

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

\* \* \* \* \*

In the matter of: \*

MARINE BOARD OF INVESTIGATION \*

INTO THE SINKING THE *EL FARO* \*

ON OCTOBER 1, 2015 \*

\*

\* \* \* \* \*

Prime F. Osborn III Convention Center  
Jacksonville, Florida

Tuesday,  
February 7, 2017

APPEARANCES:

Marine Board of Investigation

CAPT JASON NEUBAUER, Chairman  
KEITH FAWCETT, Member  
CDR MATTHEW J. DENNING, Member  
LCDR DAMIAN YEMMA, Recorder  
CDR JEFF R. BRAY, Legal Counsel

Technical Advisors

CDR MICHAEL ODOM  
CDR MICHAEL VENTURELLA  
LT MICHAEL COMERFORD  
JEFFREY STETTLER, Ph.D.  
PAUL WEBB

National Transportation Safety Board

BRIAN YOUNG, Investigator in Charge  
MICHAEL J. KUCHARSKI, Marine Accident Investigator  
ERIC STOLZEBERG, Marine Accident Investigator  
MICHAEL RICHARDS, Marine Accident Investigator

Parties in Interest

LUKE M. REID, Esq.  
TOTE Services

GERARD W. WHITE, Esq.  
American Bureau of Shipping (ABS)

SPENCER A. SCHILLING, P.E.  
Herbert Engineering Corporation

WILLIAM R. BENNETT, III, Esq.  
On behalf of Mrs. Theresa Davidson  
(Next of kin to Captain Michael Davidson)

Also Present

LT TRAVIS NOYES  
(On behalf of the witnesses)

I N D E X

<u>ITEM</u>	<u>PAGE</u>
Opening Remarks - Captain Jason Neubauer, Chairman	228
Opening Remarks - Brian Young, NTSB	230
Examination of Jaideep Sirkar:	
By Dr. Stettler	233
By CDR Venturella	253
By Mr. White	261
By Mr. Stoltzenberg	266
By Mr. Kucharski	278
By Mr. White	298
By CAPT Neubauer	299
By Mr. Kucharski	300
By CDR Denning	301
Examination of CDR Michael Crider:	
By Mr. Comerford	305
By CAPT Neubauer	319
By Mr. Richards	320
By CAPT Neubauer	321
By Mr. Fawcett	322
By Mr. Richards	325
By Mr. Bennett	326

I N D E X (cont.)

<u>ITEM</u>	<u>PAGE</u>
Examination of Captain David Flaherty:	
By CAPT Neubauer	330
By Mr. Young	352
By CAPT Neubauer	358
By Mr. Fawcett	361
By Mr. White	362
By Mr. Schilling	376
By CAPT Neubauer	377
By Mr. Young	386
By CAPT Neubauer	388
By Mr. Reid	388
By Mr. White	395

P R O C E E D I N G S

(9:03 a.m.)

1  
2  
3       CAPT. NEUBAUER: Good morning. This hearing will come to  
4 order. Today is Tuesday, February 7th, and the time is 9:03. We  
5 are here continuing at the Prime F. Osborn Convention Center in  
6 Jacksonville, Florida.

7       I am Captain Jason Neubauer of the United States Coast Guard,  
8 Chief of the Coast Guard's Office of Investigation and Analysis in  
9 Washington, D.C. I am the Chairman of the Coast Guard Marine  
10 Board of Investigation and the presiding officer over these  
11 proceedings.

12       The Commandant of the Coast Guard has convened this Board  
13 under the authority of Title 46 United States Code, Section 6301,  
14 and Title 46 Code of Federal Regulations, Part 4, to investigate  
15 the circumstances surrounding the sinking of the SS *El Faro* with  
16 the loss of 33 lives on October 1, 2015, while transiting east of  
17 the Bahamas.

18       I am conducting the investigation under the rule of 46 C.F.R.  
19 Part 4. The investigation will determine as closely as possible  
20 the factors that contributed to the incident so that proper  
21 recommendations for the prevention of similar casualties may be  
22 made; whether there is evidence that any act of misconduct,  
23 inattention to duty, negligence or willful violation of the law on  
24 the part of any licensed or certificated person contributed to  
25 this casualty; and whether there is evidence that any Coast Guard

1 personnel or any representative or employee of any other  
2 government agency or any other person caused or contributed to the  
3 casualty.

4 I have previously determined that the following organizations  
5 or individuals are parties in interest to this investigation:

6 TOTE Incorporated, represented by Mr. Luke Reid; ABS, represented  
7 by Mr. Gerard White; Herbert Engineering Corporation, represented  
8 by Mr. Spencer Schilling; and Mrs. Theresa Davidson as next of kin  
9 for Captain Michael Davidson, master of the SS *El Faro*,  
10 represented by Mr. William Bennett.

11 These parties have a direct interest in the investigation and  
12 have demonstrated the potential for contributing significantly to  
13 the completeness of the investigation or otherwise enhancing the  
14 safety of life and property at sea through participation as party  
15 in interest. All parties in interest have a statutory right to  
16 employ counsel to represent them, to cross-examination witnesses  
17 and have witnesses called on their behalf.

18 I will examine all witnesses at this formal hearing under  
19 oath or affirmation, and witnesses will be subject to federal laws  
20 and penalties governing false official statements. Witnesses who  
21 are not parties in interest may be advised by their counsel  
22 concerning their rights; however, such counsel may not examine or  
23 cross-examine other witnesses or otherwise participate.

24 These proceedings are open to the public and to the media. I  
25 ask for the cooperation of all persons present to minimize any

1 disruptive influence on the proceedings in general and on the  
2 witnesses in particular. Please turn your cell phones or other  
3 electronic devices off or to silent or vibrate mode. Photography  
4 will be permitted during this opening statement and during recess  
5 periods.

6 The members of the press are welcome, and an area has been  
7 set aside for your use during the proceedings. The news media may  
8 question witnesses concerning the testimony that they have given  
9 after I have released them from these proceedings. I ask that  
10 such interviews be conducted outside this room.

11 Since the date of the casualty, the National Transportation  
12 Safety Board (NTSB) and the Coast Guard have conducted substantial  
13 evidence collection activities and some of that previously  
14 collected evidence will be considered during these hearings.  
15 Should any person have or believe he or she has information not  
16 brought forth, but which might be of direct significance, that  
17 person is urged to bring that information to my attention by  
18 emailing [elfaro@uscg.mil](mailto:elfaro@uscg.mil).

19 The Coast Guard relies on strong partnerships to execute its  
20 missions, and this Marine Board of Investigation is no exception.  
21 The NTSB is providing representatives for this hearing. Mr. Brian  
22 Young, also seated to my left, is the Investigator in Charge for  
23 the NTSB investigation.

24 Mr. Young, would you like to make a brief statement?

25 MR. YOUNG: Yes. Good morning, Captain. Good morning, all.

1 I'm Brian Young, the Investigator in Charge for the National  
2 Transportation Safety Board's investigation of this accident. The  
3 NTSB has joined this hearing to avoid duplicating the development  
4 of facts. Nevertheless, I do wish to point out that this does not  
5 preclude the NTSB from developing additional information  
6 separately from this proceeding if that becomes necessary.

7 At the conclusion of these hearings, the NTSB will analyze  
8 the facts of this accident and determine the probable cause  
9 independently of the Coast Guard, issue a separate report of the  
10 NTSB findings and, if appropriate, issue recommendations to  
11 correct safety problems discovered during this investigation.

12 Thank you, Captain.

13 CAPT NEUBAUER: Thank you, Mr. Young. We will now call our  
14 first witness of the day, Mr. Jaideep Sirkar, from the Office of  
15 Design and Engineering Standards at Coast Guard Headquarters.

16 LCDR YEMMA: Please stand and raise your right hand, sir.

17 (Witness sworn.)

18 LCDR YEMMA: Thank you. Be seated, sir.

19 Could you please start by stating and spelling your full  
20 name?

21 THE WITNESS: My first name is Jaideep, spelled with seven  
22 letters, J-a-i-d, delta, e, echo, e, echo, p, pompom; last name,  
23 Sirkar, spelled with six letters, S, sierra, i-r-k-a-r, Sirkar.

24 LCDR YEMMA: Thank you.

25 Counsel.



1 LT NOYES: Lieutenant Travis Noyes, N-o-y-e-s.

2 LCDR YEMMA: Sir, can you please tell the Board where you are  
3 currently employed and what your position is?

4 THE WITNESS: I am currently employed as a civilian at the  
5 U.S. Coast Guard Headquarters. My position is I am the chief of  
6 the Naval Architecture Division, which is one of five divisions  
7 within the Office of Design and Engineering Standards headed by  
8 Captain Ben Hawkins who has testified earlier. The Office of  
9 Design and Engineering Standards, through the Director of  
10 Commercial Standards, reports to the Coast Guard Admiral who is  
11 the Assistant Commandant of Prevention. I just wanted to give you  
12 the context of where I fit within that part of the Coast Guard.

13 CDR YEMMA: Thank you, sir. Can you also describe for the  
14 Board some of your prior relevant work experience, please?

15 THE WITNESS: Yes. My initial part of my career, I spent  
16 approximately 11 years in the private sector working for ship  
17 design firms in the areas of ship stability, ship structures,  
18 doing design and in-service engineering for various Navy and  
19 commercial customers.

20 Subsequently, for the last 26 years, I have been employed as  
21 a civilian at the U.S. Coast Guard. I have had several jobs at  
22 the Coast Guard. This is my third job. I was a senior naval  
23 architect in this same division, and then I was the regulatory  
24 coordinator for all of the regulations that are published by the  
25 -- all of the federal regulations that are published by the U.S.

1 Coast Guard for about 8 years, and then for the past 8 years or  
2 so, I have been the chief of the Naval Architecture Division. I  
3 came back to the division.

4 LCDR YEMMA: And, sir, what is your highest level of  
5 education?

6 THE WITNESS: I have three master's degrees. I have a  
7 master's degree in naval architecture and engineering. I have a  
8 master's degree in computer science, and I have a master's degree  
9 in national security studies at the senior service school.

10 LCDR YEMMA: And do you hold any professional licenses or  
11 certifications?

12 THE WITNESS: No, I do not.

13 LCDR YEMMA: Thank you, sir. Dr. Stettler will have  
14 questions for you now.

15 DR. STETTLER: Thank you.

16 (Whereupon,

17 JAIDEEP SIRKAR

18 was called as a witness and, having been duly sworn, was examined  
19 and testified as follows:)

20 EXAMINATION OF JAIDEEP SIRKAR

21 BY DR. STETTLER:

22 Q. Good morning, Mr. Sirkar.

23 A. Good morning.

24 Q. We will be asking you questions in two main topic areas. I  
25 will be asking you questions in the area of stability standards as

1 well as on-board stability, loading, and strength software  
2 applications. Commander Venturella will be asking you questions  
3 in the area of load line standards and application.

4 We will then take a break and come back and allow the NTSB,  
5 the Board, and Parties in Interest to ask follow-up questions. If  
6 you would like to take a break at any time, please let us know,  
7 and we'll consider that.

8 Mr. Sirkar, can you please describe in a little more detail,  
9 in general, the roles and responsibilities of the Naval  
10 Architecture Division of the Office of Design and Engineering  
11 Standards?

12 A. Yes. The Naval Architecture Division within the Office of  
13 Design and Engineering Standards is responsible for developing,  
14 maintaining, when appropriate interpreting rules, regulations  
15 related to ship stability, load lines and, as appropriate, ship  
16 structures.

17 We also represent the United States at various bodies within  
18 the International Maritime Organization, IMO. IMO is a  
19 specialized agency of the United Nations System of Specialized  
20 Agencies that provides the forum for developing international  
21 rules and regulations and standards for various aspects of ship  
22 design and operation.

23 Q. Thank you. Does your office have any responsibility for  
24 standards associated with cargo loading and securing, including  
25 cargo securing manuals?

1 A. No, not the securing. We do not.

2 Q. Do you know which Coast Guard office has responsibility for  
3 that, for those matters?

4 A. That would be -- for cargo loading manuals, that would be the  
5 Office of Operating and Environmental Standards, which is one of  
6 the sister offices, if you will, to the Office of Design and  
7 Engineering Standards.

8 Q. Thank you. I'd like to ask you --

9 A. Excuse me, Dr. Stettler. I misspoke. I meant to say cargo  
10 securing manuals, not cargo loading manuals. I misspoke.

11 Q. Thank you. I will now ask you some questions in the area of  
12 stability standards and criteria. I'd like to start, if you could  
13 please refer to MBI Exhibit 333, specifically on page 3 of the  
14 exhibit, which is shown in the bottom right-hand corner, which is  
15 page 96 of the actual exhibit in terms of the paging numbers.

16 This document is the 46 C.F.R. Section 170.170 referred to as  
17 the weather criteria, published I believe in October of 2015. I'd  
18 like to draw your attention to paragraph (d) which is on the -- in  
19 the right-hand column toward the bottom of the page. I'd like  
20 you, if you would, Mr. Sirkar, to discuss the origins of this  
21 paragraph. I believe this is the paragraph that was added to the  
22 criteria statement sometime within the last 10 years. Could you  
23 please discuss the origins and implications of the discussion in  
24 this paragraph?

25 A. Yes. Before I specifically talk about paragraph (d), this

1 whole section, 170.170, has a rather long history and goes back in  
2 the past, all the way back to 1928. The origins are back in the  
3 early 20th Century, the work done by the erstwhile American Marine  
4 Standards Committee and the subcommittee on stability established  
5 under that committee, under the auspices of the Department of  
6 Commerce.

7 Based on studies conducted by a stability subcommittee, the  
8 stability standards subcommittee on that particular committee, on  
9 studies of relatively small passenger vessels, the initial GM  
10 criterion in 170.170 was developed. Those are the origins of  
11 that.

12 This standard, this rule, this criterion in 170.170 of  
13 initial GM, has been applied successfully for many years now, for  
14 both -- for cargo ships. However, with time, the proportions of  
15 ships have been changing and ships that, while meeting the initial  
16 GM criteria, but for other reasons such as relatively low  
17 freeboard or perhaps other proportions, they would not have  
18 sufficient stability beyond the initial small angles of heel even  
19 though they met the criterion. So there was a rulemaking process  
20 to complement this initial GM criterion with additional criterion  
21 similar to what is contained in the 2008 Intact Stability Code of  
22 IMO. So the Coast Guard proposed additional standards within that  
23 Section 170.170.

24 As part of the rulemaking process, in the final rule stage,  
25 the Coast Guard determined that that proposal would be not

1 implemented. There were comments made and the Coast Guard  
2 generally agreed that while the stability standards in 170.170  
3 could possibly be improved with additional criteria related to  
4 righting levers, in the final rule stage, the Coast Guard did not  
5 implement what was proposed, and it is all there in the record.  
6 However, in order to clarify some of the conditions for which this  
7 criteria or criterion should be applied, the Coast Guard  
8 introduced paragraph (d) in that final rule stage in order to  
9 clarify the application, the appropriate application of this  
10 criteria.

11 Q. Thank you. You mentioned a few parameters. Could you  
12 discuss what types of ships might this be important for?

13 A. I'm sorry. I did not understand your question.

14 Q. Could you just briefly describe the attributes of a vessel  
15 which might fall in this category where, you know, where this  
16 criteria -- or that this might be eliminating criteria and the  
17 vessel may not necessarily be well applied to the GM criteria?

18 A. Well, some of them are, I had mentioned, relatively low  
19 freeboard, where you might have deck immersion at relatively small  
20 angles of heel, thus losing or significantly reducing the range of  
21 stability for your righting lever, and you may not have -- while  
22 you may have an initial GM that is fairly high, but you may not  
23 have enough righting energy under your righting lever curve.

24 You could have other parameters like high sail areas, beam to  
25 draft ratios that are not appropriate for this range. Those are

1 some of --

2 Q. Thank you. Do you have something to add?

3 A. No.

4 Q. What happens in a case where a vessel maybe doesn't quite  
5 meet this criteria, and there's kind of a spelled-out equation in  
6 there basically that the righting arm at the angle T, which is  
7 derived in the criteria, if that is less than the quantity of GM  
8 times the sum of that angle T. What is expected to occur in a  
9 case when a naval architect, either a civilian naval architect or  
10 an approval authority recognizes that that vessel may fall under  
11 that limitation? What's expected in that case?

12 A. Well, there are some other options available. The 170.173 is  
13 an option for the application of the 2008 Code of Intact Stability  
14 in its entirety. When I say in its entirety, I mean Part A is  
15 another option. Part B of the 2008 Code of Intact Stability has  
16 recommended stability criteria for some types of container ships.  
17 That is another option. So there are other alternatives of it.

18 Q. Thank you. And who would make the decision on what those  
19 requirements might be for an alternative?

20 A. I believe that would be in consultation with the Marine  
21 Safety Center.

22 Q. Thank you. And just in general, what would -- so would that  
23 be the expectation in a case when the Marine Safety Center would  
24 not normally be involved in Plan B, for example, if an Alternate  
25 Compliance Program classification society was performing the

1 review on the Coast Guard's behalf? Would it be expected that  
2 that reviewing entity would actually make that decision or is the  
3 expectation that that decision would be referred to the Marine  
4 Safety Center for their decision?

5 A. In the specific instance of a vessel being enrolled in the  
6 Alternate Compliance Program, then the matter would be fairly  
7 clear, because to be enrolled in the Alternate Compliance Program,  
8 the vessel would have to be a SOLAS, a vessel with SOLAS  
9 certificates, international certificates, and cargo ships and  
10 passenger ships through SOLAS would be required to comply with the  
11 2008 Intact Stability Code. So there'd be -- the way forward for  
12 what stability regulations to apply for a vessel -- for a new  
13 vessel to be enrolled in the Alternate Compliance Program would be  
14 clearer.

15 Q. Thank you. I'd like to extend that, though, and ask a  
16 question relating to existing vessels, and perhaps a vessel that  
17 has been operating under the 170.170 criteria for a number of  
18 years. What happens if it's discovered in review so that the  
19 owner, a vessel owner, for example, were to update the trim and  
20 stability booklet so perhaps the operating conditions and trim and  
21 stability might change; is it expected that that check for that  
22 criteria should be done? And then in the condition where it would  
23 fall under, what would be the responsibility of the submitter and  
24 the reviewing authority in that case?

25 A. Well, this is a slightly hypothetical question. For an



1 existing vessel that meets 170.170, we wouldn't be -- when the  
2 vessel was being enrolled in the Alternate Compliance Program, we  
3 wouldn't be requiring any new standards, but if there were some  
4 modifications made, if there were new loading conditions being  
5 developed, the vessel would still have to meet 170.170. And again  
6 in a hypothetical scenario, then that would -- the trim and  
7 stability booklet would have to be redone and -- if appropriate,  
8 and the required GM curve may look different for certain loading  
9 conditions after the modifications.

10 I'm assuming that -- it's a two-part question. It's  
11 enrollment in the Alternate Compliance Program -- the way I  
12 understood your question is enrollment in the Alternate Compliance  
13 Program in and of itself for an existing vessel is not triggering  
14 additional stability or different stability standards. If  
15 modifications are being made to the vessel, then the required GM  
16 as a result of those modifications may be different for certain  
17 loading conditions.

