UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

Investigation of:	*	
	*	
AIR METHODS CORPORATION	*	
LIFENET HELICOPTER ACCIDENT	*	Docket No.: CEN11FA599
AUGUST 26, 2011	*	
NEAR MOSBY, MISSOURI	*	
	*	

Interview of: JAY WATSON

Kansas City, Missouri

Thursday,
September 15, 2011

The above-captioned matter convened, pursuant to notice.

BEFORE: JIM SILLIMAN
Accident Investigator

APPEARANCES:

JIM SILLIMAN
Accident Investigator
----------fety Board

MALCOLM BRENNER
Senior Human Performance Investigator
National Transportation Safety Board

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MR. COX
(Counsel on behalf of Mr. Watson)

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I N T E R V I E W

MR. SILLIMAN: Well, thank you, Mr. Watson, for coming in and doing the interview for the accident. My name is Jim Silliman.

MR. BRENNER: Malcolm Brenner. Are you aware you're being recorded now?

MR. WATSON: Yes, sir, I am.

MR. BRENNER: And I understand you've chosen to have counsel with you; is that correct?

MR. WATSON: I have, sir.

MR. BRENNER: Mr. Cox here.

INTERVIEW OF JAY WATSON

BY MR. SILLIMAN:

Q. And could you state your name?

A. Jay Watson.

Q. Okay. Well, I'll go through a bunch of questions here, you know, kind of relating to the training and just kind of the basic information concerning the accident -- or, actually, the training that you were doing the night before the accident and then some other questions about your experience with the pilot himself.

First of all, please give us your aviation background, your name, your aviation certificates held.

A. Jay Watson, commercial pilot, helicopter and instrument rating.

Q. What position do you hold at Air Methods?
A. Certificate compliance evaluator, usually abbreviated CCE.
Q. What was your last training event that you conducted?
A. I was training yesterday, or do you mean prior to the accident, sir?
Q. Prior to the accident.
A. Starting the Thursday evening before, I was doing night vision goggle training on one of the company pilots, his initial NVG qualification training.
Q. And that pilot was?
A. Andy Worley.
Q. And we'll talk to him later on. What is your experience in the AS350 aircraft?
A. I've flown it from July of 1998 until present.
Q. And is that just in the B2, the B3?
A. I've flown B's and BA's and B2s and B2 VEMDs.
Q. And how many total flight hours do you have?
A. Approximately 3500.
Q. And how many of those in the AS350 series helicopter?
A. I would estimate around 12- to 1300.
Q. Twelve to 1300 hours in the B -- or the 350s?
A. Yes, sir.
Q. What was your experience, you know, your experience like getting into helicopters? Was it through the military initially

or --

A. Yes, sir, the Army.

Q. Maybe you can just kind of expound on your Army experience and when that was.

A. I joined the Army in July of 1988, high school to flight school, through the warrant officer flight training program. Went through flight school and was immediately put into CH47 helicopters. I served active duty until July of '96 and continued in the Reserves through present day, flying Chinooks. I will say since -- it's either January or February of 2004, I have not actually flown. I've been in the Individual Ready Reserve.

Q. Okay. And when did you come to -- well, when were you employed with Air Methods?

A. January 5th, 1998, is when I was hired by Rocky Mountain Helicopters, and then Air Methods acquired Rocky Mountain.

Q. Okay. And was Rocky Mountain Helicopter your first EMS experience?

A. It was.

Q. So, it was your first EMS employer. And do you remember the year that Air Methods picked up Rocky Mountain? It's not that important, of course, but --

A. 2003.

Q. How long did you fly the line, so to speak, flying EMS before you went to Colorado on the corporate staff?

A. Until December of '09.

Q. And were you flying AStars or were there other aircraft that you flew mostly?

A. The first 6 months of my employment I flew BK-117s and then was transferred to AStars.

Q. Did they get rid of their 117s or something?

A. Yes. That aircraft was moved to another base and they had our base transitioned to an AStar.

Q. Yeah. Kind of going back to the more recent history here with the accident, when was the last time that you flew the accident aircraft, which was "N" number 352LN?

A. It would've been that morning, that Friday morning after midnight. Honestly, sir, I can't remember the exact times, but it was approximately, say, 1 to 3 a.m.

Q. Okay.

A. And I flew slightly over 2 hours, but I don't remember the exact time.

Q. And was that the flight that you were flying with Mr. Worley on night vision goggles?

A. Yes, sir.

Q. So after -- and how long did you fly in that, about, for that --

A. Well, I flew that Thursday night.

Q. Okay.

A. Okay, after dark. And then we stopped, completed the paperwork, as the new day started at midnight, and then took off

again. I don't recall a total time.

Q. Was there anything abnormal about the aircraft? Was there anything wrong with the aircraft?

A. No, not that night.

Q. How many days were you flying that helicopter N35LN [sic] during your -- while you were at St. Joe?

A. I started flying Monday night, did not fly very long Monday night before I had a maintenance problem. I ceased training, wrote up the maintenance problem. It was fixed. I flew again for a short while Tuesday night before a related but separate maintenance problem occurred. I ceased training, wrote up the discrepancy, and it was fixed, and started training again Wednesday evening.

Q. And what was the maintenance gripe?

A. On Monday night as we were conducting a confined-area type approach, the NG indicator just went to zero, gave no indication.

Q. Okay.

A. So, we ceased training and wrote it up. On Tuesday night the -- it worked fine for approximately an hour. As soon as I saw it, we ceased training. But Tuesday night towards the end of that flight, the last minute or two, it started -- the NG indicator started varying up and down, like it was kind of erratic.

Q. So, you ceased flying then?

A. Yes.

Q. And then Wednesday night, then, you flew for training there. What happened that night?

A. Mr. Silliman, I honestly can't remember. I did an NVG -- or a AS350 ground school in the afternoon, and I can't remember if it was Wednesday or Thursday.

Q. Okay.

A. And then started conducting Mr. Worley's NVG qualification training.

Q. And that was on Thursday night?

A. I started -- well, started him on Wednesday and Thursday. Wednesday night prior -- the first flight I did Wednesday night was with Jack Keenan of the FAA.

