

UNITED STATES COAST GUARD

THE MARINE BOARD OF INVESTIGATION INTO
THE CAPSIZING OF THE M/V GOLDEN RAY ON 8 SEPTEMBER 2019 IN
ST. SIMON SOUND, BRUNSWICK, GEORGIA

HELD SEPTEMBER 14-22, 2019

AT

BRUNSWICK, GEORGIA

TRANSCRIBED BY

MICHAEL D. JERRELL

COURT REPORTER/PARALEGAL SPECIALIST

U. S. COAST GUARD, EIGHTH DISTRICT

UNITED STATES OF AMERICA
UNITED STATES COAST GUARD

In the Matter of:

THE MARINE BOARD OF INVESTIGATION
INTO THE CAPSIZING OF THE M/V GOLDEN RAY
ON 8 SEPTEMBER 2019 WHILE TRANSITING THE ST. SIMONS SOUND IN BRUNSWICK,
GEORGIA

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BRUNSWICK, GEORGIA

EXHIBIT LIST:

Exhibits submitted by the Coast Guard

- (1) CG EX 01 – Facts of the Incident
- (2) CG EX 02 – NOAA Chart 11506 – Version A
- (3) CG EX 03A – Multibeam Product (Post Storm)
- (4) CG EX 03B – Multibeam Product (Post Incident)
- (5) CG EX 04A – Sidescan Product (Post Storm)
- (6) CG EX 04B – Sidescan Product (Post Incident)
- (7) CG EX 05 – Post Incident Investigation Product
- (8) CG EX 06 – GOLDEN RAY Multibeam Product
- (9) CG EX 07 – Pre-Stowage Plan PDF
- (10) CG EX 08 – Pre-Stowage Plan Spreadsheet
- (11) CG EX 09 – Excerpts from the SMS
- (12) CG EX 10 – Photos of SILVER RAY Pilot Door
- (13) CG EX 11 – Select Excerpts of Previously Recorded Testimony J. Kim
- (14) CG EX 12 – Photos from JAXPORT Departure
- (15) CG EX 13 – Ship's Mooring Arrangement
- (16) CG EX 14 – BM2 Shaw Presentation
- (17) CG EX 15A – CAPT Reed Presentation
- (18) CG EX 15B – CAPT Reed Prepared Statement
- (19) CG EX 16A – LT Oviatt Presentation
- (20) CG EX 16B – LT Oviatt Report
- (21) CG EX 17A – Administratively entered – Dr. Falzarano Presentation
- (22) CG EX 17B – Administratively entered – Dr. Falzarano Report
- (23) CG EX 18 A - Letter from Chief Officer Park's Attorney
- (24) CG EX 18 B - Excerpts from Park Testimony (USCG)
- (25) CG EX 18 C - Excerpts from Park Testimony (KMST)
- (26) CG EX 19 – Court Reporter's Certification Page

Exhibits submitted by other parties

- (1) Pilot Exhibit A – Fendig Prepared Statement
- (2) Pilot Exhibit B – Tennant Prepared Statement

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7 GEORGIA

8 APPEARANCE SHEET:

9 The following Board Members and Witnesses appeared on 14 September 2020.

10 CAPTAIN BLAKE WELBORN, USCG, Chair;

11 Mr. LEE WILLETT, USCG;

12 Members,

13 and

14 LIEUTENANT COMMANDER STEPHAINE MOORE, USCG, Member and Recorder.

15 Witness – Captain Bruce Fendig.

16
17 GOLDEN RAY Hearing

18 14 September 2020

19 **CAPT Welborn:** Good morning it is now 10:30 local on the 14th of September here in
20 Brunswick, Georgia. This hearing is now in session. Good morning ladies and gentlemen I'm
21 Captain Blake Welborn I'm a leading investigating officer for this Coast Guard Seventh District
22 Formal Investigation and the Presiding Officer over these proceedings. The Seventh Coast
23 Guard District Commander has convened this formal investigation under the authority of Title
24 46, United States Code Section 6301 and Title 46 Code of Federal Regulations Part IV to

1 investigate the circumstances surrounding the capsizing of the Motor Vessel GOLDEN RAY
2 that occurred on September 8th 2019 while transiting the St. Simons Sound in Brunswick,
3 Georgia. If you're attending these proceedings remotely you will notice as you look around the
4 room that we are observing all local, Federal, State, and National guidelines regarding the
5 global. Each member of the Board in the room has been briefed and advised on social
6 distancing and or face covering procedures and protocols. In accordance with the
7 International Maritime Organization Casualty Investigation Code, this investigation was
8 mutually agreed upon to be a joint effort between the GOLDEN RAY's Flag State, the Republic
9 of the Marshall Islands, the U.S. National Transportation Safety Board also known as NTSB
10 and the Korean Maritime Safety Tribunal also known as KMST and the U.S. Coast Guard. The
11 purpose of this investigation is to determine the cause of this incident so that similar casualties
12 may be prevented in the future. The members of this formal investigation have been tasked
13 with investigating this matter, engaging technical matter, subject matter experts from the
14 Investigations National Center of Expertise, the Marine Safety Center, the NTSB and other
15 appropriate agencies and individuals. We will determine the following: The cause of the
16 marine casualty; the adequacy of response resources including rescue, salvage and pollution;
17 the adequacy of the aids to navigation; and other waterways factors; the effectiveness of the
18 safety management system; whether there is evidence that any failure of material, either
19 physical or design was involved or contributed to the casualty so that proper recommendations
20 for the prevention of the recurrence of similar casualties can be made. Whether there is any
21 evidence that any act of misconduct, in attention to duty, negligence or willful violence of the
22 law on the part of any person holding a Coast Guard credential contributed to the casualty so
23 that the proper proceedings against the credential of such person may be recommended.

1 Whether there is evidence that any Coast Guard personnel or any representative or employee
2 of any other Government agency or any other person, caused, or contributed to the casualty.
3 And whether the present regulatory framework as applied to this and similar vessels provides
4 and adequate measure of safety.

5 Upon the conclusion of this investigation the members are tasked with submitting our
6 completed investigation report to the Coast Guard Seventh District Commander with the
7 collected evidence, established facts, conclusions and recommendations. I note that many of
8 you are attending today's session either in person or via video and more are watching via the
9 Live Stream feed. We do appreciate you joining us today. Other than myself the members of
10 this investigation including Mr. Lee Willett and Lieutenant Commander Stephanie Moore who is
11 also serving as our Recorder. The Legal Counsel to the Board is Lieutenant Megan Gold. All
12 investigation and other Coast Guard members have previously sworn to faithfully perform their
13 duties without partiality. Upon completion of the investigation, we will submit our report of
14 findings, conclusions, and recommendations to the 7th Coast Guard District Commander.
15 The NTSB is also charged with the responsibility of determining the cause or probable cause
16 of a major casualty under the provisions of Section 304(a)(1)(E) of the Independent Safety
17 Board Act of 1974. For this reason, the NTSB representative will participate fully in these
18 hearings and may make recommendations about the scope of the hearings, may call and
19 examine witnesses, and may submit or request additional evidence. The representatives for
20 the Republic of the Marshall Islands and KMST, as substantially interested states, may
21 additionally participate fully in this hearing.

1 At this time, I will ask that the representatives for the NTSB and the Republic of the Marshall
2 Islands state their appearances. The person representing NTSB, Captain Flaherty please state
3 your name and spell your last name for the record and identify your title now.

4 **NTSB:** David Flaherty, F-L-A-H-E-R-T-Y.

5 **CAPT WELBORN:** And Captain your position title is?

6 **NTSB:** Investigator in Charge for the investigation into the GOLDEN Ray incident.

7 **CAPT WELBORN:** Thank you. The individual representing the Republic of the Marshall
8 Islands, please state your appearance in the same format.

9 **Republic of the Marshall Islands:** Thomas Bremer, B-R-E-M-E-R, Deputy Commissioner of
10 Maritime Affairs, Republic of the Marshall Islands Maritime Administrator.

11 **CAPT WELBORN:** Thank you Mr. Bremer. KMST representatives will not be physically
12 appearing and have provided me a list of questions that they wish to be asked of each witness.
13 When the time arises, I will state when I transition to the questions posed by KMST.
14 I would like to request the cooperation of all persons present to minimize any disruptive
15 influences on the proceedings in general and on the witnesses in particular. Witnesses are
16 appearing before the members of this Formal Investigation to provide valuable information that
17 will assist this investigation. We request members of the public be courteous and respectful of
18 the hearing location during these proceedings and attend via livestream to comply with the
19 Federal, State, and Local COVID 19 guidelines.

20 For those of you participating via video or phone, I ask that you mute yourself until I've
21 recognized you for your questions unless you wish to make an objection. All media inquiries
22 and comments regarding the hearing should be sent to GoldenRayPublicHearing@gmail.com.

1 I have already briefly discussed the purpose of this investigation but I want to reiterate that the
2 goal is to enable the prevention of similar casualties in the future, by determining, as closely as
3 possible:

- 4 • The factors that caused and contributed to the incident, so that proper preventative
5 recommendations may be made;
- 6 • Whether there is evidence that any act of misconduct, inattention to duty, negligence, or
7 willful violation of the law on the part of any licensed or certified certificated person contributed
8 to the casualty; and
- 9 • Whether there is evidence that any Coast Guard personnel or any representative or
10 employee of any other government agency or any other person contributed to the casualty.

11 This hearing will focus on the pre-accident historical events that transpired aboard the
12 GOLDEN RAY in the period leading up to the accident on September 8, 2019. The hearing
13 will explore the composition of the Port of Brunswick and St. Simons Sound, the pilot
14 embarkation and debarkation procedures, the regulatory compliance record of the GOLDEN
15 RAY, the loading and stowage process for cargo operations, the stability of the vessel, crew
16 member duties and qualifications, and the operations of the vessel from the past, up to and
17 including the accident voyage. The hearing will also include a review of the activities related to
18 the initial search and rescue phase of the accident after the Coast Guard was notified.

19 The Coast Guard has designated Parties In Interest to this investigation. In Coast Guard
20 Marine Casualty Investigations, a party in interest is an individual, organization, or other entity
21 that, under the existing evidence or because of his or her position, may have been responsible
22 for or contributed to the casualty. A party in interest may also be an individual, organization or
23 other entity having a direct interest in the investigation and demonstrating the potential for

1 contributing significantly to the completeness of the investigation, or otherwise enhancing the
2 “safety of life and property at sea” through participation as party in interest. All parties in
3 interest have a statutory right to employ counsel to represent themselves, to cross-examine
4 witnesses and to have witnesses called on their behalf.

5 Witnesses who are not designated as Parties in Interest may be assisted by counsel for the
6 purpose of advising them concerning their rights; however, such counsel are not permitted to
7 examine or cross-examine other witness or otherwise participate in this investigation.

8 I have designated the following organizations and individuals as Parties in Interest: (1) the
9 Brunswick Bar Pilots Association; (2) Captain Jonathan Tennant; (3) Captain Bruce Fendig, (4)
10 the Owners of the GOLDEN RAY, including Hyundai Glovis and G-Marine; and (5) the space
11 charterer for the GOLDEN RAY. The lead counsel for the Brunswick Bar Pilots Association is
12 physically here at the hearing. The lead counsel for the Owners of the GOLDEN RAY, Hyundai
13 Glovis and G-Marine is appearing by phone with a representative physically here at the
14 hearing. The representative for the space charterer on the GOLDEN RAY has elected not to
15 participate in this hearing and is monitoring the live feed of these proceedings. I will now ask
16 that counsel announce their appearances on behalf of their clients. Please state your name
17 and spell your last name for the record. Brunswick Bar Pilots Association.

18 **Brunswick Bar Pilots Association:** Ryan Gilsenan, G-I-L-S-E-N-A-N, for the Brunswick Bar
19 Pilots Association and Captain Jonathan Tennant.

20 **CAPT WELBORN:** Mr. Reisman and Captain Flaherty did you understand that?

21 **NTSB:** Actually I had trouble hearing that Captain.

22 **CAPT WELBORN:** Okay. Stand by one moment. Mr. Gilsenan if you would announce
23 yourself again please.

1 **Brunswick Bar Pilots Association:** Ryan Gilsenan, G-I-L-S-E-N-A-N, counsel for the
2 Brunswick Bar Pilots Association and Captain Jonathan Tennant.

3 **CAPT WELBORN:** Thank you, sir. And the owners of the GOLDEN RAY, Hyundai Glovis and
4 G-Marine.

5 **GOLDEN RAY:** Jim Moseley, Jr., M-O-S-E-L-E-Y.

6 **CAPT WELBORN:** Thank you Mr. Moseley. The Recorder will place all witnesses under
7 oath. When testifying under oath, a witness is subject to the Federal laws and penalties for
8 perjury for making false statements under Title 18, United States Code, Section 1001.
9 Penalties included, excuse me, penalties include a fine up to \$250,000, or imprisonment up to
10 5 years, and or both.

11 The sources of investigation into which this investigation will inquire are many and varied.
12 Since the date of the casualty, the Republic of the Marshall Islands, NTSB, KMST, and the
13 Coast Guard have conducted substantial evidence collection activities, and some of that
14 previously collected evidence will be considered during these hearings. Should any person
15 have, or believe he or she has information not brought forward but which might be of
16 significance, that person is urged to bring that information to my attention by emailing:
17 USCGGoldenRay@gmail.com.

18 Mr. Flaherty will now say a FEW words on behalf of the NTSB.

19 **NTSB:** Good morning. As the Investigator in Charge for the National Transportation Safety
20 Board's investigation of this accident, the safety board is an independent Federal agency
21 which under the Independent Safety Board Act of 1974 is required to determine the cause or
22 the probable cause of this accident. To issue a report of the facts, conditions and
23 circumstances related to it and may make recommendations to prevent similar accidents. The

1 NTSB has joined this hearing to avoid duplicating the development of facts. Nether the less I
2 do wish do to point out that this does not preclude the NTSB from developing additional
3 information separately from this proceeding if that becomes necessary. At the conclusion of
4 the hearing the NTSB will analyze the facts of this accident and determine the probable cause
5 independent from the Coast Guard. At a future date a separate report of the NTSB's findings
6 will be issued which will include our official determination of the probable cause of this
7 accident. And if appropriate the safety board will issue recommendations to correct safety
8 problems discovered during this investigation. These recommendations may be made in
9 advance of the report. Thank you.

10 **CAPT WELBORN:** Thank you Captain Flaherty. Additionally we have one attorney for the
11 owners of the vessel appearing telephonically. Mr.

12 Reisman, David Reisman. Would you please introduce yourself?

13 **Mr. Reisman:** Thank you Captain. This is David Reisman, the last name is spelled R-E-I-S-
14 M-A-N, on behalf of the owners, Hyaudi Glovis at G-Marine Service.

15 **CAPT WELBORN:** Thank you Mr. Reisman. Are there any other folks on the line that I
16 haven't had an opportunity to -- I haven't offered to introduce themselves this morning? Mr.
17 Bremer do you have any statements before we begin?

18 **Republic of the Marshall Islands:** No Captain.

19 **CAPT WELBORN:** Thank you, sir. Any other issues, with the opening, anything else we need
20 to discuss at this time? Okay. The local time now is 1047, we'll take a quick 10 minute recess
21 and then move on to the Coast Guard Exhibit 1. The hearing now stands in recess.

22 *The hearing recessed at 1047, 14 September 2020*

23 *The hearing was called to order at 1057, 14 September 2020.*

1 **CAPT WELBORN:** Alright, the time is now 1057 local and this hearing is back in session. We
2 will now present our first Coast Guard Exhibit, Exhibit 1, facts of the incident. The following
3 presentation is a summary of the ship's particulars, basic facts of the incident, photos of the
4 ship pre-incident and animation of the incident from the PPU. All this information was derived
5 from the ship's documents, photos of the last flag state inspection and the voyage data
6 recorder and the PPU data. Next slide. The GOLDEN RAY ship particulars. Captain Flaherty
7 and Mr. Reisman.

8 **NTSB:** Yes.

9 **Mr. Reisman:** Yes Captain, this is David Reisman.

10 **CAPT WELBORN:** I do apologize I had you on mute. I'm going to back up just a moment or
11 two. We're proceeding with Coast Guard Exhibit 1 the facts of the incident.

12 **NTSB:** That's fine, thank you.

13 **CAPT WELBORN:** So I'll back up just a bit to show that the presentation is a summary of the
14 ship's particulars, basic facts of the incident, photos of the ship pre-incident and animation of
15 the incident from the PPU. This information which is derived from ship's documents, photos of
16 the last flag state inspection, the voyage data recorder and the PPU data. Slide two shows the
17 GOLDEN RAY ship particulars, the IMO number of the vessel 9775816, the flag The Republic
18 of the Marshall Islands, class Korean register of shipping, the owner noted as GLNV24
19 shipping. Operator G-Marine Service company limited. Diesel propulsion. 7,742 vehicles
20 were on board the ship at the time of incident. The ship was built in 2017 at the Hyundai Dock
21 in Korea. The length overall just under 200 meters, the beam 35.4 meters, draft 10.6 meters,
22 it's a car carrier 71,000 gross tons, full speed 20 knots at 77.2 RPM's and had a rotary vain
23 hydraulic steering system. Next slide shows a general arrangement of the ship. This image is

1 an excerpt from the GOLDEN RAY's general arrangement plan as approved by the ship's
2 classification society KRS. It's a car and truck carrier fitted with stern and starboard side
3 ramps, 13 cargo decks fitted with movable ramps. Accommodations are located above the
4 cargo decks. Navigation bridge located forward above the accommodations. A simplified
5 version of the deck arrangement is presented in the next slide. The next slide shows a photo
6 of the GOLDEN RAY pier side from its last flag state inspection. The next photo shows
7 examples of vehicles loaded and how they are secured with straps to the deck on the vessel.
8 The Port State Control and registry history, ten total Port State Control examinations have
9 been conducted onboard the ship since 2017, no detentions or notable deficiencies exist in the
10 record. The vessel had two prior Coast Guard Port State examinations. One in February of
11 2018 in San Francisco, the other in May of 2019 also in San Francisco. The GOLDEN RAY
12 crew were properly credentialed for the positions they filled onboard the vessel and all held
13 appropriate flag state endorsements on their licenses and or documents. The vessel was
14 manned in compliance with the minimum safe manning certificate issued under the provision of
15 regulation 5/14.2 of SOLAS 74 as amended by the Republic of the Marshall Islands. The
16 ship's crew was 23 in addition to the – persons in addition to the crew were 1 including a State
17 Pilot. The timeline of the voyage for the purposes of this investigation begin in Vera Cruz,
18 Mexico from the 19th to 22nd of August 2019. Altamira, Mexico from the 24th to the 25th of
19 August 2019. Freeport, Texas August 27th through the 30th, 2019. Jacksonville, Florida the 6th
20 and 7th of September 2019, and Brunswick, Georgia the 7th and 8th of September 2019. The
21 vessel held all required SOLAS and safety certificates and the certificates were valid. There
22 were no indications that any vessel safety or communication equipment contributed to this
23 incident. The vessel held a required SOLAS safety construction certificate and that certificate

1 was also valid. There are no indications that vessel machinery or any other equipment
2 contributed to this incident. National Oceanic and Atmospheric Administration chart 11506
3 depicts St. Simons Sound, Brunswick Harbor internal river. The black box noted in the slide
4 indicates the area the GOLDEN RAY transited on its outbound voyage from Brunswick. The
5 next slide represents the approximate track history of the GOLDEN RAY's outbound voyage
6 overlaid on NOAA chart 11506. This is an approximate location and used for referential
7 purposes only. A photo of the navigation bridge can be seen on the next slide of the GOLDEN
8 RAY taken during the most recent Flag State inspection. The photo was taken from the port
9 side of the vessel. This photo shows the navigation bridge of the GOLDEN RAY taken during
10 – also during the same Flag State inspection. The aspect of this vessel is from the – the
11 aspect of this photo is from the starboard side. Next we have an animation of the incident
12 assembled from the VDR and the PPU. It was compiled Mr. Mark Dejesus, U.S. Coast Guard
13 Investigations and National Center of Expertise. [Playing] can you increase the volume. At
14 this time we're going to pause the video until we get the volume issue worked out. So it is now
15 1108 am, this hearing stands in recess.

16 *The hearing recessed at 1108, 14 September 2020*

17 *The hearing was called to order at 1111, 14 September 2020*

18 **CAPT WELBORN:** Okay this is Captain Welborn again the local time is 1111 and we were
19 able to correct our sound issue so we will go – the hearing is back in session. Again we are
20 referring to the animation assembled from the VDR and PPU. [Playing VDR]. It's a very
21 powerful video, thank you to Mr. Dejesus for assembling that for us. So one minor correct the
22 Exhibit is correct, I stated the wrong numbers. When I said the vessel carried just over 7700
23 cars and trucks on board, that's the capacity of the vessel, just over 7700. The vessel had

1 approximately 4300 autos on board at the time of the incident. Are there any objections from
2 the SIS's or the PII to Coast Guard Exhibit 1 as it stands? The Republic of Marshall Islands?

3 **Republic of Marshall Islands:** No objection.

4 **CAPT WELBORN:** Thank you Mr. Bremer. National Transportation Safety Board?

5 **NTSB:** No objections.

6 **CAPT WELBORN:** Thank you. Do we have a representative from KMST? KMST this exhibit
7 was previously shared with KMST and we received no objections at that time. Brunswick Bar
8 Pilot Association representation?

9 **Brunswick Bar Pilots Association:** No objection.

10 **CAPT WELBORN:** Thank you, sir. And ship's owner representation?

11 **CAPT Fendig:** No objections.

12 **CAPT WELBORN:** Thank you Mr. Bruce we do appreciate it. Hearing no objections Coast
13 Guard Exhibit 01 is entered into the record. Any other housekeeping issues we need to attend
14 to? The local time now is 1123. This hearing stands in recess for lunch until 1230 local when
15 we will call our first witness, Captain Bruce Fendig. This session stands in recess.

16 *The hearing recessed at 1123, 14 September 2020*

17 *The hearing was called to order at 1232, 14 September 2020*

18 **CAPT Welborn:** Okay the time is now 1232 local and this hearing is back in session. The first
19 witness for us to call today is Captain Bruce Fendig, Pilot, Brunswick Pilots Association.

20 Captain Fendig please come forward. Lieutenant Commander Moore will swear you in.

21 **Recorder:** We're at the part, Mr. Fendig can you raise your right hand please. A false
22 statement given to an agency of the United States is punishable by fine and or imprisonment
23 under 18 United States Code 1001. Knowing this do you solemnly swear that the testimony

1 you're about to give will be the truth, the whole truth and nothing but the truth so help you
2 God?

3 **CAPT Fendig:** I do.

4 **Recorder:** Thank you very much, you may be seated. Mr. Fendig could you please state your
5 name and spell your last name for the record?

6 **CAPT Fendig:** My name is Bruce Fendig, F-E-N-D-I-G.

7 **Recorder:** Are you represented by counsel?

8 **CAPT Fendig:** I am. Brian ----

9 **Recorder:** And who is your counsel?

10 **CAPT Fendig:** Brian Gilsenan.

11 **Recorder:** Have you been designated as a party of interest in this case?

12 **CAPT Fendig:** Yeah I have.

13 **Recorder:** Do you hold any professional certificates or certifications?

14 **CAPT Fendig:** I do.

15 **Recorder:** Can you, in regards to your maritime background?

16 **CAPT Fendig:** Certainly. I hold a Federal Coast Guard First Class Pilot's license for
17 Brunswick and further in. I also hold a State of Georgia Pilot's license, no restrictions.

18 **Recorder:** Can you describe the relationship between those licenses?

19 **CAPT Fendig:** Sure. Most of the vessel traffic called in to Brunswick today requires a State
20 Pilot to be aboard, State Pilot to be aboard. Only a small percentage of our traffic requires
21 U.S. license Pilot's.

22 **Recorder:** Can we active the microphone for the board ----

1 **CAPT Fendig:** Did you get the last part of the – could you repeat the question please
2 Commander Moore?

3 **Recorder:** Yes. Can you move the microphone up a little more, sir?

4 **CAPT Fendig:** More?

5 **Recorder:** Yes.

6 **CAPT Fendig:** How about that Commander Moore?

7 **Recorder:** That's perfect. Do you hold, or can you describe your relationship between your
8 various licenses and credentials?

9 **CAPT Fendig:** Yes. We're dully licensed here in Brunswick. I hold a Federal Coast Guard
10 license for pilotage and a State Pilot license. Most of the vessel traffic calling on Brunswick
11 today requires a State Pilot's license. A small percentage of the business calling on Brunswick
12 today would require a U.S. License Pilot or a Federal Pilot.

13 **Recorder:** Did the GOLDEN RAY require a Pilot for transiting this area?

14 **CAPT Fendig:** Yes the GOLDEN RAY would require a State licensed Pilot.

15 **Recorder:** Is this governed by a law or regulation?

16 **CAPT Fendig:** Yes. The compulsory pilotage statutes are covered both Federally and State
17 Law and State Regulation.

18 **Recorder:** Can you give us a brief summary of your background and experience as a Pilot?

19 **CAPT Fendig:** Yes. I've been a licensed Pilot for 30 years, a State licensed Pilot in
20 Brunswick for 30 years. And I've handled quite a few vessels. I've looked up the last 10 years
21 its around 850 vessels, movements in the last decade prior to the incident.

22 **Recorder:** Who is your current employer?

1 **CAPT Fendig:** All the Pilots in Brunswick are self-employed. We are associated together in
2 order to collectively operate a Pilot operation.

3 **Recorder:** And what position do you hold?

4 **CAPT Fendig:** I'm a harbor Pilot.

5 **Recorder:** Can you describe your duties and responsibilities in that position?

6 **CAPT Fendig:** Yes. As a State licensed Pilot and a Federal licensed Pilot we've sworn an
7 oath to serve vessels. So every vessel that calls for a Pilot and request a Pilot it's a licensed
8 Pilot's duty to respond here in Brunswick. And we take turns. We have a rotation, we take
9 turns to fulfill that commitment.

10 **Recorder:** Have you received any training for this position?

11 **CAPT Fendig:** Yes every Pilot in Brunswick has served an apprenticeship. And the
12 apprenticeship I served was a little different than the last four Pilots that served, but we all
13 have served an apprenticeship here. All the Pilots always serve in an apprenticeship.

14 **Recorder:** I will now transfer the question over to Captain Welborn. Thank you Mr. Fendig.

15 **CAPT WELBORN:** Just a moment Captain. Sorry Captain I've lost your questions. So if you
16 could give me just a moment.

17 **CAPT Fendig:** Yes, sir. No problem.

18 **CAPT WELBORN:** We have to pause for the train anyway [train in background]. So the
19 witness in consult with his counsel have prepared a list of answers to questions so I'm going to
20 allow the free form and allow the witness to go ahead and testify and bring those things to
21 bare.

22 **CAPT Fendig:** Yes, sir, thank you. So I have some prepared remarks about training in
23 Brunswick. And licensing begins in Brunswick with need. And when an opening is forecasted

1 either by retirement or growth our primary oversight body, the Brunswick Pilot Commission will
2 announce and advertise an opening for a new apprentice Pilot. An apprentice selection is
3 done upon a major base system of factors set forth in State Regulation. The perfect candidate
4 would have 100 points. Points are gained in four equal categories, education, previous
5 maritime experience, commissioner interview and an assessment by the Pilot's Association for
6 Pilot potential. A candidate must have a minimum of 30 points in order to qualify for the
7 interview portion selection. The minimum apprenticeship duration after selection is 3 years in
8 accordance with State Law and Regulation as well as the terms set forth in our U.S. Coast
9 Guard approved training program. Since Brunswick Pilots must be intimately familiar with local
10 waters, navigational peculiarities, local regulations as well as know how to handle different
11 types and sizes of ships and be able to conduct themselves on ships with bridge teams from
12 all over the world. An intensive on the job training program is vital. In Brunswick, around the
13 U.S. and internationally time has shown that the skills required of a Pilot are best developed
14 then mastered through locality specific hands on apprentice training. We operate a program to
15 do just that and again it's approved by the Coast Guard and jointly approved by the Coast
16 Guard and our local Pilot Commission here in Brunswick.

17 This training program consists of learning tasks that are both academic based and field based,
18 field based tasks under the tutelage of existing State licensed Pilots. It is a thorough and
19 detailed program designed to take an apprentice Pilot all the way through licensure and
20 develop what we believe as an optimal training for State licensed Pilot. One of the last things
21 on the agenda of a training of an apprentice is the application for a First Class Pilot's license.
22 And this is done after completion of the apprentice training program. It should be noted that a
23 Pilot trained under this system has learned the profession by not less than three methods,

1 observation, coaching and cueing and finally observed solo. After completion of the
2 apprenticeship commissioners of pilotage will then authorize a, what we call in Brunswick, a
3 short branch license for newly licensed Pilots and it would limit the size of the vessel and their
4 license would be restricted by draft [sirens in background].

5 **CAPT WELBORN:** I'm sorry Captain the microphones are very sensitive.

6 **CAPT Fendig:** Yes, sir, no problem. A newly licensed Pilot would handle limited tonnage type
7 vessels which would be restricted by draft, beam and length overall. For a number of years
8 they would work their way up through progressively larger licenses until they became a full
9 branch license or unlimited license with no restrictions. At every level of licensure there's both
10 a verbal and written testing by the Pilot Commissioners. And I'm proud to tell you that Pilot
11 Tennant is a product of this system. And I would also let you know that over the last few years
12 several times these schedule of licensure or the steps in the branch of the license have been
13 amended to reflect the current fleet calling to Brunswick today. That's all I have for licensing if
14 you have any questions about that.

15 **CAPT WELBORN:** Okay.

16 **Counsel:** There's are other topics to discuss in this presentation.

17 **CAPT WELBORN:** Right.

18 **Counsel:** But if you want license questions or should he continue and you come back.

19 **CAPT WELBORN:** Yeah please continue.

20 **Counsel:** Okay go ahead.

21 **CAPT Fendig:** So in my notes here I have a few notes about the unique navigation features
22 here in Brunswick. The Port of Brunswick is largely a natural harbor. The Army Corps of
23 Engineers has made many improvements to the Federal project over the years. Specific to the

1 area of the incident it lies between the barrier Islands of St. Simons and Chapel Island. This
2 area is formed by the confluence of rivers that meet in the sound and scourer out a very large
3 natural channel or gorge that greatly exceeds the Federally authorized project in that area.
4 Vessel traffic has used this area, this natural deep water area for navigation since Colonial
5 days. The area is naturally deep and has a sandy bottom and there's navigation room in the
6 sound for around 1000 feet wide in many areas adjacent to the wreck. A few notes I have on
7 ATON verification. ATON verification is, I'm speaking to post storm ATON verification. ATON
8 verification post storm is done pursuant to the requirement to the Captain of the Port Savannah
9 and it needs to be inspected. And generally the Pilots will ride, a Pilot, a State licensed
10 Brunswick Pilot will ride on the station boat, the RBM with Coast Guard personnel and ATON
11 Coast Guard personnel. On this particular occasion the reopening process is a little slower so
12 we took our own boat and checked it. But many times we go on a Coast Guard if necessary.

13 **CAPT WELBORN:** Captain if I may. When you say this time?

14 **CAPT Fendig:** I'm sorry, post Dorian.

15 **CAPT WELBORN:** Post Dorian.

16 **CAPT Fendig:** Post Dorian, thank you. Now in general every Pilot is always checking the
17 ATONs on every passage. And any discrepancy would be reported directly to the Coast
18 Guard. This specific reporting duty in our organization is assigned to the apprentice Pilot or on
19 occasion the short branch Pilot. If an unsafe condition such as a buoy were to drift into the
20 channel and endanger vessel traffic on rare occasions we have used the Pilot boat to pull it off
21 to the side. And of course we would call the Coast Guard immediately after safe passage of
22 the vessel. That's my notes on ATON.

23 **CAPT WELBORN:** Okay.

1 **CAPT Fendig:** Verification. I have a few notes on tide influences. There are many sources
2 available for this. The average tidal lift in this port is around 7 feet. We frequently use this tidal
3 lift to maneuver a vessel, to move a vessel. Most row-row vessels do not require much tidal lift
4 on account of shallower drafts due to the nature of the cargo. We try to maintain a one mil –
5 one meter under keel clearance or around 10 percent of the draft. That's what we try to
6 maintain. And of course every licensed Pilot can require more or delay a sailing if in his
7 judgement it would be safer to do so. Or it could require less. Certain ships don't take as
8 much. But generally we try to keep one meter as a minimum. With the large tidal range
9 experienced in Brunswick it is not unusual to have an extra foot or under certain conditions
10 lose a foot from the predicted values. And then finally I have a few notes with regards to PPU.

11 **CAPT WELBORN:** Okay. This is your last section Captain?

12 **CAPT Fendig:** Yes, sir.

13 **CAPT WELBORN:** Okay.

14 **CAPT Fendig:** A portable pilot unit what we call a PPU is a tool that most Pilots in Brunswick
15 use today and for that matter most of our colleagues across the Nation use a PPU. This
16 device is really just another tool in the Harbor Pilot's arsenal to safely handle vessels. It's no
17 different than ----

18 **CAPT WELBORN:** Captain, just a moment [train whistle in background]. Please.

19 **CAPT Fendig:** Yes, sir. This PPU is not different than any other traditional tool available for
20 navigators such as a radar, phantom meter. The software that we use in our association is
21 CIQ. It's quite handy and extremely intuitive for the user. The hardware in our association is
22 treble board. And our system can actually act as a standalone unit with less accuracy in an
23 emergency. I find this tool very accurate and very helpful. It should be noted that this tool, in

1 my opinion, works optimally when the Pilot has broad experience and training without the use
2 of PPU's. And then later adds the PPU to the more traditional Pilotage skills. Fortunately Pilot
3 Tennant and all the Brunswick Pilots have both sets of skills. It is clearly a tool that will
4 continue to be a large part for the future of the Pilots. That is the end of my prepared remarks.

5 **CAPT WELBORN:** Great thank you very much Captain Fendig I do appreciate it. We would
6 also like to maintain a copy of that or obtain a copy of that as part of your official transcript and
7 testimony today.

8 **CAPT Fendig:** May I send you a clean copy?

9 **CAPT WELBORN:** Please.

10 **CAPT Fendig:** Yes, sir. I'll take care of it.

11 **CAPT WELBORN:** Okay. Do we need to change out the Captain's microphone? Okay.

12 We're going to swap the mic out to see if we get something that picks up a little bit better.

13 [Testing microphone]

14 **CAPT WELBORN:** It's not picking up. Okay. So Captain we asked you hear today to testify
15 about your knowledge of the Port of Brunswick and the navigational features surrounding the
16 rivers and the confluence that you described. So what I would like to do first of all is introduce
17 Coast Guard Exhibit 2 and let's see if you can tell us what that is.

18 **CAPT Fendig:** That's the NOAA chart for the Port of Brunswick.

19 **CAPT WELBORN:** Okay. Standby one, we're going to put it up where our live stream folks
20 can see it. Okay. Captain I'm sorry, can you tell us again what that is?

21 **CAPT Fendig:** Yes, sir. That's the NOAA chart number 11506.

22 **CAPT WELBORN:** Okay. And what's this particular chart used for? What does it depict?

1 **CAPT Fendig:** This is the overall chart of the Harbor with the Federal – showing the Federal
2 improvements or the official channel, the authorized channel.

3 **CAPT WELBORN:** Understood.

4 **CAPT Fendig:** It shows – it shows the sea buoy would be out here slightly off the channel, the
5 Pilot would pick up a ship at sea, bring the ship up through the channel between the Islands
6 and up into the Port of Brunswick. It would go here and downtown there's some terminals
7 here.

8 **CAPT WELBORN:** Understood. Let the record show that Captain Fendig used the laser
9 pointer to outline the Federal Channel, the sea buoy to the docking stations. Any other
10 particular things about this particular chart Captain?

11 **CAPT Fendig:** Yes, sir. The incident site is here between the Islands in the Plantation Creek
12 area, Plantation Creek range area, there.

13 **CAPT WELBORN:** Again let the record show that Captain Fendig used the laser pointer to
14 identify the area in the, what was the waterway again Captain?

15 **CAPT Fendig:** It sits – it sits in the widener of Plantation Creek range and the widener of
16 Chapel Creek range.

17 **CAPT WELBORN:** Does that particular widener have a notation or number?

18 **CAPT Fendig:** It has a new number that I've learned. It's widener number 11.

19 **CAPT WELBORN:** Okay.

20 **CAPT Fendig:** In that area right there.

21 **CAPT WELBORN:** Roger. Okay, thank you Captain I appreciate that. So we talked about
22 the widener. The widener number 11 is it, what's the purpose of that widener Captain?

1 **CAPT Fendig:** It's a bend widener and there may be others better prepared to speak on the
2 exact how they're developed, but the Army has criteria that they use to develop thin widener s
3 for certain turns and that's developed that way. So it's used for navigation. It's used to make a
4 widener area so the vessel could swing around between the two channels, the two narrow
5 channels. It gives a widener area for the swept passage.

6 **CAPT WELBORN:** Understood. So it's an area utilized for the turning a vessel from one
7 portion of the waterway to another.

8 **CAPT Fendig:** It is and we use it frequently.

9 **CAPT WELBORN:** Okay, understood, thank you. Thank you. Captain how are passing
10 arrangements made in and out of the Port of Brunswick?

11 **CAPT Fendig:** A variety of way. Normally when we have a conjunction move we call it, and
12 we like to pass – we like to pass again in this area between the Islands that's the 1000 foot
13 wide area that I described earlier. We like to pass in that zone and with modern technology
14 we'll normally make a cell phone call so the guy at the dock will normally call the inbound guy
15 to make sure the inbound Pilot to make sure he's aboard and everything's okay. Once we
16 know that that's okay then the outbound Pilot will be prepared to let go lines and they can start
17 in. It's ironically the area between the Island is halfway between the dock and the sea buoy
18 approximately. And so it provides a convenient area to pass large ocean going vessels. The
19 whole port is a two way traffic port under normal circumstances. But the Pilots believe it's
20 safer to pass in the area of the gorge I spoke of rather than passing in narrow channels with
21 high profile vessels. It's not to say we wouldn't pass two smaller vessels in the channels. But
22 we prefer to pass between the Islands. It's a logical spot. If you have an emergency you can
23 stop and anchor there. Another benefit of using that area to pass in. Back to your question

1 how passing arrangement are made. It could also be made by VHF in the event cell phone
2 coverage was weak and of course whistle signals or sight signals, either one, whistle or light
3 signals.

4 **CAPT WELBORN:** So Captain often the passing arrangement are made prior to getting the
5 vessel underway from the dock or once it meets a sea buoy.

6 **CAPT Fendig:** It can be. Sometimes it's done, again by VHF. But normally – and we
7 normally pass port to port unless there's something weird going on. If there's something weird
8 is happening you know they're going to – the Pilots are going to talk. And so if there's
9 something like this is happening they're going to talk and that could be changed on the fly. But
10 normally we pass port to port though.

11 **CAPT WELBORN:** And that communication you referenced is conducted how? On what
12 means?

13 **CAPT Fendig:** Again normally we talk by cell phone. And then if that doesn't work or that
14 didn't happen then it could be by VHF radio on 12 or, channel 12 or channel 13 we would
15 make passing arrangements.

16 **CAPT WELBORN:** Understood, okay. Captain you referenced the waterway between the
17 Islands. You said that's primarily where the passing takes place. What is the name of that
18 particular ----

19 **CAPT Fendig:** The St. Simons Sound.

20 **CAPT WELBORN:** St. Simons Sound, thank you. And you also referenced that that area is
21 approximately in the middle between the sea buoy and the dock. What dock are we referring
22 to here?

1 **CAPT Fendig:** Well approximately between, really all of the docks for practical purposes.
2 There's a small amount of difference between the upper most East River dock and the upper
3 most horizontal dock in linear mileage. And so the Pilots with the outbound and inbound would
4 talk by VHF or phone, but in today's world we have PPU which tells us exactly where we're
5 going to meet. And so each Pilot would be adjusting their speed to meet there in the sound
6 because we believe it's the safest area. So speed would be adjusted.

7 **CAPT WELBORN:** Understood. But that doesn't take precedent over verbal communications.

8 **CAPT Fendig:** No. Correct, that's correct, yes.

9 **CAPT WELBORN:** Okay. So Captain what's the maximum depth of ships transiting outbound
10 from Colonel's Island terminal?

11 **CAPT Fendig:** Well there was previously a bulk terminal there and we loaded grain vessels
12 there. And those vessels were quite deep sailing. We have handled in excess of 36 feet at
13 high water. That's not representative of the fleet today at Colonel's Island because the grain
14 terminal has been discontinued and it's all row-row vessels. Most row-row vessels are not that
15 deep. There are a few, but most are not.

16 **CAPT WELBORN:** So Captain you said you liked to maintain one meter under keel
17 clearance, what would that measurement be then? What would the maximum depth of draft
18 depth of a vessel departing from Colonel Island to maintain that one meter under keel
19 clearance?

20 **CAPT Fendig:** Oh well that would vary with the stage of the tide of course. We have nearly a
21 two meter rise of tide.

22 **CAPT WELBORN:** Right.

23 **CAPT Fendig:** So ----

1 **CAPT WELBORN:** So can you give me a foot range?

2 **CAPT Fendig:** So we would sail a vessel I believe if my memory serves me correct at that
3 time we would sail 8.9 meters of drafts at any time. So they could theoretically go at low tide.
4 So if it was greater than 8.9 we would have to add some tidal lift to it.

5 **CAPT WELBORN:** Understood. So you would have to wait for tidal cycling.

6 **CAPT Fendig:** We would have to wait for the tide, correct.

7 **CAPT WELBORN:** Understood. Okay. And Captain can you identify where Colonel's Island
8 terminal is on the chart?

9 **CAPT Fendig:** Colonel's Island terminal is here, this area here. It's on the Western side of
10 the city of Brunswick. It's State Port Authority terminal. It's quite large in nature. It's bisected
11 by U.S. Highway 17.

12 **CAPT WELBORN:** Let the record show that the Captain identified where Colonel Island is on
13 the chart. Captain when you board a vessel to Pilot it, and I should step back and make a
14 point of reference, the questions that we are referring to today refer to all pilotage vessels,
15 vessel's requiring Pilots. I just want to make sure the record – make sure we're clear. So
16 Captain when you board a vessel to Pilot it how do you – how are you made aware of the
17 maximum draft of the vessel?

18 **CAPT Fendig:** Several ways. Our office, we have an excellent operations manager in our
19 office and Henry would be the first point. It would be – the draft would be given to Henry days
20 in advance by the vessel agent. And the Pilot have told Henry the 8.9 number. And so that
21 would be the first point. And then that would get posted into our company's database for
22 Pilots. And then of course when the Pilot was called for duty it would be posted what the
23 vessel's draft was reported by the agent. Now if it's close sometimes we will reach back out to

1 the vessel to confirm the draft. And that could easily happen on many occasions. The draft
2 can be confirmed by VHF potentially. And then of course the Pilot when he gets on board we
3 have a Master Pilot exchange whether inbound or outbound, we're going to have a Master
4 Pilot exchange. And that's one of the key provisions in a Master Pilot exchange is the vessel
5 draft.

6 **CAPT WELBORN:** Understood. Captain you referenced Henry. Who's Henry?

7 **CAPT Fendig:** I'm sorry. Henry Winn is our operations manager in our organization.

8 **CAPT WELBORN:** So he's your – what does he – operations manager?

9 **CAPT Fendig:** He would take in – he's a dispatcher.

10 **CAPT WELBORN:** Dispatcher, understood.

11 **CAPT Fendig:** He would take the information from the vessel agent.

12 **CAPT WELBORN:** Okay.

13 **CAPT Fendig:** Originally. Post it on our database and then it would be there for Pilots to look
14 at. And it might, you know some traffic is very fluid so you might be looking a day or two
15 before your turn to see what's coming in to see if [in audible] have another opportunity to see
16 it, to check it.

17 **CAPT WELBORN:** Understood. Captain I hate to ask you this. I'm getting some feedback
18 from folks at the – they're having trouble hearing you on the live stream.

19 **CAPT Fendig:** Yes, sir. So what can I do different?

20 **CAPT WELBORN:** Just speak a little louder if you would.

21 **CAPT Fendig:** Okay, yes, sir.

22 **CAPT WELBORN:** Captain you said it's a database that your Pilots check, that's correct?

23 **CAPT Fendig:** Yes, sir.

1 **CAPT WELBORN:** Okay. So that's remotely accessible that the Pilots can access it only by
2 coming in the office or externally?

3 **CAPT Fendig:** Either or, yes, sir. Computer, phone or come by the office.

4 **CAPT WELBORN:** Understood. Okay, alright, good. So this, you said 7 foot tidal influence in
5 your prepared statement, how does that impact the sailing schedule of vessels with a 7 foot
6 range? How can that impact sailing schedules of vessels?

7 **CAPT Fendig:** Well optimally we want to have the most under the keel. And again if it is
8 going to be significantly less than one meter or 10 percent, then the Pilot can delay a transit.
9 That's no problem. I'm not sure I understand.

10 **CAPT WELBORN:** That's okay. The key to that is I understand that the Pilot has the call to
11 potentially delay or change the sailing schedule.

12 **CAPT Fendig:** If it's a problem, yes, sir.

13 **CAPT WELBORN:** And how does that process work?

14 **CAPT Fendig:** It's pretty simple just tell the Captain we're not sailing.

15 **CAPT WELBORN:** Understood.

16 **CAPT Fendig:** Or we're not starting in.

17 **CAPT WELBORN:** Okay.

18 **CAPT Fendig:** And I would like to point out that some vessels perform remarkably better than
19 others. And the Pilots here handle quite a lot of row-row vessels. And we have a pretty good
20 idea of which ones do and which ones don't based on experience with many of the vessels in
21 the fleet.

22 **CAPT WELBORN:** So if I could deviate for just a moment or two Captain. How many Pilots
23 are in the association?

1 **CAPT Fendig:** Yes, sir. There are six licensed Pilots in Brunswick today. Five full branch
2 Pilots and one Pilot working his way through the branches if you will. And then we have one
3 apprentice Pilot in training.

4 **CAPT WELBORN:** And how many on average vessels do each Pilot – does each Pilot
5 handle?

6 **CAPT Fendig:** It's not that many. A big month for a Pilot would be 10 vessels or 20
7 movements a month. Just not that many.

8 **CAPT WELBORN:** So when you say 20 movements that would be one vessel in, same vessel
9 out.

10 **CAPT Fendig:** Yes, sir. And typically in this port the Pilot who brings it in typically takes it out.

11 **CAPT WELBORN:** Understood. Okay so 10 vessels, 5 Pilots, 50 port calls a month.

12 **CAPT Fendig:** Roughly.

13 **CAPT WELBORN:** Roughly.

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

15 **CAPT WELBORN:** Okay.

16 **CAPT Fendig:** It's, like a lot of things in life it goes up and it comes down.

17 **CAPT WELBORN:** Understood, sir. Captain as you report on board a vessel what
18 information are you provided from the ship?

19 **CAPT Fendig:** Well again we normally get on board and have the Master Pilot exchange.
20 And we go through a number of things by way of the Master Pilot exchange verbally. And then
21 normally the Mate on watch would bring the duty Pilot the ship's particulars and the Pilot card
22 for review. But I would like to point out to you there's so much information on that Pilot card
23 some of them are 8 or 10 pages. It would take 30 minutes to properly evaluate, it's an

1 overload of information. The main criteria we need are the draft and the length and the beam
2 and the bow thruster, horse power and if it's working or not. That's the main four things we
3 need to know.

4 **CAPT WELBORN:** Any information about the material condition or the limitations, operations
5 of the ship?

6 **CAPT Fendig:** Occasionally. And I would say it is the exception not the rule. Occasionally a
7 Master will ask you to not use the engine going in a stern going over a certain speed, that
8 might be something he would ask you. Or it could be on the Pilot card. I would say 1 in a 100,
9 maybe 1 in a couple of a hundred, just speculating. But it's a small percentage. I might not
10 see it for a couple years, or you might see it once a year. But there will be a notation on the
11 Pilot of something unusual characteristic of the vessel.

12 **CAPT WELBORN:** Understood. So Captain we're getting a lot of feedback from some of our
13 folks on the line in the live feed that are still having trouble hearing. So at this time it is, I have
14 1:12 local. So I would like to take just a quick 10 minute recess for us to see if we can't access
15 the audible situation and what's going on. I do apologize for those folks who are on the live
16 stream. We're doing our best to put this thing together. So again we're going off the record at
17 1:12. This hearing stand adjourned.

18 *The hearing recessed at 1:12, 14 September 2020*

19 *The hearing was called to order at 1:22 14 September 2020*

20 **CAPT WELBORN:** Okay the local time is 1:22 and this hearing is back in session. We are
21 continuing our interview with Captain Bruce Fendig. Captain I think we changed out your mic it
22 should be a little bit better.

23 **CAPT Fendig:** Yes, sir. Can you hear me better now?

1 **CAPT WELBORN:** Excellent. I can hear you. Okay. Let's see Captain where we left off.
2 Captain so on a couple days before the 8th of September 2019 there was a tropical system that
3 moved through the area. You referenced it a moment ago.

4 **CAPT Fendig:** Yes, sir.

5 **CAPT WELBORN:** And what was that?

6 **CAPT Fendig:** Dorian I believe.

7 **CAPT WELBORN:** Hurricane Dorian, okay. Did you Pilot ships after Hurricane Dorian came
8 through but before the GOLDEN RAY came through on the 8th?

9 **CAPT Fendig:** Yes, sir. I did check my records in case that question came up and we
10 handled 12 vessels prior to GOLDEN RAY.

11 **CAPT WELBORN:** Okay.

12 **CAPT Fendig:** Some significantly deeper than GOLDEN RAY's draft.

13 **CAPT WELBORN:** Okay, good point. Were there any navigational issues noted after the
14 passage of the hurricane? Any changes to the port?

15 **CAPT Fendig:** No, sir. The State Pilot went to check the Aid to Navigation reported no
16 damage. So as far as I know all the Aids to Navigation were working.

17 **CAPT WELBORN:** Can you tell me how, you said a little bit earlier you described how that
18 system works. Can you tell me how that work? So a Pilot went out?

19 **CAPT Fendig:** Yes, sir. Again in this case we used our boat. But sometimes we ride on a
20 Coast Guard boat with Coast Guard personnel. But in this case we used our boat because the
21 storm really wasn't that significant for us in the way of hurricanes. And so we sent our short
22 branch Pilot and our apprentice Pilot to check the buoys and took our boat because the port
23 was closed at that period until some things could be established. And we took our boat they

1 checked all the Aids to Navigation and there were none reported back damaged or off station
2 or a problem for navigation. So no Aids to Navigation were a problem.

3 **CAPT WELBORN:** Understood Captain. In your Pilot boat do you have any – do you have a
4 fathometer or echo depth sounder? Do you look at the bottom of the channel?

5 **CAPT Fendig:** Yes, sir. We have the capability to do several types of surveys. We just did a
6 casual survey looking for something significant. None were seen. We have GPS as well for
7 checking buoys and their positions. And of course have a fathometer. And there were none.
8 But in addition to that other Government agencies did survey the channel before the Captain of
9 Port Savannah allowed commercial traffic to resume.

10 **CAPT WELBORN:** Understood, okay. And in that survey both subsurface and ATON went
11 from the sea buoy to where?

12 **CAPT Fendig:** Yes, sir. To all commercial terminals. So it includes Colonel's Island, from
13 sea buoy to Colonel's Island. And then back around to the East River and everything was
14 checked.

15 **CAPT WELBORN:** Okay, understood. Thank you. Captain a couple questions about
16 departing the port let's say from Colonel's Island terminal to the city linear bridge, what's the
17 average time to get from the Colonel Island dock to the bridge?

18 **CAPT Fendig:** After our last lines it's 15, 20 minutes.

19 **CAPT WELBORN:** Okay. And then from the bridge to the widener?

20 **CAPT Fendig:** It's another 15, 20 minutes.

21 **CAPT WELBORN:** Okay and then from the widener to the sea buoy?

22 **CAPT Fendig:** It's about 40 minutes.

1 **CAPT WELBORN:** Okay so 20 from the dock to the bridge, 15 to 20. 15 to 20 from the bridge
2 to the widener.

3 **CAPT Fendig:** Roughly, according to speed, yes, sir.

4 **CAPT WELBORN:** And then approximately – I'm sorry, sir.

5 **CAPT Fendig:** According to the speed and of course if you fair tide you would get there a little
6 quicker, and if you have an ebb tide, or if you had a deep draft you might go a little slower.
7 Shallow draft you can get a little more speed.

8 **CAPT WELBORN:** Understood. And then approximately 40 minutes from the widener to the
9 sea buoy.

10 **CAPT Fendig:** Approximately.

11 **CAPT WELBORN:** Approximately. Okay, so then if we total all that up from Colonel Island to
12 the sea buoy?

13 **CAPT Fendig:** It's – a normal transit is roughly an hour and a half, roughly.

14 **CAPT WELBORN:** Understood. Captain are you familiar with the what's commonly termed
15 as the rules of the road?

16 **CAPT Fendig:** Yes, sir.

17 **CAPT WELBORN:** Navigational rules of the road, are you familiar with that?

18 **CAPT Fendig:** Of course, yes, sir.

19 **CAPT WELBORN:** In that document it references vessels constrained by draft.

20 **CAPT Fendig:** Yes, sir.

21 **CAPT WELBORN:** Are you familiar with those terms?

22 **CAPT Fendig:** Yes, sir.

1 **CAPT WELBORN:** Okay. So what would constitute or what would make a vessel constrained
2 by draft?

3 **CAPT Fendig:** I'm going to talk around just a moment.

4 **CAPT WELBORN:** Please go right ahead, sir.

5 **CAPT Fendig:** Really most of the vessels, most all vessels we handle here are constrained in
6 some way or another by draft.

7 **CAPT WELBORN:** Okay.

8 **CAPT Fendig:** Because you can't navigate outside the channel except in the wide area near
9 the sound that I mentioned. And we do go outside the channel in that area.

10 **CAPT WELBORN:** So if we break that term down in a couple of small chunks and pieces,
11 constrained by draft would be a vessel that you would define as a vessel that has what kind of
12 draft?

13 **CAPT Fendig:** Yeah. It would be deep draft vessel which most of what requires a Pilot is a
14 deep draft. In my mind it's [in audible].

15 **CAPT WELBORN:** No I understand. So it's a deep draft vessel.

16 **CAPT Fendig:** Yes, sir.

17 **CAPT WELBORN:** What else would it make it constrain a draft?

18 **CAPT Fendig:** Of course the beam and the length.

19 **CAPT WELBORN:** Okay.

20 **CAPT Fendig:** And the maneuvering characteristics.

21 **CAPT WELBORN:** Okay. So it's a larger vessel operating in a waterway that is contained, it's
22 not open?

23 **CAPT Fendig:** That's correct.

1 **CAPT WELBORN:** Okay.

2 **CAPT Fendig:** Again by my way of thinking everything that we put a Pilot on is more or less
3 constrained by draft.

4 **CAPT WELBORN:** And technically, I don't want to put words in your mouth, if you disagree
5 with what I'm saying I want you to get that out there.

6 **CAPT Fendig:** I will, yes, sir.

7 **CAPT WELBORN:** Okay, alright. So are there waterways within the Port of Brunswick that
8 would limit the maneuverability of a deep draft vessel because of these types of constraints?

9 **CAPT Fendig:** Yes. The entire Federal projects could be limited based again the deepest
10 draft of the vessel or on rare occasions if it's an odd vessel or an odd dimension vessel we will
11 require high water slack or low water slack for the conditions. Wind would be another limiting
12 factor.

13 **CAPT WELBORN:** Okay. But you did mention there's one area within the port complex that
14 vessels would not necessarily be constrained by draft.

15 **CAPT Fendig:** Say again. Oh in the sound, no. Well yeah, the sound area, but both the
16 sound is kind of trapped. Unfortunately there's a shoal on the bar tap.

17 **CAPT WELBORN:** Okay.

18 **CAPT Fendig:** And unfortunately there's a shoal just before you get to the sound out back.
19 So there's a shoal on either side of the deep water.

20 **CAPT WELBORN:** So between the widener and the bridge would you say that is an area that
21 vessels could be constrained by draft?

22 **CAPT Fendig:** Yes.

1 **CAPT Fendig:** Okay. Why would they be constrained by draft? What – is there a unique
2 subsurface feature that makes those vessels constrained by draft?

3 **CAPT Fendig:** Well yes, sir. Again nearly all of the vessels that a Pilot is supplied to here,
4 more or less except for the sound, more or less has to stay within the limits of the channel.

5 **CAPT WELBORN:** The channel -----

6 **CAPT Fendig:** Otherwise it's going to [in audible].

7 **CAPT WELBORN:** Okay, alright, that makes sense. So Captain how do vessels specifically
8 row-rows that we're talking about like the GOLDEN RAY, how do they react within those
9 constrained waterways? Is there some kind of ground interaction with the vessel in that
10 constrained waterway?

11 **CAPT Fendig:** There can be yes. And again as I mentioned earlier some vessels handle,
12 some row-row vessels handle remarkably better than others. It depends on how the ship is
13 configured.

14 **CAPT WELBORN:** Understood. Is there a term given to that interaction between a vessel
15 and -----

16 **CAPT Fendig:** Well it could have several interactions. You could have bank cushion which
17 happens on occasion. You could potentially have bank suction or you could have the third
18 dimension squat.

19 **CAPT WELBORN:** So we have three terms, bank suction, bow cushion and squat. So can
20 we define those a little bit more? Bank suction?

21 **CAPT Fendig:** It would be when it go pulled over towards the banks, we seldom see here. A
22 push towards the bank.

23 **CAPT WELBORN:** So the vessel is drawn toward ----

1 **CAPT Fendig:** We would see more cushion in this port.

2 **CAPT WELBORN:** Okay.

3 **CAPT Fendig:** So they would want to sheer away from the bank.

4 **CAPT WELBORN:** Okay.

5 **CAPT Fendig:** So counter rudder would be used on that.

6 **CAPT WELBORN:** The vessel is then pushed away from.

7 **CAPT Fendig:** It could be potentially.

8 **CAPT WELBORN:** Okay. And then squat would be?

9 **CAPT Fendig:** It would, in a squat, and I'm not the expert on squat, but squat would be –

10 could be negative squat down by the head or it could be caused by squat down by the stern.

11 **CAPT WELBORN:** Understood.

12 **CAPT Fendig:** And different ships react differently. The same ship could react differently on

13 different trips.

14 **CAPT WELBORN:** Yes, sir. And you've experienced these three, suction, cushion, squat and

15 you've experienced those within this port?

16 **CAPT Fendig:** Yes, sir.

17 **CAPT WELBORN:** Alright. So Captain in the waterway specifically I didn't write it down, I'm

18 sorry, the name of the waterway coming into the widener 11, between the bridge and widener

19 11.

20 **CAPT Fendig:** Yes, sir.

21 **CAPT WELBORN:** What's the name of that again?

22 **CAPT Fendig:** The range just before widener 11 is Jekyll Creek Range.

23 **CAPT WELBORN:** Jekyll Creek Range.

1 **CAPT Fendig:** Jekyll Island Range.

2 **CAPT WELBORN:** I'm sorry, sir?

3 **CAPT Fendig:** Jekyll Island Range.

4 **CAPT WELBORN:** Jekyll Island Range.

5 **CAPT Fendig:** And then the element that bisects Jekyll on the other side would be Plantation
6 Creek.

7 **CAPT WELBORN:** Plantation Creek. So Captain a vessel proceeding down Jekyll Island
8 Range outbound heading toward the widener if it's experiencing some of these effects that we
9 talked about, the bank suction, the bow cushion the squat, is that vessel transited then into the
10 widener, which you said the vessel might change it's characteristics or it might not experience
11 these types of characteristics because the widener is a little bit deeper water. How would you
12 expect that vessel, the characteristics and the maneuverability, how would you expect it to
13 change as it transited from one into the other?

14 **CAPT Fendig:** So coming either way, inbound or outbound I would expect most vessels to
15 increase in speed as they entered in an area that's wider and deeper.

16 **CAPT WELBORN:** Okay.

17 **CAPT Fendig:** It's a phenomenon that occurs.

18 **CAPT WELBORN:** Anything else?

19 **CAPT Fendig:** I can't think of anything right now. I would be happy to revisit it the best I can.

20 **CAPT WELBORN:** Understood Captain, I get that. So moving from that confined constrained
21 type waterway into the wider the only effect that you would know of is an increase in speed?

22 **CAPT Fendig:** Well it would increase it's speed. But it could potentially change the type of
23 squat.

1 **CAPT WELBORN:** Would those effects that we discussed, the bank cushion, bow suction,
2 would those be increased or decreased?

3 **CAPT Fendig:** The only place I see those effects would be in the, typically see those effects
4 are in the shoaling areas. So we wouldn't see the cushion and suction phenomenon in the
5 sound typically.

6 **CAPT WELBORN:** Okay.

7 **CAPT Fendig:** We would normally see that on the bar channel or coming out from down
8 below the bridge down towards the wreck site where we would normally experience those
9 types of things.

10 **CAPT WELBORN:** So you wouldn't experience those in a widener then?

11 **CAPT Fendig:** Not normally.

12 **CAPT WELBORN:** Okay. So Captain would you expect to see these effects, again those
13 three that we talked about, bank suction, bow cushion and squat, how would speed interact
14 with those types of reactions, vessel reactions? Would it increase them? Would it decrease
15 them? No change whatsoever?

16 **CAPT Fendig:** It's been my experience here that as we start in the channel from sea and we
17 increase speed you could, at sea, you could potentially, you know it's hard to see from the
18 wheelhouse, right? You don't see it. I've only observed it from other boats actually, other
19 ships from the Pilot [in audible]. But you could have a little more squat as it picks up speed.
20 But typically what happens in this port is you reach the under maintained channel, entrance
21 channel, St. Simons outer bar. It gets narrower and shallower so the speed falls off the vessel
22 and you're in the narrowness of the channel where you truly get constrained. And then once

1 you cross the bar you go into the deep water and some ships take on a little different
2 personality as it goes through the water.

3 **CAPT WELBORN:** And Captain you said across the bar, you're talking offshore now?

4 **CAPT Fendig:** I'm talking offshore, but the same principle applies outbound as well, yes.

5 **CAPT WELBORN:** Okay.

6 **CAPT Fendig:** Either way, it's the same.

7 **CAPT WELBORN:** So is it conceivable – is it conceivable then as a vessel is moving from
8 that Jekyll Island Range into the widener that the maneuvering characteristics of the vessel
9 could change?

10 **CAPT Fendig:** It could, that's correct.

11 **CAPT WELBORN:** That's not out of the realm of the possibility?

12 **CAPT Fendig:** That's not out of possibility.

13 **CAPT WELBORN:** Okay, alright, understood. Alright Captain thank you. I appreciate – I
14 don't have any more questions for you at this time.

15 **CAPT Fendig:** Okay.

16 **CAPT WELBORN:** But I would like to offer some of the other folks here some PII's to ask a
17 couple of questions.

18 **CAPT Fendig:** I would like to point out one other thing. Even inbound or outbound when they
19 enter – when a vessel typically enters into the sound because it's gotten more water
20 surrounding the hull it tends to handle a little bit better.

21 **CAPT WELBORN:** I'm sorry Captain could you say that again.

22 **CAPT Fendig:** It tends to handle better.

23 **CAPT WELBORN:** Better.

1 **CAPT Fendig:** So the handling characteristics would be increased typically in the sound. So
2 in the shallow water it would be less maneuverable.

3 **CAPT WELBORN:** Hence the term constrained by draft.

4 **CAPT Fendig:** Correct.

5 **CAPT WELBORN:** Okay. So not only is the vessel constrained in its depth but it's potentially
6 constrained in its maneuverability also, is that what you're saying?

7 **CAPT Fendig:** That's correct, yes, sir.

8 **CAPT WELBORN:** Okay. That's a great point Captain, thank you very much. So Mr. Bremer
9 do you have follow on questions for Captain Fendig?

10 **Mr. Bremer:** Hi Captain how are you?

11 **CAPT Fendig:** Fine Mr. Bremer.

12 **Mr. Bremer:** Just a few following on questions. I know you mentioned a few times some
13 shoaling on the outer bar in St. Simons into the bay. Do you know shallowest point is? Or the
14 depth of the shallowest point?

15 **CAPT Fendig:** On the outer bar?

16 **Mr. Bremer:** Yeah.

17 **CAPT Fendig:** It was around 34 feet.

18 **Mr. Bremer:** Okay.

19 **CAPT Fendig:** Maybe 35.

20 **Mr. Bremer:** And how current is that information? Is that information you got ----

21 **CAPT Fendig:** I'm speaking to the time around the incident.

22 **Mr. Bremer:** Okay. And is that from experience that what you've observed taking ships in and
23 out or is that -----

1 **CAPT Fendig:** Yes.

2 **Mr. Bremer:** Or is that from the Army Corps.

3 **CAPT Fendig:** It's from experience but it's also from the Army Corps of Engineers provides
4 monthly surveys. They provide quarterly surveys of the channel.

5 **Mr. Bremer:** Okay.

6 **CAPT Fendig:** From sea to the dock.

7 **Mr. Bremer:** Okay. And how about from Colonel Island shortly after Dorian from Colonel
8 Island to the sea buoy, is there any other spot in that area that's shallower in that outer bar?

9 **CAPT Fendig:** Again the Cedar handling area is typically shallower.

10 **Mr. Bremer:** Okay.

11 **CAPT Fendig:** It was closer to than the outer bar. But it does have shoal areas in it. But I
12 mean a foot or a foot and a half at that time. I haven't – it was over a year ago, I haven't
13 studied that closely.

14 **Mr. Bremer:** No and I completely understand.

15 **CAPT Fendig:** That area the shoal – the bar and that will shoal first.

16 **Mr. Bremer:** And so as far as determining a maximum draft for ships that come in and out of
17 the port here it would be those two areas which would be a determining factor?

18 **CAPT Fendig:** So we were using the outer bar as the controlling point.

19 **Mr. Bremer:** Okay.

20 **CAPT Fendig:** Because Cedar handling area, Cedar Range is deeper.

21 **Mr. Bremer:** Okay.

22 **CAPT Fendig:** At that time.

23 **Mr. Bremer:** And that's ---

1 **CAPT Fendig:** So that ----

2 **Mr. Bremer:** And that's up to each individual Pilot to assess the draft of the ship and available
3 water, tide, weather to make the determination whether the transit is safe?

4 **CAPT Fendig:** It is. Each Pilot has a lot a latitude in that.

5 **Mr. Bremer:** Okay. You had mentioned earlier the unique current circumstances that you
6 have in St. Simon Sound with the convergence of several rivers. Does that have any impact
7 on the handling of deep draft ships? Specifically row-row's.

8 **CAPT Fendig:** Only at slow speeds.

9 **Mr. Bremer:** Okay. And what would you call slow speed?

10 **CAPT Fendig:** Less than 10 knots. Ten knots or less.

11 **Mr. Bremer:** And your normal – is there a normal transit speed? Is it, depend on the ship for
12 a row-row?

13 **CAPT Fendig:** Again it's been my experience that these row-row vessels because they're fine
14 hull forms, they like a little more speed. They handle better both for windage and for, don't
15 come to the effects of windage and current to create leeway. A little speed overcomes leeway
16 in most cases.

17 **Mr. Bremer:** Okay. And is there any difference between a flood and ebb tide as far as impact
18 to the transit, outbound transit of a row-row?

19 **CAPT Fendig:** Under what other parameters?

20 **Mr. Bremer:** In your experience generally we do expect to ----

21 **CAPT Fendig:** Going to get to sea a lot quicker with ebb tide.

22 **Mr. Bremer:** So in St. Simons Sound you would expect a difference in maneuvering of the
23 ship based on the flood or the ebb stage of the tide.

1 **CAPT Fendig:** I think in the sound area within reason at decent speeds, 12, you know around
2 12, 13 knots I think you're going to overcome tidal effects.

3 **Mr. Bremer:** Okay.

4 **CAPT Fendig:** Typically.

5 **Mr. Bremer:** The last question I have in your time as a Pilot here in Brunswick have you ever
6 experienced any, let's say degradation or reduction in maneuverability of a ship as you
7 transitioned from that Jekyll Island Range into Widener 11?

8 **CAPT Fendig:** For the most part that would be experienced in heavy laden bulk carriers.
9 Less so with the row-row's.

10 **Mr. Bremer:** Okay. And laden bulk carriers what have you experienced in the past?

11 **CAPT Fendig:** It was a little directional stability.

12 **Mr. Bremer:** Okay.

13 **CAPT Fendig:** Potentially.

14 **Mr. Bremer:** Okay and you said not generally with the row-row? You don't see that as often?

15 **CAPT Fendig:** Not generally. I won't tell you it's never happened, but not generally.

16 **Mr. Bremer:** Okay.

17 **CAPT Fendig:** They steer pretty good most of the time.

18 **Mr. Bremer:** Okay.

19 **CAPT Fendig:** Again as you slow down with the wind blowing then there's more effects of
20 leeway.

21 **Mr. Bremer:** Okay.

22 **CAPT Fendig:** And has to be dealt with.

23 **Mr. Bremer:** I have no further questions Captain. Thank you very much.

1 **CAPT Fendig:** Certainly.

2 **CAPT WELBORN:** Thank you Mr. Bremer. Captain Flaherty are you with us?

3 **NTSB:** I'm still here.

4 **CAPT WELBORN:** Okay great. Do you have questions for Captain Fendig?

5 **NTSB:** Yeah I have few. Captain is Brunswick Pilots implementing any new procedures

6 following the casualty involving the GOLDEN RAY?

7 **CAPT Fendig:** I'm sorry Mr. Flaherty I'm having trouble hearing you. Have we done what in

8 Brunswick?

9 **NTSB:** Let me try it again. Has Brunswick Pilots implemented any new procedures following

10 the ----

11 **CAPT Fendig:** Did you say new procedures?

12 **NTSB:** Yes, sir.

13 **CAPT Fendig:** Well some Pilots have asked if you have stability GM before sailing. But other

14 than that none, no.

15 **NTSB:** What would you have done [in audible].

16 **Counsel:** Can you repeat the question.

17 **CAPT Fendig:** Captain Flaherty I'm having a terrible time hearing him. It's coming in and out,

18 it's breaking up.

19 **NTSB:** Let me try this. Can you hear me now?

20 **CAPT WELBORN:** Try again Captain Flaherty.

21 **NTSB:** Captain [in audible].

22 **CAPT Fendig:** Yes say again.

23 **NTSB:** As I understand it some Pilots are now [in audible] ability of the vessel underway.

1 **CAPT WELBORN:** Hey Captain Flaherty you're cutting out. I'm going to try to take you off of
2 speaker phone and repeat your question to the Captain. If you can give me your questions
3 then I'll give it to him. Captain Fendig, Captain Flaherty is asking you said that some of the
4 Pilots are requesting stability information on the ----

5 **CAPT Fendig:** The only stability information that I've asked about that – the only stability
6 information I've asked is it a safe GM.

7 **CAPT WELBORN:** Understood. [Repeating answer back to NTSB on phone]. Captain do
8 you probe the range of GM for the vessel? Do you ask?

9 **CAPT Fendig:** No.

10 **CAPT WELBORN:** Captain do you know if the range of GM or the information regarding the
11 GM was asked about on the GOLDEN RAY before the incident?

12 **CAPT Fendig:** I'm not sure, no. And I would like to point out I've only asked that since we
13 have a capsized vessel in the waterway.

14 **CAPT WELBORN:** Captain have you instituted at the Pilot's Association any new training for
15 the current Pilots or the Pilot in training regarding stability issues on deep draft vessels prior to
16 sailing?

17 **CAPT Fendig:** No. We believe that GM calculations exceed the scope of Pilotage.

18 **CAPT WELBORN:** Captain during the Master Pilot exchange before you take over a vessel
19 as the Pilot what's the – what are you focused on during that briefing? What were the key
20 factors to you?

21 **CAPT Fendig:** Deep draft. Length overall if I don't already know it. Beam. Do you have a
22 working bow thruster and how many horse power.

23 **CAPT WELBORN:** Do you have a working?

1 **CAPT Fendig:** Bow thruster and how many horse power.

2 **CAPT WELBORN:** And the last criteria Captain?

3 **CAPT Fendig:** And do you have – how much horse power on the vessel. Captain Welborn
4 it's presumed by every Pilot here and probably in Nation, it's presumed that the vessel is safe
5 to come into my own waters before the Pilot get there. Or safe to sail after cargo operations.
6 That's presumed by us.

7 **CAPT WELBORN:** Understood. So Captain Flaherty is asking specifics about this particular
8 voyage. As the vessel proceeded from Jekyll Island Sound.

9 **CAPT Fendig:** Jekyll Island Range.

10 **CAPT WELBORN:** Jekyll Island Range, as the vessel proceeded from Jekyll Island Range
11 into Widener 11 the Pilot on board ordered 10 degrees rudder. Shortly thereafter he ordered
12 20 degrees rudder. Would you consider those prudent actions?

13 **CAPT Fendig:** Well I wasn't there. But it doesn't seem unusual. Captain Welborn ----

14 **CAPT WELBORN:** So Captain below the widener the area South of the pier there, what did
15 you call that waterway again?

16 **CAPT Fendig:** Plantation Creek Range.

17 **CAPT WELBORN:** Plantation Creek Range. And that's where passing – where your passing
18 arrangements often occur?

19 **CAPT Fendig:** We normally meet there, yes. We could meet before according to the draft of
20 the ship and the nature of the two ships you could meet slightly above. These two did not, but
21 you could meet slightly above the widener or out by the lighthouse in that zone. That's a
22 passing or meeting zone.

1 **CAPT WELBORN:** Sure. So Captain in those areas where you have meeting arrangements,
2 what's the average distance in feet between the ships when you're passing?

3 **CAPT Fendig:** That varies with the Pilots on duty and the ship, nature of the ships.

4 **CAPT WELBORN:** Captain can you give a range on that, just put some numbers to that?

5 **CAPT Fendig:** A rough estimate would be from one and a half ship widths to four ship widths
6 between.

7 **NTSB:** Is the [in audible]

8 **CAPT WELBORN:** Hang on its cutting out again. Captain is there a difference between
9 daytime and nighttime operations? Would vessels be closer in one, maybe further apart in the
10 other? Is there any difference in a meeting situation?

11 **CAPT Fendig:** Not normally.

12 **CAPT WELBORN:** Lieutenant Commander Moore.

13 **CAPT Fendig:** Captain Welborn.

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

15 **CAPT Fendig:** I would like to clarify on previous testimony. When a Pilot reports for duty in or
16 out and he's on board the vessel and the Master has transferred the con to the Pilot prior to
17 doing so it is presumed by the Pilot that the vessel is seaworthy. In my mind's eye that would
18 mean I could use hard over hard over if you have situation or if you had to avert, heaven forbid
19 a collision or something like that. And it would also mean I could use any order on the
20 telegraph. In my mind's eye she's not seaworthy if I can't do all of that.

21 **CAPT WELBORN:** Understood Captain. But occasionally you might be given some feedback
22 from the Master you said on an infrequent basis.

23 **CAPT Fendig:** Very infrequently. It would be very rare.

1 **CAPT WELBORN:** Understood, understood. Okay so Mr. Reisman do you have phone – or
2 do you have questions for Captain Fendig?

3 **Mr. Reisman:** Thank you Captain I have no questions for this witness.

4 **CAPT WELBORN:** Roger. I understood that. Okay. And I'm checking our live feed. We do
5 not have any questions from KMST. Do we have any external questions for this witness? I
6 see no. Okay. So Captain thank you very much for your testimony today. I do appreciate
7 your wiliness to come in and chat with us. I do appreciate your professionalism and the things
8 that you bring to the table. So please know that you're subject to recall. Please remain
9 available until dismissed at the closing of these proceedings.

10 **CAPT Fendig:** Yes, sir. Now I would like to close, Captain Welborn by thanking the U.S.
11 Coast Guard for their response to this disaster in our town. It's – we're very pleased that
12 nobody was severely injured and let's get this cleaned up and move forward. I would like to
13 thank the Coast Guard for responding.

14 **CAPT WELBORN:** Understood. Thank you sir. I appreciate you putting that on the record.
15 Okay the time now is 1:57 and we are recessed for 10 minutes.

16 *The hearing recessed at 1:57, 14 September 2020*

17 *The hearing was called to order at 2:17, 14 September 2020.*

18 **CAPT WELBORN:** Okay the time is 2:17 local and we're back on the record for the GOLDEN
19 RAY hearing. Unfortunately we've had several technical difficulties and one witness issue this
20 afternoon. One of the witnesses misread the subpoena so we've called our last witness for
21 today. But I have a short closing statement. So today, we looked at Coast Guard Exhibit 1,
22 we went through the timeline of events leading up to the capsizing of the GOLDEN RAY. I
23 spoke about the ship's particulars and we listened to the PPU recording leading up to the

1 capsizing of the GOLDEN RAY. In addition, we heard from Captain Bruce Fendig of the
2 Brunswick Bar Pilots Association. Captain Fendig spoke about the characteristics of the Port of
3 Brunswick and testified as to vessel characteristics and changing personalities in different tides
4 and depths of water. We looked at Exhibit 02, the NOAA Chart 11506. Captain Fendig
5 identified various areas of the port of Brunswick, including the widener, widener 11 and the
6 passing areas for ships inbound and outbound.

7 We understand that we've been plagued with some audio issues today and we're doing
8 everything we can to improve the audio transmission for subsequent sessions but a written
9 transcript will ultimately be available for the public. In addition, every exhibit will be publicly
10 available in the news media news room as they are entered into the record. The exhibit
11 entered by Captain Fendig today will be made available this evening. The link to the news
12 room is located in the press release announcing the hearing. We appreciate your
13 understanding and patience while we continue to labor to fix these issues.

14 We will be using the rest of today to rectify the audio issues with the LiveStream and our
15 remote participants. The schedule is amended to have Mr. Steve Farley of Brunswick
16 Stevedores testify tomorrow at 10:30 A.M. and Mr. Jason O'Kane of the U.S. Army Corps of
17 Engineers to testify tomorrow at 12:30 P.M.

18 Due to Tropical Storm currently soon to be Hurricane Sally heading toward Louisiana, we will
19 be postponing the rest of tomorrow's session to Wednesday because the remainder of the
20 witnesses scheduled to testify are located in New Orleans, Louisiana. On Wednesday's
21 session, we will be hearing from Mr. Mike Mavrinac from Hyundai Glovis; Mr. Samy Maatki
22 from Norton Lilly; additionally Mr. Hyun Jip Choi from the Safety Management Team of G-
23 Marine.

1 Should any person have, or believe he or she has information not brought forward but which
2 might be of direct significance, that person is urged to bring that information to my attention by
3 emailing: USCGGoldenRay@gmail.com.

4 Thank you very much for your attendance today. The local time now is 2:20. Hearing Session
5 Day 1 is now adjourned.

1 UNITED STATES OF AMERICA

2 UNITED STATES COAST GUARD

3 In the Matter of:

4 THE MARINE BOARD OF INVESTIGATION

5 INTO THE CAPSIZING OF THE M/V GOLDEN RAY

6 ON 8 SEPTEMBER 2019 WHILE TRANSITING THE ST. SIMONS SOUND IN BRUNSWICK,

7 GEORGIA

8 APPEARANCE SHEET:

9 The following Board Members and Witnesses appeared on 15 September 2020.

10 CAPTAIN BLAKE WELBORN, USCG, Chair;

11 Mr. LEE WILLETT, USCG;

12 Members,

13 and

14 LIEUTENANT COMMANDER STEPHAINE MOORE, USCG, Member and Recorder.

15 Witness – Mr. Steve Farley

16 Mr. Jason O’Kane

17 GOLDEN RAY Hearing

18 15 September 2020

19 **CAPT Welborn:** Good morning. The time is now 10:30 local. We are back on the record in
20 the matter of: the capsizing of the GOLDEN RAY on September 8, 2019 while transiting the St.
21 Simons Sound in Brunswick, GA.

