UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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Investigation of: *

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SINKING OF THE S.S. *EL FARO* *

ON OCTOBER 1, 2015 * Docket No.: DCA16MM001

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Interview of: MARK GAY

Via Telephone

Tuesday,
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APPEARANCES:

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I N D E X

ITEM	PAGE
Interview of Mark Gay:	
By Mr. Young	5
By Mr. Kucharski	16
By Mr. [redacted]	19
By Mr. [redacted]	23
By Mr. Peterson	27
By Mr. Kucharski	28
By Mr. Young	30
By Mr. Kucharski	32
By Mr. [redacted]	39
By Mr. Young	41
By Mr. Kucharski	42
By Mr. [redacted]	47
By Mr. Young	48
By Mr. Kucharski	56
By Mr. O'Donnell	60
By Mr. [redacted]	63
By Mr. [redacted]	67
By Mr. Kucharski	68
By Mr. Young	70
By Mr. Kucharski	76
By Mr. [redacted]	99
By Mr. [redacted]	109
By Mr. Young	112

I N T E R V I E W

MR. YOUNG: I have a recorder going. We're going to record the interview and I'll send the audio file in for transcription. And I kind of briefly discussed who was going to be on the phone, but I know, with the Christmas vacation, some of the invitees may not be here.

But if we could introduce ourselves, and we'll start with the NTSB folks, whoever's on the line.

MR. KUCHARSKI: Good morning, Brian. Good morning, Mark. Mike Kucharski.

MR. YOUNG: Thanks, Mike. And Mike is the Nautical Operations Group Chairman for the NTSB. And I guess I --

MR. O'DONNELL: Yes, good morning, Mark. This is Lou O'Donnell, just Chief Surveyor for ABS, part of the Engineering Group.

MR. YOUNG: Thanks, Lou. And, Coast Guard?

MR. [redacted] Good morning, gentleman. This is [redacted] [redacted] with the Coast Guard on the Engineering Group, and I'm here also with [redacted] [redacted] who is also -- which group are you on?

MR. [redacted] I've kind of been sharing responsibility with Nautical, Office of Engineering.

MR. [redacted] Okay.

MR. YOUNG: Okay, great. Thanks.

MR. [redacted] You're welcome.

MR. YOUNG: And Lee?

MR. PETERSON: Yes, good morning, Mark and Brian. Lee Peterson with TOTE, party coordinator.

MR. YOUNG: Thank you, Lee.

MR. GAY: Good morning. This is Mark Gay. I'm here in Brunswick, Maine.

MR. YOUNG: And, Suzanne, if you just want to --

MS. JOHNSON: Oh, Suzanne Johnson. I'm counsel for Mark Gay.

MR. YOUNG: Okay. So, we reviewed our kind of ground rules for the interview with Mark already. And, on behalf of all of us, we appreciate you being here.

And we'll just maybe start out like we always do. I'll ask a round of questions. We'll try to stay within that realm of the ideas, and then we'll move on to a different set of questions. We'll just start with maybe Mark's background.

INTERVIEW OF MARK GAY

BY MR. YOUNG:

Q. Mark, if you don't mind, just go through your training and experience which brought you to your chief engineer status, please.

A. All right. Well, I started off at the Maritime Academy. I was there from '88 to '92, graduated in '92. After I graduated from there, I did work at a papermill for 2 years, but then I went to tugboats. And I worked on tugboats for 3½, almost 4 years.

And then that's when I ended up, in '98, with Sea Star Lines on the *El Yunque*. I started off as a third on the *El Yunque* and

worked my way up to chief there, at least to the chief of licensing. And then, so I was on the *El Yunque* for, I think, approximately 9 years. Then I went to the *El Faro*. And I bounced between the *El Faro* and the *El Yunque* and the *El Morro* for my last remaining years there, depending on whether or not the *El Faro* was either laid up or active.

And that's -- as far as shipping goes, that's my experience with shipping.

Q. And when you were on the *El Yunque* for all those years, and the *El Faro* and *El Morro*, was there a predominant area that you sailed in or were you all over the world?

A. We were always on the run from Jacksonville, Florida to San Juan, Puerto Rico. There were -- this is the run that went into Port Everglades, and there was that short time where they tried to make a run up to Philadelphia. But basically, it was the Jacksonville-Puerto Rico run.

Q. Okay. So I guess one of the things we run into is that running these ships in heavy weather, we just wondered if you had ever been in the Alaska trade, up there, or not?

A. No.

Q. No?

A. I was never in the Alaska trade.

Q. Okay. On your runs between Jacksonville and Puerto Rico, did you ever experience heavy weather?

A. Yes.

Q. Oh, you did?
A. Yes, multiple times, either between hurricanes or winter storms, yes, we've -- you know, because sometimes you think the storm's going one way and you try to avoid it and it hits you anyway.
Q. Yes.
A. So --
Q. And as an engineer in the engine room with heavy weather, did you ever experience any issues with, say, the main engine in terms of list affecting the operation of the lube oil system?
A. My experience on that would be -- I've never seen it where it was critical or crucial. What happens with that system is, when you take a list, you will affect the actual pressure on the bearings and in the system itself, and you may get some alarms. But I've never had it where I would actually lose pressure.

So, yes, it will affect it, but that's just like on board a ship and rocking and rolling, you've got to take that into effect that when this is going on.

I mean, you constantly got to look at what's called a "bullseye" which is from your overflow tank. And if you're not getting anything from that, then you've got to find out why it's not getting enough oil up there to overflow back. But when you rock and roll, if you take a heavy list, it's not going to overflow because it's going to all hang on one side of the tank. And it's hard to get to that overflow light.

But in the lube oil system there, the first place it goes is from the pump, and it gets piped into the bearings. The left lube oil that's not going directly to the bearings goes up to that tank. And that's always just overflowing, make sure -- you want -- you can always constantly see that your lube oil system is working.

So I have never seen it where the lube oil system has failed because of weather. They said it is always affected with pressures going up and down, but it's never been where I've lost it.

Q. Would you typically run with one pump as a lead and the second one as a standby --

A. Always.

Q. -- with the lube oil system?

A. Always. You always had lead and lag system.

Q. Lead and lag?

A. The only thing I've found is, sometimes when we try to change those over -- and there's a few times where we've actually lost prime on that pump -- with the system, the way it's designed, you would -- it's hard, it's really hard to pick prime back up with those pumps and -- in that system.

So I know if they did -- if that's what happened, they lost prime on their actual main lube oil pumps, it is very taxing to get that back -- going and get that pump prime back up. But they should have easily -- I mean, if one pump wasn't doing it, the

other one should have easily kicked on, because we had a bleeder -- there's always a bleeder line that goes from the online pump to the suction side of the offline pump.

So that valve is constantly feeding pressure. So that way, when the offline pump kicks on, it has plenty of -- should have plenty of prime and fluid there to pick back up, so --

Q. So off the discharge of the running pump, it would feed the suction of the offline?

A. Correct.

Q. With discharge pressure?

A. Right.

Q. And then --

A. I mean, it's only -- it was only, I think, a half-inch line. Was a bit, I think, compared to -- I think the lube oil line was Either 4 or 6 inches. So, I mean -- but it was just enough to keep lube oil in there and keep the pump running.

Q. Right. Right. And this -- if -- we have looked into it and we know we have a positive displacement pump. And we know it's on a pump stand, above the tank top, and it takes suction from down underneath the main engine in the tank top. So there was -- it was quite a bit of distance it has to --

A. Yes.

Q. -- pull up.

A. Suction head. Suction list.

Q. Yes.

A. Okay.
Q. You said that sometimes there is a hard time maintaining your prime when you start from, say, start from scratch if you do start up.
A. Right.
Q. If you were starting with both pumps secured, how would you get that initial prime?
A. If I had to, I would drop some of the head tank. I would drop that and try to overfill to a -- for a short period of time, getting that level in the sump a little bit higher.
Q. Okay.
A. If not, I would, I would be able to -- there was a connection to the strainers that we made, that you would be able to -- off the -- off the drain line, where would connect to the drain line of the suction strainer. And actually on the -- where you would take samples, monthly samples from, and we would just connect a quick hose to that and bleed the head pressure off what was still in the pipes on the discharge side, back to the suction side until we could pick up the prime. So I've done that before with that system.
Q. Okay. And you would also, you said, mentioned, bring up the actual sump pump --
A. Yes.
Q. -- in order to get a little more suction pressure.
A. Right.

Q. Do you remember about how much you would be required to bring up?
A. No.
Q. Like --
A. No, just whatever it would take kind of, but you didn't want to bring it too high. You never wanted that too high, so --
Q. Right, right.
A. -- we wouldn't -- you can put a little extra in there but not much.
Q. Okay.
A. But that's all just using your drop valve.
Q. And that would be a direct drop from the gravity tank?
A. Correct.
Q. Or storage tank?
A. The gravity tank.
Q. Gravity tank? So it's a separate line from the normal overflow line?
A. Correct.
Q. Okay. So then you wouldn't be, technically, adding any more oil to the system. It would just be --
A. Yes, putting more back into the sump, short -- for a short time so we can put it back up.
Q. Okay.
A. And put it -- just keep the same amount in the system.
Q. Okay. Makes sense. In all the years there, and I know it's

many years there, did you ever have any issues with the pumps sucking in air through their seals or packing that would affect the ability to pump -- or mechanic -- seal or packing? I mean --

A. I know -- and I can't swear that that's what it was, but I know we've had the after-pump on one of those vessels sent ashore, rebuilt and put in -- put back in, and some of it was because it was not picking up prime and so we -- and then we had new seals put in and everything else, and it worked afterwards.

But I can't remember -- and that was just one of those along-the-way repairs that we did.

Q. Right.

A. But I can't say that that happened a lot. With any system, you know, when you run it, you have to bleed off air sometimes. And you do that through the packing, the -- those have the mechanical seals. The little mechanical line, we would -- on those lube oil pumps, a couple of times, I've had to bleed some air off. And but that was --

Q. Do you recall the, say, frequency, if you would, of needing to change over the suction strainers? Checking for debris, was there a routine you might have gone through to keep the strainers clean on the suction side?

A. Yes, you looked at those at least once a month.

Q. Once a month?

A. But there was never any -- there shouldn't be anything in them.

Q. Right.
A. Because it's a clean, closed-loop system and you should not have anything in them.
Q. Right.
A. So, it was very rare if you found anything. And when somebody found something, they'd come to me. I would really take a look at what we found before we just dismissed it as something not important because that system is clean and it's closed loop.
Q. And would the purifier be running on the (indiscernible)?
A. All the time.
Q. All the time?
A. All the time.
Q. Okay.
A. And that was -- even then, that never really got dirty.
Q. Any chance the amount of debris increased with rough weather? Anything churning up with rough weather or anything?
A. Of course. Any time. Any tank you have, if there's any loose debris in the top of the tank or even on the bottom -- because, I mean, especially with a lube oil tank, anywhere that the lube oil's touching is -- you ever go into it, it's pristine.
But the top of the tank, where it's not pressed up, sometimes with the condensation or whatever else, you can see that it would have a little rust buildup or -- but I've been in the *El Faro* sump and it was in -- last time I went in there, in the last shipyard I went in, it was pristine. It was, I mean, top to bottom, it was

clean, okay.

So, but, yes, in rough weather, in every tank, you are -- if there's any debris, it's going to get bounced around and most likely sucked out.

Q. Right. Right.

A. So.

Q. When you are in heavier weather would there be any preparations or any precautions taken in terms of the lube oil system? As you were heading into the rough weather would you --

A. Usually there would be a standing order to keep an eye on the bullseye, make sure you have constant flow, keep an eye on the pressure. But other than that we never really -- they said the pressure would fluctuate during the rolls, but we never had an issue with it failing. So, no, it wouldn't be anything specific we'd actually have to do.

Q. Okay.

A. We may -- actually, we would probably secure the purifier in rough weather because, with rolls, you would lose seal, the water seal on the purifier --

Q. Right.

A. -- where it would break over. And then you're just fighting it. And there's not need to fight that while you're taking on weather.

Q. Right. Right.

A. So, yeah, the purifier would have been secured during that

time.
Q. Have you ever seen the gravity tank completely drop down and fill the sump? Have you ever seen with training or maybe with shutting the pumps off whenever you shut the system down?
A. Well, no, I've never actually dropped the entire tank. Now we have -- still had to secure the system. And when you do that you have to secure your dropouts.
But -- and you may gain an inch or so in the sump, but it's never -- never dropping the entire sump down.
Q. Okay.
A. Or the entire gravity tank down.
Q. Okay. When we're getting that, just -- do you know what the level would be if this contents of the main gravity tank --
A. It would overfill the sump and go up into the -- up inside, yeah.
Q. It would?
A. Yes. Yeah, that -- that gravity tank would -- would definitely will the sump, overfill the sump.
Q. Okay. So, in a normal shutdown, if you were to secure the plank, you would secure the valves to keep the gravity tank field with its contents?
A. Correct.
Q. Okay. But if the pumps stopped and the gravity tank started draining down into the sump, through the bearings, the content's it'd have would overflow the main sump?

A. Yeah, if you cropped that whole tank down in there, it would overfill that sump.
Q. Okay. That explains a lot.
MR. YOUNG: So now we'll pass around to the other guys.
MR. GAY: Yeah.
MR. YOUNG: Heavy weather and lube oil questions, if we would, in order, kind of ask any questions we had or we'll move on. Mike Kucharski?
MR. KUCHARSKI: Thank you, Brian.
MR. YOUNG: Good.
BY MR. KUCHARSKI:
Q. Mark, you mentioned that the one pump was set to run the one on standby. If you want suction on the one pump, will the other one automatically come on the line?
A. Yeah, because you would have lost lube oil pressure or discharge pressure. So, it would have automatically switched over.
Q. Okay. And when that, the pump that was the running pump, you said the discharge off of that pump, is that the suction side of the standby pump?
A. Yeah, the -- on other one, forward to aft pumps, you would have, I think it's a half-inch line with valves that would feed the non-running pump to make sure you had prime on that pump.
Q. Okay, so if that first pump lost prime, how did it -- then how was it priming the standby pump?
A. Well, at that time, it wouldn't, but it would have had

constant priming up to that point. So, beforehand, that line would have had all been still full of oil.

Q. Gotcha. Gotcha. Okay, and back to where you mentioned that you would see the pressure changes device as the ship rolled, say, in heavier weather, can you tell us what type of weather you experienced on the, say, those ships on the Puerto Rican run? I mean, what kind of rolls are we talking about?

