UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of: *
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CAPSIZE AND SINKING OF STRETCH DUCK 7 *
ON TABLE ROCK LAKE, BRANSON, MISSOURI, * Accident No.: DCA18MM028
JULY 19, 2018 *
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Interview of: JIM JEWSBURY

Branson, Missouri

Tuesday,
July 24, 2018

APPEARANCES:

MARCEL MUISE, Marine Accident Investigator
National Transportation Safety Board

LCDR [redacted] [redacted] National Technical Assistant
Investigation National Center of Expertise
U.S. Coast Guard

TROOPER [redacted] [redacted]
Missouri State Highway Patrol (MSHP)

JIM JEWSBURY, Supervisor
Missouri Department of Transportation

I N D E X

I N T E R V I E W

(3:00 p.m.)

MR. MUISE: This is Marcel Muise with the National Transportation Safety Board. We're investigating the incident involving the Stretch Duck 7 that happened on July 19th. It's July 24th now, and we're in Branson Missouri with Mr. Jim Jewsbury.

MR. JEWSBURY: Yeah.

MR. MUISE: Did I pronounce that right? Okay. Can you tell us your, tell us your name, spell your name for us and --

MR. JEWSBURY: My name is Jim Jewsbury, and it's spelled J-E-W-S-B-U-R-Y.

MR. MUISE: And your position?

MR. JEWSBURY: My position now, is I'm the supervisor of the Department of Transportation for the State Missouri in the area here, and I've been with them about 24 years.

MR. MUISE: Okay. Commander, can you spell your name for the transcriptionist?

LCDR [redacted] Good afternoon, this is Lieutenant Commander [redacted] the National Technical Assistant to the Investigations National Center of Expertise in New Orleans, Louisiana.

MR. MUISE: Mr. [redacted]

TROOPER [redacted] Trooper [redacted] R. [redacted] with the Missouri State Highway Patrol Marine Division.

INTERVIEW OF JIM JEWSBURY

BY MR. MUISE:

Q. So, Jim, you have the floor.

A. Okay. My goal here, and first of all, let me just give you a little background information. I did not intend on doing any of this. I spent some time with the victims over the weekend. Incidentally, I spent some time with Pam Smith in the parking lot, just distraught, you know? And then consequently I was asked to spend some time with Colemans. I took the Colemans up to the morgue and some other stuff, and spent some time with them. I took them to the memorial ceremony on Sunday as well.

So, and then my wife, Becky, is the director of Westgate Resorts. She had the McDonald's and the Collins family out there, the, all, the nine survivors. So, we're pretty much in tune with the families and, you know, their wishes. And I told Tia personally that I would fight for answers to what happened on that day. So, that's the reason I'm here.

I spent ten years at Ride the Ducks in the early stages taking them from what was World War II vehicles to part of what they are now. You know, we took them from a -- just, for instance, the rear ends were a single wheel cylinder, thin brake shoe application with a real thin axle to a dual wheel cylinder, real thick double brake shoe, riveted brake shoe to a big axle, you know, and the configuration of the drivelines, the drive tube, all that was different. So it took a lot of thought process, and

trial and error to get that all right. You know, the struts, spring hangers, you know, engineered new spring hangers into the front wall of the frame area, and custom fitting those new front ends in there, custom fitting the steering arm, custom engineering the pivot arm to go through the hull.

So I've been privy to all this process throughout the years, and also to all the fails, you know? For quite some time in the early stages, we had lots of fails, and some of those fails were there's a floating rear axle in the rear of these Ducks. So what they, some of what they can do is to, they, the tag axle will push itself up into the frame and will crease that frame, and then therefore will open the hull right there. So that's part of what can happen there.

In addition to that, they can also pull the forward rear end down too far, and when that happens, they pull the driveline apart, and then when they get back up on land, they push the driveline together, it splines out, rips the boot out, and you've got a 12-inch hole in the Duck, and then that renders it useless. They can't pull back up on the land, so they fall back into the water with a hole in there, you know, with a, with a 12 inch hole in there.

So, I've taken a Duck into the water every kind of configuration and speed you can possibly imagine. I've taken one in where I've had the nose eight foot under water straight down trying to break it, trying to break out a weld, you know, that was

in the front of the hull. We've tried to figure out where the most water would come in the hull so that we could figure out any place to add an additional bilge, you know?

They had, they come with two 200 gallon a minute bilges in there. Now, one initially removed from the very beginning, but we left the middle one in there, and then we added a couple of additional float bilges in the rear of the vehicle to compensate for when you pull in the water. The water rushes in, you know, it depends on how fast you hit the water and what angle, but if you hit the water at a certain speed and, you know, the bottom of the Duck goes down, the water rushes in the back. So we added some float style bilges in there to compensate for that to automatically pump the water out each time that happens.