22 First of all I would like to apologize to those that were live streaming yesterday and were
23 unable to hear the audio portion of the transmission. We’ve made several changes. So I want

1 to thank the staff her for their diligent work yesterday afternoon to correct those. If you have
2 continued problems please respond to the text and or the email that will follow. Today is
3 Tuesday, September 15, 2020. It is the second day of the public hearing into the capsizing of
4 the GOLDEN RAY. I am CAPT Blake Welborn. the Lead Investigating Officer for this 7th
5 District Formal Investigation. I'm the Presiding Officer over these proceedings. The 7th District
6 Commander, has convened this investigation under the Title 46, United States Code, Section
7 6301 and Title 46, Code of Federal Regulations, Part 4, to investigate the facts and
8 circumstances surrounding the capsizing of the GOLDEN RAY. This investigation was
9 mutually agreed upon to be a joint effort between the ship's flag state, the Republic of the
10 Marshall Islands, the U.S. National Transportation Safety Board, the Korean Maritime Safety
11 Tribunal, and the U.S. Coast Guard.

12 We will conduct the investigation under the rules in Title 46, Code of Federal Regulations, Part
13 4.

14
15 Present today, other than myself, are the following members of this Formal Investigation: Mr.
16 Lee Willett, Lieutenant Commander Stephanie Moore, who is also serving as our Recorder.
17 The legal counsel to this investigation is LT Megan Gold.

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

20 The Republic of the Marshall Islands' representative is Mr. Thomas Bremer, who is seated to
21 my right.

1 In addition, Korea Maritime Safety Tribunal personnel have given me questions to ask on their
2 behalf but will otherwise not be physically appearing in this hearing. I will note when the time
3 arises for me to ask the questions posed by KMST.

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

10 For those of you participating via phone or telephone, I ask that you mute yourself until I've
11 recognized you for your questions unless you wish to make an objection. All media inquiries
12 and comments regarding the hearing should be sent
13 to GoldenRayPublicHearing@gmail.com.

14 The Coast Guard has designated Parties In Interest to this investigation. I have designated the
15 following organizations and individuals as Parties in Interest: (1) the Brunswick Bar Pilots
16 Association; (2) Captain Bruce Fendig; (3) Captain Jonathan Tennant; (4) the Owners of the
17 GOLDEN RAY, including Hyundai Glovis and G-Marine; and (5) the space charterer for the
18 GOLDEN RAY. The lead counsel for the Brunswick Bar Pilots Association, Captain Fendig,
19 and Captain Tennant is appearing by phone. The lead counsel for the Owners of the GOLDEN
20 RAY, including Hyundai Glovis and G-Marine, is appearing by phone with a representative
21 physically here at the hearing. The space charterer on the GOLDEN RAY has elected not to
22 participate in this hearing but will be monitoring the live feed of these proceedings. I will now
23 ask that counsel announce their appearances on behalf of their clients:

1 Brunswick Pilots Association, Captain Jonathan Tennant, and Captain Brue Fendig. Mr.
2 Gilsenan are you with us? Mr. Gilsenan is in a non-audible monitoring situation. The Owners
3 of the GOLDEN RAY, Mr. Reisman and Mr. Moseley are you with us?

4 **Mr. Moseley & Mr. Reisman:** Yes we are. Good Morning Captain this is David Reisman on
5 behalf of the [in audible] and G-Marine Service.

6 **CAPT WELBORN:** Thank you Mr. Reisman, Mr. Moseley, we do appreciate it. Captain David
7 Flaherty will now say a few words on behalf of the NTSB.

8 **NTSB:** Good morning. I am the Investigator in Charge for the National Transportation Safety
9 Board's investigation of this accident, the safety board is an independent Federal agency
10 which under the Independent Safety Board Act of 1974 is required to determine the cause or
11 the probable cause of this accident. To issue a report of the facts, conditions and
12 circumstances related to it ----

13 **CAPT WELBORN:** Captain Flaherty we seem to have lost your feed. Are you still with us?
14 Obviously the gremlins continue to play us. So the time, the local time is 10:36 we'll take a 5
15 minute recess to reestablish coms with Captain Flaherty and then we'll call our first witness.
16 This formal hearing is now in recess.

17 *The hearing recessed at 10:36, 15 September 2020*

18 *The hearing was called to order at 10:41, 15 September 2020.*

19 **CAPT WELBORN:** The time is now 10:41 local. We've reestablished coms with Captain
20 Flaherty at NTSB so we'll begin his opening statement again. Captain Flaherty.

21 **NTSB:** Thank you Captain Welborn. Good morning. I am David Flaherty the Investigator in
22 Charge for the National Transportation Safety Board's investigation of this accident, the safety
23 board is an independent Federal agency which under the Independent Safety Board Act of

1 1974 is required to determine the cause or the probable cause of this accident. To issue a
2 report of the facts, conditions and circumstances related to it and may make recommendations
3 to prevent similar accidents. The NTSB has joined this hearing to avoid duplicating the
4 development of facts. Nether the less I do wish do to point out that this does not preclude the
5 NTSB from developing additional information separately from this proceeding if that becomes
6 necessary. At the conclusion of the hearing the NTSB will analyze the facts of this accident
7 and determine the probable cause independent from the Coast Guard. At a future date a
8 separate report of the NTSB's findings will be issued which will include our official
9 determination of the probable cause of this accident. And if appropriate the safety board will
10 issue recommendations to correct safety problems discovered during this investigation. These
11 recommendations may be made in advance of the report. Thank you.

12 **CAPT WELBORN:** Thank you, Captain Flaherty. So the Coast Guard will now call its first
13 witness of the day Mr. Steve Farley of the Brunswick Stevedores who will be questioned by Mr.
14 Lee Willett.

15 **Recorder:** Good morning Mr. Farley can you hear me?

16 **Mr. Farley:** Yes.

17 **Recorder:** Okay. If I could have you please stand and raise your right hand I'm going to give
18 you an oath.

19 **Mr. Farley:** Uh is this good?

20 **Recorder:** That's good. A false statement given to an agency of the United States is
21 punishable by fine and or imprisonment under 18 United States Code 1001. Knowing this do
22 you solemnly swear that the testimony you're about to give will be the truth, the whole truth
23 and nothing but the truth so help you God?

1 **Mr. Farley:** I do.

2 **Recorder:** Thank you Mr. Farley. I'm now going to pass over to Mr. Willett who will take your
3 questions.

4 **Mr. Willett:** Hello Mr. Farley.

5 **Mr. Farley:** Hello.

6 **Mr. Willett:** My name is Lee Willett, spelled W-I-L-L-E-T-T. I'm one of the investigators
7 assigned to District Seven investigation to the GOLDEN RAY incident. I would like to ask you
8 some questions before we get started. Could you please state your name and spell your last
9 name for the record?

10 **Mr. Farley:** Steve Farley, F-A-R-L-E-Y.

11 **Mr. Willett:** Mr. Farley are you represented by counsel?

12 **Mr. Farley:** No.

13 **Mr. Willett:** Have you been designed as a party in interest?

14 **Mr. Farley:** I talk to a lawyer over a year ago. But he's not hear right now.

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

16 **Mr. Farley:** No.

17 **Mr. Willett:** Can you give me a brief summary of your background and your experience?

18 **Mr. Farley:** Well I've been doing ships, whether its container ships, break [in audible] ships,
19 RORO ships, auto vessels for about 14 years now.

20 **Mr. Willett:** Okay when you say you do ships what exactly do you do?

21 **Mr. Farley:** I'm the superintendent on them. I watch stevedores.

22 **Mr. Willett:** Okay. And what would a stevedore do in regards to the vessel?

1 **Mr. Farley:** He would be – he's in charge of the outlet we move. Director of Stevedore then
2 Lead Stevedore, or Lead Superintendent, which that's what I am, Lead Superintendent. So we
3 oversee the [in audible] during the operation of the vessel.

4 **Mr. Willett:** Who is your current employer?

5 **Mr. Farley:** SSA Atlantic. For the time being at least the next couple of days I've been out of
6 work for over a year now.

7 **Mr. Willett:** Okay. So during the time of the incident what position did you hold?

8 **Mr. Farley:** I was the Assistant Manager in Brunswick, Georgia. And that particular ship I was
9 the Lead Superintendent.

10 **Mr. Willett:** How long did you hold that position?

11 **Mr. Farley:** Oh gosh. Which one, the Assistant Manager?

12 **Mr. Willett:** No what you did at the time of the GOLDEN RAY.

13 **Mr. Farley:** Six years.

14 **Mr. Willett:** Have you received any training for that position?

15 **Mr. Farley:** Yes it's ongoing training. I was just a stevedore and then when they moved me to
16 Brick Vault they started training me on paperwork, how to set up ships and that kind of thing.
17 Then when I went to Brunswick they turned me loose and I started setting up all the ships.
18 And then it finally got to RORO ships and then they made it systematic. So yeah I've worked
19 with for a decent time.

20 **Mr. Willett:** Okay. For specifically for the GOLDEN RAY could you describe your
21 responsibilities for your position?

1 **Mr. Farley:** The GOLDEN RAY I was in charge of setting up the labor for the ship, the
2 operation of the ship, you know I set the sailing line at the end. I hire out the labor. And then
3 have the stevedores on how to [in audible].

4 **Mr. Willett:** Okay going into that, what's kind of the process? So a vessel comes into the Port
5 of Brunswick you know it's coming, how do you get information to tell you what you need to do
6 for that vessel?

7 **Mr. Farley:** Well the GOLDEN RAY [in audible]. I think they were good. Lot of times it is a
8 two day, sometimes even three days or four. They will send me a discharge claimant which is
9 the schematic of the ship, they will send me the manifest of the discharge autos or whatever is
10 coming on. The day of load you can pull it right and get the manifest for that. I get smooth
11 plan where they want the cars and I set that all up and I distribute that out to my stevedores
12 that are working under me. [In audible].

13 **Mr. Willett:** So I think you answered the question, but how do you know how many vehicles
14 are going to be offloaded and how many vehicles are going to be loaded onto the ship?

15 **Mr. Farley:** [In audible] of the manifest. I cannot take a car off or load the car if it's not on the
16 manifest.

17 **Mr. Willett:** And who gives you that manifest?

18 **Mr. Farley:** The shipping line.

19 **Mr. Willett:** And do you remember in the case of the GOLDEN RAY who you received that
20 manifest or that document from?

21 **Mr. Farley:** Well the manifest, don't get me wrong we'll go through an agency and he sent me
22 the manifest. Somebody from Gold Bright whether the port has it or the logistics person, that's
23 where I get that from.

1 **Mr. Willett:** Do you remember specifically from Gold Bright who sent you that document?

2 **Mr. Farley:** Somebody named Sandy from Northern Lilly (sic).

3 **Mr. Willett:** Okay.

4 **Mr. Farley:** He forecast to that. He sends me some like instructions. There will be

5 instructions underneath the documents, instructions of how he wants it.

6 **Mr. Willett:** And do you recall his last name?

7 **Mr. Farley:** Kind of a weird name starts with an M. Mihaki or Matoka (sic).

8 **Mr. Willett:** Okay. Do you remember how far in advance you got that stow plan for the

9 GOLDEN RAY?

10 **Mr. Farley:** Probably I want to say 4, but at least day.

11 **Mr. Willett:** So you got that stow plan and then what kind of happens next?

12 **Mr. Farley:** I print everything out. I look over the stow plan. I highlight what say SSI, which I

13 don't know why they do that [in audible]. The discharge parts will say SSI stow plan. And

14 there's all kinds of cars on there that aren't mine. So what I do is I highlight SSI for everybody

15 to read so they don't have to sift through. And it will look like it will say done. Now take the

16 GOLDEN RAY they might have – they probably had seven different port changes. So all

17 already you might highlight red, [in audible] might highlight green. See what I'm saying. So I

18 get all that paperwork together for the guys and I distribute that out.

19 **Mr. Willett:** Okay and then what would typically happen, do you do – you offload the vehicles

20 first, the ones that are coming off at St. Simons?

21 **Mr. Farley:** Yes, sir.

22 **Mr. Willett:** Do you recall how many vehicles you guys offloaded that day?

23 **Mr. Farley:** 280 something I believe.

1 **Mr. Willett:** Were they SUV's or small cars or?

2 **Mr. Farley:** They would be small cars like Accents. There's only two different kinds coming
3 from Mexico. Accents and Forte I think.

4 **Mr. Willett:** So when your people go on board the ship did they physically undo the lashings
5 and then get into the car? How does that work?

6 **Mr. Farley:** So you've got to match.

7 **Mr. Willett:** Okay.

8 **Mr. Farley:** Think of how many cars, that's not a lot of cars. I probably only four lashings.
9 They need to cut a frame they pay a company to -----

10 **Mr. Willett:** Yes.

11 **Mr. Farley:** I forget the name. Four ship loads one of the stevedores will go check it out
12 everything is where it is. And the lashings go and unlash and the rest of the hired labor drive,
13 they drive them off. The lashers don't drive them off.

14 **Mr. Willett:** Okay. So you have a separate group that does the lashing, they undo the lashing
15 and then another group drives the cars off.

16 **Mr. Farley:** Right.

17 **Mr. Willett:** Do you remember how long that took to offload the vessel?

18 **Mr. Farley:** That would take an hour and a few minutes probably.

19 **Mr. Willett:** Okay.

20 **Mr. Farley:** Again I'm guessing I believe.

21 **Mr. Willett:** So you have the cars offloaded and then now you are going to do what?

22 **Mr. Farley:** Load it back. If you have to load back. GOLDEN RAY we loaded back.

1 **Mr. Willett:** Do you remember approximately how many vehicles you loaded back onto the
2 GOLDEN RAY?

3 **Mr. Farley:** 300, I will say 360. I can't tell you.

4 **Mr. Willett:** Do you remember the type of vehicle?

5 **Mr. Farley:** Yes there's only one type of vehicle. That was [in audible].

6 **Mr. Willett:** So those are larger like a SUV or are they ----

7 **Mr. Farley:** Yes.

8 **Mr. Willett:** Okay. And

9 **Mr. Farley:** About like a Jeep Cherokee.

10 **Mr. Willett:** Okay. Whenever you loaded the vehicles onto the ship I'm assuming you guys,
11 you group drove them on board.

12 **Mr. Farley:** Oh yeah drive on board.

13 **Mr. Willett:** So how do you know where they're going again on board the vessel?

14 **Mr. Farley:** Like I said there's a stow plan that's attached to the discharge cars, autos. Then
15 you have [in audible] where they want them.

16 **Mr. Willett:** Okay.

17 **Mr. Farley:** [In audible] comes off first. So you have to move about discharging overseas.
18 Does that make sense?

19 **Mr. Willett:** Yes. Do you remember what decks you offloaded and then what decks were
20 loaded back on?

21 **Mr. Farley:** Yeah. We offloaded decks 12 and 11. And loaded back decks 12 and 11 and
22 deck overload.

23 **Mr. Willett:** So you offloaded from two decks and you on loaded to three decks?

1 **Mr. Farley:** Right.

2 **Mr. Willett:** So when ----

3 **Mr. Farley:** I'm sorry.

4 **Mr. Willett:** No, no you go ahead.

5 **Mr. Farley:** The depart on deck 12 and 11 those are a safe spot.

6 **Mr. Willett:** Okay.

7 **Mr. Farley:** And overflow was [in audible] which deck 5.

8 **Mr. Willett:** Did that plan change at all during the loading? Or was the plan you got the day

9 prior to the GOLDEN RAY coming in did you guys have to change it from that day at all? Or

10 did you stick to the plan that was given?

11 **Mr. Farley:** Stuck to the plan.

12 **Mr. Willett:** When the vessels were loaded did your crew or your team are they the ones that

13 actually secure the vehicles to the decks?

14 **Mr. Farley:** The lashing – the unlashings of cars?

15 **Mr. Willett:** Yes.

16 **Mr. Farley:** They lash the car.

17 **Mr. Willett:** So it was that same team?

18 **Mr. Farley:** Yes.

19 **Mr. Willett:** Okay. Who actually provides the lashings for the vehicles?

20 **Mr. Farley:** The ship.

21 **Mr. Willett:** And do you remember – did you go on board at all?

22 **Mr. Farley:** Oh gosh yeah.

1 **Mr. Willett:** So while you were on board the operation of unloading and loading and the
2 lashing was that something that you would typically see? Was anything out of the ordinary or
3 was it was like a normal day?

4 **Mr. Farley:** I mean it was a normal day. When they unlash cars they moved lashing out of the
5 way so you don't run over it.

6 **Mr. Willett:** Right.

7 **Mr. Farley:** And when you're loading cars they start lashing as you're loading.

8 **Mr. Willett:** And during the loading and unloading did you notice anything whatsoever out of
9 the ordinary? Did the ship list at all or was anything out of the ordinary at all?

10 **Mr. Farley:** I didn't notice a list. Nothing out of the ordinary.

11 **Mr. Willett:** Okay.

12 **Mr. Farley:** I've seen ships list a lot, we'll stop work if that happens.

13 **Mr. Willett:** So in this case the GOLDEN RAY did you notice an unusual list?

14 **Mr. Farley:** Nothing out of the ordinary.

15 **Mr. Willett:** Okay. So after the vehicles are stowed on the vessel who comes back and
16 verifies that everything is lashed properly?

17 **Mr. Farley:** Well a deck seaman. So say I loaded deck 12 right.

18 **Mr. Willett:** Yes.

19 **Mr. Farley:** They've got to look at deck 12 first and then you come down to deck 11. One of
20 my stevedores will be up there on deck 12 with lashing with along with one of the [in audible].
21 Once they're done lashing they'll go down to deck 11 where I load the car the stevedore will
22 be, the other stevedore if they weren't caught up [in audible].

23 **Mr. Willett:** Okay.

1 **Mr. Farley:** So that stevedore will go down to deck 5 load them cars. But there's only the
2 stevedore and the lasher and [in audible].

3 **Mr. Willett:** So there's usually a stevedore, a supervisor and somebody from the vessel?

4 **Mr. Farley:** Yes and a supervisor. [In audible] it's their boss. So if I had a problem with
5 somebody from the gang I was telling somebody to do the head [in audible].

6 **Mr. Willett:** Okay. And ----

7 **Mr. Farley:** [In audible].

8 **Mr. Willett:** In the case of the Golden Ray did you guys use a checklist or anything to say
9 alright we completed deck 13, everything's secured and ----

10 **Mr. Farley:** Yeah you have on the stow plan, you also have a checkout list so in other words if
11 I load 20 cars for [in audible] we'll check lashing, check off on the stow plan.

12 **Mr. Willett:** Have you ever had an instance where like the ship gives you a lashing and it
13 doesn't look like its – it looks kind of old or it looks frayed? Has that happened before?

14 **Mr. Farley:** Sir, I'm sure it has. I mean there's lashing – I've been lashing these cars on these
15 other ships. I mean literally thousands of them. But [in audible] cranked down like that, [in
16 audible] you get it out of the way. See what I'm saying.

17 **Mr. Willett:** So you were on the vessel, all the decks, did you – did it appear to you that all the
18 vessels were lashed correctly?

19 **Mr. Farley:** The load back?

20 **Mr. Willett:** Yes.

21 **Mr. Farley:** Yes. I have a lot to do. I go back and forth. So I've also got lash the cars [in
22 audible]. I move back and forth.

1 **Mr. Willett:** Speaking of these cars that you're loading do you recall or know about
2 approximately how much fuel was on board each vessel, or each vehicle?

3 **Mr. Farley:** They usually only have a couple of gallons, that's it. A lot of times we'll run out
4 I've got to put gas in them.

5 **Mr. Willett:** Did that happen with the GOLDEN RAY at all?

6 **Mr. Farley:** None of them ran out. Other than – they run [in audible].

7 **Mr. Willett:** Okay. So when the vehicle are loaded do you guys disconnect the batteries at all
8 or anything like that?

9 **Mr. Farley:** Not on automobiles.

10 **Mr. Willett:** So in this case you drove the vehicles on, they maybe had a gallon or two of gas,
11 they were all secured correctly, a couple people checked it, the vessel checked it and then you
12 get a report back to say everything's secured and ready? You're done.

13 **Mr. Farley:** Yeah. We were done with deck 12, my stevedores they said we're done on deck
14 12 and they've checked it. You've got a lot of eyes on it. It's not one person looking at it.

15 **Mr. Willett:** Do you remember what time you guys had anticipated to be completed with
16 unloading and loading the GOLDEN RAY?

17 **Mr. Farley:** Well it's a four hour guarantee. So when I get it set up I try to get to that high so
18 that the shipping line doesn't [in audible] a month later. I think it was around 10:42 we were
19 done. That way we know by 11.

20 **Mr. Willett:** And that was all schedule?

21 **Mr. Farley:** Yeah. We did pretty good.

22 **Mr. Willett:** Did it seem like the crew or the vessel were rushed at all? Or was it a typical
23 loading and unloading?

1 **Mr. Farley:** They weren't rushed. They set sailing for 1 and normally you don't set sailing for
2 an hour later. So I could have set sailing for midnight, but I'm pretty sure it was set sailing for 1
3 a.m.

4 **Mr. Willett:** So you control that. So you estimate what time you're going to be done.

5 **Mr. Farley:** I don't control I ask them. I will ask the Mate or the Chief Mate, hey Chief I'm
6 going to set sail, and it's usually – its usually an hour after completion.

7 **Mr. Willett:** Okay.

8 **Mr. Farley:** So I'll say Chief Mate we're done, set sail for midnight. He might say oh on we're
9 going to set it for 1 a.m., okay. We'll set it for 1.

10 **Mr. Willett:** So in this case did anybody approach you at all and say hey we need you to be
11 done by this time or it's going to come up to a window or anything?

12 **Mr. Farley:** Oh no.

13 **Mr. Willett:** Well Mr. Farley I appreciate you being here with us today for the testimony. I'm
14 going to ask other members of the team if they have any additional questions. Mr. Welborn,
15 Captain Welborn, I turn it back over to you.

16 **Mr. Farley:** Okay, thank you.

17 **CAPT WELBORN:** Thank you Mr. Willett, I will hold my questions until the end. Mr. Bremer
18 from the Republic of Marshall Islands, do you have follow on questions for this witness?

19 **Mr. Bremer:** Thank you Captain, no questions.

20 **CAPT WELBORN:** Thank you Mr. Bremer. Mr. Reisman, do you have questions for this
21 witness?

22 **Mr. Moseley:** This is Mr. Moseley and Mr. Reisman, there's no questions.

1 **CAPT WELBORN:** Thank you Mr. Moseley, appreciate it. Captain Flaherty, NTSB do you
2 have follow on questions for this witness?

3 **Mr. Farley:** I didn't hear that question.

4 **Mr. Willett:** He was asking if Captain Flaherty had any additional questions.

5 **Mr. Farley:** Oh.

6 **Mr. Willett:** Stand by.

7 **NTSB:** Mr. Farley, sir. Can you hear me?

8 **Mr. Farley:** Yes, sir.

9 **NTSB:** Great. As I recall you've got this job for about 8 years, correct?

10 **Mr. Farley:** Yes.

11 **NTSB:** And comparing other all the vessels you've been in charge of for the loading and
12 unloading the GOLDEN RAY loading and unloaded went as normal as it is usually is?

13 **Mr. Farley:** Actually all the boilers ships are the best merchant ships out there to be quite
14 honest with you.

15 **NTSB:** Now the vehicles that are loaded on do you recall how much they weighed?

16 **Mr. Farley:** Yes they weigh 1.95 tons.

17 **NTSB:** And how [in audible]

18 **Mr. Farley:** [In audible].

19 **NTSB:** And do you know by this by manifest or who gave you the information for that
20 manifest?

21 **Mr. Farley:** With my company I do it. Load check and all that. And your stow plan is the
22 same has it on there.

23 **NTSB:** So a sample vehicle prior to being loaded is independently weighed [in audible]?

1 **Mr. Farley:** No I can't tell you that. I don't think so.

2 **NTSB:** Did you meet with the Chief Officer or any of the officers?

3 **Mr. Farley:** I can remember if I met with Chief Mate or rest of the team with the ship or not.

4 Oh, one of my superintendent probably did. Because all the cars left so we did have a chief

5 hey we've got to put these three cars down on the deck 5. So somebody probably talked to

6 the Chief Mate. Somebody in charge of that we would go through for putting the cars on deck

7 5.

8 **NTSB:** So originally were only deck 11 and deck 12?

9 **Mr. Farley:** See if you look at the instructions for that ship, about [in audible]. This is cargo

10 deck 12, this is cargo deck 11. You're set for the overflow on deck 5.

11 **NTSB:** Do you recall how many were on overflow on deck 5.

12 **Mr. Farley:** Sixty seven I think, sixty five maybe. Something like that.

13 **NTSB:** Is the deck 5?

14 **Mr. Farley:** Yeah. It's high on the load line if you've got to have a overflow.

15 **NTSB:** Is it common to handle overflow?

16 **Mr. Farley:** Yeah. Yes.

17 **NTSB:** Alright.

18 **Mr. Farley:** I mean sometimes you do have one, sometimes you don't. Really depends on

19 how old the ship is, how many cars. You know. Basically you're able to load 100 cars on one

20 of these overflows.

21 **NTSB:** Right. That compensates sixty six vehicles to deck 5 [in audible].

22 **Mr. Farley:** No. That's the thing. That's the main deck.

1 **NTSB:** So you did not know when the vessel arrived that morning that it would be an
2 overflow?

3 **Mr. Farley:** We kind of figured we would be because we only took off 285 new cars and
4 loaded 300 something bigger you know something's got to go to deck 5. You just don't know
5 how many.

6 **NTSB:** Thank you.

7 **Mr. Farley:** We knew we were going to deck 5.

8 **NTSB:** And when you're loading the vessel what is a common issue that you have to ensure
9 with putting cars on?

10 **Mr. Farley:** Issues?

11 **NTSB:** Like parking, proper strapping. I mean traffic management.

12 **Mr. Farley:** Oh yeah. We have spots. So every car you've got, like every room you've got to
13 be able to walk through. And then it's called spacing the mirrors they've got to be at least the
14 size of your fist in between. So it's tight. But it can't have [in audible] between the main rows,
15 lashings. You get that too tight you can't lash it.

16 **NTSB:** Right. And then how were the lashes attached to the vehicle?

17 **Mr. Farley:** All vehicles are different though. The [in audible] you have a lashing ring on the
18 bottom front, lash, take two stains do a weird hit on them.

19 **NTSB:** Okay.

20 **Mr. Farley:** Now that forward and aft, that's like the car facing forward or aft.

21 **NTSB:** Right.

22 **Mr. Farley:** Facing the north ship, starboard or port side you've got put three and three.

23 **NTSB:** Okay.

1 **Mr. Farley:** [in audible]

2 **NTSB:** And were the cars forward and aft?

3 **Mr. Farley:** No. Some.

4 **NTSB:** Were the hooks in them, are the vehicles that a lash will attached to, did they come

5 with the vehicle?

6 **Mr. Farley:** Oh yeah. They're already on the vehicle.

7 **NTSB:** And are the ones, this type of vehicle that are loaded because they're a heavier

8 vehicle do they require a sturdier type of hook?

9 **Mr. Farley:** I wouldn't say that. These are 1.99 tons are not very heavy.

10 **NTSB:** With the interaction with the crew did they ever mention that they had to move,

11 internally fuel or ballast?

12 **Mr. Farley:** They wouldn't tell me that.

13 **NTSB:** Did the ship take on any fuel while it was at dock?

14 **Mr. Farley:** I don't think so.

15 **NTSB:** And did you, while you were onboard did you see the crew members going around and

16 taking soundings of the tanks?

17 **Mr. Farley:** I wouldn't know.

18 **NTSB:** And -----

19 **Mr. Farley:** You understand I don't know.

20 **NTSB:** And at any time did the Chief Officer or any of the crew members say that they had to

21 stop to adjust something within the ship?

22 **Mr. Farley:** No I don't recall that either. Now he had to stop and shift to adjust the stern. But I

23 don't remember any of that.

1 **NTSB:** Okay, great. Well, sir, thank you for your time.

2 **Mr. Farley:** Yeah.

3 **Mr. Willett:** Mr. Farley we did have one more question. I just wanted to clarify who you
4 actually work. If you could kind of explain, I know you said SSA, but can you go into that a little
5 more detail?

6 **Mr. Farley:** SSA Atlantic is a Stevedore company. And we're all over the United States
7 basically.

8 **Mr. Willett:** Okay.

9 **Mr. Farley:** And all over the world for that matter.

10 **Mr. Willett:** And then you're typically hired by ships to load, get gangs together to load and
11 unload their vessels, is that correct?

12 **Mr. Farley:** That's correct.

13 **Mr. Willett:** And in this case you were hired by do you recall?

14 **Mr. Farley:** I'm in charge, nobody hired me.

15 **Mr. Willett:** Okay.

16 **Mr. Farley:** I'm the lead person.

17 **Mr. Willett:** So basically if any vessel at all, any RORO comes into Brunswick who would they
18 have to use to load and unload the vessel?

19 **Mr. Farley:** Well you've got – well you have, at that time you still had four member stevedore
20 companies. Depends who's got the contract.

21 **Mr. Willett:** Okay. So did you have a contract with Hyundai Glovis?

22 **Mr. Farley:** Yes, SSA does, yeah.

1 **Mr. Willett:** So every Hyundai Glovis vessel that came to Brunswick would use SSA to load
2 and unload their vessel?

3 **Mr. Farley:** Yes. Except if it they were a charter by another company, say MOM.

4 **Mr. Willett:** Okay, but in this case Hyundai Glovis used you?

5 **Mr. Farley:** Yeah.

6 **Mr. Willett:** Okay. Thank you sir. I'm sorry.

7 **Mr. Farley:** I said no problem.

8 **Mr. Willett:** If nobody has any other questions I will dismiss you. I would like to say thank you
9 for your test --- yes.

10 **CAPT WELBORN:** No, no. Mr. Willett.

11 **Mr. Willett:** Yes.

12 **CAPT WELBORN:** I'm sorry I do have a couple of questions. First of all I do have one
13 question from KMST, the Korean Maritime Safety Tribunal. The question Mr. Farley, can you
14 hear me?

15 **Mr. Farley:** No I cannot.

16 **Mr. Willett:** I'm going to step away and Captain Welborn is going to sit down in this seat and
17 he's going to ask you the question. Thank you, sir.

18 **Mr. Farley:** Alright.

19 **CAPT WELBORN:** Mr. Farley this is Captain Blake Welborn can you hear me?

20 **Mr. Farley:** Yes, sir.

21 **CAPT WELBORN:** Great, thank you again for coming, or appearing today, we do appreciate
22 it. So our question from KMST involves the lashings themselves. Can you tell us how much

1 pressure, how much – how much – how much would it take for the vessel to heel over before
2 one of these lashing would part? Can you comment on that?

3 **Mr. Farley:** You need a specific – turn it upside down and it's hanging?

4 **CAPT WELBORN:** Yes, sir.

5 **Mr. Farley:** I couldn't tell you that.

6 **CAPT WELBORN:** Okay. Do you know ----

7 **Mr. Farley:** I mean.

8 **CAPT WELBORN:** Please, sir.

9 **Mr. Farley:** Lashing, I think it's a 1 ton lashing. But they're hold something down. Not to
10 hang.

11 **CAPT WELBORN:** Understood.

12 **Mr. Farley:** Does that make sense?

13 **CAPT WELBORN:** Yes, sir, yes, sir. So do you know maybe the test strength of these – of a
14 typical lashing that you would see on a RORO type vessel?

15 **Mr. Farley:** Are the ones we use are they typical? Is that what you're asking?

16 **CAPT WELBORN:** Well what would be the strength of those lashing?

17 **Mr. Farley:** One ton on each one of them, would be one ton.

18 **CAPT WELBORN:** Okay. You have one forward and one aft.

19 **Mr. Farley:** Two forward, two aft.

20 **CAPT WELBORN:** And then you said you also have some on the side of the vehicle.

21 **Mr. Farley:** No.

22 **CAPT WELBORN:** No.

23 **Mr. Farley:** We don't put them on the side.

1 **CAPT WELBORN:** Okay. So two forward, two aft so you've got four in the lashing on each
2 vehicle.

3 **Mr. Farley:** Right.

4 **CAPT WELBORN:** Understood, sir. Thank you for that clarification. So Mr. Farley a couple
5 of follow-on questions. I know your primary duties and responsibilities do not include the
6 stability of the vessel. You are there to load and or unload the vessel itself.

7 **Mr. Farley:** Right.

8 **CAPT WELBORN:** But I want to ask a couple of questions down that road if I could.

9 **Mr. Farley:** Sure.

10 **CAPT WELBORN:** If you're loading a vessel what's – is there a general rule of thumb that you
11 would load a particular type of vessel? Excuse me, a particular type of vehicle in a specific
12 location on the location? For instance would you load large heavy vehicles high on the vessel
13 or would you load them low on the vessel?

14 **Mr. Farley:** I load them where they tell me to put them. Typically the upper decks, typically
15 the upper decks they can adjust those -----

16 **CAPT WELBORN:** Yes, sir.

17 **Mr. Farley:** Typically we load small cars up top. Typically. So I've seen [in audible].

18 **CAPT WELBORN:** Understood that completely, sir. So, but typically you'll see smaller
19 vehicles up higher, larger vehicles down low?

20 **Mr. Farley:** Yeah, typically.

21 **CAPT WELBORN:** Okay.

22 **Mr. Farley:** Now if they go down below, below ship, see sections below ship, we can get off
23 cars, so it's small cars.

1 **CAPT WELBORN:** So do you have to stoop then maybe to get out some of those spaces?

2 **Mr. Farley:** Yeah. Some guys will hit their head.

3 **CAPT WELBORN:** Yes, sir. Have you, and how many years did you say you've been loading

4 cars, sir?

5 **Mr. Farley:** Eight years probably now, something like that. Seven or eight years.

6 **CAPT WELBORN:** Understood. Have you ever experienced a stability issue with a vessel

7 while loading or unloading vehicles?

8 **Mr. Farley:** Not on a RORO ship. But I do a lot of break hull ships, they are [in audible].

9 **CAPT WELBORN:** But never on a RORO?

10 **Mr. Farley:** That's mostly what are ship.

11 **CAPT WELBORN:** Understood. Alright. One last chance, any questions from our SIS's or

12 PII's?

13 **NTSB:** Captain Welborn.

14 **CAPT WELBORN:** Yes, Captain Flaherty.

15 **NTSB:** I have just one final question.

16 **CAPT WELBORN:** Please.

17 **NTSB:** Sir, [in audible] have you ever heard of that?

18 **Mr. Farley:** No.

19 **NTSB:** Thank you.

20 **CAPT WELBORN:** Mr. Farley I want to thank you again for your attendance today and for

21 your participation in this formal hearing. We do reserve the right to recall you until we formally

22 close the hearing.

23 **Mr. Farley:** Sure.

1 **CAPT WELBORN:** So there may be a time that we have to call you back and ask a couple
2 more questions. So we please ask that you remain available.

3 **Mr. Farley:** No problem.

4 **CAPT WELBORN:** Great, thank you Mr. Farley. We do appreciate your attendance today.

5 **Mr. Farley:** Alright. Thank you.

6 **CAPT WELBORN:** The local time is now 11:18. This hearing stands in recess until 12:30 at
7 which time we will resume.

8 *The hearing recessed at 11:18, 15 September 2020*

9 *The hearing was called to order at 12:30, 15 September 2020*

10 **CAPT WELBORN:** Okay the local time is 12:30. We're back on the record in the matter of the
11 capsizing of the GOLDEN RAY on September 8th, 2019 while transiting the St. Simon Sound in
12 Brunswick, Georgia. The next witness will be Mr. Jason O'Kane from the National
13 Oceanographic and Atmosphere Administration. Mr. Lee Willett will conduct this investigation.

14 **WIT:** I want to do a correct, he's actually from the U.S. Army Corps of Engineers.

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

19 **Mr. O'Kane:** I do.

20 **Recorder:** Thank you, please be seated.

21 **Mr. Willett:** For the record Mr. O'Kane could you please state your name and spell your last
22 name for the record?

23 **Mr. O'Kane:** Jason O'Kane, O-K-A-N-E.

1 **Mr. Willett:** Are you represented by counsel?

2 **Mr. O'Kane:** I am not. But my agency is and I coordinated with them to be here today.

3 **Mr. Willett:** Have you been designed as a party in interest?

4 **Mr. O'Kane:** Could you repeat that?

5 **Mr. Willett:** Have you been designed as a party in interest?

6 **Mr. O'Kane:** No.

7 **Mr. Willett:** Do you hold any professional certificates or certifications regarding current
8 employment?

9 **Mr. O'Kane:** Yes. I hold a project management professional certification of DMV.

10 **Mr. Willett:** Can you give brief summary of your background and experience?

11 **Mr. O'Kane:** B.S. in Biology. Ten years of regulatory permitting experience with the Corps of
12 Engineers. Eight years project management experience. And five years navigation
13 experience as Navigation Chief.

14 **Mr. Willett:** Who is your current employer?

15 **Mr. O'Kane:** The U.S. Army Corps of Engineers.

16 **Mr. Willett:** And what position do you hold there?

17 **Mr. O'Kane:** I'm currently the Chief of Navigation for Savannah district. I'm in a temporary
18 detail as a Chief of regulatory with that Savannah district as well, Corps of Engineers.

19 **Mr. Willett:** How long have you held that position?

20 **Mr. O'Kane:** The permeant position?

21 **Mr. Willett:** Yes.

22 **Mr. O'Kane:** The Chief of Nav, about five years.

23 **Mr. Willett:** Do you receive any specific training for that position?

1 **Mr. O'Kane:** Not specifically for it. It's basically experienced based.

2 **Mr. Willett:** So your position right now with Chief of Navigation, district for Savannah, does
3 that include the Brunswick area as well?

4 **Mr. O'Kane:** Yes, Brunswick, yes.

5 **Mr. Willett:** So what are the duties in regards to your current position?

6 **Mr. O'Kane:** So the Chief of Navigation includes primarily the dredging, the maintenance and
7 monitoring of the channels in Brunswick. That's below waterline maintenance of a channel
8 bottom through mostly dredging. We also run survey to help us see the work we do
9 underwater so we have survey technicians and boat captains and boats to help us with that
10 survey mission. We also manage the contract and other maintenance work necessary to
11 maintain that channel.

12 **Mr. Willett:** So I think you mentioned it, it does include sonar surveys of the navigable
13 waterways?

14 **Mr. O'Kane:** Yes, sir.

15 **Mr. Willett:** And I ask this again, or before, but Brunswick River and the St. Simon Sound are
16 they some of the areas you survey through sonar?

17 **Mr. O'Kane:** Absolutely, yes, sir.

18 **Mr. Willett:** How often do you normally conduct these surveys?

19 **Mr. O'Kane:** We do monthly condition surveys of the entire Brunswick Channel.

20 **Mr. Willett:** Do you ever survey them off schedule?

21 **Mr. O'Kane:** We do occasionally upon request or if there's need.

22 **Mr. Willett:** What are some examples of when you might do it off schedule?

1 **Mr. O'Kane:** If there's an issue with a large vessel such as the case with the GOLDEN RAY
2 we did additional surveys after that event to help other stakeholders identify what the
3 conditions of river were like.

4 **Mr. Willett:** Where do these off schedule surveys, how are they normally documented?

5 **Mr. O'Kane:** We coordinate, usually the software we use HIGHPAC (sic), not everybody has
6 that on their machine, that's not a common software, so we will often export it as a PDF and
7 then email that to people. Or if it's too large we'll get it to them through an external hard drive.

8 **Mr. Willett:** How would that be pushed out to the public?

9 **Mr. O'Kane:** We have a website we put the monthly surveys on for the public to view. If it's a
10 special survey for specific purpose we probably – we do not publish those on a regular basis.

11 **Mr. Willett:** After Hurricane Dorian around September the 4th, 2019 was there a survey for
12 Brunswick River and St. Simons Sound conducted?

13 **Mr. O'Kane:** Yes, sir.

14 **Mr. Willett:** Do you know who completed that survey?

15 **Mr. O'Kane:** We did along with NOAA.

16 **Mr. Willett:** Do you know approximately the time it was completed?

17 **Mr. O'Kane:** Yes. It was around 1600 hours on the 6th. NOAA completed part of the channel,
18 about a third of it on the 5th, and they completed another third of it on the 6th, and we
19 completed about a third of it on the 6th. So we had the entire channel completed, survey
20 completed by about 1600 hours on the 6th.

21 **Mr. Willett:** When you say NOAA, can you expand on that?

1 **Mr. O'Kane:** Right. So there's a division at NOAA that does surveys, Kyle Ward based out of
2 Charleston. And we coordinate with them regularly on various survey needs. But particularly
3 after storm events like Hurricane Dorian.

4 **Mr. Willett:** So you would sometimes use Army Corps of Engineers vessels and also the
5 National Oceanographic vessels as well and you would take some of their surveys and your
6 surveys and do a final product?

7 **Mr. O'Kane:** Right. We share enough product, survey product that we're comfortable with
8 each other's quality controls and different measures that we know what they do and they know
9 what we do and they're closely aligned for quality control. And after a hurricane it's kind of all
10 hands on deck to be sure channels can be cleared and opened as quickly as possible.

11 **Mr. Willett:** So are you familiar with Widener 11 down in the Brunswick area?

12 **Mr. O'Kane:** I didn't know it by that name, but I think I know the widener you're talking about.

13 **Mr. Willett:** Do you know if you all surveyed that area post Hurricane Dorian?

14 **Mr. O'Kane:** Yes. We did not go into that widener area with our surveys.

15 **Mr. Willett:** Alright. I think you already answered this. For that particular survey after
16 Hurricane Dorian how was that product made available to the maritime community?

17 **Mr. O'Kane:** We distributed those graphics if you will to Coast Guard, Pilots and the Port
18 Authority via emails.

19 **Mr. Willett:** So I would like to introduce Exhibit 3A and B. Show I'm showing you Exhibit 3A
20 and B labeled combined multi beam product. Do you recognize this?

21 **Mr. O'Kane:** Yes, sir.

22 **Mr. Willett:** Did you or your team produce this?

1 **Mr. O'Kane:** Yes. This was actually produced by the NOAA team and this represents the two-
2 thirds of the channel that they cleared. And the color ramp corresponds to color coding from
3 their multi beam surveys and showing depths of the channel.

4 **Mr. Willett:** Could you explain what the colors mean and what the lines are?

5 **Mr. O'Kane:** Sure. So I guess we'll assume that you know the channel is represented by the
6 colored area, which is what they surveyed. And can you zoom in on the color range? Thank.
7 Can you zoom into like right around in here? So this is in meters. So pretty much anything
8 that's the deep green is at least 10 meters of depth. If you want to – and the base data that
9 come on HIGH PAC has the actual plus or minus centimeters that all this goes to right.

10 **Mr. Willett:** Right.

11 **Mr. O'Kane:** So this is a color approximation using a color ram to make it easy for us to turn
12 data into information in our brain. So the inner harbor is authorized at 36 feet. We usually
13 maintained it right around that depth. And the entrance channel is authorized at 38 feet. So if
14 you'll back out again, back to the original view you can see there's some deeper holes as you
15 get closer to the entrance to the sound here.

16 **Mr. Willett:** So could you point out, I guess, when you're sitting at St. Simon Sound is that is
17 where Widener 11 is located?

18 **Mr. O'Kane:** I believe Widener 11 is, this is – this corner right here is actually part of the
19 channel known as a widener. If you zoom in, can you zoom in right here? I believe it's shown
20 on this chart. Yeah. So this – zoom in a little more, right there. There you go. So this corner
21 here is the widener. From these blue lines to this white triangle is the widener.

22 **Mr. Willett:** Okay. Lieutenant Commander Moore can you go to the next page. So this
23 product has 7 pages. So this would be -----

1 **Mr. O'Kane:** Yeah there you go.

2 **Mr. Willett:** Kind of a close up of the widener. These numbers, could you explain what they
3 mean?

4 **Mr. O'Kane:** Yeah those are meters to the tenth.

5 **Mr. Willett:** So for example right here it says 13 and there's a small 4.

6 **Mr. O'Kane:** 13.4 meters.

7 **Mr. Willett:** Okay. And when you completed your survey after Hurricane Dorian did you guys
8 local any anomalies or anything that might inhibit the shipping in the channel?

9 **Mr. O'Kane:** Negative. We looked, I guess just to dumb it down, the things we look for are
10 objects, metal in the channel and shoaling. And we found no anomalies after Dorian in the
11 channel that were any concern from a navigation perspective.

12 **Mr. Willett:** So if you had found something you would have published that out?

13 **Mr. O'Kane:** Absolutely.

14 **Mr. Willett:** How would you go about it?

15 **Mr. O'Kane:** I think those stakeholders that I mentioned would have been our first start. And
16 then from there if there was a need for the public to have it we would have continued on down
17 that road.

18 **Mr. Willett:** Captain Welborn I would like to enter these exhibits into the record.

19 **CAPT WELBORN:** Yes Mr. Willett we will, you have two exhibits?

20 **Mr. Willett:** It is a combined exhibit 7 pages.

21 **CAPT WELBORN:** Understood. Objections from the Republic of Marshall Islands?

22 **Republic of Marshall Islands:** No objections.

1 **CAPT WELBORN:** Objections from NTSB? Captain Flaherty do you have any objections to
2 this?

3 **NTSB:** No.

4 **CAPT WELBORN:** Thank you very much. Any objections noted from KMST?

5 **Recorder:** None noted.

6 **CAPT WELBORN:** Any objections from our PII's? The evidence is so admitted into the
7 record.

8 **Mr. Willett:** Mr. O'Kane I would like to show you Exhibit 4A and B labeled odd sides scan
9 product. Mr. O'Kane do you recognize this work?

10 **Mr. O'Kane:** Yes, sir.

11 **Mr. Willett:** So how would this differ from the multi beam?

12 **Mr. O'Kane:** So there are basically three types of technology we use in hydrographic survey.
13 There's single beam, multi beam and sides scanned. Side scan is a more picture oriented, it's
14 not so much mathematical numbered depth soundings. So from the backed off from the higher
15 resolution scale here we're looking at you really can't tell much. But when you zoom in its kind
16 of a side looking, hence the name side scan its kind of a look sideways at the water column.

17 **Mr. Willett:** What date was this created?

18 **Mr. O'Kane:** The date will be right here.

19 **Mr. Willett:** So September the 6th, 2019?

20 **Mr. O'Kane:** Yeah.

21 **Mr. Willett:** The survey would have been through those dates, it says September the 6th and
22 September the 7th.

1 **Mr. O'Kane:** I believe the surveys were done on the 5th and the 6th and the 6th and 7th
2 represents the date they were processed. So the day it was collected in HIGH PAC the day
3 before, and it was processed into this PDF probably the next day. And that's probably why
4 NOAA put the next day on there.

5 **Mr. Willett:** Commander Moore can you go to the next page?

6 **Mr. O'Kane:** Yeah there you go.

7 **Mr. Willett:** Can you zoom into that a little bit. So is this area representing Widener 11?

8 **Mr. O'Kane:** Yes.

9 **Mr. Willett:** So what does this show, these gray spot?

10 **Mr. O'Kane:** So can you zoom in a little more. Maybe zoom into, right about a little bit here.

11 Yeah. So just like the dirt road, quarter way to the wind, channel in the water, the bottom of
12 the sub-straight ripple to the currents. So you can kind of see that here. That's what some of
13 those lines are, is the bottom contours of the sand and sediment as it's little sand dunes kind
14 of. This is – NOAA does four passes one in each quadrant of the channel. So each one of
15 these is kind of a look from the centerline of the vessel looking left and right. So if there's an
16 anomaly it will show out as a definite dark – it will be white hot, but behind it where the sonar
17 can't it will be black from the shadow. So since you don't see any of the definite black marks
18 here I can tell that channel is clear.

19 **Mr. Willett:** So can you zoom out a little bit more. So this shows there were no indications of
20 any obstruction in the channel?

21 **Mr. O'Kane:** Correct.

22 **Mr. Willett:** And this was taken around the 5th or the 6th after Hurricane Dorian and you
23 processed it, and published it on this day?

1 **Mr. O'Kane:** Yes, sir.

2 **Mr. Willett:** Captain Welborn I would like to enter this exhibit into the record.

3 **CAPT WELBORN:** Roger. Any objection from the Republic of the Marshall Islands?

4 **Republic of Marshall Islands:** No objections Captain.

5 **CAPT WELBORN:** Any objections from NTSB?

6 **NTSB:** No objections.

7 **CAPT WELBORN:** Any objections from KMST?

8 **Recorder:** None received.

9 **CAPT WELBORN:** No objections received. From our PII's? The evidence is so marked and
10 entered into evidence.

11 **Mr. Willett:** I would like to state again this is Exhibit 4A/B. Mr. O'Kane were there any surveys
12 completed after the GOLDEN RAY incident?

13 **Mr. O'Kane:** Yes, sir. So the GOLDEN RAY incident was on the 8th, correct? So on the 9th
14 we mobilized our team, that was a Monday and we did surveys, our, I guess our primary goal
15 at that point we coordinated with the stakeholders, Pilots, the Port Authority and the Coast
16 Guard and our biggest concern was could something have come off this vessel or another
17 vessel and been in the channel. An unknown water hazard. So we did more side scan and
18 multi beams around the vicinity of the ship and it's course from the dock to the place it ended
19 up resting.

20 **Mr. Willett:** If you recall, did those indicate any anomalies or anything else in the channel at
21 that waterway?

22 **Mr. O'Kane:** Those surveys indicated no obstructions or anomalies.

1 **Mr. Willett:** I would like to introduce Exhibit 5. It's called the post incident product. Mr.
2 O'Kane do you recognize this work?

3 **Mr. O'Kane:** I do.

4 **Mr. Willett:** Do you know the approximate date?

5 **Mr. O'Kane:** Uhh.

6 **Mr. Willett:** Commander can you zoom in to the top right?

7 **Mr. O'Kane:** I think it was the 11th, but we'll know here in a second. Yep, September the 11th,
8 2019. So this was a different product that I was describing a minute ago. But tell me what you
9 want.

10 **Mr. Willett:** So we go back to Widener 11, that area. Can you zoom in a little bit? Can you
11 just explain to us what these numbers mean?

12 **Mr. O'Kane:** Sure. So this was two days later from the first surveys we did and in
13 coordination with the stakeholders with the same three I mentioned earlier, those were are
14 principle people we were talking to. We wanted to see how – what the bottom was like in the
15 vicinity of the GOLDEN RAY and also how it was positioned in relation to the channel. So we
16 set out with a very detailed, I guess goal of doing cross sections of the channel to determine
17 depth. So that's each one of these lines. If you zoom into any one of those lines significantly
18 you will see that's a series of numbers. Now these are going to be in feet down to a tenth of a
19 foot. And it's also color ram, or color coded. So the blues indicate it is deep, as deep or
20 deeper than authorized. So blue, even the baby blues are good. And yeah, so that was one
21 goal is to determine the depths. And the other goal was to determine the exact location of the
22 GOLDEN RAY.

23 **Mr. Willett:** Can you show us on this presentation where the GOLDEN RAY?

1 **Mr. O'Kane:** We drew this box approximating the location. We took, I think we took three or
2 four GPS coordinates on each corner as best we could approximate and those in the boat, our
3 boat into the – almost to the edge of the GOLDEN RAY. We created this box using that, those
4 points. And it rest about 150 feet from the bend Widener or channel.

5 **Mr. Willett:** And again that's the Widener Sound?

6 **Mr. O'Kane:** 11?

7 **Mr. Willett:** Widener 11. Can you explain what this kind of bump is?

8 **Mr. O'Kane:** So there was probably a traffic, or I think there might be a buoy there. So the
9 boat was running line using single beam sonar technology. For some reason they had to go
10 out and around. I don't know if it was another vessel there or if it was a buoy there. I think
11 there's a buoy there.

12 **Mr. Willett:** Okay.

13 **Mr. O'Kane:** But I would have to lay it over a nav, a proper nav chart that has the navigational
14 buoys to know that one.

15 **Mr. Willett:** Can you zoom a couple more times? So each of these shows a pass of a vessel
16 when we would use sonar to indicate -----

17 **Mr. O'Kane:** Exactly. Those depths represent a line center of that. It would be that the actual
18 course of the boat as it transected the channel to get those depths.

19 **Mr. Willett:** And the blue would indicate that it's deeper than projected, or?

20 **Mr. O'Kane:** At least as deep as authorized.

21 **Mr. Willett:** And what was this area authorized for?

22 **Mr. O'Kane:** This is part of the 36 foot channel.

23 **Mr. Willett:** So any time there's blue it would be at least?

1 **Mr. O'Kane:** 36 feet deep. And I would have to consult with color rams, I think it's on this –
2 somewhere else on the drawing to be sure of the other colors. But we try to – we try to
3 calibrate the color ram the colors for that particular channel. So usually blue is good.

4 **Mr. Willett:** So I see here there are some greens that indicate 37.6.

5 **Mr. O'Kane:** Yep. So your -----

6 **Mr. Willett:** And there's some blacks that are 35.7. And then orange and red.

7 **Mr. O'Kane:** Right. As you come out of the channel it gets shallower toward the shallower
8 banks.

9 **Mr. Willett:** Does this product indicate that the channel still had proper depth after the
10 incident?

11 **Mr. O'Kane:** Absolutely. I mean there's a lot 50's in this area. And even coming back into the
12 Southwest those deep, naturally deep numbers continue.

13 **Mr. Willett:** You indicated earlier that this was a different product. So this was a sonar
14 product, is that correct?

15 **Mr. O'Kane:** Right. So what we did on the 9th was a side scan mostly looking for objects that
16 fell off the boat or another boat. What we did on the 11th, this is single beam and we did that
17 for a very precise measurements of depth.

18 **Mr. Willett:** Now the surveys that you completed on the 8th and 9th, did those indicate anything
19 about the channel, I guess the 9th when you said you got started on your survey, did any of
20 those surveys indicate any objects or obstructions in the channel?

21 **Mr. O'Kane:** No, sir.

22 **Mr. Willett:** Captain Welborn I have no further questions.

1 **CAPT WELBORN:** Thank you Mr. Willett. So we'll move on to our substantially interested
2 states and our parties in interest to see if they have any questions for you. Mr. Bremer?

3 **Mr. Bremer:** Yes, sir, how are you today?

4 **Mr. O'Kane:** I'm well.

5 **Mr. Bremer:** So Widener 11 you mentioned that it's not included in your typical survey of the
6 waterway. Is that going to be a required regime?

7 **Mr. O'Kane:** No, sir. Widener 11 does not require dredging. If you notice a lot of those
8 numbers were well over the 36 foot authorized depth and it's a naturally scouring area and the
9 Vin Widener is part of that naturally scouring area and we do not have to dredge it.

10 **Mr. Bremer:** Okay. And the transition from the Jekyll Island Range into Widener 11 you had
11 mentioned that Widener 11 is typically deeper in the control depth of the channel. How would
12 you describe that transition? Is it a sudden change or a gradual change in depth as that
13 transition is made?

14 **Mr. O'Kane:** Right. It's pretty gradual. You can study the surveys and see how gradual it is,
15 but it's not an abrupt change.

16 **Mr. Bremer:** Okay.

17 **Mr. O'Kane:** It's gradual.

18 **Mr. Bremer:** Okay, thank you. No further questions.

19 **CAPT WELBORN:** Thank you Mr. Bremer. NTSB do you follow-on questions for this
20 witness?

21 **NTSB:** Captain Welborn yeah I just have a couple of questions. Captain Welborn.

22 **CAPT WELBORN:** Yes.

23 **NTSB:** Sir, what is the bottom? Is it a soft bottom or is there rocks in the area?

1 **Mr. O'Kane:** So there are no rocks. There are some limestone areas in Brunswick Harbor.
2 This particular area is, I believe it's mostly sand, silt. So it's relatively soft. We've never
3 dredged this. It's in the 50's naturally, so. A lot of the – when I say never, you can look at the
4 survey and tell. If it's in the 50's we've never dredged it. It's naturally that deep. We only ----

5 **NTSB:** The area, I believe this area is a stable bottom.

6 **Mr. O'Kane:** Yes very stable.

7 **NTSB:** Now is there – where does silt come in and fill up the area? Is it coming down river?
8 Is there an exchange outside?

9 **Mr. O'Kane:** So the Brunswick River is not a big watershed so there's not a lot of inflow from
10 upstream in the watershed. It comes in from the North and South of the Sound. There's an
11 intercostal waterway and other tributaries that come into St. Simon Sound. And there's also
12 with our, you know we have almost a 7 foot tide every, you know twice a day. So those tides
13 bring in sediment from the ocean as well. So generally there's sediment coming in from four
14 different directions depending on what tide cycle you're on.

15 **NTSB:** Okay. When your conducting your surveys following the casualty was any of your
16 equipment able to pick up the area where the vessel grounded?

17 **Mr. O'Kane:** So yes we did a separate survey that's not shown in the exhibits we've seen so
18 far where we did multi beam, kind of a horizontal multi beam and we got a lot of the depths
19 around the GOLDEN RAY. We were trying to get a feel for how much of the stern of the
20 vessel was hanging out off of the sandbar looking at the stability of the vessel. So when we
21 did that we did get a lot of the depths and profiles of the shallower area that the vessel came to
22 rest on.

1 **NTSB:** And there's no indication from your equipment that the vessel came into contact with
2 the bottom while in Sound?

3 **Mr. O'Kane:** No, sir.

4 **NTSB:** Are you relying other than information on the survey [in audible].

5 **Mr. O'Kane:** We can. I'll be happy to do that.

6 **NTSB:** Captain Welborn recommend if we could obtain that for our records.

7 **CAPT WELBORN:** Roger we will obtain that.

8 **NTSB:** I have no further questions, thank you.

9 **CAPT WELBORN:** Thank you Mr. Flaherty. So we have no questions from Republic of
10 Marshall Islands, NTSB has finished their questioning. We have no follow on questions from
11 KMST.

12 **Recorder:** No follow on questions.

13 **CAPT WELBORN:** Roger. Okay. Mr. O'Kane I do have a couple questions for you. Just
14 MST2 could you bring up Exhibit 5 please.

15 **Recorder:** I have the control.

16 **CAPT WELBORN:** Oh I'm sorry, I'm sorry. Can you zero in on the Northern part of Widener
17 11 please? Mr. O'Kane you said that if the numbers were in blue, your testimony was that if
18 the numbers are in blue then they exceed the project depth and in subsequent testimony you
19 said that was 36 feet, is that correct?

20 **Mr. O'Kane:** Yes, sir.

21 **CAPT WELBORN:** Okay. So there's a couple shades of blue here. There's a dark blue and
22 a light blue. Which one actually exceeds the project depth? The dark, the light or both?

1 **Mr. O'Kane:** The project depth here is 36 feet. Could we back out and go to the color ram?
2 The color legion? Not that's a different image, that's a different product, a different ram. The
3 legion must be on a different exhibit. So if you can zoom into that area we can actually read
4 the numbers. Find a baby blue area and zoom in. So it looks like baby blue is from 44 to 40
5 feet. So anything you see in baby blue is between 40 and 44 feet in depth.

6 **CAPT WELBORN:** Okay, thank you. And can you zoom back out a little bit. One more. And
7 one more. Pull that to the right just little. Okay. So Mr. O'Kane given the colors of the light
8 blue and the dark blue and the approach on the left side there leading up, so up to the right
9 upper corner into Widener 11 through Widener 11 and then exiting Widener 11 do you see any
10 numbers in there that would indicate that a ship drafting 30 feet, do you see any indication that
11 a ship would run aground in any of those spaces?

12 **Mr. O'Kane:** No, sir.

13 **CAPT WELBORN:** Let the record reflect that the witness said no. So this survey you said
14 was taken on September 11th, three days after the GOLDEN RAY ran aground.

15 **Mr. O'Kane:** Yes, sir.

16 **CAPT WELBORN:** Okay. Do you know or have you seen in your position substantial
17 changes to this waterway that could potentially occur over a three day period?

18 **Mr. O'Kane:** No, sir.

19 **CAPT WELBORN:** Do you see scouring that just appears over a very short period?

20 **Mr. O'Kane:** No, sir.

21 **CAPT WELBORN:** Okay so this representation of the waterway taken three days after the
22 grounding, would that be an accurate representation of what the waterway looked like on the
23 8th?

1 **Mr. O'Kane:** Yes.

2 **CAPT WELBORN:** In your opinion.

3 **Mr. O'Kane:** Yes, sir.

4 **CAPT WELBORN:** Okay. Alright any other questions SIS's, PII's?

5 **WIT:** No questions.

6 **CAPT WELBORN:** Thank you, sir. I do appreciate it. Okay Mr. O'Kane we do appreciate you
7 coming out today. Thank you so very much. We do reserve the right to recall you through the
8 end of the hearing, which will be sometime next week. So we would appreciate it if you
9 remained available. Thank you, sir. The witness is dismissed. At this time the local time is
10 1:03. We have completed with our witnesses for today. So at this time the hearing stands
11 adjourned until tomorrow the 16th of September.

12 *The hearing adjourned at 1:03, 15 September 2020.*

13 **CAPT WELBORN:** So we're back on the record at 1:05. My mistake we actually have a little
14 bit more business to attend to. Mr. Willett did you want to include Exhibit 5 on the record?

15 **Mr. Willett:** I did.

16 **CAPT WELBORN:** Okay. So any objections from our SIS's.

17 **WIT:** No objection.

18 **CAPT WELBORN:** No objection. Republic of Marshall Island, NTSB, any objections? None
19 heard we will check with NTSB. Any objection from KMST?

20 **Recorder:** No objection.

21 **CAPT WELBORN:** No objection from KMST. PII's any objection?

22 **WIT:** Let me check.

23 **CAPT WELBORN:** Yes, sir. Standing by we will come back to that.

1 **WIT:** No objection.

2 **CAPT WELBORN:** Thank you very much. No objection from the PII's regarding Exhibit 5. So
3 today, we heard from Mr. Steve Farley, the lead foreman of the Brunswick stevedores. He
4 spoke about unloading and loading RORO ships in general and specifically, on the GOLDEN
5 RAY and where vehicles were stowed on the GOLDEN RAY. He also discussed the lashings
6 in use on the GOLDEN RAY and how they were strapped to the vehicles on the GOLDEN
7 RAY. If you wish to see photographs of the lashings on the GOLDEN RAY prior to the incident,
8 please refer to CG Exhibit 01 presented during yesterday's session. It is available to the public
9 in the media news room.

10 Second we heard from Mr. Jason O'Kane, Chief of Navigation in the U.S. Army Corps of
11 Engineers. He spoke about surveys done in the Brunswick Harbor to determine if any objects
12 had fallen off the GOLDEN RAY after the incident and the depth of the water through which the
13 GOLDEN RAY transited. Coast Guard Exhibit 3 A/B; Coast Guard Exhibit 4 A/B; and Coast
14 Guard Exhibit 5 were entered into the record, which included a combined multibeam product, a
15 sidescan product, and a post-incident product creation created by the U.S. Army Corps of
16 Engineers.

17 Should any person have, or believe he or she has information not brought forward but which
18 might be of direct significance, that person is urged to bring that information to my attention by
19 emailing: USCGGoldenRay@gmail.com.

20 During tomorrow's session, we will be hearing from Mr. Michael Mavrinac of Hyundai Glovis;
21 Mr. Samy Maatki [SAMY MAHT-KEY] of Norton Lilly; and Mr. Hyun Jip Choi [HI-YUN GIP
22 CHOY] of G-Marine. Thank you again for attending today. It is now 1:07, hearing session day
23 two is now adjourned.

1 *The hearing adjourned at 1:07, 15 September 2020.*

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1 UNITED STATES OF AMERICA

2 UNITED STATES COAST GUARD

3 In the Matter of:

4 THE MARINE BOARD OF INVESTIGATION

5 INTO THE CAPSIZING OF THE M/V GOLDEN RAY

6 ON 8 SEPTEMBER 2019 WHILE TRANSITING THE ST. SIMONS SOUND IN BRUNSWICK,

7 GEORGIA

8 APPEARANCE SHEET:

9 The following Board Members and Witnesses appeared on 16 September 2020.

10 CAPTAIN BLAKE WELBORN, USCG, Chair;

11 Mr. LEE WILLETT, USCG;

12 Members,

13 and

14 LIEUTENANT COMMANDER STEPHAINE MOORE, USCG, Member and Recorder.

15 Witness – Mr. Mike Mavrinac

16 Mr. Samy Maatki

17 Mr. Hyun Jip Choi

18 GOLDEN RAY Hearing

19 16 September 2020

20 **CAPT Welborn:** The time now is 11 O'clock. We are back on the record in the matter of: the
21 capsizing of the GOLDEN RAY on September 8, 2019 while transiting the St. Simons Sound in
22 Brunswick, GA. A little bit information last night Hurricane Sally, a Category 3 storm made
23 impact in the Central Gulf of Mexico near Gulf Shores. Our thoughts and prayers are with

1 those that are impacted and those who yet may be impacted by the storm as it continues
2 inland. Being stationed in the Eighth District and also working those areas it hits close to
3 heart. I think most of my shipmates in the New Orleans area were spared, but those folks that
4 are East of us were severely impacted. So again we're thinking about those folks today.
5 Some local news our local area was impacted overnight. We received around 5 inches of rain
6 in about a 4 hour period which caused the library that we were previously meeting in to be
7 flooded, at least of the meeting spaces that we were in. Subsequently we located to another
8 location this morning and I want to say thank you to our team for doing such a fabulous job
9 getting us moved and set up so quickly and back online. I do apologize for the 30 minute
10 delay.

11 So moving on. Good morning, ladies and gentlemen. Today is Wednesday, September 16,
12 2020. This is the third day of the public hearing into the capsizing of the GOLDEN RAY. My
13 name is CAPT Blake Welborn and I am the Lead Investigating Officer for this 7th District
14 Formal Investigation. The Commander, 7th District, has convened this investigation under the
15 authority of Title 46, United States Code, Section 6301 and Title 46, Code of Federal
16 Regulations, Part 4, to investigate the facts and circumstances surrounding the capsizing of
17 the GOLDEN RAY. This investigation was mutually agreed upon to be a joint effort between
18 the ship's flag state, the Republic of the Marshall Islands, the United States National
19 Transportation Safety Board, and the Korean Maritime Safety Tribunal, and the U.S. Coast
20 Guard.

21 Present today, other than myself, are the following members of this Formal Investigation: Mr.
22 Lee Willett and LCDR Stephanie Moore, also serving as our Recorder. And legal counsel to
23 this investigation is LT Megan Gold.

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

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

5 In addition, the Korean Maritime Safety Tribunal personnel have given me questions to ask on
6 their behalf and will be monitoring our LiveStream feed. I will note when the time arises for me
7 to ask the questions posed by the KMST.

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

14 For those of you participating via phone or video, I ask that you mute yourself until I've
15 recognized you for your questions unless you wish to make an objection. All media inquiries
16 and comments regarding the hearing should be sent
17 to GoldenRayPublicHearing@gmail.com.

18 The Coast Guard has designated Parties In Interest to this investigation. I have designated the
19 following organizations and individuals as Parties in Interest: the Brunswick Bar Pilots
20 Association; including Captain Bruce Fendig and Captain Jonathan Tennant; and the Owners
21 of the GOLDEN RAY, including Hyundai Glovis and G-Marine. The space charterer, Liberty
22 Global Logistics, was previously designated as a Party In Interest but I have withdrawn their
23 designation given – at their request. The lead counsel for the Brunswick Bar Pilots Association,

1 Captain Fendig, and Captain Tennant will be monitoring the live feed of these presentations or
2 these proceedings but will not otherwise be appearing at this session. The lead counsel for the
3 Owners of the GOLDEN RAY, including Hyundai Glovis and G-Marine, are appearing by
4 phone with a representative physically here.

5 Moving forward, the SISs, PIs, and I have stipulated to the foundation and authentication of
6 the majority of the exhibits that will be entered into the record. Therefore, I will not be asking
7 for objections, unless otherwise stated.

8 The Coast Guard now calls the following witness, Mr. Mike Mavrinac of Hyundai Glovis.

9 **Mr. Mavrinac:** Good morning Captain.

10 **CAPT WELBORN:** Good morning, sir.

11 **Recorder:** Mr. Mavrinac could you please stand and raise your right hand?

12 A false statement given to an agency of the United States is punishable by fine and or
13 imprisonment under 18 United States Code 1001. Knowing this do you solemnly swear that
14 the testimony you're about to give will be the truth, the whole truth and nothing but the truth so
15 help you God?

16 **Mr. Mavrinac:** I do.

17 **Recorder:** Thank you Mr. Mavrinac, please be seated. Mr. Willett will now do your lead
18 questioning.

19 **Mr. Willett:** Mr. Mavrinac would you please state your name and spell your last name for the
20 record?

21 **Mr. Mavrinac:** Michael Mavrinac, M-A-V-R-I-N-A-C.

22 **Mr. Willett:** Are you represented by counsel?

23 **Mr. Mavrinac:** The company is counsel represented. Not myself personally.

1 **Mr. Willett:** Have you been designated a party in interest?

2 **Mr. Mavrinac:** Yes.

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

4 **Mr. Mavrinac:** No.

5 **Mr. Willett:** Can you give us a brief summary of your background and your experience?

6 **Mr. Mavrinac:** I graduated from Maritime College and have been working with [in audible] for
7 about 10 years now as a port deputy planner and operations manager.

8 **Mr. Willett:** What is your current employer?

9 **Mr. Mavrinac:** Hyundai Glovis.

10 **Mr. Willett:** What position do you hold there?

11 **Mr. Mavrinac:** Operations Manager.

12 **Mr. Willett:** How long have you held that job?

13 **Mr. Mavrinac:** Currently about a year and half.

14 **Mr. Willett:** Have you received any specific training for that position?

15 **Mr. Mavrinac:** Yes. The first month was on the job training with my current supervisor.

16 **Mr. Willett:** Who is your current supervisor?

17 **Mr. Mavrinac:** James Jay King.

18 **Mr. Willett:** What was your interaction with the GOLDEN RAY?

19 **Mr. Mavrinac:** I am the Operations Manager so my interaction with the GOLDEN RAY was
20 putting the schedule – the working program and schedule out for the vessel on what ports they
21 could call and when they would be working. And also moving the vessel in and out of each
22 port while managing the stevedores and superintendents.

1 **Mr. Willett:** Do you recall the GOLDEN RAY's planned voyage of the months of August and
2 September of 2019?

3 **Mr. Mavrinac:** Some of it, yes.

4 **Mr. Willett:** Could you list the ones that you remember?

5 **Mr. Mavrinac:** The vessel went to Vera Cruz, Altamira, Freeport and was going to East up to
6 Florida to Jacksonville, Brunswick, Baltimore and Wilmington.

7 **Mr. Willett:** Can you describe the cargo operations that were conduct at Jacksonville?

8 **Mr. Mavrinac:** Jacksonville was a load and discharge.

9 **Mr. Willett:** Do you recall how many vehicles were loaded and unloaded?

10 **Mr. Mavrinac:** I don't recall the number of unload. And I don't know the exact number, but it
11 was around 109 if I remember correctly loaded.

12 **Mr. Willett:** Were you made aware of any problems on the inbound or outbound transit from
13 Jacksonville?

14 **Mr. Mavrinac:** Of the transit, no, sir.

15 **Mr. Willett:** Were there any issues loading or unloading the vehicles in Jacksonville?

16 **Mr. Mavrinac:** No, sir.

17 **Mr. Willett:** Do you recall any impact of the ship's schedule from Hurricane Dorian?

18 **Mr. Mavrinac:** Yes. We delayed the vessel when we left Freeport to come into Jacksonville.

19 **Mr. Willett:** Do you recall how long you delayed the vessel?

20 **Mr. Mavrinac:** Approximately 4 days.

21 **Mr. Willett:** Can you explain the Hyundai Glovis structure in relation to the GOLDEN Ray?

22 **Mr. Mavrinac:** Sorry, you broke up.

1 **Mr. Willett:** Could you, no problem. Can you explain the Hyundai Glovis structure in relation
2 to the GOLDEN RAY?

3 **Mr. Mavrinac:** Well when it comes to the structure from Hyundai Glovis there is a international
4 vessel operator who is from Korea who will manage the vessel as worldwide. And then myself
5 is the local vessel operator who will be working the vessel throughout the U.S. We have a
6 trade team that will review the cargo and talk to the customers about what we have available
7 for states and what they can bring in the load. And then we also have a group in Mexico that
8 will handle local Mexican operations.

9 **Mr. Willett:** So when the vessel leaves Mexico then your team, the North American team
10 takes over in control of the cargo?

11 **Mr. Mavrinac:** We're working hand in hand with the Mexico team. I put out the schedule for
12 Mexico. Additionally the trade team is working with Mexico to see what cargo is available and
13 what will be loaded.

14 **Mr. Willett:** Who's responsible for the day to day operation of the ship?

15 **Mr. Mavrinac:** I would be responsible for the operations of getting the vessel in and out and to
16 a port as per the schedule.

17 **Mr. Willett:** And you work for Hyundai Glovis?

18 **Mr. Mavrinac:** Yes.

19 **Mr. Willett:** Is there another company involved that would be in charge of like what the crew
20 does on a day to day basis, how they load the vessel, particularly on the vessel itself?

21 **Mr. Mavrinac:** Well G-Marine is the technical superintendents that manages the crew inside
22 of it. For the loading and discharge we use [in audible] planning and stowage.

1 **Mr. Willett:** So would Hyundai Glovis or G-Marine be responsible for the safety management
2 system for the GOLDEN RAY?

3 **Mr. Mavrinac:** G-Marine.

4 **Mr. Willett:** And do you know if they hold the document compliance for the GOLDEN RAY?

5 **Mr. Mavrinac:** I do not know.

6 **Mr. Willett:** Okay. Can you describe the loading operation for the GOLDEN RAY in
7 Brunswick?

8 **Mr. Mavrinac:** In Brunswick? It was a load and discharge.

9 **Mr. Willett:** Does that make it more complicated?

10 **Mr. Mavrinac:** No, sir. It's something we do regularly.

11 **Mr. Willett:** Was the ship on schedule when it reach Brunswick?

12 **Mr. Mavrinac:** It was slightly delayed due to in and out traffic, so it was very close to schedule
13 and schedule was updated.

14 **Mr. Willett:** Do you hire the ship's agent?

15 **Mr. Mavrinac:** I am the one who hired the ship's agent.

16 **Mr. Willett:** Can you describe what the ship agent does for the vessel.

17 **Mr. Mavrinac:** The ship agent is the person that would be working and setting up tugs, Pilots.
18 He will be entering and clearing the vessel and anything he has to do to get done. Change,
19 help with crew changes and things of that nature.

20 **Mr. Willett:** Did you physically or did you communicate with the ship's agent in the Port of
21 Brunswick?

22 **Mr. Mavrinac:** Yes I communicate with all the ships agents for every port we're going to be in.

23 **Mr. Willett:** And do you recall who it actually was?

1 **Mr. Mavrinac:** Peter Harrison.

2 **Mr. Willett:** Do you know who he works for?

3 **Mr. Mavrinac:** He works for Norton Lilly.

4 **Mr. Willett:** Does Norton Lilly do anything else other than what you described already what
5 the ship agent does?

6 **Mr. Mavrinac:** Yes there's a facet of Norton Lilly that does our stowage and planning.

7 **Mr. Willett:** So for the preliminary development of the stowage plan for the GOLDEN RAY in
8 regards to Brunswick what was your role in that?

9 **Mr. Mavrinac:** Well I, Danny Matthew from Norton Lilly is the one that does the preliminary
10 stowage. Me and him are speaking on a daily basis to confirm what we have to load and
11 discharge and making sure that we can do it under the operational times I've given and the
12 nature of that.

13 **Mr. Willett:** So that interaction you had with Danny Matthew who is Norton Lilly, you include
14 vehicle weights, models, where they're going to be loaded?

15 **Mr. Mavrinac:** So we're talking about, we have a relief that comes out and we're looking at
16 that relief versus what we're loading. You know, vehicle, model and identification to know what
17 volume and what type of cargo.

18 **Mr. Willett:** So you would have the relief and then you know what vehicles are at which port, it
19 could be potentially ready to loaded?

20 **Mr. Mavrinac:** Correct.

21 **Mr. Willett:** And then you provide that information to Mr. Maatki with Norton Lilly?

1 **Mr. Mavrinac:** Either I provide it or our trade team will provide it because it comes from the
2 terminal operator of core processor to us. Usually will send Samy a copy, but if Samy is not on
3 copied then we will forward it to him so that he has that information.

4 **Mr. Willett:** So you know all the vehicles and which ones are going to be going to, for
5 example Brunswick, which ones are going to be offloaded, which ones you would like to be
6 loaded and Mr. Maatki he actually develops the arrangement of where they're going to be
7 loaded on the vessel?

8 **Mr. Mavrinac:** Yes.

9 **Mr. Willett:** What considerations do you take when you develop that load plan? That
10 preliminary stow plan that you give to the ship.

11 **Mr. Mavrinac:** Well again Samy is the one preparing that, but we're looking at it, I'm looking at
12 it from an operational standpoint to make sure we can execute it effectively what we're loading,
13 and what we're discharging. You know that the stow is operationally acceptable and we're not
14 blocking in any cargo and that we can get done in the timeline given.

15 **Mr. Willett:** Do you communicate at all with the local stevedores?

16 **Mr. Mavrinac:** Yes I speak with the stevedores.

17 **Mr. Willett:** So in the case of the GOLDEN RAY did you talk with Mr. Farley?

18 **Mr. Mavrinac:** Yes I spoke with Keith Farley multiple times.

19 **Mr. Willett:** What would your communications be like? What would be included?

20 **Mr. Mavrinac:** We would be talking – he's obviously my boots on ground when it comes to
21 loading the vessel and everything else. So I would have him, you know we would be talking
22 about what cargo is available, where it is in the terminal, where we're discharging to so we
23 know what's going out to the vessel.

1 **Mr. Willett:** If there was an issue with vehicles, maybe they wouldn't all fit, maybe they're
2 going to go on different decks than the original plan would he talk to you about that? Or does
3 he get involved with that at all or not?

4 **Mr. Mavrinac:** Well on that case if there's, you know if he thinks something not going to fit or
5 there's going to be a change that he sees, once he sees that pre-stow plan, he will
6 communicate with myself or Samy and say you know there maybe – I have concerns about
7 this or that and then we'll adjust as we see fit. You know on this date we did have some tighter
8 space and we added additional cargo downstairs on the main deck, deck 5.

9 **Mr. Willett:** So in this particular case did Mr. Farley look at the pre-stow that he received and
10 he called you and said I don't think they're all going to fit on 12 and 13 we might have to use
11 another deck?

12 **Mr. Mavrinac:** Are you asking if that was the precise nature of the conversation?

13 **Mr. Willett:** Correct.

14 **Counsel:** That's consistent with prior testimony. You might ask him a broader question he
15 might be able to help you.

16 **Mr. Willett:** Okay. In this particular case for the GOLDEN RAY Mr. Farley got a pre-stow
17 plan, correct?

18 **Mr. Mavrinac:** Yes.

19 **Mr. Willett:** And on that pre-stow plan he was told where the vehicles were going to go on the
20 vessel?

21 **Mr. Mavrinac:** Yes.

1 **Mr. Willett:** And he's looking at it and he knows how many they're going to offload, and he's
2 loading all vehicles that are a little bit larger and more in the amount, would he call you and say
3 I don't think they're all going to fit on these two decks?

4 **Mr. Mavrinac:** Well in this certain situation Samy or Ray let him know that we were probably
5 going to add – we may be adding additional cargo for deck 5. He did not call me until he got
6 on board.

7 **Mr. Willett:** Okay. And were your communications with the stevedores and the people that
8 are going to be loading the vehicles on the vessel and off-loading, do you give Mr. Farley the
9 pre-stow plan or does Mr. Maatki give Mr. Farley the pre-stow plan?

10 **Mr. Mavrinac:** Samy Maatki done got the pre-stow plan.

11 **Mr. Willett:** So just to sum up you know what cars need to come off and what cars are going
12 to be going on in each port. You kind of have the global picture and then you give that Norton
13 Lilly, Mr. Maatki and he does the floor plan so to speak of each port and he will give that to the
14 ship? And he also gives it to the stevedores. Is that correct?

15 **Mr. Mavrinac:** Correct.

16 **Mr. Willett:** Okay. So with that pre-stow plan do you know how far in advance the vessel
17 would get that pre-stow plan?

18 **Mr. Mavrinac:** Each certain one is about 30 hours ahead of time. Give or take.

19 **Mr. Willett:** So one question the stability issue of the vessel. Does anybody at Hyundai
20 Glovis on the shore side do any calculations, or rough calculations for the vessel's stability
21 when it comes in and out of port prior to it departs, or prior to it gets there when they have a
22 pre-stow plan, they know they're going to have so many vehicles here and there. Does
23 anybody do any rough calculations shore based for the GOLDEN RAY, or did they?

