

1 GOLDEN RAY Hearing

2 18 September 2020

3
4 **CAPT Welborn:** Good morning all thank your indulgence as we get started just a
5 moment or two late this morning. So the local time is 10:33. We are back on the record
6 in the matter of: the capsizing of the GOLDEN RAY on September 8, 2019 while
7 transiting the St. Simons Sound in Brunswick, Georgia.

8 Good morning, ladies and gentlemen. It is now – today is September 18th. It is the fifth
9 day of the public hearing into the capsizing of the GOLDEN RAY. I am CAPT Blake
10 Welborn the Lead Investigating Officer for this 7th District Formal Investigation. The
11 Commander, 7th District, has convened this investigation under the authority of Title 46,
12 United States Code, Section 6301 and Title 46, Code of Federal Regulations, Part 4, to
13 investigate the facts and circumstances surrounding the capsizing of the GOLDEN
14 RAY. This investigation was mutually agreed upon to be a joint effort between the ship's
15 flag state, the Republic of the Marshall Islands, the U.S. National Transportation Safety
16 Board also known as NTSB, the Korean Maritime Safety Tribunal or KMST, and the
17 U.S. Coast Guard.

18 Present today are the following members of this Formal Investigation: Mr. Lee Willett
19 and LCDR [REDACTED], who is also our Recorder. The legal counsel to this
20 investigation is LT [REDACTED].

21 The National Transportation and Safety Board is participating in this hearing. Captain
22 David Flaherty, investigator-in-charge, is appearing virtually.

1 The Republic of the Marshall Islands' representative is Mr. Thomas Bremer, who is
2 physically here at the hearing.

3 In addition, KMST personnel have given – will provide questions to ask on their behalf. I
4 will note when the time arises for me to ask the questions posed by the Korean Maritime
5 Safety Tribunal.

6 I would like to request the cooperation of all persons present to minimize any disruptive
7 influence on the proceedings in general and on the witnesses in particular. Witnesses
8 are appearing before the members of this Formal Investigation to provide valuable
9 information that will assist the investigation. We request members of the public be
10 courteous and respectful of the hearing location during these proceedings and attend
11 via livestream to comply with the Federal, State, and Local COVID-19 guidelines.

12 For those of you participating via video or phone, I ask that you mute yourself until I've
13 recognized you for your questions unless you wish to make an objection. All media
14 inquiries and comments regarding the hearing should be sent
15 to GoldenRayPublicHearing@gmail.com. Again this is an inbox for questions
16 concerning this hearing and the investigation. Any comments or request regarding a
17 response should be sent to the incident command post.

18 The Coast Guard has designated Parties In Interest to this investigation. I have
19 designated the following organizations and individuals as Parties in Interest: the
20 Brunswick Bar Pilots Association; including Captain Bruce Fendig and Captain
21 Jonathan Tennant; Owners of the GOLDEN RAY, including Hyundai Glovis and G-
22 Marine. Lead counsel for the Brunswick Bar Pilots Association is physically here at the

1 hearing The Coast Guard now calls the following witness, Captain Johnathan Tennant.
2 Mr. Lee Willett will lead this questioning, line of questioning.

3 **Recorder:** Mr. Tennant please stand and raise your right hand. A false statement
4 given to an agency of the United States is punishable by fine and or imprisonment
5 under 18 United States Code 1001. Knowing this do you solemnly swear that the
6 testimony you're about to give will be the truth, the whole truth and nothing but the truth
7 so help you God?

8 **CAPT Tennant:** Yes.

9 **Recorder:** Thank you please be seated. Mr. Willett the witness is ready.

10 **Mr. Willett:** Sir, could you please state your name and spell your last name for the
11 record?

12 **CAPT Tennant:** Johnathan Tennant, T-E-N-N-A-N-T.

13 **Mr. Willett:** Are you represented by counsel today?

14 **CAPT Tennant:** I am.

15 **Mr. Willett:** We will do a check. Am I coming through? Okay. Have you been
16 designated a party in interest?

17 **CAPT Tennant:** Yes.

18 **Mr. Willett:** Do you hold any professional certificates or certifications?

19 **CAPT Tennant:** I do.

20 **Mr. Willett:** Could you list those, sir?

21 **CAPT Tennant:** I hold a full branch State Pilot's license for the Port of Brunswick. No
22 restrictions. A First Class Pilotage endorsement from the U.S. Coast Guard for the Port
23 of Brunswick.

1 **Mr. Willett:** Thank you, sir. Can you give us a brief summary of your background and
2 experience in regards to Piloting vessels?

3 **CAPT Tennant:** My maritime career began at age 15. I grew up working on sailing
4 vessels in the Port of Charleston. I attended the United States Merchant Marine
5 Academy, class of '97. Sailed as an able bodied seaman for a brief period of time prior
6 to getting at DT job as a Third Mate sailing oceans. Came ashore and was hired as an
7 apprentice for the Port of Brunswick. Served a three year apprenticeship under the
8 tutelage of tutor Pilots to begin my short branch licensure for approximately 14 years.
9 I've served the Port of Brunswick for 22 years.

10 **Mr. Willett:** Thank you, sir. Who is your current employer?

11 **CAPT Tennant:** All the Pilots in Brunswick are self-employed. Yeah we're associated
12 together for the efficient movement of commerce.

13 **Mr. Willett:** Describe the position you hold, the title?

14 **CAPT Tennant:** The Brunswick Bar Pilot number 6.

15 **Mr. Willett:** Can you describe your duties and responsibilities in that position?

16 **CAPT Tennant:** Our primary role as a State Pilot is safety and the efficient movement
17 of commerce.

18 **Mr. Willett:** And I think you have talked about it before, but how long have you actually
19 been a full Pilot?

20 **CAPT Tennant:** My full branch license date was 2014. So that's six years as full Pilot,
21 branch licensure proceeding that of the 7 branches that I had in the State of licensure
22 was restricted to vessel of 755 feet in length. So I worked numerous years about half of
23 the decade on car carriers prior to getting full branch.

1 **Mr. Willett:** So currently you're fully allowed to Pilot any vessel in or out bound in the
2 Port of Brunswick?

3 **CAPT Tennant:** Absolutely.

4 **Mr. Willett:** Going back to September 2019 could you describe your recollection for the
5 inbound and out bound transit of the GOLDEN RAY?

6 **CAPT Tennant:** Yes.

7 **Recorder:** Someone has an open mic. We're having an issue with it. I still hear it.

8 **Mr. Willett:** I think that's better now. So I'll ask the question again. In regards to
9 September 2019 can you describe the inbound and out bound transit of the GOLDEN
10 RAY vessel?

11 **CAPT Tennant:** Certainly. The inbound vessel, the GOLDEN RAY I had her on
12 Saturday the 7th. I believe I had a 1500 boarding. And everything was normal. It was a
13 normal operation inbound.

14 **Mr. Willett:** What's your experience in Piloting RO-RO's? Have you done 50, 100,
15 200?

16 **CAPT Tennant:** In my time as a Pilot here I've handled over 5000 vessels. If you were
17 to include my apprenticeship, more appropriate around 6000 vessel movements. Since
18 the GOLDENRAY I've handled over 160 vessels.

19 **Mr. Willett:** And what -----

20 **CAPT Tennant:** So there's an extensive amount of car carriers, they make up about 90
21 percent or 95 percent of our ships calling on the Port of Brunswick. So we're very much
22 car carrier Pilots. I believe that we gave you the exact numbers at the last hearing.
23 Probably in the 2000 car ship range in the past 10 years if that helps.

1 **Mr. Willett:** It does. Was the GOLDEN RAY any different than any other RO-RO you
2 had Piloted in the past? Did it handle different? Besides the out bound transit, on the
3 inbound transit and up to the capsizing?

4 **CAPT Tennant:** She handled like any other car carrier. They all have their
5 personalities. Somewhat predictable. I handle them all the time.

6 **Mr. Willett:** Okay. On the inbound transit you note there's some turns you have to
7 make coming into the Port of Brunswick. Could you describe if you recall the turns that
8 you made from the Sea Buoy to Colonel's Island?

9 **CAPT Tennant:** Yes. I disembarked an out bound car carrier, the HONOR and joined
10 the GOLDEN RAY off shore seaward of the STS Buoy, RC Buoy. And aligned the
11 vessel to the North side of the channel as I waited for the out bound car ship with Pilot 4
12 aboard. Once he cleared the bar with the car carrier I entered the bar channel. Met a
13 second out bound large deep draft tidal movement car carrier the FIGARO, car and
14 truck carrier in St. Simon Sound in the vicinity of the lighthouse. All indications were
15 that she was handling as normal. Proceeded up through the casualty sight on the Jekyll
16 Island Range. Turned Cedar Hammock the inner harbor. Everything's normal.
17 Proceeded up through the Lanier Bridge where two harbor tugs joined me as usual. An
18 ATB exited the East River astern of me proceeding out bound. Went up to Colonel's
19 Island in the turning area. It's customary we stop and turn clockwise rotation with tug
20 assistance. We back up stern first about a mile or so to our berth. We berthed at
21 Colonel's Island berth 1. Everything was normal.

1 **Mr. Willett:** Would it be safe to say that you made multiple -- sorry I didn't unmute.
2 Would it be safe to say that on that inbound transit that you made multiple turns to port
3 and to starboard?

4 **CAPT Tennant:** That is correct.

5 **Mr. Willett:** Do you recall the maximum rudder command you might have given on the
6 inbound transit to port or starboard.

7 **CAPT Tennant:** I certainly would have given at least 20 with the Neo Panamax class
8 vessels it's not uncommon to give hard over due to their extreme [in audible] and
9 typically poor rudder.

10 **Mr. Willett:** Do you recall if you possibly gave 20 degree starboard on that inbound
11 transit?

12 **CAPT Tennant:** I cannot say with certainty, but I could pretty much guarantee that I
13 applied that much rudder. That is over a year ago and 160 moves ago.

14 **Mr. Willett:** I understand. Were there any communication issues or problems with the
15 bridge crew on the GOLDEN RAY?

16 **CAPT Tennant:** No.

17 **Mr. Willett:** Do you recall in the Pilot card or the, when you spoke with the Captain did
18 the Pilot – did the Master issue any – did he let you know that [in audible] is not working
19 or you shouldn't go over so many RPM's?

20 **CAPT Tennant:** The MPX on the inbound, the Master Pilot exchange on the inbound
21 the ship's full information was exchanged including deep draft and any other pertinent
22 information. The Captain did not request any items to be restricted. Everything was
23 normal. One of the first things we ask is everything working and is everything in

1 working order prior to committing to the channel. And especially since I'm meeting the
2 out bound vessels and nothing was noted.

3 **Mr. Willett:** So you had mentioned before you had came off another vessel prior to
4 getting onto the GOLDEN RAY. Can you kind of explain that day because I think this
5 was a Saturday? And if I recall the vessel came in, the GOLDEN RAY sometime
6 Saturday in the morning or around the afternoon. Could you explain how your day on
7 that Saturday, if you recall?

8 **CAPT Tennant:** Yeah certainly. Starting with the relief in the sound as customary we
9 had two out bound car carriers. Just a Pilot on the first out bound car carrier, I relieved
10 him in the sound at approximately, say 1345. And the Pilot boat picked me up at the St.
11 Simon Pier, delivered me to ship in the vicinity of Jekyll Island Range. Boarded the
12 vessel, met with the Pilot on the bridge of the vessel. We had our exchange of
13 information. He stood relieved, he went back to St. Simons. I continued the transit with
14 the out bound HONOR. Communicated with the GOLDEN RAY, set up meeting
15 arrangements, and boarding arrangements. Once I cleared the bar then I joined the
16 GOLDEN RAY via the Pilot boat. To the Pilot boat and then approximately a mile from
17 the STS Buoy we came alongside the HONOR. I handed the con over to the Master,
18 disembarked via the Pilot ladder onto the Pilot boat. And we drive over to the GOLDEN
19 RAY who's awaiting for me. And I climb aboard the GOLDEN RAY. The Pilot boat
20 remains offshore to disembark the Pilot, Pilot number 4 off of the outbound, the second
21 out bound car carrier. And I proceeded in and met deep draft out bound near the
22 lighthouse. Does that answer your question?

1 **Mr. Willett:** It does, it does. And you mentioned that you boarded the GOLDEN RAY
2 via the Pilot door. Do you recall if it was the port or starboard side of the vessel? If you
3 don't recall that's fine.

4 **CAPT Tennant:** I think it was the starboard. But I can't say for certain. I'm pretty sure
5 it's starboard.

