UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

Investigation of:	
COLLISION BETWEEN TOWBOAT *ROYAL ENGINEER* AND CRANE BARGE STEVENS 1471 AT THE NORTH CHARLESTON TERMINAL IN NORTH CHARLESTON, SOUTH CAROLINA ON JANUARY 4, 2024	Accident No.: DCA24FM014

Interview of: MICHAEL STRESEMANN, Vice President, Equipment Maintenance
South Carolina Ports Authority

North Charleston, South Carolina

Wednesday,
January 17, 2024

APPEARANCES:

LT [redacted]
United States Coast Guard

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National Transportation Safety Board

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I N T E R V I E W

(9:05 a.m.)

LT [redacted] All right, it's January 17, 2024, 9:05 a.m. I'm Lieutenant [redacted] at South Carolina Port Authority and we're here to discuss the allision of the *Royal Engineer* and the North Charleston Terminal container crane. To my right, I have --

MR. GILSENAN: Ryan Gilsenan, counsel for Stevens Towing.

MS. PARRISH: Sara Parrish, counsel for Ports Authority.

MR. MOORE: Sam Moore, equipment maintenance, Ports Authority.

MR. STRESEMANN: Michael Stresemann, equipment maintenance, Ports Authority.

MR. MUISE: Marcel Muise, Investigator-in-Charge for the NTSB.

MR. McCLAY: Daniel McClay, assisting investigator for the NTSB.

MR. MULLER: Douglas Muller, counsel for Southern Dredging Company.

LT [redacted] Mr. Stresemann, would you just spell your last name for me so I make sure I have it right?

MR. STRESEMANN: S-t-r-e-s-e-m-a-n-n.

LT [redacted] All right, appreciate it.

INTERVIEW OF MICHAEL STRESEMANN

BY LT [redacted]

Q. Can you just tell us what your role is within the Port

Authority?
A. I'm the vice president for equipment maintenance; basically, if it moves, I maintain it.
Q. Okay. And are you familiar with the crane that was hit by the *Royal Engineer*?
A. Yes, sir, I am.
Q. Okay. Can you tell us a little bit about the crane? Just how many people it takes to operate, any past incidents that, you know, with this big type of crane, that you're aware of?
A. This -- well, there's only one operator, he sits in the operator's cabin.
Q. Okay.
A. It only takes the one person to operate the crane. The crane was delivered in, I want to say 2007, it's one of our older cranes, we've got cranes that are older, but it is one of these. We've got several that are newer. It's at the North Charleston Terminal. I don't know what else --
Q. Any other incidents with these types of crane in the past?
A. We did have an accident on its sister crane at North Charleston about a year ago, the operator was working a vessel, he went to gantry and he gantried into the structure of the vessel and we -- several bolts that hold the intermediate equalizers to the main equalizer failed and we ended replacing all the (indiscernible) structure, but that was the sister crane, not this crane.

Q. And then when you say equalizer, would it be like at the very bottom?
A. Well, yeah. This is the gantry structure. Basically, this is the sill beam, this is a main equalizer, this is a main equalizer, and then you've got an intermediate equalizer, an intermediate equalizer, an intermediate equalizer, an intermediate equalizer, and then below those are the bogies.
Q. Okay.
A. So you got sill beam, main equalizer, intermediate equalizer, bogie.
Q. So essentially, the wheels -- is that a common term? Well, I mean, is that what I'm looking at, like the wheels?
A. Yeah, the wheels are down here. Each bogie basically has two wheels.
Q. Okay.
A. This is a 10-wheel corner, so you got two bogies with two wheels and then you've got two intermediates with two wheels.
Q. So the crane that was hit that day --
A. Yes, sir.
Q. -- had there been any damage to that crane prior to, that you were made aware of?
A. I mean, nothing significant. We have damage to -- you know, minor damage to cranes, little dents in the superstructure, stuff like that. I'm sure this crane has had several of those in its life, but nothing significant.

Q. Okay. And during general operations for the crane, at what point do they go to put the gantry down over the waterway?
A. You mean the boom?
Q. Okay, boom. Sorry, yeah.
A. Basically, when they go to work the vessel, they'll line it up on whatever hatch that they're going to work, they boom it down, start working, gantry wherever, and then when they're done or they need to go around the house, they'll boom it back up.
Q. Is there any -- what communications does the operator have in -- you know, while he's working containers, what kind of communications did he have and with whom?
A. He has a radio, he's actually got two radios. He's got one radio he can communicate directly with the stevedores, he has another -- and that's a stevedore radio, they provide that. We have a Ports Authority radio that he can contact other individuals within the Ports Authority, like other operators, his supervision, or he can contact maintenance for assistance with the crane.