So I watched the video, you know, obviously everyone's seen the video, and I'm going to, I'm just going to tell you that there's human error there. There's human error. I know that. And I'm not going to speculate unless you want me to on what went wrong there, but I can tell you that from what I saw just in the video alone, they should have shut the hood. The hood was open, there's water obviously pouring in the front of the hood.

And what I didn't see in the video was a bilge working. You know, when that, when that bilge is operational, you know, it picks up about an inch and a quarter off the floor. It's got a fan that sits about an inch and a quarter off the floor, so it picks up, you know, any water at all that's in that hull, you

know? And it works off the propeller box. It's got a two speed propeller box in it, and obviously they use the low here when they run, so that propeller box runs this chain driven bilge pump in the rear of the Duck, and I'm certain you've already seen the configuration of it, but it runs all the time. Okay?

So if I'm looking at the video, I'm either going to say that the bilge pump was not working, or that it was malfunctioning. One of the first things I used to do when I was, and I was a supervisor of mechanics for them for a long time. One of the first things that I used to do, was I'd go pull the floorboard in one, and I'd take a pair of pliers, and I'd remove that funnel, that downspout, and reach in there and grab the impeller and see if it was okay because they spin all the time. When the prop's running, they literally spin all the time, so they have a tendency to shear. You know, the bushing goes down them, and they have a tendency to shear.

So the only way you'd know that is to reach down there and physically find it. You know, you could reach down there and physically grab the impeller and know that it was sheered. So that's, you know, that's just a safety measure we did way back when. Now, granted, I quit there in '95. I quit there in '95 and I'd actually quit there once before and they asked me to come back to start a franchise business, and then it, I ended up getting an offer from the Department of Transportation. So I know all the places that that vehicle will leak.

Now, I know where, I know where to look, and these may be just small leaks, but I know, I can take you to every single place on that vehicle where it will leak, you know, whether it be a spring hanger, whether it be a place where a brake line goes through the hull, whether that be a place where they've blocked off the upper drive tube, which is, you know, what we did, and I'm assuming that they still have that upper drive tube blocked off to go back to the tag axle. You know, it could be something simple as a boot adding water, but I don't know.

I'm even afraid to inject an opinion that there might have been something else adding water into the vehicle before that storm. Because obviously there was another vehicle right beside it with the exact same set of conditions, with the exact same set of, hood open, everything was exactly the same on that vehicle. In fact, the vehicle actually made a turn back towards the one, and I think it was in relation to see how they were doing, if they were still following.

But I would like a look at that vehicle. I would like to look at that vehicle, because I think, I think I could go over with a fine tooth comb and find if there are any flaws in it mechanically, you know, that would, structural integrity as far as, you know, water coming in, I think I can find them, you know? Because I know where, I know where they're going to come in.

I will tell you also in that video, he did not have that under, he had it under idle power until the very last 30 seconds,

and I don't understand that. I don't know if there was water coming in the hood. And I've only, I've only seen the video about three or four times, but you can tell when it's under full power. And they could have even used a different gear, you know, in the propeller box to gain even speed, because obviously you could see the one beside it -- and we're talking about a seasoned captain here, and I know this seasoned captain because he was there when I was there, and I actually helped train him on stuff there, you know? So when you, when you engage that propeller, and you engage that throttle, it literally will push the back of the end of the Duck down and push the front end up, and you'll, you know, you'll get some front end draft. So, and you can see that in the video of the other vehicle.

And I don't understand why they didn't -- you know, like I say, this is opinions here, and I understand that. But there's some factor there, and I -- it makes me think that they had, you know, obviously they let kids drive those out there. It's hard for me to believe that they would have had one driving it in those conditions, but it's possible because of that throttle being in idle up until that last 30, 45 seconds of, you know, and then finally we see the, you see the propeller, you know, the white water come out from behind the propeller and you know that this generates propulsion.

So, but what I would have expected to see out of that vehicle is a 3-inch stream of water coming out of the right side of the

hull two thirds of the way back where that bilge pump exits, you know? That's what should have been coming out of it and/or two one inch streams coming out of the rear, because we, that's where we had those bilges, you know? They may not have pumped enough water to pump the hull dry, but at 200 gallons a minute, it would have bought him enough time to make it to the bank.

And I could also tell you that they were inside of the island, I've beached the Duck myself on the island 50 times at least, you know, when I was in danger, and I'll tell you that, you know, in the old days when we were out there developing these things, I had to beach them, you know? We had accidents, you know? But, it was just me, you know, or another mechanic in the vehicle. But you pick the closest point of land, you know? And it's possible that the video could be deceiving, but they were headed towards the island. They, it looked to me as if they could have reached it in an adequate amount of time to beach the front end and keep it up in the air, you know?