18 Q. Thank you. But just in a general case, not necessarily tied  
19 to the Alternate Compliance Program, if a modification were made,  
20 minor or major, and which changed the GM for a vessel in terms of  
21 the stability conditions defined in the trim and stability book,  
22 and it was discovered as part of that process that it falls  
23 underneath this criteria of paragraph (d), what would be expected  
24 in terms of the criteria? Would it be expected that that vessel  
25 would then have to comply with one of these alternative --

1 alternate criteria?

2 A. I don't believe I can answer that question. It would depend  
3 on the circumstances because one -- yeah, there are several  
4 possibilities. I cannot answer that.

5 Q. Okay. Thank you. I'd like to just ask a more general  
6 question about the 170.170, weather criteria. Do you know how  
7 many approximately, and I'll use the term deep-draft U.S. flag  
8 vessels there are that still have this 170.170 criteria as their  
9 primary intact stability criteria?

10 A. No, Dr. Stettler, I do not.

11 Q. Thank you. And are there any initiatives either within the  
12 U.S. Coast Guard about dealing with phasing out, perhaps, the  
13 applicability of this criteria to U.S. flag vessels?

14 A. So for U.S. vessels that go on international voyages that  
15 are, for the sake of brevity, I call it SOLAS vessels, they would  
16 have to comply with the 2008 IS Code, and we have in the  
17 regulations stated that if you wish to -- if you comply with the  
18 2008 IS Code, then you would not have to comply with 170.170.

19 Having said that, right now to answer your question, there  
20 are no such plans. An alternative has been provided in relatively  
21 recent rulemaking. It's in the rules, but there are no  
22 initiatives to remove 170.170.

23 Q. Thank you. Please refer to Exhibit 334, page 26. This is  
24 Part B, Section 2.3 of the 2008 Intact Stability Code, and  
25 actually you just mentioned this. This specifically is a set of

1 recommended criteria for container ships greater than 100 meters.

2 Mr. Sirkar, as I stated in my briefing yesterday regarding  
3 the Marine Safety Center review, that this criteria, as you read  
4 it, is essentially a -- scales the criteria listed in Section 2.2,  
5 Part A, which is the mandatory part, in part by applying a form  
6 factor which is based on size and number of other parameters.

7 Has the U.S. Coast Guard considered requiring implementation  
8 of these recommended criteria for container ships or any other  
9 vessels, specifically container ships or combined container ships,  
10 Ro-Ro or other types of combined container ship vessels in the  
11 U.S.?

12 A. Yes. We did publish a notice in the *Federal Register*. I  
13 believe it was in 1992. That was prior to this code being  
14 promulgated, this was still being discussed at IMO.

15 At IMO, this was being discussed for some time for certain  
16 ships, container ships in particular, large container ships that  
17 have a lot of flare and a lot of sail area, where the application  
18 of 2.2, Part A, was -- appeared to be inappropriate.

19 And studies were conducted, primarily by Germany, that was  
20 debated and discussed at IMO and this alternative with the form  
21 factor correction was discussed, and the Coast Guard supported  
22 that. The United States Coast Guard, representing the United  
23 States, supported that at IMO and then, in 1992, we published a  
24 notice in the *Federal Register* recommending that this could be an  
25 acceptable alternate criteria for these types of large container

1 ships or ships of this ilk.

2 Q. Did anything come of that publication in terms of that it  
3 could be, but was it ever discussed as being made a requirement  
4 for certain types or sizes of container vessels?

5 A. There were no other *Federal Register* notices published in  
6 particular related to that -- related to this alternative. In  
7 time, as I mentioned earlier, in time, this was included in Part B  
8 of the 2008 IS Code, and that seemed at that time a seemingly  
9 satisfactory or perhaps intermediate step. There are no final  
10 actions that were taken after that *Federal Register* notice was  
11 published and there are none planned at this time.

12 Q. You mentioned that certain factors associated with container  
13 ships are -- were considered in this, such things as vessel hull  
14 flare, container deck heights or tier heights and wind area, that  
15 type of thing. Do you have a feel for, based on the development  
16 of those recommended criteria, what size of vessel under that --  
17 in that kind of general configuration, where that -- a transition  
18 from the 2.2 criteria to this Part B recommended criteria might be  
19 of value in terms of a ship's safety?

20 A. To the best of my recollection, it was greater than 100  
21 meters and less than 200 meters, the applicability of this  
22 alternate standard.

23 Q. So between 328 feet and 656 feet?

24 A. Yes.

25 Q. Thank you. I'd like to draw your attention to figure or

1 Exhibit 334, page 13. This is Section -- Part A, Section 2.3 of  
2 the 2008 Intact Stability Code, which you also mentioned  
3 specifically involves severe wind and rolling criteria.

4 As I stated yesterday, based on the Marine Safety Center  
5 analysis, it appears that the *El Faro* as loaded for the accident  
6 voyage would actually pass this severe wind and rolling criteria  
7 but not pass the Part A, Section 2.2, which was the general  
8 righting lever criteria; the latter not passing due to an  
9 insufficient area above 30 degrees.

10 Can you offer any insight as to why a container Con-Ro --  
11 combined container roll-on, roll-off vessel such as *El Faro*, why  
12 that container load might pass the severe wind and roll criteria  
13 such as this but would not pass a general righting arm criteria?

14 A. I really cannot. I did not study that particular hull form.  
15 It was not a traditional container ship hull form. It didn't have  
16 container cells. It had containers on deck and Ro-Ro decks, and  
17 again, I haven't compared the hull form and the proportions of  
18 that particular hull. I cannot give any insights in that  
19 particular outcome.

20 Q. Thank you. And that's probably an unfair question given that  
21 you haven't had an opportunity to analyze that. I just wanted to  
22 see if you had any basic insight about it.

23 Could you, though, summarize, based on your experience and  
24 knowledge of these two, if these are two prior criteria that would  
25 applied to a vessel subject to the 2008 Intact Stability Code,

1 could you give us some basic differences between the criteria, at  
2 least? Because there is an attempt both criteria applied, is  
3 there -- are there certain types of vessels where one criteria  
4 might be eliminating and the other not eliminating, based on your  
5 knowledge and experience?

6 A. Again, one has to look at the origins of 2.2 and 2.3. They  
7 came from fishing vessel studies conducted by Finnish researchers  
8 in the first case and Japanese passenger vessel studies in the  
9 second case. And again, the intent was to have robust and  
10 reasonably broad in scope as far as stability standards for all  
11 ships that the Code was intended to address.

12 And so we had the righting energy and the energy balance the  
13 2.3 requirements as well as the righting lever requirements, that  
14 gave us sort of a quasi static feel for additional robustness. So  
15 the two together gives a complete package, if you will. I use the  
16 word complete a little broadly here. I mean, nothing's ever  
17 really complete.

18 Q. Thank you. In general though, for application of either of  
19 these two criteria, is there anything that can be said in terms of  
20 a vessel that maybe just meets -- you know, barely meets one or  
21 both of these criteria regarding the level of safety over the  
22 survivability or the likelihood of survivability in a given  
23 environmental condition? Is there anything that could be said  
24 about that in terms of that particular vessel -- any particular  
25 vessel?

1 A. It's difficult to extrapolate and get insights into  
2 survivability of a particular vessel based on the application of  
3 the regulatory standard.

4 What do I mean by that? The regulatory standard is based on  
5 a history of statistical behavior of ships in various sea winds  
6 and casualty information and ship characteristics of those ships  
7 that were studied. And generally based on those statistics,  
8 generally a derivation has been made in order to provide a  
9 certain, at some point, unquantified level of safety. So it is  
10 rather difficult based on the application of these two standards  
11 to predict or to quantify survivability characteristics of a  
12 particular vessel in a particular sea wind. All we can -- no, I'm  
13 done.

14 Q. Thank you. I'm sorry. There's one other matter I'd like to  
15 add. There are published explanatory notes for the 2008 Intact  
16 Stability Code that are not part of the exhibit, but in those  
17 explanatory notes, there is a discussion that the wind pressure  
18 that is applied as part of this severe wind and rolling criteria  
19 is based on a 50-knot wind.

20 And I'd like to ask, in light of the response that you just  
21 gave, in terms of the general, you know, what you can take away  
22 from a vessel that just meets the criteria. For a vessel in any  
23 knot winds, you know, is there any extrapolation that might --  
24 that has been considered in terms of survivability of a vessel  
25 based on a different wind speed in these conditions, or is it

1 basically like you said in your previous response, that there's no  
2 way to quantify or extrapolate?

3 CAPT NEUBAUER: Mr. Sirkar, would you like to take a 5-minute  
4 break at this time?

5 THE WITNESS: Thank you. Captain. Let me try to speak, see  
6 if I'm able to. If I'm not, perhaps I will take up the offer.  
7 But for now, let me try to answer the question.

8 It is not -- in my opinion, the way the regulations have been  
9 developed, it is my opinion that one cannot and one should not  
10 extrapolate or predict the behavior of the vessel in an 80-knot  
11 wind because the requirement is for 50 knots, and using that  
12 requirement, extrapolate and try to predict.

13 Again this is a steady wind. In real life, there is no such  
14 as a steady wind. This is a surrogate, if you will. This is my  
15 word. It's a representation of -- it's a simple, simplified  
16 representation of a statistical distribution of wind speeds and  
17 gustiness of the wind and other characteristics of the wind. So  
18 it's a measure of -- it's a steady wind pressure. It's a measure  
19 of a certain -- a simplified measure of a certain set of  
20 conditions that are again statistically studied, as explained in  
21 the explanatory notes that you just mentioned.

22 So I would be very hesitant to make any comment or  
23 extrapolate based on the fact that this is a regulatory standard  
24 for 50 knots, and that if that ship sails into a 51-knot wind she  
25 will capsize. I do not believe we can make those statements.



1 BY DR. STETTLER:

2 Q. Thank you. I'd like to move on to discussing stability,  
3 loading and strength software, if you're willing to continue.

4 Okay. I'd like to call your attention to Exhibit 340 please.  
5 This is a short document of just a few pages. This is the IMO  
6 Marine Safety Center Circular 1229 entitled Guidelines for  
7 Approval of Stability Instruments. Could you please just in a few  
8 sentences describe how this document applies to U.S. flag deep-  
9 draft cargo vessels, including Ro-Ro, Con-Ro, you know, combined  
10 container -- roll-on/roll-off vessels and container ships?

11 A. Yes. For U.S. vessels, our regulations require that trim and  
12 stability booklets be prepared and carried on board and that  
13 stability instruments or stability computers may be carried as an  
14 adjunct or supplement that may be used by the master to supplement  
15 the trim and stability booklet.

16 In order to do so -- if the master did so, if the master were  
17 to use a stability instrument in addition to the trim and  
18 stability booklet, or as an adjunct, the stability instrument or  
19 the stability computer would have to be approved. And this  
20 provides -- this document provides some guidance on how the  
21 stability instrument, the stability computer may be approved by  
22 providing tolerances and other guidance and standards for what the  
23 stability computer ought -- how the stability computer ought to  
24 perform as compared to the approved trim and stability booklet.

25 Q. Thank you. One of the things that's not in this document is

1 a discussion of who reviews and approves stability software.

2 Recognizing that this is a guidance document offered by the IMO,  
3 is there any implementation of this that the criteria described  
4 here in the CFR for U.S. flag vessels?

5 A. This would be -- approval of the stability instruments would  
6 be conducted by the recognized organizations, the classification  
7 societies who would approve these stability instruments on behalf  
8 of the Coast Guard.

9 Q. Are there any documents or statements in the CFR or elsewhere  
10 that define that relationship in terms -- specifically in terms of  
11 stability software and what the responsibilities of the various  
12 parties are?

13 A. I do not recall that there is. I could be wrong, but I don't  
14 recall that there is.

15 Q. Does the U.S. Coast Guard -- this IMO document refers to  
16 administrations. Does the U.S. Coast Guard as an administration  
17 have any responsibilities for stability software oversight,  
18 review, approval, anything like that?

19 A. Again, this is -- the software review and approval is  
20 conducted on behalf of the U.S. Coast Guard. As far as what  
21 oversight authorities may have been exercised, I don't know.

22 Q. Thank you. What other -- there's -- just a couple more  
23 questions regarding -- specifically regarding this document.  
24 There's a discussion here about established tolerance values for  
25 hydrostatic properties and tank volumes, center of gravity,

1 service inertia, that type of thing. Did you know from you work  
2 with them how these -- the values in this and that are listed in  
3 the table here, how they were developed and what the basis of  
4 these criteria are?

5 A. Yes, I am aware of the basis. There's an organization called  
6 the International Association of Classification Societies, IACS.  
7 It is my understanding that IACS, who is a NGO, a non-governmental  
8 organization recognized by IMO, proposed these tolerances at a  
9 meeting of the stability load lines subcommittee at IMO several  
10 years ago. That is the basis of that. It was based on  
11 recommendations from IACS, which in turn came from their  
12 experience in approving or developing such software or approving  
13 such software.

14 Q. Mr. Sirkar, could you discuss the approval of stability  
15 software that is based on so-called pre-approved data as described  
16 within this document? For example, it's typical to approve a  
17 stability software based on tabular look-ups of values, tables and  
18 data in the trim and stability book. Could you discuss basically  
19 the implementation of that, specifically in terms of are there any  
20 considerations or requirements for verification of that pre-  
21 approved data after its initial approval before or prior to its  
22 implementation in the stability software?

23 A. I'm not quite sure I understand the question.

24 Q. The implication is, in this document, that if a vessel has  
25 pre-approved hydrostatic and tank data from a document -- and it

1 doesn't say what documents, I don't believe, but such as a trim  
2 and stability book, that the values in that document would be  
3 considered sufficient for approval of that stability software in  
4 any case. Is that the correct interpretation?

5 A. I do not know. I cannot comment on that. If it was an  
6 approved trim and stability booklet, I suppose so. I do not  
7 believe additional approvals would be necessary, but I really  
8 cannot state from a position of personal knowledge about that.

9 Q. Thank you. One last -- a couple of questions. If I could  
10 ask a little bit about on-board software for loading and strength  
11 assessment. Could you describe what international standards exist  
12 for loading manuals and software for loading and strength  
13 analysis, and are there any corresponding U.S. regulatory  
14 requirements?

15 A. Both the Load Line Convention, the International Load Line  
16 Convention as well as the Code of Intact Stability -- well, it  
17 primarily is the International Load Line Convention, has  
18 implemented through our domestic regulations in 46 C.F.R., as  
19 implemented, they require that information be provided regarding  
20 the safe loading of vessels that are subject to the Load Line  
21 Convention.

22 The guidance on the -- there is international guidance on  
23 that, that was issued in 1999, on Model Loading and Stability  
24 Manual. And there is an IMO document, MSC Circular 920 that has  
25 the guidance on what such a loading manual ought to contain.

1 Q. Is there any corresponding documentation regarding  
2 application of strength or loading and strength analysis software  
3 for vessels that do or do not have requirements for loading  
4 manuals?

5 A. Not to my knowledge.

6 Q. Are there any types of vessels specifically that require  
7 loading manuals? And in general if you could just, you know,  
8 specify whether or not Ro-Ro, Con-Ro, container vessels have any  
9 either international or U.S. requirements for loading manuals?

10 A. I believe bulk carriers require loading manuals by SOLAS and,  
11 as I had mentioned earlier, through the Load Line Convention,  
12 loading manuals are required for those vessels subject to the Load  
13 Line Convention.

14 Q. Are you familiar with the load line requirements for the *El*  
15 *Faro*?

16 A. Generally, yes.

17 Q. Would you expect for a vessel like the *El Faro* that it would  
18 have a requirement for a loading manual?

19 A. I don't know. I can only speculate. I don't know for sure.

20 Q. Okay. Thank you. It may be a year thing or based on the  
21 date of construction, but I was just curious if you knew that off  
22 the top of your head.

23 DR. STETTLER: At this time, I will pass the questioning to  
24 Commander Venturella. I don't know if this would be a good time  
25 for a short recess.

1           CAPT NEUBAUER: Let's take a short recess. The Board will  
2 reconvene at 10:15.

3           (Off the record at 10:03 a.m.)

4           (On the record 10:21 a.m.)

5           CAPT NEUBAUER: The hearing is now back in session.

6           Mr. Sirkar, Captain Venturella will ask the next round of  
7 questions.

8           BY CDR VENTURELLA:

9 Q. Good morning, Mr. Sirkar. This portion of the interview will  
10 focus on the International Load Line Conventions as they apply to  
11 *El Faro*. Specifically this line of questioning will focus on the  
12 load line related regulations and policy that governed the design  
13 of the hold ventilators on the *El Faro*.

14           Sir, to start out, please turn your attention to Exhibit 260.  
15 Exhibit 260 is the most recent International Load Line Certificate  
16 issued to *El Faro* dated January 29, 2011. Please note the top of  
17 the certificate states the following: "Issued under the  
18 provisions of the International Convention on Load Lines 1966, as  
19 modified by the protocol of 1988." This certificate was by ABS on  
20 behalf of the U.S. flag and the U.S. Coast Guard.

21           Sir, with that in mind, can you comment on the loading manual  
22 question you got in the last set of questions, on whether this set  
23 of criteria this certificate was issued to would require a loading  
24 manual?

25 A. Both the 1966 Convention as well as the 1988 Protocol has

1 reference to a loading manual. There are some provisions in the  
2 regulation, in both those instruments, that say that the  
3 administration may under certain conditions not specified in the  
4 regulation, may choose not to require a loading manual. But the  
5 requirement for a loading manual or information to be provided  
6 such that the ship is loaded safely for purposes of not  
7 introducing undue structural loads, the requirement is in both  
8 those instruments.

9 Now whether it would be applicable to this vessel or not,  
10 whether there were any discussions between the load line assigning  
11 authority and the U.S. Coast Guard regarding any possible waivers,  
12 I do not know, and I realize I'm going beyond answering your  
13 question but I felt I should add that, what I don't know.

14 Q. You mentioned the ability of the administration to allow that  
15 a loading manual doesn't need to be required. When you say  
16 administration, can you state, is that something only the Coast  
17 Guard can do or is that something the ABS can do as well on our  
18 behalf?

19 A. It is my understanding that ABS can do that on our behalf.

20 Q. Sir, please turn your attention to Exhibit 322, and we're  
21 going to look specifically at page 1. Exhibit 322 is an excerpt  
22 of select portions of the 1966 International Load Line Convention.  
23 Page 1 in particular provides an introduction. In Part 1, it  
24 states, "The International Convention on Load Lines 1966 was  
25 adopted by the International Conference on Load Lines on 5 April

1 1966 and entered into force on 21 July 1968."

2 Sir, is 21 July 1968, the correct date that the 1966  
3 International Convention on Load Lines entered into force?

4 A. Yes.

5 Q. When was the Protocol of 1988 adopted and when did that enter  
6 into force?

7 A. The Protocol was adopted in 1988, 11 November 1988. It took  
8 many years for it to enter into force. I do not have the exact  
9 date but I believe it was about 11 years or so, 12 years, 11½  
10 years, 3 February 2000.

