Interview Transcript - West Isle Air Chief Pilot"

For the purposes of flight operations in Renton, company flight plans will be used for all operations. NWS [sic]³⁷ personnel will be aware of departure times of each scheduled and charter flight and will provide flight following for each flight.

ADS-B via adsbexchange.com and the Garmin InReach are used for aircraft tracking WIA aircraft.

To assist in flight locating outside ADS-B terminal areas, our seaplanes are equipped with Garmin InReach GPS tracking units that will provide satellite tracking. Schedulers will use a computer, via internet, to login into the InReach account and track the aircraft.

The InReach uses GPS satellites to send a transmission of GPS position, used in tracking mode, every 10 minutes. We use the function normally for tracking the aircraft for flight following purposes. Prior to flights outside of the terminal ADS-B area, the PIC will turn on the InReach and turn on the tracking mode. Leave the unit on in the tracking mode whenever you are in flight or away from base. The unit may be turned off at the base between flights to save batteries, however, it must be turned back on into the tracking mode prior to flight.

In the event of urgent or non-emergency situations when not in cell phone reception areas, pilots will use the InReach to signal that you are experiencing mechanical, weather, or a non-emergency situation. The InReach has two-way messaging which can be completed by using the unit itself or pairing your cell phone to the unit via Bluetooth. The InReach App must be downloaded on the PIC's cell phone to use the feature. Either by cell phone or via the InReach unit itself, you would transmit a message to base as to situation so management could be notified to assist.

In the event that there is a dire emergency, the InReach has an SOS emergency transmission function. This will send a transmission that w#1 message to alert your issue as an injury that would preclude from being able to fly.

LIST OF ATTACHMENTS

Attachment 1 - Interview Transcript - West Isle chief pilot

Attachment 2 - Interview Summaries - FAA POI and previous POI

³⁷ Northwest Seaplanes

Attachment 3 - West Isle Air Pilot Questionnaires

Attachment 4 - Interview Summary - Other Operator's Pilot

Attachment 5 - de Havilland DHC-3 Otter Flight Manual [Excerpts]

Attachment 6 - Flight Manual Supplement #10 [Excerpts]

Attachment 7 - West Isle Air Flight Operations Manual [Excerpts]

Attachment 8 - West Isle Air Flight Training Manual [Excerpts]

Attachment 9 - See Gee Calculator and Instructions - DHC-3

Attachment 10 - Fueling information - N725TH

Attachment 11 - Pilot Training Record Summary

Attachment 12 - West Isle Air Party Form

Attachment 13 - Email from West Isle Air chief pilot re training dates

Submitted by:

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