Q. Okay.

A. We flew about 2 hours. And then after, came back, did all the associated paperwork and all that. That's when I started with Mr. Worley.

Q. Okay.

A. I think I also flew a gentleman for 1 hour of off-cycle training, the training in between his check rides, usually about 6 months out. I think I flew him after Jack and then started Andy Worley's NVG qualification.

Q. And then on Thursday night you flew with Worley again?

A. Yes, sir.

Q. When it was dark.

A. And Thursday night it was only Mr. Worley.

Q. Okay. And then when it turned -- and after midnight, then, and it turned Friday morning, was that also Mr. Worley?

A. Yes, sir.

Q. After flying with Mr. Worley in the second flight did you notice or do you remember how much fuel was in the aircraft when you left it that night?

A. Yes, sir. It was at approximately 23, 24 percent. In cruise flight that would amount to somewhere around 46, 48 minutes.

Q. When you landed, did you request any refueling for the helicopter?

A. No, sir, I did not.

Q. And why -- is that typical?

A. No. This bird was in training configuration. The medical interior had been removed. I knew it would take the mechanic a couple of hours to change it back into the medical mode. And I considered that Mr. Freudenberg was a heavy pilot. AStars can have a CG issue, and I knew he would want to do his weight and balance and calculate exactly how much fuel he was going to have, should need, or should put on board based on him and his crew. And I figured if I put too little in it, he'd have to call the fuel truck down anyway; and if I put too much in it, then he'd have to sit there running to try and burn it off.

Q. And after landing did you remark about the fueling

situation to anybody, Mr. Worley or anybody else?

A. When we walked back into the pilots' quarters, I told the pilot that was on duty at that time, who would be briefing Mr. Freudenberg, that it would need gas. Yes.

Q. And do you remember who it was that you talked to?

A. Peter Pelayic.

Q. And he was the duty pilot for the -- p.m. duty pilot that night?

A. Yes.

Q. And the fuel gauge, if I remember right, with the percent of fuel, it's basically on the center panel?

A. On the instrument panel there's a row across the top, and it's usually up -- I think it's the third one over from the far right group of instruments.

Q. All right. And it was showing the 23 to 24 percent of fuel?

MR. COX: Answer out loud.

MR. WATSON: Sir?

MR. COX: You can't nod your head. You have to answer him out loud.

MR. WATSON: Yes, sir.

BY MR. SILLIMAN:

Q. Thank you. I want to talk a little bit about autorotations. You're a training pilot at Air Methods. How do you conduct simulated engine failures in the AS350 B2 series

aircraft, especially this particular aircraft?

A. Per our pilot training program, which is approved by the FAA, in the B2 model -- B's, BA's, and B2s -- the throttle is on the floor. So, the autorotations are trained and conducted without removing the throttle or, as it's designated, the fuel flow control lever, out of the flight gate. It stays in the flight gate.

Simulating an engine failure, sometimes the instructors may allow the person being trained to choose where they enter an autorotation, sometimes they may. But to know -- you know, we do a brief about exactly what's going to take place before we do it. All right? But then we may also set him up on a pattern and tell him, yes, at this time around I'm going to tell you where your engine fails because in real life you don't get to choose where your engine fails. That way we can check to see if they respond appropriately to meet the standard of making their spot, plus or minus 100 feet.

When the maneuver is initiated, the pilots simply lower the collective. The fuel is not -- the fuel flow is not cut off or reduced to idle as it is in other aircraft.

Q. What training or checking have you conducted with Mr. Freudenberg?

A. As I recall, it was March or April of 2010 I did his initial qualification, aircraft and NVG qualification training together at that time. And then around the same time of 2011, I

did a recurrent training flight and check ride or evaluation flight with him.

Q. Do you remember, you know, what -- if you had any concerns, or did Mr. -- did he, you know, exhibit any weak areas or --

A. You know, he presented himself -- and I can only go on what I see when I'm with them. He was very competent, very safe. He knew his business. He knew his material. And that's what I saw when I worked with him.

Q. Did you conduct a simulated engine failure with him during his training?

A. Yes.

Q. And were they power recovery?

A. Yes, sir, they are to a power recovery.

Q. Now, do they -- do you leave the -- in the autorotations that you practiced with him, were they in the fuel -- did the fuel flow control lever stay in the flight gate during that?

A. Yes, sir, it did.

Q. So --

A. I'm not allowed to pull it out of the flight gate per our pilot training program. For instance -- now, I have never flown a B3, but I've read the pilot training program that -- the B3 is the ones with a twist grip. They can roll the throttle off to -- or, not off, but down to idle. I've not experienced that myself, nor have I done it.

Q. I guess you would've done that, something similar, in your Army training?

A. Not since my initial flight training in UH1's, and that would've been in 1988, '89. In Chinook training we never did autorotations. The Army didn't do autorotations for twin-engine aircraft, because they considered it such a remote possibility it wasn't worth the risk of damaging aircraft.

Q. Would that have been true for Mr. Freudenberg also since he flew -- I think it was Apaches?

A. Apaches are 60s.

Q. 60s or --

A. Again, when I was active, up until 2003, the policy for the Army was no; the twin-engine aircraft did not. After 2003, I cannot speculate.

Q. So, Mr. Freudenberg has never experienced doing an autorotation with the fuel flow control lever at a flight idle/stop position; it's always been in the flight gate?

A. He was -- to my understanding -- well, yeah, he was qualified in B3s. Someone somewhere gave him training in AS350 B3 models.

It is possible the B3 that he flew may have had a twist-grip throttle where they can -- because he transferred to Rapid City, South Dakota. The day of the accident was his first day back in St. Joe, Missouri filling in. He was filling in a shift. For his training for Rapid City, South Dakota it is possible he

may have experienced autorotations with a reduced fuel flow position, but I have no personal knowledge of that training.

Q. Okay. Have you ever had training where they -- where you take it out of the -- the fuel flow control lever and put it into the flight gate in a B2 aircraft?

A. You mean where it's reduced?

Q. Yes.

A. No, I have not. In cruise flight autorotations we do hovering autorotations training, and I've done that where it's reduced, but that's hovering auto from 3 feet.