11 Q. Please turn to page 3 of the exhibit. Page 3 includes a  
12 definition for a new ship, which includes all vessels whose keels  
13 were laid on or after the date the present convention enters into  
14 force. Would the determination of whether *El Faro* was a new ship  
15 with regards to the 1966 International Load Line Convention be  
16 based on her keel laid date being on or after 21 July 1968?

17 A. Yes.

18 Q. According to the best information the Board has at this  
19 point, *El Faro* had a keel laid date on or about 1974. Should she  
20 have been considered a new ship per the 1966 International Load  
21 Line Convention?

22 A. Yes, that is my understanding.

23 Q. Would the Protocol of 1988 be properly applied to *El Faro*  
24 based on a keel laid date in 1974?

25 A. I do not believe so.



1 Q. The first exhibit I showed you was Exhibit 260. As you  
2 stated, it says on there that ABS issued this certificate under  
3 the provisions of the 1966 International Load Line Convention and  
4 Protocol of 1988. Do you have an opinion on why they may have had  
5 that on their certificate?

6 A. That was just the full title of the new convention after the  
7 1988 Protocol went into -- entered into force. It was just the  
8 name of the new convention, and only the applicable parts of the  
9 consolidated instrument would apply.

10 Q. On page 4 of the same exhibit, we have the application of the  
11 1966 International Load Line Convention. Based on your reading of  
12 the text in Article 4, and your statement that the *El Faro* would  
13 likely be a new ship, would *El Faro* be expected to comply with the  
14 1966 International Load Line Convention?

15 A. Yes.

16 Q. Please turn to page 6 of this exhibit. This page 6 is  
17 Regulation 13, position of hatchways, doorways and ventilators.  
18 This regulation continues onto page 7 with the definition of  
19 Positions 1 and 2. The *El Faro* had ventilation hold openings on  
20 an open second deck which is the vessel's freeboard deck. Would  
21 the ventilators that pass through the second deck on *El Faro*  
22 generally be considered to be in Position 1 or Position 2?

23 A. Positions 1 and Positions 2 refer to or use the word exposed.  
24 I have had no opportunity to discuss the load line assignment with  
25 the load line assigning authority. I do not know what

1 determinations were made by the load line assigning authority  
2 regarding whether those ventilators were considered Position 1 or  
3 Position 2, and again, it would be sheer conjecture on my part to  
4 try to second guess the decision of the assigning authority.

5 Q. Thank you. Please turn to page 8 of the exhibit, Regulation  
6 19 for ventilators is shown here. Is this a regulation which  
7 would provide load line related design criteria for ventilators on  
8 *El Faro*?

9 A. I would give a similar answer to my previous answer. If the  
10 assigning authority had determined that the ventilators were  
11 indeed in Position 1 because the second deck was the bulkhead  
12 deck, and the position was such that it was exposed, then the  
13 answer would be yes. So it's a conditional answer which again is  
14 somewhat of a conjecture on my part. So it's not a definitive  
15 answer.

16 Q. Thank you. I understand. For the remainder of these  
17 questions, let's assume that Position 1 was determined for the  
18 rest of your answers.

19 A. Yes.

20 Q. Please describe the various coaming height requirements  
21 within this regulation and their impact on the need for a  
22 weathertight fitting.

23 A. If ventilators in Position 1 had coamings which extended more  
24 than 4.5 meters, 14.8 feet, above the deck, then they did not need  
25 to have closing arrangements.

1 Q. What if they did not have the 14.8 foot height?

2 A. I cannot answer that. There may have been other  
3 considerations given by the assigning authority regarding policies  
4 or exemptions. If there was no coaming that met that height, then  
5 there would have had to been weathertight closing appliances.  
6 Again, this is a conditional answer.

7 Q. Within Regulation 19, look at Part (4). It says ventilators  
8 in Position 1 shall have coamings of a height of at least 900  
9 millimeters, 35½ inches, above the deck. Is that something that  
10 would be required as well if they didn't meet the 14.8 foot  
11 height?

12 A. Yes.

13 Q. Sir, please turn your attention to Exhibit 351. Exhibit 351  
14 contains some plan excerpts from *El Faro's* validation drawings and  
15 some pictures taken upon her sister vessel, *El Yunque*. I'd like  
16 to focus our conversation for now on the excerpts on pages 1  
17 through 3 of the exhibit which provides the general arrangement of  
18 the exhaust ventilators on *El Faro's* starboard side between  
19 racking bulkheads at frames 159 and 162, as well as its fire  
20 damper. Please note that this ventilator has a louver chamber and  
21 a fire damper chamber. There is a 12-foot baffle plate between  
22 the louver shelving and the hold opening, and the hold opening has  
23 an additional 39-inch plate coaming within the fire damper chamber  
24 protecting it from any water that may enter that chamber.

25 Have you had a chance to review these reference plans before?

1 A. Yes.

2 Q. Sir, in your professional opinion, were these plans in this  
3 specific ventilator reviewed to the 1966 International Load Line  
4 Convention?

5 A. An International Load Line Certificate was issued. Whether  
6 these plans were used -- whether these particular plans were used  
7 in issuing the Load Line Certificate I cannot say. I do not know.

8 Q. Please look specifically at page 3 of the exhibit. It  
9 depicts the non-watertight fire damper for the exhaust vent. It's  
10 specifically depicted on the plan as a NWT. For reference, the  
11 supply damper is shown later in the exhibit as a WT meaning  
12 watertight. Could you comment on if that marking itself may have  
13 some clue as to which Load Line Convention was used?

14 A. I have no insight as to that. I cannot tell you. I cannot  
15 say.

16 Q. Sir, the use of the word "weathertight" in the 1966 Load Line  
17 Convention, was that a word that was used in the 1930 Load Line  
18 Convention?

19 A. In the 1930 Load Line Convention, the term weathertight was  
20 used but not in the context of vents.

21 Q. But if they had used the '66 Load Line Convention,  
22 weathertight was something that would be a consideration for a  
23 closure in a ventilator. Is that correct?

24 A. Again, this is my conditional answer. If all the other  
25 conditions for the requirement for -- if all the other conditions

1 for the requirement of a weathertight closure in the vent were  
2 met, then yes.

3 Q. Please turn your attention to Exhibit 321. Exhibit 321 is an  
4 excerpt from the 1930 International Load Line Convention which  
5 provides load line requirements for ventilators in exposed  
6 positions.

7 Sir, can you elaborate on the differences between the  
8 requirements for ventilators in the 1930 International Load Line  
9 Convention versus those in the 1966 Convention? Please refer to  
10 this exhibit as necessary.

11 A. The primary difference is the use of the term deficient  
12 closing arrangements in the '30 Convention and the term  
13 weathertight in the '66 Convention.

14 Q. Can you please elaborate on if *El Faro's* ventilator  
15 arrangements were reviewed to the 1930 International Load Line  
16 Convention, how that -- how they would be seen at that point?

17 A. Again, these would reflect ventilator openings in exposed  
18 areas, and those are openings directly exposed to sea and weather  
19 conditions, potentially vulnerable to wave run-up or other  
20 transient submersion. Again, I really cannot answer that  
21 question. I do not know how they would be or would not be  
22 considered deficient means.

23 MR. WHITE: Commander Bray, Captain Neubauer, can we take a  
24 5-minute break please?

25 CAPT NEUBAUER: Yes. We'll take a recess and reconvene at

1 10:50.

2 (Off the record at 10:42 a.m.)

3 (On the record at 10:58 a.m.)

4 CAPT NEUBAUER: The hearing is now back in session. At this  
5 time, I'd like to go to the parties in interest for any questions.

6 TOTE, do you have any at this time?

7 MR. REID: No questions, sir.

8 CAPT NEUBAUER: Mrs. Davidson?

9 MR. BENNETT: No questions, sir.

10 CAPT NEUBAUER: ABS?

11 MR. WHITE: Yes, sir.

12 BY MR. WHITE:

13 Q. Mr. Sirkar, just on the subject of load lines, I have two  
14 follow-up questions. Based on your testimony, it's my  
15 understanding that you do not approve load lines and the issuing  
16 authority is ABS, right?

17 A. That is correct.

18 Q. And in addition, you don't have any specific knowledge of the  
19 *El Faro's* approval for a load line?

20 A. I do not.

21 Q. Getting back to the subject of stability for a moment, you  
22 indicated that in response to the question concerning  
23 survivability, you did not feel that you could render an opinion  
24 concerning 50-mile -- 50-knot winds or any winds in excess of  
25 that, in order to apply it to the specific conditions experienced

1 by *El Faro*, correct?

2 A. I wouldn't quite characterize it that way. My intent -- what  
3 I believe my intent in that answer was that it would be not  
4 appropriate to extrapolate or make any kind of predictions  
5 regarding survivability of a vessel in 80-knot winds based on that  
6 particular vessel satisfying a 50-knot stability criteria. It may  
7 seem a little strange when I say it that way, but the stability  
8 criteria is, again, a surrogate that represents a standard to be  
9 met in order to provide for a certain somewhat unquantifiable  
10 level of safety.

11 So to predict survivability of a particular vessel in a  
12 particular given seaway, one would need to conduct specific  
13 dynamic stability analysis using specific loading conditions and  
14 the specific hull form. So that was my intent. Perhaps I was not  
15 very clear.

16 Q. Thank you. You answered some questions with regard to  
17 Exhibit 333, Section 170.170, paragraph (d). Do you recall that?

18 A. I do.

19 Q. And just to be clear, assuming that the last modification and  
20 conversion to *El Faro* was made in 2006 and there were no  
21 modifications or major modifications since that date, would  
22 Section 170.170(d) have any applicability to *El Faro*?

23 A. I do not believe so because the final rule, if memory serves  
24 me correct, was in December of 2010, 14 December, perhaps.

25 Q. There was testimony yesterday from Dr. Stettler concerning

1 the scope of this investigation on behalf of the Marine Safety  
2 Center. Based on Dr. Stettler's testimony, he indicated that the  
3 vessel *El Faro* on this accident voyage sailed with the adequate GM  
4 for both intact and damage stability criteria. You were here for  
5 that testimony yesterday, correct?

6 A. That is correct.

7 Q. In prior hearings, there were discussions about a GM margin.  
8 Today you discussed or mentioned survivability and certain  
9 assumptions for safety. Assuming that the vessel *El Faro* sailed  
10 from Jacksonville with adequate GM for intact and damage stability  
11 criteria, can you tell us from a safety -- or from a statutory  
12 standpoint, what, if any, significance a GM margin has to safety?

13 A. The term GM margin which was used in our -- in the hearing  
14 yesterday, the term GM margin is not a regulatory term. It was  
15 used in the -- at the hearing yesterday in the context of for  
16 certain loading conditions, what additional GM the vessel may have  
17 had in addition to the minimum GM required for that particular  
18 loading condition based on whatever governing criteria there was  
19 for that particular condition.

20 So again, going back to my earlier, sort of matter of  
21 principle if you will, that one should not in this particular  
22 regulation -- this particular application of 170.170, one should  
23 not extrapolate to a particular vessel in a particular seaway, the  
24 same general comment would apply in the context of any GM margins.

25 From a physics point of view, to some extent, yes, a higher



1 GM means in general, in general, a safer vessel. Now, of course,  
2 there's a limit because if your GM is too high, then there are  
3 other things that go wrong. But beyond that, there is not really  
4 any context to GM margin and trying to predict survivability from  
5 a -- in a general sense without making any specific additional  
6 analyses.

7 Q. Would it be fair to say or accurate to say, from a regulatory  
8 standpoint, there is no requirement to sail within any specific GM  
9 margin, provided the intact and damage stability criteria are met  
10 during the course of the voyage?

11 A. That's correct. It would be correct to say that.

12 Q. There was some prior testimony this morning on the trim and  
13 stability book and the application or the use of the CargoMax  
14 software. Based on your testimony, does the Coast Guard approve  
15 CargoMax software or computer software for stability purposes?

16 A. The Coast Guard does not. The Coast Guard may, but the Coast  
17 Guard does not.

18 Q. Could you expound on that? I mean, when you use the word,  
19 the Coast Guard may approve software for stability, what do you  
20 mean? Or when may they approve it?

21 A. I believe the authority exists and there are guidance  
22 documents. I do not recall at this point in time, but I believe  
23 in some guidance document, perhaps in the Marine Safety Manual,  
24 there's some reference to that. So I believe the authority  
25 exists. The Coast Guard has, in my experience, has not exercised

1 that authority.

2 Q. And to the extent that the CargoMax software was used by TOTE  
3 on the *El Faro* and other vessels -- specifically for *El Faro*, to  
4 the extent that was used as an aid or supplement to the trim and  
5 stability book, would the requirements in the trim and stability  
6 book regarding GM need to be met by the software as far as its  
7 accuracy?

8 A. Yes.

9 Q. And to the extent that the program provides additional  
10 resources to provide or allow slack tanks and calculate the effect  
11 on GM, would that still be in compliance? For example, having  
12 slack tanks, would that still be in compliance with the trim and  
13 stability book?

14 A. The regulations for free surface in slack tanks is in  
15 Subchapter S. So I do not know exactly what additional tanks  
16 could be kept slack or how the regulations could be -- would not  
17 be met through the use of the CargoMax stability software.  
18 Additional capabilities would obviously be available because  
19 calculating free surface of slack tanks by hand is laborious and  
20 it's far easier to do it on a computer. And the trim and  
21 stability booklet would also have restrictions on how many tanks  
22 could be kept slack.

23 So I really cannot answer that question in a complete manner.  
24 How additional tanks could be slack while meeting the GM and  
25 computing the additional free surface correction in CargoMax, I'm

1 not quite sure I can reconcile the two. I'm not sure I can  
2 reconcile the two. I don't know really.

3 Q. Typically would you agree that the trim and stability book  
4 provides criteria or loading scenarios that are conservative?

5 A. Yes, absolutely.

6 Q. To the extent that the CargoMax program for *El Faro* was  
7 approved for stability purposes only, would there be any  
8 prohibition for TOTE or *El Faro* to use cargo software for loading  
9 and securing purposes?

10 A. I'm sorry. I have to sort of rephrase the question. Would  
11 there be a prohibition from whom? From the Coast Guard?

12 Q. Yes.

13 A. No, there wouldn't.

14 Q. Thank you, Mr. Sirkar.

15 MR. WHITE: Captain Neubauer, we have nothing further.

16 CAPT NEUBAUER: Herbert Engineering, do you have any  
17 questions?

18 MR. SCHILLING: No questions, sir.

19 CAPT NEUBAUER: At this time, I'd like to go to the NTSB for  
20 questions. Mr. Stoltzenberg.

21 BY MR. STOLTZENBERG:

22 Q. Good morning, Mr. Sirkar. If I can take a step back, can you  
23 briefly describe why and for what operating conditions we have  
24 intact stability standards? Why do they exist?

25 A. Intact stability standards exist to provide for a certain

1 basic level of stability safety when the ship is in an intact  
2 condition under most conditions of -- that might be experienced in  
3 open waters under different conditions of loading -- under  
4 different conditions of loading. They exist to provide a minimal  
5 basic level of stability safety in the intact condition.

6 Q. Would those conditions -- or do they include a vessel with a  
7 loss of power in mean seas? Do they exist to provide a measure of  
8 robustness or margin for those conditions?

9 A. The severe wind and weather criterion, which I understand was  
10 not applicable to the *El Faro*, the basic weather criteria in  
11 170.170, they all generally assume that the vessel is -- there is  
12 no power. It's a dead ship. It's in a dead ship condition and  
13 the attitude of the vessel relative to wind and the waves is the  
14 worst possible for purposes of stability or heeling. It is the  
15 worst attitude of the vessel to the wind and waves. So the short  
16 answer to your question is yes.

17 Q. Thank you. Yes, and it's not specific to the *El Faro*. I'm  
18 just trying to get a good understanding of why they exist and why  
19 we have them.

20 And I apologize. I'm going to move around a bit between all  
21 the other questions you've had. You mentioned earlier to  
22 Dr. Stettler, there are currently no plans to advance Part B of  
23 the 2008 IS Code for container ships greater than 100 meters or  
24 324 feet. Am I correct?

25 A. I missed the first part. You said there are no plans -- I

1 missed the first part of your question. It was -- I didn't hear  
2 that clearly. Will you please repeat that?

3 Q. Yes. If I heard you correctly, earlier to Dr. Stettler, you  
4 said there are currently no plans to advance Part B of the 2008 IS  
5 Code, and that's the portion for container ships greater than 100  
6 meters, and I just want to confirm that that's the case.

7 A. Currently there are no plans to change our domestic  
8 implementing regulations related to that item in Part B for  
9 container ships.

10 Q. Doesn't Part B, as related to larger ships, container ships,  
11 and maybe even other cargo ships, does it increase the robustness  
12 of the vessel? Is it a higher standard typically for intact  
13 stability?

14 A. For the container ships that were -- the recommended  
15 standards in Part B for the container ships greater than 100  
16 meters, with the form factor correction, based on the studies --  
17 the studies indicated that the regulations in Part A seem to be  
18 unnecessarily restrictive for some of those hull forms, and so the  
19 studies indicated that with the form factor correction, without  
20 compromising safety, that the cargo-carrying capacity could be  
21 increased for most of those types of hull forms.

22 Q. So if I understand that answer correctly, Part B allow larger  
23 ships to have a lower margin of stability?

24 A. I wouldn't characterize it as a lower margin of stability.  
25 For some ships, using the form factor, you would -- your required

1 GM or allowable -- your required GM could be lower. That does not  
2 translate necessarily -- it does not translate at all to a lower  
3 margin of stability.

4 Q. And so what I'm trying to decide is what standards might be  
5 available for future vessels. I know this standard's been brought  
6 up and earlier, yesterday, we learned that the *El Faro* wouldn't  
7 have passed this standard according to the MSC report. So I'm  
8 just trying to gather what standards exist that we might be able  
9 to think about for future vessels if we apply them. So I guess in  
10 this case, I'd ask your professional opinion whether we should be  
11 attempting to promulgate this standard or bring the U.S. fleet to  
12 it?

13 A. Well, the standard already exists as an acceptable  
14 alternative for certain ship types that meet some of those -- that  
15 meet those parameters in that section of Part B. So it's already  
16 available to be used as a standard.

17 Q. Is it your professional opinion that we should promulgate  
18 this standard or try to advance this standard, or are we okay  
19 where we are now? Would this increase the robustness of certain  
20 vessels?

21 A. I cannot -- I don't know. I cannot answer that. In my  
22 opinion, there are other initiatives underway with more  
23 sophisticated modes of calculating or methods of calculating  
24 intact stability in dynamic conditions with other modes of failure  
25 or other vulnerabilities, that have in my professional opinion

1 greater potential for examining existing safety levels using  
2 current stability standards and trying to advance that state of  
3 the art to more sophisticated dynamic stability standards.

