

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

March 31, 2011

**OPERATIONS GROUP FACTUAL REPORT
ADDENDUM 3: SUPPLEMENTAL INTERVIEWS
AND INFORMATION**

A. ACCIDENT

Location: Aleknagik, Alaska
Date: August 9, 2010
Time: About 1442 Alaska daylight time (ADT)¹
Airplane: de Havilland DHC-3T airplane, N455A
NTSB Number: ANC10MA068

B. OPERATIONS GROUP MEMBER

Malcolm Brenner, Ph.D.
Human Performance Investigator
National Transportation Safety Board

C. SUMMARY

On August 9, 2010, about 1442 Alaska daylight time (ADT), a single engine, turbine-powered, amphibious float-equipped de Havilland DHC-3T airplane, N455A, impacted mountainous terrain about 10 miles northeast of Aleknagik, Alaska. Of the nine people aboard, the airline transport pilot and four passengers died at the scene, and four passengers sustained serious injuries.

¹ All times are Alaska Daylight Time based on a 24-hour clock, unless otherwise noted. Actual time of accident is approximate.

The airplane sustained substantial damage. The flight was operated by GCI Communications Corp (GCI), Anchorage, Alaska, under the provisions of 14 *Code of Federal Regulations* (CFR) Part 91. The flight originated at a GCI-owned remote fishing lodge on the southwest shoreline of Lake Nerka about 1427 and was en route to a remote sport fishing camp on the banks of the Nushagak River, about 52 miles southeast of the GCI lodge. At the time of the accident, marginal visual meteorological conditions were reported at the Dillingham Airport, about 18 miles south of the accident site; however, the weather conditions at the accident site at that time are not known. No flight plan was filed.

D. DETAILS OF THE INVESTIGATION

The Operations Group documented the following information in response to ongoing issues in the investigation.

At the request of the Safety Board, GCI searched telephone switch records between 8/4/2010 and 8/9/2010 for all calls originating and/or terminating at GCI's Agulowak Lodge ("lodge") that might involve the pilot. There were no calls originating from the pilot cabin during this period but the following calls were received there:²

| Date | Local Time | Duration (minutes:seconds) |
|----------|------------|----------------------------|
| 8/9/2010 | 0842 | 0:42 |
| 8/9/2010 | 1330 | 0:40 |

A search of telephones at the lodge, available for use by all staff and guests, found instances in which originating calls were made to the pilot's wife at their home number ("home") or her cell phone number ("cell") and to the pilot's friend Mark Phillips ("friend"):

| Date | Local Time | Duration (minutes:seconds) | Number Called |
|----------|------------|----------------------------|---------------|
| 8/4/2010 | 1653 | 0:30 | Home |
| 8/4/2010 | 1654 | 0:00 | Cell |
| 8/4/2010 | 1701 | 0:35 | Cell |
| 8/4/2010 | 2002 | 0:07 | Home |
| 8/4/2010 | 2003 | 5:32 | Cell |

² The pilot resided alone in the pilot cabin during this period, but the calls received in the cabin on 8/9/2010 occurred respectively while the pilot was away on a trip and while he was likely at lunch.

| | | | |
|----------|------------|----------------------------|---------------|
| 8/5/2010 | 0754 | 9:02 | Home |
| 8/5/2010 | 2027 | 13:00 | Home |
| 8/6/2010 | 0839 | 0:47 | Home |
| 8/6/2010 | 1410 | 14:11 | Home |
| Date | Local Time | Duration (minutes:seconds) | Number Called |
| 8/6/2010 | 2006 | 22:23 | Home |
| 8/7/2010 | 1149 | 0:07 | Home |
| 8/7/2010 | 1149 | 0:00 | Cell |
| 8/7/2010 | 1239 | 6:25 | Cell |
| 8/7/2010 | 1803 | 4:52 | Home |
| 8/8/2010 | 0918 | 1:56 | Home |
| 8/8/2010 | 2028 | 6:09 | Home |
| 8/9/2010 | 1353 | 0:49 | Home |
| 8/9/2010 | 1354 | 7:25 | Cell |
| 8/9/2010 | 1409 | 1:47 | Friend |

No calls were received from these numbers during this period.