Q. And what do they do with the fuel flow flight control lever there? Do they just put it into the off position, or --

A. They reduce the -- the instructor pulls the fuel flow control lever with his right hand. Keep in mind he's sitting in the left seat. He pulls that lever back towards the ground idle. There is not a detent for ground idle. You've got a flight detent and a stop detent. So, he has to gauge how far he pulls it back so he doesn't totally kill the engine.

Q. So, they're taking it to where --

A. To the ground. Basically to the ground idle area.

Q. All right. Even though there's no stop there?

A. Even though there's no stop. Now, it is fairly easy to find that area in the fuel quadrant. You put your thumb on the back edge -- or the front edge of the stop detent and pull that fuel flow control lever back until it about touches your thumb,

and it'll be real close.

Q. Okay. I've been told that it equates to somewhere around 67, 69 percent.

A. Sixty-seven to 70 percent NG.

Q. Okay. All right. You said that this was the first day back for the pilot. He had been up in Rapid City and that this was his first day back at St. Joe's to fly.

A. That was my understanding, sir.

Q. Okay. Did you see him that day?

A. On Friday?

Q. Yes.

A. No.

Q. When did you leave the base after the training?

A. I left the base approximately at quarter after 4, between 4 and 4:30 in the morning.

Q. Okay. Did Mr. Worley leave about the same time, then; do you know, or --

A. Yes, sir, I believe he did.

Q. So, then it would've been the duty pilot that would've stayed and the duty crew that would've still been there then?

A. Yes, sir.

MR. SILLIMAN: Malcolm, maybe you have some questions?

MR. BRENNER: Sure.

BY MR. BRENNER:

Q. Let's talk a little more about the accident pilot. You

said he was very competent, very safe in your training. Give me some examples.

A. Well, when I saw him, as far as flight maneuvers, I mean, he performed them -- well, you know, with some folks you may find during their training that they need pointers in this and that. He seemed to -- as far as -- I'm lacking the words. He could complete the maneuvers without a whole lot of pointers and me doing a whole lot of instruction, other than the initial instruction and briefings to tell him how the maneuver would go. When I conducted his oral evaluations, I didn't have to dig information out of him. I asked a question, he'd answer it satisfactory. I'm sorry, sir, I forgot the rest of the question.

Q. You said very competent and safe; he knew his business and his material. I just wanted you to flesh it out a little bit for us if you would.

A. He also -- you know, I've done this with -- I was a Chinook instructor pilot, too. And I try to teach everyone you need to see what the gauges are telling you.

As an example of his being safe, I'd -- unless my memory is wrong, you know, during his training I remember putting a hand over the engine oil pressure gauge and -- after he did a before-takeoff check. We're sitting on the ground. He did his before-takeoff check. I put my hand over the engine oil pressure gauge or something similar. "What did you see?" And he answered it. He had it right.

I didn't see -- when I trained him, I didn't see anything that told me he was incompetent or unsafe or made unwise decisions.

Q. What was he like personally?

A. I really didn't know him very well personally. I mean, I'm the kind of guy, when he shows up -- I only got so much time with him, and I start right in on business. And the only reason I knew about the Army stuff was because I asked, just in case his Army training might interfere or cause negative habit transfer. That's the only reason I knew about that.

Q. Did it?

A. No.

Q. Did you ever meet him socially or outside of the --

A. No.

Q. No?

A. No.

Q. How was his attitude towards HEMS?

MR. COX: Attitude towards what?

MR. BRENNER: Towards this industry, the medical industry, HEMS industry.

MR. WATSON: He seemed to be genuinely pleased to be here, enjoyed it. I mean, when he'd show up for training, when he showed up for his check ride, he had a smile on his face. He was, you know, happy to be doing it.

BY MR. BRENNER:

Q. I'm trying to understand the accident flight and how does a pilot -- how would he determine the fuel level for the first leg?

A. We train our pilots, you know, to use the cockpit checklist that's provided. On that it says to check your system instruments. The fuel gauge is in the row with the rest of the system instruments. As he scans across those instruments -- there are multiple checks in that before-takeoff check, but he is, through training and basic airmanship, to note what each gauge is telling him. So, yes, he should -- any pilot that we train is trained to actually see what the gauges tell you.

Q. Now, you said there would be a handoff briefing from the duty pilot from the night before; is that right? Or what is the procedure on that? Would that --

A. Yeah, there are supposed to be shift briefings.

Q. -- (indiscernible) there? Would that include fuel state or --

A. Yes, sir, it would.

Q. And how would that be? I mean, what would you expect in a handoff briefing?

A. When a pilot briefs the oncoming pilot where there's been no aircraft change, okay, they normally brief hours and minutes of fuel. In other words -- or percent. One pilot may tell the next pilot "you're sitting with X percent amount of fuel." With a bird that was not in service -- okay, I was not

there. I was not present, so I don't know. Because 352-Lima-November was not in service that morning I don't know if it was also discussed.

Q. Sure.

A. But it --

Q. Now, during the shift, if I understand, they did change the aircraft.

A. Yes, sir.

Q. What are the procedures for that, especially regarding fuel status? What does the pilot do?

A. Well, as far as procedures for changing it out, I'd have to defer that, you know, to the maintenance guy. But they have -- I mean, there's maintenance and write-ups, and you have to make changes in the aircraft flight manual for the weight and balance changes. And when the mechanic is done, the pilot -- in any general situation, the pilot is going to preflight that aircraft as it becomes available for medical service.

Q. I'm an old Cessna pilot, so, excuse me if --

A. Okay.

A. Do you get down and actually physically check the fuel level? Do you actually -- or do you -- what do you --

A. There's no way to visually see the fuel in the tank. We do a fuel quantity -- or a quality check, you know, a fuel sample.

Q. Yeah.

A. As far as physically seeing the fuel in the tank, it's

enclosed.

Q. Okay. I got it. I'm sorry --

A. Well, if it was absolutely full, you could see it --

Q. Just like a Cessna.

A. -- but we don't keep it full.

Q. Yeah, it's just like a Cessna. And ideally, in the best -- what level would a pilot normally fill it to? When you just a get new bird, to be ready, what would be the proper amount?