4 Q. Are you referring to second generation intact stability  
5 efforts ongoing?

6 A. Yes.

7 Q. On to another topic area. If built today, can a U.S. flag  
8 cargo ship not operating internationally meet only the weather  
9 criteria in C.F.R. 170.170 and not the 2008 Intact Stability Code?

10 A. Yes.

11 Q. Does that allowance place the U.S. flag fleet in a less  
12 comprehensive or less robust stability regime than the oceangoing  
13 international fleet?

14 A. I really cannot answer that. I don't have any data. I don't  
15 have any comparisons that are statistically meaningful. I do not  
16 know.

17 Q. So there's -- to your knowledge, there isn't a comparison  
18 between the 2008 IS Code, the international one, Intact Stability  
19 Code versus the C.F.R. 170.170, where we could say apples to  
20 apples, say one is more robust than the other?

21 A. I know of individual ships that were studied, but I do not  
22 have -- 170.170 applies to many different kinds of ships, and so I  
23 don't have the data to make any meaningful sweeping or overarching  
24 generalizations about deleting 170.170. 170.170 has a very long  
25 history of application and experience.

1 Q. Thank you. I'll switch gears again, and I apologize for the  
2 extensive nature of moving around. Regarding the supply and  
3 exhaust ventilation dampers, would they have to be shut at sea to  
4 comply with stability criteria? And in this case I'll speak  
5 specifically to the *El Faro*, the dampers to the supply and exhaust  
6 we were earlier discussing, the weathertight dampers to the cargo  
7 hold, would they have to be shut at sea to meet the required CFR  
8 stability criteria and to comply with the load line?

9 A. Well, that's a two-part question, or I'll take it as a two-  
10 part question. For purposes of 170 -- complying with 170.170, no.

11 For purposes of complying with the Load Line Convention, I do  
12 not know. This was the load line assigning authority's -- these  
13 were decisions made by the load line assigning authority. The law  
14 has directed the Secretary to delegate these functions to the  
15 American Bureau of Shipping or other similarly recognized  
16 organizations. So they will conduct the -- so they would make  
17 those decisions.

18 Q. Okay. During previous testimony I think it was described  
19 that the downflooding point of a vessel is the first point that  
20 cannot be made weathertight. Is that correct?

21 A. Yes, the words for downflooding point or downflooding angle  
22 are just slightly different in the international regulation, in  
23 the Code of Intact Stability vice the definition in 46 C.F.R.  
24 Subchapter S, but functionally, essentially they mean the same.  
25 They mean the same. They have the same meaning along the lines of



1 what you said.

2 Q. With that in mind, what I'm trying to understand is the base  
3 code, the calculations, the assumptions that have gone into these  
4 load line calculations, and we've talked or you've talked that  
5 they start back in the '20s, the Load Line Convention in '30.  
6 Would the designers of these standards for load line stability,  
7 would they have anticipated that these weathertight openings are  
8 open at sea?

9 I'm not talking in a statutory requirement or specific to the  
10 *El Faro*. I'm just trying to understand if the engineers and naval  
11 architects who came up with these standards anticipated that these  
12 weathertight openings would not be closed underway at sea or were  
13 they thinking they were? And to simplify the question, are they  
14 required to be for the calculations, not for statutory reasons,  
15 just for the math for the margin?

16 A. So I can only answer that question partially and so that is  
17 what I will do. For purposes of regulation, for purpose of, as  
18 you've characterized it, the math -- for purposes of the math for  
19 intact stability, it is only when we apply the severe wind and  
20 weather intact stability criteria and look at those righting  
21 energies and look at the righting lever characteristics in 2.2 and  
22 2.3. That is where the angle of -- the downflooding angle becomes  
23 relevant. So that's all I can say about stability, that that's  
24 where it's relevant when it comes to applying the regulation, the  
25 intent of the regulation and the basic standard, where you would

1 have to meet those standards based on where your -- what your  
2 downflooding angle is, your first point that that cannot closed  
3 weathertight.

4 As far as load line, I cannot say because again it's the load  
5 line assigning authority who makes those decisions about weather-  
6 tightness or otherwise of those vents.

7 Q. Thank you. Yes, I think we understand that the fact they  
8 could be weathertight meant, from previous testimony, meant that  
9 it met all requirements, statutory and the rules applicable.

10 In the case of the *El Faro*, we don't have guidance as to that  
11 the crew should had kept the openings weathertight, the crew  
12 should have closed them during heavy weather. So where I'm  
13 struggling to understand is maybe there's a hole in between what  
14 was intended and what happened, how we might patch that hole going  
15 forward if it indeed exists.

16 I noticed, and I don't think this is an exhibit, but more  
17 recently at a ship design and construction third session at IMO,  
18 there was a submission by IACS for a unified interpretation on  
19 ventilators fitted with weathertight closing appliances serving  
20 machinery spaces which are required to remain open and are  
21 therefore considered as a downflooding point. So I was basing  
22 some of my thoughts off of some recent classification society  
23 interpretations that if you have to leave one of these previously  
24 weathertight openings open, you now need to consider a downpoint  
25 for machinery spaces.

1           So I guess I don't have a question there, I'm just -- unless  
2 you can elaborate on this particular -- what the thinking was for  
3 this particular submission.

4       A.    Yes, I'm generally aware of this submission. I do not recall  
5 the specific outcome as far as the decisions made by the IMO  
6 subcommittee. I don't recall. Of course, it's easily looked up.  
7 But again, on the face of it, it appears to be a most sensible  
8 interpretation on the face of it.

9       Q.    I'd agree, and that's where I'm struggling to find that maybe  
10 the guidance, how it doesn't make it to the deck plates or the  
11 disconnect between the deep back office of a design world and the  
12 deck plates. Thank you.

13           I'd like to change gears to stability analysis. What would  
14 trigger a damage stability analysis to be required by the Coast  
15 Guard or the MSC?

16       A.    It could be a range of reasons: major modification,  
17 significant change in flag ship characteristics. In the case of  
18 the *El Faro*, the significant change in draft because the different  
19 -- a deeper draft. There could be a number of reasons like that,  
20 and there are guidelines for what constitutes significant  
21 difference in lightship weight.

22       Q.    Which division of the Coast Guard is responsible to determine  
23 if a ship alteration is a major conversion or major modification,  
24 as you just mentioned?

25       A.    That would be the Marine Safety Center of the Coast Guard.

1 Q. Are you aware that the last conversion of the *El Faro* from a  
2 Ro-Ro to what I'll call a Ro-Con with the containers added on the  
3 upper deck was not determined to be a major conversion or major  
4 modification?

5 A. I'm generally aware of that outcome.

6 Q. With an increase of draft of 2 feet and ballast, fixed  
7 ballast to carry the higher container weight, should that have  
8 made it a major conversion in your opinion?

9 A. I do not have an opinion on that.

10 Q. Are you aware of Title 46, the four definitions applied to  
11 designate a major conversion? And I have them here: substantial  
12 changes to dimensions or carrying capacity of the vessel; change  
13 of the type of the vessel; substantially prolongs the life of the  
14 vessel or otherwise so changes the vessel that it is essentially a  
15 new vessel. One of the things I don't see there is draft,  
16 increase in draft.

17 Should we or would it be helpful to have an increase in draft  
18 to be more objective for a major marine conversion or a major  
19 conversion definition?

20 A. Okay. First of all, I have very limited knowledge and  
21 expertise regarding the application of the intent of those  
22 criteria for the purposes of determining major conversions. It is  
23 not a particularly straightforward task. It has precedent. It  
24 has many considerations that are given, and when Captain Mauger  
25 testified at the hearing earlier that there was extensive

1 discussion on the process by which those decisions are made.

2 So I would be extremely reluctant to comment on that specific  
3 question that you asked about changing the draft by 2 feet and  
4 whether or not it would trigger a major conversion determination.  
5 I would not comment on that.

6 Q. Dismissing it specific to the *El Faro*, are large draft  
7 changes to a vessel, are they substantial with regard to vessel  
8 system stability, lifesaving, other shipboard systems?

9 A. Can you help me out here? Can you ask me the question again  
10 perhaps with a little -- perhaps with a little context if you can?

11 Q. Should draft be included or substantial change of draft be  
12 included in the guidance to the Marine Safety Center and to the  
13 marine industry when they submit for an alteration, or is it not  
14 necessary? Let me strike that last point.

15 Is it a good idea to add an objective draft, increase in  
16 draft standard?

17 A. Again I would answer it the same way as I did earlier. I  
18 cannot comment. It would have to be considered with many other  
19 factors.

20 Q. Okay. If we -- regarding a major conversion, the way I  
21 understand the language is, if it is designated -- if an  
22 alteration is designated as a major conversion, that there is  
23 still a reasonable and practical standard that can be applied to  
24 meet current rules and regulations. Am I correct in that  
25 statement?

1 A. Yes.

2 Q. In the case of stability standards, intact and damage, who  
3 would make -- a vessel has been determined to be major conversion.  
4 Now who makes the determination whether stability standards,  
5 intact and damage, would be reasonable and practical?

6 A. Again, it would be the Marine Safety Center. Having said  
7 that, typically when a major conversion determination is made, if  
8 there are new stability standards that are applicable to new  
9 ships, typically stability standards that -- typically stability  
10 standards influence the design, the arrangements, the structure of  
11 the vessel to a great extent. So typically if there are new  
12 stability standards that exist, it would not be applicable in  
13 general to the existing vessel undergoing a major modification.  
14 It would still need to be made -- the determination would still be  
15 made by the MSC on a case-by-case basis.

16 So again I'm reluctant to generalize having said that. When  
17 we have new stability standards, we don't typically apply new  
18 standards to older vessels. Stability standards are generally  
19 incrementally modified, and existing vessels continue with  
20 whatever standards was applicable at the time the vessels was  
21 built.

22 Q. So is it a fair assumption then in the case of the conversion  
23 of the *El Faro* in 2005-2006, that even if it was designated as a  
24 major conversion by the Marine Safety Center, it would have still  
25 had its previous 170.170 stability standard as the requirement?

1 A. Yes.

2 Q. Thank you, Mr. Sirkar.

3 MR. STOLTZENBERG: That's all I have.

4 CAPT NEUBAUER: Mr. Kucharski.

5 MR. KUCHARSKI: Yes. Thank you, Captain.

6 BY MR. KUCHARSKI:

7 Q. Good morning, Mr. Sirkar. Hopefully I won't ask you too  
8 technical questions, because I don't know if I know all this  
9 technical stuff, but -- just as a little bit of background, do you  
10 attend the IMO committees, International Maritime Organization  
11 committees when they meet on stability type issues? Do you go  
12 over to London for that?

13 A. Yes, I do.

14 Q. How long have you been doing that? Has it been for quite  
15 some time? Can you give us an idea?

16 A. I've been going to IMO since 1993, almost continuously. In  
17 the middle, if you will, of that period, 1993 to the present time,  
18 for a period of about 7 years or so, 6 or 7 years, I was attending  
19 a different committee at IMO whose work was not directly related  
20 to ship stability. With that exception, I give you the rest of  
21 the answer.

22 Q. I believe you heard testimony yesterday by Dr. Stettler that  
23 the GM is not a good measure of stability for larger angles of  
24 heel. Would you agree with that statement?

25 A. For many ship types, the GM criteria alone has actually

1 served quite well for many, many, many years. With some new --  
2 newer or change in hull forms, it may be inappropriate to apply  
3 the GM-only criteria, without consideration of other  
4 characteristics such as the righting lever or righting energies.

5 So I would be hesitant to make a broad sweeping statement  
6 like the one -- like the way you have characterized it. I would  
7 qualify it. I would put it in context.

8 Q. Thank you. Let's take a look at Exhibit 8, page 16, please.  
9 It's the trim and stability booklet for the vessel, if you pull it  
10 up. I think across the top it's a table that says minimum  
11 required GM curve.

12 A. Yes.

13 Q. Page 16.

14 A. Yes. Yes, sir, I see it.

15 Q. Have you reviewed this trim and stability booklet prior to  
16 your testimony today?

17 A. I would not characterize it as a review. I have seen it. I  
18 have looked at it.

19 Q. Do you know if there's any GZ curve, minimum required GZ  
20 curve in this trim and stability booklet?

21 A. Not to my knowledge.

22 Q. So how is a master supposed to understand all this about GZ  
23 and righting arm, clearly from a master's standpoint, how is he  
24 supposed to -- he or she supposed to look at this and say, okay, I  
25 need to weigh the factors, GZ -- looking at this trim and



1 stability booklet, or any of the operating instructions in here,  
2 we see a curve -- we see a minimum required GM curve and -- have  
3 you reviewed any of the CargoMax forms for the vessel?

4 A. I have not.

5 Q. Would you also look at that table? And there's a white box  
6 embedded in the table where it says minimum required GM values in  
7 this diagram must be maintained for all operating conditions to  
8 meet -- and this is the important wording to me -- weather  
9 criteria as specified by the U.S. Coast Guard. Do you see that?

10 A. Yes, I do.

11 Q. So this manual here, what weather criteria -- is it a wind --  
12 is wind involved in this? Is sea state involved in this weather  
13 criteria that this manual was approved by ABS under -- I believe  
14 recommendations should be included in there for the Coast Guard,  
15 or we'll deal with that in a second. Can you elaborate on this  
16 weather criteria for us?

17 A. Yes, it's -- I believe the weather criteria in 46 C.F.R.  
18 Subchapter S, 170.170, where we have a notional steady wind, I  
19 believe in the order of -- or it translates to about 55 knots for  
20 open waters. The formula doesn't say 55 knots it's based on  
21 projected lateral area and length of the vessel, but essentially  
22 it is that. It is steady wind speed, and a minimum GM requirement  
23 based on that criteria.

24 Q. So it's not talking about GZ here. It's talking about GM --  
25 minimum required GM for certain weather criteria. Is that

1 correct?

2 A. Yes.

3 Q. You also stated earlier, I believe, that you would not like  
4 to hypothesize or speculate on survivability at, say, 70 knots, 80  
5 knots or some higher speed than what the weather criteria has  
6 embedded in it?

7 A. That is correct. There is -- I would hesitate to directly  
8 correlate or extrapolate.

9 Q. Okay. So let me get down to your definition of  
10 survivability. Would you be able to opine as to whether the  
11 vessel had sufficient GM, GZ, or something that the master could  
12 hang -- he or she can hang their hat on and say I at least have  
13 some kind of an idea what's going to happen to my ship at 70  
14 knots?

15 A. The definition of survivability is a very difficult one. It  
16 is not a precise number. It will depend on several facts,  
17 professional experience of the master, the judgment, the loading  
18 condition, other factors that are somewhat intangible or  
19 unquantifiable, and that's why the -- that there is no precise,  
20 perfect definition of survivability. One has to take all of that  
21 information into consideration and, based upon their professional  
22 judgment, make decisions on what is -- what might be survivable  
23 and what might not be survivable.

24 This page in and of itself, just by itself -- that's the  
25 point I was trying to make -- by itself should not used to make a

1 conclusion that I can take my ship into a 70-knot wind and  
2 survive.

3 Q. Let me see if I can rephrase that. Would you be able to tell  
4 me at a static condition, static, what effect a 70-knot wind would  
5 have on a vessel? How much heel it would have at 80 knots? And  
6 would you be able to tell me what GM -- the GM it would have at  
7 that particular 100 knots or 70 knots or 80 knots? Would you be  
8 able to do that? Not survivability, but just tell me what the GM  
9 would be or what the wind heel effect would be? Would you be able  
10 to do that?

11 A. It is possible to calculate that. The pressure, as we all  
12 know, varies as the square of wind speed. So one could  
13 theoretically calculate the heeling angle for a steady wind of any  
14 knot.

15 Q. I'd like to specifically look now at -- I think we can start  
16 off with 46 C.F.R. 170 but 170.110, and that should be Exhibit  
17 333, and it starts off at page 1, is 170.110. Are we all set?

18 A. Yes, sir.

19 Q. Great. Thank you. And I believe this section is the  
20 stability booklet, that talks about the contents of the stability  
21 booklet. Some are "must have" in there and some are "shall  
22 consider" language.

23 A. Yes.

24 Q. Thank you. So this stability booklet, who is it intended  
25 for? I can help you out with that. Section (c) says, each

1 stability booklet must contain sufficient information to enable  
2 the master -- is that correct? This is for the master?

3 A. That is correct.

4 Q. So at the top of that page that you have in your exhibit, top  
5 of page 1, the right-hand column, it says in developing the  
6 stability booklet, consideration must be given to including the  
7 following information. It says consideration. Do you see that?

8 A. Yes, sir, I do.

9 Q. Can you shed some light on why wording is using  
10 consideration. It's a -- it sounds like it's a may, but it  
11 doesn't need to be in there. So you could literally not have  
12 hydrostatic curves, capacity plan, tank sounding, everything in  
13 here that would be required to have, correct? Would that be your  
14 interpretation there? It says you need to consider it, you don't  
15 need to have it.

16 A. I wouldn't go so far. I would interpret the word just as it  
17 is. I would consider whether or not it is appropriate to have  
18 that information in the booklet. I wouldn't interpret that to  
19 mean anything other than that.

20 Q. So let's jump down to item number 11. It's general  
21 precautions for preventing unintentional flooding. So you've sort  
22 of danced around these ducts on the side of the hull. Would that  
23 be a source of unintentional flooding if those were left open?

24 A. Perhaps.

25 Q. Do you see any instructions in this book in the -- when you

1 look at trim and stability book of the *El Faro*, do you see any  
2 instructions in there anywhere for closing these vents?

3 A. I do not.

4 Q. And I know you sort of talked about load line regulations,  
5 maybe -- if I'm mischaracterizing this, please correct me -- some  
6 -- that load line regulations also encompass closures about the  
7 vessel. Is that correct?

8 A. That is correct.

9 Q. And you were aware that the load line certificate -- we can  
10 pull that up and everybody can look at it -- at the bottom right-  
11 hand corner of the first page it says trim and stability booklet,  
12 you need to follow the trim and stability booklet. Are you aware  
13 of that?

14 A. I am.

15 Q. The other section which I'd like you to look at is that same  
16 column, item number 15. It says, "Any other necessary guidance  
17 for safe operation of the vessel under normal and emergency  
18 conditions." Do you see that?

19 A. I do.

20 THE WITNESS: Excuse me, Captain Neubauer. Can I request a  
21 short recess, please?

22 CAPT NEUBAUER: Yes, sir. The MBI will recess and reconvene  
23 at 12:10.

24 THE WITNESS: Thank you, sir. That will be fine.

25 (Off the record at 12:02 p.m.)

1 (On the record at 12:13 p.m.)

2 CAPT NEUBAUER: The hearing is now back in session.

3 We're going to have one schedule change for the afternoon.

4 We'll have Commander Michael Crider from U.S. Coast Guard

5 Communications Command testify immediately after lunch, and to be

6 followed by Captain David Flaherty from the Coast Guard's

7 Traveling Inspector Office, Headquarters.

8 Now we will continue on with Mr. Sirkar's testimony and

9 Mr. Kucharski.

10 MR. KUCHARSKI: Thank you, Captain.

11 BY MR. KUCHARSKI:

12 Q. Thank you again, Mr. Sirkar. Earlier this morning, you  
13 mentioned the term relatively low freeboard, relatively low  
14 freeboard when you were asked about types of vessels. I think you  
15 were talking about some of the stability calculations going back  
16 to the 1920s even and fishing vessels you were talking about, and  
17 it was Finland and Scandinavia and then you mentioned Japan,  
18 Japanese and about some of these. Do you recollect that?