6 **Mr. Willett:** Okay. And when you approach the vessel that you're going to Pilot
7 inbound, in this case the GOLDEN RAY, would your operator of the Pilot boat make
8 arrangements with GOLDEN RAY to prepare the port or starboard side to open the door
9 for you to enter the vessel?

10 **CAPT Tennant:** It's customary that the Pilot boat or the out bound Pilot will give Pilot
11 boarding instructions to the inbound vessel. And that would be extend the ladder [in
12 audible] So it's best for the Captain to open, determine whether it's port or starboard
13 side ladder.

14 **Mr. Willett:** Sorry about that it keeps muting my microphone. So you brought the
15 GOLDEN RAY inbound to Colonel's Island and you depart the vessel. And then from
16 then you await for orders for the out bound transit, is that correct?

17 **CAPT Tennant:** That is correct.

18 **Mr. Willett:** Do you remember, I think you said around 1300 you boarded or you
19 started your day. Do you recall what time you put the last line off on the GOLDEN RAY
20 when you departed the vessel? Just approximate.

21 **CAPT Tennant:** I believe I boarded her for 1500 inbound on top and that job typically
22 takes 2 hours. Give another 30 minutes to put the ramps down. So it was probably
23 1730ish. I believe I gave the exact information at our first hearing so you could

1 reference that. And then return to St. Simons to rest knowing that the ship, the Captain
2 told me it was probably going to sail post-midnight, so.

3 **Mr. Willett:** Okay. I'll tell you what I'll refrain from specific times because we do have
4 that in your previous testimony. So I'll just proceed now with some generalized
5 questions. So you mentioned it takes roughly two hours, that's two hours for the
6 GOLDEN RAY to get from the Sea Buoy, the time you board, to you moor up at
7 Colonel's Island?

8 **CAPT Tennant:** That is correct.

9 **Mr. Willett:** And after the vessel had moored you departed the vessel and you had an
10 idea that sometime that night you were going to come back onto the GOLDEN RAY
11 after cargo was completed for the out bound transit?

12 **CAPT Tennant:** Correct.

13 **Mr. Willett:** Is that typical with the Pilots in Brunswick to take the vessel and take the
14 same vessel out?

15 **CAPT Tennant:** That is our custom.

16 **Mr. Willett:** When you arrived from the GOLDEN RAY for that out bound transit was
17 the stern ramp still down onto the pier?

18 **CAPT Tennant:** No. The stern ramp was secured. I board shore side via gangway.

19 **Mr. Willett:** Do you recall if the crew seemed to be in a hurry or was anything out of the
20 ordinary?

21 **CAPT Tennant:** Nothing was out of the ordinary. It's not unusual when we board the
22 vessel if they're ready to go it's piped through the ship Pilot aboard all hands man your

1 stations, all hands man mooring stations. I remember that happening. And that
2 indicative that the ship is ready to go. They might have a tight schedule or whatever.

3 **Mr. Willett:** Did you notice any unusual list or maybe the draft was a little bit deeper
4 forward than it was aft? Or was this like a typical RO-RO you've boarded many times in
5 the past and nothing you noticed out of the ordinary?

6 **CAPT Tennant:** It was very typical. It was just another day at work. Nothing out of the
7 ordinary.

8 **Mr. Willett:** And it was approximately 0100 in the morning and it was dark. And I, from
9 Piloting these vessels multiple times I assume you have done this hundreds and
10 hundreds of times in the dark.

11 **CAPT Tennant:** I would characterize the majority of my work at night, in hours of
12 darkness, yes.

13 **Mr. Willett:** Do you recall any unusual weather that evening?

14 **CAPT Tennant:** No it was cupcake conditions. Light South wind if I recollect, calm,
15 good visibility. And I think it was a little bright.

16 **Mr. Willett:** Do you recall talking with the Master and having another exchange? Did
17 he mention at all that there was some unusual things with the vessel or was it the same
18 as the inbound transit?

19 **CAPT Tennant:** Absolutely. Upon entering the wheelhouse we had our MPX, our
20 Master Pilot exchange of information. The first thing I noted were that the draft did not
21 appreciably change from the inbound transit. One of the beauties of the same Pilot
22 taking the ship out that brought it in is that we have a rapport with the Master already.
23 He did not, he said his ship was ready for sea.

1 **Mr. Willett:** And I know it's not customary, but do you ever inquire and ask about the
2 stability of the vessel? On any vessel prior to the GOLDEN RAY incident.

3 **CAPT Tennant:** No. How that is addressed is Captain is your ship ready for sea. If
4 the Captain responds his ship is ready for sea then that means it's seaworthy, which
5 speaks to stability and all of the functioning equipment, that she can answer her bells,
6 the engine works, the rudder works. If he says his ship is ready for sea it implies that he
7 would be able to pass a CFR 33 inspection by Port State Control and would be able to
8 pass that.

9 **Mr. Willett:** Do you recall if you had any tug boats assisting you to unmoor the vessel?

10 **CAPT Tennant:** Yes with those conditions it was a one tug job, the Dorta Moran (sic)
11 was the duty boat. Had her made up on the transom.

12 **Mr. Willett:** Can you kind of describe that process of how you take the lines off and
13 then get into the channel? Did you have to make any turns? I think you said before you
14 went ahead and turned the vessel on the inbound transit.

15 **CAPT Tennant:** Yeah that's correct. All car carriers are turned on their inbound transit
16 because their ramps are on their starboard side. And the terminal is on the South side
17 of the channel. Therefore they all approach the berths stern first. So they are turned on
18 the inbound.

19 **Mr. Willett:** Okay.

20 **CAPT Tennant:** That makes the out bound transit about an hour and a half or an hour
21 and forty minutes since the turning has already been done. She's headed to sea is how
22 we turn that.

1 **Mr. Willett:** Okay. So the tug boat Dorta Moran do they hook up or do they just stand
2 by when you come off the dock?

3 **CAPT Tennant:** Yeah they typically make center lead to aft whether on deck or on a
4 sunken bit. And she basically works like an out board engine laying across the transom
5 of the ship. And in conjunction with the ship's bow thruster under those types of
6 conditions instead of a second boat, spare lines will be the last lines will come off the
7 berth. Once there's a sufficient amount of lateral distance from the berth where it's safe
8 for me to release the tugs and come ahead I'll do so.

9 **Mr. Willett:** And in the case of the GOLDEN RAY was – is that what happened? It was
10 a typical – you said they make up a big – do they pass a line down to the tug or the tug
11 passes one to them?

12 **CAPT Tennant:** So tugs line, ship's heeding line.

13 **Mr. Willett:** Very well. And when the vessel, you took the GOLDEN RAY off the berth,
14 did the tug, did they break apart at that point?

15 **CAPT Tennant:** The tug disconnected from the ship when ordered to do so by the
16 Pilot.

17 **Mr. Willett:** Okay. And that went normal, smoothly?

18 **CAPT Tennant:** Correct.

19 **Mr. Willett:** When do you typically dismiss the tugs?

20 **CAPT Tennant:** After I feel the vessel is on the rudder and that I have control of the
21 vessel and she's making an appropriate amount of speed to give me the satisfaction
22 that I'm going to safely clear the State docks. Until then the tug is standing by, not

1 connected in case I need them to jump back in there and assist in case we were have a
2 loss of propulsion or steering.

3 **Mr. Willett:** And in the case of the GOLDEN RAY do you recall if you released the
4 vessel, or sorry, the tug boat Dorta Moran around the Lanier Bridge or prior to that or
5 after that?

6 **CAPT Tennant:** Yeah he would be released once I cleared the State docks at
7 Colonel's Island. However, he may not be in my service he's still standing by on his
8 working channel so if I were to have any sort of issue down by the bridge we're
9 essentially running back together because he homeports out of the East River. And so
10 we're basically running side by side.

11 **Mr. Willett:** And if I recall I think he loitered in that area because there was an inbound
12 vessel.

13 **CAPT Tennant:** That's correct. The out bound GOLDEN RAY was a conjunction move
14 which is our local navigational call for inbound and an out bound happening at the same
15 time.

16 **Mr. Willett:** So -----

17 **CAPT Tennant:** So he would be waiting at the bridge near the Lanier Bridge with a
18 second tug, which is customary for all inbound car carriers to have two tugs in
19 Brunswick. They are rotated on the inbound.

20 **Mr. Willett:** Okay so to clarify inbound RO-RO's would have two tugs assigned to help
21 them turn around, outbound RO-RO's only have the one tug just to help you get off the
22 dock.

1 **CAPT Tennant:** That is true for this case and many cases. Whether or not it's one or
2 two tugs on the outbound is predicated on the wind and tide, Pilot, draft, vessel, Master.
3 And it's numerous variables.

4 **Mr. Willett:** So can I assume that you request only one tug because the weather was
5 fine, the vessel had no unique characteristics, the current was not unusual, so you only
6 requested the one tug for the out bound transit for the GOLDEN RAY?

7 **CAPT Tennant:** That's correct. If she were a poor handler on the inbound or the bow
8 thruster did not perform adequately for the conditions, it's a judgement call and I'll
9 usually order just a little bit more than I need, I think I need to actually do the job. So I
10 sailed her with one tug, I had confidence from her behavior on the inbound that it would
11 be safe to do so.

12 **Mr. Willett:** You mentioned that there was an inbound vessel the EMERALD ACE, is
13 that correct?

14 **CAPT Tennant:** That is correct.

15 **Mr. Willett:** And is that another car carrier or a RO-RO?

16 **CAPT Tennant:** Correct.

17 **Mr. Willett:** Did you make passing arrangements with the EMERALD ACE?

18 **CAPT Tennant:** Yes.

19 **Mr. Willett:** And what was the plan?

20 **CAPT Tennant:** Prior to getting underway the out bound Pilot will communicate with
21 the inbound Pilot prior to the inbound Pilot starting in and prior to the out bound Pilot
22 leaving the berth to make sure that this orchestra is well timed. I communicated with
23 Pilot 7, Jamie Kavanagh, I remember speaking with him. I was out on the starboard

1 bridge wing when he boarded the vessel. And then I also communicated with him at
2 some point when I was underway making way in the South Brunswick River. And I
3 recollected that he said he was inside STS meaning he was inshore of the Sea Buoy.
4 And we were at that point observing one another's movements so that we could time
5 the correct meeting in St. Simon Sound, which is approximately the half way mark.

6 **Mr. Willett:** And you've mentioned you've made these transits hundreds of times. How
7 many time would you recall possibly that you have made these meeting arrangements
8 at that location and have done that successfully?

9 **CAPT Tennant:** Thousands.

10 **Mr. Willett:** You mentioned you were on the bridge wing and we had watched earlier,
11 an earlier Exhibit about something called the Pilot PPU. Could you explain how you
12 connect to the ship and what you use to interface with the vessel's GPS and all their
13 equipment?

14 **CAPT Tennant:** Sure. This is a relatively new thing, the PPU for Brunswick.

15 **Mr. Willett:** What does that stand for?

16 **CAPT Tennant:** Portable Pilot's Unit. And it's nothing fancy, it's essentially all the
17 same information that the ship has on its own equipment. But it allows for a lot of data
18 to sensitize from numerous locations into one compact unit which provides the Pilot a
19 way to validate or verify his own intuition as a ship handler. And to be able to carry that
20 on a table format wherever he's conning from on the vessel. So if we're operating say
21 astern and I'm on the port bridge wing, I'm sorry I'm on the starboard bridge wing and
22 I'm looking astern I can have that information out there versus running into the
23 wheelhouse be able to check the speed over ground. It's in an armored case in case

1 we've got to be out there in the rain and the elements. And so when we're speaking
2 hardware [in audible feedback]. And so that consist of a cat rod which provides a more
3 accurate rate of turn information than the ship's AIS is capable of producing. And that is
4 set up centerline near the gyro, the infamous gyro in this case. And the cat – the cat 1
5 is a standalone independent GPS receiver with very accurate data that is connected via
6 WIFI to the cat rod and the laptop or table, or Ipad. And that's typically located on a car
7 carrier, we'll put it on the port bridge wing, since we're standing on the starboard wing
8 so we won't accidently knock it off station the antenna. And the antenna offset from
9 centerline and from the bow of the ship is entered into the table or Ipad for accurate
10 antenna placement. And our software with that is CIQ. It's an industry standard.

11 **Mr. Willett:** Do you physically plug into the ship, is there like a Pilot plug or?

12 **CAPT Tennant:** That is correct. The cat rod is plugged into AIS plug for heading data.