A. Well, I've been in anything from, you know, just smaller winter storms to -- I've actually been stuck in hurricanes. So you're talking good 15-degrees or more rolls.

Q. Okay. And you -- you said you were in a hurricane on those ships?

A. Yes.

Q. Okay. Could you put your thinking cap on and say, do you know which ship it was and what time frame, about?

A. I think all of -- the hurricanes where I got the most weather would have been on the *El Yunque*, which would have been from, somewhere between '98 and 2008, somewhere in there. But I can't remember which hurricanes and what they were.

But as far as the *El Faro*, I was in a lot of rough weather, especially -- I remember going up to one run on to Philadelphia that we hit some real -- a real good northern winter storm. But it wasn't a hurricane. But we took a lot of weather there.

Q. Okay. Okay, and was it a predominant roll or pitch? Or do you remember the motion?

A. No, it was just, you know, they -- they were always trying to take it and turn the ship so we'd take as little roll as possible but, you know, the problem is, on those vessels, you definitely didn't want to take it on the stern quarters because that really did not allow them to steer very well.

So, they were trying not to do that. But, other than that, you know, they just did the best they could. And a lot of it was just rolling back and forth.

Q. Okay. Thank you. When -- you mentioned, from -- I'd like to go back to just, to your initial general questions that Brian asked you.

You said you bounced back and forth between *El Faro*, *El Yunque* and EL Morro from basically 2007 to the time you left TOTE. Is that correct?

A. Correct.

Q. And when did you exactly leave TOTE?

A. April of 2013.

Q. Okay. And you said that you would both lay-up and underweighted for those ships. Is that correct?

A. Yeah. A lot of times what would happen towards the end there is I actually took the *El Faro* when it was in lay-up, as chief, and then we end up -- once that came out of lay-up, I broke that out and we worked that for a while.

And then when it went back to lay-up -- actually, during time, also, I did a couple of short stints on the *El Yunque*

because other ships were in dry dock and they needed some assistance over there. And then the last time the *El Morro* went -- the *El Faro* went into a lay-up period, I went over and worked on the *El Morro*.

Q. Yeah, would you say essentially from 2007 on, then, you were sailing as chief?

A. Yes -- or 2008.

Q. Okay. Great.

MR. KUCHARSKI: Brian, that's -- I'll hold on that until we have more heavy weather. But I think you want to concentrate on lube oil now. Correct?

MR. YOUNG: Yes. Thanks, Mike. Lou O'Donnell, do you have anything?

MR. O'DONNELL: No further questions at this time, Brian. Lou O'Donnell, Navy House.

MR. YOUNG: Thanks, Lou. [redacted] and [redacted] from Coast Guard?

MR. [redacted] Yes, this is [redacted]

BY MR. [redacted]

Q. Just a quick -- quick question about -- you said you were inside the sump on the *El Faro* during a yard period. Do you recall what time frame that was and where you were at?

A. No. I don't. And now that I'm thinking about -- it might have actually been --

Q. Do you know which yard?

A. It might have actually been, instead of in a yard, we went in

and did an inspection during one of the lay-ups. And that might have --
Q. And what was the purpose of the inspection?
A. That might have been that -- excuse me?
Q. I said what would be the purpose of entering the sump for inspection?
A. Just making sure it was clean and we had time and we weren't running. So, it's not something you normally open, so we would have pumped it out, looked at it, taken pictures and -- and had it for, knowing that when we broke back out, in order to cover for the COI and everything else, that we would have all of our ducks in a row and that we had inspected that tank.
Q. Do you still have those pictures?
A. I don't. They would have been on the vessel, in the --
Q. Do you know who -- okay.
A. Yeah.
Q. All right. So, when you were inside the sump, do you recall the suction line, if it was directly on the center line or was it off-set a little bit to the port or the starboard?
A. Center line.
Q. Okay.
A. Yeah.
Q. And --
A. It was probably about -- I'm thinking -- I'm trying to remember, about 3 to 4 inches off the bottom, center line.

Q. Okay, thank you. And do you recall what the normal operating level of the sump was, just day-to-day, what you guys kept the level at? I mean, it's just --
A. Twenty-eight to 32 sounds -- is -- coming to right now. At least 28. I think when it hit 28 we'd add oil.
Q. All right. And you had talked about over-fill and the sump, if the head tank dropped its entire contents. Now what would be the consequences if that happened?
A. You'd get oil in the bilge. It'd come up, usually, through the zoning tube. You --
Q. So, an overflow?
A. Yeah.
Q. Would -- would it stop you from operating the pumps and the lube oil system and routing -- I mean, if you got into that situation, I guess, how would you mitigate it or what would you do to get it back on --
A. You would --
Q. -- line?
A. You would try to get your pump running as fast as you could so you could start pumping that back down. That's -- I mean, that's the only thing you can do at that point, is try to --
Q. Right. And if you lost some oil like that, you would probably have to add some from the supply tank?
A. Correct.
Q. So, and how difficult would that be, in heavy weather, to

have --
A. It -- it's not hard at all.
Q. -- a system like that?
A. It's not hard at all, especially if, more than likely, they probably had the purifier secured because that's -- at least that's what I would have done because during heavy weather, it just keeps breaking over and you -- and you just can't keep it running.

The line up from the storage tank directly to the sump is real quick and easy. I don't think it's more than three valves.
Q. Okay.
A. Might be only two.
Q. Great, thanks. All right. And if you lost the primary pump and it went on to the standby pump because you were losing the bearing pressure, you stated, in heavy weather, and a change-over happened, would it be like an intermittent thing because you were going back -- would you go back to the primary pump as soon as you can or would you leave the standby on?

Or would you -- how would that happen if the -- once the pressure came back, would you switch back over to the primary?
A. What would happen is, if you lost discharge pressure from your online pump, your offline pump would come on, and it would shut off your online pump.

Then once the pressure came back up, if you didn't go down there and physically switch over the lead/lag switch, once the

pressure came back up, the lead pump would try to start back up.
Q. So, they'd be kind of trying to switch back and forth on their own?
A. Correct.
Q. Okay.
MR. [redacted] Okay, thank you. That's all the questions I have for lube oil.
MR. YOUNG: [redacted]
MR. [redacted] Yeah, this is [redacted] Brian. Can I get a couple questions in?
MR. YOUNG: Sure.
BY MR. [redacted]
Q. Okay, good morning, sir. Just had a couple more for you. This is [redacted] from the Coast Guard. You mentioned that you were using the same dys-sump levels on the lube oil, between 28 inches and 32 inches. Did I hear you right?
A. Correct.
Q. Okay. Now, based on your experience, if the sump level was beneath 28 inches, maybe about 2 or 3 inches beneath that, how would you think that would impact the operation of the system?
A. None. We just -- we were overcautious so we'd always -- we never let it drop below 28. When it hit 28, that was our -- just safety cushion. Like I said, that -- I'm pretty sure that sump level, the suction for that, was no more than 3 or 4 inches above 3 or 4 inches above the bottom. So, yeah, 28 inches was just our

safety number.
Q. Okay, great. Also, we've been talking a little bit about filling the sump. And I know when you just talked to -- when you talked to the other Coast Guard gentleman, you mentioned that you could fill the sump without the use of the purifier, especially, you know, in the case of it's giving you trouble.
But in terms of typical operation, was the sump typically filled during the purifier?
A. Yes. Anytime we ever transferred any oil, lube oil, from any place, from either even storage tank to settling tank or from the main sump to the generators or for the -- any time where you transferred oil, we went through the purifier.
Q. And there weren't enough problems with the purifier that it would have caused engineers to have to go without it sometimes, right?
A. No, I mean, it's a piece of equipment. It wears out, we'd fix it and it would be back online. But, no, not typically. It never was really that big of a deal.
Q. Okay. And also, we discussed that if the gravity tank were to drop its contents in their entirety, that it would more than likely fill the sump and overflow it in some regard. Can you imagine a scenario or can you think of a scenario in which the -- the gravity tank, dropping its contents, doesn't allow the pumps to regain suction, because of lists?
A. No. I cannot. I don't -- I'm not sure how they, the pumps

would have lost suction to begin with, even due to -- even, I mean, you would basically, like you say, with that -- with that, suction wise, you would have to almost be upside down in order to lose, from what I could see, lose suction.

As long as your sump was full, there isn't any reason why you should ever lose suction on that.

Q. Okay. Actually, sir, do you recall any -- looking at the vents for the gravity tank at all? And have you ever seen it clogged, perhaps soot cover the end of it or anything like that?

A. We would, on a routine, every 30 days, clean all lube oil and fuel vents because -- because on that run, you do have a lot of vibration and a lot of -- and it was an older vessel, so those screens would tend to get clogged at times, but -- or they'd get dirty. They'd never actually get clogged because we'd always be cleaning them on a routine basis.

Q. Would -- would that be something that maintenance -- is that something that there'd be a record of when you were onboard anyway?

A. A lot of those routines were on just check-off sheets that we'd hand out to the third engineers and then they'd just hand them back to us and we'd make sure that they got them done. But I don't know how much was actually recorded anywhere, actually -- officially recorded.

There might have been some paperwork onboard but, after that, I mean, maybe look at old logs where maybe it was written in

somewhere that they cleaned the vents. But, officially, on any log, I'm not sure.

Like they were probably on the -- there's a lube oil log that was in the engine room, you know, that they always -- if they added or -- oil to anything. It could have been written in there also, but as far as official logs and cleaning those vents, I don't -- I don't think we had any.

Q. Can you envision -- would there be any -- any possibility that, say, that that vent hadn't been cleaned when the *El Faro* had gotten underway in, say, 29 days or something, given that it's a 30-day typical maintenance? Have you -- do you envision that it could get clogged enough that that could cause a problem with the gravity tank, should you need it?

A. The only problem that it would ever cause would -- you would get over-pressurization of the vapors inside, possibly inside, the system. But it would never stop the gravity tank from working because there is a vent line also on the main unit itself that vents out. And that would probably get heavier if your gravity tank wasn't venting properly.

Q. All right, thank. And one more --

A. But if it -- but if it -- if it tried -- if it tried to drop, you would have easily -- it would have just sucked that dirt up, back into the tank rather than trying to push out the vent.

Q. Okay. Have you experienced any issue on -- on any of the Sea Star vessels with lube oil analysis?

A. For the main unit? Or --
Q. Yes.
A. No. I mean, we do our samples, routine samples, and they always came back clean because we always kept that system really, really clean
Q. Okay, great.
MR. [redacted] No further questions from myself. Thank you.
MR. YOUNG: Thanks, [redacted]. Lee?
MR. PETERSON: Yeah, I just got a quick one.
BY MR. PETERSON:
Q. Hey, Mark, did you ever see that, the lube oil stuff overflow from the gravity tank dropping down?
A. Yes -- by accident.
Q. Where did the oil come out?
A. It came out the sounding tube.
Q. Out the sounding tube?
A. Yeah.
Q. Okay.
MR. PETERSON: All right, that's all I had. Thank you.
MR. YOUNG: Thanks.
MR. KUCHARSKI: Brian, could I -- could I ask a couple follow-on questions?
MR. YOUNG: Sure, Mike.
MR. KUCHARSKI: It's Mike Kucharski.

BY MR. KUCHARSKI:

Q. Yeah, hey, Mark, you mentioned the 28 to 32 inches. Was that something that was a company policy or a standing order? Or just your policy?

A. What is was is -- it was, over years of experience, we figured out what we'd like to keep and what -- how we took measurement on that is there was a 1-inch flatbar made of brass. And it had one-inch increments from 20 inches to, I'm thinking, 40 inches.

And then, right at the 28 was -- it was painted red so that everybody knew that that was the line that you didn't let it get below. So, when they sounded at, sounded that tank, you always knew where you were on that level. And it -- that -- and when you get new guys on board, they just follow what was there before, so.

Q. Okay, and -- and, thank you. Thank you. That's very helpful. Did you -- you mentioned you could drop from the head tank if you had to. Did you change the amount that you kept in there based on an expectation of heavy weather? Or did you see that done by any of the other chiefs?

A. You mean in the gravity tank?

Q. No, the sump level, the 28 to 32. If the ship was heading into heavy weather, did either you, as chief, ask them to put a little bit, keep a little bit more oil in the sump? Or did you have -- did you see any of the other chiefs that you sailed under do that?

A. We would not go heavy, no. But we would definitely make -- we would -- if we knew we were going to go into something like this or we knew weather was coming, we would definitely talk to all of our crew and say, make sure you have everything where it's supposed to be, and you talk to the Thirds, where -- you know, when you double-checked the lube oil levels and you'd ask them, is this really where this is at? I want a second -- I want you to accept, resound it. Make sure we're at where we're at.

But that happened throughout the entire plant with everything. And maybe if it was sitting right at 29, I might have said, hey, look, let's get that to 32. But if it wasn't below 28, usually it would -- it just stayed where it was and we kept moving.

Q. Okay, great. That's helpful too. Thank you. The -- is there a common check valve that comes off of both of those lube oil pumps? On the discharge end?

A. Yeah, I'm thinking. I'm trying to picture it right now. No, I think they each -- they each had their own separate check valve.

Q. Okay, and do you recollect the line that it comes off of --

A. Actually -- actually, I think what it was -- [redacted] I think what is was is each of the discharge valves were stop-check valves. That's what it was.

Q. Okay. Okay, and do you remember if the vent line off of the pump, did it, each one of those pumps -- do they vent into that discharge line somewhere?