Q. So, just to confirm, the bilge discharges for, originally were, the ones you added, where were the discharges?

A. They were, they were your typical, I want to say it's 11 gallons a minute.

Q. But where exactly were --

A. They were in the rear sump pole.

Q. Right.

A. You know, with the gas tank, you know --

Q. Out of --
A. Where the, where the mechanical bilge pump would not reach, you know? There's a, there's a, there's a wheel well --
Q. Right.
A. -- and then there's a rear sump back there beyond, behind the wheel well.
Q. And where would the water come out? Where was the discharge?
A. Out the top. We just simply had a pipe out the top, and it just blew it right out into, back into the lake.
Q. On either side?
A. Mm-hmm, on the side.
Q. How about out forward the engine compartment?
A. I don’t remember us having that, but now, I can tell you that something we did, and I know they don't do it because my son is, obviously works there, we drained the vehicles after every trip. You know, it had four 1-inch plugs, four or five 1-inch plugs and three 4-inch plugs, and we drained them every trip. Every trip we drained them when I worked there. And it's my understanding that they did not do that, or that they do not do that now.

So on a dry day, when you're running in at a steep angle, you're going to take on 100 gallons of water, 50 to 100 gallons of water every trip that's going to come in the back stairwell. Every trip it's going to come in if you hit the water right, you know? The front end's going to come up, the rear end's going to go underwater, the waves are going to come in like this, and it's

going to go right up the stairwell and into the hull, you know? I mean, it's, you can look at videos of past advertisement and see that.

Q. The Higgins pump, where was the discharge for that? Where did it come out?

A. There's a, there's on both sides actually. There was one about halfway on the left side, there's a, they're, what do you call, the gunwale or --

Q. I don't --

A. Yeah, there's a little flap about halfway down the left side that that comes out, and then on the right side, there at the second one, it's about two-thirds of the way, there's a flap that that one comes out. It's really just a metal hinge flap, and, you know, it's about, it's, I want to say, I want to say the pipe's about two and three-quarter inches --

Q. Thick?

A. -- to three inches.

Q. In the video that you're talking about, were you looking at the port side or the starboard side of the boat in this video?

A. I was looking at the starboard side.

Q. The starboard side? So Duck Number 7 did not have a Higgins pump in it. It was removed.

A. That's why.

Q. And there were additional electrical pumps, so that's probably why you didn't see it. It wasn't there. The, is there

any, regarding the Higgins pumps, what was the common problems you had with the Higgins pumps? We know on the Miss Majestic there was a screen broken I think, or something fouled, didn't something foul the impeller? Was there other common problems you had with the Higgins pumps?

A. They were pretty worthy other than the bushing, you know? Yeah, they would suck up stuff in the, in the, in there if you didn't have the screen placed in the bottom of the funnel, the downspout or whatever you call that. But they would last on average two or three years, you know, with the right rebuild. And I rebuilt every gearbox on those. I rebuilt the transfer cases, I rebuilt everything, the engines, the propeller boxes, the rear ends, the third members, the brake drums, I rebuilt everything on those for years.

Q. The hood up forward, when, do you know when they were instructed to close it? Like what was practice, or policy, or --

A. The only reason it was left open was to keep the engine cooler.

Q. Right.

A. That was it. I don't think we ever had a time when we were instructed to close it.

Q. Okay. Now, you mentioned that it goes, she has a little bit of trim when you first enter in, you put some, put it in gear, is, does it do that at, just at idle?

A. No.

Q. Or do you have to put some thrust into it?
A. No, you got to put some thrust in it.
Q. Okay. So just at idle it wouldn't do that?
A. I don't believe that it would. I believe it just, literally just, it's just barely moving, you know, which is flat in the water.
Q. And am I correct when I say that, you know, with passengers onboard, they typically give it some gas before they --
A. Yes.
Q. -- enter the water? Okay.
A. Yeah.
Q. And so that --
A. But I think what they do is they preset the throttle at about 1,000 RPM, 1,100 RPM and just leave it. You know, it's a, it's a hand throttle. They just --
Q. Right.
A. They just, they unscrew it out to a certain level.
Q. When you were operating these Ducks, and with a little bit of a chop, what's the safest, where is the safest place to put the seas? Straight on the bow, or on the corner? Or, I mean, if you were operating, if you were operating it in some heavy seas, and you wanted to stay as stable as possible, where would you, different types of hulls take the seas differently, so this, if we're looking at the picture --
A. Yeah, I mean, if I, if I was in it --