13 **Mr. Willett:** And that system and hardware appeared to be operating fully functionally
14 that night?

15 **CAPT Tennant:** Absolutely. It was actually a blessing, not that it changed the outcome
16 of the event, but it did allow us – I was able to take a sling shot of my position where I
17 was capsized and text to other Pilots to let them know, you know pictures are worth a
18 thousand words. And then it was also valuable to the investigation immediately
19 thereafter that we could replay the event. It's much like we do in training evolutions with
20 younger Pilots, we can replay jobs to learn from the jobs and how to make them better.

21 **Mr. Willett:** What I would like to do is if we can get it up right now is put the chart up of
22 the, I don't remember the number of the chart, I think it's 11506. Let me put that up. If
23 we need to take a break we can do that. So I would like you, you talked about moving

1 away from the dock and we want to show the chart and if you can just kind of walk me
2 through the out bound transit of that night. You have a pointer right there next to you.

3 **Recorder:** Just for the record this is Coast Guard Exhibit 2.

4 **CAPT Tennant:** Oh boy that's –

5 **CAPT WELBORN:** Pending getting this up we're going to take a quick 5 minute break.
6 The local time is 11:09. We stand in recess.

7 *The hearing recessed at 11:09, 18 September 2020*

8 *The hearing was called to order at 11:15, 18 September 2020*

9 **CAPT WELBORN:** The local time is now 11:15 and we're back on the record in the
10 investigation of the GOLDEN RAY capsizing. Mr. Willett will continue his line of
11 questioning.

12 **Mr. Willett:** Thank you Captain Welborn. We have the exhibit it, and this is previous
13 Exhibit 1, Coast Guard Exhibit 2 I apologize. This is Coast Guard Exhibit 2 and it's a
14 NOAA chart 11506 and I was speaking with Mr. Tennant and he was going to explain in
15 detail his out bound transit of the GOLDEN RAY starting from Colonel's Island.

16 **CAPT Tennant:** The red laser shows Colonel's Island in the vicinity of berth 1. And
17 this is the GOLDEN RAY's berth, starboard side to. We sailed from Colonel's Island
18 outbound down the Brunswick River. Our first change to starboard into the Colonel's
19 Island turning area, the vessel was building speed out bound lower Turtle River Range.
20 Transit the Lanier Bridge, proceeds past -----

21 **WIT:** Excuse me the witness is on mute.

22 **CAPT Tennant:** Got it now? Got me Jim? Good. The pointer is at Colonel's Island,
23 this is berth 1. The GOLDEN RAY is moored starboard side to. She proceeds out

1 bound down the Brunswick River. The first substantial course change is to starboard
2 into the Colonel's Island turning basin area in the Turtle River. She's proceeding out
3 bound lower Turtle River Range, transits successfully to the Lanier Bridge, approaches
4 quarantine station all the while I'm observing the inbound car carrier and looking at the
5 timing. I'm bucking the tide, Jamie is riding the tide. I decelerate for the turn at Buoy
6 24. Turn Cedar Hammock at Buoy 24, which is a substantial course change to port.
7 This is our shallowest inner harbor reach. Proceed onto Jekyll Island at range. Turning
8 to port the vessel now as you can notice by this area of white, there's more white
9 around the channel because I'm now entering a fast deeper area of the sound from a
10 shallower reach. The vessel characteristically increased speed which is usual. Which
11 brings me up to Jekyll Point. Now I have Jamie visually, the inbound is over here about
12 to exit the bar channel. The goal is to meet up in here the vicinity of Buoy 17 and
13 lighthouse. So I proceed up to Buoy 20 and there's a rather pronounced set from right
14 to left from the inbound flood tide, therefore I alter course to starboard. I'm heading 0,
15 probably 037 is the centerline of the course. I think I pointed up to 040, something like
16 that to compensate for the set so I wouldn't be set on Buoy 20. And this is when the
17 event occurred.

18 **Mr. Willett:** You mentioned a couple things I just wanted to clarify. You mentioned you
19 were bucking the tide, somebody was. So can you kind of demonstrate the tide was
20 incoming? So what would that mean?

21 **CAPT Tennant:** Okay good question. Yes I had about a half tide flood meaning the
22 tide was incoming about half of its height was already – we were already at about half of
23 its height by the time I would get on the bar channel. So that means the inbound ship is

1 riding with the tide or fair tide, the tide at its back. Which means it would be easier for
2 me to slow down if need be and harder for him to slow down and maintain control of his
3 ship.

4 **Mr. Willett:** So as the tide is coming in would you have more water coming over the
5 rudder? So you wouldn't need as much speed? You had more maneuverability?

6 **CAPT Tennant:** It would be fair to say that, yes, I would have more flow over the
7 rudder.

8 **Mr. Willett:** And you had also mentioned when you exited the Jekyll Creek Range you
9 passed Jekyll Island you said you might be getting set so you needed to – was the
10 current flowing in and pushing you, is that why you turned to starboard?

11 **CAPT Tennant:** That is correct and that's just what Pilots do, it's typical. We were
12 constantly adjusting for the sets of the current and its velocity which is dynamic. It's
13 always changing. Yet it's predictable. And these maneuvers occur at every stage of
14 the tide, ebb or flood. We make whatever alterations of course are necessary to
15 maintain channel discipline. To keep the ship safe.

16 **Mr. Willett:** Roger. You mentioned your first substantial course correction was in this
17 area. Could you point that again? Do you remember approximately what rudder
18 commands you might have given?

19 **CAPT Tennant:** There's no way for me to remember the exact command I gave. But it
20 was most certainly would have been starboard 20 exiting that at a lower speed to make
21 that turn. So that's a 13 degree turn. And it would have been substantial rudder.

22 **Mr. Willett:** Now is this area a little bit shallower and maybe more constricted in this
23 part of the channel?

1 **CAPT Tennant:** Actually the turning area, the Colonel's Island turning basin that I'm
2 turning into actually has some – a lot of water, it's pretty deep. And it's maintained, its
3 well maintained. It's natural water up there. The more confined space that I was
4 speaking of would be Brunswick Point Cut and Cedar Hammock, this area here. This is
5 our skinny water on the inside if you will.

6 **Mr. Willett:** And I believe you mentioned that was the shallowest area.

7 **CAPT Tennant:** At the time I believe our shallowest area was on the outer bar channel
8 which is this area out here. So you can see – you can see where the blue outside the
9 channel, the white in those deep water. This blue area is the shoal water of the bar. So
10 this is the – these inner three miles are about the skinniest water of the bar channel.

11 **Mr. Willett:** Is this at 36 or less?

12 **CAPT Tennant:** Yeah. So at that time I believe 34 feet was our controlling depth on
13 the outer bar. And so she was not being maintained at Federal project.

14 **Mr. Willett:** So just to expand on that, it's my understanding that the Federal project
15 depth of the Brunswick River and all of its ranges are 36 feet.

16 **CAPT Tennant:** That's correct. But it's 38 on the outer bar. You have to count for
17 wave action.

18 **Mr. Willett:** And has this area since been dredged?

19 **CAPT Tennant:** It's dredged annually. However, the outer bar, although we have a lot
20 of natural deep water here, abundance in an ocean port not a river port, it's not man
21 made. The bar channel does require maintenance annually. And she shoals at a rate
22 of about 1.1 to 1.3 billion cubic yards. Often times we don't have adequate funding for
23 the project despite the ship's paying in to the harbor maintenance trust fund. Therefore

1 we are usually having to work with our partners at the Corps of Engineers to determine
2 whether we want more width or more depth to adequately make it – to keep the
3 commerce flowing.

4 **Mr. Willett:** I've heard you use the term, or I've heard the term tidal restricted. Could
5 you explain that?

6 **CAPT Tennant:** Sure. A tidal restrictive movement, I guess it's easier to start with
7 anytime draft. At this time, not at this time, but at the time when the GOLDEN RAY
8 occurred I believe our anytime draft was 9.3 meters. And so essentially that means that
9 anytime we are willing to handle a vessel at 9.3 or less of draft. Meaning that would
10 give us appropriate under keel clearance to safely a vessel. And that's based on
11 predicted tides. Which are predicable, but the actual tide may be different due to
12 conditions such as wind. In which case the Pilot would have to take that into account.
13 So at this time when the GOLDEN RAY sailed her draft was, if I recollect correctly was
14 9.45 was her deep draft. So it also had a positive over 1 foot low water tide on the
15 predictions. And of course I already said the wind was not much out of the South. So
16 there would be plenty of under keel clearance for the GOLDEN RAY. By the time I
17 sailed I already had 3 feet of tide and I already have 3 feet of buffer for under keel.

18 **Mr. Willett:** So in the case of the GOLDEN RAY it had a draft of, maximum draft of
19 9.45 meters. Do your anytime tide, or anytime draft would be 9.3.

20 **CAPT Tennant:** Which is 30 ½.

21 **Mr. Willett:** And in this case the tide was incoming so you – could you have taken the
22 GOLDEN RAY out safely – you took it out around approximately 01. You could have
23 taken it out 4, 5, 6 hours after that?

1 **CAPT Tennant:** Yes. But there's other consideration such as traffic. So the inbound
2 vessel may need her berth. I don't remember which berth she was going to go to.

3 **Mr. Willett:** Okay.

4 **CAPT Tennant:** But there are other considerations.

5 **Mr. Willett:** As far as tidal restrictions.

6 **CAPT Tennant:** If we – after the harbor deepening I believe it was in '07, with the new
7 project dimensions if we were properly maintained and properly funded to maintain the
8 harbor as it was designed we would be able to handle vessels 10 meters in drafts at low
9 water. And 11 meters on top of the tide utilizing tidal lift. So our tidal lift here in
10 Brunswick, the average is about 7 ½ feet. There's times of the year where we may
11 have as much as 10 feet. And so we can utilize that to make up for the shortfall of
12 Government funding for dredging.

13 **Mr. Willett:** So on your out bound transit you mentioned you pass Lanier Bridge and
14 we had previous testimony from the Captain of the GOLDEN RAY that he had ordered
15 the port Pilot door to be opened. Do you recall him given that order?

16 **CAPT Tennant:** I don't. But that's not uncommon. I would just recollect something if it
17 was out of the ordinary.

18 **Mr. Willett:** Do you remember in your previous transits of other vessels, RO-RO's,
19 would they normally have the Pilot door open the whole transit?

20 **CAPT Tennant:** That's hard to say because I'm on the bridge of the ship.

21 **Mr. Willett:** Fair enough.

22 **CAPT Tennant:** So Mr. Willett it is typical that as soon as we sail the Master wants to
23 release his crew from fore and aft stations. And instead of having them come back to

1 the wheelhouse and then send them back out to rig a Pilot ladder they will often times
2 press us when we're not ready to give them the information about which side for the
3 Pilot ladder because we haven't communicated with the boat yet. Who knows if the
4 conditions have changed offshore. So a lot of times I defer that when they ask me if I
5 don't know with certainty which side for the ladder upon sailing. I'm more concerned
6 about getting the ship moving and underway. And usually I'll tell them hey Captain I'll
7 let you know after the bridge after I communicate with the Pilot boat. It could be very
8 likely in this instance with the South wind I could have very easily said if you asked me
9 hey it's going to be a port side ladder. In which case he may call his crew, the
10 Boatswain or whoever is forward usually after I clear the bridge and I'm done forward
11 they'll send the man aft to rig up the Pilot ladders. So it's very likely they could have
12 ordered the Pilot ladder rigged. But I don't know if that means the same thing as
13 leaving the door open or not.

14 **Mr. Willett:** Thank you. So let's pick back up around Widener 11. Can you start from
15 your first, you mentioned you had given some – a starboard rudder command because
16 of the turn and that's a typical movement that you would do with an inbound tide. Could
17 you start from that point and let us know up to when you realized there was a problem
18 with the vessel?

19 **CAPT Tennant:** Certainly. So when I pointed her up into the current about 4 degrees,
20 that's using course changes to the helmsman. So I would go from say 037, 040
21 something like that and then he'll repeat that command. And of course I'm trust,
22 verifying looking at the rudder angle indicator that he's doing what I need to do and then
23 I'm confirming looking at the gyro. I am positioned in the centerline of the ship, right

1 behind the windshield. The Captain and bridge team sits behind me, behind radars and
2 telegraphs and so forth. So we're very much terrestrial navigators. I'm looking out the
3 window at the Buoy, the inbound ship and so forth. That's when it's time for me to make
4 my alteration of course to starboard to actually turn into Plantation Creek Range. The
5 initial command was 10 degrees, starboard 10. The helmsman executed starboard 10, I
6 verified it. The ship did start to rotate slightly to starboard, but not to my satisfaction that
7 I would establish the appropriate rate of turn. I positioned myself in Plantation Creek to
8 meet the inbound ship. So I then applied starboard 20 which is very common.
9 Immediately after applying starboard 20 I had to go to mid-ships and this is my first
10 indication that something is not right. There were other than this ----

11 **Mr. Willett:** I'm sorry, sir I think we're having a technical issue. I apologize. Captain
12 can we take 5 minutes to rectify this situation?