A. Well, that line wouldn't have a vent there. I'm not sure what you're talking about for a vent line on the discharge -- on the pump.
Q. Okay. Okay, so the pump casing, where did you actually vent to?
A. Oh, if the casing, like if I knew to bleed air out of the pump?
Q. Yes.
A. I would -- I would break the line that usually would fill the mechanical seal. And you just break that little quarter-inch line off that, let the air come out, and that would just kind of collect right on the top of the pump once you get finally get some oil, and then you'd reconnect your line. It's your -- that would be your cooling lube oil line that went into the mechanical seal.
Q. Okay. Okay, so if I'm understanding this correctly, the pump casing had no vent line to it -- dedicated vent line? You had to actually crack the mechanical seal?
A. Correct. But, I mean, you didn't want a vent line. You wanted the oil to stay where it was.
Q. Okay. Thank you.
MR. KUCHARSKI: Thank you. No further questions.
MR. YOUNG: Thanks. Just another question about lube oil and I'll -- in regards to the turbo-generators.
BY MR. YOUNG:
Q. Is there any issues with the list or the weather affecting

the lube oil system in the TGs, if you can recall?
A. Same thing there.
Q. Same?
A. Would have been, you know, if it -- you lean one way or the other, your pressures would, you know, vary. It would go up and down. But other than that, we've never had an issue where it would shut down a TG.
Q. Okay.
A. Because the sump was always deep enough from where it would take suction from that you didn't have to lose suction.
Q. And do you recall where the pumps took suction from on the TGs?
A. The sump, yeah.
Q. Was it inside or --
A. It was -- well, both the TGs were set to the starboard side of the engine room anyway. And then the -- actually, they would have been inboard side of -- or the port side of the sump where they actually took suction -- when it was up and running.
Not the manual, because there' two pumps. There's an electric pump and then there's a pump that's driven off the generator itself. And the one that --
Q. Okay. So, there's two pumps?
A. Yeah, and the one that's -- the one that gets driven from the generator itself took its suction from the inboard or portside of the sump.

Q. Okay.

MR. YOUNG: We'll keep talking about heavy weather. I know Mike has some questions, Mike Kucharski, about heavy weather in general. So, we'll just let you kick on with that since we're talking about weather. Mike Kucharski?

MR. KUCHARSKI: Okay. Thanks, Brian.

BY MR. KUCHARSKI:

Q. Were there -- Mark, were there any company-specific or -- let me say specifics. Were there any company heavy weather procedures like SOPs, Standard Operating Procedures, in the engine room? In other words, were there, you know, heavy weather operations in the engine room?

A. Company-driven? That's -- I guess I have to say yes and no. What -- there was nothing written. But, because, you know, when I started in '98 it was a brand-new company, and we all learned together. And between the engineers onboard and the engineers shore side, it was, you know, every week we talked about what we experienced.

And we would come up with what we thought would be the best procedure on how to do things. But there was no, specifically written directions in the engine room of this is exactly what you do if we're going to be taking on rough weather.

Q. Okay. Great. Nothing in writing. And you say, brand-new company, okay? So maybe -- let's just go back. So '98, when you came to work on those ships, it was operated by whom?

A. It was operated by Sea Star and, I think it was IUM at the time or IOM. I forget. It was IUM -- Interocean Ugland Management.
Q. IU -- okay, Interocean Ugland Management?
A. Yeah.
Q. Is that -- is that what you said?
A. Yeah.
Q. Thank you. And so, when you left in 2013, was it still Sea Star?
A. The vessel still said Sea Star, but at that time it was TOTE Services.
Q. Okay. I'll come back. I have a line of questions back along that about management. But back to heavy weather, so there were, when you said, yes and no, as far as heavy weather procedures that the company had, there was nothing in writing but it was essentially discussion amongst -- with yourself and what engineers or engineering staff or who did you discuss that with?
A. Well, let -- basically when I was either First or chief, the First and the chief, the captain and the port engineer and sometimes the chief mate if he wasn't too busy getting cargo on -- we would definitely sit down, we would talk.
We would make sure -- maybe it was during lunch or whenever anybody -- we all had time. We would sit down and discuss what was coming up and how we were going to take it on. I mean, there was -- there was always those discussions going on every port

stay.
Q. Okay. And I assume when you say every port stay, was that also in the San Juan port stay or was that in the Jacksonville port stay?
A. If we were in San Juan, the port engineer wouldn't be present, but there would always be phone calls back and forth that day, talking about what we were going to talk -- you know, what we needed to do to get the vessel safely back and forth and get, you know, and what we needed for fuel or what we needed for maintenance or whatever it was.

But, yeah, the port engineers were always in communication with us, every port.
Q. Okay, and was there a set schedule where you and, say, any of the shipboard personnel talked to the shoreside staff, say before you got to Jacksonville and then the same, before you got down to San Juan? Was there any set schedule to have those discussions?
A. I don't -- there was never any real need for a set time frame. We'd always -- I mean, there'd be plenty of e-mails sent back and forth while we were at sea about what was going on and on a daily basis.

And there was always plenty of -- usually, after I took arrival, I would either call the port engineer or shortly -- if I was busy, he would call me and then I'd have to go back and call him later. But then, throughout the day, we would talk in Puerto Rico. Or if we were in Jacksonville he'd just -- as soon as the

ship docked, he would be down to the ship as soon as he could.

And we'd go into what -- we'd usually walk the engine room at least once a week for -- in Jacksonville, showing everything that we had worked on and what needed to be done and everything else that was going on.

Q. Understood. Okay. That's very helpful. Back to heavy weather per se, did you have your own set of standing orders for heavy weather? As chief engineer?

A. No, there was -- there were no written standing orders. But what would happen is, depending on the scenario and what I thought we were going to take for weather and what the condition of the plant was, there would be standing orders written on the chalkboard that was right there at the maneuvering level.

So, there would always be something there to keep an eye on -- fuel strainers or keep an eye on other levels of things or pressures of things, depending on what we had worked on recently or how I thought we were going to take on weather and how the condition of the plant was going to be affected. But there was no written standing orders about rough weather.

Q. Okay. Thank you. Thank you. Watertight doors at sea, was there any difference in policy as far as when you -- now, I'd like to concentrate on your chief time -- when you were operating in heavier weather?

A. Oh, yeah. There -- if we knew it was flat, calm, it was going to be pretty out, there were certain doors that might get

left open, just for ease of transporting between one space to another. But if rough weather was coming, everything was dogged down.

And that would have been in the standing --

Q. (indiscernible) then?

A. That would have been in the standing orders on the chalkboard, something like that. Make sure that all entryways to the engine room and engine spaces are dogged down at all times.

Q. Okay, and were those doors opened during that time to allow personnel to go through?

A. Depending on how we were taking on weather and where you needed to go, yes. Because some of them were going back to steering gear and you want to check steering gear. But what you wouldn't want to do is come out of steering gear and go on out onto second deck. So, those doors were not -- if we were taking on real severe weather, we would never allow anybody out on second deck.

Same with the cargo hold, Number 5, that big watertight door. That -- there's also a little watertight manhole door on that that would be dogged down, and nobody would be allowed through that door.

Q. Okay. Okay, so in heavy weather, those doors would not be used at all, rather than walk through, close them and then go where we had to go. Is that correct?

A. That's correct. We would -- yeah, it would -- because you

can transfer through the house just as easy as going out on deck. So, we just keep out -- from going out on deck.

Q. Why would any of the engineers and personnel need to go through -- let's back up a second. From the engine room, if you wanted to go to ABS or steering, how would you do that without going on the second deck?

A. You would go through the portside shop, and that a watertight door that went out into the, like a Boyd space in Cargo 5, Cargo Hold 5, where it's now actually in the cargo hold but yet it had a bulkhead, and then you could see the hull of the ship, the skin of the ship.

And you'd walk through that, all the way back aft, and then there's another watertight door getting into what used to be called a like a rope blocker area. And then, then you would walk -- and from there, you would actually open another watertight door to get into the steering gear. But that would --

Q. Okay, if --

A. That would --

Q. If you opened -- sorry.

A. That was all on like third deck level, not second deck.

Q. Okay. And when those watertight doors were opened for the personnel to go through, was anyone -- was the bridge notified when those doors were opened and closed?

A. No. But it was usually routine that usually the oiler would go back there, halfway through a watch, you know. And then the

engineers would go back there at the end of their watch. But as far as going through --

Q. I know, and if --

A. But as far as going through those watertight doors and reporting up to the bridge when we through them, no, that would -- that was not being done.

Q. Okay, and how about, now if they didn't choose to go that route, but they chose to come out of the engine room at a different level and walk along the second deck and, say, drop to aft to Steering, through those watertight doors, was the bridge notified when those doors were opened or closed?

A. No, but I'm not sure. You know, usually, if we said, do not go out on second deck, nobody went out on second deck. That was just, you know, but, no, those -- we walked in and out of, you know, through watertight doors without reporting them to the bridge all the time.

Q. Okay. Did your personnel have to ever go into the cargo holds and open watertight doors?

A. During -- what? During rough weather or are you just talking in general?

Q. Oh, in general. In general, would you, you know, go -- would they go through watertight doors, say, either the big cargo doors or scuttles or, you know, the scuttles that were on the second deck? They call them scuttles or --

A. Yeah, if we --

Q. -- some of the big watertight -- sorry?
A. With the big watertight doors, if we ever opened those up at sea, the bridge would be notified. And those did have to get opened up at times, depending on what maintenance needed to be done, either in the cargo hold or trying to get something moved down into the engine room.
Q. Okay. So, for the cargo, the large cargo doors where the trailers could drive through, if you opened those the bridge would be notified. But the smaller man-size, watertight doors that were built into them, you didn't -- your personnel didn't call the bridge for those?
A. No.
Q. Okay.
MR. KUCHARSKI: I think that's it on my other pure weather-related questions, Brian and Mark.
MR. YOUNG: Thanks, Mike. Lou, do you have any weather questions?
MR. O'DONNELL: No, sir. Lou O'Donnell with ABS. I think Mike covered it, thank you very much.
MR. YOUNG: All right. [redacted] and [redacted] from the Coast Guard, any heavy weather questions?
MR. [redacted] Yes, [redacted] [redacted]
BY MR. [redacted]
Q. And just a quick follow-up, when you were talking about the second deck being secure because of weather. Can you typically

tell us what kind of conditions it would take to secure the second deck? And when it was secured, was it common for the second deck to get a lot of water? And did it drain off fairly quickly when it did get water in it?

A. First, yeah, if we were taking any real weather, say, you know, we were rolling enough to take on, say, 2 inches -- 2 inches or 3 inches onto the second deck, yeah, nobody was allowed out on there for any reason.

Because if we were taking on 2 or 3 inches, that usually means because we were -- because we had bad weather and everybody was advised not to be on second deck.

As far as the water going on second deck, it was a very common occurrence in rough weather. I mean, we had big, open, you know, sides of the ship that were -- it was designed that way. And as far as -- it would -- as soon as it would come on, it would flow right out through the scupper holes and everything else. So, it wouldn't -- it wouldn't sit on second deck.

I mean, it would slosh around some, but it, basically, as soon as it came on, it went off.

Q. Okay. And on the scuttles that drop down into the cargo hold from the second deck, do you recall on the *El Faro* what type of dogging devices they had on the scuttles as far as was it the handwheels or was it the individual dogs?

A. It was the individual dogs.

Q. All right. And was there a routine round to ensure that

those were secure prior to getting away or prior to experiencing heavy weather?

A. No, they were supposed to be, but that was put to the deck department to take care of those and --

Q. Okay.

A. And I really can't, you know, verify how they did their routines, but I know they were supposed to.

Q. Okay.

MR. [redacted] That's all the questions I have. Thank you.

MR. [redacted] No questions for [redacted] either.

MR. YOUNG: Thanks, [redacted]. Lee?

MR. PETERSON: Nothing for me, Brian. Thank you.

MR. YOUNG: And, Mark, one last question with heavy weather.

BY MR. YOUNG:

Q. Did you ever notice any cargo breaking loose during any sort of hurricane or heavy weather on the ships?

A. Yeah, we've had cargo break loose or get damaged from rough weather, yeah.

Q. Was there one area in particular that was more suspect to having cargo breaking loose? Or was it --

A. Bow of second deck.

Q. Bow of second deck?

A. Yeah, through those openings.

Q. And would it be containers or trailers --

A. Yeah, whatever -- yeah, it -- yeah, containers that were put

up there would take on some pretty hard weather. And then just the power from the waves itself would damage the containers.
Q. And would it tend to push them port of starboard or in any direction or --
A. Any direction. It didn't -- it all depends which way the weather was coming.
Q. Okay.
A. So.
Q. And would that be -- second deck, so within the enclosed second deck, not up on deck, right?
A. Right, the main deck.
Q. Main deck.
A. No.
Q. Not main deck?
A. I have seen handrails get ripped off from main deck before from weather. But, you know, but that was also on the bow.
Q. Okay. Okay. You need a break?
A. No, I'm good.
Q. If we could switch up --
MR. YOUNG: Mike? Yes?
MR. KUCHARSKI: Hi, this is Mike Kucharski again.
BY MR. KUCHARSKI:
Q. Mark I know you're -- have you gone through those scuttles on the *El Faro*? Did you physically ever go down to a scuttle, open one of those, the hatches, if you will -- open it up and drop down

into a --
A. Yes.
Q. -- into a cargo area?
A. Yes.
Q. What do you -- I mean, it's -- the VDR transcription has been released. And do you -- what are your thoughts on Number 3 hold, scuttle second deck, having physically been blown open by something?
A. Well, are you ask --
Q. I think that was a direct.
A. What are you trying to ask me here?
Q. No, no. I mean, it's, you know, we've heard reports from Captain Davidson, said that the scuttle had blown open. Is that possible for that scuttle to blow open?
A. I -- with the amount of weather you take, I suppose it's possible. But I'm not sure what happened in this case where I'd -- I would really want to say exactly how that would have happened. It's not -- I mean, I've got an opinion. And I don't have any facts, so I don't want to give you an opinion.
Q. Okay. And along Brian's line of questions, while you were on that run, you mentioned that cargo broke loose on the second deck. And did it, did the D-rings or buttons actually pull loose or deform? Did any of that happen?
A. Yeah, we have had issues where either the latching itself has broken, the D-rings have broken or the buttons have broken. Yes.

Q. Okay, I've got a whole line of questions for buttons and D-rings which I'll come to later. But how about containers? Did you hear of any -- did you get involved with any of the securing of the containers themselves?
A. No. That was not -- that was chief mate's job. And I let him do his job, and I did mine.
Q. Okay. Maybe I phrased that incorrectly. Any problems with the securing mechanisms for the containers that you got involved with?
A. As far as repairs?
Q. Yes. Just the containers.
A. I have been part of helping get D-rings and buttons put back in place.
Q. Okay, I -- just the containers. I guess, you know, you mentioned that you saw D-rings and buttons that pulled loose. I was just curious if there were any problems with the containers' securing system that you got involved with or you knew about.
A. No. Not as far as how they actually did it and stuff. No, I didn't -- I wasn't involved in how they latched it, no.
Q. Okay. But the repairs that you did on any of the container securing system?
A. Well, yeah, as chief, you're responsible for all maintenance. So, I would be approached to make sure I get the right personnel onboard to get whatever we needed done to get all that stuff fixed and repaired. And usually, we would be calling JMR and we'd set

up a time for them to -- that's Jacksonville Machinery Repair. But they would come on board and we would get everything done that we needed to.