He also has -- we call them sound powered phones only because they used to be sound powered phones but now they're more electronic, but it's a phone system that goes to various places on the crane and there's one in the cab and like I say, there's several places, there's a couple in the machinery house, there's one at ground level, I forget all the locations.
Q. Okay. But is there any way that he can communicate with the vessel that they're working on, other than the stevedores?

A. Not that I'm aware of.
Q. Okay. Would there be a way for him to communicate with passing vessels?
A. I guess there is, I mean, he's got a horn that's underneath the cab, I guess he could sound the horn, if he wanted to.
Q. Okay. There's no, like active radio --
A. But that's not --
Q. -- for him to -- vessel traffic?
A. No. Uh-uh.
Q. Okay.
A. But the horn is intended to get the attention of people on the dock, so --
Q. Okay.
A. -- I'm not sure he would've thought of using that, but --
Q. Right, yeah, like his -- having his eyes down when I spoke to him about, you know, containers. As far as the accident itself and the damage, I know this might be out of your house, but do you know how much force it would take to cause that much damage?
(No audible response.)
BY LT [redacted]
Q. No, okay. Have you ever seen a crane hit from a vessel before?
A. Not personally, no. I mean, I've seen videos of cranes that have been hit with vessels in other ports --
Q. Okay.

A. -- but not here, no. This is the first time since I've been here that a vessel has struck one of our cranes.

MR. GILSENAN: How long have you been here?

MR. STRESEMANN: Twenty-six years, twenty-five and a half years.

BY LT [redacted]

Q. Wow. Okay. Was your facility aware that they were dredging right there when you went -- when you started cargo operations? Was there any kind of communications or arrangements made like hey, we'll be dredging here, you know, in relation to the cargo operations to --

A. I can't really answer that question, I don't know.

Q. Okay, okay. Do you know who would know?

A. Probably Joel.

Q. Okay.

(Off microphone comments.)

LT [redacted] I'll pass it to the NTSB.

BY MR. MUISE:

Q. This is Marcel Muise. I just want to make sure I get the terminology right, so you said the wheels are attached to the bogies, is that right?

A. That's correct.

Q. Can you spell it for me?

A. B-o-g-i-e.

Q. B-o-g-i-e. And when you said -- when you say gantry as a

verb, that's -- that describes the crane moving fore and aft along the ship, is that -- is that the right terminology?

A. Yes.

Q. Okay.

A. Moving parallel to the dock face.

Q. It's gantrying, okay.

A. That's gantrying, yes.

Q. What is it called when you just lower or raise the boom?

A. Boom, you boom the crane.

Q. Boom up and down or -- okay.

A. Um-hum, boom hoist.

Q. The distance for this crane from the bitter end to the dock, are they the same as the other ones, are they all the same or --

A. They vary from crane to crane.

Q. How about height?

A. That's pretty standard. For the older cranes it's basically a hundred and 15 feet, but all the cranes at Columbus -- or I'm sorry, all the cranes in North Charleston are a hundred and 15 feet, all of our other cranes are considerably taller.

MR. GILSENAN: Is that a hundred and 15 feet from the surface of the dock or from the water?

MR. STRESEMANN: No, it's from the -- it's from the dock because it's a hundred and 15 feet under spreader is that we call it. Yeah. That's about right.

BY MR. MUISE:

Q. What other failure modes are involved with this crane, I mean, what else can -- what could fail catastrophically, where is the weak points? Besides the wheels. If I were to -- if I were to hit you with my container ship or my crane barge.
A. Well, most of the accidents that have happened where a vessel has hit it is, is the vessel usually hits it on this leg somewhere.
Q. Okay, the fore leg.
A. One of the waterside legs. That's usually --
Q. Is there a -- like an industry association of gantry crane operators that tracks these kind of accidents or do you guys get together and talk about all right, this is a problem we've seen or --
A. Yes, but I'm not -- I don't know who that is. I don't pay much attention to it, to be honest with you. Gene Coker might know that, because they've got -- they've got websites that -- and it's not -- I don't think it's particular to dockside cranes, it's more the port industry itself.
Q. Where we saw the crane yesterday, is that in the exact same spot it was when it got hit?
A. No. It's at the north end of the dock right now. It was, I want to say, at the 1400-foot mark when it was struck.
Q. Fourteen hundred feet from the northern edge of the --
A. From the south end.
Q. From the south end.