Q. Yeah. You have --
A. -- I would want to be in the driver's seat.
Q. Would you want to be taking the seas straight on the bow? Would you put it on the corner?
A. Yes, absolutely.
Q. Corner?
A. Yeah, I'd want to take it straight on the bow.
Q. Why is that?
A. Just simply because of the way that it's angled. You know, it's angled to take the waves, it's angled to take the heat on the front in my opinion. But, I mean you're going to have to be moving.
Q. Yes, of course. So she would handle better if I put the, in heavy seas if I put the sea on the bow?
A. Absolutely. And I can tell you that it's a lot smoother at high speed.
Q. Okay.
A. You know, it'd ride a lot smoother. Those, that front end, you know, bouncing like that, it would've never done that if he would've had it, had the propeller engaged and had it moving. I think it would have avoided that, those heavy drops into the, you know? Because it was literally almost just sitting completely still, and so them waves were five, six foot tall probably, and I think he could have, if he would have had the throttle engaged, he would have went over the top of those, or at least had a chance to

go over the top of those. But that's my opinion.
Q. Is there, would that indicate to you a problem with propulsion?
A. Yeah. He did not have any propulsion. He was not, he did not have enough propulsion engaged.
Q. So, from this video that you saw, can you tell that it was just an operator decision not to give it gas? Or that there was, can you tell from the video that you --
A. No.
Q. -- saw that there was --
A. I cannot --
Q. -- problem?
A. -- tell from the video. I'm assuming that it was an operator decision because if you'll look at the other vehicle, you can see immediately that there's a decision made in that vehicle to get off the water, you know? And you can see the, that the thrust increase immediately and they're heading for the shoreline. And then at some point, they have a thought process of turn back to look, and they, either the Duck makes about a 30 degree turn, they see that vehicle, then they're back, then they're gone. You know, that vehicle there, even at that point, they still hadn't engaged the throttle. And then you finally see him engage the throttle, but by then, they'd lost eight or ten inches of freeboard in that vehicle.
Q. When you're making turns in these vehicles, do they tend to

list?
A. Yes. They will list.
Q. As you're making the turn?
A. Absolutely. Yeah, they don't bank at all.
Q. The, is it normal for a boat to have, to drain or leak water from a boot when it's, comes out of the water? It is normal for water to drain that way?
A. No, because it typically can't reach the boot. The boot typically sits up, from what I remember, the boot sits about an inch above the hull line, you know? If you're going to have an inch of water in the hull, you're going to have a lot of water in the hull. But even, the boot typically is the, one of the most secure areas on the vehicle, you know? It is not going to leak unless there's something wrong with it in my opinion.
Q. Do most of these still have the original, I think there's a lip. I haven't seen one without the boot --
A. Yeah, a ring.
Q. -- on, but is there a lip where the boot hooks to the --
A. Hull?
Q. The hull.
A. Yes.
Q. There's a little lip there where the clamp goes on, there's two, one or two hose clamps, right, on each boot? Are --
A. On the tube.
Q. On the tube? Okay.

A. Yeah.
Q. There should be a --
A. On the tube.
Q. There, do we still have a little, the --
A. Yeah. There's --
Q. Pretty sure there's --
A. -- a bolt pattern --
Q. -- supposed to be a lip there.
A. -- on the hull, and a ring --
Q. Right.
A. -- you know?
Q. And there's a little lip though for the, for the rubber boot to catch on?
A. Yes.
Q. Okay.
A. Yeah, it has lips. It is, it is molded as such for the hose clamp to sit indented into that.
Q. And most of the boats still have that? Was, did you get some from the Army or from wherever that --
A. Everything that we --
Q. -- (indiscernible)?
A. -- was surplus, and typically it was in great shape.
Q. Okay.
A. As far as boot-wise.
Q. Did you install foam in any of these, in the bilges in any of

these boats?
A. None whatsoever.
Q. Was there ever any talk of that?
A. There was some talk of it. I was actually involved in stretching one, and I can remember, you know, we added about 70 inches I think to it, and we tried to figure it out in our heads how best this thing would work. And I remember the first time I took it out into the water, and I thought it was literally going to roll over because it sat way, way too high in the water. So at that time, there was talk of, we're going to have to cut out an immense section of the hull, and then at that point, if it sits too low, we may have to add something in. But it never happened.
Q. Have you ever worked on a Duck that had external ballast?
A. No.
Q. Do you know what I'm talking about? Some of them have --
A. Absolutely.
Q. -- buoyancy on the outside.
A. Yep.
Q. Okay, but you've never worked on one of those though?
A. No.
Q. How about transverse bulkheads in the bilge? Have you ever installed those or seen one with --
A. No.
Q. -- a watertight bulkhead that goes --
A. No.