Q. Okay. And I'll ask a separate line, under repairs there. And any problems with -- you mentioned that you saw latchings, D-rings, buttons break down on the second deck. Any problems you saw with any container or that you'd container or you heard about with any containers shifting on the main deck?

A. Yeah, it was always talked about, if we had some rough weather, where the mates could see stuff, you know, moving around. And, you know, if we were at dinner, there'd be nervous talk about how they'd be pretty nervous about how it is. We're rolling. They can see things moving out there.

And that was another big reason why people weren't allowed out on second deck because you could -- if you -- there's a ladder well right on the aft part of the house that you could stand on. And you could watch that stuff moving back and forth. And if you tried to go between two containers that were shifting back and forth, you could get crushed.

So, that was one of the big reasons, another big reason why you weren't out there during rough weather.

Q. Clear, Mark. I guess I want to say containers, main deck.

A. Okay.

Q. Did you see any -- did you talk about, you know, it would have been -- let me back up a little bit so we have it on the

record. Now the second deck was roll-on/roll-off cargo. And the main deck had the load-on LoLo cargo where the containers were stacked on top of each other.

Did -- was there any talk about containers on that deck shifting or movement in the containers?

A. Yeah, they were -- they were, like I said, they were always talking about what they -- because, from the bridge you could see the entire cargo out in front of you on main deck. And they were always watching that. And there would be talk about, sometimes that they would -- they saw the latching and then they would make adjustments to it for the next time.

They'd be like, okay, well that didn't really work well, so we'll -- next time they would talk with the longshoreman and make sure that the latching was changed so there wasn't as much shifting in the cargo.

Q. Okay. Yeah, that's what I as looking towards, the containers on the main deck.

MR. KUCHARSKI: Thank you, Mark and Brian. That's my line on this one. Thank you.

MR. YOUNG: Great. Thank you, Mike.

MS. JOHNSON: Are they going to come here and do the --

MR. YOUNG: A ventilation system has kicked on here. Can you guys still all hear properly?

MR. GAY: Yes.

MR. YOUNG: Okay. Okay.

MR. [redacted] I had a follow-up question with weather. This is [redacted] [redacted] if you don't mind, Brian.

MR. YOUNG: Sure.

BY MR. [redacted]

Q. Just real quick, do you ever recall any casualties to the engineering system that were directly related to weather event?

A. No. I don't --

Q. All right, had you and with regard -- go ahead.

A. No, I don't remember anything as far as engineering goes that we specifically took any damage or failures because of weather.

Q. All right. Thank you. And you had mentioned that a Jacksonville Machine Repair coming onboard to do repairs and stuff like that. Generally speaking, what was the quality of work that they performed? Was it -- were you overall pretty satisfied with the quality of work and the quality of the people they sent out to work on the vessel?

A. The reason why Jackson V -- Jacksonville Machine Repair was there is because we had gone through several different people. And they gave us the best performance we needed and they understood explicitly what we expected from them.

And so when they came onboard they did exactly what we needed. So, yeah, I was -- ultimately, I was always satisfied with JMR.

Q. Okay.

MR. [redacted] Thank you very much. That's all my questions.

Thank you, Brian.

MR. YOUNG: Thank you. We'll switch on to a different line of questioning regarding the emergency fire pump and the bilge system.

BY MR. YOUNG:

Q. We do understand from the transcript that they were attempting to pump the bilges out of 3 Hold.

A. Okay.

Q. And if you could, based on your memory of these ships, maybe explain to us the procedure for being able to pump that particular cargo hold. What pumps would they use? Would there be another option such, as an eductor, to use? And what you may have used, in your experience, to pump out any cargo hold bilges -- especially 3 Hold?

A. Okay. Well, as in -- first of all, in reference to the entire system, because you had five different cargo hold and each cargo hold had at least one sump -- it had one sump in starboard. So, you could suck out if whatever side you were listing to.

It was general practice that you never wanted to be sucking out of more than one cargo hold at a time -- on cargo hold sump at a time because, especially, if you're listing to one way, one side, the other side doesn't have any product in it so you would end up get something out.

As far as Cargo Hold 3 goes, it would have -- and it doesn't matter. You could use port bilge and ballast pump or starboard

bilge and ballast pump. It didn't matter. So, the manifolds could suck from either side. It never was a problem. I don't -- you know, it was a basic system.

It was piping, it was valves and it was a pump. There was nothing complex about it whatsoever. And that was it. There was no vacuum system or eductor system like you're talking about on that.

Q. There was no eductor system?

A. No.

Q. In order to pump the cargo hold these -- correct? So, the only pumps you could use were the bilge and ballast pumps?

A. Correct.

Q. Were they, if you can remember, both powered by the main bus, do you remember? Or did any come off the emergency bus? Do you recall?

A. I believe the port side was on the emergency bus. One of them was definitely run-off -- but they also had the emergency bilge and ballast pump which -- but that was just for the engine room. But those -- I know one of those bilge and ballast pumps ran off the emergency power.

Q. Okay.

A. I think it was the port side.

Q. Could both pumps be operated together at the same time to pump a bilge?

A. Yes, it could. But it usually didn't help you any because

the piping was of such size that if you have two pumps on, you're still only going to get the same volume through that pump with that piping.

Q. How would the engineering staff be advised that a bilge level had elevated it enough to necessitate pumping?

A. First, there were -- in every one of the sumps there were bilge alarms.

Q. Okay.

A. And that alarmed in the engine room. And that would have been their first indication that that level was getting high, is that alarm went off.

Q. Okay. And would that be an audible and a visual alarm? Do you remember?

A. I know it was definitely audible. Yeah, I think it was audible and visual.

Q. Visual. And would that alarm continue to sound until the level dropped? Or were you able to silence it?

A. You were able to silence it.

Q. And after being silenced, would there still be an indication that that -- the level was still high?

A. Yes.

Q. And how was that?

A. The light was still on.

Q. There was a light?

A. Now what would happen, though, is, like, say, if you just

barely had enough. It would go off. You would silence it and it would reset and it would go off again. And so if you were rolling around, it would keep going off, and it was a nuisance.

Q. Right, right. So is --

A. And so you'd want to pump it down because you were tired of the nuisance.

Q. Okay, gotcha. And does -- if there was a nuisance alarm, could an alarm be silenced so that the nuisance didn't continue to --

A. No.

Q. No?

A. No. It would reset every time the level went low and go off every time, and you'd have to silence it again.

Q. Okay. And you can remember too, I know there were a number of different ships. Was it general practice to pump the bilge immediately after an alarm would start sounding or maybe wait till the end of the watch or send someone to investigate or just automatically pump it? What was the procedure?

A. Normal procedure, as soon as that alarm would go off, you would either investigate or you would talk to the bridge or someone through the VHF radio that might be safe or in port. And you get one, you would, there's -- you know, you just start communicating as fast as you could. Say, hey, what's going on down there?

So as soon as one of those goes off, we'd be like, hey, we've

got an alarm in the cargo hold. What's going on? What do you know?

Or -- because on the *El Faro*, especially with Cargo Hold 3, there is a watertight door from the engine room into Cargo Hold 3 where someone -- if that alarm went off, you would just say, gee, (indiscernible), hey, go check that out. See why we're getting that alarm. And you could, without going out on second deck, without doing anything, you could have walked through that and seen what was going on.

Q. I see. Would it be a common occurrence to have water in the cargo holds, back and forth, from Jacksonville to Puerto Rico or would it be rare? When we talked to some guys in the Alaska run they said they had a lot of snow melting off the trailers and it was continuously going off. But I'm --

A. No, those things are usually dry.

Q. Dry?

A. Those cargo holders are almost always dry. That's why they chose to put usually cars down there instead of trailers because then the cars were protected from the weather in all those kind of conditions because it was usually -- it was nice down there. It was dry, clean.

Q. And any time you did have to pump, did you ever remember having a large amount of debris in the bilge system or were they kept pretty clean -- the Rose box?

A. It was -- because you had all those cars going in and out and

all those trailers coming in and out and everything else, there was a lot of debris. So usually you're first couple times, when you're trying to start that up, you probably have to pull the suction strainer a couple of times. But after that it would just roll and you wouldn't have a problem.

Q. Okay. And what about sending people up to the Rose boxes to clean them? Would that be a common --

A. Yeah, the -- but that was because it was out in the cargo hold, that would normally the -- in charge of deck department. And I know they had routines on them. They did it, but I'm not sure often. You'd have to talk to them.

Q. Okay. The bilge and ballast pumps, could they also be used to ballast or de-ballast any ballast tanks? Or was it these -- were these pumps dedicated to just pumping water --

A. Well, they could also de-ballast the ballast heads. A.

Q. And like the fore-peak, the after-peak?

A. Correct.

Q. Times like that?

A. Correct.

Q. We understand the *El Faro* also had ramp tanks for ballast.

A. Yes.

Q. Was that a completely separate system? Or was this also tied in?

A. Trying -- oh geez, ramp system. That was a completely separate system.

Q. Was it?
A. Yeah.
Q. So, it had its own pumps and its own --
A. Yeah, own piping.
Q. -- own piping system? Do you recall about how much the ramp tanks could affect the list of the ship, based on degrees? Is that something you may have remembered or not?
A. No, we just -- if we started getting a little list and we noticed it, we may call the bridge and say, hey, you mind if we start transferring this? Or they call down and say, hey, look, we're going to keep the -- because sometimes they're doing different things, especially while we're in port.

And so we'd wait for them to call us to let us know. Or if we get a really heavy one to one side, we're like, hey, they might have lost focus a little bit because they're just busy out there, and we'd say, hey, do you want us to start transferring now? And they're like, yeah, that'd be great.

Or they'd say, no, because we're going to start loading back to that side anyway in the next 10 minutes, so it's just going to come over anyway, so don't bother. So, yeah, usually that was just a communication thing on when that got transferred.

Q. Okay.
A. An agreement between both deck and engine room.
Q. Understood. Would there be any other tanks, ballast wise, that you could use to control the list of the ship -- other than

the ramp tanks?
A. For the engine department?
Q. Yeah.
A. No.
Q. No?
A. No. We didn't -- I mean, I suppose we could have done something with fuel tanks but those were so low on the bottom of the ship that they really didn't affect too much.
Q. Really didn't? Okay. So, to control --
A. And they were all center line. So --
Q. Okay.
A. So, it wasn't like you could -- the only thing we could really do as far as keeping us from going on one side to the other is those ramp tanks.
Q. Ramp tanks? All right. Okay. Did you recall anything about an eductor on the ship? Were there any eductors for any bilges whatsoever?
A. No.
Q. No?
A. No.
Q. So, do you remember the location of the bilge alarm panel in the engine room?
A. It was off to the starboard side, all the way to the starboard side.
Q. On the maneuvering flat?

A. On the maneuvering flat.
Q. And was the alarm only sounded in the engine room or did the bridge have another panel up there as well?
A. I believe the bridge did also. But I know it was definitely in the engine room. And I think the bridge did also, but I'm not -- I'm trying to -- I can't remember on that -- on that one.
Q. Okay. If there was a bilge alarm up in, say, 2 Hold, how would that be handled? What terms of personnel lines? If you received an alarm in the engine room --
A. We would -- well, are we underway? Are we in port?
Q. Underway.
A. Underway, we would call the bridge, find out what do they know about the situation. If they didn't know anything, either they would or we would send somebody down to the hold to find out what's going on.

And, I mean, if the weather was good. If the weather was rough, then we may end up trying to just take a sock out of that tank -- out of that and see if we can clear it without having to send any personnel up.
Q. Right. Got it.

MR. YOUNG: Okay, we'll pass the bilge system and cargo hold pumping ability around. Mike Kucharski?

MR. KUCHARSKI: Thank you, Brian. Mike Kucharski, nt.

BY MR. KUCHARSKI:
Q. Mark, so the -- if I understand that in good weather, if

there was an alarm that was set off in the, say, Number 3 hold, that the engineer on march would send the oiler to go check -- see?

A. Yeah, well, like I said, it was -- it would be a communication usually between the engine room and the bridge to find out what they might know or what's going on. And then if they had someone available, they would send somebody. But, because usually, with 3 Hold, we could get to it so easily -- from the *El Faro*, usually, we would send somebody and then communicate back what we found.

Q. Okay. When you were on the vessel, when you -- when you got off in 2013, do you recollect if they just had one AB on the watch?

A. I have no idea what they had up for watch up on the bridge.

Q. Okay. Okay. And so sending someone to, out of the engine room to check Number 3 hold, would that hold, would it also occur for Number 5 hold if there were water in there?

A. Correct.

Q. Would they look in there?

A. Correct. You could go in -- you could go into Number 5 hold and check that place, that hold as well if -- without going out to second deck, without putting it -- if you're in rough weather without putting yourself in harm's way.

Q. Okay. And how about if there were water in one of the forward holds, in, say, 1 or 2 or 2A -- would any engine personnel

go check in there?
A. Once again, that would be a communication between the two people on watch. If need be, say if it was rough weather, if that's all we're talking about, somebody would probably be woken up. And an extra -- that way somebody could at least come down and either cover the bridge for whoever they sent down there or cover the engine room for whoever was sent out there.
Because there was such a small crew, we did whatever it took to just help each other out and make sure, you know, if something happened, we were all -- everybody was involved.
Q. Okay. No written policy on that as far as if a bilge alarm in the cargo holds -- if their -- if the bilge alarm went off in one of the cargo holds, was there any written policy on what was to be done?
A. I'm pretty sure that was in the chief standing orders. It was part of their -- it was to be understood that you get any bilge alarms whatsoever in the cargo holds, it was to be communicated and to investigate as soon as possible to find out what's going on.
Q. Okay. Do you have a copy of your standing orders that we could look at?
A. I don't know. I don't think so. I don't -- I don't know. I can't answer that one right now. I would have to dig. I might have something on a -- on a hard, a little drive. But standing orders, I don't think I had a copy of. I think that was all --

that was all right on the vessel.
Q. Gotcha. Gotcha. And I think the last one along these lines, and maybe two -- you said there were no eductors to take a draw on the cargo holds. Is that correct?
A. Yeah, correct.
Q. Okay. And did the deck department commonly wash down the holds? You mentioned about debriding in the holds. Do they wash the holds down?
A. Yeah. Yeah, that's -- it -- I can't remember the frequency of it, but I always knew it's a pain in our neck in the engine room because one of their -- you know, when they first said, sweep it down and try to get whatever heavy debris they could. But when they'd wash them down, they'd still always wash debris right into the bilges.
And, like I said, it would take a couple of quick sucks on it; they'd have to clean the strainer two or three times and then it'd be fine and we'd -- off we'd go and they'd keep the cargo holds pretty clean.
Q. And did you notice any problems with the actual alarm system, the mechanism that was in the cargo hold, be it a float or a sensor? Did you have any problems with that?
A. Do you -- are you talking about the float switch? It was a float switch that was put in there. Did I have --
Q. Yeah. Yeah, that --
A. Yeah, those float switches, a lot of times, would arc

themselves closed and fail, and then we'd have to replace them. But when they arc themselves closed, it would be where the alarm was going off and you couldn't do anything until you replaced it.