19 A. Yes, I do.

20 Q. This is another one of those nebulous terms in my mind. What  
21 is relatively low freeboard? Is there a definition for that?

22 A. No. What I was pointing to was the freeboard is such that  
23 once the vessel starts to heel under this so-called steady wind,  
24 because of the freeboard and its value, we have relatively quickly  
25 deck edge immersion and thus losing stability fairly quickly, as

1 opposed to some other vessel where we could, say, go well past 20,  
2 30 degrees and still not have deck edge immersion.

3 And so you could have an extended righting lever -- righting  
4 arm curve, but with a relatively low -- relative to some other  
5 vessel where you don't have deck edge immersion, if you have a  
6 vessel where you do have deck edge immersion at a fairly small  
7 angle, say, much less than 30, then you would lose that water-  
8 plane area and solely applying that criteria may be inappropriate.  
9 I mean, there could be other characteristics that make it  
10 inappropriate but this is one.

11 Q. Okay. I'm not sure what it's relative to, but to my mind, a  
12 rowboat -- let's take a rowboat. Okay. It has very little  
13 freeboarding and sheer numbers, maybe only 6 inches, and now we're  
14 talking about a large oceangoing vessel that may have many feet of  
15 freeboarding. Okay. So relative to what? Some kind of length,  
16 beam, relevant to other vessels have -- I mean, there are so many  
17 different types of vessels. I mean how do we quantify this? It  
18 seems like an nebulous term to be relatively low -- relatively  
19 low. Again, you know, a row boat has relatively low freeboard.

20 A. I wasn't trying to quantify or define it. All I'm saying was  
21 there's a range of freeboards. There's a range of ship  
22 characteristics, different types of hull forms. Some hull forms  
23 it may be inappropriate for some types of vessels to just solely  
24 have the initial GM 170.170 criteria.

25 Q. Okay. So we're back to that, what I was asking about before

1 in looking at the table. As a GM requirement then, so there are  
2 other things that need to be looked at. Is that what you're  
3 talking about?

4 A. Well, my comment was not related to the trim and stability  
5 booklet. My comment was related to what is -- what are the  
6 different ship types that may be appropriate for 170.170 and what  
7 types of ships we may need to consider other additional or  
8 alternative criteria because this may not paint the true picture.

9 Q. Okay. Thank you for that clarification.

10 So we've determined that the wind velocity was not in the  
11 trim and stability booklet. It just talked about weather  
12 criteria. There's no wave information also. Wave or sea state is  
13 part of the weather requirement in place for the *El Faro*; is that  
14 correct?

15 A. It's implicit. It's not explicit. But where there is a  
16 wind, there is generally waves.

17 Q. So was there a wave type associated with this weather  
18 criteria?

19 A. Explicitly, no. But again, it's derived from weather  
20 conditions where wind speed is the only descriptor that has been  
21 used for -- in the criteria for defining that particular weather  
22 condition. Yes, there is wave, but it's not in the formula. It's  
23 implicit.

24 Q. I see. So there's nothing anywhere in these calculations for  
25 the weather criteria that include the actual height of a wave,



1 period of a wave, or anything like that?

2 A. That's correct.

3 Q. Just some more points of clarification. The 100 meter  
4 container vessels stability rules or the recommendations to the  
5 more stringent recommendations for container vessels in excess of  
6 100 meters, is there any reason that the Coast Guard didn't adopt  
7 those recommendations?

8 A. I have not found any explicit stated reasons on the record.  
9 So I do not have an answer.

10 Q. The instructions to the master in the trim and stability  
11 booklet, I think it's -- we know the reference, but I'll give it  
12 to you again, is 008, and in this particular case it's on page 8.  
13 It actually starts on page 6, called instructions for roll-  
14 on/roll-off vessel. I just need to include this -- understand  
15 this clearly.

16 What does the Coast Guard -- what type of a vessel does the  
17 Coast Guard think this is? Is it a roll-on/roll-off vessel? Is  
18 it a container vessel? What is it?

19 A. Well, it's a combination. It's a roll-on -- Ro-Con vessel.

20 Q. Is this your typical -- is this what's envisioned as a roll-  
21 on/roll-off vessel, typical type roll-on/roll-off vessel? Is this  
22 a special form, a trailer-type ship?

23 A. This would be one of the earlier designs of the Ro-Ro type  
24 ship, one of the earlier types of Ro-Ro. Modern day large roll-  
25 off vessels look somewhat different.

1 Q. Your modern day roll-on/roll-off vessels, the ventilation  
2 areas for the vessels, are they low to the water or do you  
3 generally see them up high?

4 A. Generally higher.

5 Q. I'm not sure if you were asked this. I know we talked about  
6 weathertight, the closures, these ventilation dampers to the cargo  
7 holds. What's the difference between weathertight and watertight?  
8 Either break it down to Coast Guard regulations, IMO regulations,  
9 SOLAS regulations. What's the difference between weathertight and  
10 watertight?

11 A. Watertight has a head, a specified head associated with that  
12 and must prevent passage of water through that particular closure  
13 in either direction under a specified head, whatever that  
14 specification is for a particular watertight closure. A  
15 weathertight is no passage of water under all conditions that  
16 would be experienced, that could possibly be experienced at that  
17 location.

18 Q. And just to clear it up for maybe some of the others in the  
19 room, the head you're talking about is hydrostatic, the weight of  
20 the water, a water head on top of it. Is that what we're talking  
21 about?

22 A. Yes.

23 Q. So if that vent -- the vessel had a particular list -- I  
24 mean, we were looking at angles of heel yesterday to where water  
25 would reach those vents, if those were closed and that angle of

1 heel had stayed at that angle of heel, would those prevent water  
2 from coming in if those were closed -- if they were closed?

3 A. I cannot say for certain. I cannot say for certain.

4 Q. Can you opine as to whether it would be safe to close those  
5 dampers at sea when you have automobiles and gasoline in tanks on  
6 the vessel on the -- in the cargo in the vessel? I think you're  
7 aware that they carry automobiles on the vessel. Could you safely  
8 close those dampers and leave them closed in heavy weather? Would  
9 there be any fear for possible explosion of a flammable mixture?

10 A. On the fact of it, yes. Fire dampers are there for that --  
11 for a reason. But again, I'm not a fire protection engineer. You  
12 have to trade off one risk against another risk and maintain  
13 certain weathertight integrity while not compromising or not  
14 reintroducing some other risk.

15 Q. So if I understand that correctly, then you would have to  
16 weigh the possibilities of explosion compared to getting water or  
17 downflooding through those openings; is that what you're saying?

18 A. Yes.

19 Q. That's a tough answer. Back to 46 C.F.R. 170.110, and item  
20 number (c), at the bottom of that particular -- and that's the  
21 same exhibit that we had before. Would you like the exhibit  
22 number, Mr. Sirkar?

23 A. 333?

24 Q. Yes, sir. In the wording there, at the end of paragraph (c),  
25 which is that left-hand column, and it's on page 1, at the very

1 bottom it says, "Information must include an effective procedure  
2 for supervision and reporting of the opening and closing of all  
3 loading doors where applicable." Do you see that?

4 A. I do.

5 Q. What's a loading door?

6 A. A door for loading cargo, for Ro-Ro, for traffic to be loaded  
7 on board.

8 Q. And have you seen pictures of the *El Faro* and the doors --  
9 some of the watertight doors on that vessel? Have you seen any of  
10 those pictures?

11 A. Yes.

12 Q. So the loading doors would be the large type ones where they  
13 can drive trailers in and out of; is that correct?

14 A. Yes.

15 Q. The loading doors on there, some of the loading doors had  
16 man-size, if you will, boarding-type closures on them, that you  
17 had a dock? Would that be part that also?

18 A. Yes.

19 Q. And just for the record, the scuttles that they talk about, I  
20 don't know if you looked at any of the scuttles, specifically the  
21 scuttle on the 3 hull?

22 A. I've seen a picture.

23 Q. That is not the loading door, correct?

24 A. That is correct.

25 Q. I'd like to get your opinion on this. Just in your mind,

1 container ships -- the *El Faro* carried containers on deck, on the  
2 main deck, and from all the information that we have, on the *El*  
3 *Faro's* final voyage they had three-high stack. Three high, not  
4 consistently but most areas they were three high.

5 So looking at the profile of the *El Faro*, would that profile  
6 be similar to other types of vessels like the roll-on/roll-off  
7 type car carriers or a passenger ship where they have a high  
8 profile to wind?

9 A. Generally, yes.

10 Q. Do you know if there are more stringent regulations for  
11 passenger vessels and the wind criteria, weather criteria, for  
12 passenger vessels? Has that changed recently in the last, say, 5  
13 years as far as the requirements?

14 A. No. For passenger vessels?

15 Q. Yes. Is that a '99 criteria roughly? Used to be 26 meters  
16 per second, similar to what the *El Faro* was. But passenger  
17 vessels went to a -- to the new builds, to a new requirement. I  
18 say new builds, but in, say, around 2011. You're not aware of any  
19 change in the IMO regulation for the higher wind criteria?

20 A. I'd have to go back and review the Intact Stability Code.

21 Q. Thank you for that.

22 Could you look at MSC/Circular .456. That's Exhibit 332.  
23 And we're going to go I think it's the last page. Yes, it's on  
24 page 8. And let me just back up just a hair to page 7. The very  
25 last line says -- it's Section 5.2, and it says "Master's

1 instructions." And just for the record, page 1 says, MSC/  
2 Circular .456, "Guidelines for the Preparation of Intact Stability  
3 Information," and parenthetically it says "(adopted on 13 October  
4 1986)." Okay. So would this -- would these recommendations, will  
5 they hold for the *El Faro* or not?

6 A. Most likely. I am not sure about the applicability of this  
7 based on the date and other references to Regulation 22 in SOLAS  
8 2-1.

9 Q. Let me kind of set the groundwork for this then. Does the --  
10 the *El Faro* alternative compliance, it was supposed to abide by  
11 SOLAS regulations. Is that correct?

12 A. The Alternate Compliance Program is structured such that it  
13 would have international certificates.

14 Q. Okay. And this says adopted in 1986. So I just want to make  
15 sure. I don't want to waste everybody's time if these don't  
16 apply, since 1986, the vessel -- the trim and stability booklet I  
17 think it says 2007, but the incline was in 1993 when it was  
18 stretched. So it seems like these recommendations should apply.  
19 Would that be your --

20 MR. WHITE: Commander, can we take a short break please?

21 CAPT NEUBAUER: Yes, sir. The MBI will recess -- Mr. Sirkar,  
22 do you -- let me just -- Mr. Kucharski, we're looking at lunch.  
23 Do you know how much longer your line will be?

24 MR. KUCHARSKI: It's really the last question. It depends  
25 how long he takes to answer it.

1           CAPT NEUBAUER: Okay. I recommend that we try to get through  
2 this last question before lunch.

3           Mr. White, if this is the last question, is that acceptable?  
4 We will have a round for the PIIs.

5           MR. WHITE: Yes, that's fine.

6           CAPT NEUBAUER: Sir, I'd like to try to finish if we can. So  
7 can you rephrase that last question, Mr. Kucharski, or just reask  
8 it?

9           BY MR. KUCHARSKI:

10 Q. This guide -- well, I don't know if it's a guide, but it's  
11 called Guidelines for the Preparation of Intact Stability  
12 Information. Is it your opinion that these applies to the *El Faro*  
13 or no?

14 A. From the dates, it would seem to be applicable, but I need to  
15 look up the other references in SOLAS, not because of the dates,  
16 but I needed to look up the reference anyway, and there might be a  
17 more -- there might be other ties in here with SOLAS. So I  
18 couldn't give you a complete answer. From the dates it would seem  
19 so.

20           CAPT NEUBAUER: Well, sir, could we ask you to respond to the  
21 Board later in the hearing session or even later this week with an  
22 answer after you've had some time to research it?

23           THE WITNESS: Certainly.

24           MR. KUCHARSKI: Okay. Well, Captain, I'd like to ask a  
25 couple of questions related to this then. If it does apply, then

1 we won't have to --

2 CAPT NEUBAUER: So you're going to assume that it does apply  
3 in your question?

4 MR. KUCHARSKI: Yes.

5 CAPT NEUBAUER: Okay.

6 BY MR. KUCHARSKI:

7 Q. So on page 8 --

8 MR. WHITE: Excuse me, Captain. To the extent that we could  
9 discuss this before this line of question, it might be more time  
10 effective if we do that.

11 CAPT NEUBAUER: Okay. The hearing will recess and reconvene  
12 at 12:50.

13 (Off the record at 12:39 p.m.)

14 (On the record at 1:01 p.m.)

15 CAPT NEUBAUER: The hearing is now back in session.

16 We're going to at this time recess for lunch and come back at  
17 1:45, and we'll continue on, sir, with your testimony at that  
18 time, if that's okay.

19 The hearing is in recess.

20 (Whereupon, at 1:02 p.m., a lunch recess was taken.)

21

22

23

24

25

26



A F T E R N O O N S E S S I O N

(1:48 p.m.)

CAPT NEUBAUER: The hearing is now back in session.

We'll continue with testimony from Mr. Sirkar, and we're going to pick up and repeat the last question asked during the session before lunch. So, Mr. Kucharski.

MR. KUCHARSKI: Thank you, Captain.

BY MR. KUCHARSKI:

Q. Mr. Sirkar, my question was, does Exhibit 332, which is MSC/Circular .456, Guidelines for the Preparation of Intact Stability Information (adopted on 13 October 1986), did that apply to *El Faro*?

A. So thank you. I'm going to give you a multi-part answer. The bottom line is I don't think this would apply.

First of all, it is all tied up with when she enrolled -- when the vessel enrolled in ACP and what was the service before that? What was -- was it in domestic service before that and the international service after enrollment? And those types of issues are best addressed by our Office of Vessel Compliance, Office of Commercial Vessel Compliance that deals with enrollment issues.

From my perspective, the way I look at this particular circular, it is tied to the predecessor instruments to the Code of Intact Stability. The Code of Intact Stability, in the supplement that was used in -- the ACP supplement version that was used when *El Faro* enrolled in the Alternate Compliance Program, that version

1 of the supplement said that compliance with Subchapter -- for the  
2 intact stability section, it said, compliance with 46 C.F.R.  
3 Subchapter S is equivalent to the requirements in 2008 Code of  
4 Intact Stability. Therefore, that connection between this MSC  
5 circular and the predecessors to the Alternate Compliance Program,  
6 that connection does not exist. Hence, on the face of it, even  
7 though the dates are -- seem right, may seem applicable, but for  
8 that stability non-connection reason, my opinion is it would not  
9 apply because it talks about righting levers and curves of  
10 righting levers and such.

11 Q. Okay. Great. Thank you for that clarification.

12 Can you tell us if being -- if the vessel is in the Alternate  
13 Compliance Program, or any vessel is in the Alternate Compliance  
14 Program, does that change how the U.S. Coast Guard or MSC -- does  
15 that change your role in stability booklet review?

16 A. I would have to refer that question to the Marine Safety  
17 Center.

18 Q. Okay. Well, let me ask that a little bit different way. Who  
19 reviews the stability booklets for the ACP program? Do you review  
20 it?

21 A. I do not. It's my understanding that the recognized  
22 organization, the ACP class society, ABS, would review that.

23 Q. So then it really wouldn't matter if you're in the ACP or  
24 not. Do you review stability booklets for vessels not in the ACP  
25 program? You don't do that at all?

1 A. I do not do that at all.

2 Q. One last question. You mentioned that you've been to these  
3 IMO meetings -- I'm sorry. Were you finished?

4 A. I'm sorry, sir. I'm with you.

5 Q. I wanted to make sure I wasn't cutting you off. When you  
6 attend these meetings, IMO committee meetings, stability meetings,  
7 do they have any people with experience actually handling the  
8 vessel in heavy seas under conditions of anything like parametric  
9 rolling or synchronous rolling, or just handling a big vessel in  
10 heavy seas? Do they ever attend any of these committee meetings?

11 A. Yes.

12 Q. And they weigh in on some of these decisions or what it is  
13 that you're proposing coming up with?

14 A. Yes, they participate in discussions in these meetings.

15 Q. Thank you, Mr. Sirkar.

16 MR. KUCHARSKI: Captain, that's it. I don't have any further  
17 questions.

18 CAPT NEUBAUER: Thank you. I'd like to go to the PIIs at  
19 this time. TOTE, do you have any questions?

20 MR. REID: No questions, sir.

21 CAPT NEUBAUER: Mrs. Davidson?

22 MR. BENNETT: No questions.

23 CAPT NEUBAUER: ABS?

24 MR. WHITE: Yes, sir.

25 BY MR. WHITE:

1 Q. Mr. Sirkar, in the line of questioning from Mr. Stoltzenberg,  
2 he asked whether you had any input as to whether a major  
3 modification should include a change in draft. As a follow-up to  
4 that line of questioning, we understood that presently a change in  
5 draft would not constitute a major modification. But based on  
6 your experience, to the extent that a vessel, say, a tanker, might  
7 be issued multiple load lines, and to the extent it had multiple  
8 load lines and was required to comply or follow the statutory  
9 requirements of the deepest draft, based on that information,  
10 would you have any further comment as to whether a change in draft  
11 should be considered to be a major modification and what that --  
12 what result that may have on a tanker that may have multiple load  
13 lines?

14 A. I wouldn't want to comment on that.

15 Q. To the extent a major modification or the description of a  
16 major modification for a vessel is decided by the Coast Guard,  
17 that could potentially mean the vessel may have to change its  
18 stability requirements for each load line that it's assigned,  
19 correct?

20 A. Potentially, correct. Yes.

21 Q. Thank you.

22 MR. WHITE: Nothing further.

23 CAPT NEUBAUER: Does Herbert Engineering have any questions?

24 MR. SCHILLING: No questions.

25 BY CAPT NEUBAUER:

1 Q. Mr. Sirkar, I just have one follow-up question from your  
2 earlier testimony. You -- we had discussed a little freeboard  
3 vessel, and if I understand your answer, it depends on some of the  
4 angles that could start to introduce flooding to the watertight  
5 deck. The *El Faro* starts to take water on the second deck at  
6 about 15 degrees heel. In your opinion, would that be considered  
7 a low freeboard vessel?

8 A. I was using the term in the context of deck edge immersion,  
9 not flooding on the deck, and thus loss of water-plane area and  
10 thus reduced range of stability and reduced righting energy. I  
11 was not referring to immersion of downflooding points.

12 Q. So understanding the *El Faro* beginning to take water on a  
13 deck at a 15-degree heel, do you have an opinion on the vessel as  
14 a low freeboard vessel, or no?