According to a GCI representative, dinner at the lodge on 8/8/2010 was delayed because of the late arrival of the return flight from the HRM fish camp and was served after the flight arrived about 2015. The pilot was observed at dinner but did not join the group at the guest cabin (West Cabin) for a card game that followed dinner.

According to a GCI representative, the two young passengers who fell asleep during the accident flight had been offered Dramamine prior to the flight because they had experienced motion sickness from light turbulence on a previous flight in the airplane. The Supervisor of housekeeping services at the lodge recalled seeing the young passenger seated in the rear of the airplane take Dramamine prior to departure. She did not specifically see the young passenger seated in the cockpit take Dramamine but suspected that he did.

According to William Weiss, Manager Aviation Alaska, Conoco-Phillips, the pilot's normal daily work hours when he worked for Conoco-Phillips were 0900 to 1700. The pilot regularly arrived at the office at 0900 except on days that he had business activities away from the office.

Records of the Alaska Department of Motor Vehicles indicated that the pilot held a valid driver's license at the time of the accident. His driving record showed a speeding violation on 2/20/2010 (16 mph over limit) and another on 8/27/1987 (15 mph over limit).

Interviews were conducted with Terri Smith, wife of the pilot (her third interview in the investigation), Mark Roseman, Manager of the GCI lodge (his second interview), and Brett Brown, a friend of the pilot. Interview summaries follow.

FIRST INTERVIEW SUMMARY

Interview: Terri Smith
Wife of Pilot
Date: March 24, 2011
Time: 2100 EDT
Location: Telephone Interview
Present: Malcolm Brenner NTSB

Ms. Smith provided follow up information after having reviewed the interview summary of Ernest Mitchell concerning observations of her husband's activities at a July 4th museum show. She provided the following information:

She did not know Mr. Mitchell, and the shortcomings he reported would be very uncharacteristic of her husband. She attended the July 4th show with her husband ("Terry"). Terry arrived about 1000 and flew 4 or 5 flights, while she arrived separately in the afternoon and observed his last few flights. Terry had a tendency since childhood to pause to think before he spoke, so she can speculate that the ground controllers may have been trying to rush him to start the engines before he felt mentally prepared. She recommended that the NTSB interview Bret Brown, who worked at the Anchorage Air Route Traffic Center (ARTCC), owned a Grumman Widgeon airplane, and was present for all the July 4th flights.

Although Terry's last official day with Conoco-Phillips was July 1, 2010, he was effectively retired for several months before that. Shortly after he submitted his resignation letter in April 2010, perhaps at the end of April or after attending a meeting in early May, he was told not to return to the office but rather to stay at home and respond to any requests by telephone. He remained on the company payroll until July 1 but was never called. He spent the time working around the house and flying. He was quite happy in retirement.

Regarding the time period around July 4th, she did not recall anything unusual about his sleep schedule and they did not attend any special parties or celebrations. Terry was not much of a drinker, perhaps drinking an occasional glass of wine, and there would have been no alcohol issues for him on July 4th. Similarly, he did not use drugs after his stroke. He was provided a drug by a doctor but elected not to use it. There would have been no drug issues for him on July 4th.

When Terry stayed at the GCI lodge, he telephoned her using the GCI telephone lines. His cell phone did not work at the lodge (although it worked at Dillingham). He did not have internet access with his cell phone at the lodge as he did not send e-mails. He usually telephoned her from the lodge every morning and evening and sometimes in the afternoon as well. The telephone calls were short, just checking in with the family. She did not recall any specifics of his calls on Saturday or Sunday, August 7 and 8. Regarding his off-duty activities at the lodge, he spoke once about fishing on a guest trip, about hauling fuel, about reading, and about one day taking a walk. One day the weather was not great and he did not fly.