I never had one fail where it wouldn't work, where it wouldn't signal. But I've had it where, when you lift that up, that little microswitch would arc itself closed, and it would just be a constant ringing until you changed out the switch.

Q. Okay, so if failed, it would set off the alarm?

A. Correct

MR. KUCHARSKI: Thank you, Mark and Brian. I'm finished, thank you.

MR. YOUNG: Thanks, Mike. Lou O'Donnell, from ABS, any questions on the bilge system?

MR. O'DONNELL: Yeah, Mark. It's Lou O'Donnell with ABS.

BY MR. O'DONNELL:

Q. Just a couple quick questions, and if I'm stepping ahead, if you were going to do this otherwise, I was just a little bit curious about the fire main system that connects into bilge and ballast. Was there an isolation between the two systems?

A. Yes. Trying to remember the exact piping lineup right now. Yeah, there was a --

Q. Okay, well --

A. Yeah, there was an isolation, but you could -- I believe -- yeah, you could use the fire pump to de-ballast if you needed to.

Q. Okay. Okay. And you know -- do you -- can you recall if you

ever did use the fire and GS pump to de-ballast or do ballasting or bilge operations on those vessels?
A. If we did, it was just to test it out, like it was not a regular common occurrence of what we would do.
Q. All right, so it wasn't an SOP -- it wasn't an SOP thing then?
A. No.
Q. Okay. Okay. Do you ever recall having any issues with the fire main isolation valve in the upper engine room, maybe where it was leaking by or anything like that, you know, to isolate your main -- your main fire pump, your main fire GS pump from your emergency fire pump down in the Number 3 hold?
A. No. No, there was --
Q. Okay.
A. There was never an issue there.
Q. Okay. Okay. And that valve, did you see that valve normally in the open position?
A. Which valve are you -- are you talking the fire pump in --
Q. Up -- up -- up in the --
A. -- the Cargo 3?
Q. Up in the Fiddley (indiscernible) or up in the Fiddley, like where you're walking. As you come up the ladderway from 2 Hold to go up into the accommodation, you have the door that goes into the engine room. Up in the Fiddley there, on the starboard side, there was a reach rod for a valve. That was your main, your

emergency fire manipulation.
A. Okay. Right, you're talking about --
Q. Do you recall that valve?
A. You're talking about the sea chest valve that went to the suction side of the --
Q. No, no. No. No.
A. No?
Q. It would be on the discharge side of the -- it would be on the discharge side of the fire main. There was a valve for it up in the Fiddley. Do you recall that valve or not?
A. I don't --
Q. I know it's going way back.
A. I know. I'm trying to think of what would be up in the Fiddley as far as a fire valve.
Q. Well, really not -- it's not really up in the Fiddley. It's almost -- well, close but it's -- basically there's a walkway between the two economizers.
A. Yeah.
Q. There's a boiler out there.
A. Yeah.
Q. And you -- if you're heading forward on the -- forward to go out that door, on your right-hand side, there was a reach rod for a valve, and that would isolate the main fire main from the emergency portion on the discharge side. Do you ever recall any issues with that valve?

A. No.
Q. Okay. Do you ever recall any issues with the emergency fire pump in the Number 3 cargo hold?
A. Any -- as far as operations?
Q. I was going to say operation, valves, anything like that.
A. No. I guess -- I'm trying to think. The strainer did get replaced once while I was on the *El Faro*. I believe it was the *El Faro*. The suction strainer, the whole unit -- because it -- it just rotted out and we had to replace it. The only thing else --
Q. Okay.
A. The only thing else would have been on that reach rod system to the suction valve, to the sea chest. All the -- sometimes those knuckles would lock up on us and we'd just have to do some maintenance and clean them up and re-grease them and operate them.

But other than that, I don't -- I don't know of any other issues we would have had with that system in there. Every time we test ran it, it would work.
Q. Okay.

MR. O'DONNELL: No further questions. Thank you.

MR. YOUNG: Thanks, Lou. [redacted] and [redacted] from the Coast Guard, bilge, ballast, fire main?

MR. [redacted] Yes, just a few questions.

BY MR. [redacted]
Q. You talked about if you opened up and made all of the lines common that would probably cause you to suck air. What indication

did you have on the bilge pumps that you were sucking air or were -- that you were giving a good discharge and you were actually moving the water?

A. Discharge -- the discharge pressure gauge.

Q. All right, and where was that located at?

A. That, right there next to the -- each pump. Each pump had a suction and discharge gauge right next to it. So, you would, one, it would indicate if you had a real good pump going, the suction side would be down probably 15 to 20 inches of mercury, you know, on the suction side where got, you know, anywhere from 20 to 30 psi on the discharge. And, you know, if that all started heading to zero, you knew you were sucking air.

Q. Okay. And do you recall any check valves anywhere in the system?

A. The manifold valves to all that stuff were lift-check valves. The manifold itself was a big square manifold. And it was a lift --

Q. Right.

A. -- a lift-check valve that was on that.

Q. So, there was only one way the water could flow, period.

A. Correct.

Q. There was no other way you could -- you could be in a situation where you're actually pumping water into the --

A. Correct. Yeah.

Q. -- the hold.

A. You could -- there's no way, even if you wanted to, you could pump water into the cargo hold.
Q. All right. So, you were talking about sending an oiler up there or somebody up to investigate in the Number 3 hold. When the vessel was loaded, how easy would it be to get around in there and actually verify and see the water level in the lower deck? Or would it be difficult?
A. It would be -- in that weather, rough weather, it would be extremely difficult to do that safely because even -- because you'd be walking out on the third deck from the engine room and you would actually probably have to drop another deck to get to the tank top. And to get to that ladderway you would have to go through -- by containers that were latched down.
Because usually on that third deck it was still usually containers. But if it was cars, it was easier to get by.
Q. So, if it was containers, it would be difficult to get back there and actually see what the water level was?
A. Well, what would happen is you would --
Q. Around the Rose box?
A. You would have to go from where you forward part of the engine room to where the ladderwell was to get to lower a tank top level to see where the level would have been there. Between that space, they usually park containers.
Q. All right. And particularly, when you've gotten a bilge alarm and had to line the system up to suck the bilges, who would

be responsible for doing that?
A. Usually the engineer on watch would run down and get that done, just --
Q. Okay.
A. Just because it was just easier than -- unless you -- there were certain oilers that we would send if we felt they had a good eye, real good knowledge and experience of getting it up and running to start with. A lot of times the engineers would at least get it up and running and then they would tell the oilers to keep an eye on it and then they would -- they would keep track of it from there.
Q. And how well was that system understood? I mean, talking -- it sounds like it's very rare for you guys to use it. Was it something in an emergency that it was kind of --
A. No, it was --
Q. -- inference kind of, sort of thing?
A. It was common knowledge on how to run that. That was --
Q. Okay.
A. That was one of those things that everybody understood how to use because it also was part of the ballasting system. So, you knew the difference between ballasting and pumping out bilges.
Q. Okay. So, on the alarm panel, too, was there an indicator for each hold?
A. I believe so, yes. I believe that -- I'm trying to remember that alarm now. But, yes, I believe there was a indication for

each port, starboard cargo hold.

Q. Okay.

MR. [redacted] Thank you. That's all the questions I have. [redacted]

[redacted]

MR. [redacted] Hi, this is [redacted] from the Coast Guard again. I just had a couple of questions.

BY MR. [redacted]

Q. First of all, for the *El Faro*, one of the things that I've noticed is that the sea valves for the emergency fire pump seems to be marked for overhaul at a shipyard period coming up. I was curious, from your experience, had you been involved with any preparations or shipyard periods on the *El Faro* or any other Sea Star vessels in the past?

And if you did mark that valve for overhaul, was that a typical or was that something that would be a marker that you were having problems with that valve or suspected problems?

A. No, any sea chest valve was always inspected during every yard. We'd pull them -- we would pull them all out, we've pull them apart, have ABS look at them. They would, you know, usually would -- blew them -- and drop them back in and show the -- how well they would seat.

And then we'd either have to replace the valve or we'd be able to put that valve back together. The only other indication, I would say if an engineer had put -- marked for overhaul for the next shipyard is probably the packing was slowly starting to wear

and they knew that they were going to have -- put that on a list of being able to overhaul and repack that valve.

Q. Okay. Then also I notice in there a modification that was planned to add a ballast line for the bilge and ballast system running from the same sea chest, it sounded like, with the emergency fire pump's sump pump, you know, to run a ballast line that connects into that sea chest and go through the engine room from 3 Hold.

Are you familiar with that modification at all?

A. Not at all.

Q. Okay.

MR. [redacted] Okay, thank you. No further questions.

MR. YOUNG: Thanks, [redacted]. Lee?

MR. PETERSON: Hey, Brian, can I just -- oh, sorry. No, I'm good. Thank you.

MR. YOUNG: Okay. Go ahead, Mike Kucharski.

MR. KUCHARSKI: Thank you. I'm sorry, Lee, for stepping on you.

MR. PETERSON: It's all right, [redacted]

BY MR. KUCHARSKI:

Q. Mark, the valves on the emergency fire pump, could -- do you know how they were left? I mean, for, when the ship was out at sea, radio operations, do you know which valve was left open or if any were left open or any were left closed. Do you --

A. Just usually --

Q. Do you know how that was set up?
A. Usually, the standing operating procedure on fire pumps was, especially for the one in Cargo Hold 3, was the discharge was left open. And if we needed it there was written directions and a controller out on second deck on how to open up the suction valve and then start the pump from there.

And there was actually a pressure gauge there on the discharge line that you could read to show you that you were actually getting discharge pressure from that pump.

Q. Okay, great. So, the -- the suction valve normally closed and the discharge normally open?
A. Correct.
Q. Did you ever find it otherwise?
A. No.
Q. Did you ever notice if it -- no? Okay.
A. No because we were always afraid of the fact that, if something happened there, that that -- there's -- it's not a manned space, so we couldn't leave that open.

Whereas the fire pump in the engine room, general service pump, that suction valve was always left open. So, if we needed a pump, first one, in a hurry, you could always use that one. But that was in a manned space. But because the 3 Hold was not a manned space, the suction valve was always secured.

Q. Okay, great.

MR. KUCHARSKI: Thank you, Mark and Brian. That's it for me.

MR. YOUNG: Thanks, Mike.

BY MR. YOUNG:

Q. Speaking of valves, Mark, if you don't mind, do you remember, typically, the settings of the valves of the main circulating pumps? I know there was a high and a low suction. Was there a time when you ran high suction or low suction predominantly?

A. Yeah, we'd switch back and forth. But that all depended on cargo and if we were underway or if we were in port. But, yeah, that was -- if you're in port, you were always on the low suction because if you went to the high suction you usually -- because we were -- we'd end up sitting high, you'd end up sucking a lot of trash.

Q. Okay.

A. But then, when you got back out to sea, you were loaded up so you'd switch back over to high suction.

Q. Typically, when you were loaded, you would be on the high suction?

A. Yeah.

Q. Okay. And then, when you would get into port --

A. You would switch back over because you would -- didn't want to suck in trash.

Q. Okay. Okay. Do you remember, on the *El Faro*, if they were motorized valves or were they manual? Those giant --

A. They were motorized.

Q. Motorized?

A. Yeah.
Q. Would they be able to be operated from the console?
A. No. Yes. We didn't, because we always wanted to make sure everything opened and closed the way they were. So, standing operating procedure on that was you were locally -- you would have -- even if you had somebody doing it from the console, you would have someone standing by those valves. Because they are such big valves, we wanted to make sure they were open or closed, the way we said.
Q. Okay.
MR. YOUNG: On my list, we've covered lube oil system, heavy weather, bilge and fire pump. Kind of go around the room with general questions and just kind of, not really open season, but if there's anything, generally, that we're able to pick your brain on, if that's -- unless if you want to break or we can just keep moving.
MR. GAY: We can keep moving, please.
MR. YOUNG: Okay, good.
BY MR. YOUNG:
Q. So, the other question I had, just you had spoken before that a company called JMR was used for maintenance and repair. Were there other companies that you may have dealt with that maybe weren't as good as JMR or that you can recollect doing repairs within the engine room that you may have had issues with?
A. Are we talking *El Faro*, *El Yunque* --

Q. *El Faro*.
A. *El Faro*, no.
Q. No?
A. By the time Sea Star had got -- taken on the *El Faro*, we had who we liked. And that's who we used.
Q. Okay. What type of repairs could JMR do for the ships? Was it boiler work or piping --
A. Mostly -- mostly what JMR did was steel work -- welding, cutting, that type of stuff. That's what they did for us. If we needed some other technical stuff, once in a while we'd send some stuff ashore to get machined by them, but not very often. So, but mostly it was steel work from JMR.
Q. Okay. Just once quick question going back to heavy weather, did you ever have any issues with the boilers in heavy weather? Or were there any preparations to prevent any boiler failures during heavy weather?
A. I mean, you always, with rocking and rolling, you're going to get interesting temperatures and pressures changing, varying back forth, depending on how you're rolling. Once again, as far as standing operating procedures, it was -- we would have a -- you would talk with your personnel before we'd hit any weather, and anything else that was of real importance got written on the chalkboard that was right there, that was left there, until I would erase it.
So, everybody understood exactly what -- if there was

something we were issues with, say, there was a certain temperature or pressure we didn't -- it was running weird, we'd want to keep an extra eye on that.