15 A. No.

16 CAPT NEUBAUER: Are there any final questions for Mr. Sirkar  
17 at this time?

18 MR. KUCHARSKI: Yes. Captain -- I'm sorry.

19 CAPT NEUBAUER: Mr. Kucharski.

20 BY MR. KUCHARSKI:

21 Q. Mr. Sirkar, so deck edge immersion, what deck are we talking  
22 about at deck edge immersion? The second deck was the watertight  
23 deck on the *El Faro*. Would that be the deck where, if the water  
24 comes on as it lists, is that at the point of deck edge immersion?

25 A. Yes. Yes.

1           CAPT NEUBAUER: Does that clarification change your opinion  
2 on if it was a low freeboard vessel?

3           THE WITNESS: I was thinking more along the lines of OSV type  
4 hull forms where deck edge immersion doesn't necessarily result in  
5 downflooding, but does result in loss of water-plane area and  
6 reduced righting energy. It's slightly different.

7           BY MR. KUCHARSKI:

8 Q. But at deck edge immersion, does -- on the *El Faro*, if the  
9 water is on the second deck, is it losing water-plane area?

10 A. Not necessarily. It might be a -- not necessarily. It might  
11 be a transient issue.

12           CAPT NEUBAUER: Are there any final questions for Mr. Sirkar  
13 at this time? Commander Denning.

14           BY CDR DENNING:

15 Q. Mr. Sirkar, I just have one question. You were asked a lot  
16 of questions today about the ventilation, cargo -- cargo holds and  
17 fire dampers and the ventilation system, specifically as it  
18 relates to load lines and stability.

19           I'm looking at on my screen 46 C.F.R. 92.15-10, ventilation  
20 for closed spaces, and this is -- this ties in with  
21 Mr. Kucharski's question earlier about the purpose for those fire  
22 dampers. I'm going to read you excerpts from this and then ask  
23 you a question. It says here these ventilations shall be --  
24 vessel shall be properly vented or ventilated. Means shall be  
25 provided for closing those ventilators in case of fire. But then

1 later in paragraph (d)(1), it says areas below the weather deck  
2 shall be provided with continuous pressure-positive ventilation at  
3 each level on which vehicles are transported, which would be  
4 applicable to the *El Faro* since it's a Ro-Ro vessel, correct?

5 A. Correct.

6 Q. So my question is if the crew is required to maintain  
7 positive ventilation in those spaces, what might the rationale --  
8 the only way to do that is to keep the fire dampers open, what  
9 might the rationale be to consider them weathertight or watertight  
10 when it comes to load line or stability related issues?

11 A. According to the Load Line Convention, other means would need  
12 to be provided, coaming heights or other alternatives would need  
13 to be considered in order to reduce the likelihood of  
14 downflooding.

15 Q. So coaming heights can help reduce the likelihood of  
16 downflooding, but the fire damper itself should not be considered  
17 as being either weathertight or watertight. That does not affect  
18 the ability -- that doesn't reduce the likelihood of water ingress  
19 through that opening, correct, if it's required to stay open?

20 A. Correct. But again, I'm not a fire protection engineer so I  
21 can't combine -- in my mind, I cannot combine the two risks and  
22 eliminate or mitigate both of them simultaneously. So I really  
23 can't give you a complete answer.

24 CDR DENNING: Thank you, sir.

25 CAPT NEUBAUER: Are there any final questions for Mr. Sirkar?

1           Okay. Mr. Sirkar, you are now released as a witness at this  
2 Marine Board of Investigation. Thank you for your testimony and  
3 cooperation. If I later determine that this Board needs  
4 additional information from you, I will contact you through your  
5 counsel. If you have any questions about this investigation, you  
6 may contact the Marine Board record, Lieutenant Commander Damian  
7 Yemma.

8           (Witness excused.)

9           CAPT NEUBAUER: Before we move on, do any of the PIIs have  
10 any issues with the testimony we just received?

11          MR. REID: No, sir.

12          MR. BENNETT: No, sir.

13          MR. WHITE: No, sir.

14          MR. SCHILLING: No, sir.

15          CAPT NEUBAUER: Thank you. The hearing will now recess and  
16 reconvene at 2:10.

17          (Off the record at 2:04 p.m.)

18          (On the record at 2:11 p.m.)

19          CAPT NEUBAUER: All right. The hearing is now back in  
20 session.

21           At this time, we're going to hear from Commander Michael  
22 Crider who is the commanding officer of the Coast Guard's  
23 Communication Command.

24          LCDR YEMMA: Please raise your right hand, Commander.

25          (Witness sworn.)



1 LCDR YEMMA: Thank you.

2 LCDR YEMMA: Commander, can you start by stating your full  
3 name and spelling your last name for the record?

4 THE WITNESS: Commander Michael Crider, C-r-i-d-e-r.

5 LT NOYES: And Lieutenant Travis Noyes, N-o-y-e-s.

6 LCDR YEMMA: Commander, can you tell the Board what your  
7 current assignment is in the Coast Guard?

8 THE WITNESS: I'm currently assigned as commanding officer of  
9 the U.S. Coast Guard Communications Command in Chesapeake,  
10 Virginia.

11 LCDR YEMMA: And can you please describe some of your  
12 responsibilities in that position?

13 THE WITNESS: The mission of Communications Command is to  
14 provide reliable communications, communications support and  
15 communications training to Coast Guard forces and other government  
16 agencies in support of Coast Guard operations, as well as  
17 communication services to the maritime public throughout the  
18 world, long range coms.

19 LCDR YEMMA: And can you also tell the Board about any of  
20 your prior Coast Guard experience related to your current  
21 position?

22 THE WITNESS: Absolutely. I've got -- as of tomorrow, I'll  
23 have 29 years active duty. I've been here at Communications  
24 Command for 6 months. I arrived in July 2016. I was stationed --  
25 I went through radioman school shortly after enlisting in the

1 Coast Guard. I was stationed at Communications Area Master  
2 Station Pacific out in Point Reyes, California. That unit has now  
3 folded underneath Communications Command and no longer exists.  
4 It's not operating facility of ours. I've done communications  
5 afloat, ashore. I was with Communications Station Kodiak, a chief  
6 there back in the day, as well as the XO there for one tour. For  
7 the past 25 of 29 years, I've either been operating, engineering,  
8 deploying, or sustaining radio communications equipment for the  
9 Coast Guard.

10 LCDR YEMMA: What is your highest level of education you  
11 completed?

12 THE WITNESS: It would be an associate's degree.

13 LCDR YEMMA: Thank you, Commander. Lieutenant Comerford will  
14 have questions for you now.

15 (Whereupon,

16 CDR MICHAEL CRIDER

17 was called as a witness and, having been duly sworn, was examined  
18 and testified, as follows:)

19 EXAMINATION OF CDR MICHAEL CRIDER

20 BY LT COMERFORD:

21 Q. Good morning, Commander. To start off, did you have a chance  
22 to review the NTSB weather factual report before appearing today?

23 A. I did. Not very in depth, but I did peruse it, yes.

24 Q. All right. Thanks Commander. We'll be referring to that  
25 later for some questions. But first, can you discuss specifically

1 COMMCOM's responsibility with weather messages that's broadcasted,  
2 and please touch on some important types of messages that are  
3 sent?

4 A. Absolutely. We're in a partnership with the National Weather  
5 Service and NOAA. It's actually an agreement signed by, I believe  
6 it's the Chief of Prevention, Admiral Cook last -- the agreement  
7 was signed, I believe, in 2010, and that's stood up, it's called  
8 UNCLOG, which is the U.S. Coast Guard and NOAA, National Weather  
9 Service Coordination Liaison Group. That's what UNCLOG, the  
10 acronym stands for. That allows or establishes a partnership that  
11 the Coast Guard will broadcast weather products on behalf of NOAA  
12 and National Weather Service. We do not generate them. We just  
13 broadcast them on their behalf. And we take those broadcasts and  
14 we receive them from the National Weather Service, and we send out  
15 anything from storm warnings to fax, broadcasts, to everything you  
16 can imagine. We at COMMCOM, Communications Command, we primarily  
17 focus on sea areas 2 and 3 which are further offshore and then --

18 Q. Try to go a little slower.

19 A. Sorry. I'm a fast talker. Anyway, so basically we focus on  
20 sea areas 2 and 3 which are offshore. The close-in VHF  
21 communications from the sector commands, they also broadcast  
22 weather from their facilities, primarily just voice. At  
23 Communications Command we broadcast text, voice, and weather fax.

24 Q. In your brief description there, you had said you receive  
25 messages directly from NOAA. During the fall of 2015, mainly

1 September and October, was COMMCOM receiving messages directly  
2 from NOAA for broadcasting?

3 A. No, we receive weather through what's called the C2OIX,  
4 Command and Control Operation Information Exchange, which is a DoD  
5 product or a Navy product. They actually pull the weather  
6 products off of the satellite. They convert it into a message  
7 that is digestible by C2OIX. They forward that down to us. It's  
8 converted into an email that is then sent through the system that  
9 the computer can pull that out and then put it in the queue for  
10 broadcast. So it's not a direct feed. It actually works through  
11 the message exchange.

12 Q. If a mariner were to try to find a particular weather  
13 message, where -- what resources could they find the schedule for  
14 broadcasts?

15 A. Communications Command doesn't have any forward-facing  
16 products or documents that would provide that information. That  
17 information would all be found, whether it's on NAVCEN; NAVCEN has  
18 public facing -- the Navigation Center, has a public-facing  
19 website that has all of our broadcast schedules, frequencies,  
20 times, products, those kind of things. I believe NOAA also  
21 publishes that information, and I'm not sure what other documents  
22 that would be found there.

23 Q. Real briefly, I'd like to refer you to Exhibit 299. This  
24 exhibit shows a schedule of broadcast that was provided to the  
25 investigation previously from Communications Command specifically

1 for the Atlantic area. Does this schedule reflect the frequencies  
2 and times for the weather broadcast coming from the Atlantic area  
3 for September and October of 2015?

4 A. As far as I can tell, yes.

5 Q. Is this schedule the way it's displayed, provided to any of  
6 those sources that you talked about, NAVCEN or anything similar to  
7 a forward-facing website where a mariner might be able to download  
8 this schedule?

9 A. This schedule is not. This is actually a document used by  
10 the operators to quality control the broadcast, to watch when  
11 they're supposed to be going out, set up transmitters, those sorts  
12 of things.

13 Q. And on that schedule it describes windows, in a manner of  
14 speak, for broadcasts. Can a specific weather message be expected  
15 at a specific time in that window or any time in the window?

16 A. Normally -- the broadcasts are handled differently. So, for  
17 example, a NAVTEX broadcast, it's a textual broadcast that goes  
18 out. It's limited to 10 minutes, with not to exceed 20 minutes,  
19 for -- in accordance with international regulations. The Coast  
20 Guard, the U.S. Coast Guard is allowed to exceed that to 40  
21 minutes because we own all the transmitters. They're in close  
22 proximity to each other in the U.S. So we're not going to step on  
23 other countries, so we're allowed to not exceed that 40-minute  
24 window.

25 The way that NAVTEX works, it will actually queue a

1 broadcast. It will go through a broadcast and then automatically  
2 prioritizes them kind of into a barrel. It will send those  
3 broadcasts in order of priority as they're queued or as they're  
4 requested. An urgent marine information broadcast would go to the  
5 top, those sorts of things.

6 It will actually look at -- it will actually look at what  
7 went out during the last schedule period, and it will change the  
8 priority based on when something went out last time, and it will  
9 bring it up earlier in the broadcast next time. So you wouldn't  
10 see the same broadcast at the same time in NAVTEX.

11 Now VOBRA, that's a different beast. VOBRA actually, it's  
12 the same order, the same broadcast for each time frame. They're  
13 actually fixed queues.

14 Q. Commander, you had mentioned your watchstanders use that  
15 standard for a situational awareness tool for checking the weather  
16 broadcasts. During their watch, can you briefly describe what  
17 their responsibilities are and if they're capable in real time of  
18 really checking if those messages are being sent out?

19 A. Absolutely. I'm going to speak to the processes and  
20 procedures in place since I've been a CO. What they're required  
21 to do is to -- quality control those broadcasts not only from a  
22 single perspective. There's multiple broadcasts that are going  
23 out and you look at multiple broadcasts on multiple frequencies.  
24 There's no way that they're going to be able to listen to every  
25 one of those frequencies at all times. We just simply don't have

1 the assets to do that.

2 Since we've centralized Communication Command, you can have  
3 broadcasts that are going out in California at the same time  
4 they're going out, you know, from this side, and all of our voice  
5 broadcasts out of Chesapeake and New Orleans, but it's the same  
6 feed; that same data feed has actually just fed the transmitters  
7 in both areas. So they can't listen to all those frequencies all  
8 the time.

9 So typically what they will do is they will go through and  
10 check each frequency to make sure that the signal is going out,  
11 that it's intelligible and there aren't no technical problems or  
12 equipment failures that are precluding a signal from going out.  
13 Then they will leave the receiver on one frequency where they can  
14 hear it going out and hear if it were to stop. They don't sit  
15 there and copy it down word for word and verify that against  
16 anything. They're just looking at the quality of the signal and  
17 if it's intelligible.

18 They will -- at the end of a broadcast, they will go back now  
19 and review the automatic log or the log server log and validate  
20 and ensure that every broadcast that was scheduled to go out in a  
21 time frame went out during that time frame; and if it did not,  
22 they log that and then do some forensics to figure out why that  
23 did not happen.

24 Q. For the schedule, and just for the record, it lists a few  
25 acronyms real quick; namely, NAVTEX, Weather Fax, and SITOR and

1 VOBRA. Can you just quickly define those four short names?

2 A. Absolutely. NAVTEX stands for naval textual. It's just a  
3 radio teletype broadcast that goes out on a MF frequency.

4 Weather Fax is actually a feed that goes out on high  
5 frequency, on HF on multiple frequencies. It's simply a key that  
6 we receive from the National Weather Service via a dedicated  
7 circuit and then we just turn that seal around and send it to the  
8 transmitter. We don't see what's coming in. There's no  
9 processing equipment on our end. It's just turned around and  
10 pointed directly to the transmitter, so we have no control of what  
11 goes over that. And I believe it's the same signal that's sent  
12 over SAT-C. That would be a question for the National Weather  
13 Service.

14 SITOR is a Simplex Teletype Over Radio. It's also a forward-  
15 error-correcting teletype signal just like NAVTEX. It's just sent  
16 out over HF and it's done with some multiple frequencies. 518 for  
17 NAVTEX is standard worldwide. This is -- there are multiple  
18 frequencies that are unique to the Coast Guard for SITOR.

19 VOBRA is voice broadcast, voice automated broadcast is all  
20 that is. Basically it's a computer-synthesized voice. Back in  
21 the day we used to read the weather over the radio. Now it's all  
22 queued automatically, sent from a computer, similar to your PC  
23 sitting on your desk, turned around and sent to the transmitter  
24 that way.

25 Q. Commander, could you take a moment to speak about the ranges,



1 the relative ranges that one might expect to see with NAVTEX or  
2 VOBRA?

3 A. Absolutely. NAVTEX typically, I think we advertise a range  
4 of about 200 nautical miles. That's just the generic range. It  
5 exceeds that, but that's the advertised range. You don't really  
6 have an advertised range for HF. HF -- just the nature of HF,  
7 you'll have what's called a ground wave. The ground wave leaves  
8 the antenna and goes out 100 miles or some amount around that, and  
9 it depends on things like the radiating characteristics of the  
10 antenna, the height of the antenna, the frequency. Typically in  
11 the HF range, the higher you go in frequency, the shorter that  
12 ground wave is going to go -- the shorter distance that ground  
13 wave is going to travel.

14 You have the -- the ionosphere would have -- the RF radiation  
15 goes up into the atmosphere and comes down. Basically between the  
16 ground wave and where that sky wave returns, is called the skip  
17 zone, and that skip zone will vary in size depending on the time  
18 of day and throughout the day, sunspot activity, those kind of  
19 things.

20 HF is very dynamic. From minute to minute, you're going to  
21 have different coverage but you have a general idea of what you're  
22 trying to hit, and that's primarily why we broadcast on multiple  
23 different frequencies so we've got a lower -- you know, more megas  
24 free. You've got 6, 8, 12. And so that you have frequencies that  
25 are standard throughout the day and in the evening. Sometimes

1 you'll see during the day, we'll broadcast in a very high  
2 frequency or a higher HF frequency in the 17 mega range, and  
3 that's just to kind of try and manage those changes and somewhat  
4 standardize our coverage.

5 Q. Now you had said you assumed command the summer after -- so  
6 the summer of 2016, correct?

7 A. Right.

8 Q. After -- at what point did you hear about the *El Faro*  
9 investigation and was there some -- any level of review conducted  
10 of COMMCOM's performance during the time period of *El Faro*?

11 A. I seem to recall the first interaction I had regarding  
12 COMMCOM, I knew that there had been some requests for information  
13 that predated my arrival, and I believe in October -- that date  
14 may be off a bit, but I want to say in October there was a  
15 teleconference that was my first participation and introduction to  
16 *El Faro* and all things, communications that were COMMCOM involved.

17 Q. Was there any review of COMMCOM's performance? And if there  
18 was, were there any results found on the performance of weather-  
19 related messages for 30 September and 1st of October 2015?

20 A. I reviewed -- I know that there were some products that they  
21 pointed out that the log server had logged as -- had not logged as  
22 having gone out. I understand there was some discussion about  
23 were those broadcasts missed, and on the NTSB report, it states  
24 that it believes those products were missed. I personally don't  
25 think we can make that conclusion, and that's simply because there

1 were -- we call them a COOP now, or a continuity of operations,  
2 where we transfer control of all of Communications Command assets  
3 from Chesapeake, from the operations deck in Chesapeake, over to  
4 Point Reyes, which used to be CAMSPAC, and then control them from  
5 there.

6 On the 29th and 30th, and perhaps the 28th, I think there  
7 were COOP exercises. Back then they were called CBUC, or Cams  
8 Backing Up Cams. There were multiple occurrences of training  
9 COOPs during that time frame.

10 The log server or ABS will continue to log those broadcasts  
11 as though they're going out unless the services are stopped or  
12 that server is secured. There's a separate server out of CAMSPAC  
13 or out at Point Reyes that would control the broadcasts. They  
14 have independent configurations. They mirror each other today.  
15 I'm not sure of their status back then. So I could not  
16 definitively say that a broadcast in that schedule would have been  
17 missed or sent during that time frame. We just don't have those  
18 logs.

19 Q. And the operators log they refer to for the COOPs, do you  
20 recall approximately what times those COOPs were logged as having  
21 occurred? Scheduled logs, the one that I saw was 1720 to 2134 on  
22 the 30th, Zulu Time. I didn't get a chance to finish scanning the  
23 log.

24 A. I can pull the logs back up if you want me to, but I do have  
25 -- we sent out what's called an ops stat message or an email to

1 the Command staff whenever they transition. I was there, of  
2 course, but I do have copies of those that show the initiation of  
3 a CBUC or a COOP on 30 September at 1:24 p.m., and that would be  
4 Eastern Time; so Zulu plus 4 back then would have been 1724. And  
5 then it was reversed back on the 30th at, it looks like, 2131 Zulu  
6 Time. On the 1st -- that was on the 30th.