13 **CAPT WELBORN:** Let's take a quick pause in the action. The time is 11:33. We'll just
14 take a small pause.

15 **Mr. Willett:** Okay we've un-paused. I apologize for the inconvenience. Mr. Tennant
16 was given his testimony regarding his first turn into Widener 11 and I'll give it back to
17 you, sir.

18 **CAPT Tennant:** Okay I believe I left off with there was pre-event indicators of anything
19 being out of the ordinary until I applied starboard 20 in which time the vessel
20 immediately took off to starboard more so than I've ever experienced before in my
21 career. So this explanation is very long but realize this took place in a few seconds. So
22 when I went to mid-ships immediately after applying 20 she leaned into the turn a little
23 bit and started to over rotate to starboard therefore, I applied what's known as counter

1 rudder to reduce the rate of turn to starboard. As soon as I applied counter rudder it
2 wasn't an adequate amount of counter rudder where there was no deceleration of the
3 rate of turn to starboard. I am still level, I'm still – I have no idea that I'm about to
4 capsize at this point. But it's unexplainable situation that I've never felt before. So I
5 asked the Captain, Captain what is going on thinking that maybe he had some insight
6 on this behavior, this uncharacteristic behavior. In which time I applied the maximum
7 amount of counter rudder which is hard to part, which is 35 degrees, that's all I've got.
8 Prior to doing that when I felt like I was losing control of the vessel I reached behind me
9 and – where I propped up a ship's radio and said to Jamie on the inbound watch out
10 Jamie I'm losing her. At which time she capsized. I dropped the radio, held on to the
11 gyro, the ship capsized. I tried to ease the rudder, still trying to drive the ship
12 proceeding that if I reduce the amount of counter rudder it would be less capsizing
13 moment. And when she was still spinning out of control to starboard I felt like she was
14 going to make a complete round turn. It didn't. In which I was concerned of the
15 inbound then could hit me. At that point I went back to hard to part because I had
16 nothing to lose. And at that time I was capsized. I had no context at the time of – that
17 my rudder and propeller were out of the water. I was still like an airline pilot trying to
18 drive the plan, trying to solve the problem until it flew into the ground. I was still trying to
19 solve the problem. And at that point I was giving commands that people – everybody
20 flawlessly executing the commands I was giving. But I had no control of anything. So
21 essentially at that point she just plowed into sound.

22 **Mr. Willett:** So you had mentioned you had made a starboard, you give a starboard
23 rudder command prior and possibly up to 20. This rudder command you gave 20. And

1 in this case it got out of control. Was the first command you gave, do you recall the
2 speed you were going on that first turn to starboard when you just left Colonel's Island.

3 **CAPT Tennant:** I don't recollect, but I think it was, it most likely was 10 knots,
4 something like that.

5 **Mr. Willett:** Do you recall your speed when you gave the -----

6 **CAPT Tennant:** I think I was 12.4.

7 **Mr. Willett:** Leading up to the event where the GOLDEN RAY exited the channel, and
8 you had no control anymore, do you recall what you did next? Did you communicate to
9 other vessels, or?

10 **CAPT Tennant:** Yes. So when this occurred, once I was on my side I was in deep
11 water, I wasn't out of the channel yet, I was in the Widener. And my speed decelerated
12 very rapidly because I'm plowing through the water. And this is where I experienced
13 more of a slow motion time of where everything was happening rapidly, but I was seeing
14 it very slowly and kind of looking at life through a straw. So grasping at the context of
15 what was occurring, because in my Piloting career I've experienced groundings and lost
16 the steering, and blackouts and all these things that we've trained for, but nowhere can
17 someone train for a capsizing event. And therefore there's no file cabinet of analog of
18 what to do when you're capsizing. So at first there's moments of disbelief of it. And
19 then there's a deliberation process of what is actually happening and what do I need to
20 do after the disbelief. And then there's the decision making process of how to act. So
21 basically my life vest fled to me, holding on to the gyro I'm just trying not to fall straight
22 down. I'm looking down at the water in the sound. This is now we're trying to preserve
23 life. I still think I'm Piloting, I still gave an astern bell and so forth. But nobody can

1 respond. I grab my radio out of my lifejacket and that's when I called the tugs, I knew
2 they were at the bridge for Jamie to catch him on the inbound. And the tugs couldn't
3 hear me. And then I tried to understand well why don't they hear me and I believe it
4 was because I was on a handheld and the ship's hull is above me blocking me. So
5 Jamie could hear me and Jamie tells the tugs come to me. I could hear Jamie
6 communicate to them. He drives around me. I had a tremendous sense that after
7 falling there's a feeling like when you're on the ship when it's capsizing that you're
8 normally eyeball to eyeball with the lighthouse. If you imagine being on top of the
9 lighthouse looking out the window and then in six seconds or so just be at 72 degrees.
10 So there's going to be delay in time for the tugs to be able to get to me in which time
11 there's a tremendous sense that we're sinking and that we're in channel and we need to
12 get out of the channel. She had enough momentum that carried her out of the channel.
13 And then there was a sense that I need to get the Pilot boat to me to mark the sandbar
14 in front of me with the idea, with the intension of driving her as far up on the sandbar as
15 possible to preserved human life. And at which time the tugs get out there, the Pilot
16 boat gets out there. Called Sector directly on the handheld when Station Brunswick
17 didn't pick up. I remembered then that Sector had the radio watch at night. Sector
18 picked up immediately and I'm asking to roll everything and send everything they can to
19 us. More assets start showing up on scene and once the tugs got there the idea of
20 having the Ann Moran push on the stern to stabilize the patient into the sandbar to
21 prevent her from down flooding. So I proceed the bow and the port bilge keel was on
22 the sandbar. And I wasn't sure how much of the stern was still over deep water, over a
23 ledge. At which time I was able to grab the PPU, look at it, oh okay stern is in deep

1 water. I'm asking a tug boat, what's the distance, the freeboard between the air boxes
2 and the ship's funnel. With concern that we start down flooding through the air boxes
3 and as we down flood the weight would sink the stern of the ship and then she would
4 slide down into the channel. And there was also a feeling that she could go roll more to
5 port while hanging up there. The Master was on the deck behind me. I'm trying to
6 communicate with him over loud alarms. How many souls are on board? Essentially at
7 this point I had given a security call and I still thought I was Piloting until I got to the end
8 of the security call saying I'm aground near the vicinity of Buoy 19 and that's when my
9 vision opened up and auditory exclusion went away and I could see for it was and this is
10 now a lifesaving event, not a piloting event. I was able to basically liaison for the Coast
11 Guard, the only American aboard the ship that could speak fluent English and just give
12 them the information they needed to send the appropriate assets. The Captain was
13 telling me where injured people were and I would try to relay that to people. It seems
14 that the ship was stabilized somewhat after the tugs were alongside. My heading
15 changed, I fetch up around 155 with heading on the gyro. My angle appeal it looked like
16 about 72. I had asked the Captain in the early days were all the watertight doors
17 secured, he said yes. I think I, because I've never asked questions in that type of
18 situation that are applicable to a capsizing I didn't have it formulated in a manner that
19 the Captain could maybe understand me with his level of English. And there was fear in
20 the faces of the people around me. I tried to ensure the Captain that we're going to be
21 okay, we're on a sandbar and the Calvary is coming, the Coast Guard is on the way and
22 the tug boat is going to hold it there. We were concerned that maybe people got thrown
23 from the ship. So the Pilot boat was looking for survivors in the water.

1 **Mr. Willett:** Thank you for that. That's very insightful. One thing I do want to ask you
2 before we got back to that moment and time. Before the vessel away to starboard. Do
3 you recall hearing any alarms or any crashing of cargo or anything else that might have
4 indicated hey this is about to happen?

5 **CAPT Tennant:** In the timeline there was no pre-event indicators whatsoever. We're
6 used to hearing alarms on ships. I don't recollect hearing any. We typically at this
7 stage in my career the things that are most alarming to me is rapid speaking native
8 languages or the engine room calling up or witnessing a reduction of RPM or
9 something. None of that happened. Everything was just as normal as could be until it
10 capsized.

11 **Mr. Willett:** And just for clarification you mentioned air box, were those the vents that
12 went down to the cargo decks?

13 **CAPT Tennant:** That is correct. They run the length of the ships.

14 **Mr. Willett:** Captain Welborn I'm finished with my questions. I turn the witness over to
15 you. Thank you, sir.

16 **CAPT WELBORN:** Thank you Mr. Willett I do appreciate it. And Captain thank you for
17 recounting that harrowing story, we do appreciate it. So what I would like to do at this
18 point, it is now 11:49 I would like to – Mr. Bremer do you have a line of questioning for
19 this witness?

20 **Mr. Bremer:** Yes Captain I do.

21 **CAPT WELBORN:** So Mr. Bremer why don't you go ahead and start with your
22 questioning and we will see where we go from there.

1 **Mr. Bremer:** Thank you Captain. Mr. Tennant, good morning. Are you aware if there
2 were any changes to the order of Pilot time for the GOLDEN RAY for the out bound
3 departure?

4 **CAPT Tennant:** I am unaware of any of that. On the inbound – the orders were
5 consistent with what the Master had told me on the inbound.

6 **Mr. Bremer:** Okay. And as far as the bridge team from the GOLDEN RAY, the crew of
7 the GOLDEN RAY was the composition of the bridge team as you would normally
8 expect as far as rank and number of individuals?

9 **CAPT Tennant:** Absolutely.

10 **Mr. Bremer:** Okay. And how would you describe the communication between yourself
11 and the other members of the bridge team?

12 **CAPT Tennant:** It was normal.

13 **Mr. Bremer:** Okay. And the, I know you had mentioned the main engine already
14 responding. As far as the steering gear in your experience was the rate of response
15 from the steering gear as what you would normally expect?

16 **CAPT Tennant:** It was.

17 **Mr. Bremer:** And during your out bound transit on the GOLDEN RAY did you
18 experience any unexpected delays of any kind?

19 **CAPT Tennant:** No.

20 **Mr. Bremer:** And just for clarification you described how the interaction between you
21 and the Master with regards to which side for disembarkation port or starboard, do you
22 remember when this occurred for the GOLDEN RAY on the out bound transit?

23 **CAPT Tennant:** I really don't. You may want to check back in my original testimony.

1 **Mr. Bremer:** Okay. But to the best of your recollection there was no pressure or
2 anything that would stand unusual to you?

3 **CAPT Tennant:** Nothing unusual.

4 **Mr. Bremer:** Thank you I think that's all I have for you right now. Thank you very much.

5 **CAPT Tennant:** Thank you Tom.

6 **CAPT WELBORN:** Captain Flaherty do you have questions for this witness?

7 **NTSB:** Yes I do Captain. Stand by.

8 **CAPT Tennant:** Captain Flaherty do you have me?

9 **NTSB:** Yes. Can you hear me Mr. Tennant?

10 **CAPT Tennant:** Yes, sir.

11 **NTSB:** Okay great. You mentioned earlier when you were talking to Mr. Willett
12 something about turning or rudders on board RO-RO ships of similar design to the
13 GOLDEN RAY. Could you please expand upon that what you meant?

14 **CAPT Tennant:** Certainly, sir. I believe I was communicating that the Neo Panamax
15 RO-RO vessels often feel like they don't have a rudder commensurate with their size.
16 Often times it feels like they have a conventional 200 meter ship's rudder and
17 propulsion system on a wide ship.

18 **NTSB:** So essentially you feel that this design, in your professional opinion is possible
19 un ---- has a -- is under rudder to put it that way?

20 **CAPT Tennant:** I'm not a Naval Architect, I'm an end user. I can tell you from the Pilot
21 perspective that they're not -- they're not designed well to handle in Pilot waters.

22 **NTSB:** Sorry dogs are barking upstairs. So and that's something you keep in the back
23 of your mind while you're bringing a vessel like that in and out?

1 **CAPT Tennant:** Absolutely.

2 **NTSB:** And your opinion of this type of vessel with its type of vessel, or excuse me its
3 type of rudder design where you feel at times it's not adequate for the size of the vessel
4 is that based on your own professional experience as a Pilot?

