



August 26, 2019

Honorable Robert L. Sumwalt
Chairman, National Transportation Safety Board
490 L'Enfant Plaza, SW
Washington, DC 20594

Re: Petition for reconsideration or modification of NTSB probable cause findings

Dear Chairman Sumwalt:

The AOPA Air Safety Institute hereby petitions the National Transportation Safety Board, under 49 CFR § 845.32, for modification of findings for accident number CEN17FA315. The report's probable cause finding that the accident resulted from the pilot's impairment or incapacitation by symptoms of an acute cardiac event—resulting in a loss of control—is not fully supported, potentially misleading, and thus erroneous. A probable cause finding of loss of control for undetermined reasons is the only scenario supported by factual evidence presented in the accident report. The attempt to establish pilot incapacitation due to cardiac arrest as the cause of loss of control goes beyond the facts presented in the report and is purely speculation.

The AOPA Air Safety Institute as party with direct interest.

As an industry leader in general aviation (GA) safety education, research, and accident analysis, our strategic efforts in advocating for GA safety enhancements are largely impacted by the accuracy of NTSB accident investigations and probable cause findings. The AOPA Air Safety Institute releases its annual *Joseph T. Nall Report*—an in-depth report and analysis of GA safety—based on NTSB findings. This report is used throughout the industry, including legislative bodies at all levels of government and regulatory agencies, to assess GA safety and establish policy. Furthermore, the AOPA Air Safety Institute leads the GA industry in evaluating government actions and reports and providing industry input and response. These critical roles establish the AOPA Air Safety Institute as a party with direct interest in this NTSB investigation.

Petition for reconsideration/modification of determination of probable cause.

The NTSB report determined the probable cause of the accident to be, *“the pilot's impairment or incapacitation by symptoms of an acute cardiac event, which resulted in a loss of control.”* There is not sufficient evidence from the accident investigation and supporting documents to substantiate a probable cause determination of pilot impairment or incapacitation. It appears the NTSB based this conclusion on the condition of the pilot's heart and arteries as reported in the

autopsy report...specifically a 90 percent stenosis of the left anterior descending coronary artery and evidence of scarring from a previous heart attack.

It is not possible to conclude, based on the autopsy findings, that a heart attack or the underlying pathologic presence of atherosclerotic heart disease was the probable cause of this accident. Please see the enclosed analysis from Dr. Simon Stertzer, Professor of Medicine, Emeritus, Division of Cardiovascular Medicine at Stanford University.

The autopsy report placed the cause of death as “multiple blunt force injuries.” There was no mention in the report of myocardial infarction as a precipitating factor. The pathologic diagnoses in the autopsy listed only “remote myocardial infarction.”

As Dr. Stertzer concludes, the cardiac issues noted in the investigation and autopsy report are simply not medically sufficient to support a probable cause finding that a cardiac event triggered the loss of control.

The NTSB report stated that *symptoms of an acute cardiac event likely led the pilot to divert*. There is no indication in the report of what the pilot’s intended route actually was or that he deviated from that route. Even if there was a deviation from his intended route, there is no reliable explanation for why the pilot deviated, and as Dr. Stertzer states, it is not possible to conclude that the diversion was related to a cardiac event. There are any number of reasons why a general aviation pilot, in an airplane new to him, traveling VFR en route to home might deviate to explore terrain, notable landmarks, an interesting airport, or perhaps to find better ground visibility due to weather. As an example, the area is noted for landmarks associated with Scientology and extra-terrestrial interests. Perhaps he diverted to overfly those. Based on the NTSB report, we know the pilot was unable to complete this flight the previous day due to weather. The actual weather at the accident site is unknown, but the weather reported at KLVS, approximately 30 nm away, was 1,100 scattered. It could be that the weather concerned him and influenced his navigation and decision to divert, assuming he did divert. We realize that these possible explanations for the diversion are speculation. However, as Dr. Stertzer indicates, whatever the reason was, it is not possible to conclude that it was due to an acute cardiac event.

The NTSB report speculates *“it is likely that, while maneuvering for landing, the pilot was either impaired or incapacitated by the symptoms of an acute cardiac event, which subsequently resulted in loss of control.”* We do not dispute the finding of “loss of control” and believe that is consistent with the investigator’s findings that *“the wreckage was consistent with the airplane impacting terrain following an aerodynamic stall.”* We also believe there are numerous additional factors indicated in the report that are more commonly the cause for loss of control in general aviation. The radar track appears to depict a low altitude stall in the traffic pattern, consistent with a pilot unfamiliar with the area and losing focus on aircraft control while searching for or maneuvering to the runway.