A. They would fill it to the point that they were within their weight and balance and center of gravity limits. It is not written down anywhere that I am aware of that they have to keep it at any certain level. As a matter of routine practice, most bases try to keep their AStars between a certain range of fuel so it's most accommodating for all the pilots. When you have -- for instance, I worked in Olathe, Kansas. I weighed -- at that time I weighed 165 pounds. I could put on a whole lot more gas than the 240-pound pilot that relieved me most nights. So, I ended up usually going with a little less gas so that he didn't have to fly off 70 pounds of gas.

Q. Sure. Sure.

A. However, we had fuel available, and if I needed it, I could put it on before I left the base.

Q. Okay. And with Mr. Freudenberg, he's a heavier gentleman.

A. Yes, sir.

Q. What would you expect -- what would a typical fuel level be then?

A. Well, it would also depend on his med crew. I would think somewhere between -- you know, I'd hate to speculate on the amount.

Q. We'll get other people to fill that in. That'd be fine.

A. Okay.

Q. And, again, just for this industry, tell me the procedure for the pilot to accept a trip. You get a call in that the hospital is calling for support. How does he determine whether to accept it or not?

A. Well, he's got to -- keep in mind he's already -- our ops manual tells the pilot he is to preflight at the beginning of his shift, so that -- as far as the aircraft preflight, that should be done. Before he even starts that he has to sign in on the computer 411 system and get a flight release for that particular aircraft. Well, actually, got to sign in, duty-in, and then after he's preflighted, gets a flight release through that same computer system for that particular aircraft. Obviously, everybody checks weather immediately after they're done with all that. Just general, you know, keeping up with it as weather changes.

But when the call -- you know, this minute the call comes in. They start a process whereby they check weather, NOTAMs for that particular flight, and go to the map. Some bases I have

seen have a current map laying out flat. Some will have them posted on the wall. But due to the requirement in AO-21 of our operations specifications to note the highest obstacle along the route of flight, they've got a current map there. Usually, you know, the old thumbtack and a string. All right, here's my line. What obstacles do I have? So, they can note that highest obstacle.

I guess I left out one part, inadvertently. When the call comes in, usually all three crew members are aware. So, the med crew starts, you know, doing what they got to do to get out to the aircraft and be ready, and then the pilot starts his part.

Q. What do they know about the medical condition of the patient?

A. They don't. It's purposefully withheld from the pilot so he doesn't think that he needs to go based on patient condition.

Q. At what point does he learn about patient condition?

A. Once they have decided to accept the flight and they are en route to the first location, the pick-up point, they will call the communications center. In this case it would be AirCom. And usually it's the med crew who makes that call. A lot of times the pilots even turn that pin switch down on their radio so they don't hear it. And at that point the med crew or the med crew through the pilot will request a patient report. And that's usually a good 4 or 5 minutes into the flight.

Q. But if I understand it, is that company policy that they don't know the condition ahead of time or is that just traditional?

A. No, that's -- I'm trying to recall if it's -- I'm sure it's written down somewhere, but I can't speculate as to where.

Q. Don't speculate. I appreciate it. Does the pilot fill out a risk assessment form?

A. Yes, sir. I forgot that part, too. Yeah, and he's -- you know, we've got the charts posted on the wall right there in the office, so he can do his risk assessment right there. And everybody keeps another one in the aircraft so that if they get a call while they happen to be somewhere else, they can re-evaluate, you know, in between each leg.

Q. Does the pilot have to consult with anyone else on the acceptance?

A. Could you clarify?

Q. Well, does he have to wake you up out of bed and say, "Hey, you're the instructor. What do you -- it looks good to me" or "it looks marginal to me," whatever, "What do you think?" Is there anything like that, or --

A. No. With the two-tiered operational control, he does -- you know, the corporate portion of the operational control is handled through that 411 system. I mean, if that's --

Q. I guess that's what I'm -- I was just thinking there is some cases where if the risk assessment comes out high you're

supposed to call the OCC and get a confirmation. For example, that's a policy or potential policy. I was wondering what the company does.

A. The company leaves that to the discretion of the pilot. He is required to note his risk assessment in the remarks column of the daily flight log before he takes off and, in addition, relay that risk assessment code to the communications center upon liftoff, you know, give them fuel state -- several items upon liftoff.

Q. To what extent is the medical crew involved in the aviation activities?

A. They're really not.

Q. Oh, they have their own private rules (indiscernible) --

A. Yes.

Q. Okay. Is there a time limit or --

A. Well --

Q. -- I'm sorry?

A. Can I back up just a second?

Q. Please. Of course.

A. They do go through a crew member training program so they can assist in flight, but as far as preparation for getting off the ground, they're really not participants. Well, that's not right either. There's a briefing that you talk with the medical crew about before you go launching into the air, okay? You may discuss pertinent items, and some items may not be pertinent. If

weather is clear blue on 22, you may say "weather's good" and leave it at that.

Q. Yeah. Sure. Sure. Is there an ideal target time to depart?

A. No, sir.

Q. Number of minutes or anything? Is there anything?

A. No. And, as a matter of fact, our corporate leaders have put out memos and changed the operations manual to state time -- and I don't know exactly how it's worded, but you are not to rush into action. You will not let anybody force you off the ground in a hurry.

Q. How reliable are the fuel gauges? How trustworthy are they?

A. In my experience they've been very reliable. I have not flown them down to the point where the fuel light, the low fuel warning light comes on. And, actually, it's an advisory or a caution light. It's not red; it's yellow. I've not flown it down to where that light comes on but once or twice, and it came on about right where it's supposed to.

Q. Speaking as a layman now, I know in this case the pilot recognized by the time he got to the hospital that he was low on fuel or there'd been a mistake made and that the fuel was questioned. As a layman, I would think that as soon as you lift off and start flying and look at your gauges, you would realize that then. Help me out. Is that your sense as well?

A. I know what they're trained to do. Is that -- I can tell you what he was trained to do.

Q. That it'd be great. Please. Yes.

A. Okay. He was trained to check his fuel on preflight and adjust it accordingly. And in keeping with the FARs he's required to know his takeoff weight for every takeoff, be it Part 91 or Part 135. Again, as part of the before-takeoff check, cruise check, and before-landing check, because cockpit checklist usage is required by the FARs, he should also -- any and every pilot is trained to check the fuel gauge during those checks.