7 On the 29th, they also did a CBUC for that one and it was  
8 completed at 1710 Zulu. I do not have the time in here for the --  
9 for when that was started.

10 On the 1st, there was a COOP. On the 1st there was a COOP  
11 and I know they experienced some difficulty in the transition.  
12 It's not a Coast Guard operation in that the Coast Guard is in  
13 control of transition services. It's actually circuits that are  
14 owned or maintained. We lease the circuits from Verizon, and  
15 Verizon struggled in transitioning some of their -- some of those  
16 services back and forth. So they had to restart it and pull it  
17 back. So I know on the 1st of October, it took them quite a bit  
18 of time to transition from 1338 to 2357 Zulu. They COOP'd -- when  
19 they shifted it over, it took them about 5 hours and 45 minutes to  
20 go from Chesapeake to Point Reyes. And with the circuits back and  
21 forth, I do not know how long it took them to come back. But at  
22 2357, all circuits were returned to Chesapeake.

23 Q. And the COMMCOM log time records, how long are those records  
24 maintained on file?

25 A. They're maintained by the system itself for 30 days. After

1 that, it deletes them.

2 Q. And 30 days is policy?

3 A. It is.

4 Q. In the log client records for the Atlantic area, with the  
5 understanding that we aren't sure what happened with the  
6 transition through the COOP, what types of messages were seen or  
7 not observed during that record for the 30th of September and the  
8 1st of October?

9 A. A review of the logs show there were some tropical storm  
10 warnings that were not configured to go correctly during that time  
11 frame from VOBRA and I think -- I believe that's all of those that  
12 came from was VOBRA. They did go out correctly, the broadcasts,  
13 but there were so many broadcasts that there were some that were  
14 not configured correctly.

15 Q. Commander, do you have a list of the time windows that those  
16 messages were missed?

17 A. Again, this is simply on the Atlantic side. So as far as  
18 whether or not the configurations were correct and the messages  
19 were broadcast from Point Reyes, we simply don't know. So what  
20 I'm going to speak to is the configurations that were identified  
21 as being incorrectly configured to send a product at a specific  
22 time in the server in Chesapeake, and this is as of November 10th  
23 of this year. It was not -- there's no way to tell when these  
24 anomalies were entered, if they were ever entered correctly, if  
25 they were ever incorrect or manipulated.

1           So looking back at that, VOBRA, 0330 Zulu, we corrected --  
2 that was not correctly configured to send the TC map broadcast.  
3 The 0430 Zulu VOBRA, and again VOBRA is the voice broadcast, and  
4 those are keyed simultaneously out of Chesapeake and New Orleans.  
5       The 0930 Zulu VOBRA, the 1115 Zulu VOBRA, and the 1530 and the  
6 2130. Those broadcasts -- yeah. So that's it.

7 Q.    With respect to the message that had been logged in the  
8 server as a missed DCST at 2215, can you speak to that message  
9 briefly?

10 A.    And which one is --

11 Q.    Absolutely. If you want refer to Exhibit 300, the log client  
12 server. Let me just get the page right for you. I believe it was  
13 page 102.

14 A.    I'm sorry. What time are you looking at?

15 Q.    It was at time stamp 23:24:21 Zulu. It should be about the  
16 12th record from the top of the appropriate page.

17 A.    And what's your question with regard to that?

18 Q.    When it's logged as a missed -- two questions really. When  
19 it's logged as a missed DCST, what does that mean and do you --  
20 can you identify what message was missed?

21 A.    The way the system works, it will calculate how much time it  
22 has to send a broadcast, and if it cannot send a product during a  
23 time frame, it will -- it doesn't truncate the message. It just  
24 doesn't send it and it finds a message it can fit within that  
25 broadcast window, and when it does that, it will log it as a

1 missed broadcast.

2 Q. Any record in the message name that has H-S-F-A-T, HSFAT?  
3 Are you familiar with what that message contains just in general?

4 A. That's going to be -- I'm assuming it's a high seas forecast  
5 but that's something that's, you know, specific to NOAA.

6 Q. So since looking into the logs and the performance of  
7 Communications Command, other than the COOP that we discussed  
8 earlier, were there any other findings for problems that were  
9 discovered that might -- that may have caused issues for the  
10 system for the broadcasting of weather messages specifically?

11 A. During this particular time period, other than incorrect  
12 configuration and some processes for reviewing the logs and  
13 quality control of what actually went out for logging not  
14 correctly, nothing comes to mind.

15 Q. So after the review, did you look at current performance to  
16 see if this was just a short-term queue incident? And the real  
17 question is, are these weather messages now being broadcasted in  
18 accordance with the schedule?

19 A. The way I approached this was not to review the logs and see  
20 what was missing. I approached it from a requirements perspective  
21 and said what is required to go out, and had my technicians  
22 validate that all those queues were properly set up. And we  
23 adjusted the processes to ensure that the quality control services  
24 provided by the broadcast operator included that check and balance  
25 to ensure that what was supposed to be sent actually went out and

1 was logged in the log server.

2 MR. COMERFORD: Captain, at this time, that's all the  
3 questions I have.

4 BY CAPT NEUBAUER:

5 Q. Commander Crider, just a couple of follow-up questions from  
6 the outline. Is Chesapeake the closest point to the Bahamas for  
7 transmitting HF?

8 A. Captain, it is not. We've got sites down in Miami. We've  
9 got sites in Orlando -- I'm sorry -- not Orlando, in New Orleans.  
10 We've got sites up in Boston. But some of our best coverage for  
11 the Bahamas actually comes from those because of that previously  
12 mentioned ground wave as well as the skip zone sky and skyway,  
13 where it returns to the surface for reception. Boston and New  
14 Orleans -- I'm sorry -- Boston, New Orleans and Chesapeake are the  
15 best places to broadcast that stuff from.

16 Q. And I think you mentioned that even though the broadcast is  
17 listed as missed in a log, there's a possibility it still would  
18 have gone out. Is that correct?

19 A. Yes, Captain.

20 Q. Do you know which broadcast station would have done the  
21 makeup broadcast or is that all of them?

22 A. It's not really a makeup broadcast. They just assume control  
23 of the queue when we COOP. And there would have been broadcasts  
24 for VOBRA that had missed, specifically what was missed or  
25 conceptually missed, was VOBRA, and that would have gone out from



1 New Orleans and Chesapeake.

2 Q. Thank you.

3 CAPT NEUBAUER: At this time, I would like to go to the NTSB,  
4 Mr. Richards.

5 BY MR. RICHARDS:

6 Q. Good afternoon.

7 A. Good afternoon.

8 Q. Just a few questions. Who establishes COMMCOM's requirements  
9 for what products you shall broadcast and when these products  
10 shall be broadcast?

11 A. That comes from that previously mentioned UNCLOG meeting.  
12 That's -- that agreement, and they meet on some periodic basis,  
13 and I want to say it's sometimes monthly, but at least quarterly.  
14 And the policy folks at headquarters are the prime Coast Guard  
15 representatives on that. I do have a representative on my staff  
16 that attends those meetings, but the representative on my staff is  
17 really a technical representative to give them feedback on what's  
18 within the realm of the possible, and are they exceeding broadcast  
19 times, are they, you know -- can we key the frequencies that  
20 they're asking, those sorts of things.

21 Q. So it's an internal Coast Guard --

22 A. No, sir. It's a coordination between NOAA and the Coast  
23 Guard via that UNCLOG meeting.

24 Q. Just to clarify your testimony a little bit earlier, when you  
25 brought up the Navy, and the Navy -- I just wanted to clarify.

1 Going back to the time frame of the accident, did COMMCOM receive  
2 its weather products from the National Weather Service or did it  
3 receive weather products from the Navy directly?

4 A. They would have directly come from the Navy's system after  
5 injection from the National Weather Service.

6 Q. Is that still the case today?

7 A. It is.

8 Q. I'm just curious. Are there any plans to go back to  
9 receiving weather directly from the National Weather Service or  
10 does it plan to continue with the Navy?

11 A. The plan is to continue with the service as it stands today.

12 Q. Just a couple of other questions. Does the Coast Guard  
13 broadcast NAVTEX products on any frequency besides 518?

14 A. We do not. That's the international frequency.

15 Q. Thank you.

16 BY CAPT NEUBAUER:

17 Q. Commander, I just have one follow-up question. Does the  
18 Coast Guard monitor HF communications for incoming communications?

19 A. Yes, Captain, we do. We have a -- we call it GMDSS, or  
20 global maritime distress monitoring. We monitor multiple  
21 frequencies in that booth. They are the corresponding frequencies  
22 to HFDCS voice frequencies. We also monitor HFDCS for automated  
23 distress, you know, the red button on a HF radio kind of stuff.  
24 And we receive those position reports when a vessel is in  
25 distress, and we forward those off to the RCC and we make callouts

1 on the associated voice frequency.

2 Q. Does your Command monitor all that? Is it in one centralized  
3 location?

4 A. Yes, Captain. We do that from Chesapeake now for -- let me  
5 correct that. We do that -- everything that was monitored at  
6 CAMSPAC and CAMSLANT previously is now monitored out of Chesapeake  
7 at Communications Command. I do still have a communications  
8 station in Kodiak. It was manned -- it's manned. It's now a  
9 communications detachment. It's no longer its own command, and it  
10 reports to me. We monitor DSC, Hanson weather broadcasts, and  
11 Notice to Mariners, those things from up there as well, as well as  
12 air to ground, all the same things we do in Chesapeake.

13 CAPT NEUBAUER: Thank you. Mr. Fawcett has a follow-up  
14 question.

15 BY MR. FAWCETT:

16 Q. Good afternoon, Commander.

17 A. Good afternoon.

18 Q. So the Chesapeake Communications Center, how many  
19 watchstanders are on duty on a particular watch?

20 A. There's a minimum of five folks on watch: a watch supervisor  
21 or a communications watch officer, there's a tech control  
22 position, there's the GMDSS booth, there is a -- the air to ground  
23 operator, and there's a broadcast operator and, if I didn't  
24 mention already, tech controls. That's a total of five.

25 Q. And the duration of the watches?

1 A. They stand 12-hour watches.

2 Q. So looking at Exhibit 300, which is the log of the  
3 Communications Command, what I see is a black and white page. If  
4 I'm a watchstander that's involved with monitoring the  
5 distributions of outgoing messages, what am I looking at? Do I  
6 sit at a console and do I see a monochromatic display or -- could  
7 you describe what I'm looking at?

8 A. Sir, you referenced Exhibit 300, correct?

9 Q. Right. That's a log, and what I'm asking is, if I'm sitting  
10 in the Communications Center and I'm monitoring the outgoing  
11 traffic, what type of display am I looking at?

12 A. My apologies. You're looking at the log server logs, not the  
13 individual's tech type log. The log server log, it is a color  
14 log. It does have warnings that will come up, alarms and such  
15 things, reminding the operator to configure their transmitter,  
16 make sure things are lined up, to broadcast properly, those sorts  
17 of things. It's not monochromatic. It's a standard display like  
18 something you would see in front of you right now.

19 Q. So if a message is a missed broadcast, is there some type of  
20 color coding so that it will draw the attention of the operator to  
21 the fact that that broadcast was missed so they have an  
22 opportunity to manually make sure that that broadcast goes out?  
23 You had mentioned the system automatically looks for the  
24 appropriate-sized message to fit into that spot. So how would I  
25 know as an operator that a particular message has been missed so I

1 can ensure that it goes out?

2 A. The broadcast operator is going to continuously review this  
3 document. I believe a missed broadcast comes up in yellow, and  
4 they will see those, but again that missed message, it was removed  
5 by the system because there's no room to broadcast it. So there's  
6 no method for the operator to override that. They cancel the --  
7 they could send it manually if we had a reason to do so. We've  
8 got microphones that they can read the message over the air if  
9 they need to.

10 Q. But within the computerized queue, they might not know that a  
11 message has, in fact, been missed by having, for example, that  
12 message coded as red or yellow or orange, so that they could take  
13 action to send that missed broadcast. Is that correct?

14 A. If I'm understanding you correctly, the -- it does come up in  
15 a different color but they typically would not take action to  
16 correct it because there's no room in that broadcast to send that  
17 message. The broadcast is filled up with other things. Are we  
18 tracking?

19 Q. Yes, sir. And just my final question, does the Coast Guard  
20 have an active outreach to the maritime community so that they  
21 know the availability of the high seas weather broadcasts, for  
22 example, like *Prevention Magazine* or any other active outreach?

23 A. Not to my knowledge. As far as advertising our products to  
24 the maritime public beyond the forward facing NAVTEX -- I'm sorry  
25 -- the NAVCEN sites, I'm not aware of any advertising that is done

1 for those products that we have.

2 Q. Thank you, Commander.

3 CAPT NEUBAUER: Mr. Richards.

4 MR. RICHARDS: Thank you.

5 BY MR. RICHARDS:

6 Q. Just to clarify, the forward facing schedule that you  
7 discussed earlier for COMMCOM broadcasts, the times identified in  
8 that schedule that the public can see, am I correct to understand  
9 that those identify the beginning times of a broadcast window?

10 So the discussion began with Exhibit 299 and then you  
11 indicated that that schedule wasn't public.

12 A. There is a Nav Center website, and I think I have a copy of  
13 the printout from it here that -- it would be the start times of  
14 those broadcasts that would be published.

15 Q. So I guess my question is, Exhibit 299, if we look at 330  
16 Zulu for VOBRA, and there are two lines, but if we take the first  
17 line, it looks like, if I'm reading this correctly, the broadcast  
18 window was for 90 minutes. Okay. And within that 90 minutes  
19 there are four separate products that are identified that will be  
20 broadcast within that 90-minute window.

21 A. Actually there's potentially more than four in there. You  
22 have TC Map 1 through 5. So there's multiple separate --  
23 different products that could go out.

24 Q. Okay. As a user, as a mariner, how would I identify at what  
25 point in time in that broadcast window a specific product will be

1 broadcast in case I only wanted to tune in to hear one product?

2 A. I don't believe that's captured anywhere or standardized  
3 across.

4 Q. Okay. Thank you.

5 CAPT NEUBAUER: I'd like to go to the parties in interest at  
6 this time. Does TOTE have any questions?

7 MS. COLLAZO: No questions.

8 CAPT NEUBAUER: Mrs. Davidson.

9 MR. BENNETT: I have one or two questions.

10 BY MR. BENNETT:

11 Q. Sir, just to clarify for the public, VOBRA is a high  
12 frequency voice broadcast, correct?

13 A. Yes, sir, it is.

14 Q. And the purpose of voice broadcast is to assist mariners,  
15 correct?

16 A. The purpose of the voice broadcast, the VOBRA broadcast is to  
17 disseminate weather and information of value to the mariner.

18 VOBRA is one way.

19 Q. It's a tool for mariners to use to assess weather, correct?

20 A. Absolutely.

21 Q. And based upon Exhibit 299, page 4 of 6, there's some red  
22 highlights. The red highlights indicate weather messages, not  
23 reported or missed, in log client, that contain information on  
24 Joaquin or the sea area of interest to the *El Faro*, correct?

25 A. Again I was not on board during that time frame, but that's

1 -- looking at the logs, with the log client logs and the schedule,  
2 that appears so.

3 Q. And at or about the time of September 30th, the evening and  
4 early morning of October 1, it indicates at 299, Exhibit 299, that  
5 there may have been voice broadcasts relating to weather in the  
6 vicinity of the *El Faro* that did not get broadcasted. Is that  
7 correct?

8 A. Again, I'm not sure that we can say that. They may have gone  
9 out from CAMSPAC out in Point Reyes, but we don't have those logs.

10 Q. But based upon 299 -- let me ask you this. Did you create  
11 Exhibit 299?

12 A. No, sir, I did not.

13 Q. Was it created before you took your duty?

14 A. Yes, sir, it was.

15 Q. So the way I'm reading it, with the red highlights, it  
16 indicates according to whoever made the log, red highlights  
17 indicate weather messages not reported or missed in log client  
18 which contained information on Joaquin in the area of *El Faro*.

19 A. I believe that information was actually compiled by the Board  
20 and I don't know that they were aware of the transition of  
21 services between Chesapeake and Point Reyes when they made that --  
22 this particular exhibit.

23 Q. But you can agree with me that, based upon this log, there is  
24 a chance that weather messages, high frequency voice broadcast  
25 weather messages, were not sent out, correct?



1 A. That's definitely a possibility.

2 Q. Thank you, sir.

3 MR. BENNETT: No further questions.

4 CAPT NEUBAUER: Does ABS have any questions?

5 MR. WHITE: No, sir, no questions.

6 CAPT NEUBAUER: Herbert Engineering.

7 MR. SCHILLING: No questions.

8 CAPT NEUBAUER: Are there any final questions for Commander  
9 Crider?

10 Commander Crider, you are now released as a witness at this  
11 Marine Board of Investigation. Thank you for your testimony and  
12 cooperation. If I later determine that this Board needs  
13 additional information from you, I will contact you through your  
14 counsel. If you have any questions about this investigation, you  
15 may contact the Marine Board Recorder, LCDR Damian Yemma.

16 (Witness excused.)

17 CAPT NEUBAUER: At this time, do any of the PIIs have any  
18 issues with the testimony that we just received?

19 MS. COLLAZO: No, sir.

20 MR. BENNETT: No, sir. Thank you for your service.

21 MR. WHITE: No, sir.

22 MR. SCHILLING: No, sir.

23 CAPT NEUBAUER: The hearing will now recess, and reconvene at  
24 3:05.

25 (Off the record at 3:00 p.m.)

1 (On the record at 3:09 p.m.)

2 CAPT NEUBAUER: The hearing is now back in session.

3 At this time, we will hear testimony from Captain David  
4 Flaherty. He's the Chief of the Office of Traveling Inspection,  
5 Coast Guard Headquarters.

6 LCDR YEMMA: Captain, will you stand and raise your right  
7 hand?

8 (Witness sworn.)

9 LCDR YEMMA: Thank you, Captain. Please be seated.

10 Sir, can you please state by stating your full name and  
11 spelling your last name?

12 THE WITNESS: David Michael Flaherty, F-l-a-h-e-r-t-y.

13 LT NOYES: Lieutenant Travis Noyes, N-o-y-e-s.

14 LCDR YEMMA: Captain, can you please describe to the Board  
15 some of your responsibilities in your current position as Chief of  
16 the Traveling Inspection?

17 THE WITNESS: I oversee the management and direction of the  
18 Traveling Inspection staff which is made up of the subject matter  
19 experts within the Coast Guard for commercial vessel inspections.

20 LCDR YEMMA: Can you also please describe for the Board some  
21 of your prior relevant Coast Guard assignments or work experience,  
22 please?

23 THE WITNESS: Prior to joining the Coast Guard, I sailed as a  
24 third engineer on commercial vessels acquiring a little year of 2  
25 years of sea time on my license before I joined the Coast Guard in

1 1992. I have been a marine inspector, qualified marine inspector  
2 for 22 years, and a Coast Guard marine investigation for 20 years.