Q. --(indiscernible)?
A. Like, transferred water?
Q. Right.
A. Yeah, no.
Q. Right.
A. Yeah.
Q. Did you work on any of the ones that are in service in Europe?
A. I did not. I mean, I say that, you know, we did not have a franchise when I worked there.
Q. Okay. So all of the boats you worked with stayed local?
A. Yeah. We were in the process of developing a franchise, and that's where I, that's the reason he asked me to come back. Bob, you know, I worked for Bob McDowell, and Bob asked me to come back one time to go start a franchise in Key West, and it never materialized.
Q. Just to back up a little, you said you talked to Pam Smith?
A. Yes.
Q. Did she say where she was sitting?
A. She did not. She wasn't, well first of all, Pam Smith did not ride the Duck.
Q. Oh.
A. She opted to stay off.
Q. Oh, okay. I'm sorry.
A. Yeah. That's why she was in the parking lot, I mean --

Q. Okay. Again, I'm sorry.
A. It's all right.
MR. MUISE: Commander?
LCDR [redacted] Mr. Jewsbury, thank you for sitting with us.
MR. JEWSBURY: Absolutely.
BY LCDR [redacted]
Q. I want to talk a little bit about the pitching action that you talk about in the video that you're referencing.
A. Yes.
Q. The movement, if you recall with the Ducks as they were, at least in '95, that kind of movement, would the windshield have stayed in place? Or would it have needed to be held still? With that amount of movement going from crest to trough, crest to trough, would someone have needed to hold it in? Or would it have been moving at all? Or, did you experience any of that in your time?
A. No. I will tell you, I've actually broken a windshield from water if that makes sense to you. I took the, I took a vehicle in at such a steep angle, about three foot of water came up over the hood and literally took the windshield out. But we had about two or three different configurations of windshields, so I'm not even sure out configurations were the same as what they have nowadays. Some of our, ours flipped up and were caught, and some of them simply flipped down. So I can't answer that intelligently.
Q. And with regard to the discussion about previous beaching,

and not intended upon maybe voyage initiation, do you have anecdotes from your time when captains chose to intentionally beach somewhere?

A. I just have, you know, and I'm assuming you're just saying my memory, I was the person that went out on the calls. I was the person that took another vehicle out to where they were at. But it was just simply the boot ripping out because of the spline driveline, you know, spline driveline coming back out, not resplining, splitting, spinning enough to take the boot out, and then filling the hull full of water and the front end. And obviously because of the spline, the rear end not working, the front end not being able to pull the vehicle out of the water because of the amount of weight in the rear of the vehicle.

So what I would have to do is literally circle, bring the gates side to side, and move the people over, and then, you know, take them out of the vehicle. I probably did that, and, you know, I want to say 20 times. That probably happened 20 times before we figured out a cure for it. And most of the cure was simply just adding height to the top of the rear end stop in the back.

Q. The video you reference, is it possible with the storm, with the quality of the video, that you could not have seen the bilge operating?

A. No. When the, when the, when the mechanical bilge was operating, if it had any water in it at all, it would shoot water 20 feet above the Duck in a three inch stream. There is no, there

is no way you could not see it operating. On other side it would shoot way above the canopy.
Q. The, are you familiar with the deckhand and the procedure that the deckhands followed, what they did to assist the captain in water operations generally?
A. I am. Back in, when I worked there, and I am somewhat, my son was actually the --
Q. Right.
A. You know, I --
Q. I understand your son --
A. No, I don't know if he's a deckhand. He's what they call a jockey. He loads the people onto the vehicle and he moves the Ducks around. Now --
Q. Let me ask, then for --
A. Yeah, then maybe we may be talking about --
Q. -- for the purposes of this interview --
A. -- something different.
Q. Let's, let me focus on what maybe you've heard from your son in third person.
A. Okay. As far as?
Q. Current operation of the Ride the Ducks Branson.
A. As, and what do you mean by that? I mean, are you talking about what was his capacity?
Q. What are the duties of the deckhand once --
A. What he did --

Q. -- they're in the water?
A. A typical day was load people, and move Ducks into place. You know, go get one from one place to another, pull it onto the dock, you know, and then go down and count people onto the vehicle to make sure they had an accurate count, an accurate count. And I know that they had had some trouble with accurate counts, so they had him in place because he was one of the ones that got it right all the time, you know? So, but that was typically his day. That was about all he'd do. And I did ask him, do they drain the vehicles after every trip? And his answer to me was, I don't know, I don't see them do it.
Q. And I'm sorry, what was, your son's position was?
A. He's what they call a jockey.
Q. A jockey?
A. Yeah.
Q. I see.
A. Yeah. So he, like I said, he takes a sheet, and it has the roster of who's getting on the vehicle, and then he has a handful of tickets, and he, or and then he counts tickets, you know, or he takes tickets, winds up with a portion of the tickets, and then make sure the count's right, loads the vehicle, locks the gate, gives them the go ahead.
Q. So the roster is the final --
A. Yes.
LCDR [redacted] I don't, okay. I have no further questions.