1 **Mr. Mavrinac:** No that is all done on the vessel. The vessel is the one that knows what's
2 going on. They're the ones who are doing it, stability calculations.

3 **Mr. Willett:** Has there been a case where the GOLDEN RAY reached back out to you or to
4 Samy and said hey I don't think our stability is going to be correct here we need to adjust the
5 stow plan?

6 **Mr. Mavrinac:** For the GOLDEN RAY to my knowledge the Captain or the crew, no one ever
7 reached out and said there was an issue.

8 **Mr. Willett:** For any vessels you've worked with before has that ever happened?

9 **Mr. Mavrinac:** It has happened prior.

10 **Mr. Willett:** So who would contact you the Captain or the Chief Mate, or who?

11 **Mr. Mavrinac:** It would be an email from the vessel so you would assume either, most likely
12 it's the Chief Mate or the Captain if there's an email directly from the vessel. And they would
13 reach out and say from the pre-stow plan there may be an issue.

14 **Mr. Willett:** And when that happens you guys adjust?

15 **Mr. Mavrinac:** Yes. We have, you know I have a four step process that I use that's kind of
16 industry standard for adjusting. Once any ship reaches out and says that there may be an
17 issue and they're uncomfortable and stuff.

18 **Mr. Willett:** So what would be the other steps? You said you had a four step plan.

19 **Mr. Mavrinac:** Yes. So in the case of, this was about 4 or 5 years ago I remember, I was with
20 a different line, but we had a vessel reach and said you know they weren't comfortable with the
21 stow plan. So my four step plan the first thing I ask is can you adjust your ballast because I
22 don't what the ballast is to make the vessel stable. If he says no the second step that I use is
23 to see if he can add ballast. If he says that won't work either then we look at you know shifting

1 or moving cargo with adjusting ballast. And the fourth and last step is usually doing all three
2 prior plus adding fuel to the vessel.

3 **Mr. Willett:** So you mentioned that this was from a previous company, correct?

4 **Mr. Mavrinac:** Correct.

5 **Mr. Willett:** Does Hyundai Glovis or the company you work for, did they have something
6 written down to guide you on what you need to do if a vessel contacts you and says hey our
7 stability is not lining up right we need to adjust?

8 **Mr. Mavrinac:** In that case I will use the same four that we, it's kind of industry standard to
9 use. Additionally we'll speak to Korea and they will [in audible] as well to see if there are any
10 other issues that they can render.

11 **Mr. Willett:** So in the case of a Hyundai vessel if they got – if you got word back from the
12 Captain on the email and it said hey our GM, our stability is not right you would get that back,
13 the vessel would stay there at port or where they reported it?

14 **Mr. Mavrinac:** Yes. We're never going to let a vessel leave if there's stability issues.

15 **Mr. Willett:** And then you would have to contact back to Korea. I'm sorry.

16 **Mr. Mavrinac:** Yeah if the crew is not comfortable with leaving due to stability or any issues
17 we're not going to press them to leave. We will remedy the issue then we'll sail.

18 **Mr. Willett:** But to remedy the issue would you have to go back to Korea and let them know
19 what was happening and get guidance from Korea?

20 **Mr. Mavrinac:** So what I would do is I would send an email back to the Captain and say let
21 me know what your issues are, here are the ways you can fix them, I would put Korea in copy
22 so they could also see it and then it would most likely be a phone call to the global vessel
23 operator.

1 **Mr. Willett:** Okay. Do you know if Hyundai Glovis vessels are allowed to take or discharge
2 ballast in the United States while they are dock?

3 **Mr. Mavrinac:** To my knowledge they can adjust ballast.

4 **Mr. Willett:** That's it just adjust, not take on or discharge?

5 **Mr. Mavrinac:** Discharge no. If they need to take on we can usually do something or get to
6 the local to take care of their vessel.

7 **Mr. Willett:** Do you know if the GOLDEN RAY, was it tidal restricted?

8 **Counsel:** In Brunswick?

9 **Mr. Willett:** Correct.

10 **Mr. Mavrinac:** For what I remember no it was not.

11 **Mr. Willett:** Okay. So just to sum up if there was an issue with the stability of the GOLDEN
12 RAY you don't have, I think you said, you didn't have a written – do you have any written
13 guidance on what steps you were going to take. It's just kind of a rule that you use in this
14 industry.

15 **Mr. Mavrinac:** Correct.

16 **Mr. Willett:** And you said in a previous employment that had happened. But while you've
17 been working for Hyundai Glovis has a vessel ever contacted you and said our stability is not
18 correct we need to adjust?

19 **Mr. Mavrinac:** To me directly, no.

20 **Mr. Willett:** Captain Welborn I've completed my questions. I turn it back over to you, sir.

21 **CAPT WELBORN:** Thank you Mr. Willett I do appreciate that. So now we'll go around our
22 SIS's and see if there are any questions from them. So starting off with the Republic of the
23 Marshalls Island. Mr. Bremer do you have questions for this witness?

1 **Mr. Bremer:** Yes Captain. Mr. Mavrinac I just want to go back to a previous response you
2 had provided just for some clarification. So the entity that's responsible for the day to day
3 maintenance of the vessel and technical operations is G-Marine, correct?

4 **Mr. Mavrinac:** Correct. They are the technical superintendent.

5 **Mr. Bremer:** Okay thank you. And to your knowledge your time with Hyundai Glovis in the
6 position you're in and dealing with the GOLDEN RAY have you been notified in the past of any
7 mechanical issues whether it's machinery, manning issues, anything in the past?

8 **Mr. Mavrinac:** Prior to this certain instance no I have not been directly contacted by G-
9 Marine. Usually that goes through headquarters and then I will get something headquarters.

10 **Mr. Bremer:** Okay thank you. And in your experience, the GOLDEN RAY, was it similar
11 design layout as other car truck carriers that you've worked with in the past?

12 **Mr. Mavrinac:** Yes, close.

13 **Mr. Bremer:** Okay. No significant features that would make it significantly different than other
14 vessels that you deal with?

15 **Mr. Mavrinac:** From the stowage aspect, no. Very close.

16 **Mr. Bremer:** Okay and my last question for the specific haul to Brunswick, just as clarification
17 did you receive any indication whether written, phone call that there would be an issue with the
18 GOLDEN RAY's stability upon departure?

19 **Mr. Mavrinac:** Not at all. It went as per normal.

20 **Mr. Bremer:** Okay thank you Mr. Mavrinac. No further questions.

21 **CAPT WELBORN:** Thank you Mr. Bremer. Now we'll ask the NTSB, Captain Flaherty do you
22 have any questions for this witness? Captain Flaherty you'll need to unmute yourself.

1 **NTSB:** Sorry about that. Yes I do. Sir, you started to interact with the vessel and the stowage
2 plan after it departed Mexico, is that correct?

3 **Mr. Mavrinac:** As it pertains to the stowage plan you're asking?

4 **NTSB:** Yes.

5 **Mr. Mavrinac:** Yes after it leaves Mexico.

6 **NTSB:** So the next port after it departed Mexico was Freeport, Texas?

7 **Mr. Mavrinac:** Correct.

8 **NTSB:** Were there any issues with the loading or unloading that you're aware of at Freeport,
9 Texas?

10 **Mr. Mavrinac:** Not that I'm aware of. It was a large volume load, but nothing out of the
11 ordinary.

12 **NTSB:** Are you involved or at least informed if the vessel is taking on any fuel?

13 **Mr. Mavrinac:** I'm informed, but not involved at all, no. That goes directly to headquarters.

14 **NTSB:** Do you know if the vessel took on any fuel in Freeport, Texas?

15 **Mr. Mavrinac:** If my memory serves yes it took on fuel in Freeport.

16 **NTSB:** By chance do you know how much?

17 **Mr. Mavrinac:** No, sir, I do not remember.

18 **NTSB:** And then how was your interaction with the vessel due to the hurricane that was
19 proceeding up the coast?

20 **Mr. Mavrinac:** Once it left Freeport we saw there was, you know a tropical disturbance
21 coming through and it turned into hurricane. I was speaking with the vessel and headquarters
22 to see what the best course of action was. And between the three of us we all agreed that

1 slowing the vessel down and going behind the storm, even though it lost time would be the
2 safest way to go.

3 **NTSB:** And when you say your interaction with the vessel was that via email?

4 **Mr. Mavrinac:** Email and phone. You know the vessels very often pick up the phone and call
5 me.

6 **NTSB:** Was the decision on delaying the vessel due to the hurricane was that by phone or by
7 email or both?

8 **Mr. Mavrinac:** It was both and then I sent out an email with an updated local program, the
9 schedule that slows her down so she got that information as well.

10 **NTSB:** So when you were talking on the phone do you recall who you were interacting with on
11 the ship via phone?

12 **Mr. Mavrinac:** It was the Captain and the Chief Mate.

13 **NTSB:** Alright so both were on the phone.

14 **Mr. Mavrinac:** Yes.

15 **NTSB:** Did they express any concerns about the delays?

16 **Mr. Mavrinac:** No, not at all.

17 **NTSB:** Did you discuss the stability of the vessel or how the storm may cause them to maybe
18 take on additional fuel later on in the voyage?

19 **Mr. Mavrinac:** No the stability is up to the vessel itself. And long as they're safe and
20 comfortable I don't really bring anything up, that's for them to bring to me or to mostly to
21 headquarters. That is for the vessel to decide.

22 **NTSB:** Understood. Just to clarify after it departed Freeport was the next port going to be
23 Jacksonville or was it going to be another port?

1 **Mr. Mavrinac:** On the first schedule it was Brunswick. We then adjusted it because we went
2 rotationally geographically due to the storm running up the coast. It was safer for us to go to
3 Jacksonville then Brunswick.

4 **NTSB:** Did the ship that you're aware of take on any fuel in Jacksonville?

5 **Mr. Mavrinac:** Not that I'm aware of.

6 **NTSB:** Were there any issues with the loading or unloading that you are aware of in
7 Jacksonville?

8 **Mr. Mavrinac:** No, sir.

9 **NTSB:** Now when you get a preliminary load plan what kind of calculations are you
10 conducting for the vessel to ensure that the – that the new, the off load and the on load will be
11 able to be done?

12 **Mr. Mavrinac:** There's no real calculations that I'm doing. I am reviewing the stowage plan
13 for the large scale. Samy is the one that is doing the space calculations and the crew is doing
14 the, you know anything for stability. I just oversee it to make sure there's not any huge
15 discrepancies.

16 **NTSB:** So what information are you receiving?

17 **Mr. Mavrinac:** As it pertains to the stowage plan?

18 **NTSB:** Yes.

19 **Mr. Mavrinac:** I am receiving the, obviously I have the cars that are going to be discharged
20 and then we have review slips for what will be loaded and I'm just looking to make sure that
21 Samy's plan doesn't have anything that I'm concerned with.

22 **NTSB:** Do you recall the weight difference between the vessel – vehicles that were off loaded
23 and the vehicles that were on loaded?

1 **Mr. Mavrinac:** No, sir.

2 **NTSB:** Was the weight difference a concern to anyone at the time?

3 **Counsel:** Are you asking whether it was concern to him? I'm not sure he can answer.

4 **NTSB:** Alright, well concern, specifically a concern to you, sir and an add on if anyone else

5 expressed a concern of the weight to you specifically?

6 **Mr. Mavrinac:** No concerns from me and nothing to me specifically.

7 **NTSB:** So when the vessel was in port and the on load and off load was taking place were

8 you aware of any additional changes or anything that affected the on load or the off load?

9 **Mr. Mavrinac:** For which port are we talking?

10 **NTSB:** I'm sorry, Brunswick.

11 **Mr. Mavrinac:** No, sir. There were a few that were not put on board due to some issues with

12 the cargo, but it was, if I remember it was three. So it was very minimal.

13 **NTSB:** That's three vehicles?

14 **Mr. Mavrinac:** Yes.

15 **NTSB:** And the next port of call that the vessel was going to?

16 **Mr. Mavrinac:** Baltimore.

17 **NTSB:** And then after Baltimore what was the – was the original plan changed due to the

18 hurricane or was it still maintained?

19 **Mr. Mavrinac:** After, we delayed into Baltimore and the rotation stayed the same, Baltimore,

20 Wilmington.

21 **NTSB:** Wilmington, Delaware?

22 **Mr. Mavrinac:** Yes.

1 **NTSB:** Are you aware of any arrangements that were made at either Baltimore or Wilmington,
2 Delaware for the vessel to take on fuel?

3 **Mr. Mavrinac:** To my knowledge I don't remember anything.

4 **NTSB:** Alright. Well thank you very much for your time, sir. Captain Welborn that's all my
5 questions.

6 **CAPT WELBORN:** Thank you Captain Flaherty I do appreciate that. We are standing by for a
7 couple of questions from KMST and they are coming in. So again these questions are from
8 KMST. Mr. Mavrinac was the final stowage plan provided to the GOLDEN RAY before
9 departure from the Port of Brunswick.

10 **Mr. Mavrinac:** The final stowage plan was not. However, when it comes to the final plan the
11 vessel itself is doing the count and seeing what's on board. Additionally there's a handwritten
12 plan of what cargo was put on board that should be given to the vessel prior to departure from
13 the stevedores.

14 **CAPT WELBORN:** Understood. There's a bit of delay and the questions come in from KMST,
15 so Mr. Mavrinac I appreciate your indulgence as we wait for those questions to roll in.

16 **Mr. Mavrinac:** Yes, sir.

17 **CAPT WELBORN:** They just arrived. Mr. Mavrinac, again question from KMST. Have you
18 ever known a car carrier to leave port without having been provided the final stow plan?

19 **Mr. Mavrinac:** Again like we just said they, the crew does the count. So they have their own
20 count. They should be able to update that. And the stevedores should be giving them a
21 document with all the handwritten numbers on it. The final plan, there's multiple time where a
22 vessel will go out with a final plan from a planner. But they should again locally be referring to
23 what's on board.

1 **CAPT WELBORN:** Understood. Do you know how a ship's crew calculates the stability of the
2 vessel when they are not provided with a final stow plan?

3 **Mr. Mavrinac:** I do not specifically know. That's done on board.

4 **CAPT WELBORN:** Understood, sir. Any more follow-on questions from KMST?

5 **Recorder:** Yes, Captain.

6 **CAPT WELBORN:** Having another one come in. When the final load plan, excuse me, was
7 the final load plan provided to the GOLDEN RAY before departure from the Port of Brunswick?

8 **Mr. Mavrinac:** Again the final load plan from Samy was not provided upon sailing.

9 **Counsel:** Can I just give a point of clarification Captain. Are we asking about the final
10 stowage plan prepared by Mr. Matthew or the final plan prepared by the ship's crew and the
11 stevedore?

12 **CAPT WELBORN:** I would have to defer that question to KMST because these questions are
13 coming directly from them.

14 **Counsel:** Can the witness answer as those, maybe a broader answer thinking it was the later.

15 **CAPT WELBORN:** Sure, absolutely.

16 **Mr. Mavrinac:** So as stated before the final load plans of Samy Matthew was not given.
17 However, the stevedore gives a handwritten plan of what's on board. That should have been
18 handed to the crew prior to sailing. Additionally, the pre-stow plan is a working document. It
19 does not have exact specifications of where the cargo is going. It's more of a broad step. The
20 crew then takes that pre-stow plan and will count so they know what cargo is where. And then
21 they should have their own final plan as well that they can run their calculations off of.

22 **CAPT WELBORN:** Understood. Any follow-on questions from KMST?

23 **Recorder:** No follow-up questions Captain.

1 **CAPT WELBORN:** No follow-on questions from KMST. Mr. Mavrinac I do have a couple
2 questions here. Mr. Mavrinac the SILVER RAY is a sister ship of the GOLDEN RAY, is that
3 correct?

4 **Mr. Mavrinac:** From my knowledge, yes.

5 **CAPT WELBORN:** Okay. Have you handled the SILVER RAY being a Hyundai Glovis ship
6 also?

7 **Mr. Mavrinac:** Prior to incident or post?

8 **CAPT WELBORN:** Either at any time?

9 **Mr. Mavrinac:** Yes.

10 **CAPT WELBORN:** Okay. So you've developed, in the process you've aided in the
11 development of a load plan for the SILVER RAY?

12 **Mr. Mavrinac:** Yes.

13 **CAPT WELBORN:** Okay. Have you noted any issues or has there been any pushback from
14 the SILVER RAY or her crew regarding stability issues or load plan?

15 **Mr. Mavrinac:** No, sir there has not been.

16 **CAPT WELBORN:** Okay. Do you know, and again I'm asking this, this is a little bit out of your
17 swim lane and I understand that, do you know what's used, what type of system is used on
18 board the ship that calculates ship's stability?

19 **Mr. Mavrinac:** Are you talking about the physical computer onboard what they're using?

20 **CAPT WELBORN:** Yes.

21 **Mr. Mavrinac:** It's a load con computer.

22 **CAPT WELBORN:** Load con computer. Is that load con monitored externally to the ship?

23 **Mr. Mavrinac:** Externally to the U.S., no. I do not see that at all.

1 **CAPT WELBORN:** Okay. So you get no input, no data from the load con, that's solely
2 maintained on the ship?

3 **Mr. Mavrinac:** From my knowledge, yes.

4 **CAPT WELBORN:** Okay, alright. Is there an after departure report submitted from the ship
5 regarding what they took on, they discharged? Do you get some feedback from that process?

6 **Mr. Mavrinac:** I get a departure report from the vessel. And what I'm looking at is the speed
7 she's moving at, DT, or ATD her actual time of departure and her ETA to the next port. That's
8 what I'm – but no ----

9 **CAPT WELBORN:** Understood. Pardon me for interrupting. No vehicle counts or changes in
10 loading, there's no feedback regarding that?

11 **Mr. Mavrinac:** Normally, no, sir.

12 **CAPT WELBORN:** Understood. Because the vessel is in compliance with the load plan more
13 often than not?

14 **Mr. Mavrinac:** Correct. And if there is an issue on the very off chance then they would
15 probably send a separate email.

16 **CAPT WELBORN:** Understood. So you commented that before the ship departs they
17 typically receive something from the stevedores that says what was loaded. You said it was a
18 handwritten report, is that correct, sir?

19 **Mr. Mavrinac:** Yes, sir. Usually we have, Hyundai Glovis pays what we call a plan clerk that
20 will – their sole job when we're loading a vessel is to go onboard and count the cargo and put it
21 on a document.

22 **CAPT WELBORN:** So that person is in the port, not working with the stevedores, works
23 directly for Hyundai Glovis?

1 **Mr. Mavrinac:** No he's hired by the stevedores, he's called a plan clerk. He's a checker that
2 they will hire for us to do that particular job.

3 **CAPT WELBORN:** Oh okay. Kind of like a quality control person just to make sure.

4 **Mr. Mavrinac:** Just to make sure the numbers are correct.

5 **CAPT WELBORN:** Understood. I get that now. So do you know how long before the ship
6 sails the ship will receive that report from the quality clerk?

7 **Mr. Mavrinac:** That's a number that's really hard to quantify. It just depends on time and how
8 much cargo and everything else. But we try to get it to them as soon as possible once
9 complete.

10 **CAPT WELBORN:** Okay.

11 **Mr. Mavrinac:** I'm not in the physical port to see that. That's their routine that we go with.

12 **CAPT WELBORN:** Understood, sir. And I know a lot of this is something that happens
13 outside of your wheelhouse. It's a process that maybe you're not directly involved in but you
14 see it from afar if you will, is that correct?

15 **Mr. Mavrinac:** Correct.

16 **CAPT WELBORN:** So given the delay that the vessel had because of this tropical weather,
17 you said it was a four day delay is that correct?

18 **Mr. Mavrinac:** If memories serves it was, yes.

19 **CAPT WELBORN:** Okay. So was there any reason, obviously you lost four days, if you said,
20 in the reports you pay very close attention to their actual departure time and their estimated
21 arrival time at the next port. Was the vessel pressure to make up some time to leave port as
22 quickly as possible to turn things around? Was she restricted on tide side hold, any reason
23 this vessel was in a hurry to get out of port?

1 **Mr. Mavrinac:** Not at all. She was not in a hurry at all. In fact in Jacksonville we were not the
2 first ones in we allowed other vessels in just to make sure that the channel was clear. And in
3 Brunswick we laid alongside for longer than normal because we did not rush to get the bulk on.

4 **CAPT WELBORN:** Understood. So if I could add if a vessel had not had the incident and the
5 vessel had continued on the delay then would have just been a domino effect down the road
6 and those four days would have just been lost ultimately?

7 **Mr. Mavrinac:** Yes. The schedule I put out after the hurricane showed a four day delay. We
8 kept that four day delay and there was actually plenty of slack or time within the schedule for
9 additional delays if necessary.

10 **CAPT WELBORN:** Understood. Okay. Well Mr. Mavrinac I'm going to make one more circle
11 around. Actually I'm going to ask our PII's now if our PII's have any questions. Mr. Reisman
12 do you have any questions for this witness.

13 **Mr. Reisman:** Thank you Captain. I just have a couple of questions. Mr. Mavrinac you
14 explained earlier that the ship's crew received information both on it's own and also from the
15 plan clerk with respect to the actual cargo that's loaded on the ship, is that correct?

16 **Mr. Mavrinac:** Correct.

17 **Mr. Reisman:** To your knowledge does the ship rely at all on the pre-stow plan or the final
18 stow plan that they receive from Mr. Massey to calculate the stability of the ship before
19 departure from a particular port?

20 **Mr. Mavrinac:** No that should be done onboard with what they're counting and what they're
21 doing. The crew is the one that is physically onboard they know where the cargo is, they
22 should be using their counts and their documents to make sure that it's correct.

1 **Mr. Reisman:** You mentioned this issue of whether there was any kind of delay as a result of
2 Hurricane Dorian and that you didn't rush out of Brunswick. What is your normal procedure in
3 terms of departing a port after completed – operations are completed?

4 **Mr. Mavrinac:** Normal procedure if it's a discharge only ship we try to sail within an hour of
5 completion. If it's a load ship it's one to one and a half hours so that we can get the ramp and
6 everything secured.

7 **Mr. Reisman:** And is in this instance where you try and shave time off of the departure sailing
8 point in order to save time on your schedule?

9 **Mr. Mavrinac:** Not at all. We actually added time.

10 **Mr. Reisman:** If the ship had contacted you and suggested they wanted to make some
11 changes or corrections or they had issues or concerns of any kind would they have been
12 allowed additional time in Brunswick?

13 **Mr. Mavrinac:** Yes. If they had any questions or concerns they could reach out to me and we
14 will adjust as to what they need.

15 **Mr. Reisman:** Would you ever tell a ship that expressed concerns to you that they needed to
16 depart anyway?

17 **Mr. Mavrinac:** No. If it's unsafe we wait.

18 **Mr. Reisman:** Did you receive any indication, I think you may have been asked this, but just
19 for clarity, any indications from the ship or from the stevedores in Brunswick that there were
20 any concerns about the cargo loading and discharge operation?

21 **Mr. Mavrinac:** None whatsoever.

22 **Mr. Reisman:** Did you receive any indications from the ship or the stevedores at Brunswick
23 that there were any concerns about the stability of the ship?

1 **Mr. Mavrinac:** No. Not at all.

2 **Mr. Reisman:** If you had received any indications or concern about stability of the ship would
3 you have authorized the ship to depart?

4 **Mr. Mavrinac:** Absolutely not.

5 **Mr. Reisman:** Who arranges for the Pilot to arrive at the ship for departure?

6 **Mr. Mavrinac:** The way that works is I'm talking to the stevedores about what we're going to
7 complete and then I will reach out to the agent. We'll talk about a sailing time, we agree to the
8 sailing time, I'm usually the one that makes that decision on when. And then he will reach out
9 to tugs and Pilots to make sure that they're available and set the tugs for time.

10 **Mr. Reisman:** So you're in the middle of that and if you were aware of a concern about the
11 ship or the cargo operation you would be able to delay it's departure?

12 **Mr. Mavrinac:** It would be all stop until we know what's going on.

13 **Mr. Reisman:** Again we talked about this delay was resulting from Hurricane Dorian, did you
14 apply any pressure to the ship's crew to make up time?

15 **Mr. Mavrinac:** Absolutely not.

16 **Mr. Reisman:** Are you familiar with the sail time from, under ordinary conditions, from
17 Jacksonville to Brunswick?

18 **Mr. Mavrinac:** Give or take it's about 8 hours.

19 **Mr. Reisman:** Do you know how many hours they actually took on the GOLDEN RAY to sail
20 from Jacksonville to Brunswick?

21 **Mr. Mavrinac:** Almost double.

22 **Mr. Reisman:** Did you complain to them and tell them they needed to go at a faster speed in
23 order to make up time?

1 **Mr. Mavrinac:** No, not at all.

2 **Mr. Reisman:** Was there any pressure from anybody at Hyundai Glovis on you to accelerate
3 the pace of the ship to make up the time?

4 **Mr. Mavrinac:** No.

5 **Mr. Reisman:** I thank you Mr. Mavrinac. That's all I've got Captain.

6 **CAPT WELBORN:** Thank you, sir. I do appreciate it. So Mr. Gilsenan do you have any
7 questions for this witness?

8 **Mr. Gilsenan:** Sorry about the delay I was unmuting. I have no questions for the witness,
9 thank you.

10 **CAPT WELBORN:** Understood, sir. Thank you very much. So I believe we've covered all of
11 our SIS's and PII's. Mr. Mavrinac I do have one follow-on, well excuse me I don't want to say
12 one because it may evolve into more than one. Since the GOLDEN RAY incident has Hyundai
13 Glovis changed their stability checking plans? Have you changed the SMS? Has there been
14 any changes to loading and stability calculations of vessels since this incident?

15 **Mr. Mavrinac:** To my knowledge locally within the U.S. that still stays within the vessel. And
16 we have not changed anything locally in the U.S.

17 **CAPT WELBORN:** Understood. And has there been any changes made to the loading plan
18 development process?

19 **Mr. Mavrinac:** Are you talking about the pre-stow plan that we send out to the vessels?

20 **CAPT WELBORN:** Yes.

21 **Mr. Mavrinac:** There's been one slight addition that if there's any concerns we will add weight
22 to pre-stow if necessary.

1 **CAPT WELBORN:** Can you clarify that? On weight to pre-stow, I'm not sure what that
2 means.

3 **Mr. Mavrinac:** Weight to the, I don't know if you heard me, weights to the cargo on the pre-
4 stow plan.

5 **CAPT WELBORN:** Okay, so like per unit? Like a car weight or a vehicle weight or a
6 cumulative weight?

7 **Mr. Mavrinac:** It's a cumulative weight per amount of cars that are on the plan.

8 **CAPT WELBORN:** So if we back up a little bit and we look at the call on the Port of
9 Brunswick. The vessel loaded 250ish cars in the Port of Brunswick. They would – there would
10 be a weight amount associated with that number?

11 **Mr. Mavrinac:** There would be – currently there would be a weight amount to anywhere that
12 that cargo is stowed. So we break it down by port of discharge. So there would be a weight at
13 that port of discharge. The only reason we're doing that now is because it helps our
14 stevedores to know where they're putting the cargo. It is not anything that the crew is
15 supposed to use for weights onboard. They have those weights and they do their own
16 calculations.

17 **CAPT WELBORN:** Understood. Okay. Any follow-on questions from SIS's or PII's for this
18 witness?

19 **NTSB:** I have just one follow-on question.

20 **CAPT WELBORN:** Go ahead Captain.

21 **NTSB:** Thank you. Sir, you stated that the ship, they're responsible for the stability
22 calculations and were you aware of any other company or vessel operations where the stability
23 is checked shore side prior to the vessel departing?

1 **Mr. Mavrinac:** No. From my understanding and wherever it's required industry standard is
2 that the vessel does all the stability calculations.

3 **NTSB:** And just to put this into a timeline what time were you in discussion with the agent on
4 arranging for the vessel to depart?

5 **Mr. Mavrinac:** We're talking about arrival and departure times prior to it even being in
6 Jacksonville. So I will speak to the agent of any port like two to three days prior and then we're
7 consistently talking until usually two to four hours prior to sailing. But you have to set it so that
8 the Pilot knows when to board.

9 **NTSB:** So the vessel departed just before 1 O'clock?

10 **Mr. Mavrinac:** Yes to my knowledge.

11 **NTSB:** 1 a.m. And so were you in contact like around 11 O'clock or about that time?

12 **Mr. Mavrinac:** I was earlier, I don't remember exactly, but usually if it was 1 O'clock we put in
13 for that around 10:30. So it would have probably been around 9:30 or 10 p.m.

14 **NTSB:** Okay. Thank you very much, sir.

15 **Mr. Gilsenan:** This is Ryan Gilsenan Captain Welborn. I do have one question I think I must
16 have misunderstood something.

17 **CAPT WELBORN:** Yes, sir please go ahead.

18 **Mr. Gilsenan:** Okay just to clarify for the record Mr. Mavrinac and Reisman. The – I
19 understood that the crew, the Chief Officer would run the stability numbers based on the pre-
20 stow plan and then that would be updated as cargo might change or be adjusted because it's a
21 working document during the loading process. And they would update it with the final numbers
22 as counted, correct?

23 **Mr. Mavrinac:** Correct.

1 **Mr. Gilsenan:** And the question I had was with regards to the weights because that was a little
2 unclear to me from the last questions. Presumably the pre-stow plan, it's not new that they
3 would have the weights, they would have always had the weights of the cargo because how
4 else could you run the stability if you don't have weights.

5 **Mr. Mavrinac:** You broke up a little bit, can you repeat the question, sorry.

6 **Mr. Gilsenan:** Sure. It seems to me that the pre-stow plans would have always had the
7 weights of the cargo because without having the weight of the cargo on the stow plan it would
8 not be possible for the crew to run stability calculations. They have to have the weights,
9 correct?

10 **Mr. Mavrinac:** Well again the pre-stow plan is more of a guide to show where we're putting
11 cargo. The crew had the weights of the cargo. They know the weights before, this is
12 something they usually have it. If they don't then they will ask us if we can get the weights.
13 Additionally when they're doing, usually the pre-stow plan it's a guidance until we get into port.
14 So they can also ask myself and the stevedores when they get there if there's any questions or
15 concerns. But they know the weights of the cargo, most of the cargo we're loading. Especially
16 if it's [in audible].

17 **Mr. Gilsenan:** Okay so the crew had some kind of document that they can check if there's like
18 a turnover of Chief Officers, for example that he knows what a Hyundai Accent weighs
19 compared to you know a KIA Sorrento. Is there like a document of the numbers they can
20 have, the data?

21 **Mr. Mavrinac:** What they have on the ship I'm not really sure. The technical superintendent
22 would be the one to know that more because they're dealing with vessels more directly.
23 However, I have weights for, you know very close averages for each model that we're loading

1 for new manufactured cargo. So if they have a question I will – they can reach out to me, they
2 can reach out to G-Marine or HQ and we will give them any information that is necessary. But
3 from my understanding they do have something onboard, I can't tell you exactly what it is.

4 **Mr. Gilsenan:** Okay. Just so the record's clear the pre-stow displays more of like a floor plan
5 so that we know where things fit, but not actually the cargo weights?

6 **Mr. Mavrinac:** Correct. It's a basic how we're going to load the cargo and where we're going
7 to load the cargo.

8 **Mr. Gilsenan:** Okay, thanks for clearing up my confusion. Thank you.

9 **CAPT WELBORN:** Thank you, sir. And again Mr. Mavrinac I apologize for the round robin
10 format that we've got going on here, but I do appreciate your indulgence again. So just to
11 poke a little bit more on the questions Mr. Gilsenan had brought up. So the pre-stow plan is
12 the footprint of the ship with locations that vehicles will be stowed in, is that correct?

13 **Mr. Mavrinac:** Correct. It's basically a vessel side view so you can see all the decks on view.
14 So then we are putting in the cargo where it should fit.

15 **CAPT WELBORN:** Understood. And there are no cargo weights on that document?

16 **Mr. Reisman:** Are you saying at the time of the casualty and prior?

17 **CAPT WELBORN:** Yes. So when the vessel received, when the GOLDEN RAY received the
18 pre-stow plan before the Port of Brunswick it did not have any vehicle weight on it whatsoever,
19 it was just where the vehicles would be stowed in that cross-section format.

20 **Mr. Mavrinac:** For Brunswick specifically?

21 **CAPT WELBORN:** Yes.

22 **Mr. Mavrinac:** Yes. For Brunswick it did not have weights for the pre-stow what was going on
23 board.

1 **CAPT WELBORN:** Is that common like when the vessel called in Freeport, the vessel called
2 in Jacksonville, Altamira, none of those pre-stow plans had weights on them either?

3 **Mr. Mavrinac:** It is common that the pre-stow plans do not have weights for what is going to
4 be loaded.

5 **CAPT WELBORN:** Okay. It's in the final stow, which was not provided to the ship before the
6 Port of Brunswick, did it contain weight?

7 **Mr. Mavrinac:** Yes. It does contain weight. And additionally the piece of – the document that
8 was handed over by the stevedore will have weights as well.

9 **CAPT WELBORN:** Do you know how the stevedores verify those weights?

10 **Mr. Mavrinac:** Normally they will, they obviously can look at the car because you can open
11 the door and look at the weight that's on the side of a car, or they have – they can ask me or
12 they can go right to the terminal who has the weights as well. So there's multiple way that they
13 can get the weights.

14 **CAPT WELBORN:** So for the Port of Brunswick you said they can ask you. Did you receive
15 any calls regarding vehicle weights for this particular port call?

16 **Mr. Mavrinac:** Not for this particular call because we had loading prior.

17 **CAPT WELBORN:** Okay. There were some non-standard vehicles that were loaded on the
18 ship. I believe there was an RV on the ship, where are those vehicle weights obtained from?

19 **Mr. Mavrinac:** Those are on the booking. So when the cargo is booked for any high heavy
20 cargo they have to provide a weight from the customer.

21 **CAPT WELBORN:** So when a spot is booked on the ship in a manifest or a bill of lading is
22 written there's a vehicle weight that then is provided to ship?

23 **Mr. Mavrinac:** For the high heavy, yes.

1 **CAPT WELBORN:** Okay.

2 **Mr. Mavrinac:** And we're talking high heavy cargo, bigger larger vehicles.

3 **CAPT WELBORN:** Understood, understood. Okay. Mr. Mavrinac we do appreciate your time
4 today. Thank you very much for providing your testimony. Mr. Reisman we do appreciate you
5 sitting in this morning. So Mavrinac please note that you are subject to recall until the
6 termination of this formal hearing. We do appreciate your time.

7 **Mr. Reisman:** Captain Welborn clarification on the subject to recall. Mr. Mavrinac is
8 scheduled to travel back to Jersey in the next day or so. If he travels back if you still need him
9 we can certainly make him available. He may not be physically located here in New Orleans at
10 that time.

11 **CAPT WELBORN:** As we are doing – conducting most of our hearing virtually now that's no
12 problem. Mr. Reisman as long as you and your client are okay to be separated. I have no
13 problem with it.

14 **Mr. Reisman:** Thank you.

15 **CAPT WELBORN:** Yes, sir, absolutely. So currently the time is 12:01 local. So at this time
16 we will recess our hearing until 2 O'clock local at which time we will call our next witness.
17 Thank you.

18 *The hearing recessed at 12:01, 16 September 2020*

19 *The hearing was called to order at 2:14, 16 September 2020.*

20 **CAPT WELBORN:** Good afternoon ladies and gentlemen I apologize for the delay. Afternoon
21 we said we were going to reconvene back at 2 O'clock but some technical difficulties
22 prevented us from doing that. So now the local time is 2:14 and we are back on the record
23 regarding capsizing of the Motor Vessel GOLDEN RAY. Our next witness will be Mr. Samy

1 Maatki in New Orleans. So I will defer to Lieutenant Commander Moore who will swear the
2 witness in.

3 **Recorder:** Afternoon. If I could have NCOE could you please turn on camera and
4 microphone. Good afternoon if I could have the NCOE please turn on your camera and
5 microphone. Can you hear me? NCOE are you there?

6 [No response].

7 **Recorder:** NCOE are you there? I see you. Can you hear us? Okay, great. Mr. Maatki if you
8 could stand and raise your right hand please? A false statement given to an agency of the
9 United States is punishable by fine and or imprisonment under 18 United States Code 1001.
10 Knowing this do you solemnly swear that the testimony you're about to give will be the truth,
11 the whole truth and nothing but the truth so help you God?

12 **Mr. Maatki:** Yes, Ma'am.

13 **Recorder:** Thank you very much. You may be seated. I will now pass over to Captain
14 Welborn who will be your lead questioner.

15 **CAPT WELBORN:** Good afternoon, sir. Would you do me a favor and pronounce your name,
16 first and last and spell it for the record?

17 **Mr. Maatki:** My first name is Samy, S-A-M-Y, last name is M-A-A-T-K-I.

18 **CAPT WELBORN:** Thank you, sir. Mr. Maatki we do appreciate you testifying with us today.
19 So I just have a few short questions for you. I would like to commence those. So Mr. Maatki
20 are you involved in the loading plan development for ships owned by Hyundai Glovis?

21 **Mr. Maatki:** We prepare a proposed space plan for the loading of Glovis vessels in the U.S.
22 Gulf and East Coast.

1 **CAPT WELBORN:** Understood. Do you develop load plan for any other company other than
2 Hyundai Glovis?

3 **Mr. Maatki:** We do for Salon lines.

4 **CAPT WELBORN:** What was the name of that again?

5 **Mr. Maatki:** Salon Lines.

6 **CAPT WELBORN:** Thank you, sir. Can you describe how Hyundai Glovis loading plans are
7 developed?

8 **Mr. Maatki:** Basically we prepare – we receive a load list reflecting cargo to be loaded. And
9 we basically send out a proposed space plan reflecting the cargo to be loaded by the POL and
10 POD rotation.

11 **CAPT WELBORN:** Understood. Mr. Maatki I realize that there was some formative questions
12 at the beginning of the interview that I missed. I'm going to step back and ask those questions
13 if I could. Mr. Maatki are you currently represented by counsel?

14 **Mr. Maatki:** We do have Mr. Tom Rayer (sic) which Norton Lilly has asked to sit in during this
15 time.

16 **CAPT WELBORN:** Understood. Is he present there in the space?

17 **Counsel:** I am.

18 **CAPT WELBORN:** Have you been designated as a party in interest in this investigation?

19 **Mr. Maatki:** No.

20 **CAPT WELBORN:** Understood. Do you hold any professional certificates or certifications that
21 apply to your current position?

22 **Mr. Maatki:** No, sir.

1 **CAPT WELBORN:** Sir, can you give us a brief summary of your background and experience
2 in the current position that you have?

3 **Mr. Maatki:** I've been doing space planning for about 10 years. Port Captain work for about
4 15.

5 **CAPT WELBORN:** Understood. And you told us that your current employer is Norton Lilly
6 International, is that correct?

7 **Mr. Maatki:** That is correct.

8 **CAPT WELBORN:** And what's the title on the position that you hold?

9 **Mr. Maatki:** Port Captain.

10 **CAPT WELBORN:** Understood, sir. So as Port Captain can you describe your duties and
11 responsibilities?

12 **Mr. Maatki:** We provide services to clients depending on their needs. Sometimes we're
13 attending cargo operations. Reporting to the clients. Basically their eyes and ears on the
14 ground. Then for Hyundai Glovis we do space planning as well.

15 **CAPT WELBORN:** Understood. Do you also employee, do you select the agents in the local
16 ports?

17 **Mr. Maatki:** Norton Lilly does do agency work and other ports have a different department
18 than the department I work with in Norton Lilly.

19 **CAPT WELBORN:** Understood. So Mr. Maatki for your specific Port Captain position have
20 you received any specific training?

21 **Mr. Maatki:** Mentorship, working with senior management and senior Port Captains with the
22 company, yes.

1 **CAPT WELBORN:** And that mentorship does that also include plan development, loading
2 plan development?

3 **Mr. Maatki:** Yes, sir.

4 **CAPT WELBORN:** Okay. Alright. So Mr. Maatki were you involved in the development of the
5 loading plan for the cargo operations planned on the 7th – September 7th of 2019 for the
6 GOLDEN RAY in Brunswick, Georgia?

7 **Mr. Maatki:** Yes, sir.

8 **CAPT WELBORN:** Did you receive the information regarding the cargo movement necessary
9 to generate the loading plan?

10 **Mr. Maatki:** Say that again, I'm sorry.

11 **CAPT WELBORN:** How did you receive the information regarding the cargo movement
12 necessary to generate that loading plan?

13 **Mr. Maatki:** So we receive a, you know on initial voyage first port of load, Mexico we receive a
14 plan from Glovis. And also we receive a pre-load list from Glovis reflecting the cargo to be
15 loaded.

16 **CAPT WELBORN:** Understood. So did you develop loading plan for the vessel in the multiple
17 ports proceeding Brunswick?

18 **Mr. Maatki:** For each port Jacksonville and Brunswick I prepare.

19 **CAPT WELBORN:** But not the Mexican ports?

20 **Mr. Maatki:** No, sir.

21 **CAPT WELBORN:** Understood. In the information that you received to develop that loading
22 plan who did you receive that from?

23 **Mr. Maatki:** Glovis.

1 **CAPT WELBORN:** Glovis. Anybody in particular?

2 **Mr. Maatki:** Mike Mavrinac also I believe Rosa and Deanna with Hyundai Glovis.

3 **CAPT WELBORN:** Okay. So representatives of Hyundai Glovis would send you that

4 information via what platform? How do you receive that?

5 **Mr. Maatki:** By email via email, excel spreadsheet.

6 **CAPT WELBORN:** So they email you the excel spreadsheet and what information does that

7 spreadsheet contain?

8 **Mr. Maatki:** I mean it varies depending on the ports and the cargo, but normally the port of

9 load, make model, vin numbers, booking numbers, dimensions, weights, POD of the unit.

10 **CAPT WELBORN:** So you said there are weights, the cargo weights or vehicle weights. Is

11 that per unit?

12 **Mr. Maatki:** Yes. On some of the lists there's weights on it.

13 **CAPT WELBORN:** Do you know -----

14 **Mr. Maatki:** Go ahead.

15 **CAPT WELBORN:** No please, sir, go ahead.

16 **Mr. Maatki:** I'm saying that on some of the lists there's weights reflected per unit.

17 **CAPT WELBORN:** Do you know how those weights are developed?

18 **Mr. Maatki:** No I don't.

19 **CAPT WELBORN:** Okay. So you receive an email from Hyundai Glovis, you mentioned Mr.

20 Mavrinac and a couple other folks potentially from Hyundai Glovis that sends you that

21 information. Get a list of amounts of vehicles to be loaded and or offloaded in each port, is that

22 correct?

1 **Mr. Maatki:** For the cargo to be loaded. Offloaded is reflected on the plan received from
2 Glovis out of Mexico.

3 **CAPT WELBORN:** So there's two different reports that you receive prior to developing the
4 load plan?

5 **Mr. Maatki:** Well we receive the plan from Mexico reflecting the cargo that was loaded in
6 Mexico to be discharged in the States, U.S. Gulf and East Coast and also a loaded cargo
7 destined for the Middle East. We receive that and then we receive a pre-load list per port for
8 the U.S. Gulf and East Coast.

9 **CAPT WELBORN:** So once you receive this information then, Mr. Maatki what do you do with
10 that – what do you do with that information next?

11 **Mr. Maatki:** Basically I see the available space that is available for the port with the list of
12 cargo that is intended to be loaded at the ports that we're preparing the proposed space plan
13 for. We look at the cargo to be loaded by POD and we basically reflect it on a plan, taking into
14 consideration the port of load, port of discharge rotation just to make sure that there is an
15 efficient loading and discharge operation.

16 **CAPT WELBORN:** And Mr. Maatki you reference POD, can you tell me what that stands for?

17 **Mr. Maatki:** Port of discharge.

18 **CAPT WELBORN:** Understood. So the information comes in and you put it into what format
19 does that go out? How do you send that information back out? What electronic format?

20 **Mr. Maatki:** It's in excel. It's an excel format I send out to Glovis, the vessel and the
21 stevedores.

1 **CAPT WELBORN:** Understood. So that information is, it's an excel spreadsheet and that is a
2 representation of what the vessel looks like and where the specific vehicles will be loaded in
3 what slot, what location, is that correct?

4 **Mr. Maatki:** That's correct.

5 **CAPT WELBORN:** Okay. I would like to introduce Coast Guard Exhibit 7, which is the load
6 plan, I think we'll pull that up here. Mr. Maatki do you see that document there in front of you?

7 **Mr. Maatki:** No, sir.

8 **CAPT WELBORN:** Okay. I think we're working trying to get it up so you can see it also. Mr.
9 Maatki can you see that, sir?

10 **Mr. Maatki:** From the distance not.

11 **CAPT WELBORN:** Not specifically?

12 **Mr. Maatki:** Right, not in detail. I just see from the distance some similarities from the plan,
13 colors.

14 **CAPT WELBORN:** Okay. Let's see if we can – are there identifying marks on this document
15 Mr. Maatki that we could zoom in on and show you that would allow for you to identify this
16 document?

17 **Mr. Maatki:** If you're able to zoom in on I would definitely be able to.

18 **CAPT WELBORN:** So is there a particular location like maybe the bottom left hand corner or
19 the top right hand corner? Some location?

20 **Mr. Maatki:** Maybe the top, the top portion.

21 **CAPT WELBORN:** Above the diagram Mr. Maatki or is that good?

22 **Mr. Maatki:** And it's hard to read it in detail, but it's definitely ----

1 **CAPT WELBORN:** Understood. Okay we'll continue to work and see if we can't get this –
2 make it where you can identify it. So is this an accurate representation of what your work
3 product would look like?

4 **Mr. Maatki:** Yes it appears.

5 **CAPT WELBORN:** Okay. I understand you can't – we're continuing to work to make sure that
6 we can specifically identify this document as your work product. But in the interim this looks
7 like a representative of what you would produce, is that correct?

8 **Mr. Maatki:** That is correct.

9 **CAPT WELBORN:** Okay, alright. So I think what we're going to try to do is email this to
10 Lieutenant Commander Clifford so that you can specifically be able to identify that as a
11 document as a, you know as an exhibit and you can prove that that is your work product. So
12 we're going to take just a quick recess. It's now 2:31, we're going to take a 10 minute recess
13 and then we'll reconvene. So this hearing stands adjourned.

14 *The hearing recessed at 2:31, 16 September 2020*

15 *The hearing was called to order at 2:43, 16 September 2020.*

16 **CAPT WELBORN:** Okay we're back on the record the local time is 2:43. Resuming our
17 interview of Mr. Samy Maatki regarding the loading and pre-stowage of the GOLDEN Ray. Mr.
18 Maatki are you with us still?

19 **Mr. Maatki:** Yeah.

20 **CAPT WELBORN:** I'm sorry, sir, I didn't hear you.

21 **Mr. Maatki:** I'm good.

22 **CAPT WELBORN:** Okay. Again I apologize for that brief recess. So can you see the
23 document now, the load plan that we were talking about?

1 **Mr. Maatki:** Yes I did see it. One thing to note when you scroll down it's missing some of
2 letter notations. So if you scroll down to the bottom of it you will see A, B, C, but D, E, F,
3 there's several letters missing there. Basically I believe up to, possibly P. It cut off ----

4 **CAPT WELBORN:** Missing at the bottom of the first page?

5 **Mr. Maatki:** Say again.

6 **CAPT WELBORN:** Missing at the bottom of the first page, sir?

7 **Mr. Maatki:** That's correct. It should D, E, F, all the way up to P. It's missing a bunch of
8 notations there. I think it's because when you print it up as a PDF file it'll cut off the bottom.
9 So there should be more to that.

10 **CAPT WELBORN:** Understood. And despite repeated request this the latest and most up to
11 date pre-load plan that we were provided. So it sounds like we may have a little bit more
12 homework to do. So, Mr. Maatki I would like to go ahead and let's take a look at this document
13 if we could and obviously we can't use it as official evidence, but I would like to ask you a
14 couple of questions if that's okay.

15 **Mr. Maatki:** Absolutely.

16 **CAPT WELBORN:** Okay so at the top of page 1 the voyage number, just to make sure that
17 we're reading out of the same document, do you have the voyage number there, sir?

18 **Mr. Maatki:** Yes it's voyage 13.

19 **CAPT WELBORN:** Understood. And then just understood so it's a ports of lading or Vera
20 Cruz, Altamira, Freeport, Texas, Brunswick and Wilmington which means the port of lading
21 which means what?

22 **Mr. Maatki:** Well port of load, ports of load.

23 **CAPT WELBORN:** Load.

1 **Mr. Maatki:** Yeah so that's the port of load rotation. So the first port that they loaded at was
2 Vera Cruz, Mexico. Second port they loaded was Altamira, Mexico, third port was Freeport,
3 Texas, fourth port Jacksonville, fifth port Brunswick. And then she was going to /Wilmington
4 also.

5 **CAPT WELBORN:** Understood, sir. And we earlier interviewed Mr. Mavrinac and he said
6 there was actual change in the rotations of ports due to some tropical weather that the vessel
7 encountered. Is that correct?

8 **Mr. Maatki:** I vaguely remember that, yes.

9 **CAPT WELBORN:** So did that change the sequence of ports for this particular vessel?

10 **Mr. Maatki:** If I recall correctly I believe she was to call Brunswick prior to Jacksonville initially.
11 But then they changed from basically calling Jacksonville to Brunswick.

12 **CAPT WELBORN:** Understood. Mr. Maatki if you could stand by just one moment I would
13 like to ask one of our PII's, Mr. Reisman are you on the phone?

14 **Mr. Reisman:** Yes Captain we're here.

15 **CAPT WELBORN:** Okay. Well Mr. Reisman this is the latest copy and version that you
16 provided us and there's apparently information missing from that. So can you account for that?

17 **Mr. Reisman:** Well we heard that. We provided a PDF and apparently it does cut off some of
18 the information. I'm looking at an excel spreadsheet here. I'm happy to send that to you right
19 now if you would like.

20 **CAPT WELBORN:** I would appreciate that, yes, sir.

21 **Mr. Reisman:** Where would you like us to send that Captain?

22 **CAPT WELBORN:** You can send that to Lieutenant Commander Moore if you would.

23 **Mr. Reisman:** Okay.

1 **CAPT WELBORN:** So Mr. Maatki while Lieutenant Commander Moore is obtaining that
2 documentation from Mr. Reisman if it's okay with you and your counsel I would like to continue
3 our line of questioning and using this document as a loose representation because we're unable
4 to validate this is the actual load plan that was submitted. If that's okay with you, sir.

5 **Mr. Maatki:** Yeah that's fine.

6 **CAPT WELBORN:** Okay. Alright, sir. So in generation of the spreadsheet so you – the
7 information that you receive from Hyundai Glovis you said that you take that information and
8 enter it into a facsimile or something that looks very similar to this like this load plan, is that
9 correct, sir?

10 **Mr. Maatki:** That's correct.

11 **CAPT WELBORN:** So can you explain how you would use this tool to decide where vehicles
12 will be located and loaded onto the ship?

13 **Mr. Maatki:** Well basically we receive a pre-load list reflecting the cargo to be loaded and
14 based off the available space that we have we'll basically position it where it, you know taking
15 the port of load and port of discharge rotation and consideration for an efficient load and
16 discharge operation.

17 **CAPT WELBORN:** Understood, sir. So when you're loading vehicles into this spreadsheet
18 can you tell me how, what criteria is utilized to decide which vehicles go in which locations?

19 **Mr. Maatki:** Basically the dimensions of the unit, length, width, height. And then the port of
20 discharge.

21 **CAPT WELBORN:** So that way you wouldn't have to unload cargo that maybe has some
22 other cargo hemmed in?

23 **Mr. Maatki:** Say that again Captain, I'm sorry.

1 **CAPT WELBORN:** You're loading in the sequence of discharge that way you don't have
2 cargo to be offloaded that might be in front of cargo that needs to come off, is that correct?

3 **Mr. Maatki:** To make an efficient discharge operation and for the loading operations for the
4 ports.

5 **CAPT WELBORN:** Understood. So is there a general rule of thumb that you employ when
6 deciding where cargo goes on vessel?

7 **Mr. Maatki:** I mean if it's an empty vessel, of course the general of thumb don't, you know we
8 wouldn't load anything up top and keep lower decks empty. But that's about it.

9 **CAPT WELBORN:** Understood. So the ship has been described to us that once the decks
10 are laden there's differing deck heights within those spaces. Is that in your experience? Is
11 that true?

12 **Mr. Maatki:** I didn't understand that question Captain, I'm sorry. Say that again.

13 **CAPT WELBORN:** So as certain decks are loaded with vehicles is the spacing between the
14 decks equal from top to bottom on the ship?

15 **Mr. Maatki:** No.

16 **CAPT WELBORN:** So is there more space higher or more space lower?

17 **Mr. Maatki:** There are some decks that are higher than other, that's correct.

18 **CAPT WELBORN:** Okay. So let's say there's – one deck has a lot of space in between it is
19 that usually low or high on the vessel?

20 **Mr. Maatki:** Well if you look at the plan, so if you see deck 13, we'll say the top deck, if you
21 look right below it, it will say the deck height of that particular deck.

22 **CAPT WELBORN:** Understood. And on this graphic can you read that number to us?

23 **Mr. Maatki:** That's 1.9 meters.

1 **CAPT WELBORN:** Understood. And then down say on deck 7 there are multiple
2 measurements there. Can you tell me what those are?

3 **Mr. Maatki:** Yes that's an adjustable deck. So at normal position that deck would be at, deck
4 7 would be at 2.2 meters in height. And then deck 8 would be at 2.1 meters in height.

5 **CAPT WELBORN:** And the 2.4 meter and a 4.3 meter notation on deck 7 what does that
6 mean?

7 **Mr. Maatki:** So if, so like I said the deck is an adjustable deck. So deck 8, you put it at 1 step
8 that would be, deck would be 2.4 meters in height, deck 8 would be at 1.9 meters at height. If
9 the deck is at full up position, the panels are at full up position deck 7 would 4.3 meters in
10 height and deck 8 would not be a loadable deck at that point.

11 **CAPT WELBORN:** Understood. So it's not just a for and aft, port and starboard dimension
12 that is taken into account where to put vehicles? It's also a vertical height issue?

13 **Mr. Maatki:** That's correct.

14 **CAPT WELBORN:** Okay. Thank you, sir. So, sir for the cargo operation in Brunswick can
15 you explain what vehicles were loaded and off loaded according to this representation of
16 spreadsheet? Can you utilize this to do that?

17 **Mr. Maatki:** Yeah the cargo that was loaded, which is reflected in this plan here were the tele-
18 rides. Off loaded that would not reflected on that pre-load plan. But if you scroll down I believe
19 there's a cargo summary, but that plan doesn't show the cargo to be offloaded in Brunswick.

20 **CAPT WELBORN:** So then according to this plan there was no cargo offloaded in Brunswick.

21 **Mr. Maatki:** No that's just a load plan. That's not the discharge plan.

22 **CAPT WELBORN:** Understood.

23 **Mr. Maatki:** ----- cargo to be discharge.

1 **CAPT WELBORN:** So Mr. Maatki given the dimensions of the ship which you have is that
2 preloaded in your computer based on a particular vessel because they're all a little bit
3 different?

4 **Mr. Maatki:** No. The plan is – I didn't understand that Captain, that question.

5 **CAPT WELBORN:** Let me rephrase the question. So page 1 shows an outlining cross-
6 section of the ship. Is that a – that's preloaded into your computer for the GOLDEN RAY, is
7 that correct?

8 **Mr. Maatki:** No that's sent to us by Glovis.

9 **CAPT WELBORN:** Understood. And then you will just populate it based on the loading plan?
10 You'll populate that based on the information that you get from Hyundai Glovis?

11 **Mr. Maatki:** That's correct.

12 **CAPT WELBORN:** Okay. So Mr. Maatki do you take into account, do you do any calculations
13 in your office regarding the stability of the vessel?

14 **Mr. Maatki:** No, sir.

15 **CAPT WELBORN:** Okay. So there's no criteria from you regarding no calculations done
16 regarding stability whatsoever?

17 **Mr. Maatki:** No, sir.

18 **CAPT WELBORN:** Understood. So as we continue to – do we have the, Lieutenant
19 Commander Moore do we have the document yet? Still waiting for the document. So we're
20 going to step away from the document for just a moment or two Mr. Maatki until we are able to
21 get that and then put that in front of you to hopefully validate.

1 **Mr. Reisman:** Captain this David Reisman if I could interject. We sent the email right when
2 you asked for it. So I'm not sure why. Is there another email address that we could use
3 perhaps?

4 **CAPT WELBORN:** Can you, you sent that to Lieutenant Commander Moore Mr. Reisman?

5 **Mr. Reisman:** Yes that's correct.

6 **CAPT WELBORN:** Okay. We may have a delay on our side. It may be going through Coast
7 Guard servers. You sent that to her official Coast Guard email?

8 **Mr. Reisman:** Yes that's correct.

9 **CAPT WELBORN:** Okay. We'll stand by just a moment or two more on that, hold off and we'll
10 continue to see if that document will show up. Mr. Maatki so after you develop the load plan
11 what do you next? What happens to that?

12 **Mr. Maatki:** I send it out to Glovis, the vessel and the stevedores.

13 **CAPT WELBORN:** Okay so it goes to three different entities, it goes back to Glovis, it does go
14 to the ship. Do you know who on the ship it is sent to?

15 **Mr. Maatki:** Vessel email address.

16 **CAPT WELBORN:** Just a general inbox?

17 **Mr. Maatki:** Yes.

18 **CAPT WELBORN:** Okay. If I could deviate for just one moment I just got a text in. Mr.
19 Reisman if you could also send that document to another email address if that would be okay.
20 If you could send that to USCGGOLDENRAY@gmail.com that's another inbox that we're
21 monitoring. It may come through a little bit quicker as that's not a Coast Guard email. Will you
22 copy that, sir?

23 **Mr. Reisman:** USCGGOLDENRAY@gmail.com?

1 **CAPT WELBORN:** Yes, sir.

2 **Mr. Reisman:** Yep, got it.

3 **CAPT WELBORN:** Okay let's try that and see what happens. Mr. Maatki I do apologize for
4 the repeated interruptions. So it's kind of hard to get a flow going here. So you send your
5 email back to the, to Hyundai Glovis and to, you said to the stevedores, sir, is that correct?

6 **Mr. Maatki:** That's correct.

7 **CAPT WELBORN:** And then is there any more communication from you from that point
8 forward regarding the loading plan?

9 **Mr. Maatki:** No. Basically I send out the loading plan basically reflecting the cargo to be
10 loaded on the deck. And that's about it.

11 **CAPT WELBORN:** Understood. So after the vessel leaves the port, so there's no feedback
12 for you that says we've successfully loaded the vessel or we were unable to load 10 units,
13 there's no feedback for you once you send them that email, that's it?

14 **Mr. Maatki:** The stevedores will send us a final plan and load list of what's been loaded at that
15 particular port.

16 **CAPT WELBORN:** Understood. And then that plan builds on itself for the next port of call?

17 **Mr. Maatki:** And then we'll reflect that on the next pre-stow plan for the next port of call, port
18 of load.

19 **CAPT WELBORN:** Understood. So Mr. Maatki were there any changes made to the loading
20 plan from the pre-stow plan to the final plan? Did you make any changes on the document
21 between those steps?

22 **Mr. Maatki:** I recall in Freeport we did receive some updated pre-load lists where we did
23 update the stow plan for Freeport.

1 **CAPT WELBORN:** Understood. Do you recall were those more vehicles on or more vehicles
2 off or?

3 **Mr. Maatki:** It was more vehicles on.

4 **CAPT WELBORN:** Okay. So the pre-load plan was changed a bit prior to Freeport where you
5 actually took a few more vehicles on, is that correct?

6 **Mr. Maatki:** That's correct.

7 **CAPT WELBORN:** And did that have a domino on the ship where you had to move other
8 cargo around?

9 **Mr. Maatki:** We did end up moving some cargo that was loaded in Mexico to make some
10 adjustments that would accommodate some cargo on the main deck.

11 **CAPT WELBORN:** Understood. And once you sent that pre-load plan to the ship did you get
12 any feedback back from the ship?

13 **Mr. Maatki:** No not that I recall, no.

14 **CAPT WELBORN:** So can you characterize that flow information? It came from who initially
15 that there was going to be a change in the cargo?

16 **Mr. Maatki:** We received the updated pre-load lists reflecting more cargo. So once we
17 received that from Glovis we basically updated the plan which we resent out to Glovis, the
18 stevedores and the vessel.

19 **CAPT WELBORN:** Understood. And then the information that you get back from the
20 stevedores saying this is the amount of cargo that they loaded does that happen before the
21 vessel leaves port, after the vessel leaves port, do you know?

22 **Mr. Maatki:** Before, it should be before the vessel leaves port and they should -----

23 **CAPT WELBORN:** Understood.

1 **Mr. Maatki:** Be given the final plan to the vessel, so.

2 **CAPT WELBORN:** Okay. And the stevedores send that back to Hyundai Glovis and you, the
3 ship gets a copy I'm sure.

4 **Mr. Maatki:** That's correct.

5 **CAPT WELBORN:** Okay. So this is a little bit out of your swimming lane Mr. Maatki, I
6 understand that, but to the best of your knowledge does anybody shore side, so not on the
7 vessel, but does anybody shore side complete any ship stability calculations based on the load
8 plan?

9 **Mr. Maatki:** No.

10 **CAPT WELBORN:** Okay. So Mr. Maatki you also said that you do load plans for Salon Lines,
11 is that correct?

12 **Mr. Maatki:** Salon Lines, yes.

13 **CAPT WELBORN:** Okay, alright. Can you compare and contrast the work that you do for
14 Hyundai Glovis and the work you do for Salon Line? Is it very similar? Are there some
15 differences? Can you tell me a little bit about the process that you do for Salon Lines versus
16 Hyundai Glovis?

17 **Mr. Maatki:** I think it's very similar. Same structure. We do, you know proposed space plan
18 and send it out to the stevedore, the line, the vessel. Sometimes we'll attend the cargo
19 operations when needed.

20 **CAPT WELBORN:** So somebody from your office actually attends loading or discharging of
21 the vessel?

22 **Mr. Maatki:** From time to time when the client request, yes.

1 **CAPT WELBORN:** Understand. And that's only for Salon Lines, you don't do that for Hyundai
2 Glovis.

3 **Mr. Maatki:** We do do that for Hyundai Glovis. We did attend in Freeport, but not in
4 Jacksonville or Brunswick.

5 **CAPT WELBORN:** Why did you attend in Freeport?

6 **Mr. Maatki:** We were requested to attend. So basically be their eyes and ears on the ground,
7 give them updates of the cargo operations, the progression.

8 **CAPT WELBORN:** So that's not a common operation, sir?

9 **Mr. Maatki:** No it is a common operation. We attend a lot of Glovis vessels, cargo operations.

10 **CAPT WELBORN:** So you're just more eyes and ears for Hyundai Glovis on scene to advise
11 how the loading and offloading of the ship are -----

12 **Mr. Maatki:** Yeah basically updating.

13 **CAPT WELBORN:** Alright. Okay, sir. Well what I would like to do Mr. Maatki is I would like to
14 go ahead and check with our SIS's and our PII's as we're continuing to validate the document,
15 the load plan document so we can again enter that as an official piece of evidence. So I'm
16 going to check with our SIS's to see if anybody has any questions for your, sir. Mr. Bremer
17 from the Republic of Marshal Islands, do you have questions, sir?

18 **Mr. Bremer:** Yes, thank you Captain. So first question is there anything unique in your
19 experience to planning for the GOLDEN RAY compared to other car, truck carriers that you've
20 planned in the past?

21 **Mr. Maatki:** No. It was pretty much normal business.

22 **Mr. Bremer:** And prior to the Brunswick call have you, or to this port rotation, excuse me,
23 have you planned for the GOLDEN RAY previously?

1 **Mr. Maatki:** I believe yes. I will plan for that vessel maybe two other voyages.

2 **Mr. Bremer:** Okay and during those two previous voyages and voyage 13 the subject voyage,
3 did you ever receive feedback from the ship, the crew, stevedores that there was an issue
4 during loading that you had to address?

5 **Mr. Maatki:** No, sir.

6 **Mr. Bremer:** Okay and just to clarify when you are planning space for the GOLDEN RAY
7 specifically I know you mentioned height of the vehicle, how else are you determining how
8 many units can fit on a deck?

9 **Mr. Maatki:** Basically the length, the width, so the dimensions.

10 **Mr. Bremer:** Okay and is there a maximum weights per deck or capacity for deck, per deck
11 that you have to take into consideration?

12 **Mr. Maatki:** Normally we just take into consideration the weight, I mean, my apologies, the
13 height and length, the width and the POD rotation.

14 **Mr. Bremer:** Okay. The other general question about the pre-stowage plan on the pre-
15 stowage plan for each block of cargo listed that there's another number below there. So it has
16 the number of units, the type of units and there's a number below that. Can you explain what
17 that is? And we'll pull the stowage plan back up so you can see what we're asking. Okay, sir
18 and to confirm you can see the stowage – the pre-stowage plan that we were discussing at the
19 beginning?

20 **Mr. Maatki:** Yes.

21 **Mr. Bremer:** Okay. So looking for instance at the 13th deck we have cargo units listed with
22 the port of loading, port of discharge, the type of unit and the number. And there's a number
23 below that, the third line. Can you explain what that means?

1 **Mr. Maatki:** Yeah that's the weight of the cargo.

2 **Mr. Bremer:** Okay. And you had mentioned previously that the list that's provided to you at
3 the beginning of this planning process sometimes have weights on it, is that correct?

4 **Mr. Maatki:** That's correct.

5 **Mr. Bremer:** And there are times where there's not weights on there. Can you explain how
6 you determine the weights that you use to come up with that number?

7 **Mr. Maatki:** I can't explain for Mexico, but for the U.S. calls that's based off the stevedores
8 final load plan that they provide to us and to the vessel.

9 **Mr. Bremer:** Okay. So in the document that we're looking at now those numbers are
10 provided to you by the stevedores, is that correct?

11 **Mr. Maatki:** That's correct.

12 **Mr. Bremer:** And is that done at the beginning of the planning process or is that after your
13 initial pre-stowage plan is drafted?

14 **Mr. Maatki:** No that's after they are complete with cargo operations and loading operations.

15 **Mr. Bremer:** Okay. So that number gets entered after the fact. Sir, thank you very much I
16 have no further questions at this time.

17 **Mr. Maatki:** Thank you.

18 **CAPT WELBORN:** Thank you Mr. Bremer. Captain Flaherty from NTSB do you have
19 questions for this witness?

20 **NTSB:** Yes, sir. Good afternoon, sir, how are you doing?

21 **Mr. Maatki:** Good afternoon, doing well.

1 **NTSB:** As I recall the vessel was delayed due to the hurricane. When were you notified that
2 the ports for loading and unloading were going to be changing following the vessel's departure
3 from Freeport?

4 **Mr. Maatki:** I would have to look back at emails and notes. I'm not 100 percent sure.

5 **NTSB:** Do you recall how much of the plan had to be changed due to this change in port
6 calls?

7 **Mr. Maatki:** The load plans?

8 **NTSB:** Yes, sir.

9 **Mr. Maatki:** I don't believe there was – they changed, if I recall correctly, really no big change
10 in the loading plans.

11 **NTSB:** Because originally the vessel was going to be going to Jacksonville and was that
12 originally going to just be an on load port or an off load port, do you recall?

13 **Mr. Maatki:** Both. Discharging cargo and loading cargo.

14 **NTSB:** Okay. And then in Brunswick the cargo that was off loaded do you recall where that
15 was on loaded from?

16 **Mr. Maatki:** The cargo that was for Brunswick?

17 **NTSB:** Yes.

18 **Mr. Maatki:** Where it was loaded at.

19 **NTSB:** Where it was loaded onboard, which port?

20 **Mr. Maatki:** It was loaded in Mexico.

21 **NTSB:** Okay. So looking at, if you could put the representation that we have of the load plan
22 up, I just want to confirm a couple of things.

23 **Mr. Maatki:** Yes, sir.

1 **NTSB:** If someone could please put the diagram that we have up I would appreciate it. So
2 when you're doing your work you're looking at an excel program. What numbers – do you
3 have a list of the columns of what information you're putting there to come up with this
4 graphic?

5 **Mr. Maatki:** I don't understand your question.

6 **NTSB:** What, okay. You have color codes, correct?

7 **Mr. Maatki:** That's correct. ---- the POD of the cargo.

8 **NTSB:** Could you explain what the color code means?

9 **Mr. Maatki:** So basically the color code is just an easy indication to visually see it based off of
10 the POD of the cargo. So for instance Baltimore that you have the pointer on, cursor on is all
11 you know pinkish color.

12 **NTSB:** Now when you submitted a plan and it goes to the vessel and then, you know you
13 have the people, the shore side people the stevedores doing the loading, do people check to
14 see how accurate the actual load is towards your load plan?

15 **Mr. Maatki:** Do the stevedores check?

16 **NTSB:** Or is there any quality oversight meaning that your plan as submitted, it's not fixed, it
17 has some flexibility to it based on the actual situation when the vessel is being loaded? Is that
18 correct?

19 **Mr. Maatki:** Right it's a proposed pre-load plan. So there's going to be some slight variances
20 and changes in the numbers. It's not going to be 100 percent.

21 **NTSB:** Are you aware of any changes that occurred between the plan you submitted and how
22 the vessel was actually loaded?

23 **Mr. Maatki:** I believe there was some difference in the cargo that was loaded on deck 12.

1 **NTSB:** Okay.

2 **Mr. Maatki:** Less that was loaded on deck 12 and more that was loaded on deck 5 out of

3 Brunswick.

4 **NTSB:** By chance do you know why? Was any reason passed to you?

5 **Mr. Maatki:** I'm guessing lack of space. Amount of space so they put the remain in balance

6 on 5.

7 **NTSB:** So one thing just to confirm, the numbers that's directly above the deck number, like

8 deck 13 has 608.

9 **Mr. Maatki:** Yeah it says the AU's.

10 **NTSB:** What's the – can you explain what the A – what that means.

11 **Mr. Maatki:** It's a standardized size of the unit. It might be in comparison to a small Toyota

12 Corolla or some sort. Standardized size.

13 **NTSB:** And is that standard throughout the industry?

14 **Mr. Maatki:** Yes they reflect the AU's on the stowage plans, yes.

15 **NTSB:** So when you're developing this plan the – you're looking at obviously the space size,

16 but I guess the cubic footprint of the vehicle?

17 **Mr. Maatki:** Right.

18 **NTSB:** Does the weight of the vehicle – is that something that you also address or is that just

19 something, when you're doing the plan thing, you know I've got these heavier SUV's coming

20 on board and I'm taking off these lighter just regular cars, is the weight difference anything that

21 you add or consider during your planning?

1 **Mr. Maatki:** No. Like I said I mean we receive a plan from Mexico reflecting the cargo to be
2 discharged within the Gulf and the East Coast and based off the space that's available at the
3 port of load we just place it in a way where it's an efficient load and discharge operation.

4 **NTSB:** So the metric tons that are shown on the diagram, that's representing all the vehicles
5 in storage at that specific, like you got frame on deck 13, frame 139. Aft you have 273.075
6 metric tons? Am I reading that correct?

7 **Mr. Maatki:** You're reading that correct. But I didn't do the plan for Mexico, so.

8 **NTSB:** Okay. For the 96 on deck 12 in the light blue section.

9 **Mr. Maatki:** Yes.

10 **NTSB:** Was that something you calculated?

11 **Mr. Maatki:** Yes I reflected the cargo to be loaded in Brunswick the 96 that arrived in that
12 allocated.

13 **NTSB:** Just so I understand it, for the ones that were updated, so for the ones that are
14 updated or the ones that you placed in they don't seem to have the metric ton list.

15 **Mr. Maatki:** Yeah that's just a space plan reflecting the cargo. You know planned out
16 basically considering the – with a load and port of discharge rotation. It doesn't reflect the
17 weight.

18 **NTSB:** Okay. Just so I can get an understanding, what is the most challenging aspect of
19 preparing one of these plans?

20 **Mr. Maatki:** It just, like I said when we send out a prepared proposed space plan you know
21 taking into consideration the port of discharge rotations that's the potential of that, you know.
22 Did they have an efficient load and then discharge operation.

1 **NTSB:** Are there a lot of last minute changes as the vessel's going from port to port? Is that
2 normal?

3 **Mr. Maatki:** In changes in regards to?

4 **NTSB:** Cargo loads, on loads, off loads.

5 **Mr. Maatki:** There's changes from time to time, but nothing out of the ordinary.

6 **NTSB:** Alright. That's all the questions I have. Thank you very much, sir.

7 **Mr. Maatki:** Thank you.

8 **CAPT WELBORN:** Thank you Captain Flaherty. Sir, I have two questions from KMST for you
9 Mr. Maatki. Again these questions are from the Korean Maritime Safety Tribunal. The first
10 question is, was there any space for more vehicles on the lower deck when creating the
11 GOLDEN RAY's loading plan?

12 **Mr. Maatki:** Not that I recall. I wasn't onboard the vessel so I couldn't tell you exactly. But
13 based off of plans that we received, no.

14 **CAPT WELBORN:** Okay, so just to confirm the lower decks were full?

15 **Mr. Maatki:** From our knowledge, I mean like I said we weren't on board the vessel to confirm
16 that, but based off of the plans, yes.

17 **CAPT WELBORN:** Understood, sir. The second question I have from KMST is did you
18 consider moving vehicles from a higher deck to a lower to increase the stability of the
19 GOLDEN RAY?

20 **Mr. Maatki:** Say again, sir. I'm sorry.

21 **CAPT WELBORN:** Did you consider moving vehicles from a higher deck to a lower deck to
22 increase the stability of the GOLDEN RAY?

23 **Mr. Maatki:** No, sir.

1 **CAPT WELBORN:** Okay. Now we'll move on to our PII's, Mr. Reisman do you have
2 questions for this witness?

3 **Mr. Reisman:** Captain no questions for the ship owner interest.

4 **CAPT WELBORN:** Understand. Thank you, sir. Mr. Gilsenan do you have questions for this
5 witness, sir?

6 **Mr. Gilsenan:** No thank you Captain, no questions.

7 **CAPT WELBORN:** Lieutenant Commander Moore is there anybody I've missed?
8 Understood. Okay. Mr. Maatki I do appreciate your testimony today. Please note that you're
9 still under oath and subject to recall until these formal proceedings are suspended sometime
10 next week. Thank you again for your time today.

11 **Mr. Maatki:** Okay, thank you.

12 **CAPT WELBORN:** The current time is 3:20 – oh hang on. We still have the exhibit to verify.
13 So if we could share the screen with Mr. Maatki. If you could bear with us just a few moments,
14 sir.

15 **Mr. Maatki:** Not a problem.

16 **CAPT WELBORN:** Mr. Maatki I did realize one of the questions I didn't ask you, you said the
17 Salon vessels, those are RO-RO vessels also?

18 **Mr. Maatki:** Car carriers, yes.

19 **CAPT WELBORN:** Car carriers, understood. I just want to make sure we got that on the
20 record. Same type of construction with a stern and a side ramp also?

21 **Mr. Maatki:** Yes, sir.

22 **CAPT WELBORN:** Again I apologize for the delay this hearing seems to be problems, all
23 week we've been fighting several things that have been trying to get in the middle of us. Okay

1 so the time, local time is 3:26. I think we'll take a quick 5 minutes. Mr. Maatki I do appreciate
2 your indulgence. I'm sorry to put you off for a moment or two more while we continue to work
3 on this schedule. So again the time is 3:26. This hearing stands adjourned.

4 *The hearing recessed at 3:26, 16 September 2020*

5 *The hearing was called to order at 3:33, 16 September 2020*

6 **CAPT WELBORN:** Okay the local time is now 3:33 we're back on the record. Mr. Maatki are
7 you still with us, sir? Mr. Maatki are you with us?

8 **Mr. Maatki:** Yes, sir.

9 **CAPT WELBORN:** Okay good. So I believe we have the document pulled up now. Can you
10 see the document on your end, sir?

11 **Mr. Maatki:** Yeah.

12 **CAPT WELBORN:** Okay and the voyage number, can you read that for us?

13 **Mr. Maatki:** Voyage number 13.

14 **CAPT WELBORN:** Okay so if we'll scroll to the bottom of the first page is that missing
15 information that you were speaking about earlier, sir?

16 **Mr. Maatki:** That's correct.

17 **CAPT WELBORN:** Okay. So Mr. Maatki can you tell me is this document the same as the
18 previous document that we were referring to with the exception of the additional information
19 there at the bottom?

20 **Mr. Maatki:** Yes.

21 **CAPT WELBORN:** You would be willing to say, okay, so would you be willing to say then that
22 this document is the same as the other document with the exception of that information that we
23 just noted at the bottom of the graphic?

1 **Mr. Maatki:** It appears to be. Yes, I didn't go through every number on the plan, but it
2 definitely appears to be, yes.

3 **CAPT WELBORN:** So, I want to build your confidence in this document. What information
4 would you like to see on this document to bring your confidence level up?

5 **Mr. Maatki:** I mean I'm pretty confident that it's the same plan. But I'm just saying without
6 checking every number on, and every etch, every deck, but no it appears to be definitely the
7 same plan.

8 **CAPT WELBORN:** Okay. So what I would like to do then Mr. Maatki is we're going to enter
9 these two documents, not only the earlier document that was missing information at the bottom
10 of page 1, the PDF, but then this excel spreadsheet into evident. We'll call the PDF Coast
11 Guard Exhibit 7. And we'll call this excel spreadsheet Coast Guard Exhibit 8. Any objections
12 from the PII's or SIS's before we enter both of these documents into evidence?

13 [No objections].

14 **CAPT WELBORN:** Hearing no objections both pieces are entered into evidence as Coast
15 Guard Exhibits 7 and 8. Mr. Maatki again I want to thank you for your testimony today. You've
16 been very helpful in advancing us in this process. So thank you, sir, I do appreciate it and
17 again you are subject to recall. So we will stand in adjournment for 10 minutes while we
18 prepare our next witness. I heard from someone.

19 **Mr. Gilsenan:** Yeah Ryan Gilsenan and very minor thing, but if you want to make the
20 spreadsheet 7A you don't have to renumber all the other exhibits that have already been
21 circulated.

22 **CAPT WELBORN:** I'm looking at our Recorder and she said that we're going to go ahead and
23 leave it as 7A. But thank you Mr. Gilsenan I do appreciate that. Thank you, sir. So we stand

1 in adjournment for 10 minutes. The local time is 3:36. We'll re-adjourn here in about 10
2 minutes. So we stand in recess.

3 *The hearing recessed at 3:36, 16 September 2020*

4 *The hearing was called to order at 3:58, 16 September 2020.*

5 **CAPT WELBORN:** So we are back in session. The local time now is 3:58. We are here
6 continuing to conduct the formal investigation of the capsizing of the Motor Vessel GOLDEN
7 RAY. Our next witness will be Mr. Hyun Jip Choi who will speak to the safety management
8 system of the vessel. Lieutenant Commander Moore would you please swear in the witness
9 and the interpreter.

10 **Recorder:** Yes, sir, Captain. The following witness requires the use of a translator. ENS Lee
11 please stand and raise your right hand. Do you swear that you will faithfully perform the duties
12 of interpreter in this investigation, so help you God?

13 **ENS LEE:** I do.

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

18 **Mr. Hyun Jip Choi:** Yes I do.

19 **Mr. Reisman:** Were you able to hear him clearly, sounds like he was breaking up. You could
20 hear him clearly?

21 **Mr. Hyun Jip Choi:** Yeah.

22 **Mr. Reisman:** Okay you can sit down now.

23 **Recorder:** Thank you Mr. Choi please be seated.

1 **Mr. Reisman:** Lieutenant Commander Moore his name is Choi.

2 **Recorder:** Thank you Mr. Reisman. For the record the last name is Choi. I will now pass to

3 Captain Welborn for further questions.

4 **CAPT WELBORN:** Thank you Commander Moore. So before we proceed I want to make

5 sure we floated this before, but I want to make sure that nobody has any issues with our

6 current interpreter, ENS Lee being a Coast Guard member. Are there any objections from our

7 SIS members?

8 **Mr. Bremer:** No objection Captain.

9 **CAPT WELBORN:** NTSB?

10 **NTSB:** No objection.

11 **CAPT WELBORN:** KMST?

12 **WIT:** No objections were received.

13 **CAPT WELBORN:** No objections from KMST. Any objections from our PII's, Mr. Gilsenan?

14 **Mr. Gilsenan:** No objection, sir.

15 **CAPT WELBORN:** And Mr. Reisman?

