



MEMORANDUM FOR RECORD

Stephen Stein
Air Safety Investigator
National Transportation Safety Board
Office of Aviation Safety – Western Pacific Region

NTSB Accident Number: WPR17LA180
Aircraft Registration & Make/Model: N410NA; Lockheed P2V-5F
Accident Location: Pocatello, Idaho
Accident Date: August 5, 2017

Note: The following interviews were documented by the Investigator –In-Charge (IIC), Stephen Stein.

Interview #1 Summary

Daniel Rivera

Quality Assurance Inspector, Neptune Aviation – Alamogordo, New Mexico

Interview date and time: August 17, 2017; 1500 PT

Mr. Rivera reported that he had been in aviation in 2009 when he started as a ramp operator with American Airlines. In March 2010 he was hired by Neptune Aviation and had been an airframe and powerplant mechanic ever since. He was later transitioned to the quality assurance inspector role in November 2015. Mr. Elzy had been the lead mechanic since 2015 and was terminated in March 2017. Mr. Rivera described Mr. Elzy as fair, but not productive as he was too preoccupied with paperwork, most of the time sitting at the podium instead of completing inspections during his last 8 months of employment. Mr. Thompson was a thorough and trusted mechanic and Mr. Rivera would check his work periodically.

The normal workflow for quality assurance requires that he ensures major components and critical flight control systems are repaired in conjunction with the annual inspection process. He inspects the work to ensure the procedures are complied with and then approves the work so that the panel or area can be closed out. After the lead mechanic reviews the summaries, he hands them off to Mr. Rivera. Once the work is completed, they will do an operational and functional

check. Once checked then RII, if required, will stamp or sign. According to Mr. Rivera, if there is no RII inspection requirement noted, the lead mechanic will then submit the paperwork to the QA who reviews the paperwork, stamps it approved and then hands the paperwork to the mechanic to close out the section.



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Interview #1 Summary

David Ward

Shop Manager, Neptune Aviation – Alamogordo, New Mexico

Interview date and time: August 17, 2017; 1300 PT

The former lead mechanic, Felton “Trey” Elzy, served with Mr. Ward from 1980 to 1984. Approximately 4 years later Mr. Ward helped hire Mr. Elzy for a job at Lockheed, where he retained his position for more than 20 years. In 2009, Mr. Elzy contacted Mr. Ward to inquire about employment opportunities. They subsequently worked together on some contract jobs before Mr. Elzy worked under Mr. Ward at Dyncore in 2014 for a few months before they both went to Neptune Aviation. Mr. Elzy was motivated for the first 6 months of his employment with Neptune and then he needed some counseling as his work began to degrade. Mr. Ward stated that he stopped applying himself to learning the aircraft and system and he refused to support management programs.

Mr. Elzy lost a family member he was close to about 18 months before he was terminated from Neptune, at which point his attitude started to change. Initially, Mr. Elzy’s crew respected him, but after the second year Mr. Ward started to receive complaints from the mechanics. After the change, Mr. Elzy was not involved in the day to day line mechanic work; 3 mechanics lodged

complaints with management about Mr. Elzy's lack of involvement. Management attempted to correct Mr. Elzy's attitude, who would agree to change, but would not follow through. Mr. Elzy eventually started to turn on his mechanics after they began filing complaints with management. His staff also complained they were unable to locate Mr. Elzy or reach him and in many cases Mr. Ward had to complete inspections.

The mechanic responsible for the varicam work that led to the accident, Brian Thompson, was a credible and trusted mechanic who was respected by his co-workers. Mr. Ward stated that Mr. Thompson was a "by the book" mechanic, but may have been called off to do something else at the beginning of the varicam close up procedure. At the time of the inspection, Mr. Thompson had already submitted his two week notice to Neptune to relocate to Houston to be with his daughter who was in high school and needed his help.

During the normal workflow process, the mechanic signs off the task card and then gives the card to the lead mechanic who then verifies if there is an RII requirement. The RII inspects work that has been signed off as "complete," the QA then reviews the card. The QA also performs spot checks, even on RIIs that have already been signed off. The lead mechanic then completes the paperwork, the QA reviews the completed work and then files it with records.



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Interview #1 Summary

Gerry Nielson
Director of Operations, Neptune Aviation

Interview date and time: August 17, 2017; 0935 PT

Mr. Nielson stated that they terminated the lead mechanic for poor attitude and for also falsifying completed work as he was responsible for starting conflict between the Missoula and Alamogordo locations. Additionally, he signed a mechanic's name on a task card for work that was a completed on a day the mechanic was not actually present. Further, he created a stressful work environment and targeted specific employees through browbeating.



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Interview #1 Summary

Nic Lynn
Director of Maintenance, Neptune Aviation

Interview date and time: August 17, 2017; 0858 PT

Mr. Lynn reported that Neptune Aviation began in 1992 when it purchased assets from Black Hills Aviation. The Lockheed Martin P2V airplanes were part of the purchase. The company currently operates 4 P2Vs, but own 7 total and has been servicing these airplanes in-house for as long as they have owned them. The airplanes are primarily used for firefighting as part of their exclusive use contract with the government. The airplanes fly about 25 hours a year and the majority of their work is in the summertime.

The Director of Maintenance (DOM) began his career with Neptune in the summer of 1995 and began a full time employee in 1998. He is currently the DOM for both the company's Missoula and Alamogordo locations.