A. And that's approximate.

MR. MUISE: Do we know, does that line up with the Google picture, Google Earth picture you were looking at yesterday?

LT [redacted] Well, that crane, obviously I don't know if that was -- that position that I put was the last known or the closest known position of the dredge *Brunswick*.

MR. MUISE: Right.

LT [redacted] And so I just put that to shore. That gantry crane, I don't know if that was actually --

MR. MUISE: We don't know if that's --

LT [redacted] That's just a Google Earth picture, but it does give a good reference of when it's boomed down, how far.

BY MR. MUISE:

Q. Okay, so 1400 feet from -- is that easy to find on a map, like --

A. Not on a map.

Q. -- or do you have a terminal map?

A. If you go down to the -- if you go down to the dock, I mean, it's like every 25 or 50 foot is painted.

Q. It's painted, okay.

LT [redacted] Yeah, if you want to get a measurement on Google Earth, you just draw a line and you can find what --

MR. MUISE: I just want to make sure if we -- we could do a reconstruction that we have --

LT [redacted] Yeah.

MR. MUISE: -- we know exactly where things were. Okay. Well, that's all. The questions I had was mostly terminology, actually, describing this crane, I want to make sure I get the -- use the same terminology you do, so --

LT [redacted] Could we zoom out the picture of the full crane? And you know, we saw all the damage on the bogie, you know, with the bent plates --

MR. STRESEMANN: The gantry structure.

LT [redacted] Yeah. Can you just point out any other damage that you discovered on the actual crane?

MR. STRESEMANN: The only thing we see here is the area of impact out on the boom tip, the walkway and handrail was damaged.

MR. GILSENAN: Was the part that was contacted, that very end tip, that's 3.8 meters?

MR. STRESEMANN: Three point eight meters. Yes.

MR. GILSENAN: So that's the very tip.

MR. STRESEMANN: Um-hum. I mean, you know, this is -- you can see they've got a vessel in here, so that's everything that's beyond the vessel and this was a typical vessel that it was designed for when we designed the cranes back in 2006, so the vessel that was there might've been a little bit wider.

MR. MOORE: I don't think so. This, I think, is a Post-Panamax vessel and that was a -- the one in the berth at the time was Panamax at 1:06.

MR. STRESEMANN: Okay.

LT [redacted] So if it was larger, it would've hit the vessel.

MR. GILSENAN: I think --

MR. STRESEMANN: Well, there's -- you know, this is an eight-foot-wide container. It's --

LT [redacted] Yeah, okay.

MR. STRESEMANN: And I don't know how much of the boom was sticking out over the end of the vessel -- I mean, over the dock.

LT [redacted] Oh, we could -- yeah. I mean, we could get a rough estimate with the beam on that ship.

MR. MOORE: Yeah, that's a 22 wide.

MR. STRESEMANN: Yeah.

MR. MOORE: If you just use 22 times eight, rough numbers, it would be a hundred and 76-foot beam, so this ship is 70 feet wider than the one that was in there.

MR. STRESEMANN: Really? Okay.

MR. MOORE: Yeah.

LT [redacted] Sorry, what was that again?

MR. MOORE: This ship in the drawing --

LT [redacted] Yeah.

MR. MOORE: -- is 70 feet wider than the ship that was in there that day.