MR. MUISE: Mr. [redacted]

TROOPER [redacted] Yeah. [redacted] with the Highway Patrol.

BY TROOPER [redacted]

Q. We'll just start right there because you mentioned something. This roster, did it have, and again, you're kind of third person here, but to your knowledge, that was a list of names?

A. I don't think it was a list of names, just a list of seating.

Q. Okay.

A. You know, just the, just the seating chart I believe, you know? Or it could be something just as simple as a count --

Q. Okay.

A. -- of how many people there were, and maybe some special needs, you know, assessing handicap, or somebody that needs to sit on the back, claustrophobic. I know there was some sort of that as well.

Q. And these questions are going to be kind of scattered, it's just things you've already talked about here.

A. That's all right.

Q. In an actual passenger tour situation, did you have, I'm just, you may have said it, maybe I missed it. Had, in your time there, did you ever see a Duck have to beach? Like, not hit the ramp, but just pull up somewhere else because of a problem with passengers on board?

A. I'm going to say, 45 to 50 times.

Q. So during your time there, you saw that --
A. Forty-five to 50 times.
Q. -- a number of --
A. Because of something. It could have been a mechanical issue. Typically it was because of a rudder issue. The rudder would fail and they would just wind up on a shoreline. You know, they'd made a circle until they hit a, hit a shoreline. Or I've had them, a fuel pump, you know, start giving out on them, and they was afraid to be out there so they just literally beached it. You know, for one reason or another they beached the vehicle. It could have been, you know, back when we were operating, they were operating on points, so they, you know, the distributors had points in them, so they would start cutting out. So they'd beach them for a number of reasons, not necessarily life threatening reasons, but just for safety.
Q. Okay. And you mentioned, did you actually rebuild this mechanical pump, I think we're calling it the Higgins pump?
A. Yes.
Q. Did you actually rebuild those?
A. Yes.
Q. And you mentioned it, about how long would they last when they were rebuilt? Or --
A. As best as I can remember, they last two to three years on a rebuild.
Q. And again, you probably sort of already answered this, but I

just wanted a real layman's term of what would be the, what would be the flaws with that pump that you knew of?
A. Debris going into there, something as, some sort of rocks, or wiring, or something other than organic getting into the pump --
Q. Okay.
A. -- you know, which happens.
Q. Right. And you also, again, for this layman here, you mentioned that they could have shifted gears maybe. I mean, what would be a speed that Duck would be capable of reaching, at least the ones, I realized they changed, that you drove during your days there?
A. I think it's realistic to think they could go maybe three miles an hour, three and a half miles an hour full speed. I may be exaggerating, but I think they could probably make that and maybe even more. It's kind of had to judge, you know?
Q. That's fine.
A. I can tell you that they're not made to go that fast, that the propeller's not made to run that fast. You're talking about a 24 inch brass propeller that literally is not balanced, and the line is not balanced, so as you increase your speed, you get this rumble, and it just rumbles the whole vehicle. So you know it's not meant to do that. So you're not going to, you're not going to do it for very long if you're the captain in my opinion. I never did.
Q. And jumping, the last question I think I have here is, you

mentioned the video, so we'll talk about that, did you, and not closing the hood, did you see the other Duck close the hood?

A. No.

Q. So you didn't --

A. No.

Q. You didn’t see either Duck close that hood?

A. No.

Q. Thank you.

A. And, yeah, and I'm sure you already know this, but we had about an eight inch piece of rebar with nuts welded on. That's literally what we had in there for a spacer for that hood. Now, I don’t know if they've changed that, but that's what we had in there. And then I think there was also, we also had some side flaps up as well.

Now, there were times where we did experiment with keeping the hoods closed, and we had electric fans and a tubing, a set of tubing, you know, trying to keep those closed all the time. But it wasn't because of water coming in. I don't, I don't actually remember the reason, but we did all sorts of things. I mean, we, I can tell you I probably put seven or eight different engines in them, seven or eight different transmissions. We tried every configuration. I mean, I was on the phone daily with a military surplus salvage yard trying to figure out the best fit as far as rear ends, you know, brake and propulsion, you know, what's the best thing that we can do to make these the absolute safest that

we can make them, you know, on the highway? And then obviously in the water too.