5 **CAPT Tennant:** Of course my opinion would be based on my own experience.

6 **NTSB:** So have you experienced with other RO-RO vessels of a similar design to the
7 GOLDEN RAY having maybe rudder concerns, steering concerns while entering or
8 exiting a port?

9 **CAPT Tennant:** No. It's just one of the many variables. Just like any other ship we
10 have. Just about every bulk carrier in the world is under rudder especially in a ballast
11 condition where half of the rudder is out of the water. These are just variables.

12 **NTSB:** Okay.

13 **CAPT Tennant:** The -----

14 **NTSB:** Go ahead.

15 **CAPT Tennant:** The implications of the variables is that it goes into my decision
16 making matrix as to what thresholds of wind and tide I would be willing to handle such
17 poor handling vessels.

18 **NTSB:** Okay. To go back to when you're out bound and you're on the Jekyll Island
19 Range, maybe right by Buoy 21 your preparing for – can you kind of describe in your
20 thought process of what you're planning to do in order to meet up with the EMERALD
21 ACE?

22 **CAPT Tennant:** Yeah there's nothing that can change much at that point in the transit
23 regarding the meeting of the EMERALD ACE. That was a well orchestrated movement

1 from the time we left the berth and the time he started inbound. We were just executing
2 the movement and trying, the focus is trying to maintain channel discipline, centerline
3 discipline with the – with my own ship.

4 **NTSB:** So prior to coming up on the Widener 11 you issued a 10 degree right rudder?

5 **CAPT Tennant:** 10 degrees to starboard.

6 **NTSB:** 10 degrees to starboard. And then you proceeded to 20 degrees starboard.

7 Could you please explain why you felt the need to increase the rudder range?

8 **CAPT Tennant:** I needed to use an adequate amount of rudder to make – to establish
9 the appropriate rate of turn and turn into the next channel.

10 **NTSB:** And is that a -----

11 **CAPT Tennant:** So I started with less rudder and when less was not adequate I then
12 applied 20. It's commonly done. Just about every turn we ever make.

13 **NTSB:** Okay. So it was no surprise to you when you initially ordered 10 that you would
14 need an additional 10 degrees to make it a 20 degree turn?

15 **CAPT Tennant:** That's correct. At that point everything was normal.

16 **NTSB:** Okay. And then just to go over – it was shortly after the 20 degree that you –
17 that the vessel started to feel unstable?

18 **CAPT Tennant:** Immediately after applying 20 degrees of rudder she began to rotate
19 to starboard at a concerned rate. Therefore immediately she went to mid-ships and I
20 applied counter rudder.

21 **NTSB:** And as the vessel is taking this more rapid harder turn to starboard what was
22 the vessel itself, what was its position? Was it still remaining upright or how would you
23 describe it?

1 **CAPT Tennant:** Yeah. When I applied starboard 20 I felt her lean to starboard a
2 normal amount, not an alarming amount, just a normal reaction. She remained upright
3 at this time I thought I was just over rotating the starboard for some unknown reason.
4 It's when counter rudder was applied that she continued to rotation to starboard while
5 flipping over on her port side.

6 **NTSB:** Okay.

7 **CAPT Tennant:** In a violent rapid decent.

8 **NTSB:** Now at the – now if you would – if the vessel had not of course overturned and
9 obviously flipped, on the Plantation Creek Range where approximately where were you
10 anticipating to meet the EMERALD ACE?

11 **CAPT Tennant:** We would typically meet between St. Simons Pier and St. Simons
12 Lighthouse area in the vicinity of Buoy 17.

13 **NTSB:** Okay. And obviously it was going to be a port to port passage?

14 **CAPT Tennant:** That's correct.

15 **NTSB:** And how much space do you and the other Pilots give each other from the –
16 during the port to port passage between the two vessels?

17 **CAPT Tennant:** There's – that's a large amount of space between us, it would be
18 measured perhaps ship lengths.

19 **NTSB:** So a – you have plenty of room there essential to maneuver if something came
20 up that your original plans for the passing was not attainable?

21 **CAPT Tennant:** That is correct.

22 **NTSB:** Okay. Is there any currents coming down from, let's see you have a waterway,
23 let's see I'm trying to look for the – in St. Simon Sound you have a river as I understand

1 it that is kind of off to your port side as you're going out bound. Is there a lot of – you
2 had an inbound tide so is there any current coming down that river at the time?

3 **CAPT Tennant:** Negative.

4 **NTSB:** Okay. Alright. Captain Welborn that's all the questions I have.

5 **CAPT WELBORN:** Thank you Captain Flaherty. So I will hold my questions until after
6 we hear from the PII's. So Mr. Reisman do you have questions for this witness?

7 **Mr. Reisman:** Yes Captain Welborn, yes I have a few questions. Captain Tennant I
8 just want to go back a bit and discuss some of the issues that Captain Flaherty asked
9 you about. How many Neo Panamax RO-RO's have you taken in and out of
10 Brunswick?

11 **CAPT Tennant:** An equal amount as any other Brunswick Pilot that's fully branched.

12 **Mr. Reisman:** I just mean is that hundreds do you think? Thousands?

13 **CAPT Tennant:** I would say its hundreds, not thousands. Because it's based on the
14 new Panama Canal.

15 **Recorder:** Understood. And my question really goes to Captain Flaherty asked you
16 about the design issues and the handling of those particular ships. You said you've
17 handled hundreds of those and you've been able to safely get them in and out of
18 Brunswick, is that correct?

19 **CAPT Tennant:** That is correct.

20 **Mr. Reisman:** And you were familiar with the specific handling of the GOLDEN RAY
21 based on your inbound transit with that vessel, is that correct?

22 **CAPT Tennant:** That is correct.

1 **Mr. Reisman:** And so the issues that you described regarding the rudders on ships like
2 the GOLDEN RAY you don't think that makes those ships unsafe do you?

3 **CAPT Tennant:** Absolutely not. It's just a factor when making a decision regarding
4 safe vessel movements such as in high winds. Obviously I felt like she handled fine and
5 responded appropriately on the inbound as evidenced by only taking one tug on sailing.
6 If she was clumsy and a poor handler I would have taken a second boat.

7 **Mr. Reisman:** Thank you very much Captain. That's all I've got for you I appreciate it.

8 **CAPT WELBORN:** Thank you Mr. Reisman. Mr. Gilseman do you have questions that
9 you would like on the record from your client?

10 **Mr. Gilseman:** No questions Captain, thank you.

11 **CAPT WELBORN:** Thank you, sir. So before I get into my follow-on questions we do
12 have four questions from KMST. Again these questions have been provided to me from
13 KMST remotely. So I'll read them just as they were translated. Captain are you ready?

14 **CAPT Tennant:** Yes, sir.

15 **CAPT WELBORN:** Again these questions are from KMST and I will read them
16 specifically as they have been translated. How much rudder angle do you normally use
17 to pass the Widener 11 when you maneuver the car carriers?

18 **CAPT Tennant:** I use as little as possible, but as much as I need.

19 **CAPT WELBORN:** Can you put a range to that Captain? Somewhere, usually 5 to 10,
20 10 to 20, can you give me a rudder average range?

21 **CAPT Tennant:** That could be 0 to 35.

22 **CAPT WELBORN:** Question two. What is the typical listing or heeling or angle of list
23 or heel experienced by car carriers when passing through Widener 11?

1 **CAPT Tennant:** Depending on the ship and all the variables there could be no listing or
2 perhaps a list. Since the GOLDEN RAY I've tried to observe more carefully the angle of
3 heel in turns and I've – we've stayed at most times it's not over a degree and a half.

4 **CAPT WELBORN:** Captain did the GOLDEN RAY list faster than any other car
5 carriers?

6 **CAPT Tennant:** No. Not – that's no on all the turns except for the capsizing event
7 itself.

8 **CAPT WELBORN:** How was the stability of the GOLDEN RAY compared to other car
9 carriers when she was turning?

10 **CAPT Tennant:** A Pilot cannot feel whether the ship is stable or not. But a Pilot can
11 feel whether she's stiff or tender. And she certainly was not stiff. She would be more
12 on the tender side.

13 **CAPT WELBORN:** Understood. Those were the four questions I have from KMST.
14 Captain I'm going to transit or move back to my questions from the Coast Guard.
15 Captain I have a couple things I would like to clarify before we get into this. You stated
16 previously that, or you referenced a previously testimony to us. Was that the testimony
17 on September 10th, 2019?

18 **CAPT Tennant:** Yes, sir.

19 **CAPT WELBORN:** A couple of terms Captain that I would like to clarify just so we all
20 understand what we're referring to here. So one of the terms was under keel clearance.
21 Can you define that?

22 **CAPT Tennant:** Yes of course. And that would be the position, the distance between
23 the keel of the ship and the bottom of the harbor or river.

1 **CAPT WELBORN:** Thank you, sir. You also used the term skinny water. Can you
2 define that please?

3 **CAPT Tennant:** Yeah. That would be more in reference to not what's under the ship
4 per se, as what's around the ship, the available amount of water around the channel
5 and outside the channel to feed the propeller. But where the water is skinny often times
6 there is less water in the channel or shoaling. In other words a narrow channel like
7 Cedar Hammock or the middle part of the bar.

8 **CAPT WELBORN:** Thank you Captain. What was the waterway you just referenced?

9 **CAPT Tennant:** Cedar Hammock Range and St. Simons entrance channel, the outer
10 bar.

11 **CAPT WELBORN:** Understood, thank you. I want to refer back to that here in just a
12 moment. In the other turns, Captain you referenced we when you were speaking
13 towards the dredging. Can you define what "we" means?

14 **CAPT Tennant:** Can you clarify that?

15 **CAPT WELBORN:** Yes. Captain I believe you said that we have been underfunded,
16 we don't get the financial support we need. Can you tell me who "we" is?

17 **CAPT Tennant:** The State of Georgia and the Port of Brunswick.

18 **CAPT WELBORN:** Understood, thank you. Captain you also referred to several times,
19 Jamie. Can you tell me specifically who Jaime is?

20 **CAPT Tennant:** His legal name is James Kavanagh, Pilot 7, follows me in the rotation.
21 One of the full branch Pilots in the Port of Brunswick.

22 **CAPT WELBORN:** And Captain Kavanagh that evening was piloting which ship?

23 **CAPT Tennant:** The inbound vessel that I was meeting, the EMERALD ACE.

1 **CAPT WELBORN:** Thank you Captain. And you also referred in your testimony to
2 Sector. Can you define that for us?

3 **CAPT Tennant:** Yes. Sector Charleston is typically how we communicate within
4 regarding, say discrepancies to aids to navigation and so forth. I was speaking of the
5 sector command in Charleston that maintains the radio watch at night for our AOR.

6 **CAPT WELBORN:** And that's the command center there at the sector?

7 **CAPT Tennant:** That is correct.

8 **CAPT WELBORN:** Thank you Captain, appreciate it. Captain you testified and you
9 stated that you made a call to Jamie, that's Captain Kavanagh, and you said watch out
10 Jamie I'm losing her. We didn't hear that on the audio portion. Can you tell us how you
11 made that call?

12 **CAPT Tennant:** Yeah when I was conning from in front of the radar area a lot of time
13 I'll take the ship's radio so I don't use up the battery power on my handheld. The
14 handset which looks like a telephone on the radar so that I can grab it and when I
15 communicate on the bridge of a ship it's typical if I don't want to communicate to
16 everybody in the wheelhouse what I'm about to say, because I'm trying to keep people
17 calm around me, if people see me with a heightened sense of concern or if they pick up
18 on my language, especially if I'm giving a rudder order or something else like that they
19 could accidentally execute it thinking I'm speaking to them. So I'll speak softly into it [in
20 audible] and drop it. So it depends if that radio is on – was being recorded or not I don't
21 remember if it was on 12 or 13. Which 13 is a one watt channel. With all the alarms
22 and where the microphones are in the wheelhouse there was a lot that was said that
23 was never recorded because I was just away from those microphones. And by the VR.

1 **CAPT WELBORN:** Understood, sir. So that's the ship's radio via VHF FM?

2 **CAPT Tennant:** That is correct. But the other ship did hear it.

3 **CAPT WELBORN:** Understood. Thank you, sir. So Captain we interviewed Captain
4 Bruce Fendig another Pilot with the Brunswick Bar Pilots, I believe we interviewed him
5 on Monday. And he spoke about a couple of terms that I would like to see if you're
6 familiar with. So I'm going to give those terms to you and you tell me, you don't have to
7 necessarily define them just tell me if you're familiar with the terms and then I'm going to
8 ask you about those. So the terms that Captain Fendig used were bank suction, bow
9 cushion and squat. Are you familiar with those terms, sir?