BY LT [redacted]

Q. And so just some bent rails, the main damage was all down at the --

A. That we know of so far.
Q. Okay, so that's still being evaluated?
A. Well, I mean, we don't -- the crane is stable, but I don't want to be booming it up and down to check things out in its current condition.
Q. How will you go about checking the -- to see if the frame's actually warped or not, like is there a -- do you have a technician come out for that or something?
A. We can take laser measurements and do that.
Q. Okay. Is that what the plan is?
A. Not really. I mean, we've looked at it, everything looks straight, the only thing we'll probably really check is -- boom it down and then look at the straightness of the rail from boom tip to back reach, but we kind of eyeballed that before we boomed it up and it looked fine.
MR. GILSENAN: What about the pin bearing where it rotates at?
MR. STRESEMANN: That's the one thing that I'm worried about, the hinge joint.
MR. GILSENAN: Um-hum.
MR. STRESEMANN: The boom hinge is what we call that.
MR. GILSENAN: Okay.
MR. STRESEMANN: But we listened to it while we were booming it up, but of course, we were booming it slowly and we didn't see any issues with it when we boomed it up, but I want to -- like I

say, when we get the crane almost repaired, I want to be able to boom it at normal speed just to make sure. That's a pretty stout joint and in its lowered position it has a little cradle and a pin and that -- that basically takes the load off of that hinge point and so the load goes on that pin and the forestays so there's not really a lot of load in the boom down position on that hinge.

MR. GILSENAN: Right.

MR. STRESEMANN: So I don't expect any damage, but --

MR. GILSENAN: Check it.

MR. STRESEMANN: Check it. It's a bearing --

MR. GILSENAN: Yeah.

MR. STRESEMANN: -- it's basically a journal bearing.

MR. GILSENAN: Yeah.

LT [redacted] Southern Dredging?

MR. MULLER: Nothing from me.

BY MR. GILSENAN:

Q. So I was just doing some quick math on this. The boom length is 66 meters plus 3.8, the tip, so it's 69.8 meters and --

A. Yes, that's from the center rail.

Q. And then you would subtract 4 meters for -- between the -- basically, the rail and the dock face. I'm trying to get length that extends over the water, so I got 69.8 minus 4, about 65.8 meters, roughly?

A. Based on this drawing, I would -- yes, that's correct, but I don't know that we've done any -- since these cranes were put in

service, I don't think we've done any modifications to the dock in terms of the buffers and stuff.

Q. Right.

A. I don't believe we have. That would change these dimensions.

Q. Sure, yeah. So I'm just trying to get to -- it looks like about 65, 66 meters it extends off the dock face.

A. Yes, sir.

Q. All right. When was this crane installed at North Charleston Terminal?

A. Two thousand six, two thousand seven time frame.

Q. It's been there the whole time, it wasn't moved from like one or --

A. That's correct. Yeah, it was --

Q. Okay.

A. It was placed there when it was new.

Q. Okay. Is the distance it extends over the water published anywhere?

A. I'm not sure. I know we have an information packet and I think it's on our website, I know we talk about things like lift height and speeds, and I think we talk about how many box wide vessels we can handle, I don't know if the actual dimension is in that table.

Q. Yeah, okay. All right. What about boom height over the water, is that -- is that published anywhere for, say, the use of other mariners?

A. Not that I'm aware of.
Q. Okay. Like on the Don Holt bridge, for example, there's an air gap sensor that passing vessels can read in real time on the NOAA website, you know, it changes with the tide.
A. Yes.
Q. And that's their reference point to check the air gap so they know if they can make it or not. Is there an air gap sensor on the container booms for passing vessels?
(No audible response.)
BY MR. GILSENAN:
Q. Okay. That was a no, because we're recording.
A. I'm sorry, no.
MR. GILSENAN: Okay. All right, I think that's all I have. Thanks.
LT [redacted] Any alibis (ph.)?
MR. McCLAY: I have -- sorry, I just have one.
MR. MUISE: Go ahead, Danny.
BY MR. McCLAY:
Q. Just for the height of the boom arm that extends over the water, you said a hundred and 15 meters over spreader or under spreader.
A. No, a hundred and 15 feet --
Q. A hundred and 15 feet under spreader.
A. -- under spreader.
Q. So there's still a measure of -- not the boom arm itself, it

goes under the spreader bars?
A. Hold on a second.
Q. So from the bottom of that spreader arm?
A. Yeah.
Q. Yeah.
A. Just basically the top of this container, this line right here and this 35-0-50, I'd have to convert that, but that should be a hundred and 15 feet.
Q. Okay.
MR. MOORE: It is (indiscernible).
MR. GILSENAN: I'm not sure the distance from -- see where the 35-0-5 (sic) ends?
MR. STRESEMANN: Yes, sir. That's the top of the dock.
MR. McCLAY: Where he struck was about 40, 80, 850?
MR. GILSENAN: Yeah. Okay, that's it. So he struck the part --
MR. STRESEMANN: He struck this.
MR. GILSENAN: -- 40.85 meters above the water.
MR. STRESEMANN: Yes.
LT [redacted] All right.
BY MR. McCLAY:
Q. And that is -- what kind of material is that, is that like steel pipe?
A. Well, the handrails are steel pipe --
Q. Yeah.