Terry did not normally have sleeping issues although, several years earlier, he slept a lot after the stroke. Terry functioned well on little sleep and might rest in bed without being asleep, so earlier estimates of how many hours he slept may not reflect his normal sleep needs. He never sought medical attention for sleep issues. He never fell asleep inadvertently in all the time she knew him. When he worked for Alaska Airlines, he received many telephone calls early in the morning and answered calls while he was in bed. When he worked for Conoco-Phillips, his regular weekday work hours were 0800 to 1700. There was no time clock at Conoco-Phillips, but he tried to be on time for his job. He went to bed about 2130 when he worked there.

SECOND INTERVIEW SUMMARY

Interview: Dave Roseman
Manager of the lodge
GCI
Represented By: Bill Behnke
Date: March 25, 2011
Time: 1700 EDT
Location: Telephone interview
Present: Malcolm Brenner, Evan Byrne, NTSB

Mr. Roseman was manager of the GCI lodge. He had held this position for about 6 years, after having worked as an employee of the lodge in various capacities for about 8 previous years. His responsibilities with regard to aviation activities consisted of working with the pilots to schedule flights to get people and supplies in and out of the lodge. He prepared a daily schedule for the pilots based on arrival/departure times for guests who needed pickups or drop offs at Dillingham Airport. He was also responsible for hiring lodge employees with the exception of pilots.³ He handled logistics for all supplies coming into the lodge.

Mr. Roseman first met Terry Smith ("Terry") about 15 years ago when Terry flew his Grumman Albatross into the lodge for a trip chartered by GCI. Terry and his wife piloted the plane and stayed at the lodge for a short time. Terry flew additional charter trips for GCI over the years, in both his Albatross and turbine Grumman Goose, and Mr. Roseman met Terry perhaps 3 times before the current season as a result of these visits.

In 2010, Terry stayed at the lodge and trained on the Otter with pilot Virgil Peachy in anticipation of flying it on a regular basis. Terry had to leave for a family emergency and was gone for a week, but returned on August 4 to resume flying the Otter. Mr. Roseman did not have any contact with Terry outside of the lodge.

Mr. Roseman met with Terry every morning to tell him the flight needs for the day, discuss possible fishing trips, and review the written schedule for transporting guests to and from the Dillingham Airport. They usually met before breakfast about 0730 or during breakfast. They also spoke about flights during

³ All GCI pilots worked for the Aviation Department, while GCI lodge employees worked for the Properties Department that, among other things, was responsible for GCI lodge.

mealtimes, and Mr. Roseman assisted at the airplane in helping to load and unload guests for all flights.

Breakfast at the lodge normally began at 0800, lunch at 1300, and dinner at 1830-1930, although mealtimes were flexible depending on particular events that day. Breakfast would normally last about 30 minutes, while dinner would begin with 30 minutes of appetizers followed by a 90-minute meal. These times could also change depending on group needs or weather – for example lunch could be 2 hours long if it was a rainy day.

Mr. Roseman routinely saw Terry during the day working on the computer, most likely reviewing weather. He also saw Terry talking on the phone in the group areas, especially in the dining cabin and the main guest cabin, likely calling his wife or family. Terry also had a private cordless telephone in his own cabin. There is no cellular service at the lodge. Mr. Roseman also observed Terry wander over to the guest cabin (West Building) to interact with guests on different occasions.

Mr. Roseman had no specific recollections of his interactions with Terry on Saturday, August 7. The flight schedule for that day shows that Terry flew 7 flight legs, not necessarily an unusual amount of flying but probably one of Terry's more demanding days. Mr. Roseman had no specific recollections of his interactions with Terry on Sunday, August 8.

On Monday, August 9, Mr. Roseman met Terry about 0730. Terry seemed fine. He then observed Terry checking weather on the computer and heard him speak on the telephone. It seemed as though Terry was studiously preparing himself for flying and checking the weather. During lunch, Terry sat at the staff table with Mr. Roseman and was in good spirits. He was funny and told stories about area flying while they ate. After lunch, Terry migrated to the guest table.

Terry was a social person with a sense of humor who spent quite a bit of time with the guests in this particular group. He knew some of them fairly well. He may have spent an hour with them in the morning and an hour in the afternoon, as well as a couple hours in the evening. Terry was always ready to talk about his experiences and enjoyed talking about flying. Terry struck Mr. Roseman as being a very analytical type of person with a sense of humor. Mr. Roseman was aware of no medical issues involving Terry while he stayed at the lodge.