Q. What about the medical crew? Is it possible just by experience that they would've looked over and seen the fuel gauges as well?

A. That's another one I'd hate to speculate on. I don't know.

Q. Now he's at the hospital and he realizes that he has a problem, and he calls the company and talks to the flight op person. He acknowledges, you know -- the first thing, you tell them what your problem is and he tells them. What are his options now?

A. Any pilot's options would be -- depending on the fuel available, if he can plan to fly somewhere with a 20-minute reserve, per the FARs, he could plan to fly to that airport. Secondly, he could -- again, this is any pilot -- could choose to simply stop the flight. And that also is done through our

corporate basic indoctrination. When we, as instructors, go out and train people, try to train them that you have to recognize when it's time to stop, don't push a bad situation. Right now I'm not recalling any other options that would really be available to him or any pilot in that situation. Could he call and have gas delivered? Yes, he could.

Q. How long would that take?

A. I'd hate to speculate. It would depend on where they're coming from.

Q. Okay.

A. And something else to keep in mind, Malcolm. My experience with most of these airport fuel trucks around northern Missouri, mid Missouri, I don't think they're certified for off-road use. I mean, if you want to take them off the airport, they're not legal.

Q. I see.

A. And I only know that because I've had a couple of the FBO operators tell me that, or it somehow came up in conversation.

Q. Yeah. Okay. He talks with the flight follower. Does the flight -- I guess the question is, okay, here he's in a situation. He's in a difficult situation. He'd like to talk to someone who can help him out or can share the responsibility or give him some ideas. Who's available to him? The flight follower he talked to. Anyone else or does he get (indiscernible) --

A. He's got his supervisors. And I personally -- I don't

know if every check airman does this, but I think if you ask the people I've trained, you will find they tell you that I hand them a card -- which I'm out of today, by the way, or I'd have given you one. I give them a card or I make at least one card available to post on the base bulletin board, and I tell them you can call me any time day or night.

I've been in their shoes where you get these weird requests; somebody wants you to do something that you go --

Q. Sure.

A. -- is that right or wrong, or should I or shouldn't I? I said, if you want an answer to something, you can call me any time day or night. And I tell the guys that I train that everywhere I go.

Q. Well, what about within the company? Is there some official order that you --

A. He would also have his supervisors, the OCC. The OCC is always available, 24 hours a day.

Q. How do you contact the OCC?

A. I can't swear to what the St. Joseph base had available. I know it is common practice to have a cell phone that accompanies the crew or the pilot, or maybe all three crew members in some cases. He could've gone into the hospital, called him.

Q. Who would be at the other end of it that he could talk to?

A. The people that man the OCC are, with one exception,

pilots. They keep a fixed-wing pilot on staff and a rotary-wing pilot.

Q. I want someone like you. If I pick up the phone, I want --

A. Right.

Q. That's what I was picturing.

A. Yeah.

Q. Yeah. He's elected to make the trip with the patient, possibly considering that he would stop for fuel with the patient on board. Is that company policy?

A. Our general operations manual discusses what to do in the event that you need to -- an exact procedure, what to do in the event you should need to stop for gas with a patient on board. It tells you exactly how to do it. And it also says at the bottom of that, that this is -- something to the effect that it shouldn't be expected to be routine practice.

Q. Sure. Yeah. What are the procedures?

A. I've not refueled with a patient on board for so long -- what I've done in the past when it has -- it has happened to me once or twice. Pull out the ops manual and I read it step by step. I don't have it committed to memory.

Q. Company-wide how often does that happen, any idea?

A. I don't have any idea.

Q. Do you know a person to ask?

A. (No audible response.)

Q. If he had called his supervisor and explained the situation, what kind of response would there have been for his career? How would that have affected him? Would he have faced discipline, or what's your sense on that? What would've happened to him?

A. I know the corporate climate is "do the right thing". I think he would've been actually praised, and I'm speculating. The corporate climate is "do the right thing". So, if he had called his supervisor and said, "I'm stuck. I can't get anywhere to get gas", I think they would've accepted that answer.

Q. What would've happened to the trip?

A. Sir?

Q. What would've happened to the trip? Would you bring in another helicopter or drop the trip? What would've happened?

A. They could choose to take the patient by ground. It's possible they could call in another helicopter.

Q. Would your company have been able to provide another helicopter?

A. Yes, but the closest one is Omaha, I believe. I could be wrong. There are so many programs. I don't know where every one of them is at.

Q. How recently had he practiced autorotation?

A. With me he practiced them in the Spring of 2010 -- 2011.

Q. Would he have had other opportunities after that? Would he have other training?

A. I can't speak to that. I don't know.

Q. Do you recall his performance on the autorotation?

A. Yeah. He met the standard. He entered, did the power recovery, and made, you know, his spot within the 100 feet plus or minus.

Q. In terms of his background, how did he compare to the pilot pool of the company?

A. I'd be speculating on that too, I think.

Q. Typical, a veteran, or an amateur? I don't want to speculate, but in terms of his performance, how would he compare?

A. He seemed to be -- when I flew with him, he did the things right. I would say that's typical only in that our pilots are professionals and they've all got a lot of hours before they ever get here.

Q. I see.

A. I'm not trying to demean him or --

Q. Um-hum. Sure. I wanted to ask you a little bit about the company compared to the industry. Compared to industry standards, how would you characterize the pay?

A. Good.

Q. How would you characterize morale? The pilots we're talking about.

A. I would characterize it as good. The guys that I trained seemed to always be in good spirits.

Q. And on pay -- I get the sense that in career development

typically you start -- this is more entry level and you're looking towards -- I don't know, what is the typical career path for a pilot, say, at his level? He's just starting out. What's he looking towards?

A. I can't say that. I don't know what he's looking towards.

Q. So, it's individual in this case (indiscernible)?

A. Yes.

Q. Okay. How would you characterize the flight and duty time schedules compared to industry standards?

A. As far as I know they're in line with all the others.

Q. How about the size of the workforce compared to what you need to perform a task?

A. I know there are certain bases that don't have a full complement of pilots. Now, how much -- how pervasive that is I do not know.