10 **Mr. Gilsean:** If I may Captain I think term was actually bank cushion and bank
11 suction. Not bow cushion. They seemed be used interchangeably that day, switching
12 back and forth but I think the intended term was probably bank cushion.

13 **CAPT WELBORN:** If you'll indulge me for just a moment I'm going to check back at my
14 notes. I think Mr. Gilsean you may be right. That the bank and bow may have been
15 interchangeably used along there. So Captain are you familiar with those terms?

16 **CAPT Tennant:** Certainly, I'm a Pilot.

17 **CAPT WELBORN:** Can you explain in generality how those forces interact with a ship?

18 **CAPT Tennant:** Well first I don't believe there are any terms that a Pilot like [in audible]
19 as it pertains – that it doesn't pertain to this situation. It's not relevant for the area of the
20 sound where the GOLDEN RAY incident occurred. None of those three terms are
21 pertinent.

22 **CAPT WELBORN:** Understood.

1 **CAPT Tennant:** But to answer your question a Pilot without getting into the
2 mathematics and the theory of we've all been trained and it's handed down through
3 generations that to mitigate the effects of bank cushion and bank suction is to maintain
4 centerline discipline in those reaches of the harbor and the inner harbor and at the bar
5 where those effects could have negative impacts on safe vessels movements.

6 **CAPT WELBORN:** So could those forces interact with a vessel operating in the St.
7 Simon Sound area?

8 **CAPT Tennant:** Those would not pertain to that area of the sound which is vast, it
9 would be applicable on the narrower areas of the bar channel, Cedar Hammock and the
10 South Brunswick River where the adjacent depths of water to the Federal Channel are
11 shallow relative to guts of the channel.

12 **CAPT WELBORN:** So those forces typically would interact with a vessel in shallower,
13 constrained, confined waterways vice a deeper portion of the waterway, is that correct?

14 **CAPT Tennant:** That is true. That's a true statement for the first two terms you used.
15 But not for squat.

16 **CAPT WELBORN:** Can you tell me a little bit about squat then? Where would that
17 happen?

18 **CAPT Tennant:** That would occur more likely in the open ocean, not the gradual rise of
19 the bottom in Pilot waters.

20 **CAPT WELBORN:** You said that the bank or bow cushion and or suction that Cedar
21 Hammock area or the Jekyll Island Range those might be areas that you would – the
22 ship might be influenced by those factors?

1 **CAPT Tennant:** I did not say Jekyll Island Range. You had it correct on Cedar
2 Hammock and the bar channel.

3 **CAPT WELBORN:** And the Brunswick Point Cut Range?

4 **CAPT Tennant:** It could be possible.

5 **CAPT WELBORN:** When transiting through that Cedar Hammock area and the
6 Brunswick Point Cut Range did you notice any changes in the handling or the
7 maneuverability of the GOLDEN RAY on the out bound trip?

8 **CAPT Tennant:** I don't believe so.

9 **CAPT WELBORN:** Did the vessel appear sluggish or slow to respond at any time on
10 the out bound transit up until the entrance of Widener 11?

11 **CAPT Tennant:** No, sir. Everything just appeared normal.

12 **CAPT WELBORN:** Captain I got a little ahead of myself on my notes. So if you'll
13 forgive me and indulge me a little bit. I don't believe Captain you were ever asked, what
14 specifically is a Pilot's job on board the ship?

15 **CAPT Tennant:** Our primary role as State Pilots is to protect the State of Georgia,
16 serve its people, keep the ship's safe and provide for the safe efficient movement of
17 commerce within their port.

18 **CAPT WELBORN:** How do your interactions between you and the crew of the ships,
19 specifically the Master and the Helmsman, can you explain that interaction or
20 relationship there?

21 **CAPT Tennant:** Certainly. The Master Pilot relationship is a unique one. We share
22 similar responsibilities and work together for a mutual interest to keep the ship safe. If I

1 can keep a ship safe then I can keep the local populous safe, the environment safe and
2 keep commerce moving, that achieves his goal also.

3 **CAPT WELBORN:** Captain having conducted several, several, several, transits in and
4 out of the Brunswick area can you tell me a little bit about your responsibilities versus
5 the Captain's responsibilities? Can you give me a few terms that would define your
6 responsibilities as the Pilot and the Captain's responsibilities in the piloted waterway?

7 **CAPT Tennant:** Certainly. The Captain certainly is responsible for everything that
8 happens on his ship. The Pilot when he comes aboard is providing local knowledge but
9 not in an advisory capacity, we're copulatory Pilots. The State of Georgia guarantees or
10 provides safety of navigation within its ports by providing State Pilots and an adequate
11 number of them, well trained, expert ship handlers with an intimate knowledge of the
12 local waterways. And that's different than the skill set that the Captain has. We're not –
13 I don't posse the skills that the Captain has, and the Captain doesn't possess mine. So
14 essentially our goal is to safely handle the vessel at all times when underway in pilotage
15 waters. The vessel is under the direction and control of the State Pilot so I give rudder
16 orders, engine orders, tug orders and as Pilots in this port we serve a de facto vessel
17 traffic service. So more than the mechanics of ship handling we are risk managers,
18 deciding when its safe to make certain vessel movements based upon under keel
19 clearance and wind conditions and coordinating those movement with other maritime
20 interest. With safety being the number one priority and the efficient move of cargo and
21 commerce second only to that. But to offer no delays unless there is a safety
22 consideration to delay the vessel.

1 **CAPT WELBORN:** Thank you Captain. So you stated that you're not advisory to the
2 crew or to the Captain you're compulsory. Can you define that a little bit more?

3 **CAPT Tennant:** Certainly. Any vessel over 200 gross tons, foreign vessel over 200
4 gross tons or any U.S. flag vessel engaged on registry in a foreign trade is compelled by
5 the State of Georgia to take a Pilot and the navigational control of the vessel under the
6 Pilot's control. Both the direction and control. He has navigational command of the
7 ship, of course subject to the Master's overall command of his ship, If the Captain
8 thinks that the Pilot is doing something that is reckless or unwise then he has the
9 responsibility to inform the Pilot. If, that would be a very rare occurrence. It's a mutual
10 relationship when a Pilot boards a ship it's a long standing tradition that goes back
11 thousands of years. So Captains are typically very glad to have us on board because
12 they can focus on their other responsibilities which are vast aboard the ship and there
13 are relieved that we're there to conduct the vessel safely. It's a mutual respect and
14 mutually supportive relationship in those situations. And that rapport is built during the
15 Master Pilot exchange and as was in this case that relationship we benefited from that
16 on the out bound because we were able to work together in a crisis casualty situation.

17 **CAPT WELBORN:** Captain I've heard the Master of a ship position as a last true
18 monarchy on earth. Some Captains in my experience with the Coast Guard are very
19 heavy handed, they're very protective over their crew of their ship. Have you had any
20 problems as a Pilot in this area with maybe an overbearing Master or someone who
21 was reluctant to recognize your expertise in the local area?

1 **CAPT Tennant:** That is very rare and far between. But we are experienced Pilots and
2 we've experienced belligerent Masters. But I would say I could only list 2 out of 22
3 years that has ever been a problem and we were able to adequately address that.

4 **CAPT WELBORN:** Any problems with the Master on the GOLDEN RAY for the
5 inbound or out bound transit?

6 **CAPT Tennant:** Absolutely not he was a professional.

7 **CAPT WELBORN:** Any issues with the helmsman listening to your commands or
8 repeating them back?

9 **CAPT Tennant:** He did a great job.

10 **CAPT WELBORN:** I would concur. Captain you stated that as you gave the vessel the
11 rudder coming into the Widener 11 that she leaned into the turn. Can you tell me a little
12 bit about that?

13 **CAPT Tennant:** She did lean into the turn, but it was not an alarming amount. We
14 were still in the ballpark, we're still in the arena of everything's normal.

15 **CAPT WELBORN:** So that's at the 10 degree rudder, she leaned. Can you tell me that
16 leaned to port or to starboard?

17 **CAPT Tennant:** Starboard.

18 **CAPT WELBORN:** So as the vessel was approaching you stated that, it's normal for
19 the vessel to pick up a little speed once she drops into the Widener, did that happen?

20 **CAPT Tennant:** That is correct.

21 **CAPT WELBORN:** And you stated the speed up until the Widener was approximately
22 12.4 knots. Can you tell me how much the vessel increased in speed?

1 **CAPT Tennant:** Without looking back at the recording I think I got up in the 13, 13 knot
2 range, maybe 13 and some change. But usually as the gain speed coming into the
3 sound I'm also going to bleed off some of that speed that's lost while executing the turn/

4 **CAPT WELBORN:** Is that a normal speed for this size of ship, rudder configuration.

5 **CAPT Tennant:** That's correct. They handle best usually around 12 to 14 knots. The
6 smaller the rudder sometimes the more flow it has.

7 **CAPT WELBORN:** Captain after the vessel, so leaned to starboard, can you tell me,
8 that's at 10 degrees, at 10 degrees the vessel begin to lean some to starboard. Can
9 you tell me how did she right after that? Did the – when did the vessel come back to a
10 zero degree lean, when did it start to lean to port?

11 **CAPT Tennant:** Yes, sir. To my best recollection when I went to mid-ships, which was
12 immediately after going to starboard 20 then she, I felt like she was upright and over
13 rotating to starboard, but level. And that was unexplainable to me. Because I'm trying
14 to, I'm going from 040 to probably a heading of 100 or 105 the next reach. But I
15 ultimately ended up 50 degrees over rotated. It didn't capsize to port with that until the
16 counter rudders, is my best recollection.

17 **CAPT WELBORN:** So Captain that application of counter rudder was that intuitive,
18 where you trained to do that, how did you come up with that?

19 **CAPT Tennant:** Well I didn't come up with it at all. That is how ships are driven. How
20 else could you ever checkup the ship's heading on the appropriate heading for the next
21 reach without applying counter rudder. So that's just – but the actual application of it
22 the amount and the time of such is done by feel, by each one of these ship's feel
23 differently. And there's so many variables involved that's why a computer doesn't drive

1 the ship, that's why a human does with experience. So it's hard to quantify any of that
2 because ship handling is about 75 percent art and 25 percent science.

3 **CAPT WELBORN:** Captain you said that so that the vessel leaned to starboard, you
4 came back somewhere about an even keel and then she begin to lean to port. And you
5 said, correct me if I'm wrong, you said hard to port, you ordered hard to port and you felt
6 at that point the rudder and propeller had come out of the water. Is that correct?

7 **CAPT Tennant:** I think I first went to port 20 and then ultimately hard to port and then
8 eased it to 20. I remember the Master repeating port 20 behind my left shoulder. And
9 then I went back to hard to port when all was lost. I don't think that I have the
10 perception that the rudder and the propeller were out of the water, but because of the
11 ship's failing to respond to the rudder by still continuing to rotate to starboard that
12 means that the rudder most likely would have stalled at some angle where it was
13 ineffective or was out of the water. Essentially the rudder became an [in audible].

14 **CAPT WELBORN:** So Captain just to be clear, because we're using a couple different
15 terms here. So the vessel was – after the 20 degree rudder the vessel continued to turn
16 to starboard but it began to lean to port, is that correct?

17 **CAPT Tennant:** Only after the application of port rudder. When port rudder was
18 applied it felt like somebody pulled the rug out from under me. And we just went over.

19 **CAPT WELBORN:** So where along there do you feel like you lost control of the vessel,
20 you had maneuverability control of the vessel?

21 **CAPT Tennant:** After the application of starboard 20 when I went to mid-ships she just
22 spun out of control. And I think that any order thereafter was – had no impact on where

1 the vessel was going and I was going towards St Simons in the turn, but still in deep
2 water with no control.

3 **CAPT WELBORN:** So the vessel heading was at looking at the pier or St. Simons
4 itself?

5 **CAPT Tennant:** It may have been past of the pier towards the inbound, but it was all
6 happening so quick that we were just spinning out of control. She was breaking
7 instantly on me.

8 **CAPT WELBORN:** Interesting term, thank you Captain. So the vessel was turning to
9 port, again. She was capsizing to port, but turning to starboard.

10 **CAPT Tennant:** The best description I could have for you is like in a plane turning to
11 starboard and then just fell out of the sky. It was like corkscrewing into the ground.