Regarding Terry's sleep schedule, Mr. Roseman met Terry every morning around 0700-0730 and assumed he got up a bit before that. Terry always seemed alert. Mr. Roseman never saw Terry napping at the lodge, although there would be an opportunity on some of the days to do that if he wanted to. He never observed Terry fall asleep inadvertently. Mr. Roseman himself normally went to bed between 2130- 2200 so he had limited knowledge of evening activities.

Mr. Roseman did not observe any overt change in Terry's behavior after Terry's son-in-law died. It was a major event in his life so Terry was very somber about it. But it did not seem like the event had shaken him to his core and he did not seem depressed. Terry spent time in Anchorage with his family. When he returned to the GCI Lodge, he still seemed like himself but after having just gone through a traumatic family event. Mr. Roseman offered his condolences when he first saw Terry and Terry acknowledged and appreciated Mr. Roseman's concern. Terry responded as would any person who was speaking to an acquaintance about something painful. His response was not abnormal in any way. Mr. Roseman sensed that Terry was not comfortable going deeper into the discussion with him – they did not know each other that well.

Mr. Roseman had no observations of Terry's eating habits, although they both ate together at the staff table. He did not recall whether Terry drank alcohol but thought he did not.

Mr. Roseman last saw Terry in the left seat of airplane departing the dock for the accident trip.

Terry was staying at the staff cabin used by pilots. It was a duplex, with two cabins sharing a wall but each having a bathroom and two beds. The pilot cabin was located on the shore of a river in the midst of the staff cabins, about 30 yards from the door of the dining cabin and about 400 yards from the guest cabins. The cabin contained a dresser, two twin beds, night stand, closet, bathroom with shower, sink, and toilet, and cordless telephone on the night stand. The lodge did not provide any electronics in the cabin. For laundry, there was a washer dryer in each of the guest cabins plus a central laundry for the housekeeper to wash sheets and towels. There was also a central staff laundry but it was unheated.

The other side of the duplex had been previously occupied by pilot Jim Miller, who had departed earlier in the summer. Jim departed for personal reasons on short notice and subsequently separated from GCI. The other side of the duplex was therefore empty when Terry stayed there.

The lodge, which is located on the Agulowak River, had many on-site activities for guests. These included fishing the river (for rainbow trout, char and grayling), kayaking, and skeet shooting. There was a trail for hiking to the top of a mountain. Guests who do not want to fish had places to relax and enjoy the area.

There was no cell phone coverage at the lodge. If a cell phone had the ability to interface with a wireless WiFi hotspot then it could be configured to receive email and/or send pictures. WiFi coverage around the GCI lodge was used primarily for data communications. It was an open wireless network.

The lodge did not provide wakeup calls. There was no front desk or any instance when anyone asked to be awakened.

THIRD INTERVIEW SUMMARY

Interview: Bret Brown
Accompanied by: Terri Smith, wife of the pilot
Date: March 26, 2011
Time: 1500 EDT
Location: Telephone interview
Present: Malcolm Brenner, Tom Little, Evan Byrne, Mitch Garber
NTSB

Mr. Brown is an Air Traffic Controller at Anchorage Air Route Traffic Control Center (ARTCC) beginning in 1988 and, in 2006, moved into a position in the Traffic Management Unit at Anchorage ARTCC as a Traffic Management Coordinator. He is a pilot who completed his private pilot license in 1984. He holds single-engine land, multi-engine land, multi-engine sea commercial certificate with an instrument rating. He is type rated in the Grumman Albatross and also holds an airframe and powerplant certificate. He has completed about 1400 flight hours as a pilot. He co-owns a Cessna 180 airplane and a 1942 Grumman Widgeon, and has completed about 200-250 flight hours of Grumman time.