Q. How about this base?

A. They had some of their pilots working in Cherokee, Iowa because of the other aircraft that they were qualified in, and some folks traveling to fill in at St. Joe.

Q. How busy is the St. Joe's base?

A. That, I don't know either. I know during the week that I was there I saw them or knew of them doing several flights, three or four.

Q. How would you characterize the turnover rate of pilots

in the company?

A. I don't -- I mean, company-wide, I don't know. I just don't know.

Q. Okay. Is that a problem for the company?

A. Not to my knowledge, no.

Q. How about turnover of managers, is that a problem?

A. No. Most of the managers are -- have been in their position -- I mean, they've taken promotions and stuff, but they've been there for some time.

Q. How would you characterize the quality of new hires (indiscernible)?

A. I can only speak to the new hires I've trained.

Q. Sure.

A. They seem to be good pilots. Again, these guys that get hired have lots of training before they ever get to us, either through the military or -- most typical for a helicopter pilot, if you don't go military, then the next most typical path to get that many flight hours would be as a flight instructor.

Q. Any difference between the military pilots and the civilian pilots?

A. No. They all seem to -- I mean, none that I'm thinking of at all. Just based on some things I've heard other instructors tell me to try and help me out -- because I just started instructing in AStars in December of '09. But, you know, they tried to warn me about things like, you know, watch the UH60

pilots because they have a tendency once the back of the skids get to the ground, like a UH60, they push forward cyclic to get it to come down. Other than a little bit of helpful hints from other instructors, I don't know of any differences, really, or none that I've seen.

Q. How would you characterize the equipment, the AStars?

A. It's very good. They've updated the aircraft, put in -- like NVG modifications, made sure that they're putting in more and more -- oh, I'm sorry -- more and more --

Q. Do you want to take a break?

A No. No. I just had a little hiccup. They're putting in more and more things like TAWS, weather radar. More and more aircraft are getting modified to accept and use goggles. I know they put a -- it has to have been a good amount of money in it.

Q. How would you characterize maintenance?

A. I've never had any problems with maintenance. You know, when you have a problem you call them and they come in. If they're dutied out, you don't receive pressure to overlook it or anything like that. It is what it is and we deal with it. And if the base is out of service, it's out of service until a mechanic is able to come in and start work. I've been impressed with the mechanics I've had the opportunity to work with.

Q. How would you characterize the financial condition of the company?

A. That's way out of my realm.

Q. How about the relationship between the company and the labor union?

A. Also out of my realm.

Q. The quality of the training?

A. Company-wide, out of my realm.

Q. What's special about this company?

A. To me?

Q. Yeah.

A. They let you know they'll stand behind you when you do the right thing. Don't push bad weather. Don't push a maintenance problem. Don't overlook a maintenance problem. They let you know that they will absolutely stand behind you. In other words, if you take a bird out of service because X is wrong with the aircraft, they stand behind you for that.

Q. How do they let you know that?

A. Everything through -- from the time of basic indoc you get a face-to-face briefing with the chief pilot, the director of operations, and the chief executive officer. I mean, it starts there.

Q. In the past several years has the company undergone a significant expansion or scaling back of its operations?

A. No, sir, not to my knowledge.

Q. Has the company experienced previous accidents?

A. Yes. I mean, I know they've had previous accidents.

Q. What's been the company response in terms of any changes

in policy or procedures as a result of these accidents?

A. The safety department, you know, will issue memos or changes in the operations manual as needed to make sure it doesn't happen again.

Because I'm an instructor I happen to have a little knowledge of some of the previous accidents. I have to teach -- per the FARs, I have to teach an accident/incident review while I'm doing ground schools. One, for instance, I can give you was an accident in which a mechanic apparently had -- some bolts came loose on the drive shaft to the transmission, from the engine to the transmission, and an AStar had to complete an autorotation. After that accident they came out with a memo requiring the pilots go -- they call it a CYA, cover-your-aircraft inspection. And you have to initial behind every ride-on. And that's one response I can personally vouch this happened because of a particular --

A second, when a determination was -- and these accidents, as far as I know, are still under investigation. But when a possible reason was thought or a possibility occurred for the Tucson and the Lamont incidents, they came out with a memo about not checking fuel through the aircraft fuel filter because that might introduce air into the system.

I mean, they seem to be responsive, very responsive in order to make sure it doesn't happen again.

Q. Were there any pilot issues in the previous accidents that you're aware of?

A. No, sir. That's out of -- you know, I just don't know.

Q. Tell me about the safety office. What does it consist of? What do they do?

A. Well, there's a -- I don't know the exact title. There's a gentleman in charge or a person in charge, numerous staff. Besides base visits they are tracking all kinds of AIDMOR reports. I don't know if you're familiar with the company's AIDMOR system.

Q. No.

A. It's a referring system for hazards, incidents. When I say incidents, I mean like somebody slip and fall or any hazard. And during this training I mentioned just a minute ago where I talk about the annual accident/incident review as part of ground training, part of the slide show is, you know, showing these guys why they need to report any hazards, how to do it, and what happens after they report it. So, the safety staff is dealing with that -- you know, tracking and logging and cataloging and mitigating risk. I know they've been very active in the SMS, safety management system, progression.

Q. And they're based in Denver; is that right?

A. Yes.

MR. BRENNER: I think I'm good, Jeff.

BY MR. SILLIMAN:

Q. When you do an autorotation with just putting the collective down, what is the characteristic of the aircraft? What

pitch, roll type of things do you see?

A. You don't really see a lot of change in pitch or roll attitude. You get a fairly good yaw input unless you coordinate the pedal with it. As you get the collective all the way to the floor the rotor will build, so you have to pull it up slightly to keep it from overspeeding.

Q. What airspeed are you trying to peg when you do -- once you enter the autorotation?

A. We're trained to execute for 65 knots VY and work for a 65-knot attitude, and then you adjust airspeed as necessary to make that spot on the ground that you're trying to get to, still trying to be at VY by the time you decelerate so you've got a full decelerative attitude for, in this case, a power recovery, but, in the real event, a touchdown.