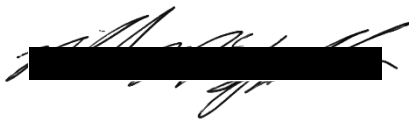
The NTSB report seems to dismiss the pilot's relative inexperience in the airplane, limited recent flying experience, and the circumstances of the flight that could lead to the type of pilot error commonly associated with fatal accidents near airports. The pilot was flying the airplane home after purchasing it. He had received only 1.5 hours of instruction in the airplane prior to his departure. He had returned to flying in the recent months after a long layoff. He departed KDHT, an airport at 4,000 feet elevation, and crashed later that morning while maneuvering to land at NM53, an airport at 6,300 feet elevation. The change in density altitude would have impacted the aircraft's performance noticeably from the pilot's training and departure point. Such performance degradation would have had a negative impact on low altitude turning characteristics and engine performance, resulting in a situation where a stall would likely occur more quickly compared to the environment where the pilot was recently trained.

We believe these factors are consistent with a pilot of limited recent experience who, maneuvering at high density altitude in an airplane new to him, stalled the aircraft low to the ground while maneuvering for the runway. This is in harmony with investigator findings that *"the wreckage was consistent with the airplane impacting terrain following an aerodynamic stall."* However, as Dr. Stertzer states, based upon the medical evidence presented in the report, it is not possible to conclude that the loss of control was caused by the pilot's impairment or incapacitation due to an acute cardiac event.

The AOPA Air Safety Institute respects the difficulty of establishing probable cause in remote circumstances with scant evidence. However, the NTSB must be disciplined to reach probable cause determinations that are supported by the facts contained in the accident report itself. Considering the evidence available to investigators for this accident, and other more likely causes, the AOPA Air Safety Institute respectfully requests the Board's modification of the probable cause findings for this accident to be loss of control due to undetermined reasons.

Thank you for your consideration.

Respectfully,

A handwritten signature in black ink, which appears to read 'Richard McSpadden', is written over a solid black rectangular redaction box.

Richard McSpadden
Executive Director
AOPA Air Safety Institute

Enclosure



August 16, 2019

Dear Dr. Blue,

In response to your enquiry regarding the attached autopsy report, and the NTSB conclusions regarding the causal relationship between the accident and the deceased pilot, please note the following observations:

1. The absence of available neural tissue renders any observations of the central nervous system impossible. No information regarding cerebral hemorrhage, or other potentially fatal neurologic disease is available, therefore, no central nervous system cause of pilot incapacitation is justifiable.
2. Although the absence of pathological signs of acute myocardial infarction do not exclude the possibility of a very early infarction, there is no evidence of acute infarction, despite the manifest atherosclerotic CVD on autopsy.
3. Statements about cardiac chamber ventricular dilatation and hypertrophy shed no light on relationship to the accident. The enlargement of the heart, "the mild four chamber dilation" and the "fibrosis of the free wall" of the left ventricle establish the presence of long standing atherosclerotic cardiovascular disease but have no bearing on causative phenomena in the assessment of the aircraft accident.
4. Finally, although the possibility of fatal arrhythmia cannot be excluded from the case, there remains no pathological evidence supporting a rhythm disturbance.

For the above stated reasons, it is not possible to conclude that the autopsy findings suggest a probable cause of the aircraft accident related to the underlying pathologic presence of atherosclerotic heart disease.

"The autopsy was limited by the severity of injury; brain tissue was not available for examination. Significant atherosclerotic heart disease was identified. The heart was enlarged and weighed 470 gm with mild four chamber dilation. The proximal left anterior descending coronary artery was stenosed 90%, and both the circumflex and right coronary arteries had 50% stenoses. There was fibrosis on the left ventricular free wall; scarring from a previous heart attack. Left concentric ventricular hypertrophy was mentioned but the wall thicknesses were 1 cm for both the left ventricle and septum and 0.3 cm for the right ventricle. Average heart weight for a 216 pound man is 387 grams with a range of 293-511 grams and average wall thicknesses are 1.3 cm for the left ventricle and septum and 0.3 cm for the right ventricle.¹ Microscopy demonstrated a focus of increased fibrosis with cardiac myocyte dropout consistent with scar. The remaining heart had increased interstitial and perivascular fibrosis."

Simon H Stertzer MD,FACC,FAHA,FACP
Professor of Medicine, Emeritus
Division of Cardiovascular Medicine
Stanford University
300 Pasteur Drive [REDACTED]
Stanford, CA 94305-5218
[REDACTED]