Mr. Brown first met Terry Smith ("Terry") in 1995 when Mr. Brown worked in air traffic control and Terry was with Alaska Airlines. They met at user meetings at Anchorage Airport and worked on problems as part of an FAA open door policy. Mr. Brown went to Terry if he had issues with pilots and vice versa if Terry had problems with controllers. This cooperation extended to even small things, such as Terry calling Mr. Brown to help coordinate ceremonies for a retiring pilot.

When Mr. Brown bought his Cessna airplane, Terry's son Brian performed the annual inspections for him at Alaska Skycraft. Mr. Brown encountered Terry through these activities, their relationship became more personal, and they flew together numerous times. Somewhere around 2003, Terry and his wife were relocating their Albatross from Merrill Field to Anchorage and Mr. Brown accompanied them on that short flight. Mr. Brown witnessed step turns and water landings and it was the beginning of an expensive love for him with seaplanes.

Mr. Brown had many aviation experiences with Terry. They did a lot of hangar flying, with Terry talking about airline operations such as what 737's can and cannot do along with C-180 capabilities. When Mr. Brown obtain his MES rating and purchase the Widgeon, he found out later that the instructor in Florida who

gave him the rating had also been checked out by Terry. On the first day Mr. Brown owned his Widgeon in 2006, Terry was there to help him with “real lessons” in the airplane. In 2008, Mr. Brown flew as a crewmember on the Albatross with Terry on a multi day trip. On June 12, 2010 they spent extensive time flying together in the Albatross.

Mr. Brown knew how Terry operated as a pilot. Terry was always teaching, and Mr. Brown liked to come along with him to watch and learn. Mr. Brown described Terry as a “Grumman guru” who began flying Grumman aircraft as a young man trained by his father Theron in Red Dodge’s Widgeon. On a regular basis, Terry was one of the go-to pilots in the country who would ferry Widgeons. For example, he had flown one from British Columbia to Nevada the previous year. Terry’s experience and background in the Widgeon was unsurpassed. Mr. Brown said most of the Widgeons flying today had either been ones that Terry has flown or checked someone out in. Terry did own his own Widgeon previously, N441R.

The Alaska Aviation Heritage Museum sponsored an annual fundraiser-salmon bake on July 4th, 2010. It was based around float planes on Lake Hood. Terry had participated in that event in the past both as an exhibitor and as a pilot giving rides and he was a promoter of the event. He was one of the few pilots authorized by the museum to fly their aircraft. The Grumman Goose at the museum had the names of Terry and his father painted on it as pilots – two of the 5 or 6 names painted on this airplane.

Terry telephoned him several days before the July 4th event and asked whether Mr. Brown was bringing his Widgeon over to fly for the event. Mr. Brown said the airplane was down for an annual inspection but he would be coming out to learn about the event so he could possibly help in the future. Mr. Brown ended up spending a wonderful day exclusively with Terry at the event.

On July 4th, Mr. Brown left his hangar early to meet Terry about 1000. They ate at the salmon bake. Terry gave him a tour of the museum unlike one that anyone else could give because of Terry’s deep knowledge of the airplanes and pilots there. Terry introduced him to the “old timers” and people in charge of the museum, such as museum director Norm Lagasse. Mr. Brown had helped in starting the Marion Lake Fly-in, primarily focused around Grummans and wanted the museum airplanes to fly into the splash-in. Mr. Lagasse advised him that the museum’s Goose was not in annual and could not fly at the time. Mr. Lagasse also told Mr. Brown that the museum’s mechanics were older and not able to do the annuals anymore and explored whether Mr. Brown might be able to assist the museum in maintenance of the Grummans. The Widgeon was the only airplane the museum had that was in annual that day.

The flying activity was scheduled to start around noon but actually started late, perhaps around 1400. Mr. Brown and Terry did not fly together at this event as it

was a fundraiser and the museum was auctioning off seats for airplane rides. An additional attraction for the museum that year was having some guests from the TV show "Ice Road Truckers." He remembered an attractive blond truck driver from that show, named Lisa, as well as a male truck driver who flew as passengers on the flights.