Q. So, you're flying along and, whether you initiate it or the trainee initiates it, he puts the collective all the way down. The nose attitude pretty much stays the same, if I understand you, so it's not at a different -- too much of a different pitch, but you'll get a yaw.

A. Um-hum.

Q. So, you have to counteract with a pedal.

A. Pedal.

Q. And then you have to adjust the attitude with the cyclic to get your 65 knots.

A. Um-hum.

Q. You fly your 65 knots and as you're approaching the ground, when do you put in a flare, or don't you? Do you put in a flare in this aircraft?

A. We train 65 feet you start a flare and decelerate as necessary for the situation, if that make sense.

Q. Yeah. So, at 65 knots, then, you're in a descent attitude at 65 knots, and then at about 65 feet you put in a nose attitude, meaning you pitch up your nose.

A. Right.

Q. You bleed off your airspeed. And then you're still descending at this time, so that when you bring in the power or bring back in the collective, you're bringing in the collective so that you're hovering over the spot at about 5 feet?

A. Three. Three feet.

Q. Okay. So, but you're -- so, when you put in the flare, you're decelerating. Where do you start bringing in the collective to get it so that you're going to be hovering?

A. About 15 feet.

Q. Fifteen feet?

A. And it's not a continuous initial pitch/pull. It's -- an initial pitch/pull, it may just be just enough to arrest the rate of descent, and then save the rest for when you get down to the bottom.

Q. So, when you're down at the bottom, is that after you arrested it a bit and you -- you put in the flare at 65 feet.

You're decelerating. You brought in a little bit of collective, it sounds like. And then as you're transitioning into that hover over the spot, that's when you bring in more collective to -- a lot to your hover power, basically, so now you're at about 90 percent NG, 80, 95 percent NG? What would -- I know it's going to depend on the weight.

A. Depend on the weight, but, yeah, 90, probably around 90.

Q. Okay. But you're -- basically, you're stopped over the spot, 3- to 5-foot hover, and that's the end of the auto, and hopefully within 100 feet of your selected spot?

A. Yes, sir.

Q. Okay. Now, in the accident -- it's not exactly certain how high he was, but he may have been 300 feet, maybe, or 250 feet above the ground when he lost engine power. So, you don't have a lot of altitude. Now, do you ever practice autorotations where you enter the autorotations at, you know, between 250 and 300 feet?

A. No, sir.

Q. So, in your practice where do you start your autorotations?

A. At pattern altitude.

Q. So, typically, 800 to 1,000 feet or so?

A. Yes, sir.

Q. When you're practicing, how long does it take for the -- typically to -- or when you're doing them, in fact, how long does

it take to recognize that you have to put in your flare and, you know, establish your 65 knots and --

A. I'm not sure I understand that question.

Q. Well, I guess, what's your reaction time to be able to get your -- from the time that you say you've got an engine failure to the time that you react and you get your -- the yaw and you get your pitch, and you're getting things stabilized for that?

A. From 1,000 feet above the ground it would probably be about 4 or 5 seconds, maybe a touch longer, 6 seconds.

Q. Any idea how much altitude you've lost in that time?

A. Roughly a 1,000 feet, 900 feet.

Q. No, I mean just in -- from the time that you recognize you have an engine failure until you kind of start getting established into your autorotation.

A. Oh, no, I don't know.

Q. Okay. And you never -- in practicing you never go to a full autorotation, then, where you land on the deck; it's always to a hover?

A. Yes, sir.

Q. And it's always -- obviously, always a power recovery, and you never brought it down to flight idle? I mean the throttles, you never brought them --

A. No.

Q. -- the throttles down to flight idle. Do you have any idea what it would look like in a real engine failure? Because

you're simulating -- well, you're bringing the collective down. But do you have any idea, have you had any training or experienced any situation in your training where you actually lose the engine or they bring it down to flight idle where you get a different sight picture than what you have just with this technique that you use?

A. Sir, I've not had any training to that.

Q. Has anybody ever talked you through what you could expect?

A. Well, yeah. I mean --

Q. What kind of things have people told you, you might expect that would be different from the way you practice your autorotations to a real engine failure in this aircraft?

A. The loss of rotor RPM should the engine fail, because it's the low inertia rotor system, which you'd want to get the collective down immediately so the rotor didn't droop. And then you'd want to also apply an aft cyclic to get more air coming up under the rotor.

Q. When you practice your autorotations as they're practiced now, do you bring in aft cyclic right away to --

A. Yes. I mean, you initially bring in some aft cyclic to work towards 65 knots.

Q. But before you -- but do you do that -- for instance, you push the collective all the way down. Once the collective is all the way down, do you bring in aft cyclic right then or do you

wait?

A. You bring in cyclic right then.

Q. Okay. And then that's when you have to bring in -- bump the collective just to keep control of your rotor RPMs --

A. Yes, sir.

Q. -- at the same time? Okay. Have you ever wondered what it would -- I mean, if you're training -- if you had a complete engine failure, even with all your experience, if you would be ready for a real one with the training that you've done and the training that you've experienced and taught others without having actually experienced --

A. I think a man would be a fool not to.

Q. And have you ever wondered --

A. I think I would.

Q. You think you would?

A. Yes, I think I would be.

Q. Ready to do it?

A. Yes.

Q. What was the name of the night pilot? What was his last name?

A. Pelayic, P-e-l-a-y-i-c.

Q. P-a -- P-e-a --

A. P-e-l-a-y-i-c.

Q. Okay. And did you happen to meet the medical crew that night?

A. I can't remember.

Q. When you were flying the line, was a union established by then?

A. I was in the desert in 2003, almost all of it. And I think it was up -- I think it was up and going when I came back.

Q. When you got back. Were you -- did you then go back into -- by that time are you flying in the corporate headquarters as a training pilot?

A. No, sir.

Q. So, you went back to the --

A. To the line.

Q. -- a flight base?

A. Yes.

Q. Or EMS base. And then you would've only been there for about -- it sounds like about a year before you would've gone to Inglewood, then?

A. No. I flew as a line pilot from the beginning of 2004 until December of 2009.

Q. Oh, okay. So, it sounds like the union was established then.

A. Yes.

Q. Is it a union that you need to be -- or that you're required to be a part of or not or is it -- I'm not sure how they do that.