And I spent a lot of time simply going around and checking hull thickness, you know, to make sure that we didn't have something, an underlying place in the hull that was just going to breach automatically. So if we had anything like that when I was working there, we'd just completely remove it. I mean, literally I would take a chipping hammer and swing it, and if I could make a dent in it, we'd replace it. It was that simple. I replaced hundreds of, you know, patches in the, in the, in the sumps in the wheel wells, you know, front and rear of the wheel wells. So, and then consequently tried to break them out by hitting the water.

TROOPER [redacted] I have no further questions.

BY MR. MUISE:

Q. Just a few follow up questions. Again, these are a little all over too. Did you ever work with NHTSA? Are you familiar with them?

A. Who?

Q. NHTSA. They're kind of like the federal version --

A. No.

Q. -- of the DOT.

A. No.

Q. How about, or State DOT when you were designing these for the roadside?

A. No.

Q. Did you ever witness an incline experiment?
A. Well, we've done some stuff with inclinometers if that's what you're saying.
Q. This is when you move a specific piece of weight from one point to another and you measure the incline to determine the center of gravity of the --
A. No. We tested the bank degree of the curves, you know, out there on the highway, and then we'd use what they call an inclinometer and test the ball bank of the curves.
Q. You're talking on land?
A. Yes.
Q. Okay.
A. Yeah. So, are, we're talking on --
Q. So on water did you ever do an incline experiment?
A. No, sir.
Q. Okay.
A. No. Not that.
Q. Do you know who, or did you work on the design of the current configuration?
A. Of the hull?
Q. No, the curtains, the side curtains, the design they have now.
A. No.
Q. What did --
A. Not --

Q. -- you have at the time when you were there (indiscernible)?
A. We had, we were just in the fledgling stages of making curtains, and I actually think we had Velcro. And, but we also had some that rolled down, but they just barely fit in a u-channel, and you could literally just push them out. One hand would push them out, and we had, we had trouble with them staying in place, you know? So I don't know what we did after that.
Q. Did you work there when the Miss Majestic sunk? Are you familiar with her? She's the one that sank in Arkansas --
A. No. But --
Q. -- I think in '99. So you left there before --
A. Yeah.
Q. -- Miss Majestic --
A. Yeah. They actually tried to hire me, Hot Springs did, and then I had about an eight hour conversation with my old boss that night that happened.
Q. Okay.
A. Bob, so yeah, no. I did not work there.
Q. You talked about steering problems. What were some of the common steering problems?
A. Cables break, you know? Cables fray and break.
Q. Okay.
A. And I'd have to literally go out there and swim out to the vehicle, climb into the hull, grab the tiller and steer into the, steer it into the shoreline. And most of the time I would have to

carry cable cutters to cut the side of the cable that was still good so that I could oversteer and get it into the, into the shoreline.

Q. The crews were not trained to use the emergency tiller?

A. It didn't have an emergency tiller.

Q. They don't have one? Okay.

A. Uh-uh.

Q. How thick is it? I know you talked about the wheel wells being a common area. What, is there any other areas that were common problems?

A. Yeah, the driveline areas, driveline tubes.

Q. Okay.

A. The areas in and around the boot areas, like butting up against the boot areas. And I don't know why, it's just an area for water to sit right there. There was a portion on the flat part of the wheel wells up above the tire that rusted out, you know, not the outside wall, but the, just right up straight up above the tire, the flat part right there, just water would get up in there and just set. There was no place for you to get to it.

Q. Right.

A. So the water --

Q. Makes sense.

A. -- would, you know, condensate and just sit there, and eventually it would rust out. So, but places certainly we would check, you know, once we figured them out. So --

Q. How about fires? Did you ever experience a fire?
A. Absolutely, yeah. I was priming a fuel filter, you know, gas tank to the cup fuel filter, and it's strange how these things happen. You know, I don't, if you're, if you know what I'm talking about, there's a, there's a fuel pump in the tank, you know, buried in the tank, and it pumps fuel 32 feet up to this cup style fuel filter, and you unscrew it to allow, to bleed the air out. You know, at some point, it fills full of fuel and then you screw it back shut. So I lost just enough fuel, a couple thimble full, it went down into the hull. My fellow mechanic dropped a half inch wrench onto the starter, and it sparked and consequently caught the entire hull on fire. So, yeah, it was interesting for about 45 seconds, but that was just, that was just in the, in the shop. As far as a event fire with people on it, never.
Q. If I remember right, there was a new fire fighting regulation, or fire regulations that kicked in in, about the time you worked there. Do you remember that?
A. I remember that, but I don't remember what it entailed.
Q. I think you had to add fix, a fixed fire fighting system --
A. I think you're right.
Q. -- by 1999.
A. I think you're right.
Q. And so you were involved with that too?
A. No.
Q. No?