16 **Mr. Reisman:** No objection, sir.

17 **CAPT WELBORN:** Thank you very much. So entered into the record. Mr. Choi please state

18 your name and spell it for the record.

19 **Mr. Hyun Jip Choi:** Hyun Jip Chol.

20 **CAPT WELBORN:** Sir, would you please spell your last name?

21 **Mr. Hyun Jip Choi:** Choi, C-H-O-I.

22 **CAPT WELBORN:** Very good thank you, sir. Are you represented by counsel today?

23 **Mr. Hyun Jip Choi:** Yes.

1 **CAPT WELBORN:** Mr. Reisman that's your position here today?

2 **Mr. Reisman:** I represent his employer, I'm not sure he fully understood the question. I
3 represent his employer on behalf of his employer today.

4 **CAPT WELBORN:** Understood, understood. So Mr. Lee would you state the question to the
5 witness. Is he represented by legal counsel today?

6 **Mr. Hyun Jip Choi:** Yes.

7 **CAPT WELBORN:** And what is the name of his counsel?

8 **Mr. Reisman:** They are asking you if I represent you or if you have some other lawyer here
9 today. Do you understand that I represent the company, not you individually? Is that correct?

10 **Mr. Hyun Jip Choi:** Correct.

11 **Mr. Reisman:** Do you have another lawyer here representing you today?

12 **Mr. Hyun Jip Choi:** No.

13 **CAPT WELBORN:** Understood, thank you, sir. Mr. Choi do you hold any professional
14 certificates or certifications?

15 **Mr. Hyun Jip Choi:** Yes I completed several courses for internal audit such as ISM,
16 ISPS, MSP by [in audible].

17 **CAPT WELBORN:** Mr. Choi who was your employer in September 2019?

18 **Mr. Hyun Jip Choi:** G-Marine, sir.

19 **CAPT WELBORN:** And what position did you hold then?

20 **Mr. Hyun Jip Choi:** I'm still a manager in safety management team.

21 **CAPT WELBORN:** Mr. Choi did you receive any specific training for this position?

22 **Mr. Hyun Jip Choi:** Yes I mentioned before due to my job I – ISM and ISPS course by
23 registry.

1 **CAPT WELBORN:** Prior to holding this position can you give us a brief summary of your
2 background and experience?

3 **Mr. Hyun Jip Choi:** Sorry I can't hear. So can you say again please? Okay. I graduated
4 from Maritime University in 2005. I started working on the ship as a officer, the navigator. And
5 from 2005 to 2012 I worked on the ship and I ended up as a Ship's Officer I was transferred to
6 shore side as a [in audible]. And then I was transferred to team in 2019. I'm sorry 2019, yeah.
7 So I working for safety management team for one year, yeah.

8 **CAPT WELBORN:** Mr. Choi the following questions are all relating to the GOLDEN RAY, her
9 crew and the safety management system in place at the time of the incident.

10 **Mr. Hyun Jip Choi:** Yes, sir, I understand.

11 **CAPT WELBORN:** Did the GOLDEN RAY have an approved safety management system at
12 the time of the incident?

13 **Mr. Reisman:** Captain we're getting some pretty severe feedback from the translator and it's
14 making it very difficult I think for the witness to understand the questions in Korean.

15 **CAPT WELBORN:** Understood. Let's see if maybe get a different input for him. Just a
16 moment. Understand, I think we microphone issue for ENS Lee. So just stand by one
17 moment we'll see if we can't trade that out.

18 **Mr. Reisman:** Roger.

19 **CAPT WELBORN:** Okay I think we've made some technologic shifts here. ENS Lee if you
20 would speak to Mr. Choi and see if the audio is any clearer.

21 **ENS Lee:** [Testing microphone in Korean].

22 **Mr. Reisman:** That was better Captain. That was better.

1 **CAPT WELBORN:** Good. Okay well thank you Mr. Reisman for bringing that to our attention.
2 If we drop into a situation where that audio is degraded please tell me and we'll stop and
3 regroup and start again. So back to the question. Did the GOLDEN RAY have an approved
4 safety management system?

5 **Mr. Hyun Jip Choi:** Yes it did.

6 **CAPT WELBORN:** And who approved that system?

7 **Mr. Hyun Jip Choi:** Our [in audible] as approved by industry on behalf of [in audible].

8 **CAPT WELBORN:** Did the safety management system address cargo operations?

9 **Mr. Hyun Jip Choi:** Yes our cargo operation is different to operations.

10 **CAPT WELBORN:** According to the safety management system who was in charge of the
11 cargo operations?

12 **Mr. Hyun Jip Choi:** According to our procedure, CRM01 that's pretty much – we assign that
13 responsibility to Chief Officer.

14 **CAPT WELBORN:** What were the specific duties assigned to the Chief Officer?

15 **Mr. Hyun Jip Choi:** Chief Officer reviews unloading, loading cargo plan and providing him
16 cargo operation. Also he [in audible] stability by using load com with a plan. And also he is in
17 charge of the ballasting and special [in audible]. And he prepares some cargo issues, Chief
18 Officer care about that.

19 **CAPT WELBORN:** Does the safety management system address required training for
20 personnel conducting stability calculations?

21 **Mr. Hyun Jip Choi:** Could you explain to me what does he mean please?

22 **CAPT WELBORN:** Is there specific training required for the Chief Mate with respect to say
23 conducting stability calculations?

1 **Mr. Hyun Jip Choi:** I'm sorry I'm not aware of that training. Because I am working for safety
2 management team. So I can't answer about that.

3 **CAPT WELBORN:** What system to calculate stability did the GOLDEN RAY use?

4 **Mr. Hyun Jip Choi:** Usually load com is used. But I cannot remember the maker's make.

5 **CAPT WELBORN:** Do you know who approved this system?

6 **Mr. Hyun Jip Choi:** That system had been approved by Coryon (sic) registry.

7 **CAPT WELBORN:** Did the Chief Mate receive training on that system?

8 **Mr. Hyun Jip Choi:** Sorry I don't know the answer about that.

9 **CAPT WELBORN:** Does the safety management system speak to training requirements?

10 **ENS Lee:** What's that question again?

11 **CAPT WELBORN:** Does the safety management system address training requirements?

12 **Mr. Hyun Jip Choi:** For crew was, the team member, can you explain to me please?

13 **CAPT WELBORN:** I will break the question up in pieces. Does the safety management
14 system address training requirements for the Chief Mate concerning stability calculations?

15 **Mr. Hyun Jip Choi:** Our safety management team don't do that, sir.

16 **CAPT WELBORN:** Does the plan ----

17 **Mr. Hyun Jip Choi:** Sorry. Go ahead please. Safety management team train a crew for our
18 SMS manual, sir.

19 **CAPT WELBORN:** Is the training required addressed in the safety management manual?

20 **Mr. Hyun Jip Choi:** Yes we do.

21 **CAPT WELBORN:** Who is in charge of this training?

22 **Mr. Hyun Jip Choi:** Our team leader assigned one person for training.

1 **CAPT WELBORN:** Does the team leader train the Chief Mate to conduct stability
2 calculations?

3 **Mr. Hyun Jip Choi:** Our training would include stability at station. We only for SMS.

4 **CAPT WELBORN:** How many hours or days in advance of the ship's departure is the Chief
5 Mate given the loading plan to calculate stability?

6 **Mr. Hyun Jip Choi:** I'm sorry I don't even [in audible] to that. There are many Chief Mates it
7 depends on the ship's condition, so I cannot answer objectively.

8 **CAPT WELBORN:** I would like to remind the witness these questions are regarding the plan
9 itself. Not the condition of the vessel.

10 **Mr. Hyun Jip Choi:** Is not within to its planning. So I'm so sorry we cannot answer about that.

11 **CAPT WELBORN:** According to the plan if the stability is not safe does the Chief Mate have
12 the authority to conduct ballast operations?

13 **Mr. Hyun Jip Choi:** Yes. According to our procedure CRM we assign Chief Officer can do
14 that.

15 **CAPT WELBORN:** If the stability of the vessel is in question what options does the Chief
16 Mate have?

17 **Mr. Hyun Jip Choi:** First of all Chief Officer must report to Captain. And Chief Officer can
18 offer some options. First [in audible], adding more ballast and adjusting cargo, or shifting
19 cargo. Then if possible they'll supplement bunker.

20 **CAPT WELBORN:** Can the departure of the ship be delayed by the Chief Officer?

21 **Mr. Hyun Jip Choi:** If the vessel cannot have proper stability, can't be to ride, yes.

22 **CAPT WELBORN:** Does the safety management system specify a responsible individual for
23 calculating stability?

1 **Mr. Hyun Jip Choi:** Yes. [in audible] can assign that responsibility to Chief Officer.

2 **CAPT WELBORN:** Are these stability calculations completed after the completion of the load

3 plan?

4 **Mr. Hyun Jip Choi:** Yes.

5 **CAPT WELBORN:** Are the stability calculations also completed after the vessel has been

6 loaded?

7 **Mr. Hyun Jip Choi:** Yes because stability is calculated by ship's condition.

8 **CAPT WELBORN:** Is the Master required to check the Chief Mate's stability calculations?

9 **Mr. Hyun Jip Choi:** Yes. Captain responsible for whole things on the ship so Captain check

10 their Chief Officer's calculations, sir.

11 **CAPT WELBORN:** To the best of your knowledge did anyone off of the GOLDEN RAY

12 calculate the vessel's stability prior to departure from Brunswick?

13 **Mr. Hyun Jip Choi:** I'm sorry I don't know about that.

14 **CAPT WELBORN:** Does the SMS plan require stability calculations to be completed off of the

15 vessel?

16 **Mr. Hyun Jip Choi:** We don't have specific route about this, sir.

17 **Wit:** Could you repeat that?

18 **CAPT WELBORN:** The answer or the question, sir?

19 **Wit:** Sorry the answer.

20 **CAPT WELBORN:** Mr. Lee can you restate the question. To the best of the witness'

21 knowledge did any person off of the ship calculate the vessel's stability?

22 **Mr. Hyun Jip Choi:** Sorry I don't know about that, sir.

23 **CAPT WELBORN:** Does the SMS plan require stability calculations off of the vessel?

1 **Mr. Reisman:** Captain Welborn could I just ask for clarification, obviously I can't understand
2 the Korean, but are you asking if the calculations performed by somebody on shore? I think
3 when you say away from the vessel or off of the vessel may be a little bit unclear.

4 **CAPT WELBORN:** Yes, sir. I'm asking if stability calculations are completed off of the vessel,
5 ashore.

6 **Mr. Hyun Jip Choi:** To get the calculations, typical before departure, sir.

7 **CAPT WELBORN:** By persons on the ship or off the ship?

8 **Mr. Hyun Jip Choi:** Stability is check, sorry, Chief Officer calculates the stability, sir.

9 **CAPT WELBORN:** Does anyone else calculate stability for the vessel?

10 **Mr. Hyun Jip Choi:** No, sir.

11 **CAPT WELBORN:** Is the Chief Officer required to communicate the stability calculations to
12 any shore side personnel before departure?

13 **Mr. Hyun Jip Choi:** Chief Officer does the calculations report to Captain as I know, sir.

14 **CAPT WELBORN:** But no one ashore, correct?

15 **Mr. Hyun Jip Choi:** Generally it is received departure report. We have – departure also has
16 stability, so after departure we can see that information.

17 **CAPT WELBORN:** Just a moment I have a point of clarification. I apologize for that I had to
18 ask ENS Lee a question regarding the answer to the last question. So the ship's stability is
19 communicated to the company after the ship departs, is that correct?

20 **Mr. Hyun Jip Choi:** Yes departure report.

21 **CAPT WELBORN:** How long after departure is this information reported?

22 **Mr. Hyun Jip Choi:** It depends on ship's schedule. So I cannot answer objectively.

1 **CAPT WELBORN:** Did the GOLDEN RAY report their departure stability before departing
2 Brunswick?

3 **Mr. Hyun Jip Choi:** I don't know objectively, sir.

4 **CAPT WELBORN:** Do you know who would know this information?

5 **Mr. Hyun Jip Choi:** That is our system I told, sir.

6 **CAPT WELBORN:** If the stability of the vessel is not safe what are the procedures for
7 correcting it according to the SMS?

8 **Mr. Hyun Jip Choi:** Chief Officer reports that to Captain and they have to find out to make for
9 stability. So shifting cargo was, ballast, adding ballast, yes. So if they are not working after
10 ask to operator.

11 **CAPT WELBORN:** When the stability is reported after departing port how is that reported to
12 the company?

13 **Mr. Hyun Jip Choi:** Departure some texture about stability.

14 **CAPT WELBORN:** Is the stability information reported to the company in an email?

15 **Mr. Hyun Jip Choi:** No by our system.

16 **CAPT WELBORN:** Who manages that system?

17 **Mr. Hyun Jip Choi:** Our – sorry I don't remember specifically now, yeah.

18 **CAPT WELBORN:** Who receives the report from the ship in the company regarding stability?

19 **Mr. Hyun Jip Choi:** Fleet management team, sir.

20 **CAPT WELBORN:** Does the Chief Officer send that information to the safety management
21 team?

22 **Mr. Hyun Jip Choi:** No, sir.

23 **CAPT WELBORN:** Who does?

1 **Mr. Reisman:** Captain can I just interject? I think you may have misunderstood, but maybe
2 we got it wrong here. But I think he said that it's sent to the fleet management team, not safety
3 management team,

4 **CAPT WELBORN:** Understood, sir. My mistake. Misstated on my part. So the stability
5 information is sent from the ship to the fleet management team. Who sends that email?

6 **Mr. Hyun Jip Choi:** Usually the Second Mate make the report and stability calculation by
7 Chief Officer.

8 **CAPT WELBORN:** Who on the fleet management team receives the email?

9 **Mr. Hyun Jip Choi:** Each respondent does, sir.

10 **CAPT WELBORN:** Does the Chief Mate have the authority to adjust the stowage plan as
11 necessary?

12 **Mr. Hyun Jip Choi:** Yes.

13 **CAPT WELBORN:** If he adjusts the plan who does he report that to?

14 **Mr. Hyun Jip Choi:** Chief Mate should report to Captain and supposed to cargo operator.

15 **CAPT WELBORN:** Does that report also go to the fleet management team?

16 **Mr. Hyun Jip Choi:** No because the cargo operation is between vessel and operator. So they
17 don't report to us.

18 **CAPT WELBORN:** Has the Chief Mate on the GOLDEN RAY ever adjusted the stowage
19 plan?

20 **Mr. Hyun Jip Choi:** I don't know about that.

21 **CAPT WELBORN:** Does the safety management system require the Chief Mate to notify the
22 company to take on or discharge ballast?

23 **ENS Lee:** Could you repeat the question Captain?

1 **CAPT WELBORN:** I'll break the question up in pieces. Does the safety management system
2 require the Chief Mate to notify the company when taking on or discharging ballast?

3 **Mr. Hyun Jip Choi:** No G-Marine doesn't require Chief Officer to report about every cargo
4 operation to us at the time.

5 **CAPT WELBORN:** I have another question that I need to break up. In your experience has
6 any vessel working for Hyundai Glovis been delayed due to an adjustment in the stowage
7 plan?

8 **Mr. Hyun Jip Choi:** I don't know objectively about that, sir.

9 **CAPT WELBORN:** Do you know who would know that?

10 **Mr. Hyun Jip Choi:** I don't know, sir.

11 **CAPT WELBORN:** Mr. Reisman I have an excerpt from the safety management system that I
12 would like to walk through with your client. Do you have a copy of that available for him?

13 **Mr. Reisman:** Yes we do.

14 **CAPT WELBORN:** The excerpt version that I have has 8 pages. Is that the same as your
15 version, sir?

16 **Mr. Reisman:** Yes, we have 8 pages.

17 **CAPT WELBORN:** Okay starting on page, in the upper right hand corner marked 20-3.

18 **Mr. Reisman:** Sir, he's looking at that page.

19 **CAPT WELBORN:** Specifically 2.1.1.

20 **Mr. Hyun Jip Choi:** Yes.

21 **CAPT WELBORN:** The Master should make decisions with respect to the safety of the
22 vessel, crew, passenger and cargo and pollution prevention and has the overriding authority

1 and responsibility, excuse me, I – the screen just changed. Just a moment. Mr. Reisman is
2 your client going to read that section?

3 **Mr. Reisman:** I think he's reading it right now. So let's back up. I just want to make sure we
4 have these things on the record and that your client will confirm that these pieces of
5 information were in effect in the safety management system at the time of the incident.

6 **Mr. Reisman:** I believe he can do that.

7 **CAPT WELBORN:** Okay. I'll start reading again. The Master should make decisions with
8 respect to safety of the vessel, crew, passenger and cargo and pollution prevention and has
9 the overriding authority and responsibility to request the company's assistance as may be
10 necessary. And has the responsibility and authority as the highest commander of the vessel
11 for any and every situation. Mr. Choi was this excerpt in effect at the time of the incident?

12 **Mr. Reisman:** We're not hearing the translator.

13 **ENS Lee:** Can you hear me?

14 **Mr. Reisman:** You're very – I don't think your microphone is working.

15 **ENS Lee:** Can you hear me?

16 **Mr. Reisman:** Yes thank you.

17 **Mr. Hyun Jip Choi:** Can you explain to me what does that mean, sir?

18 **CAPT WELBORN:** Mr. Choi I want to make sure that – Mr. Choi I want to make sure that you
19 can confirm this is the safety management system that was in place on the vessel at the time
20 of the incident.

21 **Mr. Hyun Jip Choi:** Yes.

22 **CAPT WELBORN:** Mr. Reisman is your witness confirming that this is in fact an excerpt from
23 the approved safety management system on the vessel at the time of the incident?

1 **Mr. Reisman:** Yes he is.

2 **CAPT WELBORN:** Then I just want to make sure that we have a couple of pieces of it on the
3 record as we proceed here. So again on page 20-3 under 2.2, the Master's duty, proceeding
4 to page 20-4F, safe navigation of the vessel and to secure ship's seaworthiness, Gulf reads to
5 confirm cargo load, discharge plan drawn by the Chief Officer and it's monitoring. Continuing
6 down that same page, Romeo, instructions required by the company and other matters.
7 Sierra, a requirement to the interested party being the shipper, charterer. Tango to keep slash
8 maintain the records required to be kept by the company and relevant parties.

9 **Mr. Reisman:** Captain can slow down one minute. He's trying to keep up. I think he's [in
10 audible].

11 **CAPT WELBORN:** Understood, sir.

12 **Mr. Reisman:** Are you good?

13 **Mr. Hyun Jip Choi:** Yeah, good, okay.

14 **Mr. Reisman:** He's caught up, I'm sorry.

15 **CAPT WELBORN:** Understood. I will definitely slow down, sir. On page 20-7 specifically
16 section Hotel, task and loading slash discharging and cargo related work to make slash adjust
17 loads slash discharge work plans and conform it's results. Excuse me, confirm its results. To
18 confirm -----

19 **Mr. Reisman:** Captain.

20 **CAPT WELBORN:** Yes, sir.

21 **Mr. Reisman:** I apologize have we now jumped to the Chief Officer's duties?

22 **CAPT WELBORN:** Yes, sir. We have I apologize. That is on page 20-6, it is the Chief
23 Officer's duties, yes, sir. So the Chief Officer specifically in section Hotel task of loading slash

1 discharging and cargo related work. And to confirm the ship's stability and visibility. India to
2 manage the ballast water bilges and freshwater. Are there any other issues with this particular
3 document from your client Mr. Reisman?

4 **Mr. Reisman:** I'm not sure what the question is. But we agree that this is the, you know these
5 are excerpts of the SMS that was enforce and effect at the time of the incident.

6 **CAPT WELBORN:** Understood. So we will enter this as Coast Guard Exhibit 9. Any
7 objections from National Transportation Safety Board? Captain Flaherty any objections on this
8 particular piece of evidence?

9 **NTSB:** No, no objections.

10 **CAPT WELBORN:** From the Republic of the Marshal Islands, any objections on this piece of
11 evidence?

12 **Mr. Bremer:** No objection.

13 **CAPT WELBORN:** KMST objections?

14 **WIT:** No objections received.

15 **CAPT WELBORN:** Understood. As previously stipulated this piece of evidence is entered
16 into the record as Coast Guard Exhibit 9. Mr. Choi thank you for your testimony and for
17 answering my questions. I'm going to go around and ask others if they have questions of you.
18 Starting with the Republic of the Marshal Islands. Mr. Bremer do you have questions for this
19 witness?

20 **Mr. Bremer:** Yes thank you. For the record can you confirm during your time underway if you
21 sailed on car carriers?

22 **Mr. Hyun Jip Choi:** No I don't.

1 **Mr. Bremer:** Okay thank you. And since the GOLDEN RAY incident has any new procedures
2 been implemented by G-Marine with regards to stability?

3 **Mr. Reisman:** Is this question specific reference to SMS procedures?

4 **Mr. Bremer:** Yes, correct, SMS procedures relating to stability.

5 **Mr. Hyun Jip Choi:** As you know our team is SMS system so we are constantly updating the
6 procedure and authority, but we don't do that of the incident.

7 **Mr. Bremer:** So for clarification the answer was no changes have been made to the SMS
8 following the incident, is that correct?

9 **Mr. Hyun Jip Choi:** We didn't change because of the incident.

10 **Mr. Bremer:** Okay, thank you. No further questions.

11 **CAPT WELBORN:** Thank you Mr. Bremer. Captain Flaherty do you have questions for this
12 witness?

13 **NTSB:** Yes I do. Thank you Captain. Sir, I just want to confirm at the time of the casualty
14 how many vessels did this safety management system cover or apply to?

15 **Mr. Hyun Jip Choi:** Can you say, okay, the question please?

16 **NTSB:** Sure. At the time of the accident involving the GOLDEN RAY how many vessels did
17 this safety management system apply to?

18 **Mr. Hyun Jip Choi:** I don't remember the number exactly. All vessels we manage apply to
19 our SM system.

20 **NTSB:** So how many vessels are under the safety management system?

21 **Mr. Hyun Jip Choi:** Present 45 vessels.

22 **NTSB:** Okay 45 vessels. So at the time of the casualty was it 46 vessels or more?

23 **Mr. Hyun Jip Choi:** I think so, yeah.

1 **NTSB:** Are you in charge of the audit schedule for the company?

2 **Mr. Hyun Jip Choi:** I am not personally in charge of the planning of internal audit. But I audit
3 [in audible].

4 **NTSB:** Do you have a lead auditor's qualification?

5 **Mr. Hyun Jip Choi:** Yes I have.

6 **NTSB:** Who in the company schedules the audits of the vessels?

7 **Mr. Hyun Jip Choi:** My co-worker, my team leader assigns teams about the planning of an
8 audit, sir.

9 **NTSB:** Prior to the accident involving the GOLDEN RAY do you know the last time that that
10 vessel was audited?

11 **Mr. Hyun Jip Choi:** I only remember August 2019. But I don't remember exactly the dates.

12 **NTSB:** So approximately a month before the accident there was an internal audit done by the
13 company of the GOLDEN RAY?

14 **Mr. Hyun Jip Choi:** Yes we did.

15 **NTSB:** When was the last time there was an external audit of the company?

16 **Mr. Reisman:** Of the company or the vessel?

17 **NTSB:** The company.

18 **Mr. Hyun Jip Choi:** I'm sorry I don't remember exactly.

19 **NTSB:** For the internal audit that was done for the GOLDEN RAY back in August of 2019,
20 what was the findings of the audit?

21 **Mr. Hyun Jip Choi:** I don't know exactly, sir.

22 **NTSB:** I'm sorry I didn't understand.

23 **Mr. Hyun Jip Choi:** I don't know. I cannot remember exactly, sir.

1 **NTSB:** Do you or the company maintain the results of the vessel audits?

2 **Mr. Hyun Jip Choi:** Yes we have.

3 **NTSB:** Would those be available for this investigation for the GOLDEN RAY specifically?

4 **Mr. Hyun Jip Choi:** We're talking about internal audits, right?

5 **NTSB:** Correct, the internal audit related to the GOLDEN RAY dated in August of 2019.

6 **Mr. Hyun Jip Choi:** Yes we do. But easier to reach them in Coryon (sic), sir.

7 **NTSB:** I'm sure we'd be able to overcome that if it's possible for the company to provide that

8 to us, it might be helpful in understanding how the vessel is operating in accordance with

9 safety management system at the time.

10 **Mr. Hyun Jip Choi:** Yes I will.

11 **NTSB:** Captain Welborn if you could I would recommend that we request the audit results of

12 August '19 for the GOLDEN RAY.

13 **CAPT WELBORN:** Yes we will obtain those for the record.

14 **NTSB:** Thank you, sir. I have a few more questions. The Master who reported on board in

15 Freeport, Texas, let me make sure I get his name correct, Captain Lee, was that his first time

16 as an employee of your company?

17 **Mr. Hyun Jip Choi:** No, sir. He used to work for Hyundai shipping and Hyundai SM, so he

18 had experience working with us, sir.

19 **NTSB:** Do you know what safety management system classes, courses, seminars that he was

20 required to complete in order to be a Master of one of your vessels?

21 **Mr. Hyun Jip Choi:** I don't remember exactly what they are. But the Captain is the highly

22 experienced and the highest [in audible], sir.

1 **CAPT WELBORN:** Captain Flaherty if I could just a moment. If you could give us just a
2 couple more pauses in your questions to allow our interpreter to keep up.

3 **NTSB:** Sorry about that.

4 **CAPT WELBORN:** He's doing his best, but just give us a little bit more chunks and phrases.

5 **NTSB:** I will. Sorry about that. The relief process for the Master when he reported on board
6 in Freeport, was any documentation of that relief provided to you and to the company?

7 **Mr. Reisman:** Mr. Flaherty can I maybe help you there. I think he didn't understand. Are you
8 asking about a handover form for example?

9 **NTSB:** Yes a handover form for relief process. Was there documentation in accordance with
10 the safety management system for the handover from the one Master to the other Master in
11 Freeport, Texas?

12 **Mr. Hyun Jip Choi:** I don't know. I will figure it out.

13 **NTSB:** Okay that would be helpful. Was there any documentation of the relief process for the
14 Chief Officer who was on board the GOLDEN RAY at the time of the accident?

15 **Mr. Hyun Jip Choi:** I don't know exactly, sir.

16 **NTSB:** Okay. Were there any, let's see what is the terminology, were there any notifications
17 of deficiencies issued for the GOLDEN RAY to you during the six months prior to the casualty.

18 **Mr. Hyun Jip Choi:** No I don't.

19 **NTSB:** Did the Master, either the previous Master who was on board at the time of the
20 casualty provide any documentation on non-conformities that were discovered and corrective
21 actions that were taken?

22 **Mr. Hyun Jip Choi:** I don't know what happened to them, sir, yeah.

1 **NTSB:** Does the company have any documentation of any correspondence from the Master
2 concerning the safety management system on board the ship?

3 **Mr. Hyun Jip Choi:** Can you, he said, to other vessels or just on the GOLDEN RAY. Can you
4 repeat?

5 **NTSB:** Sir, I apologize I'm only, that question was only focused on the GOLDEN RAY.

6 **Mr. Hyun Jip Choi:** No I don't, sir.

7 **NTSB:** Has your company conducted an investigation as per the safety management system
8 into the events surrounding the casualty involving the GOLDEN RAY in September of 2019?

9 **Mr. Hyun Jip Choi:** No we didn't, sir.

10 **NTSB:** So just to clarify no internal company investigation of the GOLDEN RAY casualty?

11 **Mr. Hyun Jip Choi:** No we didn't. We are waiting for the investigation from Coyron (sic) and
12 U.S., sir.

13 **NTSB:** Captain Welborn that's all the questions I have, thank you. And thank you, sir for your
14 time.

15 **CAPT WELBORN:** Thank you Captain Flaherty I do appreciate that. So now we have a few
16 questions from KMST that have come in to us in Korean. We will need a few minutes to
17 translate those, to have our translator prepare those. So the time is now 5:06. We're going to
18 take a little extended recess. We're going to recess for about 15 minutes and then we'll go
19 back on the record once we have the KMST questions translated and I will read those and
20 present those to the witness. So at this point we stand adjourned.

21 *The hearing recessed at 5:06, 16 September 2020*

22 *The hearing was called to order at 5:21, 16 September 2020.*

1 **CAPT WELBORN:** Okay ladies and gentlemen welcome back. We are back on the record,
2 local 5:21 in the afternoon in the investigation of the Motor Vessel GOLDEN RAY capsizing.

3 We now have some questions regarding – from KMST for the witness. Get to those.

4 **Mr. Reisman:** Can we have one more second in New Orleans to get settled?

5 **CAPT WELBORN:** Yes, sir, please go right ahead.

6 **Mr. Reisman:** Give us one more minutes, thank you very much.

7 **CAPT WELBORN:** Stand by.

8 **Mr. Reisman:** Are you waiting on us?

9 **CAPT WELBORN:** Are you ready Mr. Reisman.

10 **Mr. Reisman:** Oh yeah, I'm sorry, I apologize. Yes we're ready.

11 **CAPT WELBORN:** No that's quite alright. We're actually translating one last question from
12 KMST. So bear with us just a moment or two more.

13 **Mr. Reisman:** Certainly.

14 **CAPT WELBORN:** Okay thank you for your indulgence we have the questions from KMST
15 translated. I will read them based solely upon the translation. So Mr. Choi based on your
16 experience how much time does it take to calculate the stability for a car carrier?

17 **Mr. Hyun Jip Choi:** I'm so sorry I don't have any experience of car carriers so I can't answer
18 about that, sir.

19 **Mr. Reisman:** Captain if I could, I know you're reading the questions, I think one of the issues
20 that is presented itself is Mr. Choi was not expecting to testify regarding operational issues and
21 how long something might take. He's more of a policy person. So I think we're kind of running
22 afoul and that's maybe why he's unable to answer some of these questions.

1 **CAPT WELBORN:** Understood, sir. So if I could deviate and ask a question from me, in his
2 experience as a Chief Mate how long would it take to calculate stability for a car carrier?

3 **Mr. Hyun Jip Choi:** I was Chief Officer for container vessel, so I don't know objectively how
4 long it takes, sir.

5 **CAPT WELBORN:** Understood, thank you. Back to the KMST questions. Please explain the
6 procedure on how to calculate the vessel's stability.

7 **Mr. Hyun Jip Choi:** It is Chief Mate assign deck work, so you mean if Chief Officer – do I
8 have to explain about that?

9 **CAPT WELBORN:** Hold on just one moment, sir. Just stand by for just a moment. Okay, so
10 what I'm thinking is because we have representatives from KMST directly in our chat now,
11 what I would like to do is have one of the KMST representatives ask the question directly of
12 Mr. Choi. We will take a short pause while our translator translates that question into English
13 and then Mr. Choi can answer the question. And again we will have that translated into English.
14 So representative Hyun Gil (sic).

15 **KMST:** Do you hear me?

16 **CAPT WELBORN:** Yes, sir I can. Thank you very much for joining us. I know it's an
17 awkward hour for you. But if you would like to ask your questions directly of the witness we
18 certainly can allow this at this time.

19 **KMST:** So I can ask him by own language, is that okay right?

20 **CAPT WELBORN:** Yes please ask your question in Korean and we will have ENS Lee
21 translate it.

22 **KMST:** Okay my testimony is that please explain the procedure how to calculate the vessel's
23 stability. It is Korean.

1 **Mr. Hyun Jip Choi:** [Asked question in Korean].

2 **KMST:** So what he talking about is he is only experienced in container vessel so he only
3 knows about calculating stability of container vessel. And yes please explain the calculating of
4 the stability in container vessel, general stability calculating.

5 **CAPT WELBORN:** Yes, sir we understand your first question. Please feel free to move on to
6 your next question.

7 **KMST:** Is it my turn or?

8 **CAPT WELBORN:** Yes, please proceed with your next question.

9 **KMST:** Do you have ISM procedure that instructs the Chief Officer on board.

10 **Mr. Hyun Jip Choi:** I speak in Korean [answers in Korean].

11 **KMST:** So it mean your company doesn't have the procedure for, right.

12 **Mr. Reisman:** Can we have that, everything translated, the answer translated please. I was
13 wanting to know if the translator could do that.

14 **KMST:** Sorry about that. He said that the Chief Officer already has license for Chief Officer
15 so, yes. That was his answer.

16 **ENS Lee:** He also -----

17 **Mr. Reisman:** Hang on. Captain Welborn, unfortunately when we took a break we had a
18 conversation and Mr. Choi as you can tell he's able to speak some English, he's not all that
19 comfortable with it. He understands some English and he has pointed out, and I've told him
20 that he needs to do it immediately, I think he's reluctant to do it, but there have been a number
21 of questions throughout the session today where he has not felt like the either the question
22 was being translated properly and accurately. So we've told him he's got to stop when that

1 happens going forward. But for example he was not comfortable with that last translation of
2 his response.

3 **CAPT WELBORN:** Understood. So what I would like to do then is, Hyun Gil (sic) please ask
4 your question. You were stating it in English and then asking the question in Korean. Mr. Choi
5 you can answer your question back in English or Korean, you choice and we will have ENS
6 Lee translate your answer back. Is that acceptable?

7 **Mr. Reisman:** If you don't agree with the translation, if you understand it differently you need
8 to say something right away, okay.

9 **Mr. Hyun Jip Choi:** I want to say again [in audible].

10 **CAPT WELBORN:** So if, Mr. Choi if you are uncomfortable with the way the question is
11 phrased, with the way your answer is being translated please stop us at that time and we will
12 reassess the question to make sure that we are using the same wording and that the
13 translation is true and accurate.

14 **Mr. Reisman:** He's asked if he can now repeat the answer that he just provided and then we
15 can have a full place for that.

16 **CAPT WELBORN:** So I have forgotten the question. So Hyun Gil (sic) if you would restate
17 the question I would appreciate it.

18 **KMST:** In Korean or by English.

19 **CAPT WELBORN:** Please restate ----

20 **Mr. Reisman:** I think both so everybody is caught up.

21 **KMST:** Alright. The question was do you have ISM procedure that instructs the Chief Officer
22 on board. Which means do you have any manual or on board Chief Officer for about the
23 stability. Do you guys understand my English?

1 **CAPT WELBORN:** Yes I understand the question. So the question that we received from you
2 is what is the ISM procedure that instructs the Chief Officer regarding stability. Is that correct,
3 sir?

4 **KMST:** Yes.

5 **CAPT WELBORN:** Okay please ask your question in Korean now.

6 **Mr. Hyun Jip Choi:** [Answers in Korean].

7 **CAPT WELBORN:** ENS Lee can you translate that please.

8 **ENS Lee:** Yes, Captain. So for another port ship officer to have the private or personal
9 license they already have to know how to calculate the stability. So whenever the company,
10 G-Marine employs that ship officer it proves, when they employ those that has the license, it
11 proves that they know how to do the calculations for stability. Also it's for on experience they
12 provide on stability training as well.

13 **KMST:** Okay may I go to next question?

14 **CAPT WELBORN:** Yes please.

15 **KMST:** My question is has your company ever estimated the ship's stability of GOLDEN RAY
16 through the SILVER RAY's load com after the GOLDEN RAY's capsizing. Do you understand
17 my English?

18 **Mr. Reisman:** Can I just say something, he can certainly answer if he can, but these are not
19 SMS topics. This is not something that this witness is prepared for. In fact a lot of the
20 questions today, as I mentioned earlier are really outside the scope of what this witness would
21 have intended to respond to. So I'm happy to let him try and answer the question if he in fact
22 can answer it. I don't know what it will be, but he can answer it. But this is not something that
23 this witness was intended to be testifying about today.

1 **CAPT WELBORN:** Mr. Reisman we appreciate your flexibility, thank you. So if the witness
2 can answer the question. Mr. Hyun Gil (sic) please go ahead and translate your question.

3 **KMST:** In Korean?

4 **CAPT WELBORN:** Yes please.

5 **Mr. Hyun Jip Choi:** No I don't.

6 **CAPT WELBORN:** ENS Lee can you translate please.

7 **ENS Lee:** Yes Captain he said I do not know.

8 **CAPT WELBORN:** Understood. Hyun Gil (sic) please proceed with your question.

9 **KMST:** If the ship Officer miscalculate the ship's stability by load com does your company
10 have the procedure to correct or verify his calculation of ship's stability. In Korean.

11 **Mr. Hyun Jip Choi:** [Answers in Korean]. If Chief Officer finds out poor stability the original
12 calculation Ship Officer should report to Captain. And Chief Officer some option, first shifting
13 ballast and second adding more ballast, and third shifting cargo and actually if possible
14 supplement of bunker. And also if the Chief Mate – when Chief Mate calculates stability he
15 can know very easily there is wrong or not. Because the [in audible] of the ship display okay or
16 not okay. So if not okay so the Captain there, the first I mentioned.

17 **KMST:** Okay, thank you. And was the Chief Officer input the numbers, excuse me wrong
18 numbers into load com. Is there any procedure to correct miscalculation of ship's stability? In
19 Korean.

20 **Mr. Hyun Jip Choi:** [Answers in Korean].

21 **ENS Lee:** Load com is very high tech program, if you put in the wrong number it automatically
22 display error.

23 **CAPT WELBORN:** Hyun Gil (sic) do you have any follow on questions?

1 **KMST:** My last question. Is there ISM procedure in your company conducting casualty
2 investigation to prevent a large or an accident? In Korean.

3 **Mr. Hyun Jip Choi:** Yes we do. And -----

4 **KMST:** Okay. Please explain it more successfully about the investigation.

5 **Mr. Hyun Jip Choi:** I state that we have a procedure and now for the late case our company
6 is still ongoing for investigation. So I thought, I'm not involved in that.

7 **KMST:** Thank you. We're done, thank you.

8 **CAPT WELBORN:** Thank you, sir. Thank you very much. If you would mute your
9 microphone please. Thank you very much. Mr. Choi again thank you for testifying today. I do
10 have a – one quick question before we move on to our PII's. In your statement you testified
11 that there was an internal investigation regarding the GOLDEN RAY. Is that still ongoing?

12 **Mr. Hyun Jip Choi:** Yes still ongoing. We are waiting for fully ongoing with your case, sir.

13 **CAPT WELBORN:** Thank you. So now we will check with our PII's to see if there are any
14 questions from those members. Mr. Gilsenan do you have questions for this witness?

15 **Mr. Gilsenan:** No questions Captain, thank you.

16 **CAPT WELBORN:** Thank you, sir. Mr. Reisman do you have questions for this witness?

17 **Mr. Reisman:** I have just a few, thank you. Mr. Choi there was some discussion earlier about
18 the roles of certain officers within the company. Are you familiar, is there a policy in the G-
19 Marine SMS that deals with the Captain's responsibility as to the stability of the ship?

20 **CAPT WELBORN:** Mr. Choi do you need translation?

21 **Mr. Hyun Jip Choi:** Yes, sir. Can you say -----

1 **Mr. Reisman:** He's saying that he didn't understand the translation, he didn't think it matched
2 up. My question is referring to policy COM-01 section 1.3 which appears on the exhibit as
3 page 81-5.

4 **Mr. Hyun Jip Choi:** Okay, yeah.

5 **Mr. Reisman:** Are you familiar with that policy?

6 **Mr. Hyun Jip Choi:** Yes.

7 **Mr. Reisman:** Does that policy set out the Master's duties with respect to stability of the ship?

8 **Mr. Hyun Jip Choi:** Can I explain.

9 **Mr. Reisman:** Yes, please.

10 **Mr. Hyun Jip Choi:** G-Marine doesn't dictate – doesn't dictate a Master, one Master [in
11 audible] satisfied that ship has stability. Because it is according to – Captain is and the
12 condition of safe ship at the time.

13 **Mr. Reisman:** Is the Captain of the vessel required to review the entire load com stability
14 calculations?

15 **Mr. Hyun Jip Choi:** No. The stability is calculated by using load com and so G-Marine
16 procedure CRM-01, Chief Officer duty we assign that responsibility to Chief Officer.

17 **Mr. Reisman:** So the Chief Officer is required to calculate the stability of the ship, is that what
18 you're saying?

19 **Mr. Hyun Jip Choi:** Yes.

20 **Mr. Reisman:** If the Chief Officer calculates the stability and presents a summary of the
21 stability calculations to the Captain and the Captain relies on that summary, is the Captain in
22 compliance with G-Marine's SMS policy?

23 **Mr. Hyun Jip Choi:** Yes.

1 **Mr. Reisman:** You talked about training earlier, I just want to make sure I understood it. Chief
2 Officer's that work for G-Marine are required to hold a maritime license, correct?

3 **Mr. Hyun Jip Choi:** Correct.

4 **Mr. Reisman:** And what is G-Marine's understanding of what is required to obtain that license
5 with respect to stability?

6 **Mr. Hyun Jip Choi:** Can you say again?

7 **Mr. Reisman:** Sure. I will try to simplify it. You said that Chief Officers are required to hold a
8 license.

9 **Mr. Hyun Jip Choi:** Yes.

10 **Mr. Reisman:** In order to obtain the license is a Chief Officer required to have had training
11 and certification on stability calculations?

12 **Mr. Hyun Jip Choi:** Yes.

13 **Mr. Reisman:** Does G-Marine rely on that training and certification that comes with the
14 licensing for a Chief Officer?

15 **Mr. Hyun Jip Choi:** Yes.

16 **Mr. Reisman:** Are you aware of any complaints by the Chief Officer of the GOLDEN RAY
17 about his lack of knowledge or inability to use load com?

18 **Mr. Hyun Jip Choi:** No.

19 **Mr. Reisman:** Just give me one second if you would Captain.

20 **CAPT WELBORN:** Yes, sir.

21 **Mr. Reisman:** Thank you, that's all we've got. Thank you Captain.

22 **CAPT WELBORN:** Thank your Mr. Reisman. One last time any follow on questions from our
23 SIS's?

1 **NTSB:** None from the NTSB.

2 **CAPT WELBORN:** Hearing none. Any follow on questions from our PII's? Understood. Mr.
3 Choi thank you again for your testimony today. I do appreciate it. I thank you for your
4 patience as we worked through the language issues that we had today. And I do appreciate
5 your understanding as we move through this event. Please know that you will remain under
6 oath and subject to recall until the final – until we conclude these proceedings. So again thank
7 you today.

8 **Mr. Reisman:** Captain as I mentioned earlier with Mr. Mavrinac, Mr. Choi is scheduled to
9 return to Korea I believe tomorrow. Does he have permission to return to Korea? We would
10 make him available if necessary throughout the remainder once he's back if this group would
11 like to question him further, we would certainly make him available remotely from Korea.

12 **CAPT WELBORN:** Understood, sir. Yes that would be fine for him to return.

13 **Mr. Reisman:** Thank you.

14 **CAPT WELBORN:** This is the conclusion of our witnesses for today. And I will pass to my
15 closing statement. Today, we heard from Mr. Michael Mavrinac, Manager of Ocean Carrier
16 Services at Hyundai Glovis. He spoke about the organizational structure of Hyundai Glovis. He
17 also discussed the interaction between Hyundai Glovis, Norton Lilly, Mr. Samy Maatki, the
18 crew of the GOLDEN RAY, and Mr. Steve Farley with respect to planning for the loading and
19 stowage of vehicles on the GOLDEN RAY.

20 We also heard from Mr. Samy Maatki, Port Captain at Norton Lilly. He discussed the loading
21 and stowage process in general and specifically, on the GOLDEN RAY. Mr. Maatki also spoke
22 to the differences in the dimensions of the GOLDEN RAY's decks and how that impacted

1 loading. He referenced CG Exhibits 07 and 08, versions of the pre-stowage plan of the
2 GOLDEN RAY, which reflected the cargo loaded, including weights.

3 In addition, Mr. Hyun Jip Choi, Senior Manager of the Safety Management Team at G-Marine
4 testified. He spoke about the Safety Management System in place on the GOLDEN RAY at the
5 time of incident. Mr. Choi also discussed the role of the Chief Officer and the Captain in
6 calculating stability. We presented CG Exhibit 09, which Mr. Choi confirmed was the Safety
7 Management System on board the GOLDEN RAY at the time of the incident.

8 We initially scheduled the testimony of the GOLDEN RAY's Chief Officer, Mr. Park, for today at
9 6:00 P.M. Unfortunately, last week, Mr. Park's attorney informed us that Mr. Park would not be
10 testifying due to concerns that his testimony being preserved on the record. We will attempt to
11 fill any gaps of information due to the lack of Mr. Park's testimony with other evidence and
12 witnesses. Additionally, before the closing of the hearing next week, we will read excerpts from
13 Mr. Park's previous sworn testimony from our initial interview and a follow on interview from
14 our KMST partners.

15 Should any person have, or believe he or she has information not brought forward but which
16 might be of direct significance, that person is urged to bring that information to my attention by
17 emailing: USCGGoldenRay@gmail.com. The joint effort Formal Investigation between the
18 Republic of the Marshal Islands, the NTSB, KMST, and the U.S. Coast Guard is transitioning
19 to the analysis phase as we continue.

20 We will be convening tomorrow's session a little earlier than usual, at 9:00 A.M. Eastern Time.
21 During tomorrow's session, we will hear from the Captain of the GOLDEN RAY at the time of
22 the incident, Captain Lee; and Mr. Tae Kim, the Superintendent of the Fleet Team at G-Marine.

1 Thank you for listening in on today's session. The time is now 5:57. Hearing Session Day 3 is
2 now adjourned.

3

1 UNITED STATES OF AMERICA

2 UNITED STATES COAST GUARD

3 In the Matter of:

4 THE MARINE BOARD OF INVESTIGATION

5 INTO THE CAPSIZING OF THE M/V GOLDEN RAY

6 ON 8 SEPTEMBER 2019 WHILE TRANSITING THE ST. SIMONS SOUND IN BRUNSWICK,

7 GEORGIA

8 APPEARANCE SHEET:

9 The following Board Members and Witnesses appeared on 17 September 2020.

10 CAPTAIN BLAKE WELBORN, USCG, Chair;

11 Mr. LEE WILLETT, USCG;

12 Members,

13 and

14 LIEUTENANT COMMANDER STEPHAINE MOORE, USCG, Member and Recorder.

15 Witness – Mr. Gi Hak Lee

16 Mr. Tae Kim

17 GOLDEN RAY Hearing

18 17 September 2020

19 **CAPT Welborn:** Good morning all. The current local time is 9:02, we're back on the record in
20 the matter of: the capsizing of the GOLDEN RAY on September 8, 2019 in St. Simons Sound
21 in Brunswick, GA.

22 Good morning, ladies and gentlemen. It is Thursday, September 17, 2020. This is the fourth
23 day of the public hearing. I am CAPT Blake Welborn. I am the Lead Investigating Officer for

1 this 7th District Coast Guard Formal Investigation. The Commander of the 7th District, has
2 convened this investigation under the authority of Title 46, United States Code, Section 6301
3 and Title 46, Code of Federal Regulations, Part 4, to investigate the facts and circumstances
4 surrounding the capsizing of the Motor Vessel GOLDEN RAY. This investigation was mutually
5 agreed upon to be a joint effort between the ship's flag state, the Republic of the Marshall
6 Islands, the U.S. National Transportation Safety Board, the Korean Maritime Safety Tribunal,
7 and the U.S. Coast Guard.

8 Present today, other than myself, are the following members of this Formal Investigation: Mr.
9 Lee Willett and LCDR Stephanie Moore, who is also the Recorder. The legal counsel to this
10 investigation is LT Megan Gold.

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

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

15 In addition, the Korean Maritime Safety Tribunal personnel have given me questions to ask on
16 their behalf. I will note when the time arises for me to ask the questions posed by the Korean
17 Maritime Safety Tribunal also known as KMST.

18 I would like to request the cooperation of all persons present to minimize any disruptive
19 influences on the proceedings in general and on the witnesses in particular. Witnesses are
20 appearing before the members of this board of investigation to provide valuable information
21 that will assist. We request members of the public be courteous and respectful of the hearing
22 location during these proceedings and attend via livestream to comply with the Federal, State,
23 and Local COVID-19 guidelines.

1 For those of you participating via video or phone, I ask that you mute yourself until I've
2 recognized you for your questions unless you do wish to make an objection. All media
3 inquiries and comments regarding the hearing should be sent
4 to GoldenRayPublicHearing@gmail.com. If you ask questions regarding the response we will
5 follow and send on those email request to the appropriate entity. The email
6 GoldneRayPulbicHearing@gmail.com should only be for questions referring to the hearing.
7 The Coast Guard has designated Parties In Interest to this investigation. I have designated the
8 following organizations and individuals as Parties in Interest: the Brunswick Bar Pilots
9 Association; including Captain Bruce Fendig and Captain Jonathan Tennant; and the Owners
10 of the GOLDEN RAY, including Hyundai Glovis and G-Marine. The lead counsel for the
11 Brunswick Bar Pilots Association, Captain Fendig, and Captain Tennant are appearing virtually
12 at this hearing. In fact Captain Tennant is with us today. The lead counsel for the Owners of
13 the GOLDEN RAY, including Hyundai Glovis and G-Marine, are appearing virtually with a
14 representative physically here at the hearing.

15 As a reminder, any SISs, PIs or witnesses objecting to a question or line of questioning should
16 do so on the record for a ruling by me. If unhappy with the ruling, there is an appeals process
17 outlined in 46 Code of Federal Regulations Section 1.03. If there are any issues with the
18 language translation during this hearing, an audio version of the record will be made available
19 at the conclusion to all parties. Any concerns or noted discrepancies may be submitted to me
20 in writing within 14 days of the date that the audio recordings are made available. The Coast
21 Guard now stands ready to call the following and first witness of the day, Captain Gi Hak Lee.

22 **Recorder:** The following witness requires the use of a translator. ENS Lee has been
23 previously sworn for the record and I would like to remind you that you are still under oath for

1 this proceeding. Captain Lee please stand raise your right hand. A false statement, good
2 morning. A false statement given to an agency of the United States is punishable by fine and
3 or imprisonment under 18 United States Code 1001. Knowing this do you solemnly swear that
4 the testimony you're about to give will be the truth, the whole truth and nothing but the truth so
5 help you God?

6 **Mr. Lee:** I will tell all the truth.

7 **Recorder:** Thank you Captain Lee, please be seated.

8 **CAPT WELBORN:** Thank you Captain Lee for appearing today.

9 **Mr. Lee:** You're welcome, sir.

10 **CAPT WELBORN:** Would you please state your full name and spell it for the record?

11 **Mr. Lee:** Yes, sir. Gi Hak Lee. Name is Gi Hak, Gi G-I, Hak H-A-K, and Lee L-E-E.

12 **CAPT WELBORN:** Thank you very much Captain I do appreciate that. Captain how are you
13 today after this incident? How are is your health, are you well?

14 **ENS Lee:** Yes I am, I'm healthy and I've been great.

15 **CAPT WELBORN:** And I would like to inquire about your crew, have you spoken with them
16 since the incident?

17 **ENS Lee:** I have not spoken to my crew after the incident.

18 **CAPT WELBORN:** Understand. Captain Lee are you represented by counsel?

19 **ENS Lee:** No.

20 **CAPT WELBORN:** Have you been designated as a party in interested to this investigation?

21 **Mr. Lee:** I am sorry I don't understand fully. Can you explain again?

22 **CAPT WELBORN:** Captain a party in interest is someone who participates intently and
23 specifically in the -----

1 **Mr. Reisman:** Captain Welborn I believe you're mute, so we're not hearing you.

2 **CAPT WELBORN:** That's okay. I know that the Captain has not been designated as a party
3 in interest. I just wanted to make sure that we had it on the record. So let the record show that
4 Captain Lee has not been designated as a party in interest. Captain do you hold any
5 professional certificates or certifications?

6 **ENS Lee:** Yes I do.

7 **CAPT WELBORN:** Can you please tell us what those are?

8 **ENS Lee:** I have Master's license.

9 **CAPT WELBORN:** Do you hold any SOLIS certificates?

10 **ENS Lee:** Yes I do.

11 **CAPT WELBORN:** Can you share those with us?

12 **ENS Lee:** Yes I can show it to you.

13 **CAPT WELBORN:** Can you state what those are to us on the record?

14 **Mr. Lee:** I am sorry I don't understand your speak. Please say again.

15 **CAPT WELBORN:** Captain I asked if you have SOLIS certificates, you stated yes. Can you
16 tell me what certificates those are?

17 **Mr. Reisman:** Captain Welborn I've handed Captain Lee his file folder with his licenses and
18 certificates. If it's okay for him to look through that and then respond.

19 **CAPT WELBORN:** Yes please.

20 **ENS Lee:** Yes I do have certificate I will show it to you.

21 **CAPT WELBORN:** Captain can you just read me the title of the certificates?

22 **Mr. Lee:** Radar [in audible].

23 **CAPT WELBORN:** Any others?

1 **Mr. Lee:** Number one radar [in audible].

2 **ENS Lee:** Number one radar and [in audible] training.

3 **Mr. Lee:** And the number two [in Korean].

4 **ENS Lee:** Sea going vessel duty training.

5 **Mr. Lee:** And number three. [In Korean].

6 **ENS Lee:** Safety medical, safety and management training. Ship's resource management

7 training. Ship safety and management lead training. Fire safety training. Aids to safety

8 training. Life boat training. Emergency and medical care training. That's all I have.

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

10 **Mr. Lee:** You're welcome.

11 **CAPT WELBORN:** Excuse me?

12 **Mr. Lee:** You are welcome, sir.

13 **CAPT WELBORN:** Sir, would you please provide us with a brief summary of your background

14 and experience as a mariner?

15 **ENS Lee:** I graduated from maritime academy in 1980. In 1980 March I started as the Third

16 Mate.

17 **Mr. Lee:** Captain Lio, this is Captain Lee. I would like to speak English directly to Captain

18 Welborn my history.

19 **CAPT WELBORN:** Very good, sir, please do.

20 **Mr. Lee:** Yeah. I graduate Coastal Maritime College on 1980, February. Number two I

21 worked as Third Officer in 1980, March. And I promoted to Captain in 1995 as bulk carrier.

22 Number three. I got the experiences various kinds of vessels. First bulk carrier. Second

1 container vessel. Third [in audible] bulk carrier. Fourth cape side bulk carrier. And then car
2 and truck carrier. That is all.

3 **CAPT WELBORN:** Captain have you served as a Chief Officer before?

4 **ENS Lee:** Yes I've worked as a Chief Officer before.

5 **CAPT WELBORN:** Who was your employer in September 2019?

6 **ENS Lee:** At the time my employer was G-Marine Service.

7 **CAPT WELBORN:** And what position did you hold?

8 **Mr. Lee:** Captain.

9 **CAPT WELBORN:** When did you report to the GOLDEN RAY before September 2019?

10 **Mr. Lee:** Captain Lio I don't understand your question correctly. Can you explain me again?

11 **CAPT WELBORN:** How long had you been on the GOLDEN RAY before the incident?

12 **ENS Lee:** I reported on 2019, August 28th.

13 **Mr. Reisman:** Captain Welborn I apologize I was just explaining to the Captain you show up
14 on our screen as LIO, I think he was mistaking your name for – he was referring to you as
15 Captain Lio. I was explaining that was just the lead investigative officer, that your name is
16 Captain Welborn.

17 **CAPT WELBORN:** No offense taken.

18 **Mr. Lee:** Captain Welborn.

19 **CAPT WELBORN:** Yes.

20 **Mr. Lee:** Captain Welborn I am sorry I misunderstood your name. I've very sorry.

21 **CAPT WELBORN:** No offense taken, sir. Thank you. Captain when you reported aboard the
22 GOLDEN RAY how was the ship, was it in good condition?

23 **ENS Lee:** At that time the condition of the vessel was very good.

1 **CAPT WELBORN:** Captain when serving as Chief Officer were you responsible for the
2 stability calculations aboard the ship you served on?

3 **ENS Lee:** Yes when I was Chief Officer I calculated the ship's stability.

4 **CAPT WELBORN:** What was the ship's outbound transit plan for port of Brunswick on
5 September 8th and what was the next port of call?

6 **Mr. Lee:** I am sorry I don't understand your question. Can you explain again?

7 **CAPT WELBORN:** Captain on September 8th leaving the port of Brunswick, what was the
8 next port of call?

9 **ENS Lee:** The next port of call was Baltimore.

10 **CAPT WELBORN:** Captain I would like for you to recount what happened on your out bound
11 transit. So from the time that you took your lines in until the incident. Can you tell us that story
12 please?

13 **Mr. Reisman:** Understood. Tell him to go slowly until we can give the translator a chance. I
14 think if he gives the full story it may be too much for the translator to keep up with.

15 **CAPT WELBORN:** Understood.

16 **Mr. Reisman:** So he can translate it in pieces.

17 **Mr. Lee:** Yes, sir. Captain Welborn can you ask me the short sentence. If you ask me the
18 long sentence or many kind of question I don't understand exactly what you want.

19 **CAPT WELBORN:** Understood Captain. Can you tell me what happened on September 8th
20 from the time you left the dock until the ship capsized?

21 **Mr. Lee:** Your translator is wrong. I heard Captain Welborn's question. I understand. Can I
22 give an answer directly to Captain Welborn in English?

1 **CAPT WELBORN:** Yes, sir you may. Captain if you are comfortable speaking English then I
2 am fine with that. If you need assistance in Korean ask and we will engage the translator at
3 that time.

4 **Mr. Lee:** Thank you. In Brunswick in port to the point of incident. [in audible] issue, no
5 problem, no have any kind of problem.

6 **Mr. Reisman:** Captain can I help?

7 **CAPT WELBORN:** Yes please.

8 **Mr. Reisman:** What they want you to do is explain what happened from the time you left the
9 dock until the accident. Explain what maneuvers, what the pilot ordered, where you went,
10 what you did. Do you understand that?

11 **Mr. Lee:** Yes I understand.

12 **Mr. Reisman:** If you would prefer to say that in Korean you just break it up in small pieces and
13 the translator will translate.

14 **Mr. Lee:** Yep.

15 **Mr. Reisman:** It's up to you.

16 **Mr. Lee:** Okay I will take translator.

17 **CAPT WELBORN:** Please begin.

18 **Mr. Lee:** Yes, sir.

19 **ENS Lee:** When moored in Brunswick before departure I checked departure checklist. And
20 then I requested the calculations on checkoff list. And then I prepare for the departure. When
21 Pilot got on board we departed. After the departure the weather was good there was no wind.
22 Before the incident on the out bound transit there was no issue.

23 **Mr. Lee:** That is all.

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

2 **Mr. Lee:** You're welcome, sir.

3 **CAPT WELBORN:** Captain can you describe your duties as the Master of the GOLDEN
4 RAY?

5 **Mr. Lee:** Number one is overall command of the vessel and crew members. The second one
6 I will take translator.

7 **ENS Lee:** Second follow the Master intent International Rule of Regulation.

8 **Mr. Lee:** That is not to follow, observe, observation, observe.

9 **Mr. Reisman:** He's saying observe the International Rules and Regulations, I believe.

10 **CAPT WELBORN:** Understand. Follow, observe, understood Captain, thank you.

11 **ENS Lee:** As a Captain of the ship I work with the crew to manage the ship's research.

12 **Mr. Lee:** Okay, Captain Welborn. Number third is manage crew members, [in audible] and
13 the ship's [in audible]. Number four I control all ship's condition. And number five observe and
14 take company's policy, SMS and regular audit. And number five, last one to be certified, test
15 stability for the time. Finished.

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

17 **Mr. Lee:** You're welcome, sir.

18 **CAPT WELBORN:** I appreciate your English, thank you. Captain Hurricane Dorian slowed
19 your transit a few days. Can you tell us how Hurricane Dorian impacted the schedule of your
20 ship?

21 **ENS Lee:** It was not impacted by Hurricane Dorian.

22 **CAPT WELBORN:** Did you slow your trip down to avoid Hurricane Dorian?

1 **ENS Lee:** To avoid Hurricane Dorian after departure from Freeport we conducted drifting in a
2 big port.

3 **CAPT WELBORN:** Did the ship handle differently departing the Port of Jacksonville?

4 **ENS Lee:** No it wasn't.

5 **CAPT WELBORN:** Did the ship handle differently on the way in to Brunswick?

6 **ENS Lee:** No it wasn't.

7 **CAPT WELBORN:** Did the ship handle differently on the Brunswick out bound transit?

8 **ENS Lee:** Captain you muted yourself.

9 **CAPT WELBORN:** Sorry. Did the ship handle differently on the Brunswick out bound transit?

10 **Mr. Reisman:** Are you tell, Captain, is that before the actual casualty event?

11 **CAPT WELBORN:** Yes.

12 **Mr. Reisman:** Can the translator explain that?

13 **ENS Lee:** No there was no difference.

14 **CAPT WELBORN:** Were you made aware of any stability issues during cargo operations in
15 Brunswick?

16 **ENS Lee:** No.

17 **CAPT WELBORN:** Were you aware of any changes between the pre-stowage plan and the
18 final stowage plan for Brunswick?

19 **ENS Lee:** No.

20 **CAPT WELBORN:** Did you receive a brief about stability after the ship was loaded in
21 Brunswick?

22 **Mr. Lee:** Captain Welborn I can't understand your question. Can you explain again?

1 **CAPT WELBORN:** Did the Chief Mate report to you about the stability after the ship was
2 loaded in Brunswick?

3 **ENS Lee:** Yes I did receive the report.

4 **CAPT WELBORN:** Did you receive documentation, paperwork about this report?

5 **Mr. Lee:** I will talk to Captain Welborn in English.

6 **CAPT WELBORN:** Very good Captain. When the Chief Mate gave you the information about
7 the stability was it a verbal report or was it paper?

8 **Mr. Lee:** I never took report. The one is verbal response before departure. And after
9 departure the Chief Officer submit hard copy report.

10 **CAPT WELBORN:** Do you recall the GM on that report?

11 **Mr. Lee:** Translator please. I didn't – I don't remember. I remember from major [in audible] in
12 Brunswick.

13 **CAPT WELBORN:** Major what?

14 **Mr. Reisman:** I'm not sure, I don't know. But I'm not sure the question was translator
15 properly. He doesn't seem that he's answering the question you asked. If you could maybe
16 repeat the question for him.

17 **CAPT WELBORN:** Okay. Captain on the report the GM was listed. Do you remember what
18 the GM was?

19 **Mr. Lee:** Stop translator. I will talk English. I remember the GM when my vessel depart from
20 the rig, the GM is 2.45.

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

22 **Mr. Lee:** You're welcome, sir.

23 **CAPT WELBORN:** Do you recall the draft as the vessel departed Brunswick?

1 **Mr. Lee:** Yes, sir. I remember the departure from the rig is forward 9.4 general meters. And
2 aft 9.05 meters.

3 **CAPT WELBORN:** Did you have draft restrictions?

4 **Mr. Lee:** No I don't have draft restrictions.

5 **Mr. Reisman:** Captain just for clarification that was, you were referring specifically to
6 Brunswick there?

7 **CAPT WELBORN:** Yes.

8 **Mr. Reisman:** You understood that?

9 **Mr. Lee:** I understood.

10 **CAPT WELBORN:** Can we pull up the chart, Exhibit, I'm not sure which exhibit it is, NOAA's
11 chart 11506?

12 **Mr. Reisman:** He's got a hard copy in front of him Captain as well.

13 **CAPT WELBORN:** Okay. We will pull one up here also. Mr Reisman if you could help the
14 Captain identify the Jekyll Island range, the waterway leading to the Widener 11.

15 **Mr. Reisman:** Hopefully his eyes are better than mine. This is, it's hard to read here. This is
16 the Jekyll Island range and this turning basin here is the Widener that he's referring to. So he
17 wants you to look at this area here, the Jekyll Island.

18 **Mr. Lee:** Jekyll Island.

19 **Mr. Reisman:** Correct.

20 **Mr. Lee:** Yes.

21 **Mr. Reisman:** And this area is referred to as the Widener.

22 **Mr. Lee:** Wide.

23 **Mr. Reisman:** Widener.

1 **Mr. Lee:** Widener?

2 **Mr. Reisman:** Yes. Maybe they will zoom in, it might be easier there. He's got it in front of

3 him Captain, and actually we're getting pretty close to be able to see it on the screen now, it's

4 looking better. Yeah you can actually read it there, Jekyll Island Range.

5 **Mr. Lee:** Umm huh.

6 **Mr. Reisman:** And then you have the bend and then Plantation Creek Rang going out.

7 **Mr. Lee:** Plantation Creek Range.

8 **Mr. Reisman:** Right. And Jekyll Island.

9 **Mr. Lee:** Jekyll Island Range.

10 **Mr. Reisman:** If you see this line here, this area, you can say Widener.

11 **Mr. Lee:** Widener.

12 **Mr. Reisman:** Right. Okay I think he's got his bearings Captain.

13 **CAPT WELBORN:** Understood. Captain, thank you.

14 **Mr. Lee:** You're welcome, sir.

15 **CAPT WELBORN:** Before we proceed Captain do you have questions or do you understood

16 the exhibit? Do you understand where the Jekyll Island Range is on the chart?

17 **Mr. Lee:** Yes I understand the Jekyll Island, where it is.

18 **CAPT WELBORN:** Okay. Captain when your ship was sailing in that area on September 8th,

19 do you remember the draft of your vessel?

20 **Mr. Lee:** I just remember the departure dropped when my vessel approach and got into the

21 Jekyll Island I'm not sure the drop.

22 **CAPT WELBORN:** Understood. You said your vessel was acting well. Were there problems,

23 any problems noted in the Jekyll Island Range with the navigation of your ship?

1 **Mr. Lee:** No I don't have any problems.

2 **CAPT WELBORN:** I do not – oh, Captain proceeding through the Jekyll Island Range
3 approaching Widener 11 do you remember the speed of your ship?

4 **Mr. Lee:** Sorry I am not sure at that time.

5 **CAPT WELBORN:** Did you feel that the ship was proceeding at a safe speed?

6 **Mr. Lee:** Captain Welborn I don't understood your question. Please say again.

7 **Mr. Reisman:** Do you want the translator?

8 **Mr. Lee:** I will take translator.

9 **CAPT WELBORN:** In the Jekyll Island Range did you feel your ship was moving at a safe
10 speed?

11 **ENS Lee:** Yes it was proceeding with safe speed.

12 **CAPT WELBORN:** Captain before departure of Brunswick were pre-departure checklists
13 completed?

14 **Mr. Lee:** Captain Welborn, sorry can you ask me again?

15 **CAPT WELBORN:** Yes Captain. Before departure of Brunswick did you complete departure
16 checklists?

17 **Mr. Lee:** Yes, sir. I check with and I check and I reviewed departure checklist.

18 **CAPT WELBORN:** Did you test the steering here?

19 **Mr. Lee:** Yes I did.

20 **CAPT WELBORN:** Did you test propulsion?

21 **Mr. Lee:** Test the what?

22 **CAPT WELBORN:** Propulsion?

23 **Mr. Lee:** Yes I did.

1 **CAPT WELBORN:** What were the results of these checks?

2 **Mr. Lee:** No issue, no problem noted.

3 **CAPT WELBORN:** When the Pilot arrived did you conduct a Pilot briefing?

4 **Mr. Lee:** Pilot briefing?

5 **CAPT WELBORN:** Yes Captain.

6 **Mr. Lee:** It mean Captain and Pilot information exchanging.

7 **CAPT WELBORN:** Did you conduct that with the Pilot?

8 **Mr. Lee:** Yes, sir.

9 **CAPT WELBORN:** What information was discussed?

10 **Mr. Lee:** I provide Pilot card and ship's particulars and the departure checklist. Three kind.

11 **CAPT WELBORN:** Was any ship's equipment not operational?

12 **Mr. Lee:** No. I don't have some ship problems.

13 **CAPT WELBORN:** What was the working language on the bridge?

14 **Mr. Lee:** The language is English.

15 **CAPT WELBORN:** Were there communication problems between the Pilot and the crew?

16 **Mr. Lee:** No, I don't have.

17 **CAPT WELBORN:** Captain the Pilot door was open on the out bound transit. Who ordered

18 this door to be opened?

19 **Mr. Lee:** I ordered to open the Pilot's door after sailing.

20 **CAPT WELBORN:** Do you recall when?

21 **Mr. Lee:** Translator? Translator is something different what Captain Welborn asked.

22 **CAPT WELBORN:** Captain you stated you ordered the Pilot door to be opened, yes?

23 **Mr. Lee:** After sailing.

1 **CAPT WELBORN:** When after sailing did you make this order?

2 **Mr. Lee:** I ordered to open to prepare the Pilot ladder, cleared dock and then I think that

3 everything's good, the weather condition is good, so I ordered it to open and prepare Pilot.

4 **CAPT WELBORN:** Do you recall crossing under the bridge on your out bound transit?

5 **Mr. Lee:** Captain Welborn I don't understand your question. What is the recall?

6 **Mr. Reisman:** Remember.

7 **CAPT WELBORN:** Do you remember crossing under the bridge leaving Brunswick?

8 **Mr. Lee:** Bridges name?

9 **CAPT WELBORN:** The Sydney Lanier Bridge.

10 **Mr. Reisman:** Captain can I help?

11 **CAPT WELBORN:** Yes Mr. Reisman, please.

12 **Mr. Reisman:** He's not asking you the name. He wants to know do you remember that your

13 ship passed under this bridge?

14 **Mr. Lee:** Time?

15 **Mr. Reisman:** Do you remember that you did that?

16 **Mr. Lee:** Yeah I remember the passing under the bridge.

17 **CAPT WELBORN:** Did you open the Pilot door before or after crossing under the bridge?

18 **Mr. Lee:** Almost immediately under the bridge.

19 **CAPT WELBORN:** I'm sorry Captain could you restate that?

20 **Mr. Lee:** I will take translator.

21 **ENS Lee:** While the ship was passing through the bridge I made that order.

22 **CAPT WELBORN:** Thank you.

23 **Mr. Lee:** You're welcome, sir.

1 **CAPT WELBORN:** Were there any problems with the navigation equipment on your ship
2 leaving Brunswick?

3 **Mr. Lee:** No I don't have problems.

4 **Mr. Reisman:** Captain the witness is asking if he can take a break.

5 **CAPT WELBORN:** Absolutely. Absolutely, so the local time is 9:53, Captain would a 10
6 minute break be enough?

7 **Mr. Lee:** Thank you, sir.

8 **CAPT WELBORN:** Yes. We will stand in recess for 10 minutes. Again the time is 9:53 local.
9 We stand in recess.

10 *The hearing recessed at 9:53, 17 September 2020*

11 *The hearing was called to order at 10:08, 17 September 2020.*

12 **CAPT WELBORN:** Alright the local time is 10:08 and we are back on the record of the formal
13 hearing regarding the capsizing of the GOLDEN RAY. Captain, much better?

14 **Mr. Lee:** Yes better, thank you, sir.

15 **CAPT WELBORN:** Good, absolutely, sir. If you need another break please let me know we
16 will take another break.

17 **Mr. Lee:** Thank you Captain Welborn.

18 **CAPT WELBORN:** So Captain I have a couple of photos from the SILVER RAY, the sister
19 ship of the GOLDEN RAY. I would like to show those photos to you and have you tell me what
20 they are.

21 **Mr. Lee:** Yes.

22 **CAPT WELBORN:** Do you recognize this from the SILVER RAY?

23 **Mr. Lee:** That is the Pilot position.

1 **CAPT WELBORN:** Does this door look like the GOLDEN RAY Pilot door?

2 **Mr. Lee:** Will take translator please.

3 **ENS Lee:** Yes it looks the same.

4 **CAPT WELBORN:** Can we show the other photo? Captain is this what it looks like when the

5 GOLDEN RAY Pilot door was open?

6 **ENS Lee:** Yes it was.

7 **CAPT WELBORN:** Just to make sure is the SILVER RAY a sister ship of the GOLDEN RAY?

8 **ENS Lee:** Yes it is.

9 **CAPT WELBORN:** So the Pilot doors would be the same, is that correct?

10 **ENS Lee:** Yes it is.

11 **CAPT WELBORN:** How far above the waterline is the Pilot door?

12 **Mr. Reisman:** You were asking, I note shown the sister ship, but you're specifically asking on

13 the GOLDEN RAY Captain?

14 **CAPT WELBORN:** Yes I am.

15 **Mr. Lee:** I'm sorry I am not sure, the water to and Pilot door. I'm not sure.

16 **CAPT WELBORN:** Understood, thank you Captain.

17 **Mr. Lee:** You're welcome, sir.

18 **CAPT WELBORN:** Captain who was on the bridge during the out bound transit from

19 Brunswick?

20 **Mr. Lee:** Yes the First Captain, the Second Pilot, the third duty Quartermaster, the fourth duty

21 officer, the fifth apprentice officer. Five people on the bridge.

22 **CAPT WELBORN:** During the out bound transit did you disagree with any of the Pilot's

23 commands?

1 **Mr. Reisman:** Captain it looks like he's asking for clarification. If I could just get – are you
2 talking about before the actual casualty? Or are you including during the casualty event?

3 **CAPT WELBORN:** Up to the casualty.

4 **Mr. Lee:** Captain Welborn I'm sorry I don't understand your question correctly. Can you ask
5 again?

6 **CAPT WELBORN:** Yes I will. The Pilot on your ship provided commands to the helmsman.
7 Did you disagree with any command?

8 **Mr. Lee:** No.

9 **CAPT WELBORN:** Did you disagree with any command as the ship began to roll over?

10 **Mr. Lee:** No. No disagree.

11 **CAPT WELBORN:** When was the first time you realized your ship was in danger?

12 **Mr. Lee:** Yes.

13 **ENS Lee:** When the Pilot gave the command starboard 20 and then the ship started to list and
14 that's when I first realized there was a problem.

15 **CAPT WELBORN:** Have you served on other RO-RO ships?

16 **Mr. Lee:** Yes I have served.

17 **CAPT WELBORN:** In your experience on other RO-RO ships how did the GOLDEN RAY
18 handle in comparison?

19 **ENS Lee:** There was not difference, almost the same.

20 **CAPT WELBORN:** Did you hear any alarms prior to the ship losing power?

21 **Mr. Lee:** The translator is assumption wrong. Captain Welborn can you tell me again?

22 **CAPT WELBORN:** Yes Captain. Did you hear any alarms prior to the ship losing power?

1 **Mr. Lee:** I will talk in English. I will give translator in English. I don't – I didn't hear the alarm
2 at the point of the accident.

3 **CAPT WELBORN:** Did you hear alarms as the ship rolled over?

4 **ENS Lee:** No I did not.

5 **CAPT WELBORN:** Did you hear any fire alarms?

6 **ENS Lee:** No I did not hear it.

7 **CAPT WELBORN:** Did you see smoke or flames coming from the GOLDEN RAY?

8 **ENS Lee:** No I did not see fire or smoke.

9 **Mr. Reisman:** Captain I'm not sure the line of questioning is clear for him. And if we could
10 just clarify, are you talking at any point or are you talking prior to the ship beginning to roll
11 over?

12 **CAPT WELBORN:** As the ship began to roll over.

13 **Mr. Reisman:** Do you understand that? So while the ship was rolling over. Did you, Captain
14 and I apologize Captain, again I think he may have been answering prior to that moment as
15 opposed to -----

16 **CAPT WELBORN:** Understood. So Captain as the ship began to roll did you hear alarms?

17 **Mr. Lee:** I didn't hear alarms small quantities were released.

18 **CAPT WELBORN:** Then when the large quantities of list did you hear alarms?

19 **Mr. Lee:** Yes, sir.

20 **CAPT WELBORN:** Did you hear a smoke alarm during that time?

21 **Mr. Lee:** No I didn't hear smoke alarm.

22 **CAPT WELBORN:** So during that time did you see flames or smell smoke?

23 **Mr. Lee:** No I didn't hear any fire and smoke alarms.

1 **CAPT WELBORN:** As the ship was rolling over when did the ship lose power?

2 **Mr. Lee:** Sorry I'm not sure of the time, the exact time.

3 **CAPT WELBORN:** Was the ship on its side or was it moving when the ship lost power?

4 **Mr. Lee:** The vessel list to a port side a lot [in audible] list. But I am not sure the exact time

5 where we're losing power.

6 **CAPT WELBORN:** Once the ship listed over it ran aground and stopped moving. Did you

7 have power then?

8 **ENS Lee:** Yes there was still power.

9 **CAPT WELBORN:** Is there a system on board the ship that monitors tank levels?

10 **ENS Lee:** No translator. Captain Welborn can you tell me again?

11 **CAPT WELBORN:** Yes Captain. Is there a system on the ship to monitor -----

12 **Mr. Reisman:** Listen carefully.

13 **Mr. Lee:** Yes, sir.

14 **CAPT WELBORN:** Is there a system on the ship that monitors tank levels?

15 **ENS Lee:** Yes it was.

16 **CAPT WELBORN:** What is this system called?

17 **ENS Lee:** It's called IMAX.

18 **CAPT WELBORN:** What other things on board the ship does the IMAX monitor?

19 **Mr. Lee:** [Answers in Korean]. Do you understand?

20 **ENS Lee:** IMAX manages ballast and bunkering.

21 **Mr. Reisman:** Could you repeat that, sir?

22 **ENS Lee:** IMAX manages ballast and bunker.

23 **Mr. Reisman:** Ballast and bunker, is that what he's saying?

1 **ENS Lee:** Yes.

2 **Mr. Lee:** Yes that's correct.

3 **Mr. Reisman:** Thank you.

4 **CAPT WELBORN:** Are the watertight doors monitored by the IMAX system?

5 **ENS Lee:** Yes it is.

6 **CAPT WELBORN:** Is the Pilot door monitored by the IMAX system?

7 **ENS Lee:** Yes it is.

8 **CAPT WELBORN:** How many Pilot doors does the GOLDEN RAY have?

9 **ENS Lee:** There are two Pilot doors.

10 **CAPT WELBORN:** Where are they located?

11 **Mr. Lee:** Starboard one, port side one. Two total.

12 **CAPT WELBORN:** Are they at the same height on the vessel or different heights?

13 **ENS Lee:** Same height.

14 **CAPT WELBORN:** On the same deck?

15 **Mr. Lee:** Yes, sir.

16 **CAPT WELBORN:** Which Pilot door was opened on September 8th for the Pilot?

17 **Mr. Lee:** Port side Pilot door. Translator give an answer.

18 **CAPT WELBORN:** I understand Captain, Port side. Thank you. Captain I asked you how far

19 above the water is the Pilot door. And you told me you did not know.

20 **Mr. Lee:** [in audible].

21 **CAPT WELBORN:** That's okay. Where can I find that information?

22 **Mr. Lee:** The finished plan.

23 **CAPT WELBORN:** The ship's plan?

1 **Mr. Lee:** Yeah, the finished plan.

2 **CAPT WELBORN:** What's he saying?

3 **Mr. Reisman:** Say it in Korean.

4 **ENS Lee:** Finished plan.

5 **Mr. Reisman:** Captain I was asking him to say it Korean because he's a hard to understand.

6 **Mr. Lee:** Captain Welborn.

7 **CAPT WELBORN:** Yes.

8 **Mr. Lee:** The finished plan is hard to translate in Korean language.

9 **CAPT WELBORN:** Yes.

10 **Mr. Lee:** Normally using the finished plan.

11 **CAPT WELBORN:** I understand, sir. Thank you.

12 **Mr. Lee:** You're welcome, sir.

13 **CAPT WELBORN:** Okay. I have no more questions at this time for you. But we have others

14 participating in our investigation. Others will have questions for you, okay.

15 **Mr. Lee:** Thank you, sir.

16 **CAPT WELBORN:** Yes.

17 **Mr. Lee:** Understand.

18 **CAPT WELBORN:** So now I will turn to our Republic of the Marshall Island delegate Mr. Tom

19 Bremer. Do you have questions for this witness?

20 **Mr. Bremer:** Yes Captain I do. Captain Lee can you state whether or not you have sailed on

21 car carriers as a Chief Officer?

22 **ENS Lee:** No not as Chief Officer.

1 **Mr. Bremer:** And have you previously sailed with the Chief Officer that was on board the
2 GOLDEN RAY at the time of the incident?

3 **Mr. Reisman:** Mr. Bremer are you asking if he had sailed with that Chief Officer prior to that
4 voyage that Captain joined in Freeport?

5 **Mr. Bremer:** Yes, correct.

6 **Mr. Reisman:** Do you understand that?

7 **Mr. Lee:** Bremer I'm sorry I don't understand your question correctly? Can you explain again?

8 **Mr. Bremer:** Yes. The Chief Officer, Mr. Park have you sailed with him prior to the GOLDEN
9 RAY?

10 **Mr. Lee:** No I didn't. I met him first at GOLDEN RAY.