Or, like I said, strainers were always a big issue with fuel -- with fuel tanks and everything else. But as far as boilers, we never really had issues with boilers due to rough weather.

Q. Okay.

A. They usually just ran, so.

Q. Got it. And one last question about the main engine, I understand that typically, to admit steam to the main turbine you would open up a valve on the operating console which would lift the throttles.

There was also an emergency system with an inner pack to lift a cable. Had that ever been operated?

A. Yeah, we tested that on a regular basis. I'm trying -- I know I tested it at least yearly.

Q. I know?

A. I know at least yearly. But oh, well there was other -- actually, a lot of times -- actually what the other pack one, we tested every time, before we left work. And I'm -- yeah, I'm trying to remember that. We'd go and somebody would open a closed hose and you would actually operate them until you actually heard steam going into the turbine.

And then you would release them. So, yeah, those were tested. Yeah, I'm -- because I remember, the inner pack. Yeah,

we tested those every port --
Q. Okay.
A. -- before we sailed.
Q. And that would override -- would that override any lube oil shut-downs or safety devices if you had any missing?
A. Yeah, because it -- it was just -- that's all it was. It was a hydropack moving a cable that lifted directly onto the throttle that would just open steam into it.
Q. Okay.
A. So.
Q. And when it came to the lube oil pumps, we had talked before about a standby pump and a lead and a lag. How would the lag or the standby pump know to start? What would initiate the starting sequence?
A. A low discharge pressure from the one that was on. There's a pressure switch that would then trigger the offline pump to come on.
Q. Okay, and do you know, if you remember, a ballpark on the pressure drop that would be required to set the pump and start it?
A. No, I can't remember. No, that -- no.
Q. Okay.
A. I'm thinking below 20 psi, but for some reason I can't give you an exact of when that would start.
Q. But it would be actually measuring the pump discharge pressure?

A. Correct.
Q. Okay. And could you recall, also, if, at any time, any frequency, you would switch the leads and the lag pumps? Was it a monthly event that --
A. Yeah, every month we would switch pumps to make sure the other one was running.
Q. Okay.
A. So, we -- it -- they got equal use and we always knew the other one was working and available.
Q. And would the standby function be tested during that monthly switch?
A. Usually, how we switched that is we would -- because we'd be sitting in port, and we would just take the switch to the online pump and just shut it off. And we'd watch the online pump -- the offline pump come one, once it picked up pressure and everything was fine. Then we switched the switches on the lead and the lag.
Q. Gotcha.
A. And then we'd turn the other pump -- then we'd put -- switch the power to one we just took off back online.
Q. Okay.
A. So, yeah, that transfer switch was tested once a month.
Q. Okay.
MR. YOUNG: Okay, I'll just pass it around the room for a last round of general questions. Mike Kucharski?
MR. KUCHARSKI: Hi, Brian, Mark. It's Mike here. I have

some repair questions and general repairs, which Mark talked about, but maybe some operational questions.

BY MR. KUCHARSKI:

Q. Mark, you mentioned that there were repairs made to buttons and D-rings. Is that correct?

A. Yes.

Q. Who did them? Who did the -- who made the actual repairs? And can you describe what you did or what was done?

A. Usually what would happen is once they got busted, the chief mate would come to me and let me know how many were broken. And then I would make up a list and I would talk with the port engineer, and then we'd line up JMR to come onboard and repair those.

Q. Okay, so JMR actually did the repairs?

A. Yes.

Q. Great. Did your -- when I say "your" -- the engine staff, any of the engineers do button or D-rings repairs?

A. Temporary repairs until we could get JMR to come onboard. Once in a while we would throw down a new pad for a D-ring and then we'd get JMR to come onboard and fix it properly.

Q. Okay could -- were those done while the ship was in operation? Or did you have to wait for a lay-up period?

A. As far as the repairs?

Q. Yes, sir.

A. No, they would be -- we would -- JMR would ride the vessel on

a regular basis on, depending on what we needed.
Q. Okay, so when you say JMR, they were then a riding crew? Is that correct?
A. That's correct.
Q. Okay, and those buttons could be repaired? The buttons or D-rings could be repaired or replaced, at sea, by the riding crew?
A. That's correct. We would usually schedule a --
Q. Did you have --
A. We would --
Q. Go ahead.
A. We would usually schedule a certain area of wherever the D-rings or buttons needed to be replaced. And, you know, between the engineering and the deck department, you keep those areas clear. And, with the cargo, so that way there was plenty of room for them to work.
Q. Okay, so when you say that they keep them clear, they would asked for them to be voided? Is that correct?
A. Yeah, if at all possible, yeah, that's what we would do is we'd void certain areas if there was a large amount of work that needed to be done in order to get it done.
Q. When you left the operation in late -- or in 2013, were the -- do you recollect if they were running full cargo down to San Juan or all, pretty much all the stow positions were pretty full?
A Yeah everything was pretty full when I was -- last time I was there.

Q. Was there any problem asking for stows to be voided so JMR could get in there and work on the replacement buttons or D-rings?
A. No, but there was a lot of coordinating that had to go along, but I wouldn't say I ran into difficulties as getting it done, no.
Q. Did you record these repairs to the buttons or D-rings in any place?
A. I don't, like try to keep track of actually where they're all being done. I don't think there was a record of it. I'm sure there's been plenty of people's notes that would tell us, generally, where D-rings and buttons got changed out.
Q. Was this -- was this a fairly common occurrence to change out buttons or D-rings?
A. Yeah, there's a lot of them on there. And, you know, over time, they just wear out and they would break. So, yeah, it was -- you know, you would -- Well, there's so many out there that usually they would use the ones that were still in good shape until we could get around to, say, getting JMR onboard to do a bunch of work and getting spaces voided.

So, it was worth the while to have them there. Rather than just replacing one or two at a time, we'd end up, you know, waiting probably -- I'd say maybe every, once a quarter, they'd come onboard to 6 months, and they'd do a bunch of them along with some other work that we'd line up for them.
Q. Okay. And that's very helpful. And was there any problem with the JMR personnel in communications or with them maybe going

into places, going down into holes where they shouldn't have, into areas where they shouldn't have?

A. No. No, we had a real good working relationship with JMR. And they understood our expectations from them, not just from work but as conducting themselves onboard the vessel.

Q. Okay. Along the work, the repair items earlier, I had asked you about the securing systems for the containers on deck, the twist lock and D-rings out on deck type systems to secure the containers. When I say out on deck, on the main deck -- on the main deck.

Did you also get involved with coordinating repairs to those?

A. Yes, that -- like I said, as a chief, they would come to me and we would -- we would -- the chief mate would usually come with me, with a whole list of things that he wanted done. And we would work our way into making sure that all got fixed properly.

Q. Okay. And how about the captain? Did he get involved -- he or she get involved with any of these repairs? Did you have discussions with the captain also?

A. Yeah, the captain -- I was constantly talking with the captain onboard, and we were always -- he'd be well aware of almost -- any major repairs he knew about. Any deck work he knew about.

I'm not saying he knew about every little thing that went on in the engine room, but the captains and I did -- I'm a bit of a talker, so we had a lot of communication.

Q. Okay. And the -- you mentioned earlier about, you know, I think Brian asked you, Brian Young asked you about cargo breaking loose on the second deck. Did it also break loose down in the tween deck or hold? Did you ever see cargo break loose there?
A. No, I've never seen anything break loose down there. I mean, I've seen it shift back and forth but never really break free, no.
Q. Okay. And the D-ring and button repairs, were they also made down on the tween deck and lower hold? Were they also done there?
A. Yes.
Q. Still along the line of repair items, were you aware of or did you get involved with any repairs to bridge equipment?
A. Usually -- mostly electronic stuff on the bridge was handled from -- by a third party. And the only thing I would be involved in is the captain would let me know what was going on. And between the captain and I, we'd communicate with the port engineer, and he would line up whoever needed to go up there and do any type of maintenance up -- you know, any repairs on all the electronics up there.

Other than that, say, the GPS system backup with batteries, yeah, that was our responsibility as an engineering department where we would always test the batteries, making sure they had, you know, proper levels and change them out as needed.

But most of the bridge equipment was handled by a third party.

Q. And was that the same third -- were they different third

parties used or was it one third party?
A. [redacted] -- [redacted], I'm trying to recollect the electronics company that they usually used but I can't -- it's not coming to mind. But it was usually the same people.
Q. Okay. Were you aware of any repairs to the -- made to the anemometer?
A. No.
Q. Okay, so you were aware of none. And you -- you, as you said here, were not asked to make any repairs or work on the anemometer system.
A. No. If they would have come to me I would have said you need to get somebody in for that. But, like I said, even if, say, a captain came to me and said they were having problems with one, we would have just lined somebody up to come work on it.
And maybe it might have been mentioned to me, but I don't ever remember it, at this time. No.
Q. Okay, great.
MR. KUCHARSKI: Brian and Mark, I'm finished with my questions on repair items. I don't know if you wanted to stop and go around and see if there's anybody that has any question on repairs before I move on?
MR. YOUNG: No, you can keep going. We're just kind of in general questions now.
BY MR. KUCHARSKI:
Q. Okay, now, Mark, in the transcript that was released to the

public, the captain and the mate mentioned about, wished they could get 120 RPMs -- something to that effect. Do you know what the maximum RPMs that the vessel could produce? Was there any policy on that?

A. Yeah, the maximum RPMs we would ever hit would be 128 -- 120 is a very common RPM for -- on the higher end, but 120 was not out of the ordinary request.

Q. Okay. So, when you left there was no restriction to -- not to go above a certain RPM.

A. Yeah, you did not go above 128. Normally --

Q. 128? Okay.

A. Yeah. Normally what would happen first, is you would max out on your boiler pressure before you would get to 128. So we never got near that. There are other restrictions that we had, engineering speaking, before we'd hit that 128.

Q. Okay. And when you say on the boilers, you said -- is that what we hear them talking about -- now they're going to introduce first stage steam pressure? Is that --

A. Yes. Yeah, that --

Q. -- what you're talking about?

A. Yeah, well, the first stage steam pressure would have been an indication, but the real issue is what is the actual maximum pressure on the boilers and what was a safe working pressure on those while you're at the higher levels.

But, yeah, we had a -- I'm trying to remember the general

consensus on the first stage, what pressure we really wanted. But that was usually in reference to what the actual boiler pressure was at -- to get to that. I think it was 470. I'm trying to -- I think that was the pressure.

Q. Okay. And do you also -- so I'm just trying to understand why they said they wished they could get 120. Would the vessel not get to 120 RPMs for a certain reason? Would it max out on steam pressure, (indiscernible) pressure, if you will before it got to the 120? Was that fairly common?

A. Yeah. What would -- especially in rough weather, if you're taking that right on the bow, you've got so much more resistance just to get to 110 or 115 that you're going to need that much more power and that's that much more pressure, steam pressure.

So sometimes you maxed out on pressure before you got to the 120 because you were just -- you just had that much more load on the boiler itself from fighting the weather.

Q. Okay. Very good. Is that -- does refill load have any effect or power generation, if you will? Does that have any effect on the RPMs?

A. No. That would -- yeah, that would put a little bit more load for the generators. But that extra steam load was never really enough to really hamper us from giving them what they needed.

And if it was an emergency, we just shut them off and we would put -- strip down the board and give them what they needed

for RPMs of need be -- that was what we needed.
Q. Okay. You mentioned fuel. And I think Brian asked you or someone asked you if you used the fuel tanks at all to correct list. Was -- did you ever do that while you were onboard the vessel?
A. No. No, those fuel tanks weren't big enough and all of our fuel was kept on the port/starboard centerline tanks where they just didn't have that much effect on -- overall.
Now, yeah, we reported to the mate so he could ballast out the ship and make sure he knew what we had, but, other than that, they -- you couldn't really move fuel and make a difference.
Q. Was the fuel generally kept more to one side than the other?
A. No, we usually would -- because we had tanks in 1, 2 and 3 Hold for fuel -- and 2A, but we didn't really tend to use the 1s because they were far -- so far away.
Normally we kept our reserve fuel in 2 and 2A, but on normal basis, we would pull out of 3 port and starboard simultaneously, trying to keep those tanks at generally the right level, as we filled the settler.
That was just our common practice because we didn't like to have one tank empty and the other one full.
Q. Okay, so both tanks were essentially then slacked somewhat?
A. The -- in 3 Hold, yes. Correct.
Q. Yes. Was -- Mark, were you ever physically inside the bunker tanks in 3 Hold?

A. Oh, yeah.
Q. Where were the suctions on those tanks?
A. They were on the aft inboard side.
Q. Okay, they were aft. Did those tanks have any curvature to them?
A. They had a slight curvature inboard, you know, to the center line. That's about it.
Q. Okay. Was any fuel basically unpumpable by normal means out of those tanks?
A. Well, yeah, like -- cause the suction of anything, any bell mouth suction is -- only goes so deep in the tank. So, I'm trying to think, on the 3s you might have, I don't know, maybe -- I think it was somewhere around 20 to 25 barrels that you couldn't get out totally if you really, really tried to work at sucking that out.
But generally, it was -- it was negligent what you would -- you wouldn't be able to get.
Q. Okay. So about 20 to 25 barrels per tank?
A. Yeah.
Q. And that was for the Number 3 Hold tanks?
A. That was generally for all the fuel tanks because they're all pretty much designed the same way. And their -- all their suctions were in the aft part of the tank on the inboard side.
Q. And is the lowest part of that tank the after part of the tank?
A. Yes.