A. I was not.

MR. MUISE: Okay. Commander, any follow up?

BY LCDR [redacted]

Q. The, you mentioned a diesel fire, is that correct?

A. Gas.

Q. Oh, it was gasoline? The composition of your fleet was all gasoline?

A. No.

Q. All of them?

A. No. We had, I think we had four or five Isuzu 305 cubic inch diesel engines with adapt, Chevy Turbo 400 transmissions.

Q. When you, can you talk about if that was a, I guess how you would manage the pluses and minuses that you've got a gasoline fleet and you've got diesel, were you looking to go to all gasoline? Or at any point?

A. I was, personally was looking to get away from gasoline altogether just simply because of the danger, and, I mean, you start out with an inline six cylinder 270 and a non-synchromesh five speed, and I don't know if you've ever driven, if you've ever driven a Duck or you've been in it.

Q. I've been.

A. Yeah, they're difficult to drive from the factory at all. So, you know, we had to just super train our drivers to even drive one of these because they're just very, very difficult. And the shift pattern was even extremely difficult, just different, you

know? So, yeah, it was in our best advantage fire-wise, fuel-wise, longevity-wise, to go over to this Isuzu diesel engine. So it just made sense.

So we contacted a guy by the name of Clyde Graves, a diesel engineer up in Strafford, and he developed a adapter plate for us. And so I went up and learned how to dial in these Turbo 400 transmissions. So we'd take a Chevy Turbo 400 transmission, and beef it up a little bit, and then you'd have to adapt it to this engine. And it was difficult, you know, to get it to adapt, and I think it could of, this day and age, it's probably not that difficult. I know some days it took me eight hours to do it, and I don't know if it even makes sense telling you, but you'd literally, you'd have to take the front pump out of the transmission, you put in a dial indicator on the flywheel, and you have to literally have the transmission within a thousandth and a half of center. So that's all, that's very hard to get it there.

So once you get it there, you have to pin it. And once it's pinned there, it's there forever, so yes, it's worth it to do that so you've got an Isuzu that gets double the mileage with no maintenance at all, you know? I mean, I don't think, every once in a while, we have to change injectors maybe once every two years, so there's no comparison between diesel and gas. So, and I know that we went to, we did 350s for a while, we did 305s, we did 400s, we went to 366s for a while. In my opinion, we should have simply went to a diesel. But anyway --

LCDR [redacted] Thank you, sir. No further questions.

MR. JEWSBURY: Okay.

MR. MUISE: Any follow up?

TROOPER [redacted] No.

MR. MUISE: Thanks for offering --

MR. JEWSBURY: Yeah.

MR. MUISE: Is there anything else you'd like to add?

MR. JEWSBURY: No. I hope I remembered everything. Like I say, it's very important to me that I get answers for these folks because I can tell you, those folks need, they need answers. You know, they need answers, and I want to help them achieve those answers, you know, as to why and what happened. I know that there's only so much I can do mechanically, and that's really all I want to, I just, I want to do what I know I can do. You know, I know what I'm looking at when I get in and look at this vehicle. I'm not going to claim to know what the driver was thinking or whatever, you know? But I want to look at the vehicle. I want to look it over with a fine toothed comb and be able to tell you what I think. So will I be able to do that?

MR. MUISE: I don’t know. I don't honestly, I don't know. So, it's still at a secure place and there's laser scanning going on, and the state evidence people, and --

MR. JEWSBURY: I understand.

MR. MUISE: So, there's a lot of different testing will go on afterwards, you know, and --

MR. JEWSBURY: Sure. And I don't know that --
MR. MUISE: -- we'll, I'll go look at the bilge pumps.
MR. JEWSBURY: I don't know that there's anything I would derive out of it that you guys wouldn't catch, but if it's --
MR. MUISE: Okay.
MR. JEWSBURY: Yeah.
MR. MUISE: I will --
MR. JEWSBURY: Yeah.
MR. MUISE: I would, I promise you I will, I will ask.
MR. JEWSBURY: Okay.
MR. MUISE: And if there's specific questions, then we might be in contact with you.
MR. JEWSBURY: Okay. All right.
MR. MUISE: We'll go off the record. It's 15:49.
(Whereupon, at 3:49 p.m., the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	CAPSIZE AND SINKING OF STRETCH DUCK 7 ON TABLE ROCK LAKE, BRANSON, MISSOURI, JULY 19, 2018 Interview of Jim Jewsbury
ACCIDENT NO.:	DCA18MM028
PLACE:	Branson, Missouri
DATE:	July 24, 2018

was held according to the record, and that this is the original, complete, true and accurate transcript which has been transcribed to the best of my skill and ability.

[redacted]

Christy Wilson
Transcriber