11 **Mr. Bremer:** And during the out bound transit from Brunswick did the Quartermaster respond
12 properly to the Pilot's orders?

13 **ENS Lee:** Yes he did.

14 **Mr. Bremer:** And did the Quartermaster report any issues with the steering during the out
15 bound transit from Brunswick?

16 **Mr. Lee:** No issues.

17 **Mr. Bremer:** Captain do you remember which steering pumps were running during the out
18 bound transit?

19 **Mr. Lee:** I get the both steering wheels together at the same time.

20 **Mr. Bremer:** And the Pilot doors that you spoke with Captain Welborn about, do you know
21 which deck those are accessed from?

22 **Mr. Lee:** Sorry I'm not sure which deck.

23 **Mr. Bremer:** For departure from Brunswick were you rushed to depart the port?

1 **Mr. Lee:** No, never.

2 **Mr. Bremer:** And during the out bound transit from Brunswick were there any crew member at
3 the Pilot door once it was opened?

4 **Mr. Lee:** Can you explain me again? The time before departure or after departure?

5 **Mr. Bremer:** Yes Captain after departure once the Pilot door was opened was there any crew
6 members at the Pilot door?

7 **Mr. Lee:** No I gave an open to prepare the Pilot together.

8 **Mr. Reisman:** It doesn't sound like he's understanding your question Mr. Bremer. Maybe we
9 can have the translator help you?

10 **Mr. Lee:** Yes, sir. I need a translator.

11 **Mr. Bremer:** Yes if I could please clarify for the translator. After the Pilot ladder was rigged
12 did any crew members remain at the door?

13 **ENS Lee:** Yes the duty member was getting ready near the Pilot door as the ladder was set
14 up.

15 **Mr. Bremer:** Okay thank you very much Captain. No further questions.

16 **Mr. Lee:** Thank you, sir.

17 **CAPT WELBORN:** Thank you Mr. Bremer. Captain Flaherty with the National Transportation
18 Safety Board, do you have questions for this witness?

19 **NTSB:** Yes I do Captain Welborn. Good morning Captain, how are you doing, sir?

20 **Mr. Lee:** Good morning, sir.

21 **NTSB:** I'm going to go back to the time when you went on board the GOLDEN RAY during the
22 relief process that you had with the Captain who was departing the vessel. Could you please

1 describe in detail what information he passed to you concerning the vessel, the crew, anything
2 that was related to the operation of the vessel.

3 **Mr. Reisman:** Captain Flaherty obviously I'm going to let the translator do his best and
4 hopefully this will work, but I just think based on experience if we can break it down to maybe
5 some smaller segments it might be easier. I think that's going to be tough for the translator to
6 get all of it.

7 **NTSB:** Yeah let me. Let me start over again then. Captain as I said I'm going to start in
8 Freeport, Texas when you joined the vessel.

9 **Mr. Lee:** Yes, sir.

10 **NTSB:** I would like to discuss the relief process you had with the Captain who departed. What
11 information did the Captain departing pass to you about the vessel?

12 **Mr. Lee:** Yes, sir. [Korean].

13 **ENS Lee:** I've already said outgoing Captain handed over a note and we reviewed them
14 together.

15 **Mr. Lee:** And number two [Korean].

16 **ENS Lee:** And up on the bridge the off going Captain explained the navigation and
17 communication system and equipment on board.

18 **Mr. Lee:** No, no, translator. Outgoing Captain and I together.

19 **ENS Lee:** He and outgoing Captain were on the bridge together when the pass down
20 happened for the navigation and communication equipment.

21 **Mr. Lee:** Number three. Outgoing Captain and I – outgoing Captain [Korean].

22 **ENS Lee:** The outgoing Captain passed over the provisions, cash money and other materials
23 related to pass down.

1 **NTSB:** Captain -----

2 **Mr. Lee:** [Korean].

3 **ENS Lee:** Outgoing Captain passed to the current Captain about the health of the crew

4 members and other related members of the crew members.

5 **Mr. Lee:** That finished.

6 **NTSB:** Okay. Captain in your response you mentioned a note from the outgoing Captain. Do

7 you recall what was listed on that note?

8 **ENS Lee:** Hand over note contains a lot of stuff it will be time consuming if they go over

9 everything. Are you okay with that?

10 **NTSB:** Well I understand. Could you give me a summary of the information contained on that

11 note?

12 **Mr. Reisman:** Captain are you asking for the details of the information provided or the topics

13 that were covered, or both?

14 **NTSB:** Well let's, maybe if we could go over the topics and then if I have any follow-on

15 questions to the topics we could expand there, if that's alright.

16 **Mr. Reisman:** Translator can you explain that to the Captain please? And Captain Flaherty

17 maybe, he has a printed form and we have a record of it. I don't know that It's been requested.

18 But he has it and he's got it in front of him. So he can give you as much detail as you would

19 like. But if you want him to start with the topics we'll do that.

20 **NTSB:** Yeah let's do the topics just for the hearing. And if there's something I would like to

21 expand into just to discuss with him I would still like to pursue that, if needed.

22 **Mr. Reisman:** Certainly.

1 **Mr. Lee:** Yes, sir. I will start with the main topic, main title, I will talk. Is this alright? No
2 problem?

3 **NTSB:** No problem.

4 **Mr. Lee:** First about the voyage, voyage first. And the second one is cargo and schedule.
5 And the number three is the vessel's condition. Do you understand? Vessel's condition,
6 number three.

7 **NTSB:** Yes.

8 **Mr. Lee:** And number four is the [in audible], ship's problem [in audible]. And number five,
9 number five [in audible]. And number six inspections with all kinds of inspections. And then
10 number seven about crew members conditions. Number eight are other items, small items.

11 **NTSB:** Okay. For the vessel's condition listed on that note what did it say?

12 **Mr. Lee:** Vessel's condition is [in audible] and main engine condition and side condition, car
13 deck condition and [in audible] condition, yeah.

14 **NTSB:** How long was the relief process between you and the outgoing Captain?

15 **Mr. Lee:** I had two days handover processing period.

16 **NTSB:** So it was a 24 – how many hours from those two days was the relief process?

17 **Mr. Lee:** Sorry I'm not sure the exact period of time.

18 **NTSB:** So it would start in the morning go through it until early evening or so and then the
19 next day you would finish it up?

20 **Mr. Lee:** I joined and started handover processing and late at night and the next day from
21 morning 8 O'clock to the point of his disembark.

22 **NTSB:** Did you walk through the entire vessel with the outgoing Captain?

23 **Mr. Lee:** Translator.

1 **Mr. Lee:** Captain Flaherty can you tell me again please?

2 **NTSB:** Sure. Did you tour the entire vessel during the relief process?

3 **Mr. Lee:** No I didn't the whole area.

4 **NTSB:** So did you go into the engine room at all?

5 **Mr. Lee:** No I didn't go into the engine room at that time.

6 **NTSB:** Okay. Did you – was the vessel taking on or discharging cargo at the time?

7 **Mr. Lee:** Yes, sir. The cargo working is continually.

8 **NTSB:** Did you observe that operation just during your tour of the vessel?

9 **Mr. Lee:** Translator something is wrong. Captain Flaherty I am sorry I don't understand your
10 question correctly. Can you explain me again?

11 **NTSB:** Did you witness during your tour of the vessel cargo operations?

12 **Mr. Lee:** No. The cargo operations is the Chief Officer's main job.

13 **NTSB:** Okay. Did the – did you, excuse me. Did you and the outgoing Captain review the
14 vessel's safety management system?

15 **Mr. Lee:** Translator.

16 **ENS Lee:** No not during that relief process.

17 **NTSB:** Did the Chief Officer brief you on his responsibilities during the relief process?

18 **ENS Lee:** No Chief Officer did not report during the relief process.

19 **NTSB:** Okay. Did the outgoing Captain pass to you any comments about how the vessel
20 handles, anything that you should be aware of as the Master?

21 **Mr. Lee:** The translator is switching what Captain Flaherty said. Captain Flaherty I'm sorry I
22 don't understand your question correctly. Can you tell me again? Sorry.

1 **NTSB:** Sure no problem. Did the outgoing Captain pass to you anything about the vessel
2 handling that was maybe unique? And if you need examples I can kind of give examples.

3 **Mr. Lee:** No he didn't pass me these issues and the problem.

4 **NTSB:** So when the relief process was finished you were satisfied with the condition of the
5 vessel?

6 **Mr. Lee:** Yes, sir. I was satisfied with the condition and ship's better condition.

7 **NTSB:** And you were satisfied with the professionalism and capability of the crew?

8 **Mr. Lee:** Yes, sir.

9 **NTSB:** Was there anything that you still had questions about at the end of the relief process?

10 **Mr. Lee:** No I don't have any issues.

11 **NTSB:** When did – when did you have interaction with the Chief Officer following the relief
12 process?

13 **Mr. Lee:** Translator.

14 **ENS Lee:** We did not have anything during the relief process, about right after I got on board I
15 had conversation with Chief Officer.

16 **NTSB:** And was anything passed about what he thought of the vessel, the Chief Officer?

17 **ENS Lee:** No.

18 **NTSB:** Prior to departing the Port of Freeport, Texas did the Chief Officer brief you on the
19 stability of the vessel?

20 **ENS Lee:** No.

21 **NTSB:** Did you have any questions seeing that this is your first time as the Master of this
22 vessel concerning the stability of the vessel?

23 **ENS Lee:** No I did not.

1 **NTSB:** Were you aware of the GM of the vessel when you departed the Port of Freeport,
2 Texas?

3 **ENS Lee:** Something different from the translator. Captain Flaherty can you tell me again and
4 I don't understand your question correctly.

5 **NTSB:** Do you recall what the vessel's GM was when the vessel departed the Port of
6 Freeport, Texas?

7 **Mr. Lee:** No I didn't remember.

8 **NTSB:** And was it briefed to you by anyone else on the crew besides the Chief Officer?

9 **Mr. Lee:** Sorry Captain Flaherty your talking into something broken. I cannot hear you clearly.

10 **NTSB:** I'm sorry. Did any of the other ship's officers brief you on what the GM of the vessel
11 was when it departed Freeport, Texas?

12 **Mr. Lee:** The GM review is Chief Officer's main job.

13 **NTSB:** Correct. Did anyone pass to you, besides the Chief Officer, did anyone mention to you
14 what the GM of the vessel was when you departed?

15 **ENS Lee:** No there was not.

16 **Mr. Reisman:** Captain Flaherty and I may have misunderstood this earlier, has he been
17 asked whether the Chief Officer provided that information to him? Or are you just asking about
18 others?

19 **NTSB:** I asked about the Chief Officer earlier and he said no. I just wanted to follow up if any
20 other of the officers, I would assume deck officers had passed to him the GM, draft or any of
21 the other information.

1 **Mr. Reisman:** And again as he mentioned we're breaking up a little bit here. I'm not sure that
2 he – we didn't understand the question about the Chief Officer. You might ask that again. I'm
3 not sure if that was clear here.

4 **NTSB:** Okay, no problems. Captain, prior to departing the Port of Freeport, Texas did the
5 Chief Officer pass to you the GM of the vessel?

6 **ENS Lee:** Chief Officer informed him.

7 **NTSB:** And passed to him the GM of the vessel?

8 **ENS Lee:** Yes he told him the GM of the vessel.

9 **NTSB:** Captain do you recall the GM of the vessel that was briefed to you?

10 **ENS Lee:** No I do not recall.

11 **NTSB:** Captain do you remember if, while you may not remember the GM did the number that
12 was passed to you sound reasonable?

13 **ENS Lee:** Yes it was.

14 **NTSB:** Okay. Let's see. And Captain if you need to take a break please let me know. I'm
15 going to talk now about the vessel's encounter, not encounter, I'm going to talk about the
16 vessel's – what the vessel did due to the passing hurricane.

17 **Mr. Lee:** Yes, sir.

18 **NTSB:** You were aware of the hurricane prior to departing the Port of Freeport, Texas?

19 **ENS Lee:** Yes I knew about it.

20 **NTSB:** When did you discuss the vessel's plans to prepare for the storm with your ship's
21 officers and crew?

22 **Mr. Lee:** Captain Flaherty, if you don't mind I can take break time.

23 **NTSB:** That's fine. Captain Welborn.

1 **CAPT WELBORN:** Yes Captain Lee, thank you for asking. So now it is, the local time is
2 10:56. Captain Lee would 10 minutes be okay?

3 **Mr. Lee:** Yes it is better.

4 **CAPT WELBORN:** Very good. So we will stand in recess until 11:06. This court stands – this
5 hearing stands in recess.

6 **Mr. Lee:** Thank you Captain.

7 *The hearing recessed at 10:56, 17 September 2020*

8 *The hearing was called to order at 11:06, 17 September 2020.*

9 **CAPT WELBORN:** The local time is 11:06 and we're back on the record in the formal hearing
10 regarding the capsizing of the Motor Vessel GOLDEN RAY. Captain, you good?

11 **Mr. Lee:** Yes of course.

12 **CAPT WELBORN:** Thank you. Captain Flaherty would you like to resume your line of
13 questioning?

14 **NTSB:** Yes I would Captain, thank you. As I was previously discussing the time the vessel
15 prepared for the hurricane. Did you meet with your officers and crew to discuss the
16 preparations of the vessel for the storm?

17 **ENS Lee:** Yes before departing Freeport I met with my crew members to discuss about going
18 to a safe navigation course.

19 **NTSB:** Did your vessel take – did your vessel take any, let me ask it this way, excuse me.
20 What type of preparations were done to prepare the vessel for the storm?

21 **ENS Lee:** To avoid storm we discussed about the safe navigation course. Also he called the
22 crew members to tie down.

23 **NTSB:** To tie down equipment and stuff that was lose?

1 **Mr. Lee:** I asked the crew members to secure and to tie up all better equipment and cargo
2 deck of cargo, deck.

3 **NTSB:** Did you discuss with the Chief Officer the need to take on any additional ballast for the
4 vessel as part of preparing for the storm?

5 **ENS Lee:** Yes we did discuss.

6 **NTSB:** Did the vessel take on additional ballast for the storm?

7 **ENS Lee:** Yes we added more.

8 **NTSB:** Do you recall how much ballast was added to the vessel?

9 **ENS Lee:** I do not recall, that is a responsibility of Chief Officer.

10 **NTSB:** Did the Chief Officer pass to you what the new GM would be with the additional ballast
11 on board?

12 **ENS Lee:** We added more ballast to overcome the hurricane swell and that's the reason why
13 we added more ballast.

14 **Mr. Lee:** I will explain in English.

15 **Mr. Reisman:** Hold on, sir. I'm not sure you're answering the question that Captain Flaherty
16 asked you. Captain Flaherty would you like to have maybe have the translator repeat the
17 question. I don't think he's answering the question you asked.

18 **NTSB:** Did the Chief Officer brief you on what the vessel's new GM was following the –
19 because of the addition of new ballast?

20 **Mr. Lee:** To ride out high wind and high swell for Hurricane Dorian.

21 **Mr. Reisman:** Captain can I help here maybe?

22 **NTSB:** Yes please, thank you.

1 **Mr. Reisman:** Captain listen to me. What Captain Flaherty is asking is did the Chief Officer
2 tell you what the GM was after you added ballast?

3 **Mr. Lee:** Chief Officer didn't report to me the GM.

4 **NTSB:** Okay. Understood. Did the vessel encounter significant waves or swells while you
5 waited for the hurricane to pass?

6 **ENS Lee:** No we have not.

7 **NTSB:** Okay. So as I understand it there was a port change from Brunswick to Jacksonville
8 due to the four day delay of the storm.

9 **ENS Lee:** Yes.

10 **NTSB:** Did the Chief Mate discuss with you how much ballast he was going to discharge from
11 the vessel prior to entering the Port of Jacksonville?

12 **ENS Lee:** Chief Officer did not report that amount of discharge.

13 **NTSB:** Okay. Did you encounter anything unusual with the vessel's stability as the vessel
14 entered Jacksonville?

15 **Mr. Lee:** No.

16 **NTSB:** Did the Chief Officer go over the updated unloading and loading plan for the vessel
17 with you?

18 **Mr. Lee:** Captain Flaherty I don't understand your question correctly. Can you explain me
19 again?

20 **NTSB:** Sure. Did the Chief Officer update you on the loading and unloading plan for
21 Jacksonville?

22 **ENS Lee:** No.

23 **NTSB:** Were you aware of any issues with loading cargo while in the Port of Jacksonville?

1 **ENS Lee:** No I did not.

2 **NTSB:** Did the Chief Officer discuss with you the need to take on additional fuel due to the
3 delay of the hurricane?

4 **ENS Lee:** No he did not.

5 **NTSB:** Let's see. When you're Master on other vessels was it common to fully delegate all
6 the stability responsibilities to the Chief Officer?

7 **ENS Lee:** Yes.

8 **NTSB:** When you were departing the Port of Jacksonville did you notice or have any concerns
9 with the vessel's stability?

10 **ENS Lee:** No there was no issue.

11 **NTSB:** During the voyage from Jacksonville to Brunswick did you have any concern about the
12 stability of the vessel?

13 **ENS Lee:** No issue.

14 **NTSB:** Did any of the ship's offices or crew express to you a concern about the vessel's
15 stability?

16 **ENS Lee:** No there was none.

17 **NTSB:** I'm going to jump forward here a little bit to Brunswick when the vessel was – from the
18 time the vessel finished loading the cargo and prior to departing. Was the cargo operation, to
19 your knowledge completed without any issues or concerns?

20 **Mr. Lee:** What the Captain noted as good. Captain Flaherty please tell me again.

21 **NTSB:** Sure. In the Port of Brunswick did the cargo operations proceed as planned?

22 **ENS Lee:** Yes proceeded as planned.

1 **Mr. Reisman:** Are you asking, I think there may be some confusion. Your original question
2 asked if there were problems, now you've asked if it was as planned. I'm not sure which one
3 he's attempting to answer.

4 **NTSB:** Well then I'll just ask it again just, as planned. I shortened it. Were there any issues
5 or concerns with the cargo operations in Brunswick?

6 **ENS Lee:** No there was not.

7 **NTSB:** Okay. At any time prior to the accident did you witness the Chief Officer comparing
8 and evaluating the vessel's stability?

9 **Mr. Lee:** The translator is something different what the Captain Flaherty's question. I'm sorry
10 I don't understand Captain Flaherty's question. Can you explain what or clearly?

11 **NTSB:** Were you present in the ship's office at any time prior to the accident to watch the
12 Chief Officer calculate the stability of the vessel?

13 **Mr. Reisman:** Do you understand his question Captain or do you want to hear it in Korean?

14 **Mr. Lee:** I need the Korean translator. That's something different the question and the
15 translator.

16 **Mr. Reisman:** Captain Flaherty can I help here?

17 **NTSB:** Sure.

18 **Mr. Reisman:** And Captain please obviously correct if I'm misstating with your intention of
19 your question.

20 **NTSB:** Of course.

21 **Mr. Reisman:** Captain I think what Captain Flaherty is asking you is, did you go into the cargo
22 office on the ship in Brunswick and watch the Chief Officer calculate stability on the load com?

23 **Mr. Lee:** I understand it.

1 **Mr. Reisman:** Captain is that accurate?

2 **NTSB:** That's accurate.

3 **Mr. Lee:** No I trust the Chief Officer to – job. I didn't go to deck officer, deck office.

4 **NTSB:** Okay. So just at no point during your time on board the vessel did you just happen to

5 see or oversee the Chief Officer calculating the vessel's stability?

6 **Mr. Lee:** That's something different of the translator and the question. Or the translation.

7 **Mr. Reisman:** You want me to help Captain?

8 **NTSB:** Yes please.

9 **Mr. Reisman:** From the time you boarded the ship in Brunswick, I mean at Freeport until the

10 accident did you ever go into the cargo office and watch the Chief Officer calculate stability?

11 **Mr. Lee:** No.

12 **NTSB:** Okay. Captain thank you for your time. Captain Welborn I have no further questions

13 at this time.

14 **CAPT WELBORN:** Thank you Captain Flaherty I do appreciate it. Captain Lee.

15 **Mr. Lee:** Yes, sir.

16 **CAPT WELBORN:** Good?

17 **Mr. Lee:** Good. Thank you, sir.

18 **CAPT WELBORN:** Yes very intense. A couple of follow-on questions before we move on to

19 our next few individuals that may have questions for you. When the ship was delayed due to

20 Dorian and Brunswick and Jacksonville ports were shifted in the sequence, was there a

21 change to the stow plan at that time?

22 **ENS Lee:** There was no change.

1 **CAPT WELBORN:** In the Jekyll Island Range approaching the Widener I asked if you recall
2 the ship's draft. You told me no. Do you recall the under keel clearance for that area?

3 **Mr. Lee:** I'm not sure.

4 **CAPT WELBORN:** Thank you.

5 **Mr. Lee:** You're welcome, sir.

6 **CAPT WELBORN:** Captain did, on the out bound transit from Brunswick, up until the incident,
7 up until the 20 degrees rudder was called for did you ever feel that the stability of the vessel
8 was in question?

9 **Mr. Lee:** Never.

10 **CAPT WELBORN:** Before the ship rolled over did you hear or feel any cargo shift on board?

11 **ENS Lee:** No never.

12 **CAPT WELBORN:** Did the ship react or do you believe that you may have struck anything
13 underneath the ship before it rolled over?

14 **ENS Lee:** No I did not feel anything.

15 **CAPT WELBORN:** When did you realize that the stability of your ship was in question and
16 how did you know?

17 **ENS Lee:** Until the ship rolled over completely I did not know any issue or problem with the
18 ship.

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

20 **Mr. Lee:** You're welcome, sir.

21 **CAPT WELBORN:** I now have one question from the Korean Maritime Safety Tribunal. The
22 question is, Captain what do you believe, excuse me, I'll start again. Captain what led you to

1 believe that the stability of the GOLDEN RAY was good enough to depart the port of
2 Brunswick?

3 **Mr. Lee:** The translator says something different what the Captain is speaking. Captain can
4 you explain me again?

5 **CAPT WELBORN:** Yes. I will ask the question as we received it from KMST. What led you to
6 believe that the stability of your ship was good enough to depart the Port of Brunswick?

7 **Mr. Lee:** I understand.

8 **Mr. Reisman:** Do you want the translation or do you want to answer?

9 **Mr. Lee:** Okay Captain. I will talk in English. Prior to departure in Brunswick Chief Officer
10 report to me over telling and after sailing Brunswick Chief Officer submit the stability
11 calculation ship. Everything the Chief Officer said stability calculations everything's okay.
12 Chief Officer work on better modern ships for six years. And he had enough experiences as a
13 Chief Officer. So I trust, I rely on the Chief Officer stability call.

14 **Mr. Reisman:** Captain can I just clarify. You said six years on the ship. Did you mean six
15 years of -----

16 **Mr. Lee:** Six months. Sorry six months.

17 **Mr. Reisman:** I didn't think the ship was that old.

18 **CAPT WELBORN:** Six months. Do you know what system the Chief Officer used to calculate
19 stability?

20 **Mr. Lee:** Yes I know. Chief Officer use a program load com system.

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

22 **Mr. Lee:** You're welcome, sir.

23 **CAPT WELBORN:** Captain we have a few more questions. Are we okay to proceed?

1 **Mr. Reisman:** Do you want a quick break or are you okay.

2 **Mr. Lee:** Can I take break for 5 minutes?

3 **CAPT WELBORN:** Yes absolutely Captain, absolutely. So currently the local time is 11:32.
4 Let's go ahead and break for 10. So we will reconvene at 11:42. This hearing stands
5 adjourned.

6 *The hearing recessed at 11:32, 17 September 2020*

7 *The hearing was called to order at 11:42, 17 September 2020.*

8 **CAPT WELBORN:** The local time is now 11:42 and we're back on the record at this formal
9 hearing addressing the capsizing of the Motor Vessel GOLDEN RAY. Captain before we get
10 started again I want to commend you on your English and you're handling yourself very well.
11 You're doing fine, thank you.

12 **Mr. Lee:** You're welcome, sir.

13 **CAPT WELBORN:** So Captain I told you before the break we had a couple more folks that
14 would ask questions. I will start with Mr. Reisman. Sir, do you have questions for this
15 witness?

16 **Mr. Reisman:** Thank you Captain. I have no questions for the witness at this time.

17 **CAPT WELBORN:** Thank you Mr. Reisman. Mr. Gilseman, do you have questions for this
18 witness.

19 **Mr. Gilseman:** No, sir. No thank you Captain.

20 **CAPT WELBORN:** Understood. We have received no more questions from KMST. So
21 Captain I want to again thank you for your testimony today. I do appreciate the care that you
22 provided in the responses that you gave us today. I know this was a very long interview.
23 Again thank you very much. I do ask though, Captain that you are available for recall if need

1 be if we have some additional questions we may need to contact you again to have those
2 questions answered. Is that okay?

3 **Mr. Lee:** Yes, sir.

4 **Mr. Reisman:** Captain Welborn as with the other witnesses as I've mentioned previously,
5 Captain Lee is scheduled to fly home to Korea tomorrow which will put him back in Korea I
6 think Saturday, maybe late tomorrow or early Saturday our time. Certainly if you all have
7 questions for him next week we would make him available by video or by telephone
8 conference or for written questions, however you please. But we just want to make sure is it
9 okay for him to travel back to Korea tomorrow.

10 **CAPT WELBORN:** Absolutely. Safe travels to you Captain.

11 **Mr. Lee:** Thank you very much Captain.

12 **CAPT WELBORN:** Thank you for your time. So we have one piece of housekeeping that we
13 need to take care before we take our recess for lunch. Exhibit 10 which is the two photos that
14 we showed to Captain Lee of the Pilot door we would like to enter those into evidence. Any
15 objections from the Republic of the Marshall Islands?

16 **Mr. Bremer:** No objections Captain.

17 **CAPT WELBORN:** NTSB?

18 **NTSB:** No objections.

19 **CAPT WELBORN:** We will wait to see if KMST has any objections. Mr. Reisman, objections,
20 sir?

21 **Mr. Reisman:** It will be clear that those photos were from the SILVER RAY, is that correct?

22 **CAPT WELBORN:** Yes, sir. We will note those as so. Photos of the SILVER RAY being the
23 sister ship of the GOLDEN RAY.

1 **Mr. Reisman:** Roger. Then no objections.

2 **CAPT WELBORN:** Mr. Gilsenan?

3 **Mr. Gilsenan:** No objections, sir.

4 **CAPT WELBORN:** And we received no objections from KMST. So those two photos are
5 entered as Coast Guard Exhibit 10. The local time now is 12:45. Our next witness is not due
6 on the stand until 12:30. So we will recess until 12:30 local time. This hearing stands in
7 recess.

8 *The hearing recessed at 11:45, 17 September 2020*

9 *The hearing was called to order at 12:30, 17 September 2020.*

10 **CAPT WELBORN:** So the time is locally 12:30 here in Brunswick, Georgia. We're back on
11 the record for the formal hearing to look into the events leading up to and after the capsizing
12 the vessel GOLDEN RAY on September 8th, 2019. Our Next witness is Mr. Tae Kim who will
13 speak to the ship's safety management system, the company's safety management system
14 and Mr. Lee Willett will lead this investigation. Excuse me, will lead this line of questioning.

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

16 **Mr. Reisman:** Is our translator on?

17 **Mr. Willett:** He is, but before I need to step back a little bit. We need to swear in the witness.

18 **Recorder:** Good afternoon. The following witness requires the use of a translator. ENS Lee
19 has previously been sworn. For the record I would like to remind you that you are still under
20 oath ENS Lee for the purposes of this proceeding. Mr. Kim please stand and raise your right
21 hand. A false statement, good morning. A false statement given to an agency of the United
22 States is punishable by fine and or imprisonment under 18 United States Code 1001. Knowing

1 this do you solemnly swear that the testimony you're about to give will be the truth, the whole
2 truth and nothing but the truth so help you God?

3 **Mr. Kim:** Yeah.

4 **Recorder:** Thank you please be seated. Mr. Willett will be the lead questioner for this
5 witness.

6 **Mr. Willett:** Mr. Kim could you please state your name and spell your last name for the
7 record?

8 **Mr. Kim:** Tae Kim, K-I-M.

9 **ENS Lee:** My name is Tae Kim, and my last name K-I-M.

10 **Mr. Willett:** Are you represented by counsel?

11 **ENS Lee:** Yes.

12 **Mr. Willett:** Have you been designated a party in interest?

13 **Mr. Reisman:** I'm not sure he understands.

14 **Mr. Willett:** I know it was just something we ask for the record. He has not been designed a
15 party in interest.

16 **Mr. Reisman:** And I apology – I couldn't understand his answer to your prior question on
17 whether he's represented by counsel. Did he say yes or no? I didn't understand it.

18 **Mr. Willett:** He said yes.

19 **Mr. Reisman:** Okay. You understand I represent the company, not you individually, do you
20 understand that?

21 **Mr. Kim:** I'm sorry.

22 **Mr. Reisman:** No problem. What Mr. Willett was asking is do you have your own personal
23 lawyer representing you here today?

1 **Mr. Kim:** Could you -----

2 **Mr. Willett:** ENS Lee could you translate?

3 **Mr. Kim:** No, company lawyer.

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

5 **ENS Lee:** Yes I do.

6 **Mr. Willett:** Could you list those certificates or certifications?

7 **ENS Lee:** He says he has an Engineer's License.

8 **Mr. Willett:** Okay. Who is your current employer?

9 **Mr. Kim:** G-Marine service.

10 **Mr. Willett:** So that is G-Marine service?

11 **Mr. Kim:** Yes.

12 **Mr. Willett:** What position do you hold?

13 **Mr. Kim:** Company superintendent, technical superintendent.

14 **Mr. Willett:** Did you say superintendent, technical superintendent?

15 **Mr. Kim:** Yeah.

16 **Mr. Willett:** How long have you held that position?

17 **Mr. Kim:** Five years.

18 **Mr. Willett:** Have you received any training for your position?

19 **Mr. Kim:** On the job training internally in company.

20 **Mr. Willett:** How many ships do you manage or oversee?

21 **Mr. Kim:** Now three vessels.

22 **Mr. Willett:** Are they are all car carriers?

23 **Mr. Kim:** Yes, car carriers.

1 **Mr. Willett:** Did you oversee the GOLDEN RAY?

2 **Mr. Kim:** Yes.

3 **Mr. Willett:** How does the GOLDEN RAY, or how did the GOLDEN RAY calculate their
4 stability?

5 **Mr. Kim:** Chief Officer, load com, sir, stability.

6 **ENS Lee:** Chief Officer calculates stability using load com.

7 **Mr. Willett:** Explain how the load com works.

8 **ENS Lee:** Chief Officer puts all data for ship's stability into entry and depending on the results
9 you get the display.

10 **Mr. Willett:** How many inputs into the load com are manual?

11 **ENS Lee:** Since I'm an engineer I'm not sure.

12 **Mr. Reisman:** If I can interject, again we're – we were designed to talk about the policies and
13 procedures and now you're asking operational details of the operations of a load com
14 computer. I just don't know that our SMS witnesses are going to be able to answer that.
15 That's not a policy and procedure.

16 **Mr. Willett:** Noted. How are members trained to use the load com computer?

17 **ENS Lee:** There's no procedure on SMS on load com. But in order to be a Chief Officer this
18 is a basic knowledge to get the license. And for Second and Third Mates they get on the job
19 training.

20 **Mr. Willett:** How often is the load com verified to ensure that it's accurate?

21 **ENS Lee:** For our policy every three months by Chief Officer. And there's annual surveys
22 from Korean Register.

23 **Mr. Willett:** When was the load com on the GOLDEN RAY last checked for accuracy?

1 **ENS Lee:** The record is on the ship. So I do not get the exact date.

2 **Mr. Willett:** Could we receive a copy of that data?

3 **Mr. Reisman:** The witness said it's on board the ship, it cannot be [in audible].

4 **Mr. Willett:** Okay. When does G-Marine require the vessels to calculate stability?

5 **ENS Lee:** Can you your question one more time?

6 **Mr. Willett:** Yes. When does G-Marine or Hyundai Glovis require vessels to calculate

7 stability?

8 **Mr. Reisman:** Just for the record Mr. Kim as he told you is a G-Marine employee, I'm not sure

9 that he's qualified or capable of talking about any Hyundai Glovis policies.

10 **Mr. Willett:** Okay. Is G-Marine in charge of the day to day operations of the vessel?

11 **Mr. Kim:** Yeah.

12 **Mr. Willett:** When does G-Marine require vessels to calculate stability?

13 **ENS Lee:** Prior to departure and prior to arriving they calculate stability.

14 **Mr. Willett:** Does G-Marine require the stability calculations to be sent to a shore office?

15 **ENS Lee:** No we do receive the calculation.

16 **Mr. Willett:** Does anyone from G-Marine check to ensure that stability calculations are

17 accurate?

18 **Mr. Reisman:** Are you asking about somebody on the ship or off of the ship or both?

19 **Mr. Willett:** Off of the ship. Off of the ship.

20 **Mr. Reisman:** On shore.

21 **Mr. Kim:** On shore.

22 **Mr. Reisman:** On shore.

23 **ENS Lee:** There's no designated person to verify on shore.

1 **Mr. Willett:** Does G-Marine have a policy that states how the Chief Officer is required to use
2 the load com computer?

3 **ENS Lee:** He asked whether you're referring to training?

4 **Mr. Willett:** Correct, I think he answered that they were trained when they got their license.
5 But I was asking if G-Marine had additional training for the Chief Officer?

6 **ENS Lee:** There's a load com operational manual on board the Chief Officer can use and they
7 learn it from on the job training as well as during hand over you get from your predecessor.

8 **Mr. Willett:** According to the safety management system how long should that hand over
9 training be?

10 **ENS Lee:** There's no specific date line.

11 **Mr. Willett:** The training that you mentioned about the load com computer do you have a copy
12 of that on shore?

13 **Mr. Reisman:** Are you referring to the manual?

14 **Mr. Willett:** Correct, the manual.

15 **Mr. Kim:** Yes.

16 **Mr. Willett:** Does the safety management system state that only the Chief Officer conducts
17 stability calculations?

18 **Mr. Kim:** Yeah.

19 **Mr. Willett:** Does anyone else on board, according to the safety management system look
20 into and verify the stability calculations of the vessel?

21 **ENS Lee:** No only Chief Officer.

22 **Mr. Willett:** Does anyone else on board know how to use the load com computer according to
23 the safety management system?

1 **Mr. Reisman:** I've got to object to that question. I'm not sure what you meant when you
2 added according to the SMS Manual. Are you asking ----

3 **Mr. Willett:** I'll rephrase.

4 **Mr. Reisman:** Okay, thank you.

5 **Mr. Willett:** Does the safety management system identify any other individuals on board that
6 are trained or allowed to use the stability calculation or the load com computer?

7 **ENS Lee:** Could you please repeat the question in English?

8 **Mr. Willett:** Are there – does the safety management system identify any other crew members
9 that can use the load com computer?

10 **ENS Lee:** It is Chief Officer who use load com.

11 **Mr. Willett:** So only the Chief Officer?

12 **ENS Lee:** Yes.

13 **Mr. Willett:** Does the safety management system talk about taking soundings of the ballast?

14 **ENS Lee:** Could you please repeat the question?

15 **Mr. Willett:** Does the safety management system address when to take soundings of the
16 ballast tanks?

17 **ENS Lee:** There is a process for measuring the sounding or ballast tanks, but I do not know
18 when exactly.

19 **Mr. Willett:** Is there a requirement in the safety management system to take the salinity of the
20 ballast?

21 **ENS Lee:** I think it is included to check the salinity.

22 **Mr. Willett:** When these measurements are taken is a report generated and sent to G-
23 Marine?

1 **ENS Lee:** No we do not receive any report.

2 **Mr. Willett:** Do you ever – did you receive a report when the vessel left Jacksonville that
3 detailed the GM of the vessel?

4 **ENS Lee:** Yes I received the departure report.

5 **Mr. Willett:** Does he recall or do you recall the GM at the departure from Jacksonville in that
6 report?

7 **ENS Lee:** I cannot recall the exact number.

8 **Mr. Willett:** That's okay. Did you receive a report from the GOLDEN RAY that detailed the
9 GM at its departure from Brunswick?

10 **ENS Lee:** I did not receive one.

11 **Mr. Willett:** Does the SMS address how soon after departure that the vessel needs to send
12 that report to G-Marine?

13 **ENS Lee:** There is no specific timeline.

14 **Mr. Willett:** Does the SMS state when the Chief Officer can discharge ballast?

15 **ENS Lee:** No because its upon Captain and Chief Officer's discrepancy – discretion.

16 **Mr. Willett:** Okay. Does the SMS or safety management system explain to the Chief Officer
17 what he needs to do if the GM is not correct?

18 **Mr. Reisman:** For clarification the question you asked you if the GM is not correct, is that
19 what you're asking as opposed to insufficient?

20 **Mr. Willett:** I guess I could rephrase. If the load com says the GM is not correct does the
21 safety management system detail or let the Chief Officer know what he needs to do to correct
22 the GM?

23 **Mr. Reisman:** Again I don't want to interfere with you, but I don't understand it in English.

1 **Mr. Willett:** Okay.

2 **Mr. Reisman:** You're saying the GM is not correct. I don't know that -----

3 **Mr. Willett:** If the GM is insufficient to sail, its unstable.

4 **ENS Lee:** I cannot recall that procedure, but if there's an issue with ship's stability the Chief

5 Officer has to report to Captain and they can adjust it the last time.

6 **Mr. Willett:** Okay. Does the safety management system detail where the Chief Officer should

7 be during cargo operations?

8 **ENS Lee:** He asked like where?

9 **Mr. Willett:** Yes physically on the ship, yes.

10 **ENS Lee:** There is no specific policy that -- where the Chief Officer has to be.

11 **Mr. Willett:** Does the safety management system address where the Chief Officer should get

12 the weights for each vehicle?

13 **ENS Lee:** There is no specific policy.

14 **Mr. Willett:** Captain Welborn. I've completed my questions and I turn the gentleman back

15 over to you.

16 **CAPT WELBORN:** Thank you Mr. Willett. So now, sir we will go around our SIS's and see if

17 we have follow-on questions. The Republic of the Marshall Islands do you have questions for

18 this witness Mr. Bremer?

19 **Mr. Bremer:** Yes Captain. Sir can you please describe as the Technical and Superintendent

20 what your interaction with the GOLDEN RAY would normally be?

21 **ENS Lee:** Support all the request from the ship and then trying to [in audible] on board the

22 ship.

1 **Mr. Reisman:** Your answer broke up, we couldn't hear it here. Would you mind repeating that
2 please?

3 **ENS Lee:** Yes, sir. We get all the requests from the ship and then we try to support those
4 requests. And then we also we put all input all status on board the ship.

5 **Mr. Bremer:** Okay. And in your experience as the Technical Superintendent for GOLDEN
6 RAY did you have any issues getting needed spare parts or equipment?

7 **ENS Lee:** No.

8 **Mr. Bremer:** And as the Technical Superintendent do you go on board the ships that you
9 oversee?

10 **ENS Lee:** Yes I do regularly.

11 **Mr. Bremer:** And if you've been on the GOLDEN RAY prior to the incident, when was the last
12 time?

13 **ENS Lee:** February 2019.

14 **Mr. Bremer:** And how would you describe the condition of the GOLDEN RAY when you were
15 last on board?

16 **ENS Lee:** The condition was very good since the GOLDEN RAY was just over a year after it
17 was built.

18 **Mr. Bremer:** And were you aware of any overdue maintenance items or non-operational
19 machinery on board the GOLDEN RAY prior to the incident?

20 **ENS Lee:** I cannot recall at this point and time.

21 **Mr. Bremer:** Okay thank you, sir. No further questions.

22 **CAPT WELBORN:** Thank you Mr. Bremer. Captain Flaherty do you have questions from
23 NTSB for this witness?

1 **NTSB:** No I do not.

2 **CAPT WELBORN:** Thank you, sir. Mr. Kim a couple of follow-on questions. As the fleet
3 manager or the technical superintendent what company plans are you responsible for?

4 **ENS Lee:** Captain could you please describe more about the plan?

5 **CAPT WELBORN:** What company documents, like the safety management system would be
6 one, what other documents, what other guiding instructions are you responsible for as a
7 technical superintendent?

8 **ENS Lee:** I'm not sure what question is asking for sure. I have lots of documents that I
9 manage.

10 **Mr. Reisman:** We're having trouble hearing the translator. If you could just – you're fine, I
11 couldn't hear the translator.

12 **CAPT WELBORN:** The last statement he made was the individual is unsure about the
13 question regarding what documents I'm asking about. So I'm not sure if you can help us out
14 here Mr. Reisman. Obviously the safety management system is maintained by the technical
15 superintendent. I'm trying to clarify what other quality type, management type, oversight type
16 documents he is responsible for.

17 **Mr. Reisman:** I'll see if – I'll try and help, I don't know if I can. What he's asking is are there
18 any other plans or programs that the company has that you're responsible for monitoring on
19 the ship. Is there a routine maintenance program, something like that? Captain is that what
20 you're looking for?

21 **CAPT WELBORN:** That's a good characterization, thank you.

22 **Mr. Kim:** We have [Korean].

23 **ENS Lee:** We have preventative maintenance procedures so we go along with that manual.

1 **CAPT WELBORN:** Any others?

2 **Mr. Reisman:** Captain just for clarification. You asked specifically that Mr. Kim oversees, is
3 that correct?

4 **CAPT WELBORN:** In his role as the technical superintendent, yes.

5 **Mr. Reisman:** Roger. Do you understand?

6 **Mr. Kim:** Yeah.

7 **ENS Lee:** I manage supply required from the ship when it arrives at the port. And I take care
8 of the requests for the spare parts. And [in audible] as well, sorry about that.

9 **CAPT WELBORN:** Okay, thank you. Mr. Kim is the load com manual available on board the
10 ship?

11 **ENS Lee:** Yes it is.

12 **CAPT WELBORN:** Does anyone ashore with the company have access to the load com
13 system?

14 **ENS Lee:** No, cannot access.

15 **CAPT WELBORN:** Does anyone in the company ashore understand how the load com
16 system operates?

17 **ENS Lee:** Yes, various.

18 **CAPT WELBORN:** Who is that?

19 **ENS Lee:** No specific person, whenever it becomes necessary that person performs that duty.

20 **CAPT WELBORN:** How long after departure, let me start again. What is the normal time after
21 a ship departs before the stability information is translated to the company?

22 **ENS Lee:** Could you please verify if it's the stability report or arrive report or departure report?

23 **CAPT WELBORN:** The departure report with stability information.

1 **ENS Lee:** There's no deadline.

2 **CAPT WELBORN:** Is there a document that the Chief Officer may refer to, to determine if the
3 ship's GM is within safe parameters?

4 **ENS Lee:** You can verify GM through load com automatically and using GM stability.

5 **CAPT WELBORN:** Will the load com advise the Chief Officer if the GM is safe for transit?

6 **ENS Lee:** Report will say whether it is satisfied or not.

7 **CAPT WELBORN:** When the vessel departs port they issue a departure report to the
8 company. What's contained in this report?

9 **ENS Lee:** In the name of the report, the time and date, GM, [in audible], steering and cargo
10 related information.

11 **Mr. Reisman:** Cargo what information?

12 **ENS Lee:** Cargo related.

13 **Mr. Reisman:** Thank you.

14 **CAPT WELBORN:** And this report is normally sent to the company how long after departure?

15 **ENS Lee:** It varies depending on the ship's condition.

16 **Mr. Reisman:** Do you disagree with what he said?

17 **Mr. Kim:** Disembark but it depends on the ship's condition.

18 **Mr. Reisman:** Captain we're you all able to hear that.

19 **CAPT WELBORN:** Yes. I was. So I'm trying to get the witness to tell me, is that hours, days,
20 weeks, months. How long after the ship departs port on average does it take before that report
21 is sent to company?

22 **ENS Lee:** After the, on average after the Pilot disembarks.

1 **CAPT WELBORN:** Mr. Kim you said that submission of this report is dependent upon the
2 ship's condition. What do you mean by condition?

3 **ENS Lee:** It's just not safe for navigation, Captain can hold crew members to safe condition
4 and they could delay their report.

5 **CAPT WELBORN:** Thank you Mr. Kim. I just received a note that we have no questions from
6 KMST for this witness. So I will go through and ask our PII's. Mr. Reisman do you have
7 questions for this witness?

8 **Mr. Reisman:** I have one question Captain Welborn. Mr. Kim earlier there was a question
9 about the SMS policy and who could use the load com computer. Do you remember being
10 asked that?

11 **Mr. Kim:** Yeah.

12 **Mr. Reisman:** Does the SMS say that only the Chief Officer is allowed to use it, or does the
13 SMS say that the Chief Officer is responsible and required to use it? Which of those is it?

14 **Mr. Kim:** Again.

15 **Mr. Reisman:** Does the SMS say that the Chief Officer is required to use the load com?

16 **ENS Lee:** It is the responsibility of the Chief Officer.

17 **Mr. Reisman:** Does the SMS say that no one else is allowed to use the load com?

18 **ENS Lee:** There is no policy.

19 **Mr. Reisman:** Thank you. I have no further questions, thank you.

20 **CAPT WELBORN:** Thank you Mr. Reisman. Mr. Gilseman, do you have questions for this
21 witness?

22 **Mr. Gilseman:** No, sir. Thank you.

1 **CAPT WELBORN:** Mr. Kim do you know specifically where in the SMS the stability
2 information is contained?

3 **ENS Lee:** Yes I do.

4 **Mr. Reisman:** I think he said more than that.

5 **ENS Lee:** It is listed in the cargo operation manual.

6 **CAPT WELBORN:** Is the cargo operations manual part of the SMS?

7 **ENS Lee:** Yes it is.

8 **CAPT WELBORN:** So Mr. Kim you said that the SMS does not restrict usage of the load com
9 to just the Chief Officer, correct?

10 **ENS Lee:** There's no policy saying no one else can use it.

11 **CAPT WELBORN:** But the only person trained to use it is the Chief Officer?

12 **Mr. Reisman:** Are you asking what the policy says or whether anybody else on board has
13 been trained?

14 **CAPT WELBORN:** This is solely about the policy, sir.

15 **ENS Lee:** Captain could you please repeat the question again?

16 **CAPT WELBORN:** The policy states that anyone can use the load com. But who else on
17 board is specifically trained to use the load com?

18 **Mr. Reisman:** Captain I apologize, I'm not trying to – but I think you may have misstated what
19 the policy says. The witness didn't say the policy says anybody can use it. He said that the
20 policy doesn't say that only the Chief Officer could use it.

21 **CAPT WELBORN:** You're correct, sir. I stand corrected. So the policy states that not only
22 the Chief Mate is not the only one who can use it. My question is, please go ahead Mr. ----

1 **Mr. Reisman:** I don't want him to be confused. But what I think the policy says is the Chief
2 Officer is required to use it. It's silent as to whether anybody else could use it. I think that's
3 what he told us earlier.

4 **CAPT WELBORN:** But no one else has been trained to use it. Is that correct?

5 **ENS Lee:** As I said before Chief Officer learned about stability from this school, he has a
6 license and they can refer to the manual.

7 **CAPT WELBORN:** Understood. So other questions from our SIS's? Captain Flaherty are
8 you – do you have any follow-on questions for this witness?

9 **NTSB:** No I do not.

10 **CAPT WELBORN:** Mr. Bremer?

11 **Mr. Bremer:** No additional questions.

12 **CAPT WELBORN:** Thank you. Okay. Mr. Kim I do thank you for your time today. Thank you
13 for your testimony and as with the other witnesses I have to ask up front, Mr. Reisman will Mr.
14 Kim also be departing the U.S.?

15 **Mr. Reisman:** Yes Captain he's scheduled to depart tomorrow morning.

16 **CAPT WELBORN:** Understood. So Mr. Kim if we need to contact you again and discuss or
17 ask more follow-on questions we'll do that through Mr. Reisman's office.

18 **Mr. Reisman:** Do you understand you can go back to Korea tomorrow. If they have any
19 additional questions they'll let me know and I'll contact you and we'll get those answers to
20 them.

21 **Mr. Kim:** Okay.

22 **CAPT WELBORN:** Thank you again Mr. Kim. I do appreciate your testimony today. The
23 witness is dismissed. So now the local time is 1:23. We're preparing to take a short recess

1 and we will enter some more information into the record. We have some previous interviews
2 regarding one of the crew members that was stranded on board the vessel once it capsized
3 that we're going to read into the interview instead of bringing this individual back to the United
4 States, or having them available for testimony. That will be the First Engineer. So we're going
5 to take a, like is said a quick recess. The local time is 1:23. We will reconvene in 10 minutes
6 at 1:33 to hear a reading of that testimony. We stand in recess.

7 *The hearing recessed at 1:23, 17 September 2020*

8 *The hearing was called to order at 1:33, 17 September 2020.*

9 **CAPT WELBORN:** Good afternoon ladies and gentlemen, the local time now in Brunswick is
10 1:33 and we're back on the record in the formal hearing of the GOLDEN RAY capsizing. At
11 this time we will have two members of our investigation support team read relevant excerpts
12 from a previously sworn testimony of the GOLDEN RAY's First Engineer at the time of the
13 incident. Mr. Junyoung Kim. We are entering this testimony to expedite these proceedings.
14 Given the small amount of information needed from Mr. Kim. MST2 Monika Spies will be
15 reading the questions posed by each interviewer stating each individual's name and ENS
16 Andrew Brown will read the question, pardon me, read the answers from Mr. Kim. You will be
17 hearing their voices but they will not be appearing on video. Lieutenant Commander Moore
18 our Recorder has previously sworn in MST2 Spies and ENS Brown off the record. I will enter
19 this document as Coast Guard Exhibit 11 unless there are objections from the SIS's or PII's at
20 the conclusion. MST2 Spies please proceed.

21 [The following transcript was read into the record by MST2 Spies and ENS Brown]

22 **Mr. FLAHERTY:** Please state your name and spell your last name for the record.

23 **MR. FLAHERTY:** Sir, if you could please state your name?

1 **MR. KIM** : My name is Junyong Kim.

2 **MR. FLAHERTY**: Could you please spell your last name.

3 **MR. KIM**: My last name is K-I-M.

4 **Mr. Willett**: Can you give us a brief summary of your background and experience?

5 Before we talk about the incident, we'd like to know a little bit about your background. How

6 long have you been sailing?

7 **MR. KIM** : From the first time on board?

8 **MR. WILLETT**: Yes.

9 **MR. KIM** : It was 2012.

10 **MR. WILLETT**: 2012?

11 **MR. KIM** : Yes. And I was third engineer starting on board.

12 **MR. WILLETT**: And you graduated from academy in 2012?

13 **MR. KIM** : Yes, sir.

14 **MR. WILLETT**: How long have you been a first?

15 **MR. KIM** : Oh, it's 1 not the concern because -- so sorry, sir. I just need to count.

16 **MR. WILLETT**: Okay. That's no problem. It can just be approximate too. It doesn't have to be

17 exact.

18 **MR. KIM** : I was onboard as first engineer including this time, four times. So, it's total -- and he

19 started as first engineer 2015,'16 and he had a break in 2017 and went on back in 2018 until

20 now.

21 **MR. WILLETT**: Okay. Okay. How many car carriers have you been on?

22 **MR. KIM** : Including this time, second time.

23 **Mr. Willett**: When did you report to the GOLDEN RAY?

1 **MR. WILLETT:** Second time. Okay. When did you embark the Golden Ray?

2 **MR. KIM :** Embark was, I didn't concern. It's not to be concerned.

3 **MR. WILLETT:** That's okay, just approximate.

4 **MR. KIM :** Last December.

5 **MR. WILLETT:** Last December?

6 **MR. KIM :** Yeah. December 17 or 18. Yeah.

7 **MR. WILLETT:** So, you've been on board a few months?

8 **MR. KIM :** No, sir. I've been here with Golden Ray about 9 months.

9 **Mr. Willett:** Describe your duties and responsibilities as 1st Engineer of the GOLDEN RAY.

10 **MR. WILLETT:** What does your normal job consist of in the engine control room?

11 **MR. KIM :** Okay. My job, main job was doing stand by engine. I check the engine condition.

12 Basically, I can, I watch the, on the screen, the engine and generator, everything going well.

13 And in the control room, of course I see the monitors, checking the value of the engine

14 condition and that.

15 **Mr. Willett:** What was the condition of the main engine, generators, and steering gear of

16 GOLDEN RAY?

17 **MR. WILLETT:** Nine months? Okay. Okay. So, during that 9 months have you seen, have

18 there been any problems with the machinery?

19 **MR. KIM :** Not a big problem because this is new ship. And everything was going through

20 perfectly. So, I was very satisfied with the condition of the engine. In my concern, everything

21 was normal.

22 **MR. WILLETT:** Normal?

23 **MR. KIM :** Yes, normal. Not big deal.

1 **MR. WILLETT:** Did you do any maintenance on any of the machinery, like the main engines,
2 steering gear, generators?

3 **MR. KIM :** I had a few maintenance happen but it's not a big one, like a piston. I didn't do the
4 piston or like big job. Only small work like a pure injection valve, changed the pure injection
5 valve. Or starting about like that way.

6 **MR. WILLETT:** Was there any unscheduled maintenance required?

7 **MR. KIM :** No. It's on the schedule.

8 **MR. WILLETT:** So, everything you did was scheduled?

9 **MR. KIM :** Yeah.

10 **Mr. Willett:** Can you tell us what happened during the outbound transit of the GOLDEN RAY
11 from Brunswick, Georgia in September of 2019?

12 **MR. WILLETT:** Okay. Okay. All right. So, lets go back to departure from Brunswick. So, from
13 when you were in Brunswick and you went stand-by, the vessel left the dock, you were in the
14 engine control room monitoring the engines?

15 **MR. KIM :** Yes.

16 **MR. WILLETT:** On the way out was everything normal?

17 **MR. KIM :** Yes. Everything was.

18 **MR. WILLETT:** The temperatures?

19 **MR. KIM :** Yes.

20 **MR. WILLETT:** The oil pressure?

21 **MR. KIM :** Yes. Everything.

22 **MR. WILLETT:** Everything? And then when did you realize there was a problem?

1 **MR. KIM** : When vessel tilt. I thought will be back again, because I thought why we tilt like this?
2 Then I realize it's not coming back. Then it keeps tilting. Then, yes, it happened.

3 **MR. WILLETT**: Did you feel a shutter? Like a duh-duh-duh?

4 **MR. KIM** : No.

5 **MR. WILLETT**: Do you think the vessel grounded?

6 **MR. KIM** : No. No. So, I also why did it happen. I wondered, why did it happen? I don't know
7 yet.

8 **MR. WILLETT**: Okay. Now as it started to tilt, what, did you grab on to the --

9 **MR. KIM** : Yeah. Yeah. I am holding the bar not to fall down because when tilt, the fall down
10 could be maybe dangerous. So, I try to protect myself and my mate, the second engineer. So,
11 need to be protect. I shout at him to holding the bar. That, you know, it only takes, it takes a
12 little time to tell him. So, we try to protect for us, by our self. And I concern about the second,
13 third engineer, third engineer and apprentice engineer as well. They are, they were all in
14 engine control room. So, I try to find to them. I shout really, really loud at second engineer. So,
15 they are in safe. So, we try to not fall down.

16 **MR. WILLETT**: Okay. So, as the vessel came over, when did you lose all the power and
17 engines?

18 **MR. KIM** : I didn't check the time. I cannot check the time because, you know, my situation
19 was very hard. But hardly tilting, engine shutdown. And then I don't know. First, generator
20 black out. And same time engine shutdown. Then few times later standby running. Standby
21 generator running but cannot work and emergency generator running for a few second. I
22 thought they're running because light coming up again. But few, I don't know, few seconds

1 later, also gone. Then battery light was on. Then I thought, we are really in danger. I feel that
2 way.

3 **MR. WILLETT:** Okay. So, the battery light, you had light in the engine control room?

4 **MR. KIM :** Yeah, the, yeah, the light from the battery pack.

5 **MR. WILLETT:** Were they battle lanterns or like -- is it like this one? Like that?

6 **MR. KIM :** No.

7 **MR. WILLETT:** No? It was a --

8 **MR. KIM :** Engine, you know, it's sailing light, inside about small.

9 **MR. WILLETT:** Emergency ballast light.

10 **MR. KIM :** Yeah. Emergency ballast tank.

11 **MR. WILLETT:** So, you were in the engine control room with the --

12 **MR. KIM :** Second engineer.

13 **MR. WILLETT:** Second engineer?

14 **MR. KIM :** Yeah.

15 **MR. WILLETT:** So, the boat tilted over. What did you do after you made sure the second
16 engineer was okay?

17 **MR. KIM :** He was with me. And I try to keep him not to falling down. I grabbed him not to fall
18 down to the end of the engine room because the engine room was about a bit long. And if he
19 falls down to end, he could be injured. So, I try to grab him to not fall down to the end of this.
20 Yeah.

21 **MR. WILLETT:** And after you made sure he was safe and you grabbed him, what did you guys
22 do after that?

1 **MR. KIM** : After that, we tried to check on the third engineer, apprentice engineer is now okay.
2 Then, yeah, we tried to take a walkie talkie or telephone. But this one still, we were in the
3 middle at that one, and the pointer is, distance was so far. So, we couldn't make it that to take
4 phone call. But we heard the announcement, attention, disembark attention. But we thought, if
5 we are going down, we are, try to out of. The engine control will be dangerous. So, we are
6 waiting for, to make sure how we are doing next then water coming up.

7 **MR. WILLETT**: The water came in the engine control room?

8 **MR. KIM** : Yeah.

9 **MR. WILLETT**: Could you access the emergency escape jump from the ECC, or the engine
10 control room?

11 **MR. KIM** : Water came from the emergency escape route.

12 **MR. WILLETT**: Oh, it did?

13 **MR. KIM** : Yeah. So, I tried to think, how can we escape from here?

14 **MR. WILLETT**: Yes?

15 **MR. KIM** : There was no way. Then, yeah, then we tried waiting in the safe area. So, we tried
16 to climb up to the other side of the engine control room.

17 **MR. WILLETT**: Yes?

18 **MR. KIM** : But suddenly we felt so hot.

19 **MR. WILLETT**: Yes.

20 **MR. KIM** : Then we, I don't even know how long we are, we were there because we don't
21 have, I had a watch, but it was hot and bothering me. The watch maybe. So, I take, took it off.
22 And, you know, watch, cannot see that already. This room already dark.
23 Only fuel monitor has alarm. That makes some little light so --

1 **MR. WILLETT:** . How long did the emergency ballast light stay on?

2 **MR. KIM :** No. Emergency ballast light, I don't know the time but

3 **MR. WILLETT:** It did go out?

4 **MR. KIM :** Yeah. It was also go out. So, we felt so hot in there. We decide to go down again,

5 because water, we thought water is not coming more.

6 **MR. WILLETT:** Not rising?

7 **MR. KIM :** Yeah. Not, no more rising. So, we hope, please, we are grounded. If not grounded,

8 we were going to die. So, we pray to God to ground it. Yes. Yeah, yeah, I thought its grounded.

9 So, we tried, we all decide to go down. If we all keep in up there, we would die because we

10 have no water. We thought, I thought I could die there. So, we tried to go down to the water.

11 Then we are in the, we go down and try to make our body cool. Not to get sweat. Then, yeah,

12 then I can survive in there.

13 **MR. WILLETT:** Did you have a flashlight?

14 **MR. KIM :** I have a flashlight. But it won't take a long time. It won't last a long time.

15 **MR. WILLETT:** I see. Was there a refrigerator in the engine control room?

16 **MR. KIM :** Yes, sir.

17 **MR. WILLETT:** Did you, able to get the water from -- no? Okay.

18 **MR. KIM :** It's a little better off. We, normally we had water but at that time, we are out of water.

19 So, we thought the wiper (ph.) took the water bottle to carry the water from ballast.

20 **MR. WILLETT:** Oh, okay.

21 **MR. KIM :** Yes. It was a really bad drop. So, I keep thinking, why it happens to me. I think, if I

22 have water, I could survive 2 days more.

23 **MR. WILLETT:** Did, when, you were in the engine control room when the rescue.

1 **MR. KIM** : Yes, sir.

2 **MR. WILLETT**: Where did the second go?

3 **MR. KIM** : Okay. He has a story. You know, when I was in, up there, the second engineer and
4 me together up there. And we felt really hot. And we took, he and me thought, we talked about
5 this, we're going to die here. So, he tried to go down. He said to me, he needs to go down to,
6 near the water because too hot there. Too hot there. So, he said to me, he want to go. He did
7 not, we are out of power. We are really out of power. So, but, you know, the distance and
8 height is a little bit far. So, I thought, we could die when we go down. If we try to go down, we
9 could be die, to fall down the step. But, you know, anyway, we could die up there also. So, he
10 go first. Then he step in the
11 on the water, in the water, it's not hot. Not hot. And he asked me, come down. It's, I would die
12 in there. So, third engineer, he going to water, into the water. And third engineer, apprentice
13 engineer, they gathering together in the water. And also, I went down. Yeah. Yeah. I went
14 down but I went have no power to go down again. So, I was, but it's no more, not bad, to no
15 more hot. And dehydrated. So, I decide I will, I will stay here. That water come down, come up
16 and the door, my place and their place, between have a door. The water buildup and door was
17 sink. Then we are separated.

18 **MR. FLAHERTY**: Did you hear or see any alarms after GOLDEN RAY began to heel?

19 **MR. FLAHERTY**: Did you hear any additional alarms after the incident?

20 **MR. KIM** : There are a lot of alarms come. I can hear, but I couldn't check that out because,
21 you know, all light gone. And alarm, you know, at that time alarm wasn't necessary to me
22 because I need to survive.

23 [That concludes this document].

1 **CAPT WELBORN:** I want to thank MST2 Spies and ENS Brown for their reading of that
2 excerpt from First Engineer's testimony. We do appreciate that. I thought it was important that
3 we put this on the record telling the story of the individual that was trapped on the vessel
4 longest as we move through that. So thank you again for that reading. This excerpt will be
5 entered into evidence as Coast Guard Exhibit 11 and will be made available, not only for our
6 SIS's and PII's but will also be posted to the newsroom for media outlet if needed and wanted.
7 We have two additional exhibits on behalf of the investigation team. Coast Guard Exhibit 12
8 includes two screen shots from the Port of Jacksonville camera footage of the GOLDEN RAY
9 as the ship departed the port before arriving in Brunswick. This exhibit is intended to show
10 where the port side Pilot door is located for the public's understanding of what Captain Lee
11 referred to in his testimony earlier today. You can see on the screen shot this area right here
12 just after midships is the approximate location or is the location of the port side Pilot door, the
13 one that was rigged and opened as the Master of the vessel testified just after the bridge, after
14 the ship passed under the Lanier Bridge in Brunswick. That shows the location of the Pilot
15 door there on the port side which was open, again as, just after or around the time the vessel
16 transited under the Lanier Bridge in Brunswick. The next portion, the next photo actually shows
17 that Pilot door circled in red on the ship's schematic. That portion is here. Those two pieces
18 will be entered as Coast Guard Exhibit 12 and 13. Page two of the zoomed in photo, the ship's
19 schematic has not been altered and it shows that Pilot door there on deck 5. Those pieces of
20 evidence I believe have already been stipulated to by our SIS's and PII's, but I'll make sure just
21 very quickly to make sure that everyone understands or to see if there are any objections.
22 Republic of the Marshall Islands, Mr. Bremer, do you have any objections to Exhibit 11, 12 or
23 13?

1 **Mr. Bremer:** No objections Captain.

2 **CAPT WELBORN:** NTSB, Captain Flaherty any objections for Exhibits 11, 12, or 13?

3 **NTSB:** No objections.

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

5 **Mr. Reisman:** No objections.

6 **CAPT WELBORN:** Mr. Gilsenan? Hearing nothing I will take that as no objection. KMST?

7 **WIT:** No objections received.

8 **CAPT WELBORN:** Great all three exhibits are then entered into evidence as Exhibits 11, 12,
9 and 13. So today we heard we heard from Captain Gi Hak Lee, the Captain of the GOLDEN
10 RAY at the time of the incident. He spoke about the responsibilities as Captain; his interaction
11 with the Chief Officer; the procedures for departing from port; the stability of the GOLDEN
12 RAY; and the pilot door on the GOLDEN RAY. We presented Coast Guard Exhibit 10, which
13 were two photographs taken by the Coast Guard of the pilot door on sister ship the SILVER
14 RAY, Captain Lee confirmed that the pilot door looked the same as that on the GOLDEN RAY.

15
16 We also heard from Mr. Tae Gyun Kim, Superintendent of the Fleet Team at G-Marine. Mr.
17 Kim spoke about the Safety Management System of the GOLDEN RAY at the time of the
18 incident, including stability and loading procedures.

19 In addition, we entered Coast Guard Exhibit 11, which were excerpts from the previous sworn
20 testimony of the GOLDEN RAY's First Engineer, Mr. Junyong Kim, at the time of the incident.
21 MST2 Spies and ENS Brown read the excerpts, which described Mr. Kim's experiences
22 leading up to, during, and after the capsizing of the GOLDEN RAY.

1 Should any person have, or believe he or she has information not brought forward but which
2 might be of direct significance, that person is urged to bring that information to my attention by
3 emailing: USCGGoldenRay@gmail.com.

4 During tomorrow's session, we will hear from the pilot of the GOLDEN RAY, Captain
5 Johnathan Tennant. Thank you. The time now is 1:57 local. Hearing Session Day 4 is now
6 formally adjourned.

1 UNITED STATES OF AMERICA

2 UNITED STATES COAST GUARD

3 In the Matter of:

4 THE MARINE BOARD OF INVESTIGATION

5 INTO THE CAPSIZING OF THE M/V GOLDEN RAY

6 ON 8 SEPTEMBER 2019 WHILE TRANSITING THE ST. SIMONS SOUND IN BRUNSWICK,
7 GEORGIA

8 APPERANCE SHEET:

9 The following Board Members and Witnesses appeared on 18 September 2020.

10 CAPTAIN BLAKE WELBORN, USCG, Chair;

11 Mr. LEE WILLETT, USCG;

12 Members,

13 and

14 LIEUTENANT COMMANDER STEPHAINE MOORE, USCG, Member and Recorder.

15 Witness – Mr. John Tennant

16 GOLDEN RAY Hearing

17 18 September 2020

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

22 Good morning, ladies and gentlemen. It is now – today is September 18th. It is the fifth day of
23 the public hearing into the capsizing of the GOLDEN RAY. I am CAPT Blake Welborn the Lead

1 Investigating Officer for this 7th District Formal Investigation. The Commander, 7th District, has
2 convened this investigation under the authority of Title 46, United States Code, Section 6301
3 and Title 46, Code of Federal Regulations, Part 4, to investigate the facts and circumstances
4 surrounding the capsizing of the GOLDEN RAY. This investigation was mutually agreed upon
5 to be a joint effort between the ship's flag state, the Republic of the Marshall Islands, the U.S.
6 National Transportation Safety Board also known as NTSB, the Korean Maritime Safety
7 Tribunal or KMST, and the U.S. Coast Guard.

8 Present today are the following members of this Formal Investigation: Mr. Lee Willett and
9 LCDR Stephanie Moore, who is also our Recorder. The legal counsel to this investigation is
10 LT Megan Gold.

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

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

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

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

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

7 The Coast Guard has designated Parties In Interest to this investigation. I have designated the
8 following organizations and individuals as Parties in Interest: the Brunswick Bar Pilots
9 Association; including Captain Bruce Fendig and Captain Jonathan Tennant; Owners of the
10 GOLDEN RAY, including Hyundai Glovis and G-Marine. Lead counsel for the Brunswick Bar
11 Pilots Association is physically here at the hearing. The Coast Guard now calls the following
12 witness, Captain Johnathan Tennant. Mr. Lee Willett will lead this questioning, line of
13 questioning.

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

18 **CAPT Tennant:** Yes.

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

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

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

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

23 **CAPT Tennant:** I am.

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

3 **CAPT Tennant:** Yes.

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

5 **CAPT Tennant:** I do.

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

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

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

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

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

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

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

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

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

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

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

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

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

11 **CAPT Tennant:** Absolutely.

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

14 **CAPT Tennant:** Yes.

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

16 **Mr. Willett:** I think that's better now. So I'll ask the question again. In regards to September
17 2019 can you describe the inbound and out bound transit of the GOLDEN RAY vessel?

18 **CAPT Tennant:** Certainly. The inbound vessel, the GOLDEN RAY I had her on Saturday the
19 7th. I believe I had a 1500 boarding. And everything was normal. It was a normal operation
20 inbound.

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

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

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

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

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

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

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

17 **CAPT Tennant:** Yes. I disembarked an out bound car carrier, the HONOR and joined the
18 GOLDEN RAY off shore seaward of the STS Buoy, RC Buoy. And aligned the vessel to the
19 North side of the channel as I waited for the out bound car ship with Pilot 4 aboard. Once he
20 cleared the bar with the car carrier I entered the bar channel. Met a second out bound large
21 deep draft tidal movement car carrier the FIGARO, car and truck carrier in St. Simon Sound in
22 the vicinity of the lighthouse. All indications were that she was handling as normal. Proceeded
23 up through the casualty sight on the Jekyll Island Range. Turned Cedar Hammock the inner

1 harbor. Everything's normal. Proceeded up through the Lanier Bridge where two harbor tugs
2 joined me as usual. An ATB exited the East River astern of me proceeding out bound. Went
3 up to Colonel's Island in the turning area. It's customary we stop and turn clockwise rotation
4 with tug assistance. We back up stern first about a mile or so to our berth. We berthed at
5 Colonel's Island berth 1. Everything was normal.

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

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

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

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

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

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

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

19 **CAPT Tennant:** No.

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

1 **CAPT Tennant:** The MPX on the inbound, the Master Pilot exchange on the inbound the
2 ship's full information was exchanged including deep draft and any other pertinent information.
3 The Captain did not request any items to be restricted. Everything was normal. One of the
4 first things we ask is everything working and is everything in working order prior to committing
5 to the channel. And especially since I'm meeting the out bound vessels and nothing was
6 noted.

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

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

1 out bound car carrier. And I proceeded in and met deep draft out bound near the lighthouse.

2 Does that answer your question?

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

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

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

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

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

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

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

22 **CAPT Tennant:** I believe I boarded her for 1500 inbound on top and that job typically takes 2
23 hours. Give another 30 minutes to put the ramps down. So it was probably 1730ish. I believe

1 I gave the exact information at our first hearing so you could reference that. And then return to
2 St. Simons to rest knowing that the ship, the Captain told me it was probably going to sail post-
3 midnight, so.

4 **Mr. Willett:** Okay. I'll tell you what I'll refrain from specific times because we do have that in
5 your previous testimony. So I'll just proceed now with some generalized questions. So you
6 mentioned it takes roughly two hours, that's two hours for the GOLDEN RAY to get from the
7 Sea Buoy, the time you board, to you moor up at 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 idea
10 that sometime that night you were going to come back onto the GOLDEN RAY after cargo was
11 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 same
14 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 the stern
17 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 vessel if
22 they're ready to go it's piped through the ship Pilot aboard all hands man your stations, all

1 hands man mooring stations. I remember that happening. And that indicative that the ship is
2 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 forward
4 than it was aft? Or was this like a typical RO-RO you've boarded many times in the past and
5 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 hundreds of
10 times in the dark.

11 **CAPT Tennant:** I would characterize the majority of my work at night, in hours of darkness,
12 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, good
15 visibility. And I think it was a little bright.

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

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

1 **Mr. Willett:** And I know it's not customary, but do you ever inquire and ask about the stability
2 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 the
4 Captain responds his ship is ready for sea then that means it's seaworthy, which speaks to
5 stability and all of the functioning equipment, that she can answer her bells, the engine works,
6 the rudder works. If he says his ship is ready for sea it implies that he would be able to pass a
7 CFR 33 inspection by Port State Control and would be able to pass that.

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

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

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

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

17 **Mr. Willett:** Okay.

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

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

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

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

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

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

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

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

15 **CAPT Tennant:** Correct.

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

17 **CAPT Tennant:** After I feel the vessel is on the rudder and that I have control of the vessel
18 and she's making an appropriate amount of speed to give me the satisfaction that I'm going to
19 safely clear the State docks. Until then the tug is standing by, not connected in case I need
20 them to jump back in there and assist in case we were have a loss of propulsion or steering.

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

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

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

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

8 **Mr. Willett:** So -----

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

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

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

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

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

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

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

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

5 **CAPT Tennant:** Correct.

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

7 **CAPT Tennant:** Yes.

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

9 **CAPT Tennant:** Prior to getting underway the out bound Pilot will communicate with the
10 inbound Pilot prior to the inbound Pilot starting in and prior to the out bound Pilot leaving the
11 berth to make sure that this orchestra is well timed. I communicated with Pilot 7, Jamie
12 Kavanagh, I remember speaking with him. I was out on the starboard bridge wing when he
13 boarded the vessel. And then I also communicated with him at some point when I was
14 underway making way in the South Brunswick River. And I recollected that he said he was
15 inside STS meaning he was inshore of the Sea Buoy. And we were at that point observing
16 one another's movements so that we could time the correct meeting in St. Simon Sound, which
17 is approximately the half way mark.

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

21 **CAPT Tennant:** Thousands.

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

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

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

6 **CAPT Tennant:** Portable Pilot's Unit. And it's nothing fancy, it's essentially all the same
7 information that the ship has on its own equipment. But it allows for a lot of data to sensitize
8 from numerous locations into one compact unit which provides the Pilot a way to validate or
9 verify his own intuition as a ship handler. And to be able to carry that on a table format
10 wherever he's conning from on the vessel. So if we're operating say astern and I'm on the port
11 bridge wing, I'm sorry I'm on the starboard bridge wing and I'm looking astern I can have that
12 information out there versus running into the wheelhouse be able to check the speed over
13 ground. It's in an armored case in case we've got to be out there in the rain and the elements.
14 And so when we're speaking hardware [in audible feedback]. And so that consist of a cat rod
15 which provides a more accurate rate of turn information than the ship's AIS is capable of
16 producing. And that is set up centerline near the gyro, the infamous gyro in this case. And the
17 cat – the cat 1 is a standalone independent GPS receiver with very accurate data that is
18 connected via WIFI to the cat rod and the laptop or table, or IPad. And that's typically located
19 on a car carrier, we'll put it on the port bridge wing, since we're standing on the starboard wing
20 so we won't accidentally knock it off station the antenna. And the antenna offset from centerline
21 and from the bow of the ship is entered into the table or IPad for accurate antenna placement.
22 And our software with that is CIQ. It's an industry standard.

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

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

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

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

10 **Mr. Willett:** What I would like to do is if we can get it up right now is put the chart up of the, I
11 don't remember the number of the chart, I think it's 11506. Let me put that up. If we need to
12 take a break we can do that. So I would like you, you talked about moving away from the dock
13 and we want to show the chart and if you can just kind of walk me through the out bound
14 transit of that night. You have a pointer right there next to you.

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

16 **CAPT Tennant:** Oh boy that's –

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

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

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

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

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

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

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

11 **CAPT Tennant:** Got it now? Got me Jim? Good. The pointer is at Colonel's Island, this is
12 berth 1. The GOLDEN RAY is moored starboard side to. She proceeds out bound down the
13 Brunswick River. The first substantial course change is to starboard into the Colonel's Island
14 turning basin area in the Turtle River. She's proceeding out bound lower Turtle River Range,
15 transits successfully to the Lanier Bridge, approaches quarantine station all the while I'm
16 observing the inbound car carrier and looking at the timing. I'm bucking the tide, Jamie is
17 riding the tide. I decelerate for the turn at Buoy 24. Turn Cedar Hammock at Buoy 24, which
18 is a substantial course change to port. This is our shallowest inner harbor reach. Proceed
19 onto Jekyll Island at range. Turning to port the vessel now as you can notice by this area of
20 white, there's more white around the channel because I'm now entering a fast deeper area of
21 the sound from a shallower reach. The vessel characteristically increased speed which is
22 usual. Which brings me up to Jekyll Point. Now I have Jamie visually, the inbound is over
23 here about to exit the bar channel. The goal is to meet up in here the vicinity of Buoy 17 and

1 lighthouse. So I proceed up to Buoy 20 and there's a rather pronounced set from right to left
2 from the inbound flood tide, therefore I alter course to starboard. I'm heading 0, probably 037
3 is the centerline of the course. I think I pointed up to 040, something like that to compensate
4 for the set so I wouldn't be set on Buoy 20. And this is when the event occurred.

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

8 **CAPT Tennant:** Okay good question. Yes I had about a half tide flood meaning the tide was
9 incoming about half of its height was already – we were already at about half of its height by
10 the time I would get on the bar channel. So that means the inbound ship is riding with the tide
11 or fair tide, the tide at its back. Which means it would be easier for me to slow down if need be
12 and harder for him to slow down and maintain control of his ship.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

4 **CAPT Tennant:** It's dredged annually. However, the outer bar, although we have a lot of
5 natural deep water here, abundance in an ocean port not a river port, it's not man made. The
6 bar channel does require maintenance annually. And she shoals at a rate of about 1.1 to 1.3
7 billion cubic yards. Often times we don't have adequate funding for the project despite the
8 ship's paying in to the harbor maintenance trust fund. Therefore we are usually having to work
9 with our partners at the Corps of Engineers to determine whether we want more width or more
10 depth to adequately make it – to keep the commerce flowing.

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

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

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

3 **CAPT Tennant:** Which is 30 ½.

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

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

9 **Mr. Willett:** Okay.

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

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

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

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

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

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

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

4 **Mr. Willett:** Fair enough.

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

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

22 **CAPT Tennant:** Certainly. So when I pointed her up into the current about 4 degrees, that's
23 using course changes to the helmsman. So I would go from say 037, 040 something like that

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

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

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

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

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

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

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

1 got out of control. Was the first command you gave, do you recall the speed you were going
2 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, something like
4 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 you
8 had no control anymore, do you recall what you did next? Did you communicate to other
9 vessels, or?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1 **CAPT Tennant:** Absolutely.

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

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

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

8 **CAPT Tennant:** It was.

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

11 **CAPT Tennant:** No.

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

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

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

18 **CAPT Tennant:** Nothing unusual.

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

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

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

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

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

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

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

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

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

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

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

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

16 **CAPT Tennant:** Absolutely.

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

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

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

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

4 **NTSB:** Okay.

5 **CAPT Tennant:** The -----

6 **NTSB:** Go ahead.

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

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

13 **CAPT Tennant:** Yeah there's nothing that can change much at that point in the transit
14 regarding the meeting of the EMERALD ACE. That was a well orchestrated movement from
15 the time we left the berth and the time he started inbound. We were just executing the
16 movement and trying, the focus is trying to maintain channel discipline, centerline discipline
17 with the – with my own ship.

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

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

20 **NTSB:** 10 degrees to starboard. And then you proceeded to 20 degrees starboard. Could
21 you please explain why you felt the need to increase the rudder range?

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

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

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

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

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

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

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

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

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

19 **NTSB:** Okay.

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

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

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

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

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

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

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

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

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

12 **NTSB:** Okay. Is there any currents coming down from, let's see you have a waterway, let's
13 see I'm trying to look for the – in St. Simon Sound you have a river as I understand it that is
14 kind of off to your port side as you're going out bound. Is there a lot of – you had an inbound
15 tide so is there any current coming down that river at the time?

16 **CAPT Tennant:** Negative.

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

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

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

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

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

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

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

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

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

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

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

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

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

18 **CAPT WELBORN:** Thank you Mr. Reisman. Mr. Gilsenan do you have questions that you
19 would like on the record from your client?

20 **Mr. Gilsenan:** No questions Captain, thank you.

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

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

2 **CAPT WELBORN:** Again these questions are from KMST and I will read them specifically as
3 they have been translated. How much rudder angle do you normally use to pass the Widener
4 11 when you maneuver the car carriers?

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

6 **CAPT WELBORN:** Can you put a range to that Captain? Somewhere, usually 5 to 10, 10 to
7 20, can you give me a rudder average range?