The Alamogordo location had been inactive for several years until 2014 when it was reactivated, at which time they hired a shop manager, lead mechanic, and other mechanics. When it was reactivated and they hired new employees, the DOM at the time, Chief Inspector, and Assistant

DOM, trained the Alamogordo location in one week rotations. The facility has a total of 12 employees that includes a shop manager, lead mechanic, line mechanics, a quality assurance inspector, and administrative employees. The facility has only 1 crew days shift; 4 days a week beginning at 0700 and ending at 1730 and the staff work on one aircraft at a time.

Normally, the lead mechanic handles all organizational planning and decides how the work is divided, while the shop manager oversees the facility and the lead mechanic. The shop manager had been hired in June 2014 at which time the company's headquarters, in Missoula, sent someone down to New Mexico to train the shop manager. The lead mechanic was hired in September 2014 and was subsequently fired in March 2017 due to performance and creating conflict within the company between the headquarters location and the Alamogordo location and not actively engaging in the day to day work on the airplane. The mechanic, Mr. Thompson, was responsible for the work that led to the varicam failure had been hired in October 2015 and left the company in August 2016, a few days after the work was completed. When the DOM would visit the facility, both the shop manager and lead mechanic commented that Mr. Thompson was the "tail guy" as he had completed the most tail inspections and was proficient at it.

During the varicam service, a task card was issued to the mechanic with an explanation of the work requirement. He would have received one task card and sub task cards associated with the main task card. His work would have been overseen by the lead mechanic, who seats on the shop floor on a podium and should always be available to the mechanics. All their manuals are electronically stored on a computer that also has the progress task cards and stamps. The mechanic will stamp each task as its completed, in this case Mr. Thompson's stamp was designated "M77." The lead mechanic will then enter the name in the computer to note that the work and task card have been completed. The mechanic also annotates the task summary and hands it to the lead who then gives it to the quality assurance inspector to check off.

In the shop, the quality assurance (QA) inspector completes most of the required inspection item (RII) inspections when the airplane is in the facility, but they have other people trained in RII in the event the QA is ill. RIIs are noted by the lead mechanic when he generates task cards and the mechanic will then notify the RII (QA), that he is completed the RII. In this case, the task card was generated without an RII notation even though it was required. Additionally, the QA stamp "Q03" should have indicated that the task card was supposed to be an RII. Recurrent RII training is conducted by the company every 2 years.

Interview #2 Summary

Nic Lynn

Director of Maintenance, Neptune Aviation

E-mail Correspondence date and time: November 10, 2017; 1133 PT

On this date, Mr. Lynn reported that there was a pilot in command, a second in command, and a crew chief onboard.

In response to an NTSB inquiry, Mr. Lynn also provided the statement below responses to the NTSB's follow-up questions from the pilot-in-command:

"I don't know the full extent of the "damage" but going from what I saw: The bulk of the varicam and elevator damage probably occurred during landing flair, I planned any major attempts in trimming and elevator input to occur here: I maintained nose up selection on the Emergency Varicam Switch while both crewmembers pulled back on the elevator.

The varicam/trim is used continuously on the P2V to enhance the pitch control as well as trim the aircraft.

The aircraft was re-trimmed after the previous landing IAW the Checklist, by the First Officer (FO). It is visually inspected by the FO and Crew Chief after every landing (Especially the striped alignment markings that indicate the takeoff range: They are observed and compared {left and right}). It is one of those critical items that anyone on the crew looks at, even casually walking by.

For instance, I can clearly remember that after we landed the damaged aircraft, the left hand marking disagreed with the right hand one (which was still in the take-off setting), I assume you have pictures of that (I do, that is why I took them).

In practice, (like any aircraft) the varicam/trim is occasionally re-trimmed slightly to align with cockpit gauge indicator markings (adjusted a partial to a couple "needle-widths" by reference to the indicator) prior to take-off, by the Pilot (to suite his preference for the amount of elevator back-pressure at rotation). I do not specifically recall if I did that.

I usually used about 1-2 "needle widths" nose up from zero trim on this aircraft.

I assume that the trim indicator (and varicam) would have frozen when the panel damage began or twisting occurred. So, I would have noticed non movement if I had tried to adjust any trim before take-off or any other time, In fact I would have investigated the problem before any such flight.

Normally P2V is flown off the runway at a very flat angle, this is to accelerate and get more ram air to the jets (They get more thrust as you accelerate).

The un-commanded pitch up refers to the yoke moving back against my hands thus increasing forward pressure. This in my experience can be caused by being out of trim. This was first noticed after lifting off (The rotation pressure felt light to neutral, as I expected to be).

After take-off, we pitched nose up a few more degrees though not perilously steep. I began responding with increasing nose down pressure. I recall using a lot of force, so I used trim inputs in the climb (to trim away the pressure)*. I don't believe the trim responded at all. I noticed the Indicator didn't seem to move about this time. This is when I believe the failure occurred.

Theoretically speaking, the "pitching up" may have also been caused by the jet thrust building up as we accelerated, Crew trim input at the instant of the disconnect (the last partial movement as the left panel was twisting not being shown on the indicator) or a runaway varicam at time of disconnect.

* I am not an expert, but could an illusion exist where the aircraft's non response to nose down inputs be mistaken as "un-commanded" nose up movement?

Robert Webb”