Q. Okay. Did you recollect if the vessel had a permanent list?
A. As far as did we normally sail with a list?
Q. Yes. Yes, did you normally sail with a list?
A. No. No, that's what we used the -- on the *El Faro*, at least, that's what we used the ramp tanks for, is whatever -- wherever the cargo landed, they would try to get that as best they could so we were even keel, but if they couldn't, we'd use the ramp tanks to even us out.
Q. Okay. And was there an automated system used to sound the ballast tanks on the *El Faro*?
A. There was a numerating system nobody -- I mean, you could use it for reference to see if something was going in and out of there. But nobody ever really trusted it, so we always did hand-soundings also to get -- if anybody wanted to truly know what was in a ballast tank, they would do a manual sounding.
Q. Okay. And who did the actual hand-soundings?
A. For ballast tanks, it would have been one of the mates.
Q. Okay. Was there fresh water planted in any of these tanks that you're aware of?
A. The ramp --
Q. Ramp tanks.
A. The ramp tanks was all fresh water. The water that we -- because basically what we had in those ramp -- starboard port ramp tank, was enough water to fill one tank. And that was all fresh. And then all we'd do is we'd pump that back and forth depending on

how much we needed to adjust for.
Q. But you're not aware of if any of the other tanks had fresh water in them?
A. There was what we also called the Cow Water tank because we carried cattle. That tank carried fresh water in it.
Q. And did you notice any leakage from any of these tanks where they had to be topped off -- or to invade the normal or do they have to be topped off? Was there any leakage that came out of them?
A. No. Like the ramp tanks, I don't ever remember really -- we would top it off and we never added anything to it again. As far as the Cow Water tank, we're always refilling that because they'd be using it to use with -- whenever we carried cattle.
Q. Okay, and that -- those are the only tanks that you typically had water in. Is that correct?
A. Fresh water, yeah, other than the potable water tank and the distilled --
Q. How about any -- how about any ballast? How about any other tanks that you put water in, sea water or not?
A. We would pump in, in and out of the forepeak forum, the 1A -- no, the 1A center line on the *El Faro* was -- we didn't use. You know, whatever that -- usually it was that forepeak we would pump in and out of.
Q. Okay. Did you have any discussions with anyone, shipboard or shoreside, about the amount of bumpers to be kept onboard?

A. Yeah, we always -- we discussed that every week on -- depending on -- I mean, I know down in hurricane season we kept extra amount onboard than non-hurricane season. But there was always -- there was always discussion every week about how much fuel we were going to take to keep us going.

Q. Could you expand a little bit on hurricane season where you said you would keep more onboard?

A. Yeah, I'm trying to remember the actual totals, but I can't. But basically, what we do is we try to keep, I think, at least two voyages worth on board at all times, even at minimum levels. So, that way if we either couldn't get into a port of that port couldn't supply us with fuel, we'd be able to make it either to the next port or the next week without a problem, being in danger of having -- not having enough fuel.

During non-hurricane season, where I think we kept it so we had at least -- I'm trying to -- I'm still trying to --- at least another half a leg or whatever it was down to another port onboard. But there was an adjustment between hurricane season and non-hurricane season. And the exact amounts, I can't come up with right now.

Q. Okay. Okay did stability ever get into the discussion and the amount of bunkers varied?

A. The only discussion for -- between me and the captain would be what I had onboard and he would just say, you know, that's great and then he would -- it would adjust accordingly. So, they

knew what we had. But other than that, there was no discussion, like they had us to -- you know, anybody who was ever worried about us not having enough or carrying too much.

Q. Okay, so -- so no direct stability?

A. No, they just -- they just would always want our discharge numbers as far as potable water, distilled water, fuel, lube oil. So, they knew where all of our liquid was, so they could make a good assessment on the ballast of the vessel.

Q. Okay, and did -- so you mentioned about going to different ports. You know, could you -- you know, for bunkers, could you take bunkers at either end, in either San Juan or in Jacksonville?

A. Yeah, I -- on those vessels, I took bunkers in Jacksonville, Puerto Rico and Fort Lauderdale at different times. So, yeah, we could -- and we probably could have gotten it up in Philadelphia if we ever had to schedule it but we never did.

Oh, wait. No, I actually took fuel -- I took fuel up in Philadelphia also.

Q. Okay, and was there any process or lead time, say, if you had to take into -- let's just concentrate on Jacksonville and San Juan. Was there any particular lead time you needed to give shoreside to take these bunkers --

A. It was --

Q. Were these bunkers ordered so you could have --

A. It was just a routine we kept, you know, that it was -- we all basically -- it bounced back and forth from we'd take it every

week to every other week. But that -- a lot of that depended on weather and the time of year. But it would just be, okay, this week we're talking fuel and next week we're not.

And I would always give them a fuel report at the end of every day. And on that fuel report would be how much we have onboard and how much we were going to have to take on next port -- next time we took on fuel to get to a certain level.

So, that -- the fuel was a constant every day scenario that we were looking at.

Q. Okay, what -- but was it -- Mark, if you called up or somebody shoreside reported it to you, whoever you touch base with, did you need to give at least a certain amount of hours' notice to be able to get fuel in that particular port?

A. No, they always had that set up. There was always, like I said, I didn't ever have to ask for extra fuel because we were on a routine where it just -- I would just let them know, the next time I was going to take fuel, I was going to take 4,000 barrels or 3,500 or whatever it was.

And they would just always -- I never had to call for, say, an emergency load of fuel, and then they had to set it up. Because it was always set up because we were on a routine schedule with the local barge company to constantly just come and it needed -- mostly it was Jacksonville and sometimes it was San Juan. And it was -- I've never had an issue with calling up and needing fuel and not getting it.

Q. Okay. Okay. And along the lines where you talked about hurricane season, did you have any discussions with any of the (indiscernible), the shoreside personnel? Did you discuss extra fuel that you may need for certain weather routes?
A. Like I was saying, that was already factored in. Once you hit late June/early July, we automatically went up to carrying -- I think it was around 12,000 barrels onboard, rather than 8½.
But I can't -- like I said, the numbers are in there, but I'm not pulling up the exact ones right, but there were certain numbers that we kept onboard so we knew the next we took fuel we wouldn't be low -- be below a certain amount. So, we always had sufficient amount of fuel onboard.
And it -- and, like I said, hurricane season was the big one between June and July, all the way through November. That's when we would carry extra fuel onboard.
Q. Okay, then let me ask you specifically. Did you ever talk about, with any of the masters or any of the shoreside personnel about going around Cuba completely, to the Yucatan Channel which is quite a distance extra?
A. There was --
Q. Did you ever -- do you recollect having --
A. There was always -- if we were going to see rough weather, the captain and I would always sit down and talk about -- he would tell me what weather was coming, which way it was coming. And we would talk explicitly with exactly what his plans were and whether

or not I was going to have enough fuel and what I thought the engine room could take for making sure if -- if we had to -- you know, if we had to just go due east and go -- keep going and going and going until we turned around and came back, we would discuss how much -- how far we could go.

So, yeah, there was always discussion if we had to avoid weather, how much I had onboard and what we could do to avoid the weather and how far we could go. Yes, there were multiple discussions about that -- almost -- basically, on every time we were in a port state.

Even if it was nice out we would, I would talk to the captain about the condition of the plant compared to the condition of the weather and how we were going to make it safely.

Q. Okay, great. Great. That's helpful. How about fuel conservation? Did you have discussions with either the masters ashore or the site personnel about fuel conservation?

A. Back when fuel prices were over a hundred dollars a barrel, that's all we talked about because we wanted to try to figure out a better way of, more efficient way of running the plant.

So that way, we could burn less fuel. But what it came down to is we had to make port. We had so much cargo to carry and we just -- we burn so much fuel. And we knew that. So, it was -- yeah, we were always trying to find new ways to do things, to try to maybe be more efficient with how much fuel we were burning. But overall, it was, you know, you're on a run. You've got to

satisfy your customer and we did whatever it took to do that.
Q. Okay.
MR. KUCHARSKI: That -- I think that exhausts my fuel-related questions. Brian, do you want me to keep rolling?
MR. YOUNG: Sure, yeah. You need a break, Mark?
MR. GAY: No, I'm good.
MR. YOUNG: Yeah?
MR. GAY: I told you I'm a talker.
BY MR. KUCHARSKI:
Q. Thanks, Mark, Cargo Hold -- the vent trunks, did you ever enter or the trunks for the cargo hold ventilation system?
A. Yes.
Q. And what did you generally find when you opened them up? And how often did you open them up?
A. That was usually, I think, a yearly inspection. We would open them up. A lot of times, what we were looking at were just the dampers and making sure they operated correctly. And actually, when you closed them, that they would actually seal. That was -- that was usually the extent of it.
Q. Okay.
A. What we'd find -- sometimes we'd find some stuff that needed to be replaced or repaired. But most of the time it was just dusty, dirty and it was, you know, it was a vent and, but, yeah, we would go in those at least once a year to check those -- especially the dampers out. Usually we did that right before our

yearly ABS/ Coast Guard inspection because they wanted to look at them, and we wanted to pass inspection.

Q. Okay. And were any -- did you see -- did you notice the baffles? Were there any baffles inside of those trunks?

A. No. No, I'm not -- trying to remember, there's the dampers that we'd open and close, but actual baffles? I don't -- I don't remember seeing baffles, no.

Q. Okay. And -- and --

A. Could there have been?

Q. Was there a pump? Sorry, go ahead.

A. Oh, I'm -- I'm still thinking. I'm trying to -- trying to actually picture if I remember the baffles being in there. But right now I can't.

MS. JOHNSON: But you don't remember?

MR. GAY: I don't remember, no.

BY MR. KUCHARSKI:

Q. No, that's fine. That's fine. It's still going back a few years too. Were the -- were the vents -- I'm sorry, were the dampers ever closed? And, if so, do you recollect when?

A. The dampers for those cargo holds?

Q. Yes.

A. Yeah, we would -- well, I know the mates had a schedule where they actually would operate those on a routine. I'm not sure what it was because I always -- I'd get a list from them every once in a while, where a handle was broken or something's not operating

right or it was really hard to turn them. So, we'd have to go out there and clean them up and lubricate them and getting working or replace a handle.

Usually, they were left open, but I think -- I think during rough weather, those would have been closed and pinned closed.

Q. Okay.

A. But that's -- that's something more you would have to ask the captain or a chief mate or the third mate or whatever on their typical routine. I'm not sure what they were doing out there. But they could all be operated and pinned closed.

Q. Okay. And I guess I should have narrowed it and just said you didn't get involved with opening and closing them except for testing. Is that correct?

A. Correct, other than maintenance. Correct.

Q. Hey, Mark, I'm going to shift gears a little bit to personnel. When you left the operation in 2013, who was actually managing the ships at that time?

A. That was TOTE.

Q. TOTE was. Okay. And was there any reason that you decided to leave that operation?

A. Yes. I had a conflict with the way the union treated me and so I found something outside the union.

Q. Okay, yeah. So, it was union-related is your reason for leaving?

A. Yes.

Q. Okay. And what port engineers did you work with as chief engineer?
A. My main port engineer that I worked with would have been Lee Peterson. He was the head guy down in Jacksonville for most of my time as I was chief.
I did work with Jim Coleman when I first started as chief. Skip McRae and Bill -- trying to think of Bills' last name right now. That's alluding me. But then there was guys like from -- the TOTE guys like Cliff Hill and other guys from TOTE that I dealt with also when they would come over from the West Coast.
Q. Okay. Was there any change in management style from when TOTE took over or when Sea Star ran the operation?
A. Yeah, but, I mean, that's to be expected. Unfortunately, what happens of times is when new -- when other people come into a scenario, they want a lot of the same questions that we already had, that were familiar to us, answered. And then you have to re-answer them again.
And then, of course, they want to come up with, sometimes, different solutions. So, you would have -- you know, yeah, we had -- there was a different management style on how to get some of that stuff done.
Q. Okay. But as far as personnel, the shoreside personnel that you were able to communicate with, there was no basic change there?
A. Well, I'm not sure what you're trying to ask.

Q. Well, I wondered -- what I asked, was there any change in the management style. This one, as far as the personnel that you reported to or interfaced with -- was there any change with that?
A. Well, I guess the biggest change would have been the fact that Lee was basically the only guy had contact with in Jacksonville, whereas everybody else would have been West Coast. Where, before, I had -- I had Lee. I had Jim Coleman, I had Skip McRae.

They there were all there, right there, so you could deal with multiple guys from Jacksonville, which was a whole lot easier, because they were right there, than when it was just Lee and dealing with people from the West Coast.

MS. JOHNSON: Oh, really?

BY MR. KUCHARSKI:

Q. Okay, yes. That's what I was basically asking. How about onboard the vessel? Was there a mood change from when Sea Star ran it to when TOTE took over? Was there any change of the personnel and the mood onboard?
A. I'm not -- I don't know if I want to really get into that I don't mind answering a lot more technical questions but that mood thing, that it's the maritime industry that constantly changes and, so to speak, with the weather.

So, it's hard. It's hard for me to give you a good clear answer on was it management change or was it just what was going on at that time on the vessel.

Q. How about -- how about the skill level of the engineering staff that you worked with? Did that change any?
A. Some of what happened, though, when you lay-up a vessel like the *El Faro* got laid up, and then it would get broken out, and then it would get laid up and then it would get broken out -- what happens is you finally get a group of guys that can work together. And then you lay them up and all these guys get laid off, and they go find jobs elsewhere, so when you break it back out you've got another whole new set of guys that you've got to get caught up to where the other guys were.

Luckily, they -- I think they did a pretty good job of keeping chiefs and firsts and seconds together, so at least we had that kind of leadership together. So, when you got new thirds and new oilers and new electricians and everything else, you could -- you had that consistency with the chiefs, firsts and seconds. Whereas -- then you could train the other guys below you to get everybody up to speed.
Q. Okay, so -- so consistency you had with the chief, first, second engineer.
A. Right. That was always key on making sure that you could keep things going the way you wanted -- you know, in a good positive, forward direction.
Q. Okay. Yeah, that's very helpful.

MR. KUCHARSKI: Thank you, Mark. Thank you and everyone else on the phone for your patience with the million questions here.

Thank you.

MR. YOUNG: Thanks, Mike. If we can just continue on with [redacted] and [redacted] from the Coast Guard with general questions.

MR. [redacted] Thank you. It's [redacted] [redacted] So, I only have a few questions here.

BY MR. [redacted]

Q. From a -- as a chief engineer, do you recall who was responsible for making notifications for repairs to the critical systems on the vessel to the ABS and to the Coast Guard?

A. Usually that would have been reported by the port engineer. I would report to the port engineer whatever critical systems needed to be done, and they would -- they would work with ABS and making sure everything got covered on that end.

Q. Okay. Do you recall that ever kind of falling through and ABS or Coast Guard not showing up?

A. No.

Q. And -- okay.

A. No.

Q. They were pretty consistent with that?

A. Oh, yeah. Yeah, we had a pretty good working relationship with both ABS and Coast Guard in both Jacksonville and San Juan. Skip McRae was a big -- Skip McRae was a big help with that because he used to work for ABS.

And when he was with the company, it really helped as far as being able to talk the talk, that ABS wanted to hear without --

you know, so that way we were all on the same page and we understood each other.

