



# NTSB MEMORANDUM FOR RECORD

**Adam Gerhardt**  
**Air Safety Investigator**  
**Eastern Region, Office of Aviation Safety (ERA)**  
**National Transportation Safety Board**

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**Date: May 4-5, 2020**  
**Person Contacted: Andrew Rannigan (Pilot in Command)**  
**NTSB Accident Number: ERA20LA160**

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## **Narrative:**

The following memorandum contains excerpts from emails from the pilot in command. The NTSB investigator-in-charge asked several questions to the pilot (denoted in black text), and the pilot's unedited responses are denoted in blue text below:

1. Did you have the electronic fuel pump ON during the accident flight? **Yes**
  
2. Was the 'cargo hook release CB' pulled prior to the engine flame out (I understand this is typical for HEC ops)? **Yes**
  
3. Please help me complete the timeline of events:
  - a. At what time, and where did your day's flying activity start, and how many hours did you fly that morning prior to the accident flight takeoff? **I left the Martin State Airport (KMTN) at 6:30 am and preceded to the LZ. After our tailboard, we got the lineman into position and we began flying supporting the crews we had working. I flew approximately 1.5 hours during the day prior to the accident flight.**
  
  - b. About what time did you depart the LZ (accident flight)? **Approximately 12:30PM**
  
  - c. What fuel available at the LZ? **Yes**
  
  - d. How much fuel did you depart with (accident flight)? **210lbs to move a ladder and crew one structure or span away.**
  
  - e. In flight time or distance, how far was the LZ from the accident site? **The accident site was approximately 300-400ft away from the LZ**
  
  - f. Were you performing HEC ops prior to the wire move (accident flight)? **Yes, moved a ladder with crew one structure or span away.**



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g. Was it part of your plan, to help move the wire (during accident flight), or was this an impromptu request for assistance? *After moving the ladder, I heard them talking about it on the radio and gave them "eyes" on how much more it needed to move. We came up with the plan to move the wire the same way we have been previously on this project. I returned to the LZ and they hooked me up to the conductor lip while I was flying. As I left the LZ heading to the structure I remember 200lbs on the fuel gauge.*

h. At what time did you hookup to the wire? *12:39 if 12:40 is the actual time of the accident. The moving of the wire only took approx. 10-15 seconds.*

i. Is it correct, the accident occurred about 12:40PM? *As far as I'm aware.*

4. Describe the helicopters pitch and bank attitude, and orientation toward the wire being moved, when the wire was being moved, and when the engine flamed out.

*The power line runs in a North - South Direction. During all phases of the accident, I was facing East. I hooked up the conductor lip to the conductor being moved, after I was hooked up I applied slight aft and up pressure on the line, to nudge the conductor wire out past the middle phase arm. There was no lateral or banking being applied. If I had to guess a pitch altitude, I would say approx. 5 -10 degrees nose up. After the wire was cleared the middle phase arm (approx. 10-15 seconds time) I began to maneuver to remove the conductor lip from the line when then the engine flamed out.*

I have one last follow-up question. The purpose is only to get a genuine perspective for what your understanding of Haverfield policy was before the accident. I reviewed the Fuel Check Off and Limitations section:

Fuel Check Off and Limitations	
<input checked="" type="checkbox"/> Fuel Truck Sump Complete and Inspected	<input checked="" type="checkbox"/> Helicopter Fuel Sample Complete and Inspected
Fuel Checks Completed by: <i>Dan/Bernie</i>	
Helicopter Fuel Minimum (Flight Following):	
<input checked="" type="checkbox"/> MD500: 100 lbs. Landing Minimum	<input type="checkbox"/> UH-1 HUEY: 300 lbs. Landing Minimum
<input type="checkbox"/> K-MAX: 300 lbs. Landing Minimum	<input type="checkbox"/> BK 117: 265 lbs. Landing Minimum
<input type="checkbox"/> MD500: Wire / Rope Pull and Wreck Out Operations: Maximum 1hr (45 min F / FF) flight time with max fuel load	<input type="checkbox"/> UH-60 Black Hawk: 425 lbs. Landing Minimum

1. Was it your understanding that the one hour maximum flight time fuel limitation (as highlighted in yellow above) should have been applied during this conductor moving op (Class C), or was the 100 lbs fuel minimum acceptable for this type of line pull?



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The policy you have highlighted in yellow would be for when we are doing Side Pull Operations. This is for when the hook is relocated from the bottom of the aircraft and installed on the side. This would be for pulling of rope or a small steel cable for powerline construction. There is a lot of right lateral banking when pulling the rope and steel cable during this flight profile.

This operation that we were conducting on the accident day was more in line with Class B operations. I understand when you have a load attached to a fixed object it becomes a C Load, but this situation did not fit that flight profile (hook on side and a high right lateral bank). The flight profile was more along the lines of a slight nose up attitude, no lateral or banking took place.

Here is a video of rope/wire stringing I found on youtube for a better understanding.

<https://www.youtube.com/watch?v=HSvhRrmrFEw&t=184s>