Terry was the only one who flew the museum Widgeon aircraft that day. He flew at least 3 flights, possibly as many as 5, with a different guest occupying the copilot seat for each flight. All flights were in museum's Widgeon. Before the first flight, Terry's wife brought float vests over so that the passengers would have inflatable jackets to wear. Volunteers helped load the plane for each flight.

During the flights, the cockpit seat next to Terry was one of the 5 seats sold for each flight. Once the person in this seat was Lisa, the Ice Road Trucker, and another time it was the other trucker. Then it was other people who were donating to the museum. Brown said no seats were empty for the flights he saw and he believed that he was there for most of the flights.

For the flights, Terry would depart to the north and air traffic at Lake Hood would route them back to the west water lane. Terry looked smooth as he step taxied the Widgeon. Mr. Brown was paying attention to how Terry was maneuvering the airplane up the museum ramp and taxiing because it might help him with possible future flights of the museum airplane. Terry was making perfect turns in the water that looked effortless and Terry aligned the airplane perfectly to approach the ramp. Mr. Brown was in awe at how effortless Terry made the flying appear. Mr. Brown videotaped some of Terry's flights that day to study later. After each flight departed, while Terry was out flying, Mr. Brown stayed and talked with Terry's wife. There was an auction of seats between every flight and Mr. Brown talked with Terry during this time. He was also able to assist Terry. The elevator trim indicator can slip on a Widgeon airplane, so every time you return from a flight you set your elevator trim to the takeoff position and check it visually. Because Terry was not getting out of the cockpit between flights, he asked Mr. Brown to check the elevator trim position for him.

Mr. Brown last saw Terry about 1700-1730 on what he understood was Terry's last flight of the day. After the airplane departed, he told Terry's wife that he had to head home as he was late.

Terry was his normal jubilant self and they told many stories. Many people approached Terry to discuss their experiences on Widgeons and other Grumman aircraft. Terry listened and contemplated but did not debate what they said, smiled and thanked them, and then, after the person left, would explain to Mr. Brown the finer points of what they had discussed.

Mr. Brown once told Terry there were 10 things that you cannot do with Widgeons. Terry disagreed, and told him that that in many situations people

were putting unnecessary limitations on themselves and that they could safely fly the Widgeon in some of these situations. Terry said there were no experts in Widgeons and pilots were always learning. Terry always respected the airplane.

Mr. Brown said the traditional departure for the Widgeon was a zero flap departure and that, once on-step, Terry would add 10 degree of flaps. He said this could be seen in the video he took that day. He said it was done perfectly and was a smooth transition. Brown said it was always a pleasure to fly with Terry as he was always beyond commercial standards. He said there were times when you were flying with Terry that you would not know if you were on the ground or in the air because Terry was so smooth. That day at the museum he was flying “per Terry” – above the capabilities of most people.

Mr. Brown had reviewed the interview summary for Ernest Mitchell and was concerned by many technical issues in it. He reviewed the statement with several other people and it did not seem like the same person or the same event being described as he had experienced and been present at all day. Mr. Brown was concerned that if anyone had concerns about Terry they should have approached him or Terry’s wife – it did not make sense not to have done so. Mr. Brown also thought it was unusual that nobody came up to check with Terry after the flight to find out how the airplane was doing.

Mr. Brown did not know Mr. Mitchell personally, although Terry may have introduced Mr. Mitchell that day when they toured the museum.

Mr. Brown said it was difficult to approach the pilot in a Widgeon. He said that with a Cessna you can have someone come up to you as a pilot while the airplane was running as they could stand safely behind the strut. For the Widgeon, however, you could not approach the plane to speak to the pilot while the engine was running. Unless you were waved up, one would never approach a Widgeon pilot for the dangerous proximity to the propeller. Mr. Brown said with people around you were quite alert as a pilot. Mr. Brown said someone did go to Terry once and spoke with him briefly before backing away. He remembers seeing that on the first flight, but it was brief.