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

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

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

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

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

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

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

21 **CAPT WELBORN:** Understood. Those were the four questions I have from KMST. Captain
22 I'm going to transit or move back to my questions from the Coast Guard. Captain I have a

1 couple things I would like to clarify before we get into this. You stated previously that, or you
2 referenced a previously testimony to us. Was that the testimony on September 10th, 2019?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

18 **CAPT Tennant:** Yeah when I was conning from in front of the radar area a lot of time I'll take
19 the ship's radio so I don't use up the battery power on my handheld. The handset which looks
20 like a telephone on the radar so that I can grab it and when I communicate on the bridge of a
21 ship it's typical if I don't want to communicate to everybody in the wheelhouse what I'm about
22 to say, because I'm trying to keep people calm around me, if people see me with a heightened
23 sense of concern or if they pick up on my language, especially if I'm giving a rudder order or

1 something else like that they could accidentally execute it thinking I'm speaking to them. So I'll
2 speak softly into it [in audible] and drop it. So it depends if that radio is on – was being
3 recorded or not I don't remember if it was on 12 or 13. Which 13 is a one watt channel. With
4 all the alarms and where the microphones are in the wheelhouse there was a lot that was said
5 that was never recorded because I was just away from those microphones. And by the VR.

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

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

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

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

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

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

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

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

4 **CAPT WELBORN:** Understood.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1 **CAPT Tennant:** Certainly. The Master Pilot relationship is a unique one. We share similar
2 responsibilities and work together for a mutual interest to keep the ship safe. If I can keep a
3 ship safe then I can keep the local populous safe, the environment safe and keep commerce
4 moving, that achieves his goal also.

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

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

1 **CAPT WELBORN:** Thank you Captain. So you stated that you're not advisory to the crew or
2 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 gross
4 tons or any U.S. flag vessel engaged on registry in a foreign trade is compelled by the State of
5 Georgia to take a Pilot and the navigational control of the vessel under the Pilot's control. Both
6 the direction and control. He has navigational command of the ship, of course subject to the
7 Master's overall command of his ship, If the Captain thinks that the Pilot is doing something
8 that is reckless or unwise then he has the responsibility to inform the Pilot. If, that would be a
9 very rare occurrence. It's a mutual relationship when a Pilot boards a ship it's a long standing
10 tradition that goes back thousands of years. So Captains are typically very glad to have us on
11 board because they can focus on their other responsibilities which are vast aboard the ship
12 and there are relieved that we're there to conduct the vessel safely. It's a mutual respect and
13 mutually supportive relationship in those situations. And that rapport is built during the Master
14 Pilot exchange and as was in this case that relationship we benefited from that on the out
15 bound because we were able to work together in a crisis casualty situation.

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

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

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

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

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

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

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

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

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

14 **CAPT Tennant:** Starboard.

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

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

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

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

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

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

3 **CAPT WELBORN:** Captain after the vessel, so leaned to starboard, can you tell me, that's at
4 10 degrees, at 10 degrees the vessel begin to lean some to starboard. Can you tell me how
5 did she right after that? Did the – when did the vessel come back to a zero degree lean, when
6 did it start to lean to port?

7 **CAPT Tennant:** Yes, sir. To my best recollection when I went to mid-ships, which was
8 immediately after going to starboard 20 then she, I felt like she was upright and over rotating to
9 starboard, but level. And that was unexplainable to me. Because I'm trying to, I'm going from
10 040 to probably a heading of 100 or 105 the next reach. But I ultimately ended up 50 degrees
11 over rotated. It didn't capsize to port with that until the counter rudders, is my best recollection.

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

14 **CAPT Tennant:** Well I didn't come up with it at all. That is how ships are driven. How else
15 could you ever checkup the ship's heading on the appropriate heading for the next reach
16 without applying counter rudder. So that's just – but the actual application of it the amount and
17 the time of such is done by feel, by each one of these ship's feel differently. And there's so
18 many variables involved that's why a computer doesn't drive the ship, that's why a human
19 does with experience. So it's hard to quantify any of that because ship handling is about 75
20 percent art and 25 percent science.

21 **CAPT WELBORN:** Captain you said that so that the vessel leaned to starboard, you came
22 back somewhere about an even keel and then she begin to lean to port. And you said, correct

1 me if I'm wrong, you said hard to port, you ordered hard to port and you felt at that point the
2 rudder and propeller had come out of the water. Is that correct?

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

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

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

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

17 **CAPT Tennant:** After the application of starboard 20 when I went to mid-ships she just spun
18 out of control. And I think that any order thereafter was – had no impact on where the vessel
19 was going and I was going towards St Simons in the turn, but still in deep water with no
20 control.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

16 **CAPT WELBORN:** So at some time along there we're going to recount again this, you already
17 testified about this but I want to make sure like I said we have it on record here that at some
18 time during that point you felt that the rudder and the propeller came out of the water and you
19 had no operational control over the vessel. Is that correct?

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

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

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

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

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

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

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

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

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

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

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

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

21 **CAPT Tennant:** I don't believe so. I think I fetched up South of Buoy 19. But if she were to
22 plow over Buoy 19 that's a little consequence to me. It's just a piece of steel and a chain and it

1 can be replaced. And it would have had no impact on the outcome of where the ship had at
2 that point. You know we were capsized.

3 **CAPT WELBORN:** Understood Captain.

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

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

7 **CAPT Tennant:** Absolutely not.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

22 **CAPT Tennant:** Yes.

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

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

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

9 **CAPT Tennant:** Yes. There was a, I don't know the minute of time it happened, but it was
10 during I would say probably half way through our roll of the capsize that we lost propulsion.
11 Then 30 seconds or so, of course my time perception is, because of the stress of the moment I
12 may not have it accurate, but it seemed like we had emergency power meaning lighting and
13 some other items going on in the bridge for maybe 30 seconds and then everything was gone.
14 And then the only thing that truly worked are whoever designed the alarms on that ship.
15 Because they were loud. And that was basically – we had that and like a little red light that
16 was on in one area of the bridge. I do recollect and I'm not sure the power source for it, but
17 when I gave an astern bell intuitively because that's what Pilots do I did hear the engine order
18 telegraphing, they were still following commands and I heard the ring of that move astern.

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

21 **CAPT Tennant:** Well that's a great question. I don't know. I think I was searching for data to
22 try to formulate the best possible response in a difficult situation. And that I didn't have much
23 control over anything. I was trying to seize control of anything that I could possibly do to

1 preserve human life and to mitigate the loss. I think it was just going into my decision making
2 matrix of how long to try to stay aboard or whether to stay aboard. And also I suppose if there
3 was a remote control for hydraulics to be able to close the Pilot door then if that can be
4 somehow gotten to it could be activated. Perhaps that's not a reality.

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

10 **CAPT Tennant:** Yes certainly. It was a remarkable response and I'm giving pause because I
11 did prepare a, I was going to ask your permission at the end of the line of questioning to share
12 and express some sentiments and gratitude. And some of that outlines the rescue effort. So
13 that may be a more concise way to do it. But I would say that the things that really stand out
14 about the rescue effort was the tremendous response by all parties and the calming factor of
15 having the helos there and the AST1 Newburg trying to sort and sift through the chaos of the
16 scene. Of course he was above me. And so it was great to have another American there that
17 we could do some problem solving. It's noteworthy I believe and a testament to the Captain's
18 character and professionalism that he refused to leave the ship. He did not want to leave his
19 four men who were trapped below deck who I had already triaged off in my mind that we're on
20 fire and sinking so let's not focus on them, let's focus on where the living are and let's get the
21 living off and try to relay information to the Coast Guard asset that's on scene. And the rescue
22 swimmer and I were able to kind of be forceful with the Master asking him, Captain if you want
23 to save your crew and your ship the best thing you can do is go with the Coast Guard to the

1 airport and show them how to access your crew and your ship so they can focus on your crew
2 and not you. And it took a little convincing and arm twisting over the radar and under the
3 alarms and the rotor wash but he ultimately consented to do that. And at which time I hollered
4 up to Nate who I was calling Dave under the rotor wash, I had the name wrong. We were
5 hollering back and forth in the dark. And he tossed in the fire hose and tried to climb up it and
6 that wasn't working real well and I decided to take my chanced and slide down it so I wouldn't
7 fall further by climbing up and then slipping. And so I was able to self-rescue out the port
8 bridge wing so the rescue swimmer could solely focus on the Master. And I asked him to take
9 the Master first because he's oldest. And I remember sitting there in the darkness with all that
10 chaos and I actually had to ask myself is my job done here. And it's funny what the mind does
11 under stress. Reach back in a file from the old academy days when it's in my fifth general
12 order quit my post only when properly relieved. And then I looked at the rescue swimmer's
13 glow stick light over his mask and I said Coast Guard rescue swimmer does that constitute a
14 proper relief, is my job done here. And I was like it's time to slide off the ship. Make the ship
15 stabilized, other Pilots from Pilot boats taking to the tug boats we feel like she's not going
16 anywhere. The fear of her scouring off the sand bar is alleviated. The tide has also turned so
17 it was going to ebb so that just makes it more aground. And so those were kind of the
18 standouts, the Coast Guard RBM. When I got out to the port bridge wing they were
19 underneath me and it was a drop to them and they said just let go of the ship and bear hug us
20 and that's what they did and set me on the bow of the boat. And I think when I looked back at
21 the ship that was on fire and the planes were cutting through the steel and you could smell that
22 toxic smoke that's when I really realized that the rudder and the propeller were out of the water
23 into the extent of what I was involved in. But that was several hours after being out there.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

4 **CAPT Tennant:** Thank you, sir. Captain Welborn with your permission, sir it would be both
5 proper and fitting in the circumstance to express my heartfelt gratitude to all those hero's who
6 answer the call when our lives were imperiled in the morning on September 8th, 2019. I would
7 like to take this opportunity to recognize them in the official record. On behalf of all of us who
8 survived the shipwreck, thank you. We were well buttressed by this South Georgia community,
9 its local industry and our Government maritime partners. As first responders every State Pilot
10 in the Port of Brunswick and our vessel Captains responded immediately with every company
11 vessel available and many were on scene within minutes to search for survivors, take
12 soundings around the ship and provide aid. The follow off duty Pilots rush to the St. Simons
13 Pier with all possible dispatch. Edwin Fendig III, Bruce Fendig, John Bymore (sic) and retired
14 Pilot Lawrence Gray, thank you. As more of the Calvary arrived it increased our hope for
15 rescue. The sound of MH-65's overhead was a comforting sound and it is to this day. After
16 witnessing the capsizing from the inbound meeting ship Pilot Jamie Kavanagh and Apprentice
17 Gordon calmly maneuvered around my capsized ship and still successfully their inbound
18 vessel with a fair tide, without tug assistance in the Colonel's Island turning basin because all
19 harbor tugs came to my aid. As a close friend and colleague Jamie watched in horror as I
20 rolled over. However, he was still able to his job and I relayed my request to the tugs for
21 assistance. Our small boat Captains Danny Jones, David [in audible], Michael Gary also
22 manned our vessels recovery and responder throughout the morning. Captain Robert Darvey
23 aboard Pilot boat Brunswick is waiting 12 miles off shore for my disembarkation of the out

1 bound GOLDEN RAY. He immediately raced to my aid marking the depths of the sandbar in
2 front of me per my request while looking for survivors that may have been thrown from the
3 anchor watch. Henry Winn Operations Manager of Brunswick and the Brunswick Bar Pilots
4 Association called the U.S. Coast Guard and all interested parties. All hands on deck. Henry
5 provided water to survivors and boat crews alike. With only a portion of the ship touching the
6 sandbar and an incoming tide coupled with the down flooding there was a grave concern that
7 we would pivot off or be scoured off of the sandbar into deep water. Therefore, there's
8 immense gratitude for the heroic efforts of tug Ann Moran and her crew, Captain Skyler Dion
9 and Tommy Brooks who steamed at best possible speed across the sound to assist in hold the
10 ship on the sandbar as I directed preventing the ship from slipping back into the depth of the
11 channel and the crew perishing. In similar fashion tug Dorothy Moran, Captain Cliff Gorden
12 and James Stoddard did the same and assisted on the port side. They maneuvered towards
13 survivors and ultimately put rescue teams near the trapped crewmen later that day. Brunswick
14 Pilot Will Stubbs expertly maneuvered the vessel responder near the heat and toxic fumes
15 from the ship's burning paint locker. This enabled Pilot Edwin Fendig III to convince the Chief
16 Engineer to abandon ship from his sinking stateroom window. After pleading several times get
17 off the ship or die. The crewmember ordered the boat successfully. Off duty Glenn County
18 Fire Department Lieutenant Brown from water rescue station 2, SSI had jumped aboard the
19 responder at the Pier earlier to assist. Glenn County Fire Department Captain Jeff Stokes,
20 Firefighter TJ Cheeks, and Chief Scott Cook boarded a U.S. Coast Guard vessel and made
21 attempts to gain entry into the ship. Two Georgia DNR vessels handled by Sargent Mark
22 Carson, Corporal Jay Bright, Corporal Colt Chassy, game warden Jack Griffith, rescued two
23 GOLDEN RAY survivors and transported them to EMS at nearby DNR Headquarters.

1 Countless citizens readied their private watercraft into the marina to come aid if needed. Our
2 local Southeast Georgia health system stood at the ready and accepted survivors from the
3 U.S. Coast Guard on their helo pad within sight of the shipwreck and treated them. As dawn
4 broke news of the burning capsized wreck and the fate of the trapped crewmen spread rapidly
5 through the community and to our many churches. Being Sunday morning churches set
6 moments of silence for us and their prayers surrounded us like the smoke from the burning
7 ship. While trapped in the wheelhouse for hours I received countless texts and prayers from
8 the community and friends. Thank you to the United States Coast Guard for the professional
9 expert response to a significant ship casualty. Specifically the watch standers at Sector
10 Charleston that took my mayday call. Bot response vessel crews from Station Brunswick and
11 both helicopter crews from Air Station Savannah. You prevented this casualty from becoming
12 a tragedy. And I thank you. The International Seaman House in Brunswick clothed the
13 crewmembers who lost all of their possessions. Remember this ship was their home most of
14 the year. Brunswick and the Golden Isles of Georgia feed, clothed and sheltered the survivors.
15 Special Mass services were held for vigil for the trapped four crewmembers. U.S. Historian
16 Shelby Foot often spoke of General U.S. France as having 4 O'clock in the morning courage.
17 All of these first responders possess and have demonstrated that that same 4 O'clock in the
18 morning courage putting others above themselves so other may live. A special gratitude for
19 Admiralty Attorney Ryan Gilsenan, Captain John Cameron, U.S. Coast Guard retired and our
20 fellow State Pilots Associations across the nation. Above all I would like to recognize that each
21 of these individuals, the weather, the capsizing location, the capsizing direction that slid my
22 survival vest with the radio to me and not away and the successful rescue of every
23 crewmember comes down to our merciful God our creator. I will end with these two brief

1 quotes from 2000 years ago that still apply to each of you and the survivors today. And I
2 quote, some went down to the sea in ships they were merchants on the mighty waters. They
3 saw the works of the Lord as wonderful deeds in the deep. They cried out to the Lord in their
4 trouble and delivered them in their distress guiding them with safe haven. And for those of us
5 who were prepared and prevailed that morning, quote for the horses made ready for the day of
6 battle but the victory is the Lords, Proverbs 21. Thank you United States Coast Guard and for
7 all first responders.

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

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

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

16 **Mr. Bremer:** No objection.

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

18 **NTSB:** No objection.

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

20 **Mr. Gilsenan:** No objections.

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

22 **Mr. Reisman:** No objection.

1 **CAPT WELBORN:** The exhibit is thus entered into evidence as Pilot Exhibit B or Bravo.
2 Today, we heard from Captain Johnathan Tennant of the Brunswick Bar Pilots Association.
3 Captain Tennant spoke about the inbound and outbound transit on the GOLDEN RAY in the
4 Port of Brunswick, including procedures for boarding the ship and the master/pilot exchange of
5 information. He also discussed passing arrangements in the St. Simons Sound with other
6 vessels and the use of the Portable Pilotage Unit also known as the PPU. In addition, we
7 referred back to Coast Guard Exhibit 02, NOAA Chart 11506. Captain Tennant used this
8 exhibit to explain his outbound transit on the GOLDEN RAY from Colonel's Island through the
9 channel in St. Simons Sound. Captain Tennant summarized the events leading up to and
10 following the capsizing of the GOLDEN RAY, including the rudder commands he gave and his
11 communications with the Captain and helmsman of the GOLDEN RAY. At the end of his
12 testimony, Captain Tennant gave a statement detailing his experiences during the response
13 efforts following the capsizing of the GOLDEN RAY, which we entered as an exhibit into the
14 record. For the record Captain Tennant you are subject to recall. Please remain available
15 until dismissed upon the closing of these proceedings.

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

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

1 During Monday's session, we will hear from Mr. Clifton Gorden of Moran Towing; Boatswain's
2 Mate Second Class Jeremy Shaw of U.S. Coast Guard Station Brunswick; and Captain John
3 Reed, at that time Sector Commander of U.S. Coast Guard Sector Charleston.

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

6

1 UNITED STATES OF AMERICA

2 UNITED STATES COAST GUARD

3 In the Matter of:

4 THE MARINE BOARD OF INVESTIGATION

5 INTO THE CAPSIZING OF THE M/V GOLDEN RAY

6 ON 8 SEPTEMBER 2019 WHILE TRANSITING THE ST. SIMONS SOUND IN BRUNSWICK,

7 GEORGIA

8 APPEARANCE SHEET:

9 The following Board Members and Witnesses appeared on 21 September 2020.

10 CAPTAIN BLAKE WELBORN, USCG, Chair;

11 Mr. LEE WILLETT, USCG;

12 Members,

13 and

14 LIEUTENANT COMMANDER STEPHAINE MOORE, USCG, Member and Recorder.

15 Witness – Mr. Clifton Gorden

16 BM2 Jeremy Shaw

17 Captain John Reed

18 GOLDEN RAY Hearing

19 21 September 2020

20 **CAPT Welborn:** Good morning all. The time is now 10:34, we are back on the record in the
21 matter of: the capsizing of the Motor Vessel GOLDEN RAY on September 8, 2019 while
22 transiting the St. Simons Sound in Brunswick, Georgia.

1 Good morning, ladies and gentlemen. It is Monday, September 21, 2020. This is the sixth day
2 of the public hearing into the capsizing of the GOLDEN RAY. I am Captain Blake Welborn. I
3 am the Lead Investigating Officer for this 7th District Formal Investigation. The Commander, 7th
4 District, has convened this investigation under the authority of Title 46, United States Code,
5 Section 6301 and Title 46, Code of Federal Regulations, Part 4, to investigate the facts and
6 circumstances surrounding the capsizing of the GOLDEN RAY. This investigation was
7 mutually agreed upon to be a joint effort between the ship's flag state, the Republic of the
8 Marshall Islands, the U.S. National Transportation Safety Board, also known as NTSB, the
9 Korean Maritime Safety Tribunal, also known as KMST, and the U.S. Coast Guard.

10 Present today, other than myself, are the following members of this Formal Investigation: Mr.
11 Lee Willett and LCDR Stephanie Moore, who is also the Recorder. The legal counsel to this
12 investigation is LT Megan Gold.

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

15
16 The Republic of the Marshall Islands' representative is Mr. Thomas Bremer, who is physically
17 here at the hearing.

18 In addition, the Korean Maritime Safety Tribunal personnel is monitoring this hearing virtually
19 and will provide me questions to ask on their behalf. I will note when I begin asking the
20 questions posed by KMST.

21 I would like to request the cooperation of all persons present to minimize any disruptive
22 influence on the proceedings in general and on the witnesses in particular. Witnesses are
23 appearing before the members of this Formal Investigation to provide valuable information that

1 will assist this investigation. We request members of the public be courteous and respectful of
2 the hearing location during these proceedings and attend via livestream to comply with the
3 Federal, State, and Local COVID-19 guidelines.

4 For those of you participating via phone or video, I ask that you mute yourself until I've
5 recognized you for your questions unless you wish to make an objection. All media inquiries
6 and comments regarding the hearing should be sent
7 to GoldenRayPublicHearing@gmail.com. This email should only be used for questions
8 regarding the investigation and these hearing proceedings. All questions regarding the
9 response efforts should be directed to the Incident Command Post.

10 The Coast Guard has designated Parties In Interest to this investigation. I have designated the
11 following organizations and individuals as Parties in Interest: the Brunswick Bar Pilots
12 Association; including Captain Bruce Fendig and Captain Jonathan Tennant; and the Owners
13 of the GOLDEN RAY, including Hyundai Glovis and G-Marine. The lead counsel for the
14 Brunswick Bar Pilots Association, Captain Fendig, and Captain Tennant are appearing
15 virtually. The lead counsel for the Owners of the GOLDEN RAY, including Hyundai Glovis and
16 G-Marine, is physically here at the hearing. The Coast Guard now calls the following witness,
17 Mr. Clifton Gorden.

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

22 **Mr. Gorden:** [In audible].

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

1 **Mr. Willett:** Thank you. Sir, could you please state your name and spell your last name for
2 the record? Standby we're having a mic problem.

3 **Mr. Gorden:** Okay.

4 **Mr. Willett:** I'll repeat the question. Sir, could you please state your name and spell your last
5 name for the record?

6 **Mr. Gorden:** Clifton Gorden, G-O-R-D-E-N.

7 **Mr. Willett:** Mr. Gorden are you represented by counsel?

8 **Mr. Gorden:** No.

9 **Mr. Willett:** Have you been designed a party in interest?

10 **Mr. Gorden:** No.

11 **Mr. Willett:** Sir do you hold any professional certifications?

12 **Mr. Gorden:** Yes, sir. I have 200 tons Masters inland, Master of towing vessel, near coastal
13 Great Lakes. Also basic STCW and designed examiner.

14 **Mr. Willett:** Thank you. Could you give us a brief summary of your background and
15 experience?

16 **Mr. Gorden:** I started as a – on the tug boats in 1987, 1995 I had my license and was
17 qualified as a Captain. I've been working for Moran Towing since 1990, approximately 30
18 years.

19 **Mr. Willett:** I think you mentioned it. Who is your current employer?

20 **Mr. Gorden:** Moran Towing.

21 **Mr. Willett:** And with Moran what position do you hold?

22 **Mr. Gorden:** Captain.

23 **Mr. Willett:** What are the duties and responsibilities for that position?

1 **Mr. Gorden:** We manage the crew, the tug. We are vessel safety officers along with the daily
2 navigation, daily operations of the tug.

3 **Mr. Willett:** And how long have you held that title as Master of a towing vessel?

4 **Mr. Gorden:** 25 years.

5 **Mr. Willett:** And have you received any training for that position?

6 **Mr. Gorden:** Yes, sir. We are compliant with all ISM subchapter M and also our safety
7 management system. We have a large library of videos on hand training and video training
8 that we comply with. And we have a list of them here.

9 **Mr. Willett:** Thank you. Were you the Captain of the Dorothy Moran from the inbound transit
10 for the GOLDEN RAY?

11 **Mr. Gorden:** Yes, sir I was.

12 **Mr. Willett:** Can you explain what the Dorothy Moran would do on the inbound transit for the
13 GOLDEN RAY?

14 **Mr. Gorden:** Yes. On docking the RO-RO ships the Dorothy Moran usually works the
15 transom of the ship. We push the stern around and then we catch a line on the corner of the
16 ship and guide it to the dock. Once we get it to the dock then we're following the orders of the
17 Pilot the whole time. And basically we push or pull depending on what they need to get to the
18 dock.

19 **Mr. Willett:** Just to clarify the transom is the stern of the vessel or the aft?

20 **Mr. Gorden:** The stern. The stern of the vessel, yes.

21 **Mr. Willett:** How would you communicate with the GOLDEN RAY?

22 **Mr. Gorden:** We communicate with the Pilots on channel, VHF channel 12.

1 **Mr. Willett:** In your many years of experience on the inbound transit did you notice anything
2 unusual about the GOLDEN RAY or anything you observed that was not typical of an inbound
3 transit?

4 **Mr. Gorden:** No I did not.

5 **Mr. Willett:** With your exchange with the GOLDEN RAY you spoke with a Pilot from the
6 Brunswick Bar Pilot Association?

7 **Mr. Gorden:** Correct.

8 **Mr. Willett:** Do you recall who that was?

9 **Mr. Gorden:** JT. Johnathan Tennant.

10 **Mr. Willett:** Johnathan Tennant?

11 **Mr. Gorden:** Yes.

12 **Mr. Willett:** After, sorry. After you completed the inbound transit what did you do immediately
13 following?

14 **Mr. Gorden:** We – she secured at dock at 1730 and we went to our dock and secured for the
15 day.

16 **Mr. Willett:** Were you called or notified that you were going to assist with the out bound
17 transit?

18 **Mr. Gorden:** Yes we have a roster of who's duty and not duty and we knew she was sailing
19 around 1 O'clock in the morning so I knew that was my job.

20 **Mr. Willett:** On the inbound transit were you he only tug involved?

21 **Mr. Gorden:** There were two tugs. Ann Moran was the other tug.

22 **Mr. Willett:** Is that typical for a vessel to come in with two tugs?

23 **Mr. Gorden:** Yes.

1 **Mr. Willett:** Where do you typically meet the vessel on an inbound transit?

2 **Mr. Gorden:** The RO-RO ships we meet on the West side of the bridge.

3 **Mr. Willett:** Is that seaward or inland?

4 **Mr. Gorden:** Inland side.

5 **Mr. Willett:** For the out bound transit what time did you actually arrive on scene to help the

6 GOLDEN RAY come off of the dock?

7 **Mr. Gorden:** 0145. I'm sorry it was midnight 45, I'm sorry.

8 **Mr. Willett:** So everything seemed to be on schedule?

9 **Mr. Gorden:** Yes. We got there the ramp was already up.

10 **Mr. Willett:** Is that typical?

11 **Mr. Gorden:** It depends on the ship. If it has a boarding ladder for the Pilot or not.

12 Sometimes they'll board by ramp, sometimes the Pilot ladder.

13 **Mr. Willett:** When you arrived at the GOLDEN RAY it was dark, correct?

14 **Mr. Gorden:** Yes.

15 **Mr. Willett:** Did you notice any lights on, on the port side of the vessel?

16 **Mr. Gorden:** I don't recall seeing any. I wasn't looking for them.

17 **Mr. Willett:** And I'm going to ask this too, I don't know if you saw it or not. But did you notice

18 if the port side Pilot door was open or closed?

19 **Mr. Gorden:** I did not.

20 **Mr. Willett:** So kind of explain what you did when the GOLDEN RAY came off of the dock,

21 your communications with the Pilot, how long you assisted, and then what you did after you

22 were released from the GOLDEN RAY.

1 **Mr. Gorden:** When we arrived to the ship our normal operations for sailing is to get on the
2 transom of the ship and lay flat. So I put a line on the transom of the ship, when it was time to
3 sail the Pilot asked me if was ready to work as normal. He informed me the lines were going
4 to be let go, they let go of the lines. His next command was to tell me to roll around to take
5 him off the dock. So I laid flat across the transom pushing him off the dock. That only took
6 about maybe 3 or 4 minutes and then he released me back clear of the ship. And then he
7 asked me to follow him down past berth 1, once we got down to berth 1 at Colonel's Island he
8 released me. And from that point I was just drifting because we had another inbound.

9 **Mr. Willett:** And what was that inbound, do you recall the name of the vessel?

10 **Mr. Gorden:** EMERALD ACE.

11 **Mr. Willett:** So on this night you were scheduled to assist the GOLDEN RAY to leave the
12 dock on the out bound transit and then you would hold onto that position and wait for the
13 EMERALD ACE to come in to assist her mooring to Colonel's Island?

14 **Mr. Gorden:** Yes. We were slowly working our way to the bridge where we normally meet
15 them at. So we were just taking our time just drifting.

16 **Mr. Willett:** Mr. Gorden I'm going to pull up a picture of the chart for the Brunswick area. If
17 you could use the laser pointer and just show us where you met the GOLDEN RAY at the dock
18 and then where you went when you were kind of drifting over towards the bridge.

19 **Mr. Gorden:** Yes. If we got up to Colonel's Island up here, the Colonel Island dock they're
20 tied up. Get it zoomed in a little more. Alright so Colonel Island terminal is here, we met the
21 ship here where she's at dock. We met her -----

22 **Mr. Willett:** Mr. Gorden let's just wait and make sure we've got a stable picture.

23 **Mr. Gorden:** Okay.

1 **Mr. Willett:** Okay I think it's on. I guess the gremlins have left us.

2 **Mr. Gorden:** Okay so. Let me get my bearing. Colonel Island is here where the ship is
3 docked. We sailed her from here and then we released probably right around in here. And
4 once we released we just started drifting down towards the bridge real slow. So we were just
5 kind of easing along waiting for the other one to come through. So that's what we were doing.

6 **Mr. Willett:** Do you recall ----

7 **Mr. Gorden:** Can we -----

8 **Mr. Willett:** I'm sorry go ahead.

9 **Mr. Gorden:** Yes so we just usually just drift down the channel real slow until we get close to
10 the ship at the bridge.

11 **Mr. Willett:** That night did you notice anything unusual about the weather or the current or the
12 tides, the wind?

13 **Mr. Gorden:** No it was pretty fair that day. Yeah it was pretty fair. No strong winds.

14 **Mr. Willett:** If there had been strong winds or higher than normal tides or something unusual
15 is it typical for the Pilot to ask for two tugs?

16 **Mr. Gorden:** Yes.

17 **Mr. Willett:** In your experience also has the Pilot ever asked for two tugs when the weather is
18 clear, maybe because the vessel didn't handle correctly or the way they thought it might or
19 they might need additional assistance?

20 **Mr. Gorden:** Yes. There are instances where even though you've got fair weather there's
21 issues with other things that would require a second tug?

22 **Mr. Willett:** What might be some of those issues?

23 **Mr. Gorden:** Other vessels close to it or sometimes the bow thruster might not be functioning.

1 **Mr. Willett:** And I think I might have asked this before, but in this case were you the only tug
2 that assisted the GOLDEN RAY to come off of the dock?

3 **Mr. Gorden:** Yes.

4 **Mr. Willett:** So as you were drifting towards the bridge awaiting the next job, when did you
5 first find out that the GOLDEN RAY had an issue?

6 **Mr. Gorden:** We had an eye on the EMERALD PRINCESS coming in and Jamie Kavanagh
7 on board the EMERALD ACE, contacted me by, or both boats by VHF and said go to the
8 sound JT needs some help.

9 **Mr. Willett:** And that was all by VHF?

10 **Mr. Gorden:** Yes.

11 **Mr. Willett:** How long did it take you to get from where you were drifting to the location of the
12 GOLDEN RAY?

13 **Mr. Gorden:** Approximately 30 minutes.

14 **Mr. Willett:** And when you arrived at the GOLDEN RAY could you describe what you first
15 saw?

16 **Mr. Gorden:** Our first – saw was just the stern of the ship laying on its side.

17 **Mr. Willett:** And where did you proceed once you arrived to the GOLDEN RAY on its side?

18 **Mr. Gorden:** I was headed towards the transom of the ship. And just to observe the scene,
19 our crew was on deck keeping an eye out for anything in the water. And so I just kind of pulled
20 up to the stern of the ship and stopped there.

21 **Mr. Willett:** Did you have your spotlights on and flood lights and you kind of lit the area up?

22 **Mr. Gorden:** Yeah. Yeah I had my bow light on and had my flood light on, my spotlight.

1 **Mr. Willett:** Did you notice any fire or anything other than the GOLDEN RAY being on its side
2 at that time?

3 **Mr. Gorden:** Not at that time.

4 **Mr. Willett:** When you arrived at the scene did you begin to communicate with the GOLDEN
5 RAY or were you communicating with Jamie Kavanagh who was the Pilot on the EMERALD
6 ACE?

7 **Mr. Gorden:** No I was communicating with JT on the GOLDEN RAY.

8 **Mr. Willett:** And via?

9 **Mr. Gorden:** VHF.

10 **Mr. Willett:** Were there any other vessels at the scene by the time you had gotten to the
11 GOLDEN RAY?

12 **Mr. Gorden:** I think we pretty much all arrived at the same time. I don't know how many other
13 vessels, there were numerous small vessels there, yes.

14 **Mr. Willett:** After you arrived when you got to the stern or the transom what did you begin to
15 do?

16 **Mr. Gorden:** We were on the phone with our operations manager and our OUM, Dick Qua
17 (sic) and Al Cook. We had instructions to assist with survival, or survivors. Anybody that had
18 life threatening situation and as soon as we had approval from the Coast Guard we could start
19 assisting the vessel itself.

20 **Mr. Willett:** What is OUM?

21 **Mr. Gorden:** Operations Unit Manager.

22 **Mr. Willett:** And you said that was Dick Qua (sic) and Al Cook?

1 **Mr. Gorden:** Yeah, Dick Qua (sic) is operations manager and Al Cook is the OUM, or
2 operations unit manager.

3 **Mr. Willett:** What other vessel was with you when you arrived on the Moran side, from the
4 Moran fleet?

5 **Mr. Gorden:** Ann Moran.

6 **Mr. Willett:** Did you or the Ann Moran ever push on the GOLDEN RAY?

7 **Mr. Gorden:** Yes after we received approval from Commander Witt we were instructed to
8 assist the Pilot in any way possible under their direction. And the Ann Moran landed on the
9 transom of the vessel, contacted by JT in doing what he wanted him to do at that time.

10 **Mr. Willett:** And Norm Witt he's the Commander, or the Commanding Officer for Marine
11 Safety Unit Savannah?

12 **Mr. Gorden:** Yes.

13 **Mr. Willett:** Do you recall what JT asked you to do, or Johnathan Tennant the Pilot on board
14 the GOLDEN RAY?

15 **Mr. Gorden:** Yes he asked us to push on the transom and try to push him ahead because he
16 wasn't sure how far up on the sandbar he was. By the time we got the approval the Ann was
17 closest and she nosed up at the transom and started pushing on the stern.

18 **Mr. Gorden:** I know you weren't the Master of the Ann, however, do you recall if the Ann, was
19 she able to push the GOLDEN RAY at all or was she already aground?

20 **Mr. Gorden:** She was already aground. There was a little bit – the ship did move a little I
21 think, but not much.

22 **Mr. Willett:** After that was completed did the GOLDEN RAY ask you to assist with anything
23 else?

1 **Mr. Gorden:** JT had called me on the radio and asked me if I could get [in audible] from the
2 bow of the ship. Which being on its side was impossible and I informed him of that.

3 **Mr. Willett:** What did you do after that? Did you assist with any crewmembers on the
4 evacuation of the GOLDEN RAY?

5 **Mr. Gorden:** Yes. The Pilot boat had tried, there was three crewmembers back aft of the
6 companion way, which I had spotted earlier and notified the Pilots that there was an injured
7 crewmember back there. And I lit him up with my light. By the time the Pilot boat got over
8 there, there were also two other crewmembers in the same area behind the companion, on the
9 backside of the companion way. Bruce Fendig called said he needed a deckhand for one of
10 the Pilot boats. [Lost audio].

11 **Mr. Willett:** I believe we lost your feed. You're back. The mute I think. I see you but I cannot
12 hear your audio. Could do a test, 1, 2, 3 again.

13 **Mr. Gorden:** Test 1,2,3.

14 **Mr. Willett:** There you go.

15 **Mr. Gorden:** Test 1,2,3.

16 **Mr. Willett:** You're back on. Okay we were at the point where you said you talked to Bruce
17 Fendig. I asked about the crewmembers you remember seeing.

18 **Mr. Gorden:** Yes. And he had one of the Pilot boats close to the area but he needed a
19 deckhand for it. Since I was just drifting at the time I offered my deckhand to get on the Pilot
20 boat to help out. So they came and got my deckhand and went to the ship. There was
21 another Coast Guard vessel there that was trying to get to that area too. I think they quickly
22 realized that they were too low to the water, the guys were too high up. So Bruce Fendig
23 asked me if I could land in that area since I was so much higher than the other vessels to try to

1 get to them. And so I said yes I should be able to get in there. So I nosed up to that area
2 which was right behind the companion way, right after the rescue boat. And then we started
3 from there trying to get the guys off of the ship.

4 **Mr. Willett:** When you were trying to get these people off of the ship, the crewmembers, do
5 you recall if they were wearing life jackets and had lights, any of that?

6 **Mr. Gorden:** No there was one, one crewmember was sitting in the open doorway with his leg
7 wrapped up. So he was not able ambulatory. The other two were ambulatory but none of
8 them had life jackets. As soon as my deckhand got back on board he had out lifejackets
9 already on deck. So I instructed my crew to send life jackets up to the crew on the ship.

10 **Mr. Willett:** Were they able to get the lifejackets you had on your vessel? You actually gave
11 them to the crewmembers of the GOLDEN RAY?

12 **Mr. Gorden:** Yes we threw a heaving line up, tied our lifejackets to it and they pulled them up.
13 And they didn't put them on, I don't know if they were uncomfortable, the style of lifejacket or if
14 they were just too nervous, but they never actually – they tried putting them on, but they never
15 did get them on.

16 **Mr. Willett:** Were they work vest style or the kind you put on, the horse collar type, or?

17 **Mr. Gorden:** Type 1 that you pull over your head.

18 **Mr. Willett:** Thank you. Do you recall when you were notified there might be possibly
19 crewmembers trapped on the GOLDEN RAY?

20 **Mr. Gorden:** Not, I don't remember the exact time, no.

21 **Mr. Willett:** Were you made aware at some point that there were ----

22 **Recorder:** We need to pause for livestream. Livestream down, one second.

23 **Mr. Willett:** Sorry. Captain Gorden do you need a break or anything?

1 **Mr. Gorden:** No I'm good.

2 **Mr. Willett:** Okay sorry about that. We had a break in livestreaming, the gremlins continue to
3 play us. I'm going to back up to the question that I had asked previously. And that was, even
4 though you don't recall at that time you were notified there were crewmembers trapped in the
5 GOLDEN RAY, were you made aware that there were [in audible].

6 **Mr. Gorden:** Yeah at some point JT was talking about how many people were on the vessel
7 and I believe I heard someone say that there were still four men in the engine room, yes.

8 **Mr. Willett:** Were you there when the crewmembers that were on board and located, were
9 you there when they were transferred to rescue vessels and went back to shore?

10 **Mr. Gorden:** Yes the three crewmembers that were on the back of the house, yes. Yes we –
11 they kept trying to come down the hose that was there. We had to keep stopping them from
12 coming down. Eventually the second helo arrived and I started flashing my light and I called
13 him on the radio, me answering him back and I let him know that there were three
14 crewmembers back there. We had a couple conversations about whether they were
15 ambulatory. I told him there was one injured. And I guess once he did his survey and fly
16 around he dropped a rescue diver down and he asked me if he could put the two the
17 ambulatory crewmembers on my vessel. I said sure you can. We turn the lights to the stern.
18 At this time they had connected to the injured crewmember and I guess once they got him on
19 board they realized that he need to go to the hospital right away. So the helo informed me
20 they were taking this gentleman to the hospital and they would be back in about an hour. So
21 we sat and monitored the other crew, kept them comfortable and gave them stuff to drink, sent
22 up water and Gatorade and just kind of kept them calm until the helo returned.

23 **Mr. Willett:** So I guess it's safe to say the operation went on for an extended period of time.

1 **Mr. Gorden:** Yes it was approximately, I would say two hours from the time I nosed up to the
2 ship until the time all three of them were off.

3 **Mr. Willett:** And after you had made sure those three crewmembers had gotten off, what did
4 you next in regards to assisting the GOLDEN RAY?

5 **Mr. Gorden:** Bruce Fendig asked me just to hold my position there until daylight just so
6 everything would remain stable.

7 **Mr. Willett:** Did you nose up to the GOLDEN RAY at all or did you stay off station a little bit?

8 **Mr. Gorden:** No I stayed, I was touched down right aft of the rescue boat.

9 **Mr. Willett:** Were you pushing the GOLDEN RAY at all?

10 **Mr. Gorden:** Just enough to hold my position. I didn't want to put any pressure, downward
11 pressure on the vessel at all.

12 **Mr. Willett:** Did you ever become aware that any knocking or beating on the vessel that might
13 have been survivors?

14 **Mr. Gorden:** Yes. That was later in the day after we had been released and we were just kind
15 of standing by. I heard this transmission from the Coast Guard that they were tapping on the
16 hull and that they had received taps back.

17 **Mr. Willett:** Through this three hour or two hour process during the rescue of the final three
18 crewmembers that you were watching, did you notice any fire or smoke or hear any crashing
19 or anything other, you know that was unusual?

20 **Mr. Gorden:** The first smoke that we saw that was pretty heavy that we thought was smoke
21 was actually a, I believe a man overboard smoke. Then a little while after that we could
22 actually smell electrical smoke. We could see smoke and you could – smelt like an electrical.
23 I believe that was when the Engineer was still on board and hadn't gotten off yet. And then

1 about daylight, right around daylight after the crewmembers were off there was another big
2 puff of smoke coming from all the vents up top, all the vents around me down the deck. Pretty
3 good bit of smoke at that time.

4 **Mr. Willett:** Captain I've completed my line of questioning. Thank you very much. Captain
5 Morgan for coming and talking with us. Captain Welborn I'm done with my questions and I
6 release the witness to you.

7 **CAPT WELBORN:** Great, thank you very much. Now we'll ask if we have any questions from
8 our SIS's. Mr. Bremer do you have questions for this witness?

9 **Mr. Bremer:** Yes Captain thank you. Captain Gorden you had mentioned that you were
10 eyeing to assist the EMERALD ACE upon berthing. Do you remember what the original
11 scheduled time was for that?

12 **Mr. Gorden:** She boarded in conjunction with the GOLDEN RAY sailing. So she started in at
13 0100 with the GOLDEN RAY left the dock.

14 **Mr. Bremer:** Okay thank you. And I believe you said you arrived to the GOLDEN RAY about
15 30 minutes after the incident happened. Do you remember or recall seeing any lights on the
16 ship?

17 **Mr. Gorden:** No I saw the stern lights on the stern plus the working lights, that's the only ones
18 that I paid attention to. I was really looking for, you know anything in the water, any hazards,
19 so I wasn't paying any attention to the actual lights on the ship.

20 **Mr. Bremer:** Okay. But you do recall seeing the stern light you said and some working lights?

21 **Mr. Gorden:** Yes.

22 **Mr. Bremer:** Okay. Thank you very much. Captain Gorden no further questions.

23 **Mr. Willett:** Captain Welborn.

1 **CAPT WELBORN:** Yes Mr. Willett.

2 **Mr. Willett:** Yes I would like to clarify something. I apologize I think I referred to you as

3 Captain Morgan and your name is Gorden. I apologize for that, sir.

4 **CAPT WELBORN:** So Mr. Flaherty do you have questions for this witness.

5 **NTSB:** Yes Captain Welborn. Good morning Captain Gorden how are you doing, sir?

6 **Mr. Gorden:** Good.

7 **NTSB:** You were involved in the – when the vessel GOLDEN RAY left the dock at Colonel's

8 Island, correct?

9 **Mr. Gorden:** Yes, sir.

10 **NTSB:** How did that – could you go into a little bit more detail. How was the communication

11 between you and the Pilot and the other tug in your opinion?

12 **Mr. Gorden:** Yes. It was normal. Every time we sail a ship, get to the ship the Pilot usually

13 tells us what to do. So he informed me he wanted me on the transom of the ship to make fast.

14 So we communicate on channel 12. Once I made fast I let him know I'm made fast and clear

15 the ship's lines because we're under the ship line until we make fast. So I have to get clear of

16 those. And then I'll just stand by until he's ready to let go of his lines. He'll inform me that he's

17 letting go of his lines, once his lines are all clear and he's ready for me to work then he'll ask

18 me to come around to push him off the dock. So I'll lay flat on the transom and just gives me

19 what speed, how much power I need to use until he gets far enough off of the dock that he's

20 comfortable and then he'll release me and I'll back away and stand clear.

21 **NTSB:** Okay. And at the time what's the other tug doing? Or was there only one?

22 **Mr. Gorden:** There was only one tug on the sailing. I was the only -----

23 **NTSB:** I'm sorry you're breaking up.

1 **Mr. Gorden:** I was the only one at the sailing.

2 **Mr. Willett:** I think their mic is pulling out again.

3 **Mr. Gorden:** Can you hear me now?

4 **NTSB:** Sir, can you hear me?

5 **Mr. Gorden:** How about now?

6 **NTSB:** I can't hear him.

7 **Mr. Gorden:** Yeah mic is not working again.

8 **Mr. Willett:** Captain Flaherty sorry we're working on his mic right now.

9 **NTSB:** Alright, standing by.

10 **Mr. Gorden:** How about now?

11 **NTSB:** Very good, sir. I'm sorry. Could you please repeat your answer, you were starting to
12 break up.

13 **Mr. Gorden:** Yes I was the only tug on the sailing. They only required one tug to sail that
14 night.

15 **NTSB:** Is that a normal for just one tug? Or when would a second tug be required?

16 **Mr. Gorden:** If weather conditions, especially if you go a wind blowing on the dock or a real
17 strong wind off of the dock, real heavy tide. If the bow thruster is having any issue, if it's weak
18 or not working then they would use a second tug. And also if there was congestion where you
19 had ships ahead of it and astern of it with a strong tide.

20 **NTSB:** When you were proceeding off of the dock everything went according to plan?

21 **Mr. Gorden:** Yes everything was normal to me.

22 **NTSB:** And then after the vessel is away from the dock what was your role as the assist tug?

1 **Mr. Gorden:** I trailed behind the ship until he cleared all the berths at Colonel's Island in case
2 he needed help. Something, you know gets too close to the dock or the tide or wind will set
3 him one way or the other I could help him adjust his position in the channel.

4 **NTSB:** Right.

5 **Mr. Gorden:** So I just drifted behind him until he released me.

6 **NTSB:** Before we proceed further could you give us some details on the size, horsepower,
7 capabilities of the tug that you're operating?

8 **Mr. Gorden:** Yes Dorothy Moran is – she's a 149 net tons, 99, I mean gross ton, 99 net tons.
9 She's 3200 horsepower. She's 100 feet long, right at 99 and she's 32 feet wide.

10 **NTSB:** Does she have a more of a traditional type propeller and shaft?

11 **Mr. Gorden:** Yeah she's a conventional twin screw tug.

12 **NTSB:** Okay. As the vessel is proceeding down and you're following the GOLDEN RAY, what
13 were you witnessing if you can kind of describe, you know what you saw as the vessel headed
14 outbound?

15 **Mr. Gorden:** Yes until he released me I usually keep a pretty good eye on the ship and I
16 stand back about, maybe 100 feet from it out of his wheel water.

17 **NTSB:** Umm huh.

18 **Mr. Gorden:** And everything looked normal. He was – there was no swaying back and forth
19 when he moved his rudder. And usually I can see a little bit of that. It was just a smooth
20 transit out of the narrow channel into Turtle River.

21 **NTSB:** And even though it was nighttime you were able to see the vessel with no problem?

22 **Mr. Gorden:** Yes I keep my bow lights on and have LED bow lights and it's pretty bright. So I
23 can see the transom of the ship pretty good.

1 **NTSB:** Okay good. Now I'll kind of skip ahead. You're beside the GOLDEN RAY, the
2 casualty has occurred. Your first indication that there was a fire on board, as I remember
3 correctly you observed smoke. Is that correct?

4 **Mr. Gorden:** Yes, sir.

5 **NTSB:** Did you ever see actual flames while you were there?

6 **Mr. Gorden:** Not at that time. After the ship had slowly rolled enough to where I had the back
7 clear of it, right around daylight, and when I saw the second round of smoke coming through
8 the vents and the helo was there and he asked me if I could spray, it was a lot of black smoke
9 on the starboard side.

10 **NTSB:** Okay.

11 **Mr. Gorden:** And he asked me if I could ----- go ahead.

12 **NTSB:** I didn't say anything, sir.

13 **Mr. Gorden:** Okay. He asked me if I could spray my firehouse because it's just mainly for, it's
14 a small firehose just for the boats. And I told him it wouldn't do any good.

15 **NTSB:** Okay. Now when you were approaching the GOLDEN RAY, I'm sorry I'm moving back
16 a little bit in the timeline, and you saw that the vessel was on its side, by chance did you hear
17 any noises as you were approaching it?

18 **Mr. Gorden:** No, sir, not at that time.

19 **NTSB:** When you were alongside it, the transom I know there was a lot of stuff going around,
20 but do you recall hearing any loud banging noises or any other unusual noises?

21 **Mr. Gorden:** Yes, sir

22 **NTSB:** What did that noise sound like?

23 **Mr. Gorden:** It was just a loud, like something falling inside the vessel.

1 **NTSB:** Did that just happen once or on more than one occasion?

2 **Mr. Gorden:** More than one occasion.

3 **NTSB:** While you were there?

4 **Mr. Gorden:** Yes, sir. While I was nosed up.

5 **NTSB:** By chance could you give an approximate location or it was just, you could not identify

6 the place?

7 **Mr. Gorden:** Yeah, the way the ship is designed I really couldn't say whether it was ahead,

8 astern, or aft of where I was at. It was just a pretty loud noise.

9 **NTSB:** Did it sound like it was coming from inside the vessel or maybe coming out of the

10 vents?

11 **Mr. Gorden:** No it sounded like it was inside the vessel.

12 **NTSB:** Okay. Thank you for your time Captain. Captain Welborn that's all the questions I

13 have.

14 **CAPT WELBORN:** Thank you Captain Flaherty. So we'll shift to our PII's to see if we have

15 questions there. Mr. Gilsenan did you have questions for this witness? Hearing nothing I'm

16 move on. Mr. Reisman, do you have questions for this witness?

17 **Mr. Reisman:** Thank you Captain. No questions.

18 **CAPT WELBORN:** Thank you Mr. Reisman. Captain Gorden thank you very much for

19 coming out today we do appreciate it. I just want to let you know that you are – you will remain

20 under oath and subject to recall until the end of these formal proceedings. So again we thank

21 you for your testimony today. And you're currently dismissed. The local time is -----

22 **Mr. Gorden:** Thank you for the opportunity.

1 **CAPT WELBORN:** Thank you Captain. The local time is 11:16. We will stand adjourned until
2 12:30. At which time we will hear from Boatswain's Mate Second Class Jeremy Shaw. We
3 stand in recess.

4 *The hearing recessed at 11:16, 21 September 2020*

5 *The hearing was called to order at 12:30, 21 September 2020*

6 **CAPT WELBORN:** Good afternoon ladies and gentlemen the time now, local time is 12:30
7 and we're back on the record for the formal hearing of the capsizing of the GOLDEN RAY.
8 The next witness we will call is Boatswain's Mate Second Class Jeremy Shaw. Mr. Lee Willett
9 will conduct this interview.

10 **Recorder:** Please stand and raise your right hand. Boatswain's Mate Second Class Shaw a
11 false statement given to an agency of the United States is punishable by fine and or
12 imprisonment under 18 United States Code 1001 and the Uniform Code of Military Justice.
13 Knowing this do you solemnly swear that the testimony you're about to give will be the truth,
14 the whole truth and nothing but the truth, so help you God?

15 **BM2 Shaw:** I swear.

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

17 **Mr. Willett:** Thank you. Sir, could you please state your full name and spell your last name
18 for the record?

19 **BM2 Shaw:** My name is Jeremy Shaw, J-E-R-E-M-Y S-H-A-W.

20 **Mr. Willett:** Petty Officer Shaw are you represented by counsel?

21 **BM2 Shaw:** No I'm not.

22 **Mr. Willett:** Have you been designated a party in interest?

23 **BM2 Shaw:** No I have not.

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

2 **BM2 Shaw:** I do.

3 **Mr. Willett:** Could you describe those?

4 **BM2 Shaw:** I hold a Coxswain qualification with the United States Coast Guard.

5 **Mr. Willett:** And Coxswain, what is that exactly? Can you explain that a little bit more in
6 detail?

7 **BM2 Shaw:** Coxswain is the person that is in charge of the vessel that is heading out for
8 search and rescue.

9 **Mr. Willett:** These vessels, are they small boats or large ones or?

10 **BM2 Shaw:** They are small boats. You have small boat, response small boats and our
11 response boat medium.

12 **Mr. Willett:** Are you Coxswain on both the response boat medium and the small response
13 boat?

14 **BM2 Shaw:** Yes I am.

15 **Mr. Willett:** What are the lengths of these vessels?

16 **BM2 Shaw:** The first length is a 45 foot vessel and the second one is a 29 feet vessel.

17 **Mr. Willett:** And I know you've already described this, but just for the record who is your
18 current employer?

19 **BM2 Shaw:** United States Coast Guard.

20 **Mr. Willett:** And in your position besides Coxswain what is your mission at the unit?

21 **BM2 Shaw:** I'm a Boatswain's Mate Second Class.

22 **Mr. Willett:** And what is the name of your unit?

23 **BM2 Shaw:** Station Brunswick.

1 **Mr. Willett:** How long have you been stationed at Station Brunswick?

2 **BM2 Shaw:** I've been at Station Brunswick for a little over 3 years.

3 **Mr. Willett:** Have you received any training while at Station Brunswick?

4 **BM2 Shaw:** Yes I have.

5 **Mr. Willett:** In regards to your current position as a Coxswain?

6 **BM2 Shaw:** Yes I have.

7 **Mr. Willett:** Petty Officer Shaw I'm going to ask you to describe the events that occurred on
8 September 2019 regarding the GOLDEN RAY and your involvement, and what you did with
9 the Coast Guard and the rescue of the crewmembers on board the GOLDEN RAY.

10 **BM2 Shaw:** Yes.

11 **Mr. Willett:** So I understand you have a PowerPoint you want to utilize to explain your role
12 during that night.

13 **BM2 Shaw:** Yes, sir. So this would be Motor Vessel GOLDEN RAY response. Of course as
14 we talked about my name is Petty Officer Shaw, I'm a Boatswain's Mate Second Class. My
15 roles and responsibilities that night was on scene commander and Coxswain. A little thing
16 about me I've been in about 9 years, Coxswain I've had 5. My current unit is United States
17 Coast Guard Station Brunswick. Time at the unit I have 3 years. And I've had 24 cases as a
18 Coxswain at Station Brunswick. So on the morning of 8 September 2019 I received a call at
19 1:30 in the morning from 911 dispatch saying that there was a vessel that was flipped over on
20 its side. While we were on the phone at that time we also received another phone call from
21 somebody that was on the St. Simons Pier visually seeing. So we ended up launching the
22 boat, the boat was the 45741, it's a 45 response boat medium. The boat crew consisted of
23 myself as the Coxswain, my break in crew navigator BTM was Petty Officer Third Class Zep

1 (sic). My BO Engineer was MK1 Backman and Crew Engineer MK3 Schuman and crew BTM
2 Engineer MK3 Benoit (sic). Alright so the crew launched from Station Brunswick at 1:54 in
3 route to St. Simon Sound. Sea state at the time was 2 to 3 feet at 5 seconds with an ebb tide.
4 Once we were on scene Sector Charleston and Station was notified. Other assets that were
5 on scene and utilized would be Coast Guard 29139, that is a 29 foot response boat small.
6 There was also two Brunswick tug boats, the Georgia Department of Natural Resources, DNR,
7 Sea Tow responder and two Pilot vessels. So during the evolution of the first crew when we
8 showed up there was a lot of alarms, things like that going off. We did have people on the aft
9 end of the vessel that were sitting outside. One of the back hatches, you know waiving yelling
10 for help. We got in communication with the tugs, the tugs recommended that we needed to
11 stabilize the vessel, told them to go for it. So they started positioning themselves across the
12 stern to keep the vessel stabilized to keep it from that 70 degree list. It was at a 70 degree list
13 and then we were able to, the 45741 we were able to get into contact with the Pilot boat and
14 confirm that there were 24 crewmembers and a Pilot on board the vessel GOLDEN RAY. The
15 Pilot on board via GOLDEN RAY was directed to lower the firehose to the bridge down to the
16 port bridge wing. Once the firehose was lowered at 2:56 the first crewmember came down the
17 bridge and the 45741 was able to retrieve the crewmember. This process was repeated 11
18 times. In the process of removing the first crewmember via the CG 45741 was damaged with
19 the sea state off of stern pushing us into that port bridge wing. We sustained across the bow
20 and on the starboard side as we were pulling people off. Because it was a 3 to 4 foot drop
21 from the bridge wing to where the bow of boat was. The CG 45741 rendered first aid to those
22 who needed it. And then the CG 29139 arrived on scene to bring crewmembers to shore. At
23 0344 the CG 45741 transferred the first 11 crewmembers to the CG 29139 so that the

1 crewmembers could be examined by local EMS. During the transfer Georgia DNR was able to
2 retrieve two additional members. The CG 45741 they returned to retrieve additional people
3 from the Motor Vessel GOLDEN RAY. The last crewmember retrieved was the Chief
4 Engineer. He was trapped in the statement below the port bridge wing. We were able to
5 break a window and tie two extension cords down together and lowered and we took the
6 45741 tied a 60 foot line to the extension cords at the end and he was able to pull the line up to
7 make a secure way down. At this time the vessel caught fire and black smoke started to fill the
8 area around the CG 45741. The smoke entered the cabin and for the safety of my crew we
9 backed out, let the smoke clear out from the cabin, made another approach and we were able
10 to get the Chief Engineer out. At 6:45 the Chief Engineer was directed to move down, he was
11 able to slide the down the Motor Vessel GOLDEN RAY into the 45741 using the extension
12 cords and the 60 foot line. At 6:57 the remaining crewmembers were transferred to the 29139
13 to receive EMS treatment. During the transfer of the Chief Engineer via CG helicopter
14 retrieved an additional crewmember from the starboard bridge wing. And lowered the
15 remaining crewmembers from the aft area down to the tugs. The last four crewmembers
16 reported to be trapped in an engine room. The CG 29139 had transferred a local fire and
17 rescue team to the 45741. Local fire and rescue along with a CG rescue swimmer were on the
18 741 and we transferred them to the port aft section of the GOLDEN RAY. They made an
19 attempt to open hatches and they continued to try to find a way to rescue but determined that
20 the risk was to great due to the fire and the smoke. After that we pulled the fire and rescue
21 swimmer back on the Motor Vessel GOLDEN RAY and we transferred the fire team and
22 rescue swimmer up to the St. Simons Pier and contained a security zone around the vessel.
23 At approximately 1100 CG 45741 returned to Station Brunswick to switch out crews and to

1 refuel. And then later on that night at approximately 1630 the original crew of the Coast Guard
2 45741 assumed the security zone and continued communication with the trapped
3 crewmembers by tapping on the hull with a hammer.

4 **Mr. Willett:** Thank you Petty Officer Shaw. I have a couple additional questions just to clarify
5 some things that you went over during the PowerPoint. You mentioned the sea state was 3 to
6 4 feet, is that correct?

7 **BM2 Shaw:** Yes.

8 **Mr. Willett:** So the 3 to 4 feet is that typical for this area that time of year?

9 **BM2 Shaw:** Yes, sir.

10 **Mr. Willett:** You also mentioned about a fire. You arrived on scene, I can't remember what
11 time you stated. It was approximately 30 minutes to an hour after the capsizing, is that
12 correct?

13 **BM2 Shaw:** Yes, sir.

14 **Mr. Willett:** When you arrived on scene did you see a fire or smell smoke as soon as you got
15 there?

16 **BM2 Shaw:** No, sir.

17 **Mr. Willett:** Did you hear any crashing or banging or loud sounds when you arrived on scene?

18 **BM2 Shaw:** The only loud sounds that were on scene were the alarms and the people on the
19 aft yelling and waiving at us.

20 **Mr. Willett:** You mentioned you gave first aid to some of the crewmembers. Do you recall
21 what kind of triage you did for those members?

22 **BM2 Shaw:** I personally did not do the triage. That would have been my crewmembers. They
23 were rendering first aid to a ladies hand. I believe from what I remember is that it was

1 smashed in a scuttle. And there was also some other members that had lacerations, things of
2 that nature.

3 **Mr. Willett:** Thank you Petty Shaw. Captain Welborn I've completed my questions for the
4 witness. I will turn it back over to you.

5 **CAPT WELBORN:** Thank you Mr. Willett. So now we'll poll our SIS's to see if they have any
6 questions for this witness. Mr. Bremer do you have questions?

7 **Mr. Bremer:** Yes Captain, thank you. Petty Officer Shaw you mentioned there were alarms
8 that you heard upon arriving on scene to the GOLDEN RAY. Can you describe these alarms?
9 Could you tell where they were coming from or any ideas?

10 **BM2 Shaw:** The only description of the alarm I would have would just be a normal alarm,
11 loud, buzzing sound. I cannot confirm or deny what type of alarm that was.

12 **Mr. Bremer:** Okay, thank you. And was that audible anywhere on the ship or was it only
13 audible when you were near the bow, or do you remember?

14 **BM2 Shaw:** It was audible throughout the whole space of the ship.

15 **Mr. Bremer:** Okay. And upon arriving on scene do you remember seeing any lights on, on
16 the ship such as work lights on deck, nav lights, anything of that nature?

17 **BM2 Shaw:** No, sir.

18 **Mr. Bremer:** Okay. Thank you Petty Officer Shaw no further questions Captain.

19 **CAPT WELBORN:** Thank you Mr. Bremer. Captain Flaherty do you have questions for this
20 witness?

21 **NTSB:** Yes I have a few Captain Welborn, thank you. BM2 Shaw could you go over the start
22 of your testimony when you first encountered the smoke and flame. Was it sudden or was it
23 something that started growing while you were there?

1 **BM2 Shaw:** Well, sir, there was actually no flames that were visually seen by myself or my
2 crew. The smoke was something that had started very subtle and then built. And once we
3 were able to back away from the vessel, clear the smoke from our cabin and go back in the
4 smoke had subsided inside the GOLDEN RAY.

5 **NTSB:** And did you ever see actual flame?

6 **BM2 Shaw:** No I did not see any flames.

7 **NTSB:** Okay. Let's see. And just to confirm while you were there you heard no noises, loud
8 noises from inside the ship?

9 **BM2 Shaw:** No, sir, not from what I can remember.

10 **NTSB:** Alright. Thank you very much. No further questions Captain.

11 **CAPT WELBORN:** Thank you Captain Flaherty. Now we'll check with our PII's. Mr. Reisman
12 do you have questions for this witness?

13 **Mr. Reisman:** No questions. Thank you Captain no questions.

14 **CAPT WELBORN:** Thank you Mr. Reisman. Mr. Gilseman, are you online? Hearing nothing
15 we'll move on. KMST, do we have questions for this witness.

16 **WIT:** None received Captain.

17 **CAPT WELBORN:** No questions from KMST. Also let the record show that I did query KMST,
18 or KMST was queried for the last witness, Captain Gorden and they had no questions for
19 Captain Gorden. So BM2 I just want to follow-up just really quickly on what you said about
20 your arrival scene on the 45 foot response boat medium. You said that there was other assets
21 on scene when you got there, is that correct?

22 **BM2 Shaw:** Yes Captain.

23 **CAPT WELBORN:** So the 29 launched and was there before you were, is that correct?

1 **BM2 Shaw:** No Captain. The 29 was – had a crew recalled in and they were launched after
2 we had been on scene pulling members off of the vessel GOLDEN RAY.

3 **CAPT WELBORN:** Understood. Okay. Thank you for the point of clarification. Okay BM2
4 thank you very much for your testimony today. Thank you for your actions during that evening.
5 We do appreciate what you've done then and again what you've done for us throughout the
6 investigation. Please note that you're subject to recall until we've finished these formal
7 proceedings if we need to ask you some more questions we'll bring you back in. But thank you
8 very much for your --- oh, I'm sorry I have one more question from Mr. Willett.

9 **Mr. Willett:** Sorry Petty Officer Shaw. I had a couple more questions that I should have asked
10 before. I wanted to clarify all the comms you had with the Pilot on board the GOLDEN RAY.
11 Were those through VHF?

12 **BM2 Shaw:** Johnathan Tennant.

13 **Mr. Willett:** Johnathan Tennant.

14 **BM2 Shaw:** Yes those would through VHF [lost audio]. Sorry yes we did have
15 communications with the Pilot but it was not direct communications. We could not actually
16 hear him over the radio, but his other Pilot vessel that was there they had contact with him. So
17 we were talking with the Pilot vessel, the Pilot vessel was talking with him. So it was through a
18 third party communicating.

19 **Mr. Willett:** So do you know if he was on his cell phone talking to the Pilot boat?

20 **BM2 Shaw:** No.

21 **Mr. Willett:** If you don't know that's fine. And one other thing I wanted to ask about in missing
22 crewmembers, what did – who notified you that there were four additional crewmembers on
23 the vessel still missing?

1 **BM2 Shaw:** When the Chief Engineer came on board he said he knew he had four more men
2 that were in the engine room.

3 **Mr. Willett:** And at that point did you take the Chief Engineer back to Station or transfer him to
4 the 29?

5 **BM2 Shaw:** Yes, sir.

6 **Mr. Willett:** And was it your crew that actually went around the vessel and made contact with
7 the crewmembers trapped in the engine room?

8 **BM2 Shaw:** Not the original contact, but that night when we came in to stand the security
9 zone, yes we did sit alongside with the hammer and tap on it. And also the tugs that were out
10 there as well they helped in that process of coming alongside and tapping the hull as well.

11 **Mr. Willett:** Is that normal Coast Guard procedure to do that, tap on the hull and try to make
12 comms with the trapped crewmembers? Or did you guys come up with that on the fly?

13 **BM2 Shaw:** Well to be honest with you sir I wasn't on the vessel that made the original
14 contact, so I don't know if that was something that they had came up with as a thought process
15 collectively. But yeah for training wise yes if we do have a vessel that's flipped over you tap on
16 the hull to see if you can have any kind of response.

17 **Mr. Willett:** So it was Coast Guard individuals that made initial contact to the four trapped,
18 crewmembers/

19 **BM2 Shaw:** From my recollection yes.

20 **Mr. Willett:** Thank you. Thank you Captain, that's all I have.

21 **CAPT WELBORN:** Again thank you very much BM2. You are subject to recall. So at this
22 time the witness is dismissed. The local time now is 12:50 we'll take a 10 minute recess to set
23 up our next witness Captain John Reed. We stand adjourned.

1 *The hearing recessed at 12:50:16, 21 September 2020*

2 *The hearing was called to order at 1:00, 21 September 2020*

3 **CAPT WELBORN:** Good afternoon ladies and gentlemen we are back on the record formal
4 hearing regarding the capsizing of the GOLDEN RAY. Our next witness is Captain John Reed,
5 United States Coast Guard. Captain Reed are you with us?

6 **CAPT REED:** I am. Can you hear me?

7 **CAPT WELBORN:** Captain Reed I believe you're muted.

8 **CAPT REED:** Can you hear me Captain Welborn?

9 **CAPT WELBORN:** Lieutenant Commander Moore will now swear the witness in.

10 **Recorder:** Good afternoon Captain. Please stand and raise your right hand. A false
11 statement given to an agency of the United States is punishable by fine and or imprisonment
12 under 18 United States Code 1001 and the Uniform Code of Military Justice. Knowing this do
13 you solemnly swear that the testimony you're about to give will be the truth, the whole truth
14 and nothing but the truth, so help you God?

15 **CAPT REED:** I do.

16 **Recorder:** Thank you Captain. Please be seated. Captain Welborn the witness is ready.

17 **CAPT WELBORN:** Captain Reed are you there?

18 **CAPT REED:** I am. Can you hear me?

19 **CAPT WELBORN:** Okay. Yes I do. I'm sorry my headphones were off. Good afternoon
20 Captain. A couple of formative questions before we get started. I know that you have a
21 presentation to go through and we appreciate you formulating that for us. So we'll get to that
22 here in just a moment. Captain can you tell us what your current position is?

1 **CAPT REED:** Currently I'm the Chief of Staff at the Coast Guard's Eighth District in New
2 Orleans, Louisiana.

3 **CAPT WELBORN:** And how long have you been there Captain?

4 **CAPT REED:** I've been there for four months.

5 **CAPT WELBORN:** Captain what was your previous job before that?

6 **CAPT REED:** My previous was Sector Commander for Coast Guard Sector Charleston.

7 **CAPT WELBORN:** And were you the Sector Commander on the evening of September 8th,
8 2019?

9 **CAPT REED:** I was.

10 **CAPT WELBORN:** Captain can you tell us a little bit about the responsibilities and duties of a
11 Sector Commander? What official titles and designations does the Sector Commander hold?

12 **CAPT REED:** In my role as Sector Commander I'm the, generally the one in charge of Coast
13 Guard operations for a geographic region. All aspects of those operations from a coordination
14 standpoint. And some of the roles would include, as we're going to talk about here search and
15 rescue coordination as a search and rescue mission coordinator. And as in this particular
16 instance in Brunswick I oversee the MSU who holds Captain of the Port authority and Federal
17 maritime security coordination authority for the Port of Brunswick. The interesting role – or the
18 interesting thing about Charleston is it's kind of a split system where I hold certain authorities
19 as Captain of Port in the State of South Carolina and those authorities are delegated in law
20 really to Commander Witt for the State of Georgia. So in this capacity, or in the role I played in
21 Brunswick it was more from a leadership role, a search and rescue mission coordinator type
22 role. And really an advisor and leadership role of what the whole Coast Guard effort was.

1 **CAPT WELBORN:** Thank you Captain. So just to clarify you're the Sector Commander in
2 Charleston, but the local unit in Savannah who the Port of Brunswick falls under worked for
3 you, is that correct?

4 **CAPT REED:** That's correct. The Sector is homeported in Charleston, but it includes the
5 coast of South Carolina and Georgia.

6 **CAPT WELBORN:** Thank you. And just to confirm we've heard previous testimony that
7 mentioned a command center. Can you tell us where the command center was located for
8 Sector Charleston?

9 **CAPT REED:** Absolutely. The command center for Sector Charleston is located in North
10 Charleston at the Federal complex.

11 **CAPT WELBORN:** And any search and rescue calls that come in would be coordinated
12 through that command center there in Charleston?

13 **CAPT REED:** That's correct.

14 **CAPT WELBORN:** Captain can you recount the evening, or excuse me the morning as you
15 recall it, September 8th, 2019, that's the date that the GOLDEN RAY capsized? We can pull
16 up your presentation if need be at this time. But I would like for you to walk me through the
17 events as they unfolded for you that morning.

18 **CAPT REED:** So just in that morning, we'll go ahead skip the slideshow. And then there were
19 introductory comments. Do you want me to go through those or come back to those later?

20 **CAPT WELBORN:** That will be fine Captain you can start with the first slide of your
21 presentation.

22 **CAPT REED:** Okay. So the first slide gives a quick overview of what I'll be going over. I'm
23 sorry, second slide. There we go. And thank you for the opportunity to speak to this matter. It

1 is an honor and privilege to be here to shed light on the search and rescue aspects of the
2 Motor Vessel GOLDEN RAY incident. While I spent time preparing this statement, it is limited
3 to my recollection of events from more than a year ago. And I trust they will be able to convey
4 the outstanding work of the teams involved to rescue all 24 people aboard the ship after it
5 rolled onto its side in the early morning hours of September 8th, 2019. Following this statement
6 I will answer any questions that you have and I will be more than willing to provide whatever
7 information I can to the board. My role in the incident involved leadership with some of the
8 assigned Coast Guard units and overall coordination of search and rescue efforts through our
9 command center in Charleston. While some of the Coast Guard units responding to the
10 incident function within the organizational structure of the Coast Guard Sector, others such as
11 Air Station Savannah provide support through coordination and collaboration. Responsibility
12 for the execution of search and rescue mission within this portion of the Seventh District
13 search and rescue region is delegated to me as Sector Commander. I further delegate that to
14 a search and rescue mission coordinator. In this case it was Lieutenant Lloyd Heflin. The
15 incident provided an outstanding example of teamwork, risk management, and cooperation
16 amongst industry and the Government to achieve something that many have – may have been
17 the most challenging set of circumstances faced by all involved in the rescue. And certainly for
18 those trapped inside the GOLDEN RAY. Seeing firsthand the work of all 24 – the work to save
19 all 24 people from the GOLDEN RAY has truly changed my perspective on the industry and
20 their ability to come together to solve a most complex problem. While the Coast Guard, Moran
21 Towing, Georgia Department of Natural Resources, Glenn County and others did great things
22 to support the rescue of the first 20 people in less than 3 hours. It was a monumental
23 undertaking over the ensuing 30 plus to remove the final 4 members. Next slide please. I was

1 awoke at approximately 0150 on Sunday morning, September 8th by a phone call from
2 Commander Norm Witt, Commanding Officer of Coast Guard Marine Safety Unit Savannah
3 and Captain of the Port. He informed me that he had received a strange report and was
4 following up on it. But he was told a large vessel had rolled on its side in St. Simon Sound as it
5 was leaving the Port of Brunswick. Within 5 minutes I received another call from our command
6 center in Charleston confirming that report and the watch provided their initial actions of
7 launching rescue resources and set us up for a conference call with the senior staff. Following
8 that call I decided to make a 3 hour drive to Brunswick recognizing the severity of this situation.
9 The search and rescue mission coordinator our Chief of Prevention and Chief of Inspection
10 Division would also make their way to the scene to assist. Next slide please. While crews
11 begin to respond from Air Station Savannah and Station Brunswick our command center was
12 informing Coast Guard leadership and setting up a critical communication call with Coast
13 Guard Headquarters and ever echelon in between. I departed at approximately 0300 and was
14 involved in calls the entire drive South. Our Deputy Commander, Command Nick Wong
15 remained on these calls for more than 7 straight hours coordinating throughout command
16 center with supporting units, responding units, and higher Headquarters. As I drove I received
17 updates about the number of people on board, then the number of people being rescued, the
18 number of people accounted for and finally the number of people who are not rescued but
19 believed to be missing. I was also made aware that Glenn County heavy rescue eight was
20 going to be attempting an entry to see if they could make contact with anyone else inside the
21 ship. Then we received word about a fire breaking out and the plan was put on hold. We had
22 halted operations having rescued 20 of the 24 people aboard. I would later learn that day that
23 our Coast Guard vessel sustained damage as the team maintained station alongside the

1 GOLDEN RAY so people could embark. I would also learn a month later that the smaller
2 Georgia Department of National Recourses boat also sustained damage during the night. It
3 was clear, on scene initiative and judgement were being used by all to the extent we could, the
4 mission – we continued the mission despite damage to our equipment and some level of risk to
5 our personnel. Next slide please. I arrived in the Brunswick area just prior to sunrise but could
6 see the outline of the vessel on its side as I proceeded toward Coast Guard Station Brunswick.
7 Once there I received a brief update from the Station's second in charge. Spoke with some of
8 our crew and saw a number of the rescued crew from the ship as they gathered in the Station's
9 training room. I also met with Commander Witt, Lieutenant Heflin and the marine surveyor
10 Captain Jerome Ferreira. The four of us took a boat out to the scene for an initial assessment.
11 Arriving at the scene around 0730 in the morning. As we neared the vessel we could see and
12 smell smoke. The odor made me think it was burning plastic of some sort. We could also
13 smell some diesel fuel on the water and observed sheening already coming from the vessel.
14 We could also hear the sounds of large crashes inside the hull every few minutes. We believe
15 those noises to be the sounds of cargo falling to the port side as the tie down systems
16 continued to fail. We also stopped during this trip to speak with executives from the Georgia
17 Ports Authority who were at the Pier on St. Simons Island. Commander Witt was able to
18 discuss the port closure and impact. We then returned to the GOLDEN RAY noting what
19 appeared to be the ship's movement toward Buoy 19. We were not sure if this was just an
20 optical illusion as the ship continued to roll to port nearing 90 degrees or if there was some
21 level of buoyance left in the ship and as the tide was going out the GOLDEN RAY was moving
22 with it. Our greatest concern was that it would roll or slide into the main ship channel further
23 hampering the rescue of the 4 crew, a challenge – the 4 remaining crew and the challenge and

1 possibly cutting off the Port of Brunswick for months. We asked the tug to move back to the
2 position on the stern to try to stop the movement and they immediately moved the tug back to
3 the stern pushing to steady the ship in place. We then moved closer to observe and listen for
4 any signs of life. Captain Ferreira commenced knocking on the vessel's hull in hopes of
5 hearing some sort of reply from the men stranded inside. We continued to hear an occasional
6 crash. In the nearly two hours we were on scene that morning we observed the vessel
7 continue its roll maybe 5 to 10 degrees further to port. To the point that the port side vents
8 became submerged when they were completely visible upon arrival. We also observed the life
9 boat self-launch from astern of the vessel as it became submerged. By the time we returned
10 to the Station there were salvage experts interviewing crew. One of the rescue swimmers had
11 made his way to the Station to provide his insights and observations to salvers. The Korean
12 Consultant in Atlanta sent Korean diplomats to care for their citizens. We moved to the
13 developing incident command post where a unified command was being set up to deal with the
14 ongoing responses to saving the 4 crew, environmental pollution and eventual removal of the
15 vessel. Next slide please. When we initially met at the unified command there was a great
16 deal of doubt concerning any remaining survivors at that point. We had not heard any tapping
17 back on the hull of the vessel, but at some point that evening word was relayed that there was
18 at least one survivor and likely more based on two possible locations of responses. This is
19 where our Coast Guard capabilities started to take a back seat to the capabilities, experience
20 and expertise of the salvers, marine engineers and consultants. Through the night came Don
21 John Smith with assistance from other companies developed a plan to access the hull of the
22 ship to locate the individuals and begin communication, to supply fresh air, water, food and
23 eventually awaited equipment to cut them out. I over simplify here because it is not an area of

1 expertise for me. The location of the access point had to be precisely located to allow for
2 movement and access around the ship's fuel tank and other obstructions that would be on the
3 bottom of the ship. The salvage master, Sylvia Turvort (sic) of Smith Salvage led the effort
4 with Doug Martin of Don John Smith. They coordinated the involvement of least a dozen other
5 companies to make this rescue happen. All were now energized by the knowledge that we
6 were dealing with at least one life inside the GOLDEN RAY awaiting our assistance. And we
7 all hoped it was 4. Next slide please. The next morning Lieutenant Heflin and I met at St.
8 Simons airport, Lieutenant Heflin has sought Coast Guard aviation support to move the initial
9 team out to the GOLDEN RAY. Mr. Doug Martin with Don John Smith, Mr. Tim Ferris of
10 Defiant Marine briefed the team of roughly six members of elevated safety who would perform
11 the initial setup aboard the ship, securing lines and repelling to the location they would start to
12 access the hull. There was a good amount of gear and a few people that we would need to
13 deliver to the top formerly the starboard side of the GOLDEN RAY. Lieutenant, now
14 Lieutenant Command Crystal Varnet the pilot in command along with her crew were a part of
15 this briefing and based on the amount of equipment and persons to be delivered they planned
16 to conduct a landing on a horizontal surface. Hearing that team come together to identify and
17 assess risk with the crew from elevated safety was outstanding and spoke to the
18 professionalism of all involved. They were intent on saving more lives and managing risks to
19 responders in the process. Locating the group of 3 survivors, the first 3 survivors happened
20 about 10:15 on the morning of the 9th. After the bore stroke was used another hole was drilled
21 roughly two and a half inches in diameter to pass water, food and communicate with survivors.
22 One of the Korean officers was aboard one of the tugs and out at the scene to act an
23 interpreter and translate. Fresh air was also forced in by means of a gas powered leaf blower

1 and two more holes were cut. I was called at approximately 1300 to recommend we pause the
2 operation and awaiting full cutting apparatus in order to ensure we don't use a torch or
3 something that would cause an explosion based on atmospheric readings. Again while this is
4 not my area of expertise I happen to be in the company of a few experts who had access to
5 health and medical professionals. I understood the need to be careful about creating sparks or
6 flames, but knew if we had people alive in that type of atmosphere there was a great risk that
7 they would expire before we could wait the 14 hours for the equipment to get on scene. I
8 asked and conferred with the Navy supervisors of Salvage Atlantic if the readings we were
9 receiving could support life inside the ship for the amount of time that they had already been in
10 there. We agreed that waiting while the 3 survivors sat in that atmosphere was not a good
11 option. At the time we summarized there may be some level elevated readings at the site of
12 the drilling from that operation, but we did not consider that some of the readings may have
13 been impacted by the use of a gas powered leaf blower. In the end I asked if they could just
14 keep drilling the two and a half inch holes in a large enough pattern to connect the dots and
15 create an access. I believe each of those holes was about 15 minutes to cut through the
16 nearly inch thick steel. I understand it became even a little faster as holes overlapped, but it
17 still took some time. The teams were able to access the first 3 survivors around 1500 that
18 same afternoon. We also became aware the 4th was trapped in the engine control room and
19 while rescuers could see him through the fireproof and explosion proof glass they could not
20 break through it. The challenge was met with the ingenuity, resourcefulness and determination
21 of the rescue team who at this point were near at exhaustion suffering the effects of operating
22 for even 5 minutes at a time inside the ship where temperatures exceeded 155 degrees
23 Fahrenheit. Eventually a handheld grinder was used to score the glass and with the aid of an

1 ax they were able to access the engineering control room and free the final survivor. Next
2 slide please. Again I cannot overstate the outstanding coordination, communication, and
3 collaboration that went into making this such a success from the search and rescue aspect. I
4 remain grateful for the Federal, State and local Government officials whose teamwork, advice
5 and counsel informed our collective decision making. I'm further grateful for the outstanding
6 work of the industry professionals from the Pilot of the GOLDEN RAY to the crew of the
7 GOLDEN RAY for remaining calm in their egress and for those remaining aboard for
8 maintaining the presents of mind to move to one of the few places along the bottom of the ship
9 where they could be accessed. We were fortunate to have the vessel salvage and marine
10 firefighting provided Don John Smith on scene to leverage their extensive network of providers
11 to make this rescue complete. The results of the rescue was a testament to the training and
12 readiness of all involved. Coast Guard, Georgia Department of Natural Resources, Don John
13 Smith, Columbus Marine, Reid Maritime, Moran Towing, Glenn County, Defiant Marine, TNT
14 Salvage, hazmat special services and U.S. Fire. That training and readiness was only
15 eclipsed by the individual courage and determination of each individual involved. Next slide
16 please. While in no way will this be the only outstanding result or interesting aspect of the
17 GOLDEN RAY response, it will always be the most rewarding. Thank you and I'm happy to
18 answer your questions.