12 **CAPT WELBORN:** Understood. I used the wrong term. So it was turning to starboard,
13 but leaning heavily to port?

14 **CAPT Tennant:** It was, I wouldn't characterize it as a lean it was rolling over. There
15 was no list, there was no leaning there was nothing gradual about it. This was like
16 being in a car wreck, but it's a ship wreck. It just rolled over.

17 **CAPT WELBORN:** So Captain when you felt like you lost control of the vessel you felt
18 like whatever rudder commands you gave, whatever helms commands you gave had no
19 impact on the vessel. Were you on the ground at that time?

20 **CAPT Tennant:** Negative. I was still in the Widener, I was in deep water. And that was
21 the most terrifying part of it is trying to make it shallow water and not knowing if we
22 could or not without the tugs.

23 **CAPT WELBORN:** But the vessel was still making way?

1 **CAPT Tennant:** Yeah her speed was reduced. I remember at one point looking at the
2 bow and the bow's crashing into the water. The waves are coming up and water is
3 hitting the windshield. And I looked down at the PPU and it said something like 5 knots.
4 And I was like holy smokes I hope I can keep enough momentum to get over there out
5 of the channel.

6 **CAPT WELBORN:** I can only imagine what that was like. Captain is there a Buoy in
7 the Widener adjacent to where the GOLDEN RAY eventually went aground?

8 **CAPT Tennant:** Yes. Buoy 19 she sits outside the channel in good water though. And
9 she ended up down my port side about mid-ships, somewhere down there.

10 **CAPT WELBORN:** Understood. Captain I'm sorry to put you on hold. We seem to
11 have lost our livestream again. So we're going to take a quick break and see if we can
12 reboot the livestream. [Working technical issues]. We have indication that our
13 livestream is back up. I do apologize for those of you that dropped out. We're back on
14 the record with Captain Tennant. Speaking to the capsizing of the GOLDEN RAY. So
15 Captain we're going to back up just a little bit if that's okay to make sure we capture
16 some of those things because our livestream is going out to the public and that's a
17 major piece of this hearing is that we make sure that we're telling the right story in the
18 public eye. So Captain, we're backing up a little bit we were talking about the vessel
19 was turning to starboard and leaning, or as in your words capsizing to port, is that
20 correct?

21 **CAPT Tennant:** That is correct.

22 **CAPT WELBORN:** So at some time along there we're going to recount again this, you
23 already testified about this but I want to make sure like I said we have it on record here

1 that at some time during that point you felt that the rudder and the propeller came out of
2 the water and you had no operational control over the vessel. Is that correct?

3 **CAPT Tennant:** That is correct.

4 **CAPT WELBORN:** And where was the vessel at that time? Were you aground?

5 **CAPT Tennant:** No I was close to the Buoy 20 I was in the Widener. I was in deep
6 water, I was the Federal Channel.

7 **CAPT WELBORN:** You said Buoy 20, is that – so Buoy 19 is adjacent to where the
8 vessel eventually came to rest, is that correct?

9 **CAPT Tennant:** That is correct.

10 **CAPT WELBORN:** So the vessel was I believe you said, the heading of the vessel, the
11 vessel was pointed somewhere between the pier at St. Simons and the lighthouse or
12 maybe off shore when you felt like the vessel had heeled over to a significant degree
13 enough that the rudder and the propeller came out of the water but it continued turning
14 to starboard.

15 **CAPT Tennant:** I believe she was capsizing rapidly as she was rotating to starboard
16 rapidly somewhere in the vicinity of a heading from either St. Simons Pier to the
17 lighthouse through the inbound ship, it was going over.

18 **CAPT WELBORN:** And just in layman's terms, Captain when you say rotating you
19 mean turning?

20 **CAPT Tennant:** Yes that is correct. Turning to starboard. Turning to starboard while
21 rolling over to port. Compound movement.

1 **CAPT WELBORN:** It's a very complex movement, I get it. Tough terms to grasp of
2 something that large moving that quickly and in multiple ways at once. So Captain you
3 said that the vessel eventually came to rest somewhere near Buoy 19, correct?

4 **CAPT Tennant:** That is correct.

5 **CAPT WELBORN:** Do you feel like the GOLDEN RAY impacted Buoy 19? Do you feel
6 like you ever ran over Buoy 19 or the chain linking to Buoy 19?

7 **CAPT Tennant:** I don't believe so. I think I fetched up South of Buoy 19. But if she
8 were to plow over Buoy 19 that's a little consequence to me. It's just a piece of steel
9 and a chain and it can be replaced. And it would have had no impact on the outcome of
10 where the ship had at that point. You know we were capsized.

11 **CAPT WELBORN:** Understood Captain.

12 **CAPT Tennant:** I think she just fetched up South of it and, yeah.

13 **CAPT WELBORN:** Do you feel, or do you in your out bound transit did the vessel
14 impact any aids to navigation?

15 **CAPT Tennant:** Absolutely not.

16 **CAPT WELBORN:** Captain you stated that you asked the Master if all the watertight
17 doors were closed, is that correct?

18 **CAPT Tennant:** I did. And it was captured on the VDR.

19 **CAPT WELBORN:** And for a mental image that you have of watertight doors, which
20 doors would you be referring to?

21 **CAPT Tennant:** Every door that is designed to be watertight. So if she was in
22 condition Zulu, buttoned up and ready for a storm.

23 **CAPT WELBORN:** And was that before the Lanier Bridge or after the Lanier Bridge?

1 **CAPT Tennant:** I asked him after we capsized and were fetched up on the bar. I was
2 searching for a mental checklist for capsizing and the first thing that came to my mind in
3 case there was any type of indicators on the bridge that we could see illuminated
4 denoting watertight doors being secured, that's just the first – I kind of just wanted to
5 know if he – if that was typical to have all the watertight doors secured so I could have
6 an idea of how rapidly we would sink into the channel. So when he said they were all
7 secured that gave me immediate hope that we had the ability to lay on our side without
8 down flooding for a longer period of time.

9 **CAPT WELBORN:** So your question about the watertight doors was after the incident,
10 once you're in Widener, not early in the out bound transit?

11 **CAPT Tennant:** That's correct. Absolutely.

12 **CAPT WELBORN:** Captain do you ever – some watertight doors have indicators on
13 the bridge that says whether they're opened or closed. So when you job as a Pilot do
14 you ever look at that panel?

15 **CAPT Tennant:** That's beyond the scope of a Pilot's job.

16 **CAPT WELBORN:** Understood. So you, I don't remember, please clarify for me, do
17 you remember leaving the Pilot door opening, do you remember that discussion?

18 **CAPT Tennant:** I have never heard a discussion about a Pilot door. What we usually
19 refer to as rigging the Pilot ladder.

20 **CAPT WELBORN:** Okay. And Captain I don't – did you, I believe you said that that
21 discussion may have happened early in the out bound transit but you don't specifically
22 recall, is that correct?

1 **CAPT Tennant:** That's correct. It's typical on car ships that they'll ask after we sail
2 which side for the Pilot ladder so that they can go ahead and have the crew rig that. I
3 usually try to defer until I can speak to the Pilot boat to confirm which side the Pilot
4 ladder and usually let that happen when I'm East of the Lanier Bridge. I may have
5 already have given that information since I knew the wind direction from undocking. So
6 I can't answer with certainty.

7 **CAPT WELBORN:** And Captain when you the Master if all the watertight doors were
8 closed is it mentally would you consider the Pilot door a watertight door?

9 **CAPT Tennant:** Yes.

10 **CAPT WELBORN:** Thank you. So Captain can you tell us, or do you recall once the
11 vessel was listing hard to port, leaning hard to port you said, you know rapidly
12 capsizing, on its way to capsizing, do you recall when you lost power?

13 **CAPT Tennant:** Captain Welborn do you mean whether the lights were on, meaning
14 power? Or do you mean propulsion?

15 **CAPT WELBORN:** So typically vessels like this have some kind of immediate
16 emergency power, whether it's a generator or its batteries, one of the other. Do you
17 know when you lost main power of the ship and it shifted to an emergency system?

18 **CAPT Tennant:** Yes. There was a, I don't know the minute of time it happened, but it
19 was during I would say probably half way through our roll of the capsize that we lost
20 propulsion. Then 30 seconds or so, of course my time perception is, because of the
21 stress of the moment I may not have it accurate, but it seemed like we had emergency
22 power meaning lighting and some other items going on in the bridge for maybe 30
23 seconds and then everything was gone. And then the only thing that truly worked are

1 whoever designed the alarms on that ship. Because they were loud. And that was
2 basically – we had that and like a little red light that was on in one area of the bridge. I
3 do recollect and I'm not sure the power source for it, but when I gave an astern bell
4 intuitively because that's what Pilots do I did hear the engine order telegraphing, they
5 were still following commands and I heard the ring of that move astern.

6 **CAPT WELBORN:** Captain so when you asked the Master if all the watertight doors
7 were closed if he had so no several are open, what steps might you have taken?

8 **CAPT Tennant:** Well that's a great question. I don't know. I think I was searching for
9 data to try to formulate the best possible response in a difficult situation. And that I
10 didn't have much control over anything. I was trying to seize control of anything that I
11 could possibly do to preserve human life and to mitigate the loss. I think it was just
12 going into my decision making matrix of how long to try to stay aboard or whether to
13 stay aboard. And also I suppose if there was a remote control for hydraulics to be able
14 to close the Pilot door then if that can be somehow gotten to it could be activated.
15 Perhaps that's not a reality.

16 **CAPT WELBORN:** Understood Captain. So Captain we've talked a lot about the
17 inbound transit, talked about the condition of the ship, talked about the out bound
18 transit, talked about your interaction with the crew, talked about the fateful moments
19 once you dropped into the Widener and then ended up ground. Several things
20 happened after that. Can you tell us a little bit about the rescue portion of this incident?

21 **CAPT Tennant:** Yes certainly. It was a remarkable response and I'm giving pause
22 because I did prepare a, I was going to ask your permission at the end of the line of
23 questioning to share and express some sentiments and gratitude. And some of that

1 outlines the rescue effort. So that may be a more concise way to do it. But I would say
2 that the things that really stand out about the rescue effort was the tremendous
3 response by all parties and the calming factor of having the helos there and the AST1
4 Newburg trying to sort and sift through the chaos of the scene. Of course he was above
5 me. And so it was great to have another American there that we could do some
6 problem solving. It's noteworthy I believe and a testament to the Captain's character
7 and professionalism that he refused to leave the ship. He did not want to leave his four
8 men who were trapped below deck who I had already triaged off in my mind that we're
9 on fire and sinking so let's not focus on them, let's focus on where the living are and
10 let's get the living off and try to relay information to the Coast Guard asset that's on
11 scene. And the rescue swimmer and I were able to kind of be forceful with the Master
12 asking him, Captain if you want to save your crew and your ship the best thing you can
13 do is go with the Coast Guard to the airport and show them how to access your crew
14 and your ship so they can focus on your crew and not you. And it took a little
15 convincing and arm twisting over the radar and under the alarms and the rotor wash but
16 he ultimately consented to do that. And at which time I hollered up to Nate who I was
17 calling Dave under the rotor wash, I had the name wrong. We were hollering back and
18 forth in the dark. And he tossed in the fire hose and tried to climb up it and that wasn't
19 working real well and I decided to take my chanced and slide down it so I wouldn't fall
20 further by climbing up and then slipping. And so I was able to self-rescue out the port
21 bridge wing so the rescue swimmer could solely focus on the Master. And I asked him
22 to take the Master first because he's oldest. And I remember sitting there in the
23 darkness with all that chaos and I actually had to ask myself is my job done here. And

1 it's funny what the mind does under stress. Reach back in a file from the old academy
2 days when it's in my fifth general order quit my post only when properly relieved. And
3 then I looked at the rescue swimmer's glow stick light over his mask and I said Coast
4 Guard rescue swimmer does that constitute a proper relief, is my job done here. And I
5 was like it's time to slide off the ship. Make the ship stabilized, other Pilots from Pilot
6 boats taking to the tug boats we feel like she's not going anywhere. The fear of her
7 scouring off the sand bar is alleviated. The tide has also turned so it was going to ebb
8 so that just makes it more aground. And so those were kind of the standouts, the Coast
9 Guard RBM. When I got out to the port bridge wing they were underneath me and it
10 was a drop to them and they said just let go of the ship and bear hug us and that's what
11 they did and set me on the bow of the boat. And I think when I looked back at the ship
12 that was on fire and the planes were cutting through the steel and you could smell that
13 toxic smoke that's when I really realized that the rudder and the propeller were out of
14 the water into the extent of what I was involved in. But that was several hours after
15 being out there.