Volunteers kept everyone out of the way and pulled the chocks. But the crew of the plane would start the plane when they were ready. Terry started the right engine first on the initial flight. Mr. Brown said the left engine cranked but did not fire, and Mr. Brown thought that perhaps that was the event that Mr. Mitchell was talking about. He said at no time did he think that Terry was uncomfortable. Mr. Brown was not sure what the issue was, and that it could have been a fuel pressure issue or a magneto switch. Mr. Brown said if anyone was going to troubleshoot the airplane Terry would do it – Terry would not need any help from anyone else.

Terry would shut down the engines after each flight. There would be about 15 minutes between successive flights. Mr. Brown said nobody ever went back up to the pilot's window after the first flight.

Mr. Brown was asked to comment on specific anomalies reported in witness interviews by Mr. Lagasse and Mr. Mitchell. Regarding the engine quitting during runup, Brown said that did not sound like Terry but did sound like an airplane that was only flown once a year.

Regarding entering the water with the floats up, Mr. Brown said he was not present to witness that. Mr. Brown said Terry once told him about a yellow Widgeon at Lake Hood that taxied into the water with the floats up. The pilot put the airplane on step and turned it around and ran it up to the ramp with the gear up. Terry told Mr. Brown that the pilot did not have to respond like that. All you needed was to flip the switch and the float would come down and the wing come up. In no way would this be considered a disastrous event for a Widgeon. Mr. Brown noted that there could be situations in which a pilot would deliberately operate with one float up and one down such as to clear the bank on shore. Similarly, when a float is down it limits your visibility around the airplane. If you were trying to get out of and away from the museum and people were present who were unfamiliar with the planes, ramps, or associated dangers, there might be times when it would be prudent to delay lowering the float.

Regarding a tailwind landing in the Widgeon, Mr. Brown said that, contrary to what some pilots thought, this was not an inherently dangerous maneuver and that Terry advocated careful tailwind landings for proficiency. Terry did not promote tailwind landings, although there were times that you needed to know how and would teach such maneuvers. Terry had worked with Mr. Brown to practice this maneuver. Mr. Brown did not think it was strange that Terry did not brief the witness in advance about the tailwind landing.

Regarding Mr. Mitchell's description of having to coach Terry to start the engine on July 4th, Mr. Brown was very skeptical. There might have been a switch placed the wrong way or insufficient fuel pressure. Perhaps someone observed an anomaly and initiated a conversation with Terry, but it would have been unnecessary. Terry might have been trying to listen to see if the boost pump was coming on, or he could have been letting the starter cool off before cranking the engine again. Mr. Brown said that at no time did he observe Terry getting coached on the airplane that day.

Regarding failing to turn off the master switch at the end of the last flight, Mr. Brown said that could be verified by whoever observed the battery down. He suggested that it might not be the result of neglecting to turn off the master. In some Widgeons, for example, the cabin light next to the door can be directly powered by the battery so that an illuminated light might drain the battery. Mr.

Brown said it was highly unlikely in his opinion for Terry to have left the master on, but it was not impossible.

Regarding Terry's mood, described by Mr. Mitchell as embarrassed or passive, Mr. Brown said he did not observe anything like that. Every time Mr. Brown saw Terry he was chipper and in good spirits. He had sometimes observed Terry in an unhappy mood previously when he was dealing with his former employer. Mr. Brown said Terry could sometimes be standoffish when people were telling him how to operate the Widgeon. Terry might not engage in a conversation with someone whom he believed might not have a background or basis to support what they were saying.

In response to a question, Mr. Brown stated that Terry seemed to be rested. This impression was based on watching Terry's performance and engaging with him in conversation, as well as watching him light up when his wife arrived.

Mr. Brown did not observe any differences between Terry's flying before and after the stroke. Terry flew in Mr. Brown's Widgeon as copilot during the summer after his event. Mr. Brown was flying while Terry was coaching or observing. Terry's mannerisms were great. When Terry did regain his medical, Mr. Brown went out and flew with him. There was another senior airman with them, and both Mr. Brown and the senior airman remarked at how Terry still flew the airplane in such an effortless way even though he had been away from flying for such a long time period. Mr. Brown said it was humbling.