A. Well, that's beyond my level of expertise.

Q. Well, I mean, did you have to join the union or did you not have to?

A. My understanding at that time was it was a -- because of the state in which I located, that it was a right-to-work state and I did not have to join the union.

Q. Okay.

A. But I believe I had to pay union dues one way or the other.

Q. Okay. If a pilot gets in trouble, what are the ways that he can, you know, keep from getting in trouble? I mean, do they have an ASAP program here?

A. The do have an ASAP program, yes.

Q. Could you explain how that works to me?

A. They get online and submit the report. There are requirements for timeliness in order to be considered to be not punishable. Besides time requirements, also sole source requirements kind of thing. I mean, they get online and they can fill it out. The company gets it immediately and starts action on it.

Q. And that generally protects a pilot from disciplinary action or not?

A. I just don't have any experience with the ASAP stuff.

Q. Okay. How about a FOQA program, do they have that, a FOQA program?

A. I'm not familiar with that.

Q. Okay. I guess the SMS program, do they have anything looking at, you know, continuous improvement programs?

A. That's the official stage they're in now.

Q. Are they -- does that get down to the crew base and to the pilots and the flight crews? They're aware of it and they know how to work it, and they're being trained in SMS as well?

A. Yeah.

Q. This pilot -- for instance, he takes off from the hospital. Had the pilot stayed there and said, okay, well, you know, I need to get a fuel truck or I need to fly someplace else, get fuel before I come back, get the patient, and then continue the flight, in any -- if those situations had taken place and he's filled out an ASAP -- and it sounds like, from what you said before, he would've been congratulated, in a sense, saying that he did the right thing. Is that safe to say?

A. I don't know if he would've been congratulated. I think the answer would've been accepted.

Q. He wouldn't have lost his job?

A. No, sir.

Q. Would there have been -- you know, if he made an ASAP, would there have been any discipline action?

A. Jim, that's -- I mean, that's up to people above my pay grade.

Q. Yeah, I understand. Just wondering. Now, in the same situation, had he made it to the -- UGF, the airport, and gotten

fuel, even so he -- you know, he made out an ASAP, but there's nothing that says that once you do an ASAP -- you still can get in trouble considering the situation and the severity of it, I suppose, and whether there's FARs broken and that type of thing?

A. That's my understanding.

Q. When you flew the line, what kind of interaction did you have with your crew members -- you know, your flight nurse, your flight paramedic? Did you typically brief them on what was going on, you know, as -- the situation that you were looking at as a pilot, or were they just sort of wrapped up with their patients that --

A. We did crew briefings, yeah, and they're required by the ops manual. But we did crew briefings, yes.

Q. In this situation when the helicopter was at Bethany there at the airport, on the pad, the pilot has called dispatch. Would there be an opportunity or would there be an expectation that the pilot would brief the crew that he called dispatch and told them that he had a fuel situation, or would that -- they be --

A. I don't know.

Q. Would that be something that you would expect that you'd do, or is it just too speculative on that?

A. You mean as far as telling the crew what our fuel state was?

Q. Yeah.

A. If it were me, I'd say something to them, yes.

Q. I mean, those guys do have a lot of experience, you know, flying, I mean, so it's not like they're just -- you know, they're aware of their situation there as well, I would guess, and they'd have good input as far as company protocols and company requirements and -- especially if the pilot told them we're going to have to land and get refueled before we can take the patient on to the hospital, that's something that would affect their decision making, I would guess, you know, if they are going to launch from that hospital, I would guess, and they should know that, right?

A. Yes, sir.

Q. Yeah. We don't know if that was the case or not, of course, but --

MR. SILLIMAN: Malcolm, anything else that occurred to you?

BY MR. BRENNER:

Q. How long would it take to refuel?

A. It depends on how the refuel was conducted.

Q. If the truck's standing by?

A. If you've got a refuel truck standing by, it can be done in 10 minutes or less.

Q. Is there anything else that we haven't asked you that might help us in the investigation?

UNIDENTIFIED SPEAKER: There's only one answer to that question.

MR. WATSON: No, sir. I think you guys have been pretty thorough. I can't think of anything.

UNIDENTIFIED SPEAKER: That's the answer.

(Simultaneous speaking.)

UNIDENTIFIED SPEAKER: -- now offer you an opportunity to say things and I guess he has.

BY MR. SILLIMAN:

Q. When I was doing the Lamont accident, the crew there -- and it just seemed like a kind of a common thing that they wanted to have the aircraft around 60 percent, to be able to lift off, have enough fuel to do their mission, and still have enough capacity for, you know, the patient coming on board and that type of thing. Is that kind of a comfortable gauge figure or an average of what people would be expecting, so you have like almost, well, 2 hours' endurance? Well, you know, total fuel, I guess, would be 2 hours on board and still be able to get to do most of your assigned work.

A. It could be anywhere from 50 to 70.

Q. Yeah. But 23 to 24 percent is not going to cut it, obviously?

A. No, sir.

Q. Yeah. Well, your help has been really very greatly appreciated, very straightforward and very helpful. I appreciate the places where you said, hey, that's just -- I can't answer because it's speculation. That makes good sense and really helps

us flesh this out. So, I really appreciate that.

A. Yes, sir.

Q. I certainly appreciate the work that you do and -- as a training pilot and everything that you're responsible for. That's a lot of responsibility that goes on you, and certainly it's an important job and, you know, to take it is really a great credit to you. So, I appreciate all the work that you do and -- I know that this has got to be, you know, gnawing on you as well because this is a tough situation. So, I certainly appreciate you coming in and helping us out.

A. Thank you.

(Whereupon, the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	AIR METHODS CORPORATION LIFENET HELICOPTER CRASH AUGUST 26, 2011 NEAR MOSBY, MISSOURI Interview of Jay Watson
DOCKET NUMBER:	CEN11FA599
PLACE:	Kansas City, Missouri
DATE:	September 15, 2011

was held according to the record, and that this is the original, complete, true and accurate transcript which has been compared to the recording accomplished at the hearing.

_____

Linda L. Brown
Transcriber