16 **CAPT WELBORN:** Thank you Captain.

17 **CAPT Tennant:** Captain Welborn could I read my statement of gratitude for the record.

18 **CAPT WELBORN:** Yes I would like to – I would like to -----

19 **CAPT Tennant:** At the conclusion of your questions.

20 **CAPT WELBORN:** Sure, sure. No absolutely I would like to have that and Mr.
21 Gilsenan we would like to obtain a copy of that because we will admit that as evidence.

22 **Mr. Gilsenan:** By all means.

1 **CAPT WELBORN:** So Captain you mentioned fire. Can you tell me when you noted
2 that there was fire on the ship? At what point?

3 **CAPT Tennant:** At one point I was looking down at the water under mean from the
4 gyro where I was kind of just jammed up there and I was getting fumes up there and it
5 was concerning because the helo had gone to the hospital with someone. And I
6 radioed down to the small boats, guys I think I'm on fire I'm getting some fumes up here.
7 And I was relieved when I think it was Bruce Fendig said JT don't worry that's just the
8 smoke grenade that's on the port life ring that's in the water and it's water activated
9 smoke. And so they tried to make runs to go in there to get it, but eventually it just burnt
10 out. That was in flames, you know and fire in our portion of the ship. I think a lot of the
11 alarms I was hearing are fire alarms. And so I did not see the fire until I was on the
12 deck of the RBM.

13 **CAPT WELBORN:** And the RBM is the Coast Guard boat?

14 **CAPT Tennant:** Correct. The response boat medium from Station Brunswick under
15 the command of Senior Chief Erwin and Coxswain Shaw.

16 **CAPT WELBORN:** So just to clarify Captain you had no indication of fire on the boat,
17 heard no alarms, smelt no smoke until the vessel was capsized?

18 **CAPT Tennant:** That is correct. All the alarms after the capsizing.

19 **CAPT WELBORN:** So Captain before you read your statement I would like to make
20 one more circle around to our SIS's and PII's to make sure there are no follow-on
21 questions. So Mr. Bremer do you have questions?

22 **Mr. Bremer:** Just one question. You mentioned you saw fire after the fact. Can you
23 describe where on the capsized vessel that you saw this?

1 **CAPT Tennant:** Yes Mr. Bremer, I'm trying to plug in this audio here. The starboard
2 side of the ship which is facing the sky, flames were melting the steel and there was
3 smoke emanating from all of the cargo holds, air boxes for the entire length of the ship.
4 We also when I was on a small boat saw one of our Pilots as you'll see in my write-up
5 was going to a paint locker and the paint locker was on fire. And that was forward of the
6 wheelhouse. That was a separate fire. It appeared it was all ablaze.

7 **Mr. Bremer:** Okay. Thank you again, sir. No further questions.

8 **CAPT WELBORN:** Captain Flaherty do you have any follow-on questions for Captain
9 Tennant?

10 **NTSB:** No further questions Captain.

11 **CAPT WELBORN:** Mr. Reisman, follow-on questions for Captain Tennant?

12 **Mr. Reisman:** No Captain, no questions, thank you.

13 **CAPT WELBORN:** Mr. Gilsenan do you have any other things you would like your
14 witness to put on the record?

15 **Mr. Gilsenan:** Other than his statement, no, sir. Thank you.

16 **CAPT WELBORN:** And I see no indication of further questions KMST. So Captain
17 Tennant if you would like to prepare, or present your statement at this time. And again,
18 sir we would like to obtain a copy of that for the record.

19 **CAPT Tennant:** Thank you, sir. Captain Welborn with your permission, sir it would be
20 both proper and fitting in the circumstance to express my heartfelt gratitude to all those
21 hero's who answer the call when our lives were imperiled in the morning on September
22 8th, 2019. I would like to take this opportunity to recognize them in the official record.
23 On behalf of all of us who survived the shipwreck, thank you. We were well buttressed by

1 this South Georgia community, its local industry and our Government maritime partners.
2 As first responders every State Pilot in the Port of Brunswick and our vessel Captains
3 responded immediately with every company vessel available and many were on scene
4 within minutes to search for survivors, take soundings around the ship and provide aid.
5 The follow off duty Pilots rush to the St. Simons Pier with all possible dispatch. Edwin
6 Fendig III, Bruce Fendig, John Bymore (sic) and retired Pilot Lawrence Gray, thank you.
7 As more of the Calvary arrived it increased our hope for rescue. The sound of MH-65's
8 overhead was a comforting sound and it is to this day. After witnessing the capsizing
9 from the inbound meeting ship Pilot Jamie Kavanagh and Apprentice Gordon calmly
10 maneuvered around my capsized ship and still successfully their inbound vessel with a
11 fair tide, without tug assistance in the Colonel's Island turning basin because all harbor
12 tugs came to my aid. As a close friend and colleague Jamie watched in horror as I
13 rolled over. However, he was still able to his job and I relayed my request to the tugs
14 for assistance. Our small boat Captains Danny Jones, David [in audible], Michael Gary
15 also manned our vessels recovery and responder throughout the morning. Captain
16 Robert Darvey aboard Pilot boat Brunswick is waiting 12 miles off shore for my
17 disembarkation of the out bound GOLDEN RAY. He immediately raced to my aid
18 marking the depths of the sandbar in front of me per my request while looking for
19 survivors that may have been thrown from the anchor watch. Henry Winn Operations
20 Manager of Brunswick and the Brunswick Bar Pilots Association called the U.S. Coast
21 Guard and all interested parties. All hands on deck. Henry provided water to survivors
22 and boat crews alike. With only a portion of the ship touching the sandbar and an
23 incoming tide coupled with the down flooding there was a grave concern that we would

1 pivot off or be scoured off of the sandbar into deep water. Therefore, there's immense
2 gratitude for the heroic efforts of tug Ann Moran and her crew, Captain Skyler Dion and
3 Tommy Brooks who steamed at best possible speed across the sound to assist in hold
4 the ship on the sandbar as I directed preventing the ship from slipping back into the
5 depth of the channel and the crew perishing. In similar fashion tug Dorothy Moran,
6 Captain Cliff Gordon and James Stoddard did the same and assisted on the port side.
7 They maneuvered towards survivors and ultimately put rescue teams near the trapped
8 crewmen later that day. Brunswick Pilot Will Stubbs expertly maneuvered the vessel
9 responder near the heat and toxic fumes from the ship's burning paint locker. This
10 enabled Pilot Edwin Fendig III to convince the Chief Engineer to abandon ship from his
11 sinking stateroom window. After pleading several times get off the ship or die. The
12 crewmember ordered the boat successfully. Off duty Glenn County Fire Department
13 Lieutenant Brown from water rescue station 2, SSI had jumped aboard the responder at
14 the Pier earlier to assist. Glenn County Fire Department Captain Jeff Stokes, Firefighter
15 TJ Cheeks, and Chief [REDACTED] boarded a U.S. Coast Guard vessel and made
16 attempts to gain entry into the ship. Two Georgia DNR vessels handled by Sargent
17 Mark Carson, Corporal Jay Bright, Corporal Colt Chassy, game warden Jack Griffith,
18 rescued two GOLDEN RAY survivors and transported them to EMS at nearby DNR
19 Headquarters. Countless citizens readied their private watercraft into the marina to
20 come aid if needed. Our local Southeast Georgia health system stood at the ready and
21 accepted survivors from the U.S. Coast Guard on their helo pad within sight of the
22 shipwreck and treated them. As dawn broke news of the burning capsized wreck and
23 the fate of the trapped crewmen spread rapidly through the community and to our many

1 churches. Being Sunday morning churches set moments of silence for us and their
2 prayers surrounded us like the smoke from the burning ship. While trapped in the
3 wheelhouse for hours I received countless texts and prayers from the community and
4 friends. Thank you to the United States Coast Guard for the professional expert
5 response to a significant ship casualty. Specifically the watch standers at Sector
6 Charleston that took my mayday call. Bot response vessel crews from Station
7 Brunswick and both helicopter crews from Air Station Savannah. You prevented this
8 casualty from becoming a tragedy. And I thank you. The International Seaman House
9 in Brunswick clothed the crewmembers who lost all of their possessions. Remember
10 this ship was their home most of the year. Brunswick and the Golden Isles of Georgia
11 feed, clothed and sheltered the survivors. Special Mass services were held for vigil for
12 the trapped four crewmembers. U.S. Historian Shelby Foot often spoke of General U.S.
13 France as having 4 O'clock in the morning courage. All of these first responders
14 possess and have demonstrated that that same 4 O'clock in the morning courage
15 putting others above themselves so other may live. A special gratitude for Admiralty
16 Attorney Ryan Gilsenan, Captain John Cameron, U.S. Coast Guard retired and our
17 fellow State Pilots Associations across the nation. Above all I would like to recognize
18 that each of these individuals, the weather, the capsizing location, the capsizing
19 direction that slid my survival vest with the radio to me and not away and the successful
20 rescue of every crewmember comes down to our merciful God our creator. I will end
21 with these two brief quotes from 2000 years ago that still apply to each of you and the
22 survivors today. And I quote, some went down to the sea in ships they were merchants
23 on the mighty waters. They saw the works of the Lord as wonderful deeds in the deep.

1 They cried out to the Lord in their trouble and delivered them in their distress guiding
2 them with safe haven. And for those of us who were prepared and prevailed that
3 morning, quote for the horses made ready for the day of battle but the victory is the
4 Lords, Proverbs 21. Thank you United States Coast Guard and for all first responders.

5 **CAPT WELBORN:** Captain thank you very much for your time today and your actions
6 in this unprecedented situation. We do appreciate you coming out today. We
7 appreciate you telling us your story and sharing that with us. Its not only for the hearing
8 and for the official record, but for the public so we can set the record straight on many
9 issues. So thank you again. The witness is dismissed.

10 **CAPT Tennant:** Thank you Captain.

11 **CAPT WELBORN:** At this time I would like to enter Exhibit Pilot Exhibit B as Mr.
12 Tennant's statement. Any objection from the Republic of the Marshall Islands?

13 **Mr. Bremer:** No objection.

14 **CAPT WELBORN:** National Transportation Safety Board?

15 **NTSB:** No objection.

16 **CAPT WELBORN:** KMST? Hearing none. Mr. Gilsenan?

17 **Mr. Gilsenan:** No objections.

18 **CAPT WELBORN:** Mr. Reisman?

19 **Mr. Reisman:** No objection.

20 **CAPT WELBORN:** The exhibit is thus entered into evidence as Pilot Exhibit B or
21 Bravo. Today, we heard from Captain Johnathan Tennant of the Brunswick Bar Pilots
22 Association. Captain Tennant spoke about the inbound and outbound transit on the
23 GOLDEN RAY in the Port of Brunswick, including procedures for boarding the ship and

1 the master/pilot exchange of information. He also discussed passing arrangements in
2 the St. Simons Sound with other vessels and the use of the Portable Pilotage Unit also
3 known as the PPU. In addition, we referred back to Coast Guard Exhibit 02, NOAA
4 Chart 11506. Captain Tennant used this exhibit to explain his outbound transit on the
5 GOLDEN RAY from Colonel's Island through the channel in St. Simons Sound. Captain
6 Tennant summarized the events leading up to and following the capsizing of the
7 GOLDEN RAY, including the rudder commands he gave and his communications with
8 the Captain and helmsman of the GOLDEN RAY. At the end of his testimony, Captain
9 Tennant gave a statement detailing his experiences during the response efforts
10 following the capsizing of the GOLDEN RAY, which we entered as an exhibit into the
11 record. For the record Captain Tennant you are subject to recall. Please remain
12 available until dismissed upon the closing of these proceedings.

13 **CAPT Tennant:** Aye aye, sir.

14 **CAPT WELBORN:** Should any person have, or believe he or she has information not
15 brought forward but which might be of direct significance, that person is urged to bring
16 that information to my attention by emailing: USCGGoldenRay@gmail.com. Again this
17 email is for the investigation and hearing only. Any response questions should be
18 passed to Incident Command Post.

19 During Monday's session, we will hear from Mr. Clifton Gorden of Moran Towing;
20 Boatswain's Mate Second Class [REDACTED] of U.S. Coast Guard Station Brunswick;
21 and Captain John Reed, at that time Sector Commander of U.S. Coast Guard Sector
22 Charleston.

1 I thank you for your attendance today. Time is now 1:10 local. Hearing Session Day 5
2 is now adjourned.

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