Mr. Brown described procedures for loading the passengers. He stood at the door during the loading. There was a box for passengers to step on to get in. A volunteer gave a safety briefing by the door. Mr. Brown was standing by the door with the volunteer. The volunteer would give the briefing to the 5 passengers – exits, what to expect, a general safety briefing. The volunteer would not get on board. He was not sure what Terry told the passengers before departure. After the flight, the volunteers would help get the passengers deplane. They would help passengers don and remove the inflatable vests. Mr. Brown said it was not normal to speak to the pilot by going through the cabin because, once loaded with passengers, there was little room to maneuver in the cabin. In addition, the pilot needed to know about the position of the rear door as it could interfere with the flap. It was highly unlikely for someone to come up through the cabin unless the engine was running. He never saw anyone other than passengers getting on the plane.

Mr. Brown spoke with Terry the following week. Terry called Mr. Brown on Wednesday or Thursday as he wanted to do an Albatross and Widgeon trip. Mr. Brown said he spoke with Terry as many as 3 times per week. They were planning a rafting trip together using both of their airplanes.

Mr. Brown saw Terry again at the memorial service for his son-in-law. He conversed with the Smith family at that time and saw Terry at the memorial, a celebration of life. Terry was wearing his son-in-law's sunglasses, and Mr. Brown walked into the memorial together with Terry. Terry was able to chuckle a little despite the situation. Mr. Brown described it as a rough day for all who knew the deceased. He described Terry as normal for the conditions. Terry told stories, shed tears, and gave a wonderful tribute to his son-in-law.

Soon after the memorial, Terry wanted to get back to work. Mr. Brown said this was characteristic of pilots in Alaska. That is, good things and bad things happen in life but the mission must go on.

Mr. Brown was asked about differences between his Widgeon and the museum's airplane. He said that he believed that both his aircraft and the one at the museum would be essentially the same. The museum airplane had retractable floats and Mr. Brown's airplane had fixed floats. But he said he didn't think there would be procedural differences for starting the engines.

Mr. Brown was asked about Terry's use of checklists. He said Terry used many types of checklists -- written, flow lists, and acronyms. Mr. Brown said Terry recognized that in many situations it was undesirable to be reading off a paper checklist but that it would be OK to do a flow checklist or acronym checklist while keeping attentive to outside cues.

Mr. Brown described the starting sequence for the engines on the Widgeon as follows. After briefing the passengers, the pilot would start the number 2 engine first. He would follow these procedures:

- Mixtures FULL RICH
- Center mag ON
- Left and Right mag ON BOTH
- Master switches BOTH ON
- Propeller HIGH RPM
- Throttles OPEN
- Boost pump PRIME AS NEEDED, usually until you receive 12-14 inches of fuel pressure. This did not always go with the fuel pressure instrument as there would be some lag in some airplanes (Terry could mimic a mechanical sound to teach how long it was necessary to run the boost pump, perhaps 3 seconds)
- Throttle CRACK HALF INCH
- Engage starter with one hand and the other hand on the throttle
- After engine fires, set at 700-900 rpm for warm-up and check for oil pressure
- On some Widgeons, the starter button was right next to the boost pump. At the same time you were cranking blades you could tap on the boost pump to add a little bit. But this airplane and others were different.

Mr. Brown said center magneto controlled the left and right engines. The right mag switch controlled the set of mags for the right engine. You turned all mags on before cranking.

Mr. Brown said that he did not know of any hydraulics that needed to be initiated and that hydraulics had nothing to do with starting the aircraft's engines. Mr. Brown said the wingtip floats were electric not hydraulic.

Mr. Brown said that there were definitely no two Widgeons alike. Each owner configured them differently.

Mr. Brown said there was no ground ATC control at the museum. For the flights that day, the airplane was located on the launch pointed towards the lake and about 10 yards from the water. There was no ATC ground control or crowd to maneuver around. At no point would Terry have been waved forward or stopped. When Terry would pull out of the water, he would pull out 10 yards and turn around. There was no ATC clearance to taxi into the water. The pilot would maneuver around the edge of the lake to do run-up and then call tower for takeoff clearance.

Mr. Brown never had a flight with Terry that made him uncomfortable about the way Terry was operating the airplane.