A. -- but the rest of this is steel structure.
Q. Is that a steel beam I'm looking at?
A. There's some grating. No, this is -- it's not really a beam, it's -- well, I guess it's kind of a beam, it's got a -- it will have a top flange, bottom flange, but it's obviously canted with a web in the center --
Q. Okay.
A. -- and there will be several of those there and basically, they support grating. And there should be -- there's a couple of main hoist shifts right here on this platform and that's -- he hit it pretty close to those shifts.
MR. MOORE: That's a hundred and 34 feet above the water, if anyone's keeping score at home, 40.85 meters. Depending on the tide, I guess.
MR. STRESEMANN: Oh, but that's --
MR. MUISE: That's not --
MR. STRESEMANN: That should be above the dock.
MR. MUISE: That's above the dock, right.
LT [redacted] Above the deck.
MR. MUISE: Yeah. So what we don't know -- this is Marcel Muise again. What we don't know --
MR. MOORE: Right.
MR. MUISE: -- is the height from this dock here to the water's edge.
MR. MOORE: Right.

MR. STRESEMANN: That's correct.

MR. MUISE: Do we know what that is, that high -- I mean, is there a gauge or anything?

MR. STRESEMANN: I don't know that. I don't know that.

LT [redacted] I don't know if --

MR. MUISE: It's kind of critical to that.

LT [redacted] Probably go out and if we drop a line, actually hand-measure it.

MR. MUISE: Yeah. And know what the tide is, too, so --

LT [redacted] Yeah.

MR. MUISE: What is at mean high, what does that compared to in the chart datum?

LT [redacted] The tide at the time?

MR. MUISE: Yeah.

LT [redacted] I'd have to reconfirm, I don't know the exact tide.

MR. MUISE: Okay, because that -- you need to add that into the --

LT [redacted] Yeah.

MR. GILSENAN: Yeah. I think we're going to find it's going to be somewhere around a hundred and 48 to a hundred and 50, just based on our observation of the crane barge mast, it hit the very tip of it --

MR. MUISE: Okay.

MR. GILSENAN: -- and that air draft was a hundred 52.

MR. MUISE: Okay.

LT [redacted] I mean, it was outgoing, so it wasn't high.

MR. GILSENAN: It was close.

BY MR. MUISE:

Q. What are these benchmarks here, the -- and I'm pointing to the X's and the squares on the upper side of the ship on the drawing.

A. Those are representations of containers.

Q. Oh, okay. So this --

A. So, I mean, what this is showing -- because this is a container on the spreader bar --

Q. Right.

A. -- this is showing the height at the dock level and this is showing that it's -- what it's -- the limits that it can lower into the vessel.

Q. That's the limit it can lower, okay, all right, so the water is at least that deep. Okay, all right. Plus --

A. Well, I don't know if the water is that deep, but what that shows is, you know, how far into the bottom of the vessel it can put a container.

MR. MUISE: It can put a container, okay, that makes sense.

LT [redacted] The ones on the 4,000, I guess those are just measurements between the dock and like the seawall?

MR. GILSENAN: It looks like between the --

MR. STRESEMANN: All those are a reference to the dock

surface.

LT [redacted] Okay, looks like it is, okay.

MR. MUISE: Well, okay. Well, this has been really helpful. Thank you.

MR. STRESEMANN: Yes, sir.

LT [redacted] Well, if there's no interviews -- I mean, questions, we'll conclude this interview.

(Whereupon, at 3:25 p.m., the interview concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	COLLISION BETWEEN TOWBOAT *ROYAL ENGINEER* AND CRANE BARGE *STEVENS 1471* AT THE NORTH CHARLESTON TERMINAL IN NORTH CHARLESTON, SOUTH CAROLINA ON JANUARY 4, 2024 Interview of Michael Stresemann
ACCIDENT NO.:	DCA24FM014
PLACE:	North Charleston, South Carolina
DATE:	January 17, 2024

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.

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Karen D. Martini
Transcriber