19 **CAPT WELBORN:** Captain Reed thank you very much for your presentation. So now I would
20 like to check with our substantially interested States to see if they have any questions of this
21 witness. I'll start with Mr. Bremer. Do you have questions for Captain Reed?

22 **Mr. Bremer:** No questions, Captain.

1 **CAPT WELBORN:** Thank you Mr. Bremer. Captain Flaherty do you have questions for this
2 witness?

3 **NTSB:** Yes Captain, thank you. Captain Reed how are you doing, sir?

4 **CAPT REED:** Good thank you.

5 **NTSB:** Did you conduct a hot wash with your crew following this incident?

6 **CAPT REED:** I think individually, but not as whole yet, no. We knew this was all under
7 investigation and we were waiting for that to kind of get squared away and for things to kind of
8 settle down so that we were not speaking inconsistently with what was going to happen or
9 what might be the result of this investigation.

10 **NTSB:** Okay understood. Just curious from your experience with this very unique situation.
11 What recommendations would you make to enhance, if this were to occur again, a similar
12 incident?

13 **CAPT REED:** Well I know of a couple of my own kind of lessoned learned. One from a
14 search and rescue aspect I'm very fortunate that no one entered the water. We took it for
15 granted that 4 people remained aboard that ship, that they had good accountability and they
16 knew they were in the engine room. One lesson learned was they go ahead conduct, in that
17 kind of situation make sure we conduct a search for people who may have jumped overboard
18 in the middle of the night and that would have been a serious issues. Another aspect I think is
19 continuing to exercise. We are very fortunate in the previous May I believe it was we had
20 conducted our first salvage and marine firefighting exercise and had some of those very same
21 players in that in the tabletop. So it was actually a seminar, it wasn't even a tabletop. But
22 becoming familiar with what happens in salvage operations it wasn't a test of what happens
23 when a ship rolls over, it was just a firefighting issue. But understanding what industry brings

1 to bear in those vessel response plans and as salvage marine firefighting providers is key to
2 what they were able to do. And as far as accessing and removing the people from the ship.
3 Further lessons learned, I just try to move as we can with regard to helping the industry get
4 their people and things there, helping them mobilize. They did outstanding work. I think some
5 of the rescue teams have come up with some interesting, you know desires or needs and
6 lessons learned.

7 **NTSB:** Right.

8 **CAPT REED:** Such as smaller cutting units. Being able to deploy those faster in these
9 instances to cut through the bottom of ships. I think that's some of it. I think being at the
10 scene is important. I think that's a search and rescue best practice we had implemented
11 probably six or seven months before this incident in a number of smaller search and rescue
12 cases, but devastating. Leading up to this we had a few instances where our partners weren't
13 necessarily aware of their access to Coast Guard resources and we were able to, putting
14 someone there on the ground whether it's a Station Officer in Charge or someone has a direct
15 communication when locals are doing search and rescue you get a sense for what all does,
16 not just the Coast Guard, but the U.S. Government bring to bear in these kinds of situations.
17 So that's another good lesson learned. Other than that, sir, I think that's about it for now.

18 **NTSB:** Did you have a single place where the survivors from the vessel were brought to?

19 **CAPT REED:** Yes, sir. The survivors, well some had to go to – some were treated, but the
20 other location was initially the Coast Guard Station at Brunswick. And then I think after that
21 they were put up in hotels pending, you know further evaluation. I'm not sure if the initial
22 investigating officers or team were able to use them or speak to them, but the initial rally point
23 was at the local Coast Guard Station.

1 **NTSB:** And do you recall, sir, how long, outside of the 4 engineers who were trapped on
2 board the vessel when the rescue operations started, how long did take all the resources from
3 the different agencies that were responding to confirm that the other crew members were all
4 accounted for?

5 **CAPT REED:** Great question. And I'll answer that, but there was one more lesson learned.

6 **NTSB:** Sir.

7 **CAPT REED:** So and it's related to your question. Initially I was told there was 23 people on
8 board. We were just using the ship's personnel. And then it became 24 because we found out
9 about the Pilot. And even in those first few hours the numbers weren't lining up. And that
10 tends to happen as people are accounting for different people on board and speaks to the
11 need to get with one of the ship's officers, understand who actually was on board and let them
12 start helping you account for who was left and who might not be. We relied wholly on the
13 report that those four remained on board because they were apparently engineers or in or near
14 the engine room. I'm sorry I might have forgot your question.

15 **NTSB:** I was asking kind of based on that, do you recall how long it took until you confirmed
16 that, outside of the 4 trapped engineers that everyone else on board the vessel had been
17 accounted for?

18 **CAPT REED:** Probably three hours.

19 **NTSB:** Three hours. Okay. And from your training and experience what did you draw upon
20 the most during this initial response?

21 **CAPT REED:** Understand what you – understand your gaps. Understand where to seek
22 advice and counsel. And let people solve the problems while you manage risk. There's risk
23 involved in every aspect of what we do on the water whether your mariner, a Coast Guard man

1 or woman or just, you know a citizen on the water. When it comes to something like this and
2 we're now doing things at night, lowering people from helicopters, going inside ships that are
3 on their sides, pulling boats along ships that are rolling over, there is risk involved. And I'm
4 grateful that what we have trained people to do and this includes we the collective we, you
5 know the people on scene at the towing vessel and the Georgia Department of Natural
6 Resources that may be damaging to your equipment, but the greater good is that mission of
7 pulling the people off. So risk management is probably the other big piece as opposed to risk
8 aversion. Mitigating what we can, understand and discuss what we cannot mitigate and move
9 forward.

10 **NTSB:** And you have access authority, correct?

11 **CAPT REED:** Yes, sir. So if it were to come to a case of us having to call off the search we
12 would have had to through the, in that case for persons known to be missing I would have
13 consulted with my boss in Miami.

14 **NTSB:** And are you ISM qualified as well?

15 **CAPT REED:** I am not.

16 **NTSB:** I'm sorry. ICS.

17 **CAPT REED:** ICS?

18 **NTSB:** Yes.

19 **CAPT REED:** Yes, sir. I was incident command system qualified.

20 **NTSB:** Why type level are you?

21 **CAPT REED:** I was only a type 3.

22 **NTSB:** Okay. And your communication, just going through the list, communication with your
23 partners in the commercial, the vessels that are scene, how did that go?

1 **CAPT REED:** From my perspective I learned a little bit about that as we were recognized by a
2 group out of Washington, D.C. But apparently it was going better than I had initially thought.
3 The Pilot did have comms with one of our watch standers in Charleston through his radio. So
4 he was talking directly to Petty Officer Steve [in audible] I believe it was back in Charleston.
5 And they were able to communicate. Between the ships or the boats on scene and the tugs I
6 really don't have a good sense for that. But I know it worked itself out quite well. And even
7 between the aviators and our command center it appears that those communications were
8 good. There may be room for improvement, but I had not heard any aspect of that being a
9 problem.

10 **NTSB:** Okay. Was there any resources that you – that were not available that you wish you
11 had on scene?

12 **CAPT REED:** No, sir, not that I can think of. I mean that brings up another great point.
13 Probably the ability to access that ship safely from a planned – from a exercised no kidding
14 capability with the right kind of people, the ability to access it short of having to wait to mobilize
15 and cut through. Knowing what I know now about the capability of those drills and to get
16 through that kind of steel, maybe it's – that's a tough thing to deal with. But I think being able
17 to access crews and those safety teams for technical rescue are paramount to being able to
18 get inside. And I can't even speak to the difficulties that those teams had once they got inside
19 the skin of the ship as it lay on its side. Covered in oil and being able to try to move around
20 where the side is the bottom and what was the bottom is now the side and you're in an ship's
21 athwart ship passageway becomes a deathtrap, it's not a – probably not a great situation and
22 not one that we in the Coast Guard have the capability to do. Nor do I really advocate that we
23 should. I think industry does a great job of that. I think we should be helping them as much as

1 we can getting them into our exercising plans and ensuring they maintain the ability to respond
2 as they did in this situation.

3 **NTSB:** Now, sir, you, when it was realized that the 4 crewmembers were trapped and in your
4 opinion being on scene and in charge of this rescue operation, did the vessel continue –
5 continue to roll to port that did facilitate any of the rescue operations?

6 **CAPT REED:** Did it facilitate. It probably helped in some ways. You see the shaft alley on
7 the bottom of the ship where we kind of used the access. That became a – that became
8 almost a flat surface for team to work from as it rolled, you know probably 2 or 3 more degrees
9 through the night. But it was always a concern that it would continue to roll. I think even in the
10 following weeks that was a critical thing that we were trying to measure was is this thing going
11 to stay where it's at or is there a risk of sliding down into the main ship channel.

12 **NTSB:** Right.

13 **CAPT REED:** But the roll and the angle that we were at was fortunate for us to be able to set
14 that crew up of about 20 people who were going inside over a course of a number of hours and
15 drilling right there on that side of the shaft. Almost as if it were, if they had an emergency rest
16 spot by design.

17 **NTSB:** Did you have access to the vessel's plans when you were making those decisions?

18 **CAPT REED:** Sir, I did. But at the time I'll tell you I didn't even know it. I knew Sylvia had
19 them. I knew smart people at the Coast Guard Salvage Emergency Response Team had it. I
20 knew the Navy's supervisor of salvage had it. I had general ideas about what it was and it was
21 all being posted that evening in the unified command. But yeah I actually looked back through
22 some of my files a few weeks ago and that wasn't even an email that I had opened. But I

1 didn't need to open it. I mean it was there for us if I needed it. It was sent within, I want to say
2 a matter of hours from our search.

3 **NTSB:** And prior to anyone entering the vessel to rescue the crew members when they took,
4 when they tested the air in that space what were the readings, do you recall or have them
5 available?

6 **CAPT REED:** I don't. I mean I have in one of those photos you saw in my presentation was
7 one of those sets of readings that was text to me that very day. I have another one as well.
8 And to tell you the truth I don't even know that I could – I would read them. I will provide them
9 to you. I mean I'll access them so I can speak to it right now. Hold on one second. Okay. So
10 if you see back on slide, right there, bottom right. So at the top he says I've got CO is 202, O2
11 is 20.6, VOCs I think it shows 60,200 parts per million, benzene 2.73 and 3.08. And then I
12 have another reading of O2 of 20.6, CO of 259, H2S of .7 PPM. And then at 1243 benzene at
13 3.7 PPM. That was one of them. And the other reading I got was zero percent LEL, or 487
14 CO, 20.9 O2, and 750 PPB or parts per billion I believe of DOC.

15 **NTSB:** Okay.

16 **CAPT REED:** And that was I believe a later reading.

17 **CAPT WELBORN:** Captain Flaherty, excuse just one moment. Captain Reed I just wanted to
18 make sure so that, the numbers that you were reading that's off that slide executing rescue
19 plan, the notebook there with handwritten numbers on it?

20 **CAPT REED:** Yes, sir.

21 **CAPT WELBORN:** Okay so we have that. Just let the record reflect that the witness was
22 clarifying the slide that he submitted in his presentation.

1 **CAPT REED:** And I believe that was one of national strike force personnel at the scene you
2 know making the safety call, that hey what I'm reading here is not good and forwarded that to
3 me. And I was in company then with you know Commander Witt, there was a former OPS
4 officer at the pack strike team, the Navy supervisor of salvage, Mr. Doug Martin, Commander
5 Beck and together we were looking at this and really I had to rely on them to make better
6 sense of what I was looking at. That was the discussion in my testimony concerning the, you
7 know hey if this what – if it's that bad and you're telling me I need to stop I've got to be
8 concerned about what the atmosphere is doing inside to 3 people who are currently alive.

9 **NTSB:** Right, understood. Now were you concerned – while you're discussing the rescue
10 attempt, is there any concern about by opening up the hull that that might cause or allow for
11 additional flooding?

12 **CAPT REED:** In the event they, yes, you know let the air out that was holding that was
13 causing the buoyancy?

14 **NTSB:** Correct.

15 **CAPT REED:** No I believed it was pretty much resting on the bottom at that point.

16 **NTSB:** Okay.

17 **CAPT REED:** So we were pretty confident that was not going to be the case. One of the, you
18 know always a consideration is are we going to allow oxygen back in there. There had to be
19 enough oxygen in there anyway to sustain life through the night. So we just needed to get in
20 there and get these people out.

21 **NTSB:** Right. Alright. Well again thank you for your time Captain. I appreciate it.

22 **CAPT REED:** Sir, thank you.

23 **NTSB:** Captain Welborn that's all I have.

1 **CAPT WELBORN:** Thank you Captain Flaherty. Just querying if we have any questions from
2 KMST. Do not see any questions from KMST. However, and I'm reading directly, Captain
3 Reed, KMST is participating virtually in our hearing here today and they sent in, that KMST
4 would like to express their gratitude to all of the agencies and responders that took part in the
5 rescue that day. So thank you to you, your team and those partners that you had at the port
6 there from KMST, Captain Reed. So now we'll check with our parties in interest. Mr. Reisman
7 do you have questions for this witness?

8 **Mr. Reisman:** No Captain, no questions.

9 **CAPT WELBORN:** Mr. Gilsenan do you have questions for this witness? Hearing nothing.
10 Captain Reed again thank you for your detailed account, the presentation. I do have a couple
11 things I would like to clarify. We have several folks outside of the maritime world and realm
12 that are listening in Captain Reed. So I would like to clarify a couple of the terms that were
13 used in your testimony today. So one point to correct the record as far as your ICS
14 qualifications I do believe the Coast Guard policy that all Sector Commanders are designated
15 as a Type1 Incident Commander inherent with their position as Sector Commander. So I want
16 to make sure the record does reflect that. Captain you referenced an access authority. Can
17 you tell us a little bit about what that means?

18 **CAPT REED:** Yes, sir. Access really stands for active search suspension authority. In other
19 words that's the authority to tell people to go ahead and stop searching where we may have or
20 we know we have someone missing in the maritime domain. It's the responsibility, not taken
21 lightly and one exercised with great care having known you've done all you can to look for or
22 find that person who's missing in the ocean. But it basically means we're calling off a search
23 and if someone were out there they would be on their own. Active search that is. So should,

1 and it's only suspended. So to clarify if some other information came up or something else
2 came out that you know we have more information that might help us find this person we
3 could, you know go back to searching. It doesn't mean we're closing a case, they're only
4 suspended pending further information.

5 **CAPT WELBORN:** Understood Captain. And that fell under your authority as a SAR mission
6 coordinator, is that correct?

7 **CAPT REED:** That's a kind of, that's a divot, so level up from the search, the SAR, search and
8 mission coordinator and on purpose. So Lieutenant Heflin's job make sure that the search
9 patterns are right. Make sure the responding units are doing what they're supposed to be
10 doing. Make sure the planning and execution and communications are going well. And if he
11 has to come to me at some point and say, sir, I recommend – we've done all we can to find
12 these I need to, I would request suspension of searching. He would come to me as the access
13 authority to do that. And as I said before in cases where we know people are missing in the
14 maritime domain I get concurrence of my boss in Miami at the Seventh District to go ahead
15 and suspend on those cases.

16 **CAPT WELBORN:** Thank you for that clarification. Captain you also used a term athwart ship
17 passageway. Can you tell us a little bit about what that means?

18 **CAPT REED:** Yes, sir. So if you were walking in the ship say centerline moving forward and
19 you came to a passageway that crossed, an intersection, in this case if it went all the way
20 across the ship and it was your normal route to egress and were then walking on the walls if
21 you were to step or try to cross that in the case of the GOLDEN RAY, I think you're talking
22 about 100 and something feet across you could end up falling that whole way and possibly
23 injuring or worse to yourself.

1 **CAPT WELBORN:** So an athwart ship passageway would be a hallway that goes from one
2 side of the ship to the other side of the ship, is that correct?

3 **CAPT REED:** Yes, sir.

4 **CAPT WELBORN:** Thank you. And Captain you mentioned shaft alley. Can you tell us what
5 that is?

6 **CAPT REED:** Well yes and I'll try to find, let me see which one of those slides might give you,
7 it may not be a technical term but I would say on the initial observation slide, arrival and initial
8 observation slide I think that's slide 4. Man it doesn't show up there very well. How about on
9 slide, I didn't do a good job there. Slide 7, nope slide 8. So where these men are standing in
10 the bottom right picture is basically a long appendage that sticks out of the ship, the ship's
11 bottom through which the shaft runs and then you can see it come out the back toward the
12 rudders. Probably the lowest part of the ship. But you see what they're standing on there is,
13 you know probably 20 or 30 feet to a rounded edge and then it goes on to what would normally
14 be the bottom of the ship is behind them. So that's the path for which the ship's shaft runs.

15 **CAPT WELBORN:** So Captain it would be the lowest portion of the after part or the back part
16 of the ship where the shaft and the rudder and the propeller come out of the engine room, is
17 that correct?

18 **CAPT REED:** Yes, sir. And forward of there as well up to wherever it needs to be, probably
19 the back of the engine. Somewhere near the engine room.

20 **CAPT WELBORN:** Essentially from the engine room aft then, correct?

21 **CAPT REED:** Yes, sir.

22 **CAPT WELBORN:** And Captain you also referred the pack strike team. I believe you said
23 that Commander Witt was a member of the pack strike team. Can you tell us what that is?

1 **CAPT REED:** The specific strike team is part of the national, the Coast Guard's national strike
2 force when it comes to responding to environmental hazards both in the water and well as in
3 other parts over land. It's a team, a specialized team that will go in and do hazardous waste
4 removal. You know respond to events of hazardous nature.

5 **CAPT WELBORN:** Thank you. Let me check through my notes to make sure I hit everything.
6 I believe that's it. Captain Reed did you have any parting thoughts, anything else you would
7 like to share with us today?

8 **CAPT REED:** No nothing else. Again thank you very much for the opportunity to provide the
9 testimony. And I remain available should you need any further questions answered.

10 **CAPT WELBORN:** Thank you Captain Reed I do appreciate it. Your testimony was very
11 informative today and really helped us see a little bit more of the response and then again
12 portray that for the public. So thank you. As you previously stated you remain subject to recall
13 until the end of these formal proceedings. But at this time you're dismissed.

14 **CAPT REED:** Thank you, sir.

15 **CAPT WELBORN:** So today, we heard from Mr. Clifton Gorden of Moran Towing. He spoke
16 about towing procedures in the Port of Brunswick and the typical use of tugs on RORO, or roll
17 on roll off vessels such as the GOLDEN RAY throughout the St. Simons Sound. He referred to
18 Coast Guard Exhibit 02, NOAA Chart 11506, and discussed the inbound and outbound transits
19 on his tug, the DOROTHY MORAN, with the GOLDEN RAY. Mr. Gorden also spoke about his
20 actions on the DOROTHY MORAN when he learned of the GOLDEN RAY's capsizing. He
21 testified about his discussions with nearby RORO vessels, members of the Brunswick Bar
22 Pilots Association, and the Coast Guard; and his involvement in the rescue efforts of the
23 GOLDEN RAY's crewmembers.

1 We also heard from BM2 Jeremy Shaw of the U.S. Coast Guard's Station Brunswick. BM2
2 Shaw presented briefing slides to discuss the response to the capsizing of the GOLDEN RAY
3 by Coast Guard Station Brunswick. BM2 Shaw spoke to the Search and Rescue efforts by
4 Coast Guard Station Brunswick of the crewmembers on board the GOLDEN RAY. At this time,
5 I would like to enter that presentation as Coast Guard Exhibit 14, unless there are any
6 objections from the SISs or PIIs. Any objections at this time. Hearing none, Coast Guard
7 Exhibit 14 is so entered.

8 In addition, we heard from Captain John Reed, the Sector Commander of the U.S. Coast
9 Guard's Sector Charleston at the time of the GOLDEN RAY's capsizing. Captain Reed
10 discussed the Coast Guard's response to the incident, presenting slides to summarize the
11 rescue efforts by the Coast Guard and other external operators and technical experts on-the-
12 scene. At this time, I would like to enter that presentation as Coast Guard 15. I would also like
13 to enter Captain Reed's written statement as Coast Guard Exhibit 15A. Coast Guard Exhibit 15
14 and 15A will be entered, unless there are any objections from the SISs or PIIs. Hearing
15 nothing both exhibits are so entered.

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

21 During tomorrow's session, we will hear from Lieutenant Ian Oviatt, naval architect at the U.S.
22 Coast Guard's Marine Safety Center; and Dr. Jeffrey Falzarano of Texas A&M University, an
23 expert witness on hydrodynamic stability. We will also hold time for the Chief Officer of the

1 GOLDEN RAY to possibly testify. At this time we do not expect the Chief Officer to present
2 himself for testimony but we may read excerpts from previously sworn testimony. Thank you
3 for your attendance. The time is now 1:51 local. Hearing Session Day 6 is now adjourned.

4

1 UNITED STATES OF AMERICA

2 UNITED STATES COAST GUARD

3 In the Matter of:

4 THE MARINE BOARD OF INVESTIGATION

5 INTO THE CAPSIZING OF THE M/V GOLDEN RAY

6 ON 8 SEPTEMBER 2019 WHILE TRANSITING THE ST. SIMONS SOUND IN BRUNSWICK,

7 GEORGIA

8 APPERANCE SHEET:

9 The following Board Members and Witnesses appeared on 22 September 2020.

10 CAPTAIN BLAKE WELBORN, USCG, Chair;

11 Mr. LEE WILLETT, USCG;

12 Members,

13 and

14 LIEUTENANT COMMANDER STEPHAINE MOORE, USCG, Member and Recorder.

15 Witness – Lieutenant Ian Oviatt

16 Dr. Jeffrey Falzarano

17 GOLDEN RAY Hearing

18 22 September 2020

19 **CAPT Welborn:** The time is 1031. We are back on the record in the matter of: the capsizing
20 of the Motor Vessel GOLDEN RAY on September 8, 2019 while transiting the St. Simons
21 Sound in Brunswick, Georgia.

22 Good morning. Today is Tuesday, September 22, 2020. It is the seventh and final day of the
23 public hearing into the capsizing of the GOLDEN RAY. I am Captain Blake Welborn the Lead

1 Investigating Officer for this 7th District Formal Investigation. The Commander, 7th District, has
2 convened this investigation under the authority of Title 46, United States Code, Section 6301
3 and Title 46, Code of Federal Regulations, Part 4, to investigate the facts and circumstances
4 surrounding the capsizing of the GOLDEN RAY. This investigation was mutually agreed upon
5 to be a joint effort between the ship's flag state, the Republic of the Marshall Islands, the U.S.
6 National Transportation Safety Board (also known as NTSB), the Korean Maritime Safety
7 Tribunal (also known as KMST), and the U.S. Coast Guard.

8 Present today including myself, are the following members of this Formal Investigation: Mr.
9 Lee Willett and LCDR Stephanie Moore, who is also serving as our Recorder. The legal
10 counsel to this investigation is LT Megan Gold.

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

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

15 In addition, the Korean Maritime Safety Tribunal personnel are monitoring this hearing virtually
16 and will provide me with questions to ask on their behalf. I will note when I begin asking the
17 questions posed by KMST.

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

1 For those of you participating via phone or video, I ask that you mute yourself until I've
2 recognized you for your questions unless you wish to make an objection. All media inquiries
3 and comments regarding the hearing should be sent
4 to GoldenRayPublicHearing@gmail.com. This email should only be used for questions
5 regarding the hearing. All questions regarding the response efforts should be directed to the
6 Incident Command Post.

7 The Coast Guard has designated Parties In Interest to this investigation. I have designated the
8 following organizations and individuals as Parties in Interest: the Brunswick Bar Pilots
9 Association; including Captain Bruce Fendig and Captain Jonathan Tennant; and the Owners
10 of the GOLDEN RAY, including Hyundai Glovis and G-Marine. The lead counsel for the
11 Brunswick Bar Pilots Association, Captain Fendig, and Captain Tennant are remotely attending
12 the hearing with a representative, Captain Cameron, appearing virtually. The lead counsel for
13 the Owners of the GOLDEN RAY, including Hyundai Glovis and G-Marine, are physically here
14 at the hearing.

15 The Coast Guard now calls the following and first witness of the day, LT Ian Oviatt.

16 **Recorder:** Mr. Oviatt please stand and raise your right hand? A false statement given to an
17 agency of the United States is punishable by fine and or imprisonment under 18 United States
18 Code 1001 and the uniform code of military justice. Knowing this do you solemnly swear that
19 the testimony you're about to give will be the truth, the whole truth and nothing but the truth so
20 help you God?

21 **LT Oviatt:** I do.

22 **Recorder:** Thank you please be seated. Captain the witness is ready.

1 **CAPT WELBORN:** Thank you Commander Moore. Good morning Lieutenant, how are you
2 this morning?

3 **LT Oviatt:** Good morning Captain, doing well, sir.

4 **CAPT WELBORN:** Good. Thank you for appearing today. I know that you have prepared a
5 presentation that will speak to your accreditations, your training and your qualifications. So
6 without further ado I would like for you to just go ahead and begin your presentation.

7 **LT Oviatt:** Roger that Captain.

8 **CAPT WELBORN:** Lieutenant I'm sorry, one moment. Are you a party in interest to this
9 investigation?

10 **LT Oviatt:** No I'm not Captain.

11 **CAPT WELBORN:** Are you represented by counsel?

12 **LT Oviatt:** No I'm not Captain.

13 **CAPT WELBORN:** Then please proceed.

14 **LT Oviatt:** Good morning I'm Ian Oviatt. For this portion of my testimony I will give an
15 overview for the analysis conducted by Marine Safety Center in support of this investigation. I
16 will begin with my education and background and then I'll introduce some basic naval architect
17 theory. I will discuss the computer model we created at the Marine Safety Center to analyze
18 the GOLDEN RAY's stability. And I'll present the results of that stability during the capsized
19 voyage and the results of the stability during the two voyages prior to the capsizing. I'm
20 currently a Naval Architect at the Marine Safety Center in Washington, D.C. My team within
21 the Marine Safety Center reviews large vessel stability, structure and fire protection for
22 compliance with U.S. and International regulatory standards. I have a Bachelor's Degree in
23 Naval Architecture and Marine Engineering, a Master's Degree in Naval Architecture and

1 Marine Engineering and a Master's in Mechanical Engineer. I'm a professional Engineer in the
2 State of Michigan and I have previous Coast Guard experience underway as an Engineer and
3 as shore base inspector. I will start by introducing two concepts, the righting arm and the
4 righting arm curve. Understanding these ideas is going key to understanding the results of the
5 analysis. So pictured on the slide we have a ship that's floating in water. Any floating ship is
6 going to have two internal forces that apply, a weight which acts downward and an equal but
7 opposite force of buoyancy abbreviated FB which acts upwards. The weight acts as a center
8 of gravity or G and the force of buoyancy acts as the center of buoyancy or B. The center of
9 buoyancy the metacenter or the middle of the underwater volume of the ship. At zero heel the
10 weight and the force of buoyancy are directly in vertical alignment of each other. They are also
11 in line at the metacenter or M which is the imaginary rotational point above [in audible]. Now
12 let's say an external force such as a gust of wind or wave hits the hull in the port side. This
13 causes the vessel to heel or rotate to starboard and let's suppose it heels 5 degrees for this
14 example. The centroid or the middle of the underwater volume shifts to the starboard side of
15 the vessel the location of the center of buoyancy also shifts to starboard. This causes a
16 misalignment between the weight and the force buoyancy. A misalignment between two
17 objects, two objects is called a [in audible]. Now referencing the B on the right hand side of the
18 slide we have one force that's pushing down and another that's pushing up. And these two
19 forces are going to cause the B in the diagram to rotate counter clockwise causing counter
20 clockwise moments. Now the distance for separation between the forces is called a moment
21 arm. The longer the moment arm or in other words the larger the separation between the two
22 forces the larger the corresponding moment. Looking back at the ship the same principal
23 applies. The weight and of force of buoyancy are separated by a distance, this creates the

1 counter clockwise moment called the righting moment that wants to rotate the back to its
2 upright position. Now in order to quantify how much potential has the ship has to rotate back to
3 that upright position we [in audible] a horizontal distance between the two forces. That's called
4 the righting arm or GZ. The larger the righting arm the more righting moment or more potential
5 the vessel has to rotate itself to that upright position. Now for angle of heel for the vessel we're
6 going to plot that righting arm, GZ in what's called a righting arm curve. On this curve the X or
7 the horizontal axis is angle of heel and the Y for vertical axis each corresponding righting arm
8 or that horizontal separation between the weight and the force of buoyancy. So in this
9 example for this heeling 053 let's say the righting arm is 1 meter. What we'll do is we'll plot at
10 1 meter on the righting arm curve and that heel angle of 5 degrees. Now let's say this vessel
11 heels even more to starboard, 10 degrees. Because the centroid of the underwater volume
12 shifts even more to starboard the center of buoyancy, B is going to shift even further to
13 starboard. This creates an even larger righting arm and we'll say that 2 meters is the example.
14 Then we'll plot that righting arm at 2 meters for the heeling of 10 degrees on the righting arm
15 curve. Using the same procedure for each angle of heel generates a full righting arm curve
16 shown on the right hand side of the slide and that righting arm curve is critical to assessing
17 stability. Now let's look at the same vessel, now has a large amount of weight on the top deck.
18 For purposes of this explanation I'm going to over simplify this and ignore the fact that there's a
19 change in placement of the added weight. However, this added weight on the top deck would
20 cause the center of gravity to rise. But the location of the center buoyancy is going to stay the
21 same. This results in a smaller separation between the forces or in other words a smaller
22 righting arm GP. In this case the righting arm for that 10 degree to heel may be a length .5
23 meters. Plotting that new righting arm on the righting arm curve, same vessel in a different

loading condition and then doing this for each angle of heel results in the new purple righting arm curve which is smaller than the red righting arm curve. Well now remove that weight on the top deck and we're back to our original loading condition. Let's instead suppose this vessel filled a large ballast tank. This is going to provide a lot of weight near the keel, the center of gravity is going to shift down. We now have a larger distance from G to B or a larger righting arm shown by the green separation. A larger righting arm is more favorable to stability because there's a larger corresponding righting moment that's trying to rotate the vessel back to that upright position. Now let's say this new righting arm with the vessel ballasted is 2.5 meters. We'll plot that value on the righting arm curve pretending there's a heel and doing this for each angle of heel results in the new larger green righting arm curve for the same vessel. To summarize this concept raising the center of gravity decreases the vessel's righting arm and lowering the center of gravity increases the vessel's righting arm. A vessel with higher righting arms will produce a righting arm curve more area under it like the green righting arm curve. The area under the righting arm curve is directly proportional to the righting energy or total potential the vessel has to reduce capsize. The more area under the curve the more total potential the vessel has to make this capsize. In the next slide we're going to take a closer look at the property that a righting arm must have to be in compliance. So if the vessel is comprised [in audible] such as the GOLDEN RAY the righting arm must be certain property satisfied by the 2008 IMO Intact stability code, IS code in every condition afloat. The first property is called the metacentric height or GM. The GM is the initial slope or tangent of the righting arm curve. A higher GM results in higher initial slope and better stability at small angles of heel up to approximate 7 degrees. IS code specifies that all vessels with a GM must be at least 0.15 meters. Next requirement set aside by the Intact stability code deals with a maximum righting

1 arm for the highest value of the righting arm curve. The maximum righting arm must have a
2 value of at least 0.2 meters and that value must occur in an angle of heel of 30 degrees or
3 greater. The third property specified by the Intact stability code is the area under the righting
4 arm curve. As I described earlier in that area is directly proportional to the righting energy or
5 total potential the vessel has to right itself. IS code --- yes, sir.

6 [Paused for technical issues].

7 **CAPT WELBORN:** We'll take a momentary pause while we reboot the livestream so we can
8 get the picture back of LT Oviatt's explanation. I do apologize for the break in the action. This
9 is a very difficult and technical concept I want to make sure that we have LT Oviatt's – so
10 Lieutenant if you would continue please.

11 **LT Oviatt:** Yes, sir. So I was discussing the properties that a vessel must have, that a
12 vessel's righting arm curve must have to comply with the 2008 IMO Intact stability code. So
13 the first property required that is required to comply with the IMO Intact Stability Code such as
14 the GOLDEN RAY is a value of the GM or the metacentric height. A higher GM results in a
15 higher initial slope of the righting arm curve and better stability at small angles of heel up to
16 approximately 7 degrees. The IS code specifies that for all vessels the GM must be at least
17 0.15 meters. The next requirement that specified by the Intact Stability Code deals with the
18 maximum righting arm or the highest value of that righting arm curve. The maximum righting
19 arm must have a value of at least 0.2 meters and that value must occur at a heel angle of 30
20 degrees or greater. The third property specified by the Intact Stability Code is the area under
21 the righting arm curve. As I said earlier that area is directly proportional to the righting energy
22 or the total potential the vessel has to right itself. The IS Code specifies the minimum between
23 0 and 30 degrees, between 30 and 40 degrees and between 0 and 40 degrees. For the latter

two area requirements if the vessel takes on water due to down flooding which is defined as entry of sea water into the hull through a non-watertight or non-weathertight fitting prior to 40 degrees of heel only the area up until that down flooding angle can be counted. Finally the IS Code includes what's caused a severe wind and rolling criteria. This criteria is a little more complex but essentially its purpose is to ensure that the vessel will not capsize given both a sea wind, which is the wind acting at a right angle to the keel and simultaneous waves induced. So now that I've covered the basic stability concepts I'm going to move into how these concepts were applied to assess GOLDEN RAY's stability during the capsize. We first needed to transfer in the hull shape of the vessel into a 3D computer model which we could use to calculate the vessel's righting arm curve. This was done using a software called GHS or General Hydrostatics which is the same software we use at the Marine Safety Center to check the stability of U.S. Flagged vessels. We took a variety of measurements on the vessel's plan and constructed the computer model rendered on the slide. We then took that model and constructed the vessel's tanks. Constructing each tank individually made so that they could be individually loaded within the model and loading each tank individually allowed us to account for what's known as pre-surface spec, or the decrease in stability due to the virtual rise from the center of gravity as the liquid shifts. This slides shows the computer model with the tanks and decks added. Next in order to generate an accurate righting arm curve we needed to obtain an accurate weight and center of gravity by accounting for everything on board at the time of the capsizing. The table on this slide shows the four categories of weights applied in the corresponding VCG or vertical center of gravity which is in other words the height of each item above the keel. The first category is what is called the light ship. The light ship is essentially the weight of the keel hull and structure. The GOLDEN RAY's light ship of

1 approximately 21,400 metric tons with the center of gravity of 18.3 meters above the keel was
2 determined from the stability test after the vessel was built in 2017. Next the weight of the
3 tanks would apply in accordance with levels reported by the vessel's recovered IMACS
4 computer. Screen shot which is shown at the top right hand side of the slide. The values from
5 the IMACS computer time stamped immediately prior to the capsizing reads. Now there are
6 several small tanks that were not recovered by the vessel's IMACS computer, such as fresh
7 water and lube oil tanks. And for this analysis it those tanks were loaded in accordance with
8 departure conditions from the vessel's trim and stability. As I mentioned previously each tank
9 was filled individually in the GHS software so that pre-surface specs can be accounted for. But
10 this table reflects the total weight of all the liquid in the tanks approximately 4600 metric tons.
11 The weight of the vehicle cargo was applied using the weights from centers listed on the
12 Brunswick departure stowing plan. An extract of which is shown on the right hand side of the
13 slide. This plan showed the weight and location of group of vehicles broken down by vehicle
14 type and port of loading for departure. After verifying this loading plan for consistency it was a
15 total of the vehicle identification number list, center of each vehicle group were calculated and
16 applied to the computer model with the corresponding weights listed on the plan. This resulted
17 in a total of approximately 8800 metric tons of cargo. It had a center of 24.3 meters above the
18 keel. We also tendered for various miscellaneous weight including provisions, stores, cargo
19 lashing equipment and firefighting CO2 weight. And the weights and centers of these items
20 were applied to the model in accordance with departure conditions from the trim and stability
21 booklet. The final loading condition shown applied was then applied to the computer model for
22 35,000 metric tons was applied to the weight. And that weight was applied at a height of 18.2
23 meters above the keel. This allowed us resulting the center of buoyancy and also the resulting

1 mean draft of 9.35 meters. As this draft was generally consistent with the draft reported by the
2 IMACS computer and the draft reported by the crew prior to departure this indicated that a
3 generally accurate loading condition was applied to the model. With this information applied to
4 the computer model righting arm curves were then calculated for the vessel in the capsized
5 voyage. So before I present the righting arm curve for the vessel in the capsized voyage, we
6 first sought to have a perspective from the example or a benchmark loading condition provided
7 to the vessel in the trim and stability booklet. Each dotted line represent a collection of
8 acceptable righting arm curves for the GOLDEN RAY in varying amounts and location of
9 cargo, ballast and fuel. All the total displacement comfortable through total displacement of
10 the vessel during the capsize voyage. Each benchmark loading condition was in full
11 compliance with 2008 Intact Stability Code. In other words the benchmark conditions are
12 acceptable loading conditions provided to the vessel. This red line represents the GOLDEN
13 RAY's righting arm curve during the capsized voyage to port as generated by our model. And
14 the green line represents the righting arm curve during the calculations to starboard. Now
15 these curves are slightly different, but clearly beyond 20 degrees of heel because the
16 starboard side geometry is slightly different on the vessel. There's a cutout for the cargo
17 loading ramp. So both of these righting arm curves are significantly less favorable to stability
18 than the benchmark loading condition because they have significantly less area under the
19 righting arm curve and therefore, they have less righting energy. Our results indicated a GM of
20 1.76 meters during the calculous voyage whereas the benchmark loading condition had a GM
21 above 3 meters. The capsized voyage righting arms within an assessed mandatory criteria of
22 the 2008 Intex Stability Code and resulted indicated failure of several properties. The area
23 under the righting arm curve and the severe wind and rolling criteria. So as I demonstrated on

1 the previous slide the righting arm curve for the capsized voyage was significantly lower than
2 that of the benchmark or an example loading condition he failed in the trim and stability
3 booklet. We're now going to take a closer look at why exactly that is by comparing the loads of
4 the vessel in the capsized voyage and the benchmark condition. So top row discharge shows
5 the loads of the capsized voyage including total displacement, total liquid load which includes
6 the weight of the liquid of fuel, ballast and other miscellaneous tanks. The cargo weight and
7 corresponding cargo VCG or vertical center of gravity and the vessel's overall vertical center of
8 gravity. We'll first compare these loads from the vessel on the capsized voyage to condition
9 18. Both the capsized voyage and condition 18 had similar total displacements and they also
10 had similar cargo vertical center of gravities. However, the vessel had about 1000 metric tons
11 of more cargo weight during the capsized voyage and almost 2000 metric tons less total liquid
12 weight on board. This resulted in a vessel VCG trim over a meter higher in the capsized
13 voyage. And as I covered earlier a higher VCG leads to lower righting arm curves. We'll now
14 compare the loads in the capsized voyage with another benchmark condition, condition 13.
15 Both of these conditions had approximately the total liquid load on board. However, in the
16 capsized voyage the vessel had about 1500 metric tons more cargo and that cargo was at a
17 significantly higher vertical center of gravity. This resulted in a higher vessel vertical center of
18 gravity during the capsized voyage and again the reason for the decreased righting arms. So
19 up until this point I've only covered stability for the vessel while it's not moving. Although
20 analyzing stability in this way is used as an indicator of how the vessel will perform when it is
21 moving in a seaway, because the GOLDEN RAY capsized during a turn our analysis applies
22 additional static forces which would have likely acted on the vessel during that turn. So going
23 back to a little more theory I'm going to introduce what those additional static forces are that

1 act on the vessel when it's engaged in that turn. So picture the vessel on this slide, this vessel
2 is conducting a turn to starboard and we are viewing the stern. A ship undergoing a turn is
3 going to have a centripetal force which acts outward from the direction of the turn at the center
4 of gravity. There's also a water pressure force that acts opposite to the centripetal force at the
5 center of lateral resistance or CLR which is essentially the center of pressure of the hull. Now
6 these two forces work together to create a counter clockwise moment for a turn to starboard
7 and that's called the turning heeling moment and as result the vessel heels to port when it's
8 engaged in the turn. The equation for the turning heeling moment which is shown at the top of
9 the slide and it's governed by several important elements. The velocity of the vessel, V . The
10 vertical center of gravity of the vessel, how high she is above the keel and radius of the turn or
11 R . So as the velocity and the vertical center of gravity increase as does the turning heeling
12 moment. Additionally as the radius of the turn goes down, a tighter turn, the turning heeling
13 moment is also going to increase. Now since the rudders are angled to starboard in this case
14 for a turn to starboard there's another force at play and that's the turning force from the rudder.
15 This force creates a separate moment with the water pressure force and that's a righting
16 moment in this case called the rudder righting moment and that typically adds against the
17 turning heeling moment. But the rudder righting moment is much smaller so the net effect is
18 that the turning heeling moment, the red and black arrow prevails and thus will heel to port
19 when it's engaged in a turn to starboard. This net heeling moment reduces the vessel's
20 righting moment and as a result reduces total righting energy. In other words a vessel has less
21 righting energy when it's engaged in a turn. I'm going to show how that looks for the GOLDEN
22 RAY on the next slide. So again I'm now going to demonstrate how the turning heeling
23 moment shown on the previous slide Intacted the righting arm curve for the GOLDEN RAY

1 during the turn in which the vessel capsized. Since the vessel capsized to port we'll focus only
2 on the port righting arm curve. Using data from the portable pilotage unit we estimated that the
3 radius of turn in which the vessel capsized was as high as 800 meters or as low as 500 meters
4 and the vessel was traveling at approximately 13 knots over ground at that time. We then
5 calculated the resulting turn heeling moment and new righting arm curves for the vessel with
6 these moments factored in. The new righting arm curve for the vessel in a turn with a radius
7 800 meters is shown by the blue dotted line. The righting arm curve for the vessel in the turn
8 had that radius been only 500 meters is shown by the black dotted line. The righting arm
9 curve for the vessel was expected to fall in between these two dotted lines as shown by astatic
10 analysis. The remaining area under the righting arm curve is now even smaller, either as large
11 as the blue shaded area or as small as the gray shaded area. As evident from these areas
12 there was likely had been only a limited amount of remaining righting energy during that turn.
13 What's important to realize about this analysis, however, is that it only accounts static effects
14 of the vessel when it's engaged in a turn. When a vessel enters a turn and the centripetal
15 force first begins to act there is an additional dynamic effect at play which causes the vessel to
16 heel even further to port than would be expected by a static analysis. That's called dynamic
17 overshoot. In cases where a vessel has significant righting energy, the righting energy can
18 easily withstand the dynamic overshoot. Turning with maximum possible rudder at maximum
19 possible speed is not typically dangerous for most cargo ships. However, in cases where
20 there is only a very small amount of remaining righting energy left the dynamic effects of the
21 turn can easily overcome the remaining righting energy and lead to significant keel or
22 capsizing. Our conclusion indicates that this is likely the case for the GOLDEN RAY. So to
23 recap how this conclusion was reached, number one the way in which the vessel was loaded

1 led to a righting arm curve which indicated insufficient righting energy. On top of this when the
2 GOLDEN RAY turned to starboard this righting energy was further reduced because of the
3 static heeling moment. At that point according to our analysis there was only a comparatively
4 small of remaining righting energy which was likely easily overcome of the dynamic effects of
5 the turn resulting in the vessel capsize. Now that we've established stability conditions that led
6 to the vessel's capsize we're going to transition in to down flooding and how this has
7 exacerbated the rate of the capsize. A down flooding point is any fitting along the vessel which
8 can't be closed weather tight or water tight and has the potential of taking on water as the
9 vessel heels. This would cause a decrease in stability due to the added the [in audible] effect
10 and weight of the water. According to the vessel's trim and stability booklet the only down
11 flooding point is a door on deck 13. Angle of keel required to reach this down flooding point is
12 83 degrees. That's called the down flooding angle. Now there's a number of fittings below
13 that door on deck 13 such as the Pilot door on deck 5, but since they can be closed watertight
14 or weather tight they are not considered down flooding points under normal circumstances.
15 However, as it was reported that the vessel's Pilot door was open during the capsize the
16 vessel's down flooding angle would have been severely reduced. Our results indicated that
17 with the Pilot door open the vessel would heel to only 17 degrees before down flooding. After
18 17 degrees of heel it's likely that during the capsize the vessel began to take on water from the
19 Pilot door which would have subsequently decreased the righting arm curve and cause the
20 vessel to heel even further and capsize at an even faster rate. In addition to analyzing
21 stability for the capsize voyage we also analyzed stability for the vessel on its two preceding
22 voyages. The voyage from Jacksonville, Florida to Brunswick, Georgia which was the voyage
23 prior to the capsize and the voyage from Freeport, Texas to Jacksonville, Florida which was

1 the voyage, two voyages prior to the capsize. The loading conditions for these voyages were
2 obtained in a similar manner with that of the capsize voyage using the IMACS tank load and
3 their respective cargo stowage plan. Again for comparison I've shown the benchmark loading
4 conditions or an example loading condition from the vessel's trim and stability booklet. And
5 now I'm going to zoom in on the area of the righting arm curve between 0 and 40 degrees of
6 heel. So here's the righting arm curve for the vessel in the capsized voyage and this is the
7 same curve that I showed previously. Next just a little above that is the righting arm curve for
8 the vessel in the Jacksonville to Brunswick voyage as obtained by our model. And finally in
9 between those two curves is the righting arm curve for the vessel from Freeport to Jacksonville
10 voyage as obtained by our model. Now there was a point and time during the voyage from
11 Freeport where the vessel had taken on additional ballast, but this curves reflects the vessel's
12 condition after that ballast was discharged or the second half of the voyage. Although both the
13 righting arm curves during these two previous voyages are slightly more favorable to stability
14 than in the capsized voyage, they are still well below the benchmark loading conditions. Our
15 results indicated that the vessel was not in compliance with 2008 Intex Stability Code with
16 either of preceding voyages because it did not pass the area under the righting arm curve
17 requirement or the severe wind and rolling criteria during either loading condition. When
18 contemplating why the vessel didn't capsize in either of the preceding voyages, but did capsize
19 while leaving Brunswick, it's important to understand that failure of the IS Code does not
20 indicate immediate capsize. Rather it indicated that the vessel poses a higher risk of capsize
21 given exposure in certain dynamic conditions such as severe wind and wave and or faster or
22 tighter turns. It's certainly possible that given an exposure to a certain combination of these
23 more severe adverse conditions the vessel could have capsized during either of the preceding

1 voyages. The final piece of the stability analysis we conducted was accessing stability for
2 each of the three voyages had the vessel had additional ballast on board. As I described
3 earlier during the Freeport to Jacksonville voyage the vessel discharged approximately 1500
4 metric tons of ballast from the number 5 and the number 6 tanks circled on this slide. The
5 picture on this slide represents the vessel's ballasted condition after the discharge. And now
6 the picture on the slide represents the vessel's ballasted condition before the discharge. In
7 order to determine the vessel's stability had it not been discharged we analyzed the vessel
8 with the number 5 and number 6 tanks fully loaded as shown on the slide during each of the
9 three voyages. So going back to that zoomed in version of the righting arm curve the solid
10 lines are the same righting arm curves as before and they represent the vessel through each
11 of the three voyages without the additional ballast. This new dotted line represents the righting
12 arm curve for the vessel in the Freeport to Jacksonville voyage before that 1500 metric tons of
13 ballast were discharged. The next dotted line represents the Jacksonville to Brunswick voyage
14 had the vessel kept on that additional ballast. And then finally the vessel's righting arm curve
15 during the capsized voyage had the vessel kept that additional ballast on board. All three of
16 these three loading conditions with the additional ballast on board were predicted to result in
17 full compliance with the 2008 Intact Stability Code. The additional righting energy that this
18 1500 metric tons of ballast would have provided in the capsized voyage is likely to have
19 prevented the capsize due to the added righting energy that it would have provided. So now
20 I'll conclude the presentation with a brief recap of our conclusions. Our results indicated non-
21 compliance with the 2008 Intact Stability Code during the capsized voyage due to the lack of
22 area under the righting arm curve and subsequent lack of righting energy. This was because
23 the vessel had either too much cargo at a high center of gravity or not enough liquid at the low

1 vertical center of gravity. Furthermore, turning keeling moment acting on the vessel then the
2 turn leading up to the capsized reduced the already limited righting energy to even a smaller
3 amount. As this only accounts to static text of the turn the dynamic effects are likely to have
4 overcome that very small amount of remaining righting energy and resulted in the vessel
5 capsize. Which was likely exacerbated by down flooding through the Pilot door. Although the
6 righting arm curves during the preceding voyages indicated likely more righting energy than in
7 the capsized voyage these conditions were also not in compliance with the 2008 Intact Stability
8 Code. However, had the vessel kept the additional ballast on board that was discharged
9 during the Freeport to Jacksonville voyage this would have resulted in full compliance with the
10 2008 Intact Stability Code and would likely have prevented the capsized. Thank you. This
11 concludes the opening portion of my testimony. I would be happy to answer any questions.

12 **CAPT WELBORN:** Thank you Lieutenant Oviatt. You've taken some very technical concepts
13 and relayed those into layman terms and I do appreciate that. Before, I'm sure there are going
14 to be several questions for you. So before we proceed into that I would like to take a quick 10
15 minute break. The time is now 11:16. We stand in recess.

16 *The hearing recessed at 11:16, 22 September 2020*

17 *The hearing was called to order at 11:25, 22, September 2020*

18 **CAPT WELBORN:** Okay the local time now is 11:25 and we're back on the record of the
19 formal hearing for the capsizing of the GOLDEN RAY. We are presenting follow-on questions
20 for Lieutenant Oviatt, U.S. Coast Guard. Lieutenant thank you again for your presentation. I
21 have some follow-on questions regarding definitions of some of the terms that you used within
22 your testimony. So I would like to walk through some of those. The first question I have, a
23 term SOLAS, can you define that for us?

1 **LT Oviatt:** Yes Captain. SOLAS is the safety of life at sea which is set of International
2 regulations that the GOLDEN RAY would have had to comply with.

3 **CAPT WELBORN:** And that particular document is drafted by an International organization.
4 Can you tell us what organization that is?

5 **LT Oviatt:** Yes Captain. The International Maritime Organization or the IMO.

6 **CAPT WELBORN:** Lieutenant you also referenced the IS Code. Can you tell us what that is?

7 **LT Oviatt:** Yes Captain. The IS Code that stand for the Intact Stability Code and SOLAS
8 references the Intact Stability Code which vessels must be in compliance with which are
9 applicable to SOLAS.

10 **CAPT WELBORN:** Lieutenant you said that the code specifies a .15 meter, I believe. Tell me
11 what that is again?

12 **LT Oviatt:** Yes Captain. The code specifies that all vessels which are applicable to the Intact
13 Stability Code must have a 0.15 meter GM or that's the initial slope of the righting arm curve.

14 **CAPT WELBORN:** In this International requirement is it a requirement for all cargo vessels
15 sailing worldwide?

16 **LT Oviatt:** All vessel which are applicable to SOLAS, yes, sir.

17 **CAPT WELBORN:** In this, the GOLDEN RAY was applicable, SOLAS did apply to the
18 GOLDEN RAY, is that correct?

19 **LT Oviatt:** That is correct, sir.

20 **CAPT WELBORN:** Looking for slide in your presentation. Lieutenant would you refer to slide
21 46 of your presentation please? Lieutenant you used this slide to talk about the ballast in the
22 cargo vessel in the GOLDEN RAY. Can you tell us where this slide or where these graphics
23 were obtained from?

1 **LT Oviatt:** Yes Captain. So these graphics were obtained from the vessel's recovered
2 IMACS computer which is essentially the computer that monitors the vessel's tank load or how
3 full those tanks were.

4 **CAPT WELBORN:** Just for the record this IMACS computer was recovered from the vessel in
5 the capsized, you used for analysis throughout the investigation by the joint team. Lieutenant
6 you referred to the T and S booklet. Can you tell us what that is?

7 **LT Oviatt:** Yes Captain. The T and S booklet is the trim and stability booklet. And that's the
8 stability guidance provided to the vessel from the designer.

9 **CAPT WELBORN:** Is that T and S booklet prepared in accordance with any International
10 standards?

11 **LT Oviatt:** Yes Captain. That T – the trim and stability booklet is prepared in accordance with
12 the 2008 Intact Stability Code.

13 **CAPT WELBORN:** And is that code also an International Maritime Organization document?

14 **LT Oviatt:** Yes Captain. It's an IMO document.

15 **CAPT WELBORN:** You also mentioned benchmark loading conditions. You specifically
16 referenced 13 and 18. Can you tell us what those are?

17 **LT Oviatt:** Yes Captain. So those were conditions which represented displacements which
18 were comparable or fairly similar to that of the capsized voyage condition. And I would have
19 reference back in my report what exactly those conditions were labeled as. But they were
20 essentially the vessel is loaded with either a departure or arrival load of ballast and fuel and
21 with a standard cargo load.

1 **CAPT WELBORN:** But in short those are references in the T and S booklet, the trim and
2 stability booklet that showed similar situations to the GOLDEN RAY's trim or loading operation
3 in and out of the Port of Brunswick, is that correct?

4 **LT Oviatt:** Captain they represent acceptable loading conditions. So again there was some
5 differences between those conditions and the capsized voyage conditions.

6 **CAPT WELBORN:** Understood, thank you. Lieutenant, understanding that engineers like
7 specifics if the vessel had experienced a draft that changed less than 1 meter plus or minus,
8 would that have substantially changed your calculation?

9 **LT Oviatt:** Captain 1 meter is a significant draft difference for this vessel, so the calculations
10 probably would have changed.

11 **CAPT WELBORN:** And if the metric tons of cargo had changed by say 100 or 200 metric tons
12 would that have substantially changed your calculation?

13 **LT Oviatt:** No Captain. It's likely that 100 or 200 metric tons compared to the 35,000 tons of
14 displacement of the vessel, 100 or 200 metric tons would not likely have substantially changed
15 the analysis.

16 **CAPT WELBORN:** I need to reference another within your presentation. Lieutenant those are
17 the questions that I have for you at this point. At this time I would like to refer to our
18 substantially interested parties, or the substantially interested States and move to their
19 questions at this time. So Mr. Bremer from the Republic of Marshall Island do you have
20 questions for this witness?

21 **Mr. Bremer:** Yes Captain thank you. Lieutenant Oviatt during your presentation you
22 mentioned the speed of 13 knots over ground was used for your calculations. Could you

1 please describe or inform us if there would be any difference to the stability calculations for the
2 GOLDEN RAY on the capsized voyage with the addition of current?

3 **LT Oviatt:** Could you repeat part of your question Mr. Bremer, I didn't hear it.

4 **Mr. Bremer:** So you, I'll start over from the beginning. You mentioned at 13 knots speed over
5 ground was used for calculations with the model that you generated. Can you describe the
6 expected impacts of current on the stability of the GOLDEN RAY during the capsized voyage
7 specifically leading up to the turn?

8 **LT Oviatt:** Yes, sir. So the 13 knots was used as part of the static analysis for the vessel. So
9 that's the speed over ground. And that's a determination of the centripetal force. The current
10 isn't a part of that. The current would be more applicable for a dynamic analysis which was
11 beyond the scope.

12 **Mr. Bremer:** Okay thank you. And you had mentioned in that you had applied in your model
13 the ballast that was taken on during the voyage from Freeport to Jacksonville to the conditions
14 at the time leading up to the capsizing. Do you know what the calculated drafts would
15 expected to be?

16 **LT Oviatt:** Yes, sir. Let's me reference the slide. Let me pull it up. Sir, so this represents the
17 draft calculated by our model for each voyage with the additional ballast. So during the
18 capsized voyage with the additional ballast our model predicated a mean draft 9.59 meters
19 under hull water condition.

20 **Mr. Bremer:** Okay and. And based on your modeling of the ship would this quantity of ballast
21 brought the GOLDEN RAY into compliance with the trim and stability book and the IS Code?

22 **LT Oviatt:** Yes, sir. This additional ballast would have brought the vessel in full compliance
23 with both the trim and stability booklet and the Intact Stability Code as calculated by our model.

1 **Mr. Bremer:** And you had mentioned that these calculations were using salt water for your
2 model. Can you describe the impacts if fresh water were to be used?

3 **LT Oviatt:** Yes, sir. If fresh water were to be used the draft would increase. For the, yeah it
4 would increase but not significantly. Less than .5 meters.

5 **Mr. Bremer:** And for the departure from Brunswick for your modeling can you please describe
6 how you determined the vehicle weights to be use for your model?

7 **LT Oviatt:** Yes, sir. So the vehicle weights were taken from the Brunswick departure stowage
8 plan which was provided to us. And those weights were provided in blocks which were
9 designated by the plan. And so we first, those blocks also had descriptions of the vehicles that
10 were in those blocks and we kind of truth checked those first against what was actually in
11 there. And then we took the total weight of each block and we applied that to the model at the
12 location as specified by the plan.

13 **Mr. Bremer:** And all of the vehicles that were on board were the weights on that loading or
14 stowage plan, excuse me, that were used?

15 **LT Oviatt:** Yes, sir. All the weights were on that stowage plan.

16 **Mr. Bremer:** Thank you Lieutenant Oviatt. I think that's all the questions I have right now.

17 **LT Oviatt:** Thank you Mr. Bremer.

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

19 **NTSB:** Yes I do Captain Welborn. Good morning Lieutenant how are you doing?

20 **LT Oviatt:** Good Captain, and yourself?

21 **NTSB:** I'm doing good. I've got a few questions. The information that you got from this vessel
22 including the computer that was recovered, all the information you used was available to the
23 officers and crew on board the vessel prior to the vessel departing Brunswick?

1 **LT Oviatt:** That is my understanding, yes Captain.

2 **NTSB:** And it was reported to the investigators that prior to, yeah prior to departing Colonel
3 Island the GM was calculated as being 2.45. Not to put you – how much, not changing the
4 weight of the cargo and the weight of the fuel, how much additional ballast do you think would
5 be required in order for the vessel to actually meet that GM of 2.45?

6 **CAPT WELBORN:** If I could step in here Lieutenant, one moment. I believe we've lost our
7 livestream. Standby while we reset the livestream. Captain Flaherty if you would restate your
8 last question.

9 **NTSB:** Sure. It was reported to investigators that prior to the casualty occurring the GM of the
10 vessel at the time of departure was 2.45. Not changing the weight of the cargo or the weight of
11 the fuel how much additional ballast would be required for the vessel to have been at, or to
12 have a GM of 2.45.

13 **LT Oviatt:** Yes, Captain. So we didn't do an analysis of what that exact number would be.
14 But I can tell you that with the additional 1500 metric tons of ballast the GM is 2.25 meters. So
15 at least 1500 metric tons of ballast.

16 **NTSB:** And with that additional 15 metric tons of ballast how significantly would the draft of the
17 vessel change?

18 **LT Oviatt:** Yes Captain. So that draft without the 1500 metric tons the mean draft of
19 approximately 9.35 meters, and then actually shown on the slide here that left hand column the
20 mean draft increased to approximately 9.59 meters with 1500 metric tons of additional ballast.

21 **NTSB:** Okay. Now you became very – you examined the compute, the IMACS quite
22 extensively I'm sure.

23 **LT Oviatt:** Yes, sir.

1 **NTSB:** Did you notice prior to the Freeport, did you go before the Freeport port visit?

2 **LT Oviatt:** I did not go before the Freeport port visit, Captain.

3 **NTSB:** Okay. From the Freeport port visit to the vessel departing Colonel's Island the night of
4 the casualty, outside of the additional ballast for the time the vessel is near the hurricane, was
5 there any significant additions or subtraction of ballast?

6 **LT Oviatt:** I did not note any significant additions or subtractions of ballast during either of the
7 three voyages or during those port visits. And that's by monitoring the IMACS computer.

8 **NTSB:** And did you notice any addition of fuel from Freeport to Brunswick?

9 **LT Oviatt:** I did not notice any significant addition of fuel. Again, I'm not sure I took a detailed
10 look at what exactly the fuel states were other than the time stamps I used for my analysis.
11 There could have been small changes in fuel, but I did not notice a significant change.

12 **NTSB:** Was there any significant or noticeable change in where the ballast was transferred
13 around anytime excluding the time of the hurricane, but from Freeport to Brunswick? Was
14 there any movement of ballast?

15 **LT Oviatt:** Yes Captain. So I noticed that from Freeport to Jacksonville voyage the vessel
16 had taken on approximately 1500 metric tons of ballast and that was in the earlier part of the
17 voyage. And then I noticed that it had discharged that ballast you know several days after that.

18 **NTSB:** And then it was also reported that they used fresh water where the exterior of the
19 vessel. Did you use fresh water or did you use salt water?

20 **LT Oviatt:** To load the ballast tanks specifically?

21 **NTSB:** No the exterior, the water outside that the vessel was sitting in.

22 **LT Oviatt:** Can you repeat your question, I'm not understanding.

1 **NTSB:** The vessel, the water that vessel was sitting in it was reported that they had used
2 fresh water versus salt water when determining the stability of the vessel. So ----

3 **Mr. Reisman:** Captain Welborn.

4 **CAPT WELBORN:** Yes.

5 **Mr. Reisman:** I would like to object to this line of questioning. Where as Captain Flaherty is
6 correct that was initially stated in the Coast Guard interviews I believe the Chief Officer
7 subsequently clarified that in his interview with the KMST which is in the record of this
8 proceeding.

9 **NTSB:** Well I'll rephrase this question. Did you utilize salt water for your calculations for the
10 stability of the vessel?

11 **LT Oviatt:** Yes, sir. I used salt water for those calculations.

12 **NTSB:** Now when the vessel started to lose stability and it was shortly after the 20 degree turn
13 did you examine the forces that caused the vessel to still continue to make that hard starboard
14 turn?

15 **LT Oviatt:** I would answer that as part of this analysis you know the rudder force makes the
16 starboard turn. So to that extent, yes we did analyze that. But again this is from a static
17 perspective and we didn't go to, we did not analyze the dynamics of that turn.

18 **NTSB:** Okay, thank you. That's all I have Captain Welborn.

19 **CAPT WELBORN:** Thank you Captain Flaherty. I do believe we have a question from KMST.
20 Lieutenant as previously stated I will be reading the questions from KMST. As previously
21 stated I will be reading the questions from KMST as they arrived directly. Since they are
22 unable to be with us physically here in the hearing. So Lieutenant, KMST asks, since the

1 stability of GOLDEN RAY was unstable when it arrived at the Port of Brunswick did that mean
2 GOLDEN RAY could have capsized on its way to Brunswick?

3 **LT Oviatt:** Yes. So, right. So we analyzed stability for the vessel in those two preceding
4 voyages. The cargo change in Brunswick was not significant. Our analysis indicated that the
5 vessel did not comply during the inbound voyage with the 2008 Intact Stability Code. A vessel
6 that does not comply with the 200 Intact – 2008 Intact Stability Code has a higher probability of
7 capsizing.

8 **CAPT WELBORN:** Thank you Lieutenant. We'll hold the line of questioning open for KMST
9 as we proceed to our PII's. Mr. Reisman do you have questions for this witness?

10 **Mr. Reisman:** Thank you Captain. Yes I have a few questions. Lieutenant Oviatt thank you
11 very much for your presentation. I do have a few follow-up questions I would like to ask you.
12 Some you've talked about but I just want to confirm, make sure that I have a full understanding
13 of your testimony. So starting with the cargo weights, I know there's been a lot of discussion
14 on that topic. Is it your conclusion that the cargo weight estimates that was used by the vessel
15 operators were reasonable as compared to the actual weights that were obtained during your
16 analysis?

17 **LT Oviatt:** Yes, sir. For the most part they were. There was one area where the weight on
18 the plan indicated a significantly higher weight than I would expect. And I – what I did was I
19 used the actual calculated weight based on the vehicle on that deck.

20 **Mr. Reisman:** And your calculations actually determined that the actual weights from the
21 manufacturer were heavier than the estimated weights used by the vessel operators, is that
22 correct?

23 **LT Oviatt:** Can you repeat the question sir, I'm not understanding.

1 **Mr. Reisman:** Certainly. So when you estimated the total of the cargo weight you came up
2 with a higher number than the total cargo weight used by the vessel operators, correct?

3 **LT Oviatt:** I don't recall the specifics, sir, off the top of my head. I can reference in the report
4 if needed.

5 **Mr. Reisman:** That's okay. We'll move on. If I think that's important enough we'll come back
6 to it. Again so I understand. Had the ship taken on or maintained that 1492, or roughly 1500
7 metric tons of ballast it would have satisfied all stability criteria both the trim and stability guide
8 and the IMO IS requirements, is that correct?

9 **LT Oviatt:** That is correct, sir.

10 **Mr. Reisman:** And that is true even if it maintained a precise cargo loading that it had through
11 the Brunswick cargo operations?

12 **LT Oviatt:** As applied to our analysis, yes, sir.

13 **Mr. Reisman:** So had it maintained that ballast, that additional ballast then it would have
14 satisfied the requirements. Does that tell us that this was not a ship design issue that led to
15 this casualty?

16 **LT Oviatt:** Yes, sir. I mean in doing this analysis I found nothing that was an issue with the
17 ship design.

18 **Mr. Reisman:** And the space planning, in other words where the cargo was located on the
19 ship and how much cargo, that was not inherently deficient or cause of this incident, correct?
20 Because it could have been compensated for and brought the ship into compliance by
21 maintaining or taking on that ballast.

22 **LT Oviatt:** Yes, sir. The ship could have been compliance according to our analysis with the
23 Intact Stability Code and the trim and stability booklet if the loading would have changed.

1 **Mr. Reisman:** I'm sorry maybe I didn't understand. If the loading of ballast had changed, the
2 cargo configuration itself could have stayed exactly the way it was and the ship would have
3 been in compliance with IMO requirements and the trim and stability requirements simply by
4 maintaining that roughly 1500 metric tons of ballasts, correct?

5 **LT Oviatt:** That is correct. Yes, sir.

6 **Mr. Reisman:** Thank you for clarifying that. If the stability criteria had been satisfied by
7 maintaining that 1500 metric tons of ballast would there have been any restrictions on the use
8 of rudder during the Brunswick out bound voyage?

9 **LT Oviatt:** Yes, sir. We didn't look at that. That's sort of beyond the scope of the analysis.

10 **Mr. Reisman:** Fair enough. There was some discussion in your presentation regarding the
11 Pilot door being open and the concept of down flooding. Can you tell us would the ship have
12 capsized had the Pilot door been closed throughout this out bound voyage?

13 **LT Oviatt:** Yes, sir. So with the lack of righting energy even prior to possible down flooding
14 the vessel would have heeled significantly and likely result in capsize. Our analysis indicated
15 that the down flooding simply exacerbated the capsizing.

16 **Mr. Reisman:** So the Pilot door being left open or being open at that time I should say was
17 not the cause of the capsizing in your opinion, is that correct?

18 **LT Oviatt:** That's correct.

19 **Mr. Reisman:** During your presentation and I think some of the subsequent questions also
20 you talked about some of the benchmark conditions that are shown in the ship's trim and
21 stability guide. Those are, I believe you indicated but I want to confirm, are merely
22 benchmarks, the ships are not required to comply with any specific cargo or ballasting
23 configuration as long as it meets the stability criteria, am I correct?

1 **LT Oviatt:** Yes, sir, that's correct. Those are example loading conditions provided to the
2 vessel. The vessel is required to meet the 2008 Intact Stability Code.

3 **Mr. Reisman:** Just give me one moment. I think that may be it. Let me look through my
4 notes quickly. One final question. There's always another question, sorry. Captain Flaherty
5 from the NTSB asked you a question about the 2.45 GM that was reported by some of the
6 ship's crew during the investigation and then again in the course of this hearing. Are you able
7 to offer an opinion as to how or why they achieved a 2.45 GM calculation?

8 **LT Oviatt:** I'm not able to offer an opinion, no, sir.

9 **Mr. Reisman:** And do you have an opinion as to how or why that GM calculation is incorrect?
10 In other words can you explain how they got the wrong calculation?

11 **LT Oviatt:** No, sir. That was not part of my responsibility.

12 **Mr. Reisman:** Thank you very much. I appreciate your testimony today.

13 **CAPT WELBORN:** Anything further Mr. Reisman?

14 **Mr. Reisman:** No thank you Captain. That's all I've got for this witness.

15 **CAPT WELBORN:** Mr. Gilsenan do you have questions for this witness? Mr. Gilsenan do you
16 have questions for this witness?

17 **Mr. Gilsenan:** Yes I do Captain. Thank you. I will be brief. Lieutenant Oviatt thank you for
18 your presentation today. I wanted to bring with kind of a statement that the vessels call into
19 ports of the United States pay a harbor maintenance tax and this is collected by the Federal
20 Government. And Congress is intended to, or they're supposed to by Statute pay the
21 proceeds of the harbor maintenance tax for maintaining harbors. Are you aware that the
22 project depth at the Port of Brunswick at mean low low water is 11.6 meters of water at the
23 outer bar and 10.7 meters in the harbor?

1 **LT Oviatt:** I was not aware of that sir. We didn't look at harbor depths as part of this stability
2 analysis.

3 **Mr. Gilsenan:** Okay. I'll represent to you that through no fault of the Corps of Engineers they
4 work with the money they're allocated. The actual depth of the channel is less than the
5 designed project depth. So what I wanted to ask to you -----

6 **CAPT WELBORN:** Mr. Gilsenan, this is Captain Welborn. This line of questioning regarding
7 the depths of the channel or what not is outside the expertise of Lieutenant Oviatt. He's strictly
8 looked at the Intact Stability of the vessel itself.

9 **Mr. Gilsenan:** Understood Captain. I'm leading up to my one question which is right now.
10 Had the GOLDEN RAY been ballasted to the point that the vessel had a mean draft of 10
11 meters would that have increased the vessel's stability? All other conditions being the same.

12 **CAPT WELBORN:** Mr. Gilsenan again I believe that's beyond the scope of the analysis that
13 Lieutenant Oviatt is providing. He works within the parameters or the numbers that he was
14 provided and the Intact Stability calculations in addition with the trim and stability booklet
15 provided him some direction in his analysis. These questions regarding project depth of the
16 channel may be a little bit more appropriate for our next witness, Dr. Jeff Falzarano who is our
17 hydrodynamic stability specialist.

18 **Mr. Gilsenan:** Captain Welborn if I may just to lay some foundation for my question. Never
19 mind project depth. The testimony today shows that had the 1500 tons of ballast remained on
20 board the vessel the mean draft would have been 9.59 meters instead of the actual capsized
21 voyage draft of 9.35 meters. So and it's also been testified with the 1500 tons of ballast still on
22 board the vessel that the vessel would have been in compliance with the 2008 IMO Intact
23 Stability criteria. So based on that if with the 1500 tons of ballast on board the mean draft

1 would have been 9.59 meters. My question is, and that was more stable than the capsized
2 voyage, had the vessel been ballasted at 10 meters would it have been even more stable.
3 And that's it.

4 **LT Oviatt:** Yes, sir. I can tell you that the way the vessel was ballasted during the capsized
5 voyage it did not comply with the 2008 Intact Stability Code and with the 1500 additional metric
6 tons of ballast it did comply.

7 **Mr. Gilsenan:** Thank you. That's all I have Captain Welborn. Thank you.

8 **CAPT WELBORN:** Thank you Mr. Gilsenan. So Lieutenant I have one or two final questions
9 from KMST. Or excuse me additional questions from KMST and I'll read those again just as
10 they came in. On the inbound transit to the Port of Brunswick GOLDEN RAY used more than
11 20 degree rudder could that mean GOLDEN RAY could have capsized back then?

12 **LT Oviatt:** So looking at the turns on the inbound voyage was beyond the scope of this
13 analysis. We only looked at the turn for a static analysis perspective the turn in which the
14 vessel capsized.

15 **CAPT WELBORN:** Question two. Could you please explain why GOLDEN RAY did not
16 capsize on its inbound transit to the Port of Brunswick?

17 **LT Oviatt:** Again that was beyond the scope of the analysis.

18 **CAPT WELBORN:** I'll standby one moment to see if KMST has any follow-on questions. I
19 see no more follow-on questions from KMST. Lieutenant Oviatt again thank you for your
20 analysis of this. One final question from me. So in your opinion what was the cause of the
21 vessel capsizing?

22 **LT Oviatt:** The cause of the vessel capsizing was the lack of righting energy due to the way in
23 which the vessel was loaded.

1 **CAPT WELBORN:** And that loading is both cargo and ballast, is that correct?

2 **LT Oviatt:** That loading is either or. The vessel could have taken on additional ballast to be in
3 compliance with the 2008 Intact Stability Code, the cargo could have also been shifted so that
4 that cargo was at a lower vertical center of gravity.

5 **CAPT WELBORN:** Understood. Lieutenant Oviatt thank you very much for your time today.
6 We do appreciate it. Please know that you are you subject to recall as long as we're in these
7 formal proceedings. And at this time the time is currently 12:02. We'll take a 10 minute recess
8 until we call our next witness Dr. Jeffrey Falzarano. We stand in recess.

9 *The hearing recessed at 12:02, 22 September 2020*

10 *The hearing was called to order at 12:30, 22 September 2020*

11 **CAPT WELBORN:** The local time is now 12:30 we're back on the record in the investigation
12 to the GOLDEN RAY capsizing. A couple housekeeping issues before we proceed. Coast
13 Guard Exhibit 16A, Lieutenant Oviatt's PowerPoint and Coast Guard Exhibit 16B his full report
14 will be entered into evidence. Any objections from the SIS's? Hearing none. Any objections
15 for the PII's? Both pieces will then be moved into evidence in this formal hearing. Our next
16 witness is Dr. Jeffrey Falzarano, Texas A&M University. Dr. Falzarano are you with us sir?

17 **Dr. Falzarano:** Yes, sir I'm here. Yes, sir.

18 **CAPT WELBORN:** Super. Dr. Falzarano can you use the livestream in the background
19 because we hear you live and then we also hear the livestream.

20 **Dr. Falzarano:** Yes, sir. Yes, sir. Yes I've done that, uh huh, thank you. Okay, that's better?

21 **CAPT WELBORN:** Yes. We will only hear you once now. Dr. Falzarano if you would like to
22 set your video on live so we can see you in our proceedings.

23 **Dr. Falzarano:** Yes. Start my video, yes, sir.

1 **CAPT WELBORN:** Great there you are. So Dr. Falzarano thank you again for joining us.
2 Lieutenant Commander Moore will swear you in as a witness.

3 **Dr. Falzarano:** Okay.

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

8 **Dr. Falzarano:** Yeah.

9 **Recorder:** Thank you Dr. Falzarano please be seated. Captain the witness is ready.

10 **CAPT WELBORN:** Thank you Lieutenant Commander Moore. Dr. Falzarano again thank you
11 for appearing today. Are you represented by counsel?

12 **Dr. Falzarano:** No, sir.

13 **CAPT WELBORN:** And are you designated as a party in interest to this investigation?

14 **Dr. Falzarano:** No, sir.

15 **CAPT WELBORN:** Dr. Falzarano before we proceed into your presentation will you speak to
16 your experience and expertise in your presentation?

17 **Dr. Falzarano:** Yes, sir. I have a slide on that.

18 **CAPT WELBORN:** Perfect. Please proceed.

19 **Dr. Falzarano:** This is the hydrodynamic assessment of the car carrier GOLDEN RAY
20 capsizing. Although I am a professor I would you not talk about my affiliation? I've done this
21 during my summer off time. But we can go to the next slide. Next slide. Just a little bit about
22 background. I have a Bachelor's Degree in Naval Architecture from the Web Institute of Naval
23 Architecture. I have Master Degrees in Naval Architecture, Marine Engineering, Aerospace

1 Engineering and Applied Mechanics, and I have a PHD in Naval Architecture all from the
2 University of Michigan. I have 30 plus years of experience as a Naval Architecture Ocean
3 Engineering Faculty doing research and teaching in this area. I also have experience, specific
4 experience with maneuvering as follows. I undertook maneuvering trials in ICE in Green Bay
5 of the U.S. Coast Guard Cutter MOBILE BAY. I re-introduced the maneuvering testing
6 prediction capability at the off shore model basin for Newport News shipbuilding. I co-authored
7 the ABS guide to vessel maneuverability. I also undertook a validation study and also a
8 revision of the same document. I worked with the NTSB on the CROWN PRINCESS heeling
9 incident. Basically develop – co-developing the kinematic extraction study utilized by them and
10 several subsequent investigations. I recently served two years on the National Academy
11 Transportation Review Board Committee to review U.S. Coast Guard stability rules. And
12 recently undertook a hydrodynamic and past stability analysis of the GENSIES RIVER
13 accident. I'm currently teaching ship and off shore dynamics and control and doing research
14 with my PHD students on ship maneuvering and waves and extreme vessel motion. Next slide
15 please. Just a little bit of an overview and background of the GOLDEN RAY incident. And
16 again this is my understanding. I was given access to a variety of documents in order to base
17 my understanding of this incident on. First and foremost I'm going to say the vessel may have
18 had marginal intact stability as per the IMO 2008 Intact Stability Code. The vessel had just left
19 the Jekyll Island Range and again I apologize this is repetitive to some extent. The Jekyll
20 Island Range and it ventured the Widener 11 area. The Pilot proceeded to turn the vessel with
21 10 degrees then 20 degrees starboard rudder heading toward the Plantation Creek Range.
22 The vessel became unstable in the Widener 11 area. Little background on these types of
23 vessels. Most vessels like tankers and bulkers maneuvering is generally not – is not coupled

1 to the roll motion. However, for slender high speed ships with critical GM such as pure care
2 carriers they may experience significant and coupled roll motion when turning and roll motion
3 may subsequently effect the turning ability. This vessel was designed and built by Hyundai
4 NEPO dock yard, Korea's largest ship builder. Which incidentally has a hydrodynamic test
5 facility associated with them. Sea trials of the sister ship SILVER RAY were performed at
6 Ballast draft with stern trim and powering test were done by the Marine Institute of
7 Netherlands. Just a little bit of background of what I'm going to discuss and I hope this
8 compliments the other analysis, but I will talk about the vessel maneuverability. First and
9 foremost there are several IMO, International Maritime Organization resolutions which pertain
10 to this. First and foremost is the MSC 13776 which is about ship maneuvering criteria. And its
11 significantly based upon ship maneuvering at deep water, full load, even keel and design
12 speed. There's another IMO resolution 601 which is about maneuvering poster, maneuvering
13 data available to the crew, to the Pilot and it takes some of that data from the maneuvering
14 criteria and predicts it performance at slow speed and shallow water. We didn't have a
15 complete picture of the maneuvering books since the maneuvering performance, because we
16 didn't have a maneuvering booklet or the corrected sea trials data. That's fine we used what
17 we had. Just a little bit of background. Shallow and narrow channels trim and speed effect the
18 maneuvering hydrodynamics. Okay. Next slide please. Again you know I looked at the data
19 available to me including a NOAA chart and also understood that there may have been some
20 changes from this NOAA chart. And they also had access to a – an early draft of the NTSB
21 report which was able to provide me with some information on the vessel. The water depth
22 and the vessel's speed. Again I think this is the vessel's speed over the ground and would not
23 consider the possibility of either an ebb tide or a flood tide. Next slide please. Specifically the

1 IMO resolution 137 requires that sea trials be done or corrected for deep water design speed,
2 draft and trim. There are several aspects of ship maneuverability. I'm going to focus on the
3 turning ability, but inherent dynamic stability, the vessel's ability to maintain a straight course,
4 course keeping ability, initial turning and course changing ability,[in audible] ability, turning
5 ability, and stopping ability. Again I'm going to focus on the turning ability and the turning – the
6 turning the coupling of the turning to the roll motion which may have contributed to this
7 accident. Again I'm sorry I'm being a little bit repetitive, but the sea trials are done at ballast,
8 the sea trials were done of the sister were done at ballast draft and stern trim. And there were
9 no corrections provided other than what was on the maneuvering poster which was somewhat
10 what we wanted. The IMO resolution 601 requires a wheelhouse poster and turning and
11 stopping data. The Flag does not require – the Flag does require the corrected sea trial data,
12 but not a maneuvering book. Next slide please. Okay just a little bit of the background to my
13 approach to this analysis. Again I'm just summarizing the results of it. There are more results
14 in the associated reported. And many of the calculations are contained in spreadsheets and
15 computer models, etc. Again I reviewed the vessel and incident data and had access to parts
16 of other studies. I developed a hull hydrodynamic model which considered both the shallow
17 water effects and the bow squat that results from the speed. Validated this prediction
18 technique by comparing to other pure car carriers. Again I wanted to make sure that my
19 hydrodynamic model was reasonable so I compared my hydrodynamic model to other similar
20 vessels, published data. I developed a propeller and rudder hydrodynamic model. I put all
21 that together into what's called a 3 degree of freedom maneuvering computer simulation
22 model. The 3 degrees of freedom are surge, sway and yaw, horizontal plane. I then validated
23 this computer model by comparing to the maneuvering poster data provided. I then added the

1 roll coupling to the 3 degree of freedom model resulting in a 4 degree of a freedom model and
2 performed time simulations using my model. I validated that model by comparing to the VDR
3 results provided by the NTSB. And then using the above I investigated various what if
4 scenarios including what would be the effect of a higher GM. Okay next slide please. This is a
5 little bit about how a ship turns and my validation as compared to some of the predications
6 provided by the maneuvering poster. So in terms of a ship turning a vessel will be going along
7 a straight course, the rudder, the rudder command will be given, the rudder execute will then
8 result in what's called the first phase of the turning. It's all transient. Then, I have a hand
9 drawn sketch of this later on. And then a second phase and a third phase which is the steady
10 turning which was the focus of another investigation I understand. So this is just a validation of
11 my 3 degree of freedom model with the available data that I had from the maneuvering poster.
12 Again I came up with a hydrodynamic model based upon available data of similar vessels.
13 Okay next slide please. Okay I did an extensive literature survey of basically maneuverability
14 of pure car carriers. And one of the things I came across was some verbiage provided by a
15 Master Thesis by the Swedish, the Swedish University in Stockholm and I will just read that.
16 Be patient with me and hopefully it will give us some understanding of what we're dealing with.
17 So even though maneuverability has been a lower priority it is an important issue for this type
18 of vessel. For example powerful flat rudders with large lever to the center of gravity in
19 combination with low stability gives these vessels special characteristics while maneuvering
20 that puts high requirements on the auto pilot and the crew. In sharp turns for example the
21 force from the rudder causes the ship to heel and rudder moments have to be kept small to
22 minimize induced resistance. Experience from operations of these vessels also shows that a
23 very active steering is need to keep the course which may depend on the dynamic stability.