Q. Okay. And going back to the engineering system, just kind of speaking about it from a holistic approach, the overall engine room, can you tell us what types of common reoccurring problems you might have had within the engine room?

A. Ugh. That's a very tough one to answer because you're talking about a 40-year-old vessel. So, the common thing that --

Q. Right.

A. -- it was that it was old. And it -- and you had work to do. And that's what it was. As far as reoccurring, same issues, no I -- I can't -- I mean, I guess if I look back at some -- if I had copies of my own notes and looked back, I could tell you more, but, specifically, it was just -- it was a lot of constant repair on things that just wore out.

And we'd just either get replacements from shore or we'd be able to rebuild it right there.

Q. Having a lot of corrosion problems or problems with like the piping hangers and stuff like that?

A. Are you talking *El Faro*? Or are you talking the El ships in --in general?

Q. *El Faro*.

A. What's that?

Q. *El Faro*.

A. *El Faro*? No. The *El Faro* was, steel-wise, was in pretty

good shape. I'm not saying there wasn't -- that there weren't some things that we had to do, but steelwork was not one of the big repairs I had to do on there.

Q. Okay. Going back to the lube oil systems, the two lube oil pumps, was there any way to introduce any other pump to the system as far as like an exterior pump or an auxiliary pump to -- if both pumps failed was there any other way to provide pressure to the lube oil system?

A. No.

Q. No way? All right.

A. No.

Q. Any issues with bearings over-heating or ever having to use water to cool bearings?

A No. No, those pumps -- those pumps were really nice pumps. And you're pumping lube oil so you're pumping a lubricant which you -- any time we've ever took those apart, they looked brand new.

They -- I -- like I said, I think I remember one. We had an issue with one. We thought there might be some light vibration and so we ended up just -- we sent it, the rotary element ashore to get -- make sure it was balanced and everything was good. And then we just rebuilt it, put a new mechanical seal in it and it ran fine.

Q. Okay, and what about just any marine casualties specific to the loss of propulsion while you were onboard the *El Faro*. Did

you have any?
A. Don't know. I can't -- I'm trying to remember if it was on the *El Faro*, *El Morro* or *El Yunque*. But I don't think -- well, yeah, on the *El Faro* we did -- we had -- the starboard boiler was down, and for -- I forget why, some sort of repair. And we end up carrying over the Evap to the port boiler where we had to shut everything down and then start back up again.
Q. And that was while you were at sea?
A. Yes.
Q. Or in port?
A. We were at sea.
Q. Okay, you were at sea? Do you recall what timeframe that was?
A. No, it must have been -- I think it was in 2012, but maybe it was 2011. I don't know.
Q. Okay, '11-'12 timeframe? Now [redacted] talked a little bit about crew competency issues with the engineer. What about with the deck department. Did you observe any issues with the deck side?
A. I stayed out of the deck --
Q. As far as competency or the --
A. I stayed out of the deck side. I usually sailed with a captain that knew what he was doing and he took care of his department, and I didn't worry about it.
Q. Okay. And did you ever sail with Captain Davidson?
A. No.

Q. No? I mean, going back to the RPMs, you were talking about heavy weather and the resistance as a whole and especially RPMs. Was it ever -- one would have to slow down RPMs because of the strain on the plant or any issues with decavitation of the prop?
A. Yeah.
Q. As a result of the weather?
A. Yes, we -- that was -- that would have been a common occurrence if we were in real rough weather. Like I said, you're -- if you're taking on seas in a certain direction, it's just going to put an extra load on the vessel, and it's just going to be that much harder to push that whole vessel through the seas.
So, your boiler's working that much harder. So, we would -- we would try to keep the boiler pressures at, you know, a certain level so that way we're not exceeding what their working pressure would be, a good safe working pressure would be at.
And we usually don't get --
Q. So, in the seas, it would be calm and you'd have to pull back a little bit.
A. Yeah, if we had to, we'd pull back.
Q. No problem?
A. It was not uncommon for me, especially when I was onboard, I would err on the side of caution and not try to push those boilers.
Q. Okay. And back to the lube oil pumps and system, do you recall if they were, from the circuitry, if they were protected by

breakers or fuses? Or the motor?
A. Breakers.
Q. Breakers? Any problems with them?
A. No. They were -- well, in the motor control is --
Q. All right.
A. There was -- there was breakers and there was -- I think there was a startup fuse also. On the startup end of them, I think there was a fuse.
Q. Okay. Ever had any issue with it, pop or freezing?
A. I think -- I think one month when we were trying to switch them over we did have one blow a fuse and we had to change it out, but it wasn't -- that was it. It never was a big deal after that.
Q. Was it easy to do whenever it did or you needed get access to it when you did a -- change it?
A. Oh, yeah, it's right -- right -- you open up the motor controller. It's right -- it's easy to -- easy to reach. It's nothing, yeah. Yeah, that's a very simple, easy quick fix.
Q. Okay. So, going back to the emergency fire pump in the cargo hold, how well protected was that from damage by cargo? Would it be easy for a car or anything to hit it and damage the system?
A. And I'm trying to picture it, but I'm pretty sure the one on the *El Faro* had a 4-inch piece of pipe that protected it from being hit. It was installed -- it was a later installment, but it was a 4-inch piece of pipe, probably -- I think it was a U-shape -- that was right in front of it at the right level, so nothing

could get to them -- to that area.
Q. Okay. Thank you. And going back to the ventilation, we talked about the cargo hold ventilation. What about the engine room ventilation? In heavy weather was it -- do you ever recall any water coming into the engine room through the ventilation?
A. Yes. If the wind was blowing the right way, the intake for the engine room fans was right out there on main deck. They were halfway protected from the -- by the house. But if the wind was blowing in the right direction, we'd get water in that -- you know, rain water in that and it would just -- it would come down.
Q. Would you do anything, like shut down the ventilation or anything to mitigate it or just let it go?
A. If, say, it was coming from the port side, we'd -- we would try to shut down the port side fans, supply fans at least, and shut those dampers, just try to mitigate it some. But it would still come down because it's just blowing in through -- right in through the screening. And it would drip down. But you could minimize how much by shutting down whatever side you thought it was coming from.
Q. All right. Now going back to speaking with the master about voyage planning and things lining up, do you ever recall not getting the vessel underway due to weather, laying in port?
A. I think one time we were delayed in Fort Lauderdale. Yeah, we were tied up in Fort Lauderdale because a big storm came through. It wasn't a hurricane, but it was a big storm. And we

waited it out there. I think we only had to wait, maybe 6 hours, and then we got underway.

I have been stuck in Jacksonville before because of fog. And you can't go -- they close the channel down so that's weather related. As far as not sailing out of ports, it has happened. And we've stayed there.

Q. Okay. And when you guys were having discussions with the master as far as voyage planning goes and things like that, and weather related discussions, do you ever recall anybody from the company or any company management being involved in those discussions?

A. Mostly it was always either the port engineer or the, what you call the port captain. And they would be either on the phone with you when you're down in Puerto Rico or they'd be right there on the vessel and we'd discuss it that way.

Yeah, so as far as -- you know, everybody would be involved and we'd have real good communication on what we thought we were going to hit for weather or which -- what way we were going to have to go. And, you know -- or whether or not we stay. Everybody was usually involved, between me, from the engineer department, the captain from the deck department and somebody from shoreside.

Q. Okay. And especially towards the -- as the vessels were going into lay-up or with the *El Morro*, as it was coming to the end of its life and going to scrap, do you recall any change in

the way that the vessel was funded as far as spare parts or repairs or anything -- you know, any corners that were cut based on decisions that the vessel wasn't going to be in service much longer?

A. I -- yeah, I saw a difference. I understood the difference. I wasn't always -- as the chief and the guy that was in charge of making sure things got done, I wasn't always happy with the changes. But usually I got everything I needed. It might have been an extra fight to get it, but usually I got everything I needed.

Q. Okay. And what about overdue PMs and stuff like that? Was that an ongoing battle or was it a common occurrence to have an overdue PM? And if you did have something that was overdue, kind of how did you guys deal with that as far as risk analysis and making a decision?

A. Are you -- as far as preventive maintenance, we usually stayed right up on that. Nothing usually got overdue was preventive maintenance. There was a time where, you know, when I first started with the company, that preventive maintenance never happened because we were so busy trying to get the vessels to run and do what we needed them to do.

But once we got to that level, especially by the time we got the *El Faro*, preventive maintenance wasn't an issue. We always -- we kept right up on everything. That was -- everybody had their assigned preventive maintenance checklist and, like I said, like

earlier, when I was talking about vent screens, that third engineer always got that done.

Other guys had other things they had to do. And all the preventive maintenance, there was -- I'm not saying certain things might -- didn't get put by the -- on the back burner at times, but we always were usually a hundred percent caught up on preventive maintenance.

Q. I mean, what about any equipment casualties? Was there over a time whenever a piece of equipment was down and you had a hard time getting a replacement or had a hard time getting it repaired, whether it be, you know, because of availability of parts or the company didn't want to fix it or, you know, any reason?

A. A lot of times, because you're dealing with an older vessel, you're dealing with availability. And that's just the way that is. I mean, I had equipment down at times that I was not happy with the timeframe in which it got fixed. But I also understood, at times, you just must wait because the availability for some of those parts just isn't there because you're dealing with an older vessel.

Q. Right.

A. I -- that's the best I can answer that.

Q. Okay. And whenever -- going back to the ventilation trunks and you guys entering them pre-survey or pre-inspection, did you ever witness Coast Guard inspectors or ABS surveyors also actually entering the looking at the condition of them?

A. Yeah, cause -- yes, the usual thing they would be inspecting for were making sure that when you close the dampers, one, they would close all the way, and when they did close, that you had a good seal around the edge.

And so, yes, we would -- there were times were the ABS guy would write that up and we would have to fix them before he would sign off on them. So, yes, I've had it where ABS inspectors have gone and actually investigated and checked those out.

Q. Okay.

MR. [redacted] And I think that's all the questions I have. Turn it over to [redacted]

MR. [redacted] This is [redacted] from the Coast Guard.

BY MR. [redacted]

Q. Just following up a little bit on that -- that last question from [redacted] you said you had seen surveyors checking out the closure of the dampers. Have you also seen surveyors entering physically the trunk and not just viewing from the outside to look at the dampers?

There is a port I've seen on the *El Yunque* to view in at the fire damper, if you just open that. But have they actually gone into the trunk?

A. I can't remember. I know we -- we would make -- we would get an opening big enough so you could -- I mean, that also depends on what you define as actually entering the space. You mean

physically, with both feet standing inside the space? I don't think I've ever seen that.

Have they actually physically had half their body hanging over, looking inside? Yes, they have.

Q. Okay. But you've never seen them opening up the larger openings that are so that you could make full-body entry into the trunks?

A. No.

Q. Okay.

A. Usually, anything you needed to -- usually anything you needed to see, you could see it from the inspection plate that we'd take off.

Q. Okay. When you've personally looked at the dampers in an exhaust trunk, for instance, did you ever note that the only separation between the water that's on the second deck regularly and for possible entry into the hold might be a small plate in front of the damper? It's about 3-foot high? Do you recall that?

A. Small plate on the --

Q. Like do you recall about how high that -- you know, any water would have to go to get down into the hold because of the damper opening?

A. Oh, yeah, that -- that screening was probably at least 3-feet high off the deck, the opening for it.

Q. And --

A. I think. I'm trying to -- wait.

Q. And that -- and if it's true that that was high enough. Is that right? Did you all feel that that didn't concern you at all, given the amount of water you see on the second deck and stuff like that?

A. Hold on. No. You know what, that -- now that I'm thinking about it, that first cowling was 3-feet high. Then when you had the flange and then it was probably another 2 feet after that before you took off the inspection plate. So, you're talking 5-feet high.

Q. Okay. Based on you own viewing of these dampers versus the indicators on the outside with the open/closed indicators, did you find that they were sealing and the indicators were properly indicating open and closed?

A. Yes, that was -- because that had been brought up during one of our inspections. I'm not sure if it was the *El Faro*, but one of the vessels, it actually operated opposite of what you thought it would have. But it was definitely stenciled and labeled open/closed. And they all were.

Q. Okay. Based on your experience with Sea Star Lines, and in particular, the *El Faro*, if you have any experience on this one, do you know of any persons cutting additional drainage holes in the ventilation trunks at any point in time?

A. No.

MR. [redacted] All right, no further questions then. Thank you.

MR. YOUNG: Thanks, [redacted] Lou, I'm sorry, I skipped over you.

MR. O'DONNELL: Lou O'Donnell, ABS. No further questions. I think my colleagues have covered it pretty well.

MR. YOUNG: Thank you. Lee?

MR. PETERSON: Nothing from here. Thank you.

MR. YOUNG: Oh, great. I just have one more question, Mark, if you don't mind.

BY MR. YOUNG:

Q. In the heavy weather, did you ever notice any water or sea water coming down the ventilation trunks in the cargo holds?

A. No. I don't remember any water coming down through those, no.

Q. Okay. Thanks.

MR. YOUNG: One last round through. Anyone else? Mike Kucharski?

MR. KUCHARSKI: No, thank you.

MR. YOUNG: No? [redacted] and [redacted], Lou, Lee -- you're all set?

MR. PETERSON: All good.

MR. YOUNG: Thank you.

MR. [redacted] The two [redacted] are good.

MR. O'DONNELL: All set. Thanks.

MR. YOUNG: Great. Well, on behalf of NTSB, Coast Guard, ABS and TOTE, Mark, we really appreciate your time. Thank you very much for spending the morning with us and answering all our

questions.

So, we'll bring the recording to a close. And, on the phone, thank you all for participating today. Appreciate your help.

MR. PETERSON: Okay, thanks Mark.

MR. GAY: You're welcome, Lee.

(Whereupon, the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	SINKING OF THE S.S. *EL FARO* OCTOBER 1, 2015 Interview of Mark Gay
DOCKET NUMBER:	DCA16MM001
PLACE:	Via Telephone
DATE:	December 27, 2016

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.

_____

Kimberlee Kondrat
Transcriber

Mark Gay

TAKEN ON
12/27/2016

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If, to the best of your knowledge, no corrections are needed kindly circle the statement "no corrections needed" and initial in the space provided.

NO CORRECTIONS NEED. [redacted]
Initials

Mark L Gay
Printed Name of Person providing the above information

[redacted]
Signature of Person providing the above information

24 JAN 2017
Date