1 More knowledge about the dynamic stability or instability of the vessel is need to determine its
2 influence on the resistance and if the resistance can be reduced by changing the course
3 stability properties of the vessel. Just a little bit of a background, these are not my words. I
4 extracted these from a Thesis which was supported by Wallace Marine which is an operator of
5 these type of vessels. So that will give us a little bit of an understanding of the importance of
6 maneuverability and the design of these vessels. But then also the subsequent coupling of
7 the heel which is basically the roll motions of ships. Next slide please. Okay this is a little bit
8 of detail, again I apologize for the drawing on the right hand side. It's my hand sketch. I
9 couldn't find – I couldn't find a sketch but essentially what this figure depicts with the two hulls
10 on the left hand side, the forces that are applied, the rudder force of the initiation of the turn,
11 the inertial reaction force. And then in steady turning what forces are then acting upon the
12 vessel. I believe this was described previously in another presentation. But again I apologize
13 for my hand drawn sketch. But essentially what happens as the vessel initiates a starboard
14 turn the vessel will initially heel inward to the turn, it's a positive roll motion, but it will eventually
15 heel outward to the turn. And we call this the first phase and the third phase. And what you
16 can see is in again my hand drawn figure is the steady turning in the third phase, but the two
17 dynamic overshoots. And those are what I was trying to model, predict for this vessel in order
18 to – in order to understand the importance of the dynamic response of a vessel in a turn as
19 opposed to its stead turning. Next slide. This is an excerpt of the early draft of the Coast
20 Guard, U.S. Coast Guard MSC report undertaken by Lieutenant Oviatt. And essentially what
21 this does is this, I extracted the estimated stability during the capsized voyage, 1.75 meters, the
22 required again I just took off this chart and some of the data available in the report. I looked at
23 the difference between an initial GM of 1.75 meters which seemed to be the case in the

1 capsize voyage as compared to a 2.69 meter GM, one of the cases in the trim and stability
2 booklet. I would like to point out that the GM as previously described is the initial slope of the
3 righting arm curve. I actually used the full righting arm curve. I was able to digitize and curve
4 fit this data and incorporate that into my simulation model. So again I assumed these data
5 were given. I did not calculate these. Although I did review some of them for my own
6 purposes. But I assumed that this data was given. Next slide please. Of the; many simulation
7 cases that I undertook this I believe would be, you know the most telling. I did literally
8 hundreds of simulation cases in order to validate my simulation model and also to try to
9 answer some what if questions. So on the left hand side is the, my simulation of the accident.
10 I have only a 10 degree rudder, but with the 10 degree rudder you can see that the vessel,
11 how the vessel, the blue curve is the rudder, the orange curve is the roll angle. And what you
12 can see is how the both the steady, the steady angle and also the overshoot. I compared this
13 to the NTSB VDR data and I was relatively close. Okay and so this gave me some confidence
14 in my hydrodynamic model that it was reasonable. And then what I then proceeded to do was
15 to look at various what if scenarios and I think the most telling what if scenario is if the GM was
16 increased, it was one of those cases in the trim and stability booklets that I extracted and what
17 you can see is that the steady turning is about 1/3 of the steady turning with the lower GM and
18 then the overshoot is about, about half a little bit more than one half. So this kind of tells us
19 that the effect of the reduced GM on the coupling of the roll to the – the coupling of the roll to
20 the turning motion. I would also like to mention that the sea trials of the SILVER RAY, they did
21 include the roll angle which was only about 5 degrees that was observed in the sea trials. But
22 we didn't know what the GM was and the vessel was at the ballast draft with a significant
23 amount of trim by the stern which would make it, very past stable. And so that number doesn't

1 really – doesn't really help us that much. Next and final slide. Based upon my analysis, which
2 I've summarized here. Again there are more results contained in the accompanying report.
3 And I also have many more cases that I – they undertook and more details of my calculation
4 procedure available if needed. But based upon what I – my analysis I would say that the
5 reduced initial and large angle upright stability of the pure car carrier GOLDEN RAY more than
6 likely contributed to the large roll angle – large roll angle ample to oscillations while the vessel
7 was turning to starboard due to the strong coupling of the rolling motions to the maneuvering
8 motion of this vessel. Many factors effect this coupling including the rudder angle, the roll
9 damping and the initial GM. And also the large angle stability. However, a higher GM would
10 have significantly reduced the overshoot roll angle. IMO resolution 137 requires our
11 predictions be made at full load, designed speed and even keel. It is not clear how the vessel
12 satisfied these since both the sea trials report and maneuvering poster do not contain these
13 results. Access to these predictions would have allowed further validation, but again I used
14 what I had and I went with that. Although not required by International stability regulations it is
15 not clear if the roll coupling to the maneuvering was considered as part of the initial design.
16 Just a side – side light the 2008 Intact Stability Criteria does mention for passenger vessels to
17 determine the steady – the roll angle with a steady turning, but it's not required for this type of
18 vessel. So with that being said. That is my presentation and all the slides are numbered. And
19 so I would be happy to answer questions that may come about. Thank you very much for your
20 attention and thank you Captain Welborn and the other members of the investigating
21 committee for this opportunity to present this data. Thank you very much.

22 **CAPT WELBORN:** Dr. Falzarano thank you very much for your time. I would like to clarify a
23 couple of terms with you before we proceed into questions and then we'll take a short recess.

1 **Dr. Falzarano:** By all means.

2 **CAPT WELBORN:** So Dr. Falzarano you used the PCC term. Can you tell us what that
3 means?

4 **Dr. Falzarano:** I'm sorry that's a pure car carrier and I guess I should have said pure car and
5 truck carrier. But it's just a type of vessel, PCC and PC just this type of vessel. This – it's
6 typical of this type of vessel, the large above water forum and the under forum that's typical of
7 these type of vessels.

8 **CAPT WELBORN:** So for your analysis those terms are synonymous, they mean the same
9 thing?

10 **Dr. Falzarano:** Yes, sir, yes, sir. I'm – yes, sir.

11 **CAPT WELBORN:** You also referenced the SILVER RAY. Can you tell us the relationship
12 between the SILVER RAY and the vessel in question the GOLDEN RAY?

13 **Dr. Falzarano:** Yes, sir. My understanding is that the SILVER RAY is a sister of the GOLDEN
14 RAY. And the sea trials were actually performed on the SILVER RAY and that data was then
15 subsequently, much of the data was subsequently applied to the GOLDEN RAY. So the
16 maneuvering trials were actually performed on the SILVER RAY. I believe the hulls were
17 identical as far as I know.

18 **CAPT WELBORN:** So Captain, excuse me, Dr. Falzarano can you tell me then when you use
19 used the term SILVER RAY you said that the hulls are identical so they're constructed – does
20 that mean they are constructed with the same plans?

21 **Dr. Falzarano:** My understanding is they are. Again when I was provided with the sea trail
22 data for the GOLDEN RAY it specifically stated that many of these trials were performed for

1 the SILVER RAY, the sister. And so they must be very close in design, hull form, etc. for that
2 to be allowed. Yes, sir.

3 **CAPT WELBORN:** Understood. Thank you for that clarification.

4 **Dr. Falzarano:** Yes, sir.

5 **CAPT WELBORN:** And Dr. Falzarano you referenced Lieutenant Oviatt's report in the later
6 portion of your presentation along about I believe slide 9, maybe 10. Did you refer to
7 Lieutenant Oviatt's report, did you reference it in the formative stages of your report? Did you
8 use that as a basis for your initial thought?

9 **Dr. Falzarano:** Yes, sir. I was provided with a great deal of stability information and in lieu of
10 repeating everything that he had done I thought that my investigation should compliment his so
11 I basically used his analysis. I reviewed it somewhat, I mean I'm also a Naval Architect. But I
12 used his analysis as my baseline, sir, yes.

13 **CAPT WELBORN:** Understood. Those are the formative questions that I have right now Dr.
14 Falzarano. I would like to take a quick 5 minute recess for us to transition our questioning onto
15 our substantially interested States and parties in interest. So the local time now is 12:55, we'll
16 stand in recess for 5 minutes.

17 **Dr. Falzarano:** Yes, sir.

18 *The hearing recessed at 12:55, 22 September 2020*

19 *The hearing was called to order at 1:00, 22 September 2020*

20 **CAPT WELBORN:** The local time is now 1 O'clock and we're back on the record for the
21 formal hearing of the capsizing of the Motor Vessel GOLDEN RAY. So Dr. Falzarano as
22 previously stated we'll go through out substantially interested States first. The first will be from
23 the Republic of the Marshall Islands. Mr. Bremer do you have questions for this witness?

1 **Mr. Bremer:** Yes Captain thank you. Dr. Falzarano during your testimony you mentioned bow
2 squat was taken into consideration for the GOLDEN RAY. Can you please explain what this is
3 and how that was taken into account in your modeling?

4 **Dr. Falzarano:** Yes, sir. As a vessel of this size is in a restricted water, shallow water what
5 will happen is as a function of the speed of the vessel and the water depth relative to the draft
6 the vessel will both sink and trim. And it turns out that for this vessel it will actually trim by the
7 bow. Although it's a very fine formed vessel that's what found and that was what was depicted
8 upon the maneuvering poster. So as a vessel is in shallow water and depending upon its hull
9 form fullness and its speed it will sink and trim. And in this particular case based upon the
10 relative water depth and the speed of the vessel I utilized a number I predicted and validated
11 that with respect to the poster, maneuvering poster. Is that clear?

12 **Mr. Bremer:** Okay thank you.

13 **Dr. Falzarano:** You're welcome.

14 **Mr. Bremer:** Yes Dr. thank you. In previous testimony mentioned that the GOLDEN RAY
15 transitioned from shallower more confined water to a deeper area. Was this taken into account
16 in your modeling?

17 **Dr. Falzarano:** What I did I did several calculations based upon the different water depths, I
18 mean I had to correct the hydrodynamics for both the – for both the relative water depth and
19 also the trim, and so I did take that into account into my calculations. In at least a quasi-static
20 sense, yes. Yes, sir.

21 **Mr. Bremer:** Okay thank you. And if we could go back to slide number 8 please.

22 **Dr. Falzarano:** Yes, sir.

1 **Mr. Bremer:** So I just want to clarify. In the first bullet it mentions a flat rudder. Do you know
2 what type of type of rudder the GOLDEN RAY was fitted with?

3 **Dr. Falzarano:** The GOLDEN RAY was fitted with a spade rudder. Which was actually
4 attached to the propeller, I'm sorry there's a special name for that. But it's essentially a spade
5 rudder where the propeller boss is then hinged to the leading edge of the rudder. So yes I did
6 have access to the rudder plan, the rudder design and used that in my calculations, yes, sir.

7 **Mr. Bremer:** Okay thank you for the confirmation. If we could next go to slide 12 please. Dr.
8 Falzarano I just want to confirm or clarify for the last two bullets on your observations and
9 summary slide, was this – are these on here because you did not have the information you
10 needed available to make that assessment, is that correct?

11 **Dr. Falzarano:** No, sir. I mean I utilized everything I could in order to validate my computer
12 model. Again if I would have had more data available to me I could have further validated. But
13 no, sir. I was just mentioning what the IMO resolution, which I believe the Republic of Marshall
14 Islands confers with. Specifically they require that the trial data which was done at the ballast
15 draft and stern trim be corrected. And of course that was contained in the maneuvering poster.
16 They do not require a maneuvering booklet which would have had more extensive data
17 though. It's fine. Whatever I had I utilized. If I had more data I would have done more
18 validation. That's all I'm stating, sir.

19 **Mr. Bremer:** Okay. So just to clarify the statement is not clear how the vessels satisfies,
20 paraphrase these requirements is because you did not have the information available?

21 **Dr. Falzarano:** Yes. I'm sure it was submitted to you, the Republic of Marshall Islands from
22 the initial class society which was DMVGL. But I didn't, I mean I had the maneuvering poster
23 which kind of summarized that data, but it did not specifically, you know show exactly what

1 was, you know it had the turning data but it didn't have the other trials such as the pull out or a
2 spiral test or the zig zag corrected for the deep water and even keel condition. So whatever I
3 had I dealt with. It's all I had, its fine, yes, sir.

4 **Mr. Bremer:** Okay. And another question IMO, the resolution 137 that you mentioned. Do
5 you know if this is a requirement to be complied with or a recommendation?

6 **Dr. Falzarano:** I believe it's part of referenced in SOLAS and again you probably know more
7 than me. But I did find a two page or a three page from Republic of Marshall Islands that you
8 enforce this, you concurred with this. There are actually two resolutions. One is the 137 which
9 is about the maneuvering criteria and then 601 is about the information available to the crew.
10 It mentions you know the poster, a Pilot card which again we did not have and then a
11 maneuvering booklet again which was not required. So I believe it's part of SOLAS, but sir, I'm
12 a hydrodynamic I'm not a rule person. You would know better than me, sir.

13 **Mr. Bremer:** Fully understand. Thank you Dr. And last question that I have. You had
14 mentioned I believe that currents were not taken into account in this model. How would you
15 expect currents to effect the results of your modeling?

16 **Dr. Falzarano:** Again I believe it was a flood tide if I understand. And the flood tide, you know
17 although the flood tide was from one – it's kind of hard to say. As the vessel was moving it
18 was – it would probably increase, you know it was opposing the motion, so it would increase
19 the relative velocity over the hull. And although I was not able to predict it, would probably
20 result in an apparent flow speed greater than the speed over the ground and you know
21 effectively be equivalent to the vessel speeding up. But I did not specifically look at that
22 because of the fact that I didn't know as the vessel was turning from the Jekyll Island to the

1 Widener exactly the direction of the tide. So just in the general sense it would probably
2 increase the relative flow of velocity over the hull. But I did not specifically consider that, sir.

3 **Mr. Bremer:** Okay. Thank you Dr. Falzarano. No further questions Captain.

4 **CAPT WELBORN:** Thank you Mr. Bremer. Captain Flaherty do you have questions for this
5 witness?

6 **NTSB:** Yes I do Captain. Good morning Dr., actually good afternoon Dr. how are you doing,
7 sir?

8 **Dr. Falzarano:** Good morning how are you. Yeah it's noon here too, yeah.

9 **NTSB:** Now the vessel as it was proceeding out had done turns to port 10, 20 degrees. I
10 guess one of the questions could you elaborate if you – why at those moments the vessel
11 didn't seem to show any instability?

12 **Dr. Falzarano:** Yes, sir. I think that's a great question. And I think probably a combination of
13 two things. Again this question had been asked previously by the Chair of the investigating
14 committee and I think I mentioned it my report in reference to the similarity of this case to
15 another capsizing of a pure car carrier the HU SOKA (sic) I believe. And so there were
16 probably two things that effected the vessel not capsizing in those previous turns. One I
17 believe would be the fact that those turns were not as extreme as these turns. I mean I don't
18 have the exact angles in front of me but if you look at the chart. And the other would be the
19 speed of the vessel which would affect the squat, affect the stability of the vessel. So you
20 know as far as I know, again I did not investigate this completely. But it would be the, two
21 things would be the extremeness of the turns, the angle of the turn, change in heading and
22 also the speed of the vessel. And again subsequent to Mr. Bremer's observation possibly the
23 flood tide could have also effected the relative flow over the vessel. And also decrease the

1 vessel's stability and effectiveness. So I can only speculate. I did not do specific calculations
2 with regards to this, sir.

3 **NTSB:** Okay, understood. Now with respect to the vessel as it was coming up on the Widener
4 initially the vessel made a 10 degree rudder turn and there was no indication at least at that
5 moment that the vessel was unstable. And then at the 20 degree turn is when things started to
6 occur with the vessel losing stability. After that both the Pilot and the Master of the vessel
7 ordered helm commands to counteract what was occurring on the vessel. Could you explain
8 why those counter turns to both mid-ships and then full to port having no effect on the vessel's
9 ability to recover or at least not continue to heel over?

10 **Dr. Falzarano:** Sir, again you know the 10 degree, 20 degree rudder were done very soon
11 after one another. I specifically looked at just the 10 degree rudder to see what the relative
12 effect of the stability was. But I think things were happening very quickly. And you know
13 applying a rudder and, like you said initially it did not feel like it was unstable but again it takes
14 time for these things to happen. Although they're happening very quickly it takes time for
15 these – the hydrodynamic forces to interact with inertia of the vessel. So I believe it was just a
16 time situation and you know again dealing with a vessel that's unstable is, you know it's trying
17 to balance a pencil on its tip. It's very hard to do. So I think just a lot of things were happening
18 and you know the large vessel, large inertia, things take time. Especially things take time with
19 regards to surge, sway and yaw. Things happened very slowly. With regards to the roll things
20 actually happen relatively quickly. So there's this coupling between the two sort of horizontal
21 plane and vertical motions and so it's kind of hard to say exactly what happened. To be frank.

22 **NTSB:** Could you explain when a vessel loses stability what is the vessel trying to do in, I
23 guess the physics of it when it's heeling around? Could you kind of elaborate on that?

1 **Dr. Falzarano:** Actually that's a good question. And the reason why it's a good question is
2 because we're actually talking about two types of stability which I described in my report. One
3 is the upright roll stability that Lieutenant Oviatt analyzed in detail. The second type of stability
4 is the horizontal plane path stability, the maneuvering stability. And it turns out that they're
5 coupled to each other for these types of vessels. And so the vessel's inability to travel in a
6 straight path you basically a small rudder angle is going to do nothing, but eventually the
7 vessel will turn very quickly. The path stability is actually strongly coupled to the roll. And I
8 believe that's what happened here. It's a case of not only the coupling of the roll motion to the
9 maneuvering motions, but also the fact with the – both were unstable. It was upright unstable
10 beyond a certain angle and it was horizontal plane unstable. You could see that from the VDR
11 results that you provided that the [in audible] was constantly using the rudder during the transit
12 of the Jekyll Island because the vessel was in fact path unstable. So I don't know if that
13 answers your question. I'm sorry I may have wondered a bit.

14 **NTSB:** It does to a certain extent. But this vessel obviously was considered in a tender
15 condition.

16 **Dr. Falzarano:** For the roll stability, the upright roll stability, yes, sir. That was previously
17 stated I believe by somebody. But like I said there are two types of stability. If the upright roll
18 stability, the capsizing, but it's also the ability of the ship to maintain a straight course, the so
19 called path stability or instability. Which observing the rudder actions of the quartermaster you
20 can see that the vessel was in fact path unstable which would have been [in audible] by the
21 coupling of the roll motion.

22 **NTSB:** So even with the tide coming in, so you have water forces coming in at you, you don't
23 know what forces were on the stern of the vessel as the water was exiting a river in that area

1 where the currents. Would a vessel going into a current or going into an incoming tide have
2 better directional stability than a vessel that is going with it?

3 **Dr. Falzarano:** No actually the faster the vessel goes the less path stable that it is. So I
4 believe and again I did not do calculations on the currents versus the speed over the ground,
5 but I believe the vessel would be even path stable because of the flood tide. The current
6 opposing its motion. So the relative flow over the hull would be higher than would be without a
7 current.

8 **NTSB:** So essentially once it got into the deeper wider channel the vessel went down by the
9 bow, started to bow squat and then it was – it had increased speed?

10 **Dr. Falzarano:** Relative flow speed over the hull. Actually the deeper water actually again
11 reduced the path stability. The shallower water the vessel was more path stable. I mean I
12 actually corrected the calc – I did those various calculations. And so it was a combination of
13 the upright stability I think was the most important thing, it capsized. But it was related to the
14 path stability, the horizontal plane, the turning ability. And again it was something that you
15 know was not a part of the sea trial. So I can only observe what the quartermaster did and
16 make predictions. But I was not able to validate those predictions.

17 **NTSB:** Now I've done other investigations where like a vessel is off loading cargo or on
18 loading cargo then all of a sudden it starts to move around back and forth at the dock and its
19 essentially it's lost stability and sometimes it rediscovers it's stability and will be at a heel. So
20 because this was not due to movement of cargo and interior to the vessel and there was no
21 ballast being moved, no fuel oil being transferred around. Would the vessel, if the port Pilot
22 hatch had been closed to prevent down flooding, would the vessel have eventually stabilized at
23 some point? Or was that – or can that be determined or speculated?

1 **Dr. Falzarano:** I mean I really can't say. But I think if you look at the character of the righting
2 arm curve that was presented by Lieutenant Oviatt you can see that it has kind of a snake
3 shape. And so eventually it would be – it would be stable but at a non-zero angle. And that
4 non-zero angle was probably 40 or 50 degrees. So for all practicable purposes you know it
5 was capsized. I mean beyond, yes, sir. Please that would be the slide. If you go back one
6 more slide, go back. Yeah. You can see that the righting arm curve as it, you know it has
7 initial stability, a positive slope, but then it has this decrease, you know almost at 0 or hit 0 and
8 then goes back up. So it would then stabilize beyond, you know beyond – and I did not look at
9 the down flooding of the Pilot door. No, sir I did not.

10 **NTSB:** But had things been watertight at least the water had not entered the vessel it would
11 have potentially given the vessel the ability to find its new center of gravity?

12 **Mr. Reisman:** Captain Welborn I would like to interject. Dr. Falzarano if you will allow one
13 moment please. I would just like to object on behalf of the Owners and Operators of the ship.
14 Dr. Falzarano has testified he did not study the down flooding effect and I think Captain
15 Flaherty's questions is posed directly to that issue. We now go outside the scope of his
16 testimony.

17 **CAPT WELBORN:** I understood Mr. Reisman. Captain Flaherty could you rephrase?

18 **NTSB:** I apologize for any confusion. Not so much about the down flooding of the vessel.

19 **CAPT WELBORN:** Captain Flaherty if I may interrupt. I believe we've lost our livestream
20 again. We'll just pause for just a moment to see if we can reestablish.

21 **NTSB:** Sure.

22 **CAPT WELBORN:** Thank you for your patience I appreciate it. Sorry for the interruption. So
23 Captain Flaherty if you would restate your question to conform with the objection.

1 **NTSB:** Sure I'll try to do that. It's not so much about the down flooding part of it. Curious
2 about it. The vessel itself when a vessel loses its stability it's in the process of trying to, as it's
3 heeling around and moving, I just want to make sure it's clear to everyone, is it trying to
4 reestablish its center of gravity finding a new position of stability?

5 **Dr. Falzarano:** Again the upright stability was only a kind of a side part of what I did. But what
6 might happen is exactly, not the center of gravity, but the – assuming nothing shifted which is a
7 pretty big assumption.

8 **NTSB:** Right.

9 **Dr. Falzarano:** The vessel might come to another equilibrium. But this equilibrium would be,
10 you know probably further beyond the so called angle of vanishing stability which, you know
11 depicted here. Kind of hard to say I would say. But you know the vessel eventually, you know
12 laid on its side in the mud so it was no longer a floating body anymore.

13 **NTSB:** Okay, alright. That's just wanted to get to. Dr. I really appreciate your time, thank you.

14 **Dr. Falzarano:** Thank you for your questions. Thank you for your interest.

15 **CAPT WELBORN:** Captain Flaherty any follow-on questions?

16 **NTSB:** Not at this time.

17 **CAPT WELBORN:** Okay. So now we'll move on to our substantially interested States. Mr.
18 Reisman do you have questions for this witness?

19 **Mr. Reisman:** Thank you Captain Welborn, yes I have a few questions. Good afternoon Dr.
20 Falzarano.

21 **Dr. Falzarano:** Good afternoon.

22 **Mr. Reisman:** I have a few questions. Thank you. I want to jump back a bit and make sure
23 that we're clear on some of your prior testimony. To start off I think you said better than I

1 would have, but I just want to make sure I understand. You've acknowledge, you are not rules
2 expert, is that correct?

3 **Dr. Falzarano:** Yes, sir. I'm not a rules expert. But I am familiar with some of the rules. And
4 like I said I did participate in the ABS maneuvering guide. So I'm not an expert, but I'm a user
5 of rules. Yes, sir.

6 **Mr. Reisman:** Understood and fair enough. You understand that the GOLDEN RAY was
7 Flagged in the Marshall Islands, the Republic of the Marshall Islands, is that correct?

8 **Dr. Falzarano:** Yes, sir I understand that.

9 **Mr. Reisman:** And you would defer to the Marshall Islands to determine whether the ship was
10 in compliance with all mandatory requirements in terms of maneuverability and stability, is that
11 correct?

12 **Dr. Falzarano:** Yes, sir. Of course.

13 **Mr. Reisman:** And you further understand that the ship was classed during the construction
14 phase by DMVGL and you would defer to the class society with those requirements as well?

15 **Dr. Falzarano:** Exactly.

16 **Mr. Reisman:** And the ship subsequently became classed with the Korean Register and once
17 again you would defer to the class society in terms of the ship's compliance with all mandatory
18 requirements?

19 **Dr. Falzarano:** Yes, sir.

20 **Mr. Reisman:** Thank you. So Dr. at the end of the day is it fair to say that you're not offering
21 an opinion as to whether or not the ship violated any mandatory IMO or other requirements
22 with respect to maneuverability or sea trialing or verification of maneuverability, am I correct?

1 **Dr. Falzarano:** No, sir. I was only suggesting was, you know whatever data I had to access
2 to. I was able to utilize in my validation and if I, if the other data was not available or did not
3 exist I was not able to use that in order to validate my simulations or to subsequently move
4 forward with that. So that's exactly what I was saying. Is that I did not have access to data
5 because it does not exist or it was not available. So that's fine.

6 **Mr. Reisman:** And or it was not required, correct?

7 **Dr. Falzarano:** Sure. So I subsequently determined that the Marshall Island did not require a
8 maneuvering booklet, but they did require that the trials data be corrected for the full load draft
9 at even keel. Some of the data was on the maneuvering poster, but it was not everything that I
10 had hoped for in my validation. But I'm not at all suggesting that the vessel did not meet any
11 requirements. That's not really my place to say that. All I'm saying is what I did have access to
12 in order to validate my simulation. That's all I'm saying.

13 **Mr. Reisman:** Understood and I appreciate that Dr. I want to move now to the issue of path
14 stability that you raised in your testimony earlier. First question in that regard, did you happen
15 to hear the testimony of the Pilot John Tennant who testified in this proceeding last week?

16 **Dr. Falzarano:** I did read his initial – initial interview. I listened to parts of that but not the
17 whole thing. And again that did not affect what I have in my analysis at all.

18 **CAPT WELBORN:** Dr. Falzarano if I may. Mr. Reisman, in the subpoenas for each witness
19 they were specifically instructed not to listen to other witness' testimony during these
20 proceedings. So Dr. Falzarano should not be privy to any information that was brought up
21 previous to his testimony.

22 **Mr. Reisman:** Captain thank you for that clarification. So then I'll summarize and say it's fair
23 to say then you did not hear the testimony of the Master of the ship Captain Gi Hak Lee, you

1 did not hear the full testimony during this hearing of the Pilot, and you did not hear the
2 testimony of Captain Cliff Gorden who was on board the Moran tug that assisted the GOLDEN
3 RAY both in to Brunswick and then out from its berth, am I correct?

4 **Dr. Falzarano:** Sir, I mean like I said I had access to the, you know the initial interviews and
5 all I was trying to do was to understand what happened, what was done beyond, that's all. No
6 so I did not have complete access to any of those things.

7 **Mr. Reisman:** So you're not aware of what those witnesses had to say in this proceeding as
8 to whether the ship maintained path stability, whether it handled properly, whether there any
9 issues with maneuvering or handling prior to the casualty itself at Widener 11, am I correct?

10 **Dr. Falzarano:** Well, sir, the only thing I was referring to was the NTSB analysis which I had
11 access to, an early draft of the NTSB analysis. And I observed the quartermaster – the rudder
12 commands essentially. So that's what I was referring to, sir. I wasn't referring to anybody's –
13 anybody's, other than that. I mean I try to look at things from a quantitative point of view,
14 objective quantitative point of view and not of any sort of, you know opinions other than you
15 know to see what the initial, the initial interviews, sir.

16 **CAPT WELBORN:** Just for clarification the piece from NTSB that Dr. Falzarano is referring to
17 is the transcripts for the initial interviews.

18 **Mr. Reisman:** Thank you Captain. So Dr. Falzarano so you got an opinion with respect to
19 path stability of the GOLDEN RAY, apparently based on your review of the VDR data which
20 showed the rudder movement, is that right?

21 **Dr. Falzarano:** Yes, sir.

22 **Mr. Reisman:** What other ships ----

23 **Dr. Falzarano:** [In audible]. Excuse me?

1 **Mr. Reisman:** You go ahead. Finish your answer please, I'm sorry.

2 **Dr. Falzarano:** I said I could only observe the VDR time history because I did not have access
3 to any sort of sea trial prediction of that. And as you know I tried to obtain that but it did not
4 exist. So that's – observing that I wanted to pursue that but I was not able to pursue that
5 avenue, sir.

6 **Mr. Reisman:** Okay, but you did review the VDR for rudder movements. What I'm curious
7 about is did you study the rudder movements of any other ships whether they're pure car truck
8 carriers or bulkers or any other type of ship coming in or out of the Brunswick channel?

9 **Dr. Falzarano:** No, sir. Not the Brunswick channel but I have – I participated in a previous
10 investigation of another vessel which was a gas carrier and that was actually the focus of that
11 investigation, was the path stability. That was not the focus of my analysis here.

12 **Mr. Reisman:** And I'm just trying to determine how much weight contributed if any, to your
13 opinion today with respect to path stability that your information seems to be contradicted by
14 the live testimony of all the witnesses who testified about the handling and maneuvering of the
15 ship in and out of Brunswick. And you have not done any kind of comparison with other ships
16 that transited through that same area in and out Brunswick. So you're not able to tell us
17 whether this ship handled differently or required more steering, or I think you called it active
18 steering or rudder movements than any other ship of any other nature that's transited that
19 passage. Am I correct?

20 **Dr. Falzarano:** I did do calculations of the hydrodynamic forces and based upon my
21 calculations of the hydrodynamic forces I was able to look at the path stability. And that
22 contributed to my modeling. But I really couldn't say how this vessel compared to other
23 vessels. I really couldn't say.

1 **Mr. Reisman:** Thank you Dr. And then in terms of the upright stability issue. I think you put it
2 in your PowerPoint but I want to make sure that I understand this. If the ship had met the IMO
3 and trimming stability guide requirements for stability. Is it your opinion that this capsizing event
4 would not have happened?

5 **Dr. Falzarano:** What my calculations suggested, and again my initial calculation of the
6 capsizing was validated with the VDR data and then the what if scenario that I suggested is
7 that the roll angle would have been significant – the steady roll angle and the dynamic
8 overshoot roll angle would have been significantly reduced.

9 **Mr. Reisman:** So how does that translate into then the likelihood of this capsizing occurring
10 had those what if scenarios, meaning IMO and trim and stability requirements had been
11 satisfied?

12 **Dr. Falzarano:** It would obviously be much less likely.

13 **Mr. Reisman:** And that's regardless of any issue that may or may not exist with respect to
14 path stability, correct?

15 **Dr. Falzarano:** The two, the four degrees of freedom are coupled. Okay. And so my model
16 was a four degree of freedom model. It wasn't just a roll model, it wasn't just a maneuvering
17 model. It was a four degree of freedom model. So I took into account the coupling of the
18 various modes of motion. And all of those things contribute.

19 **Mr. Reisman:** Okay. And again I don't want to belabor the point. I hopefully conclude on this,
20 but I just want to make sure. Again that absent this finding that the ship had not met the
21 stability requirements of the IMO or the trim and stability guide, is it your opinion that this
22 incident would have occurred?

1 **Dr. Falzarano:** Like my – as per my conclusion the reduced stability that the vessel more than
2 likely had significantly contributed to the larger roll angle induced by the turn. And so that, you
3 know more than likely contributed, yes.

4 **Mr. Reisman:** And to the corollary of that then – the corollary of that then would be that had
5 the ship met the stability criteria it could have been operated safely?

6 **Dr. Falzarano:** Yes, sir. I believe that would be a reasonable conclusion to that.

7 **Mr. Reisman:** Thank you Dr. that's all the questions I have for you.

8 **Dr. Falzarano:** Thank you. I appreciate your attention.

9 **CAPT WELBORN:** Thank you Mr. Reisman. Mr. Gilsenan do you have questions for this
10 witness?

11 **Mr. Gilsenan:** Captain I don't have questions for this witness. Thank Dr. Falzarano and I
12 would like to mention for housekeeping once Dr. Falzarano's testimony is concluded I would
13 like to revisit an issue we had with the exhibit you mentioned at the outset of the Falzarano
14 proceeding regarding the MSC report from Lieutenant Oviatt. We could take that up when this
15 part concludes.

16 **CAPT WELBORN:** Yes, sir. We will circle around to that as soon as we conclude with this
17 witness. Dr. Falzarano thank you again for your statement and your testimony today. I just
18 have small point of clarification. As a hydrodynamic hydraulic specialist you talked about path
19 stability, path stableness or path stable in shallow water. So can you compare and contrast
20 the shallow water to the deeper water with specific to – with specific references to that path
21 stability? Can you tell me how those forces interact on a hull in shallow water compared to
22 deeper water?

1 **Dr. Falzarano:** Again this is from my memory of my analysis of this vessel. But typically the
2 vessel becomes more path stable in shallow water, but less path stable in the restricted
3 channel. And then the squat, the bow squat would have reduced the path stability so there's
4 many factors that effect this path stability. And the IMO sea trials basically, you know suggest,
5 it's not, you know that a pull out test or a spiral test be done if you're suspected of being path
6 unstable in deep water. So many factors, I'm not sure if I'm answering your question. But
7 many factors affect the path stability. Not only the water depth but also the channel would also
8 affect that. And the fact that it was initially in a channel it was probably less path stable in the
9 channel. Okay. And then when it came into the Widener, the open area it would actually
10 regain some of that path stability. And the speed and the relative, the vessel slowly
11 accelerated just a bit. But then the fact that there was this flood tide that would effect it. So
12 many things effected it. And again, I mean just to clarify what I talked to Mr. Reisman about,
13 that was, you know a secondary factor. I mean it was obviously the dynamics and the
14 maneuvering dynamics are coupled to the roll dynamics, but only in a coupled sense. So.

15 **CAPT WELBORN:** Understood.

16 **Dr. Falzarano:** I don't know if I answered your question.

17 **CAPT WELBORN:** Dr. Falzarano, I'm sorry, sir. I'm sorry to interrupt. We've lost our live
18 feed again. So I'm talking a short recess until we can regain that.

19 **Dr. Falzarano:** Yes, sir.

20 **CAPT WELBORN:** Okay I believe we have reestablished our livestream feed. Again Dr.
21 Falzarano thank you for your patience. I withdraw my last question regarding path stability,
22 path stable in shallow water.

23 **Dr. Falzarano:** Just to clarify, sir.

1 **CAPT WELBORN:** Yes, sir.

2 **Dr. Falzarano:** Actually the IMO allows a certain amount of path instability. Most large
3 tankers and bulk carriers are actually path unstable at the design speed in deep water. As
4 they go slower they gain that stability, but also the shallow water, the restriction of the channel
5 all effects that. So it's not a simple answer. The trim also effects it. So withdraw the question
6 is fine, but it's – I have lots of information there, sorry.

7 **CAPT WELBORN:** Understood. Yes Dr. Falzarano, thank you very much. Any follow-on
8 questions from our SIS's for Dr. Falzarano. I see none from Mr. Bremer. Captain Flaherty any
9 follow-on questions.

10 **NTSB:** No further questions, thank you.

11 **CAPT WELBORN:** Thank you Captain Flaherty. Any follow-on questions from our PII's? Mr.
12 Reisman?

13 **Mr. Reisman:** No follow-ups Captain.

14 **CAPT WELBORN:** Mr. Gilsenan?

15 **Mr. Gilsenan:** No follow-ups for this witness.

16 **CAPT WELBORN:** Thank you very much. Dr. Falzarano again thank you very for your
17 testimony today. You're subject to recall until we conclude these formal hearings. And again
18 thank you.

19 **Dr. Falzarano:** Thank you for the opportunity. Have a nice day.

20 **CAPT WELBORN:** Mr. Gilsenan I believe you had an objection to a previously discussed
21 piece of evidence. Now is the time if you want to bring that forward.

22 **Mr. Gilsenan:** Yes Captain thank you. And I'm not able to start the video so I'll have just to
23 do without video. Regarding the Marine Safety Center report from Lieutenant Oviatt we

1 submitted a question, it's quite complex on Tuesday September 15th where consideration in
2 the report and it regarded specifically conclusion 3B about the application of counter rudder,
3 it's at page 38 of the MSC report. Lieutenant Oviatt's presentation this morning was very
4 thorough and it did not all address conclusion 3B. So we were believing that conclusion 3B
5 would be removed from the report and that's I didn't ask him about conclusion 3B. And
6 otherwise we certainly would have. We would have presented the question again. But now
7 that at the outset of Dr. Falzarano proceeding the report was introduced into evidence in
8 addition to the PowerPoint presentation that did not address conclusion 3B. And alas
9 conclusion 3B is still in there. And I can read out question into the record. Again it's two
10 pages long. I have forwarded it again to Lieutenant Commander Moore about an hour ago
11 when it was introduced into evidence. And as a result of that conclusion we do have an
12 objection to be spent because this question remains outstanding and unanswered. And we
13 would like Lieutenant Oviatt to address it.

14 **CAPT WELBORN:** That question was specifically about the report, but not about the
15 PowerPoint, is that correct, sir.

16 **Mr. Gilsenan:** Yes, sir.

17 **CAPT WELBORN:** So we will move Exhibit 16B, Lieutenant Oviatt's report into a provisional
18 status until we have such time to review that question after the conclusion of today's hearing.
19 So if no further objections that piece of evidence again will be provisional until I've had such
20 time to review it.

21 **Mr. Gilsenan:** Thank you Captain.

22 **CAPT WELBORN:** Thank you, sir. Regarding Dr. Falzarano's testimony we have two pieces
23 of evidence, the PowerPoint that Dr. Falzarano used for demonstrative purposes today will be

1 marked as Coast Guard Exhibit 17A. Dr. Falzarano's full report will be marked 17B. Without
2 any objections we will move those into evidence. Objections from NTSB, Captain Flaherty?

3 **NTSB:** No objections.

4 **CAPT WELBORN:** Flag State, Mr. Bremer?

5 **Mr. Bremer:** No objection Captain.

6 **CAPT WELBORN:** PII, Mr. Reisman?

7 **Mr. Reisman:** Captain this is David Reisman I do object to the conclusion of the whole report.
8 To my knowledge that has not been made available to the PII's. So as we sit here today I
9 have never seen it. I've only seen the PowerPoint that's been provided that was used in
10 connection with his testimony. I can also say that I further object to the PowerPoint itself that it
11 contains a number of statements and conclusions that he simply backed off of today. I think it
12 would be inappropriate to have those in [in audible] subsequent content.

13 **CAPT WELBORN:** Your objection is noted. Mr. Gilsenan do you have objections?

14 **Mr. Gilsenan:** No Captain.

15 **CAPT WELBORN:** Just in reference to making the exhibits available. I do believe they are
16 available in Homeport. However, we will turn them in again, make those available to our PII's
17 and SIS's for additional review. And so we'll admit those pieces of evidence provisionally until
18 such time as we have an opportunity to address any further objections for review and possible
19 correction or amendment by the witness. So 17A and 17B are provisionally admitted until such
20 time as we are able to clear up those issues. Anything further? Okay hearing nothing we'll – I
21 did not and I have to apologize we dismissed the witness, but I do not see any questions from
22 KMST for Dr. Falzarano. We're in good shape on that one. The local time now is 1:49. We'll

1 take a 5 minute recess in preparation for a reading and statement from one crewmember next.

2 Again the local time 1:49 we stand in recess for 5 minutes.

3 *The hearing recessed at 1:49, 22 September 2020*

4 *The hearing was called to order at 1:59, 22 September 2020*

5 **CAPT WELBORN:** The local time is 1:59 and we're back on the record for the formal hearing
6 of the capsizing of the Motor Vessel GOLDEN RAY. As stated during last Wednesday's
7 session of the hearing the Chief Officer of the GOLDEN RAY at the time of the incident, Chief
8 Officer Park did not testify at the recommendation of his Korean and U.S. Counsel. We
9 retained an open time slot for Mr. Park to testify until the end of the day, the final session of the
10 hearing. Mr. Park's counsel, Mr. John Ouset Jr. (sic) confirmed that Mr. Park would not be
11 testifying at all. Mr. Ouset (sic) submitted written confirmation of Mr. Park's decision not to
12 testify. Unfortunately Mr. Park is a South Korean national located in South Korea and such I
13 do not have the authority to subpoena his testimony for this formal hearing. We have intended
14 to fill gaps resulting from the lack of Chief Officer Park's testimony through other witness
15 testimony and evidence. We will admit Mr. Ouset (sic) letter as Coast Guard Exhibit 18A
16 unless there are any objections by substantially interested States or parties in interest. Are
17 there any objections at this time? Hearing none Coast Guard Exhibit 18A, Mr. Ouset (sic) will
18 so be admitted into evidence. In lieu of live testimony our investigation team has identified
19 relevant excerpts of Mr. Parks previously sworn testimony taken on September 11th, 2019 in
20 Brunswick, Georgia. An additional testimony provided to Korean Maritime Safety Tribunal on
21 October 30th, 2019. Both sections have been vetted through the PII's and SIS's and we
22 obtained no objections. At this time ENS Andrew Brown and MST2 Monika Spies will begin

1 reading the excerpts. Lieutenant Commander Moore has previously sworn both of them in.

2 ENS Brown, MST2 Spies please commence.

3 [The following transcript was read in by ENS Brown and MST2 Spies]

4 **MR. FLAHERTY:** Sir, if you could, please state your name?

5 **MR. PARK:** Park Hyunjin. Do you need the spelling?

6 **MR. FLAHERTY:** Yes. Spelling of your last name, please.

7 **MR. PARK:** It's P-A-R-K, H-Y-U-N-J-I-N.

8 **MR. WILLETT:** Okay, sir, before we get started talking about the incident, we'd like to know
9 some of your background. How long have you been sailing?

10 **MR. PARK:** Sir, around 13 years.

11 **MR. WILLETT:** Thirteen years?

12 **MR. PARK:** Yes, sir.

13 **MR. WILLETT:** And how long have you been a chief officer?

14 **MR. PARK:** Ten years.

15 **MR. WILLETT:** Okay. And of that 10 years, how long have you been a chief officer on a car
16 carrier?

17 **MR. PARK:** Six years.

18 **MR. WILLETT:** And what time did you embark on the ship?

19 **MR. PARK:** 2019.

20 **MR. WILLETT:** Okay.

21 **MR. PARK:** In March.

22 **MR. WILLETT:** March 2019?

23 **MR. PARK:** March 5.

1 **MS. BELL:** Okay. And do you -- how were you trained to use that software?

2 **MR. PARK:** Training?

3 **MS. BELL:** Um-hum.

4 **MR. PARK:** This, just to be the chief officer, handover time, he explain how to using like this.

5 But this, all is, almost is fixed just to put in the data, like easy to understand it, how to using

6 this. Normally can password to the computer using, maybe the -- easy to understand.

7 **MS. BELL:** It's easy to understand?

8 **MR. PARK:** Yes.

9 **MS. BELL:** Okay. So did you learn on the job? He shows you when you're --

10 **MR. PARK:** Over, handover time.

11 **MS. BELL:** Handover.

12 **MR. PARK:** Yeah.

13 **MS. BELL:** Okay. So about how long did it take you to learn to use the program?

14 **MR. PARK:** Programs, we are hand over at the sailing time. I already using this Loadcom

15 because I'm calculating GM. I am reporting to the captain.

16 **MS. BELL:** So when you learned how to use it the first time, how long did it take you to learn?

17 **MR. PARK:** Only 3 hour, 4 hour.

18 **LCDR MARTIN:** So, the last thing I want you to do for me is from when the vessel left the dock

19 in Brunswick, Georgia, up until you were rescued by the Coast Guard in your words, give us

20 that story, please?

21 **MR. PARK:** I'm chief officer, the online they go, and the ship is sailing. And the pilot and

22 captain and duty officer and quartermaster onboard. And the captain says, dismissed. Only

23 two members remain. And I am going to up the bridge. And this time, the pilot and the captain

1 ordered the bridge member, his duty, and I speak to the leader, only 10 minute, 5 minute,
2 talking about something problem, no problem. And discussing with the captain. And the
3 captain says, dismiss. I go down in the cabin. And the, I don't know how long time, but 10
4 minute, 20 minutes between the ship is going through starboard and port. So, I'm just, after
5 direct handling going to the, am I feeling more than 40-degree, 50 degree, like this. I'm just
6 tried to escape. That's all.

7 **LCDR MARTIN:** So where were you at when the ship started to list over?

8 **MR. PARK:** I'm just lay on my bed.

9 **LCDR MARTIN:** Where's your -- you were in your stateroom?

10 **MR. PARK:** Yes. I'm in my cabin.

11 **LCDR MARTIN:** Where's your cabin on the ship?

12 **MR. PARK:** The starboard side.

13 **LCDR MARTIN:** Okay. Midship? Starboard side midship, forward, aft?

14 **MR. PARK:** Midship the starboard side.

15 **LCDR MARTIN:** Okay. How did you --

16 **MR. PARK:** Forward. Forward.

17 **LCDR MARTIN:** Say that again?

18 **MR. PARK:** Forward.

19 **LCDR MARTIN:** Okay. Forward again.

20 **MR. PARK:** Forward.

21 **LCDR MARTIN:** How did you get out of the ship?

22 **MR. PARK:** This on the, the ship is going to the starboard side, so or something I attempt, or
23 going down through the door side, over the barriers, then one by one I'm finding, I find the

1 telephone and the watching. And the one by one take out and try to open the door, very small.
2 And I try to escape. So, everything was fell, and I was blocking the passage. So, you just
3 clapped to the small, portion of the door. And he escaped through the door.

4 **UNIDENTIFIED SPEAKER:** That didn't sit.

5 **UNIDENTIFIED SPEAKER:** Did you get your life jacket out of your stateroom or --

6 **MR. PARK:** No taking this. No sense.

7 **UNIDENTIFIED SPEAKER:** It was too, too fast or --

8 **MR. PARK:** I am feeling something accident coming. So, I, the first thinking is this area
9 escape, first time, no thinking lifejacket, no one, no thinking. Just I escape.

10 **UNIDENTIFIED SPEAKER:** Was it completely dark?

11 **MR. PARK:** Yes.

12 **UNIDENTIFIED SPEAKER:** Okay. Did you have a flashlight?

13 **MR. PARK:** I take flashlight.

14 **MR. WILLETT:** March 5, 2019. Okay. So what is a normal day for you on the vessel? What are
15 some of your jobs and duties that you do?

16 **MR. PARK:** On most the ships, on most the ships, the operation is I involve the -- something,
17 the supervising, like there is something, car operation and operation with control, something
18 provision, and almost to the captain order, I follow the captain order.

19 **MR. WILLETT:** So does the captain give you standing orders?

20 **MR. PARK:** Yes.

21 **MR. WILLETT:** Does that change any or is it daily; is it weekly? Does he tell you every day
22 what to do?

23 **MR. PARK:** No.

1 **MR. WILLETT:** No?

2 **MR. PARK:** This is the just fixed.

3 **MR. WILLETT:** Okay. So during, like, cargo operations, what would you normally be doing?

4 **MR. PARK:** Normally we checking the storage plan, how many loading, discharging, how

5 many weights, and the lashing condition, and which portion loading and which portion

6 discharging, checking the storage plan, and the other general something damaging or

7 something problem We making the damage reports, like this. The cargo operation is just that.

8 **MR. WILLETT:** Where are you normally located physically during cargo operations?

9 **MR. PARK:** Normally the -- what?

10 **MR. WILLETT:** Where would you actually be standing or where would you be present during

11 cargo operations, loading and unloading of vehicles? Would you be in the ballast control

12 room? Would you be in your office?

13 **MR. PARK:** This not fixed. Sometimes I am going to the cargo hold, actual check. Sometimes

14 I'm going to the ship's office. And sometimes I'm needed heeling adjust.

15 **MR. WILLETT:** Okay.

16 **MR. PARK:** Yeah.

17 **MR. WILLETT:** Where is the heeling adjustment?

18 **MR. PARK:** The ship's office.

19 **MR. WILLETT:** Okay. So the ship's office has the ballast control?

20 **MR. PARK:** Yes, ship's office.

21 **MR. WILLETT:** Okay.

22 **MR. PARK:** But we, the ballast control is the bridge compartment, ship's office compartment,

23 engine room compartment.

1 **MR. WILLETT:** So the engine room, ship's office and the bridge?

2 **MR. PARK:** Yes.

3 **MR. WILLETT:** So you can control ballast --

4 **MR. PARK:** Normally, I control the ship's office.

5 **MR. WILLETT:** Okay. So normally that's where you would be if you wanted to control ballast?

6 **MR. PARK:** Yes.

7 **MR. WILLETT:** Okay. So how many hours do you normally work a day?

8 **MR. PARK:** This one depends on cargo operation.

9 **MR. WILLETT:** Okay. So in the last, you know, maybe month, have you ever had to work more
10 than the STCW hours? Have you ever busted your hours?

11 **MR. PARK:** You may say that again?

12 **MR. WILLETT:** Work more than 77 hours a week?

13 **MR. PARK:** No. No more than 77 hours.

14 **MR. WILLETT:** So you've never had to go over?

15 **MR. PARK:** No over.

16 **MR. WILLETT:** Never? Okay.

17 **MR. PARK:** Okay.

18 **MR. McRAE:** Okay. Tell me about that. Were there any instructions given to you for this ship
19 from a charterer as to how to load?

20 **MR. PARK:** They sending to the ship the pre-storage plan. They planning this loading, which
21 deck, like this with the ship. I understand which side loading they chartering. He sending to the
22 email, the storage plan.

23 **MR. McRAE:** And who was that, that sent you that?

1 **MR. PARK:** This Hyundai Glovis.

2 **MR. WILLETT:** Okay. So during, like, cargo operations, what would you normally be doing?

3 **MR. PARK:** Normally we checking the storage plan, how many loading, discharging, how
4 many weights, and the lashing condition, and which portion loading and which portion
5 discharging, checking the storage plan, and the other general something damaging or
6 something problem. We making the damage reports, like this. The cargo operation is just that.

7 **MR. WILLETT:** Where are you normally located physically during cargo operations?

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10 cargo operations, loading and unloading of vehicles? Would you be in the ballast control
11 room? Would you be in your office?

12 **MR. PARK:** This not fixed. Sometimes I am going to the cargo hold, actual check. Sometimes
13 I'm going to the ship's office. And sometimes I'm needed heeling adjust.

14 **MR. WILLETT:** Okay. So do you check -- you have your assistants check every vehicle to
15 make sure they're lashed?

16 **MR. PARK:** You mean that I am checking the lashing condition?

17 **MR. WILLETT:** Or you have one of your assistants?

18 **MR. PARK:** My officer, sir. Yes, check and he reporting to me.

19 **MR. WILLETT:** Do you ever let your assistants adjust ballast or --

20 **MR. PARK:** Can pass work.

21 **MR. WILLETT:** Who would you allow?

22 **MR. PARK:** All officers can pass.

23 **MR. WILLETT:** Now on this vessel, do you allow the other officers to adjust

1 the ballast?

2 **MR. PARK:** Can possible.

3 **MR. WILLETT:** Possible?

4 **MR. PARK:** Yes.

5 **MR. WILLETT:** Okay. How do you determine how much you take on and how much you

6 discharge?

7 **MR. PARK:** About 1,000 to 500.

8 **MR. WILLETT:** I know but how do you know that's how much you did?

9 **MR. PARK:** This -- the system is, the monitoring system have --

10 **MR. WILLETT:** And that works perfectly?

11 **MR. PARK:** Yes. Correct. And we, two methods of using.

12 **MR. WILLETT:** Okay.

13 **MR. PARK:** One is the monitoring, and the one is the actual sounding.

14 **MR. WILLETT:** The soundings?

15 **MR. PARK:** Okay.

16 **MR. WILLETT:** And so, you sound -- every time you conduct ballast operations, you watch on

17 the monitor?

18 **MR. PARK:** Yes.

19 **MR. WILLETT:** And then who do you have go out and sound?

20 **MR. PARK:** The quartermaster.

21 **MR. WILLETT:** The quartermaster?

22 **MR. PARK:** Yes.

23 **MR. WILLETT:** And they write everything down?

1 **MR. PARK:** Yes.

2 **MR. WILLETT:** And they give it --

3 **MR. PARK:** No. No writing. Just reporting.

4 **MR. WILLETT:** Oh, so he talks?

5 **MR. PARK:** Yeah. He can password through the transceiver.

6 **MR. WILLETT:** Okay. And then, but do you type it in or you just look

7 **MR. PARK:** I compare the actual sounding and the monitor sounding, compare.

8 **MR. WILLETT:** Okay.

9 **MR. PARK:** Then I the recording.

10 **MR. WILLETT:** So do you record it?

11 **MR. PARK:** Yes.

12 **MR. WILLETT:** Okay. Has the sounding in the last month or two ever differed from what you

13 saw on your monitor? Have you got different readings before?

14 **MR. PARK:** Different reading, I check, but I no experience different reading.

15 **MR. WILLETT:** You never have?

16 **MR. PARK:** Yes.

17 **MR. WILLETT:** For Hurricane Dorian --

18 **MR. PARK:** Yes.

19 **MR. WILLETT:** -- did that change the way you were having to load anything?

20 **MR. PARK:** You mean, sir, the --

21 **MR. WILLETT:** Because you guys had to --

22 **MR. PARK:** -- the hurricane?

23 **MR. WILLETT:** Yes.

1 **MR. PARK:** Dorian Hurricane, we avoiding the hurricane, the east to Mexico sea.

2 **MR. WILLETT:** Okay.

3 **MR. PARK:** So we, drifting and this instruction come from the (indiscernible) office. They say,

4 maybe just now a little dangerous, that navigation, so everything is more better, like

5 (indiscernible).

6 **MR. WILLETT:** Okay.

7 **MR. PARK:** Okay. We do everything and we adjusting the schedule.

8 **MR. WILLETT:** Do you have different ballast conditions for severe weather?

9 **MR. PARK:** Yes.

10 **MR. WILLETT:** So did you alter the ballast or the heel for Hurricane Dorian?

11 **MR. PARK:** We lower the ballast to the 1,000 to 500, I think. The figure is, I'm not --

12 **MR. WILLETT:** That's fine. That's fine. And you did that because of the Hurricane?

13 **MR. PARK:** Yes.

14 **MR. WILLETT:** Okay. So how long would you normally stay in that condition?

15 **MR. PARK:** The deck condition?

16 **MR. WILLETT:** Yeah, the storm condition?

17 **MR. PARK:** Storm condition, we know in place the hurricanes.

18 **MR. WILLETT:** Okay. So as the hurricane passed, did you discharge ballast?

19 **MR. PARK:** Yes.

20 **MR. WILLETT:** And do you remember approximately --

21 **MR. PARK:** The same, same --

22 **MR. WILLETT:** You took --

23 **MR. PARK:** -- loading ballast here and discharging.

1 **MR. WILLETT:** So when you got to the ST buoy in Brunswick, you didn't take any ballast
2 between Jacksonville and Brunswick?

3 **MR. PARK:** Yes.

4 **MR. WILLETT:** No ballast?

5 **MR. PARK:** No touching the ballast tank.

6 **MR. WILLETT:** Okay. So you went to the Port of Brunswick, discharged cargo?

7 **MR. PARK:** Yes.

8 **MR. WILLETT:** Took on cargo.

9 **MR. PARK:** Yes.

10 **MR. WILLETT:** Did you conduct any ballasting at all?

11 **MR. PARK:** No discharging, no loading.

12 **MR. WILLETT:** Did you have to take on any ballast or adjust the ballast in Jacksonville?

13 **MR. PARK:** No. No, taking ballast.

14 **MR. WILLETT:** Did you discharge ballast?

15 **MR. PARK:** No discharging ballast.

16 **MR. WILLETT:** So when you got to the ST buoy in Brunswick, you didn't take any ballast
17 between Jacksonville and Brunswick?

18 **MR. PARK:** Yes.

19 **MR. WILLETT:** No ballast?

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21 **MR. WILLETT:** Okay. So you went to the Port of Brunswick, discharged cargo?

22 **MR. PARK:** Yes.

23 **MR. WILLETT:** Took on cargo.

1 **MR. PARK:** Yes.

2 **MR. WILLETT:** Did you conduct any ballasting at all?

3 **MR. PARK:** No discharging, no loading.

4 **MR. WILLETT:** Did you do any heel adjust?

5 **MR. PARK:** Heeling tank increase, normally three tanks we're using.

6 **MR. WILLETT:** So, did you adjust the heel in Brunswick?

7 **MR. PARK:** Yeah. Only adjusting heeling.

8 **MR. WILLETT:** Do you ever let your assistants adjust ballast or --

9 **MR. PARK:** Can pass work.

10 **MR. WILLETT:** Who would you allow?

11 **MR. PARK:** All officers can pass.

12 **MR. WILLETT:** Now on this vessel, do you allow the other officers to adjust

13 the ballast?

14 **MR. PARK:** Can possible.

15 **MR. WILLETT:** Possible?

16 **MR. PARK:** Yes.

17 **MR. WILLETT:** Did you have to transfer any ballast-only tanks?

18 **MR. PARK:** Heeling tanks.

19 **MR. WILLETT:** Heeling tanks?

20 **MR. PARK:** Yes.

21 **MR. WILLETT:** Do you remember how much you transferred?

22 **MR. PARK:** Don't remember.

1 **MR. WILLETT:** Don't remember. Okay. So, during the loading and unloading in Jacksonville,
2 did you experience any unusual list, greater than 10 degrees?

3 **MR. PARK:** Unusual?

4 **MR. WILLETT:** Like did it list at all when you were loading and --

5 **MR. PARK:** Just upright.

6 **MR. WILLETT:** What was that?

7 **MR. PARK:** Upright. This meaning is --

8 **MR. WILLETT:** Upright?

9 **MR. PARK:** Upright.

10 **MR. WILLETT:** So why did you adjust your heel in Jacksonville?

11 **MR. PARK:** Why I adjusting heel?

12 **MR. WILLETT:** Yes.

13 **MR. PARK:** This depend on cargo operation. We put -- cargo is loading port side, we heeling
14 going to the port side.

15 **MR. WILLETT:** Yeah.

16 **MR. PARK:** Car discharging port side, we going to the starboard. Just depend on cargo
17 operations.

18 **MR. WILLETT:** And that happened in Jacksonville?

19 **MR. PARK:** What?

20 **MR. WILLETT:** In Jacksonville --

21 **MR. PARK:** Yes.

22 **MR. WILLETT:** -- did you adjust your heel?

23 **MR. PARK:** Yes.

1 **MR. WILLETT:** Okay.

2 **MR. PARK:** Every port.

3 **MR. WILLETT:** Every port?

4 **MR. PARK:** Yes.

5 **MR. WILLETT:** So you sit in the control room or do you sit in the ship's office?

6 **MR. PARK:** Yes.

7 **MR. WILLETT:** While the cars are being loaded and unloaded, and if it starts to heel --

8 **MR. PARK:** Yes.

9 **MR. WILLETT:** -- you would -- you transfer --

10 **MR. PARK:** The ballast.

11 **MR. WILLETT:** Okay. Into the heel tanks?

12 **MR. PARK:** Yes.

13 **MR. WILLETT:** To make sure it's upright?

14 **MR. PARK:** Yes.

15 **MR. WILLETT:** So what do you --

16 **MR. PARK:** This (indiscernible) I cannot speak to any kind upright because I am thinking about

17 the cargo loading portion or discharging portion, and the heeling going to the -- if we heeling

18 going to the starboard side, I thinking, that we list not upright. Neither port side is better.

19 **MR. WILLETT:** Okay.

20 **MR. PARK:** Because discharging after we're going to the starboard side, maybe like this, I saw

21 continuous I'm not adjust heeling. Just sometimes too much going like this, maybe dangerous,

22 I thinking, I'm going to the heeling adjust, like this.

23 **MR. WILLETT:** What is your limit, like 5 degrees, 10 degrees?

1 **MR. PARK:** This limit, this -- I'm limit is 2 degrees.

2 **MR. WILLETT:** Two degrees?

3 **MR. PARK:** Yes.

4 **MR. WILLETT:** Okay. Two degrees. All right. Are you the only one that will adjust the heel on
5 the ballast?

6 **MR. PARK:** Two heeling tanks.

7 **MR. WILLETT:** But in Brunswick, did it significantly list during loading?

8 **MR. PARK:** Yes.

9 **MR. WILLETT:** Like what, to what degree do you think during loading and unloading?

10 **MR. PARK:** Not too much. About 1 degree.

11 **MR. WILLETT:** One degree?

12 **MR. PARK:** Yes.

13 **MR. WILLETT:** Okay. And before you depart, do you verify the GM of the vessel to make sure
14 its stable?

15 **MR. PARK:** Yes.

16 **MR. WILLETT:** And in your -- what do you use for that? Do you have like a manual that says
17 your GM has to be between these two numbers prior to departure?

18 **MR. PARK:** Sorry?

19 **MR. WILLETT:** What was your GM at departure?

20 **MR. PARK:** 2.45.

21 **MR. WILLETT:** Okay. Is that a good GM?

22 **MR. PARK:** Yes. This is the -- our -- the Loadcom.

23 **MR. WILLETT:** Yeah.

1 **MR. PARK:** This printing, the printout, this -- if the something no good, this article is not okay,
2 like this.

3 **MR. WILLETT:** Okay.

4 **MR. PARK:** But I'm looking the paper and at this condition all okay or not. Checking after I
5 develop (indiscernible).

6 **MR. WILLETT:** So a computer tells you --

7 **MR. PARK:** Yes.

8 **MR. WILLETT:** -- if your GM is okay?

9 **MR. PARK:** Yeah, computer tell me the GM is okay.

10 **MR. WILLETT:** What parameters does it use to know that it's -- the stability is okay? Does it
11 have the draft, the heel?

12 **MR. PARK:** Yeah, this -- the programing already this, Loadcom programing, this already are
13 approval to the class approver.

14 **MR. WILLETT:** Right.

15 **MR. PARK:** And I am just put inside the cargo unit and the weight.

16 **MR. WILLETT:** Okay.

17 **MR. PARK:** And deck.

18 **MR. WILLETT:** Yeah.

19 **MR. PARK:** And the ballast and fuel and the fresh water. And all put in the data and then I
20 printout.

21 **MR. WILLETT:** How do you know what the, where the fuel -- what levels the tanks are?

22 **MR. PARK:** Just looking for the monitor.

23 **MR. WILLETT:** So you don't get a report from the engineers?

1 **MR. PARK:** No. No, (indiscernible).

2 **MR. WILLETT:** Okay. So you use the monitor --

3 **MR. PARK:** Yes.

4 **MR. WILLETT:** -- to tell you? Okay. And is that the potable water tank as well?

5 **MR. PARK:** Yes.

6 **MR. WILLETT:** And the sewage tank?

7 **MR. PARK:** What?

8 **MR. WILLETT:** The sewage tank?

9 **MR. PARK:** The sewage tank is --

10 **MR. WILLETT:** Is it too small or --

11 **MR. PARK:** -- cannot monitor.

12 **MR. WILLETT:** Okay, okay. So, you can monitor the larger tanks on the vessel? You know

13 what height the weight is on each deck?

14 **MR. PARK:** Yes.

15 **MR. WILLETT:** You would input that, and the computer says your GM is okay?

16 **MR. PARK:** This all programing is either the capacity.

17 **MR. WILLETT:** Yes.

18 **MR. PARK:** And put inside how much, how much here or the programing.

19 **MR. BREMER:** The load computer, your stability computer that was on the Golden Ray, have

20 you worked with that software on previous vessels?

21 **MR. PARK:** Different software.

22 **MR. BREMER:** Different software?

23 **MR. PARK:** Yes.

1 **MR. BREMER:** Was the function similar, different?

2 **MR. PARK:** Almost similar.

3 **MR. BREMER:** Very similar?

4 **MR. PARK:** Yeah.

5 **MR. BREMER:** Okay. As far as your draft readings --

6 **MR. PARK:** Yes.

7 **MR. BREMER:** --how were those calculated? How were those taken? How were the draft

8 readings taken?

9 **MR. PARK:** This -- the (indiscernible) the draft and I compare the actual draft.

10 **MR. BREMER:** Okay. So you have --

11 **MR. PARK:** So I'm comparing the actual draft.

12 **MR. BREMER:** Okay. So you have gauges, draft gauging, and then you also verify --

13 **MR. PARK:** Yeah. There's three kind. The first is gauging, and then I am actual reading the

14 draft, and then this -- the system that calculate draft.

15 **MR. BREMER:** Okay.

16 **MR. PARK:** Three kind.

17 **MR. BREMER:** Okay. So from the loading computer based on the salinity, everything else

18 that's input?

19 **MR. PARK:** Yes.

20 **MR. BREMER:** Okay. And do you remember to the best of your recollection, did what the

21 computer calculated for your -- what the draft should be based on the loading conditions, was

22 that fairly close to the actual draft?

23 **MR. PARK:** Almost close.

1 **MR. BREMER:** They were close?

2 **MR. PARK:** Not too much difference.

3 **MR. BREMER:** When you say not much, do you remember how much? Was it, you know, .1

4 meter? And if you don't remember, it's not --

5 **MR. PARK:** This one, I'm recording this: the gauge draft, actual draft, how many different, and

6 also the system draft, actual draft, how many different, and GM. On every port, arrival,

7 departure, I'm recording.

8 **MR. BREMER:** Okay. And it's -- so the calculations from the computer versus your actual draft

9 were fairly close? They were close together?

10 **MR. PARK:** Almost to the close.

11 **MR. BREMER:** Almost the same?

12 **MR. PARK:** Um-hum.

13 **MR. BREMER:** Okay. And the vessel at departure was sitting even, so your port and your

14 starboard drafts were the same? She was level, zero degrees?

15 **MR. PARK:** The upright and leaving?

16 **MR. BREMER:** Yes.

17 **MR. PARK:** Yes.

18 [End of transcript read into the record].

19 **CAPT WELBORN:** Thank you MST2 Spies and ENS Brown. At this time we'll transition to the

20 report obtained October 30th in Korea by KMST.

21 [The following transcript was read by ENS Brown and MST2 Spies].

22 **KMST:** Please state your name and position.

23 **MR. PARK:** I am Chief Officer Park Hyun-jin of the Golden Ray.

1 **KMST:** After entering the Port of Brunswick, when did you receive the stowage plan?

2 **MR. PARK:** I received the pre-stowage plan before we reached port. I did not receive the final
3 stowage plan before leaving port.

4 **KMST:** Please fully explain the process through which cars were loaded onto the ship this time
5 at the Port of Brunswick, including receiving the stowage plan and entering changes in ballast
6 water quantity and/or cargo shipment into the LOADCOM.

7 **MR. PARK:** At the Port of Brunswick, apart from transferring water between port and starboard
8 heeling tanks, there was no increase or decrease in the quantity of ballast water. The bunker
9 and water quantity can be checked on the IMACs computer, based on which the relevant
10 numbers are entered into the LOAD COM. The data for the stowage plan was entered into the
11 LOAD COM based on the pre-stowage plan. Usually stowage data is entered after loading is
12 completed. At the Port of Brunswick, because we didn't receive the final stowage plan before
13 leaving port, we estimated the data values based on the pre-stowage plan.

14 **KMST:** Were there any differences between the pre-stowage and final stowage plans?

15 **MR. PARK:** Usually, there is little difference, if any. This was also true at the Port of
16 Brunswick.

17 **KMST:** How did you calculate the average weight?

18 **MR. PARK:** At the Port of Brunswick, I did not receive a final stowage plan. Instead, I was
19 given the pre-stowage plan. Because I had access to only the number of cars and did not
20 know the car type, I calculated the total weight based on the average weight of the given
21 number of cars. In general, based on my experience, a small car weighs 1.3 tons, and a mid-
22 sized car weighs about two tons. After the cars are loaded onto the ship, the actual weight is
23 usually very similar to my initial calculation. Regarding the difference between the entered

1 values for the LOAD COM data used for the safety inspection (for things such as the ship's
2 stability) before entering port based on the pre-stowage plan and the entered values for the
3 LOAD COM data based on the pre-stowage plan before leaving port, the weight of the cargo
4 was the same. However, there may be some differences in the values for ballast water,
5 bunker, water, etc. The numbers of loaded and unloaded cars specified in the pre-stowage
6 plan that we received upon entering port and the numbers upon leaving port were almost
7 identical. Therefore, I don't think that there was any substantive difference between the total
8 weight of the cars (based on average weight per car) and the actual total weight. Also, the draft
9 was almost exactly the same upon both leaving and entering port.

10 [End of transcript read into the record].

11 **CAPT WELBORN:** Thank you very much ENS Brown and MST2 Spies I do appreciate your
12 reading of these two documents. So during this, we have a little bit of housekeeping
13 information or things to take care of. Mr. Gilsenan regarding your objection to 16B Lieutenant
14 Oviatt's final report I'm going to go ahead and admit 16B into evidence. And we will address
15 your concerns and your specific question in the final report. Thank you, sir. Mr. Reisman
16 concerning your objection to 17A and 17B, Dr. Falzarano's PowerPoint and final report I'm
17 going to administratively admit these into the record and address, excuse me, your objection is
18 on the record and we will address your objections and any excerpts that we need, possibly,
19 that we may possibly use of Dr. Falzarano's report in the final report of the investigation
20 hearing. We will address those issues in the final report alongside your objections.

21 **Mr. Reisman:** Thank you Captain.

22 **CAPT WELBORN:** So during this final session of the hearing, we heard from LT Ian Oviatt,
23 naval architect with the U.S. Coast Guard's Marine Safety Center. Lieutenant Oviatt presented

1 slides as to his conclusions regarding the stability of the GOLDEN RAY, including her stability
2 on the capsized voyage and her preceding voyages. Lieutenant Oviatt discussed the righting
3 arm curve theory and the 2008 IMO Intact Stability Code (also known as the IS Code),
4 including an explanation of technical terms such as metacentric height. In addition, Lieutenant
5 Oviatt spoke about his computer model development at the Marine Safety Center and
6 discussed the GOLDEN RAY's stability during the turn right before she capsized. Lieutenant
7 Oviatt analyzed the additional ballast on the GOLDEN RAY during her preceding voyages
8 compared with the capsized voyage and the GOLDEN RAY's varying drafts. Additionally,
9 Lieutenant Oviatt testified regarding downflooding with respect to the GOLDEN RAY's pilot
10 door. We entered this presentation as Coast Guard Exhibit A and provisionally entered
11 Lieutenant Oviatt's Final Report as Coast Guard Exhibit B along with objections.

12 We also heard testimony from Dr. Jeffrey Falzarano. Dr. Falzarano presented slides as to his
13 hydrodynamic assessment of the incident. He discussed the maneuverability of the GOLDEN
14 RAY and referred to IMO Resolution MSC 137 and IMO Resolution 601. Dr. Falzarano also
15 spoke about his steady turning model validation compared to other cases and maneuverability
16 trials on the GOLDEN RAY's sister ship, the SILVER RAY. Dr. Falzarano testified regarding
17 the generic behavior of a ship rolling in a turn and discussed the simulation of the incident,
18 including the predicted effect of GM on a rolling motion in a vessel's turn. We entered this
19 presentation as Coast Guard Exhibit A, Dr. Falzarano's Report and PowerPoint, excuse me,
20 yes 17B and C, excuse me, 17A and 17B along with objections. In addition, ENS Brown and
21 MST2 Spies made relevant excerpts, read relevant excerpts from the Chief Officer of the
22 GOLDEN RAY, Mr. Park's previous sworn testimony before the Coast Guard in September
23 2019 and before KMST in October 2019. We entered these excerpts as Coast Guard B and

1 Coast Guard Exhibit C, respectively. Actually that's incorrect. We have not entered those as
2 of yet. 18A, Mr. Ouset (sic) was entered. And previously stipulated from the Coast Guard
3 testimony and the KMST testimony will be entered at Coast Guard Exhibit 18B and 18C.
4 It is worth noting that the Investigation Team obtained both the Loadcom and IMACS computer
5 based systems from onboard the capsized GOLDEN RAY. The IMACS system monitors ship's
6 operations and conditions aboard the ship, while the Loadcom aids in calculating vessel
7 stability. These systems were referenced throughout this hearing in various witness's
8 testimonies. While information from the IMACS computer was available for investigators to
9 probe, the Loadcom was damaged during the ship's capsizing. The Loadcom was sent to
10 multiple US agencies and private entities in an attempt to recover the information contained
11 therein. Unfortunately, the system was ultimately determined unrecoverable due to extensive
12 water damage. Before I move into the final closing portion of the statement we'll take a quick 5
13 minute recess to assess – to correct a couple things here in the space and make sure that
14 we're ready to close out the hearing. So the local time is 2:37, we'll take 5 minutes. We stand
15 in recess.

16 *The hearing recessed at 2:37, 22 September 2020*

17 *The hearing was called to order at 2:43, 22 September 2020*

18 **CAPT WELBORN:** The local time is 2:43. We're back on the record for the formal hearing of
19 the capsizing of the Motor Vessel GOLDEN RAY. I will now move on to the closing stage of
20 this hearing. As we have heard from all of witnesses and presented the relevant evidence, we
21 are now transitioning into the analysis phase of this Formal Investigation. This means that the
22 Investigation Team, with the backing of the joint effort of the Republic of the Marshall Islands,

1 the U.S. National Transportation Safety Board, and the Korean Maritime Safety Tribunal, will
2 begin to coalesce the information we have garnered to write the final Report of Investigation.
3 Although there is always a chance that a short hearing session could be reconvened if new
4 witnesses or information are identified as the report is being written, I believe we have
5 gathered the factual evidence necessary to proceed with our analysis. However, the members
6 of the Formal Investigation will continue to collect and review any evidence submitted in the
7 future, including submissions to the USCGGoldenRay@gmail.com email address. This email
8 address is solely intended for submissions regarding the public hearing or the investigation not
9 the response efforts.

10 As I have previously emphasized, the purpose of this investigation is to discover what caused
11 and contributed to the GOLDEN RAY capsizing, with the goal of preventing similar casualties
12 in the future. I would like to take this opportunity to sincerely thank the Republic of the
13 Marshall Islands and Mr. Thomas Bremer, the NTSB and Captain David Flaherty, KMST
14 personnel Joeng Choerlag, Choi Hedong, Jeongil Hwang, all parties in interest, government
15 agencies, maritime organizations, company representatives, Merchant Mariners and individual
16 witnesses who dedicated their time and resources to date to this significant endeavor.

17 All collective expertise of those involved have helped to clarify various matters throughout
18 these proceedings. In turn, the members of this Formal Investigation have a clear direction for
19 our analysis and recommendations to prevent similar casualties in the future.

20 I have also been inspired throughout these proceedings by the flexibility, cooperation, and
21 support of all those involved and impacted by this incident. Your feedback and suggestions
22 have aided the process, and your comment, excuse me, commitment to preventing similar
23 casualties is greatly appreciated.

1 On a personal note, my close association with this investigation has reaffirmed the strong
2 cooperative spirit within the maritime community as a whole. Ship's crew, the pilots, local
3 mariners, responders, and salvors worked together to evaluate the injured and evacuate those
4 that were ambulatory, and rescue the trapped crew, in some cases, accepting significant
5 personal risk to save others. Although not specifically addressed in this hearing, crews labored
6 to prepare for and respond to oil spills and protect the public from the ship and the ship from
7 the public. The more I learned about those involved and their actions, I was impressed by the
8 communal cohesiveness where members directly labored for the betterment of all. Local
9 businesses supported the rescued crew members in the initial days ashore and our
10 investigation team members over the past several months. I thank you and commend this
11 community for rallying around those impacted by – those impacted by and responding to this
12 significant accident. If not for the selfless, quick and committed actions of some, this incident
13 would most certainly have been more catastrophic.

14 In closing, I want to emphasize that the members of this Formal Investigation have diligently
15 worked to identify the causes and contributing factors of the GOLDEN RAY's capsizing and in
16 our final report will make any recommendations necessary to enhance maritime safety. Even
17 though the public side of this investigation is coming to an end, the members of this Formal
18 Investigation will continue to work tirelessly as the report is drafted and the recommendations
19 are established. I am confident that broadcasting the proceedings on LiveStream and making
20 them available to the public on the Internet has helped to identify important safety issues that
21 will be addressed around the world.

22 I thank you for your time and your commitment. The time is now 2:47 local. This hearing
23 stands adjourned.

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UNITED STATES OF AMERICA
UNITED STATES COAST GUARD

In the Matter of:

THE MARINE BOARD OF INVESTIGATION INTO THE CAPSIZING OF THE M/V GOLDEN
RAY ON 8 SEPTEMBER 2019 IN ST. SIMON SOUND, BRUNSWICK, GEORGIA

I, MICHAEL D. JERRELL, an officially designated and qualified Court Reporter of the United
States Coast Guard, hereby certify that the foregoing proceedings were taken by me and
transcribed by me, and is a true record of the testimony of all witnesses, and of the
proceedings herein contained. I further certify that there is no interest attached, either
financially or by virtue of relationship with any party hereto, on my part.

MICHAEL D. JERRELL
Court Reporter/Paralegal Specialist
U. S. Coast Guard, Eighth District