3 CDR YEMMA: And, Captain, what is your highest level of  
4 education completed?

5 THE WITNESS: In addition to a Bachelor of Science in marine  
6 engineering, I have a Master's in business administration and a  
7 Master of Science in fire protection engineering.

8 CDR YEMMA: And do you currently hold any professional  
9 licenses or certifications?

10 THE WITNESS: I'm a lead auditor and I also have -- am a type  
11 2 incident commander.

12 CDR YEMMA: Thank you, Captain. Captain Neubauer will have  
13 questions for you now.

14 (Whereupon,

15 CAPT DAVID FLAHERTY

16 was called as a witness and, having been duly sworn, was examined  
17 and testified as follows:)

18 EXAMINATION OF CAPTAIN DAVID FLAHERTY

19 BY CAPT NEUBAUER:

20 Q. Good afternoon, Captain.

21 A. Good afternoon.

22 Q. We called you in today to discuss your observations of the  
23 Alternate Compliance Program and also observations that you had of  
24 TOTE Services in some of the vessels that they operate. There  
25 will be two lines of questioning. First, we'll go through a

1 broader perspective of you in your capacity in the ACP program.  
2 The second line, we'll go further into more detail on TOTE  
3 Services and the vessels under their command.

4 Can you start off by providing a description of your  
5 involvement with the ACP program in general?

6 A. Back in 1996, I was involved in, as a marine inspector, some  
7 of the initial inspections of U.S. flag vessels under the  
8 Alternate Compliance Program. And for the majority of my career,  
9 although I had some general interaction with them, I don't think I  
10 did any other vessel inspections of a vessel in Alternate  
11 Compliance until recently as a chief traveler. As a chief  
12 traveler, one of my responsibilities is to ensure the consistent  
13 application of the regulations that ensure commercial vessel  
14 safety and compliance.

15 In 2015, it was brought to my attention from my staff that  
16 they had discovered indications that there was some discrepancies  
17 with how the commercial vessel -- or the Alternate Compliance  
18 Program was being implemented, and then shortly after that, we  
19 initiated our investigation into it.

20 Q. Can you give some examples of issues that raised concern for  
21 your traveling inspectors?

22 A. Well, initially a unit requested assistance from the  
23 travelers with a vessel enrolled in ACP from a technical point of  
24 view because we deal with all types of construction, propulsion  
25 systems, and we're generally involved in just about every type of

1 vessel operation that's out there from a technical aspect from it,  
2 from providing assistance to both the units as well as the  
3 industry.

4 In this case, a unit requested our assistance. The travelers  
5 arrived. While assisting the unit, started to generally develop  
6 the opinion that there was some lack of understanding, both from  
7 the surveyor who was representing the approved class society as  
8 well as the Coast Guard, on the role and application and how an  
9 ACP exam was to be conducted.

10 Q. In that circumstance, how was the situation resolved?

11 A. We assisted the class society surveyor in the appropriate  
12 application of the supplements as well as the international and  
13 class society requirements, and we also assisted the unit with the  
14 technical side of it, I think resulting with the engineering  
15 system if I remember correctly. And so in that case, we came away  
16 from that. And then there was some phone calls we received later  
17 on from other units about the Alternate Compliance Program. And  
18 from that and our interaction with the class societies, the  
19 approved class societies, that we started to develop concerns that  
20 the implementation of the Alternate Compliance Program wasn't  
21 meeting with the expectations that were initially built for it.

22 Q. Can you describe any specific action you took to address or  
23 study the problem?

24 A. Well, we worked very closely with the class society to  
25 resolve the misunderstandings with the supplements or to ensure

1 that the supplements they were using were the correct ones. We  
2 also reviewed international requirements with them as it relates  
3 to the vessel, and we also worked with the local marine inspector  
4 to ensure that he had a better understanding of how the Alternate  
5 Compliance Program was supposed to be implemented.

6 Q. Did you take any actions at Headquarters for your staff?

7 A. Well, one of the responsibilities of the travelers is to --  
8 if we see an issue with policy, training, procedure, we look to  
9 determine if it's a single incident or it's more broad based  
10 throughout the program, whatever that program may be. In this  
11 case, we determined that based on the initial findings we were  
12 having, that this required additional research either to confirm  
13 that it was just a localized issue with maybe a couple of units or  
14 it was a more broadband concern.

15 Q. Did you develop a strategy to address any ACP issue?

16 A. Yes. The way we plan our program is it's based on a fiscal  
17 year. So in May of 2015, I briefed Captain McAvoy, who is in  
18 charge of the Commercial Vessel Compliance Office; Captain Burton,  
19 who is in charge of the Prevention Compliance; and Admiral Thomas,  
20 who is the Assistant Commandant for the Prevention Policy, on our  
21 initial findings and that our intention was to further investigate  
22 this area to determine how -- if it was widespread or not, and if  
23 it was, what were the areas to be looked at and to develop our  
24 recommendations to resolve it.

25 Q. Did you ultimately come to any findings on that study that

1 you did?

2 A. Well, initially we sent our -- just to kind of further  
3 explain what we were looking at, previously the traveling marine  
4 inspector had gone out and participated in the vessel inspection  
5 side. We wanted to be a little bit more broader in our look into  
6 the Alternate Compliance Program. So we wanted to attend the  
7 document compliance audits, the safety management system audits,  
8 as well as participate in the audit of the alternate -- excuse me  
9 -- approved class societies in conjunction with CVC, to get a  
10 whole -- build up a whole understanding of how the process is  
11 being utilized across the board instead of just focusing only on  
12 the deck plate level.

13 So part of that required that we, the traveling marine  
14 inspectors, attend auditing courses so we could have a better --  
15 a refresher course in some cases, and have a better understanding  
16 of the audit process when we were out there. And in addition, we  
17 started to -- working with the Commercial Vessel Compliance Office  
18 to develop a list based on what vessels we were going to go and  
19 look at based on their risk assessment list, and additionally we  
20 were going to go out and try to attend other vessels that may not  
21 have been on that list as well.

22 Q. I have reviewed a document that your office produced. It's  
23 the Chief Traveler's Report, Review and Evaluation of the  
24 Alternate Compliance Program. It's dated 06 September 2016. Is  
25 this report reporting out on what you found during those combined

1 audits and inspections?

2 A. That's correct.

3 Q. I'd like to discuss -- break down the report a bit and  
4 discuss some of the points.

5 CAPT NEUBAUER: LCDR Yemma, is this Traveler's Report an  
6 exhibit? And just for reference, it is Exhibit 329.

7 BY CAPT NEUBAUER:

8 Q. One of the points raised, and I want to get your opinion on  
9 this, and we've also heard during previous testimony that the  
10 Coast Guard removed the liaison, the ACS that was at Coast Guard  
11 Headquarters; it was called LORACS. Do you have an opinion on how  
12 that may have impacted the program?

13 A. The LORACS serves as a centralized point of contact for the  
14 approved class societies as well as the Coast Guard units out in  
15 the field. Following the removal of that position, that  
16 responsibility was essentially assigned to many different people  
17 within the Commercial Vessel Compliance Domestic Division.

18 Q. Has it also been your experience while working in the field  
19 units that they generally have ACP officers assigned if they  
20 handle ACP vessel inspection oversight?

21 A. We found on a few occasions that some units did not have an  
22 assigned ACP officer. It was in some cases a collateral duty or  
23 shared by many people within the unit.

24 Q. We've also heard testimony here at the MBI about the use of a  
25 supplement and the update of the supplement. In your experience



1 and that of your inspectors out in the field, is the supplement  
2 being used appropriately for ACP vessels in the field?

3 A. In some cases, we found that the marine surveyor for the  
4 approved class society was not aware of the supplement or how to  
5 apply it. We also found the same with some of the marine  
6 inspectors, that they weren't sure of the application. In a  
7 couple of cases, we did find supplements that were being utilized  
8 by an approved class society that was not approved by the Coast  
9 Guard.

10 Q. Can you expound on the supplement that was not approved? Was  
11 it a different version or was it something that was created and  
12 was not approved?

13 A. Our understanding from when we looked into that, it was  
14 something that was created but was never submitted or discussed  
15 between the approved class society and the Coast Guard for  
16 approval, but it somehow remained and was accepted and was being  
17 utilized.

18 Q. On the Coast Guard side, do you think the Coast Guard is  
19 doing enough to keep the supplements updated and also to receive  
20 feedback on changes that may need to be made?

21 A. Well, when the supplements were initially created, when the  
22 Alternate Compliance Program was implemented in 1996, essentially  
23 they were only dealing with one class society at the time. So  
24 maintaining the supplements at that moment was not a challenge.  
25 Currently with four approved class societies, with each of the

1 class society rules being slightly different in some areas or not  
2 another, I think the -- it has created a greater burden on the  
3 Coast Guard for continually updating and submitting and approving  
4 the supplements.

5 Q. From what you've seen in the field, are the supplements up to  
6 date and do they cover critical inspection items that you'd expect  
7 a compliance inspection to cover?

8 A. There have been a few occasions where they weren't up to date  
9 for whatever reason. The marine inspector, the approved class  
10 society surveyor was not utilizing the most up-to-date version.  
11 In some cases, the supplement stays consistent throughout the life  
12 of the vessel. In other cases, it's routinely updated with the  
13 new updates being sent out and, for whatever reason, they did not  
14 receive the most recent updates. In general, they do cover the  
15 critical systems that need to be examined.

16 Q. I'd like to move on to issues you found involving Coast Guard  
17 oversight. In your opinion, is there a lack of effectiveness of  
18 the Coast Guard oversight to compel compliance if problems arise  
19 in ACP surveys?

20 A. Well, if the officer in charge of marine inspections  
21 determines it's a vessel in an unsafe condition, the certificate  
22 of inspection can be removed. So that is an option that they do  
23 have. They still -- the Coast Guard marine inspectors, when on  
24 board, can issue 835s, but generally those 835s are submitted then  
25 to class, the approved class society for resolution as per the

1 memorandum of understanding as well as the guidance that the Coast  
2 Guard has via the Alternate Compliance Program.

3 Q. Your report, you raised one example of a vessel that operated  
4 or was inspected by the Coast Guard six times and ABS five times  
5 within the span of 1 year. I believe the vessel continued to  
6 operate until the traveling inspectors got involved. Is that --  
7 was that your experience? Is that accurate?

8 A. We have that example. There also is another example, similar  
9 in the sense that both the Coast Guard marine inspectors and the  
10 approved class society marine surveyors were on board a vessel and  
11 there was communication between the two via Coast Guard by  
12 identifying issues and then sent to the class society for  
13 resolution as per the ACP, but for whatever reason there was never  
14 an engagement between the two entities on the bigger picture with  
15 that vessel.

16 For whatever reason, the condition of the vessel, especially  
17 with watertight integrity, some of the lifesaving equipment,  
18 continued to deteriorate to the point that when the vessel was  
19 detained overseas, and almost detained a second time overseas, is  
20 when the indications to the Coast Guard was that there was a much  
21 more serious situation with the vessel, and the travelers were  
22 requested to come in and provide support to the local unit who was  
23 involved in it.

24 The condition of the vessel included, you know, the  
25 compromise of watertight integrity with the hatch covers, some of

1 the stern tube bearing -- stern tube on the lifeboat was seized  
2 up. The rudder assembly was significantly rotted. One of the  
3 indications was that the ladder for the lifeboat, the ropes had  
4 become so rotted that they had pulled away from the hooks. So if  
5 you could kick the ladder over the side, it would have just gone  
6 right into the water.

7 Q. And I want to clarify a point. You mentioned a vessel being  
8 detained, and I believe by that you mean that under a foreign port  
9 state control administration the vessel was substandard and was  
10 detained for safety reasons in a foreign port. Is that correct?

11 A. That is correct.

12 Q. I'd like to discuss an issue that you raised and want to see  
13 if it's a concern about ACS surveyors being hesitant to convert  
14 Coast Guard requirements into conditions of class. Can you give  
15 background on that?

16 A. As we continued our inquiry into the Alternate Compliance  
17 Program and we engaged with the marine surveyors as they're  
18 conducting their job, there was expressed to the travelers their  
19 hesitation on issuing conditions of class for feeling that they  
20 would rather address it locally with the vessel owner/operator and  
21 not issue it as a condition of class but some other method, as an  
22 observation or something else instead of notifying -- if it  
23 becomes a condition of class, they're required to notify the Coast  
24 Guard.

25 Q. In your opinion, are the ACS often hesitant to issue the

1 condition of class because they're essentially working for the  
2 owner of the vessel?

3 A. Well, they shouldn't be hesitant if they are acting on behalf  
4 of the Coast Guard under the Alternate Compliance Program. They  
5 are -- there should be no sense of hesitation. For further  
6 clarifying that, we would have to address the approved class  
7 societies on that.

8 Q. Are you aware of instances where an ACS has been advised of a  
9 hazardous condition on a vessel or substandard condition and it  
10 does not get communicated to the Coast Guard?

11 A. We came across some indications of that. We've also come  
12 across indications where the vessel owner/operator was not  
13 notifying the Coast Guard or the approved class society of marine  
14 casualties. And then in certain circumstances, the -- in one  
15 incident, they were doing some lifesaving -- lifeboat exchanges  
16 and they were not utilizing the proper equipment nor did they  
17 notify the Coast Guard that that equipment was being exchanged  
18 out.

19 Q. When a situation like that arises, what kind of resolution is  
20 being sought either by the Coast Guard or the ACS?

21 A. In one circumstance we had, there was a disagreement on a  
22 boiler that was -- had some tubes that had failed, and we engaged  
23 the approved class society because they didn't feel it necessary  
24 to hydrostatically test the boiler after the repairs were done,  
25 where we felt it was much more of an important issue to do that as

1 a non-destructive means to ensure that the vessel -- excuse me --  
2 that the boiler tubes were properly repaired and fit for service.  
3 In that case though, we engaged the approved class society and  
4 they agreed to hydrostatically test the boiler at I think it was  
5 1 1/4 MAWP, maximum allowable working pressure.

6 Q. I'd like to talk a little bit now about the ACP oversight of  
7 companies. In particular, can you explain document compliance?

8 A. Part of -- for a company to enroll their vessels in the  
9 Alternate Compliance Program, they have to meet international  
10 standards. In meeting international standards, they have to  
11 receive documents under -- that would be associated with operating  
12 on an international voyage. They have to have a safety management  
13 system and a safety management certificate for their vessel.

14 The document compliance is a method for which an audit can be  
15 done of the vessel for ensuring it has policy/procedures within  
16 the company to ensure the safe operation of the vessel, maintain  
17 communications with all members of the crew if they raise any  
18 issues or concerns, and to ensure that any maintenance issues or  
19 any issues with the operation of the vessel are raised,  
20 documented, the documentation on how it was resolved is in there,  
21 and so that there's a continuing cycle of -- like a circular cycle  
22 of communication between the ship operations and the people that  
23 may accompany it.

24 Q. Has it been your experience that the Coast Guard participates  
25 in the DOC audits?

1 A. The Coast Guard may participate in the DOC, or document of  
2 compliance audits. Generally personnel from the Commercial Vessel  
3 Compliance Division attends. The travelers, at times, can attend.  
4 During our overview of the Alternate Compliance Program, we made a  
5 point of trying to attend as many of those document of compliance  
6 audits as possible.

7 Q. Can you describe the Coast Guard role if they do attend?

8 A. The Coast Guard role is as an observer. The audit is led by  
9 the approved class society that is conducting the audit or the  
10 class society that's conducting the audit. It doesn't necessarily  
11 have to be the class that the company is associated with. So the  
12 class society doing the audit comes up with the items that are  
13 going to be audited, comes up with the questions, does the --  
14 basically the background check and determines what items they're  
15 going to be looking at.

16 Q. Does the Coast Guard have any authority to assign a finding  
17 between an observation, nonconformity or major nonconformity?

18 A. No, that's specifically the responsibility of the lead  
19 auditor conducting the document compliance audit.

20 Q. Are you aware of any circumstances where you had to go beyond  
21 that and assert the assignment of nonconformity or major  
22 nonconformity?

23 A. When we were doing the document compliance audit of TOTE,  
24 there were several discussions concerning the findings at the  
25 time. Although the lead auditor from the approved class society

1 agreed to proceed, but we did raise some concerns with some of the  
2 things they were finding.

3 Q. Okay. Thank you. I want to explore now from the second line  
4 of questioning. I'd like to go into now any of the corrective  
5 actions that the Coast Guard can take if a DOC is found to be  
6 substandard.

7 A. Generally if a document of compliance is found un-standard,  
8 the current procedures that the Coast Guard utilizes is to -- if  
9 the approved class society doing the audit recommends a 90-day  
10 extension of the document of compliance to provide time for the  
11 company to correct the nonconformities, we generally agree with  
12 those. The Coast Guard does have the authority to remove the  
13 document of compliance and from my understanding, we have done  
14 that once.

15 Q. I think you also mentioned that we have authority to  
16 deactivate or pull the seal on a certificate of inspection. Are  
17 you aware of that occurring on an ACP vessel?

18 A. It has happened on a few occasions recently. I think some  
19 awareness has recently been happening out in the field, that  
20 they've gained a better idea of what their role and  
21 responsibilities are. We did not do -- you know, due to the  
22 number of vessels enrolled in ACP, we did not do a check of former  
23 vessel history, but since we've engaged over the past year or so,  
24 there were two vessels that were brought out of service. There's  
25 a vessel in dry dock right now that's undergoing extensive



1 modifications due to things that were discovered during the  
2 Alternate Compliance Program exam.

3 Q. And just to clarify, during the ACP exam, was that strictly  
4 conducted by the ACS or were the traveling inspectors involved?

5 A. On those three occasions, the traveling inspectors were  
6 involved.

7 Q. In your opinion, did it take traveling inspector involvement  
8 to get to the point where there were enough problems identified  
9 that the vessel was either scraped or laid up indefinitely?

10 A. Well, I think in the one circumstance that we've discussed in  
11 the report, without the traveler involvement, I think the marine  
12 inspectors at the unit would have come up with the same  
13 conclusion.

14 The vessel that's in dry dock, in that circumstance, the  
15 approved class society was actually very cooperative with the  
16 travelers on that. So in that circumstance, while our presence  
17 there was appreciated from a technical point of view, but I think  
18 the approved class society was taking the appropriate actions in  
19 that case.

20 The third vessel that we questioned on, I think the vessel  
21 had been on the risk assessment target list for 2 or 3 years and  
22 it was still operating, and when we were on board the vessel, we  
23 found the condition of the vessel to be substandard. So I think  
24 in that case, I think there was a direct correlation between  
25 traveler involvement and the vessel being removed.

1 Q. I'd like to move on to some of the communication issues that  
2 have been identified. In your experience, are open lines of  
3 communication essential between the Coast Guard and ACS, essential  
4 to a successful ACP implementation?

5 A. I would say clear communication between the vessel  
6 owner/operator, the approved class society and the Coast Guard is  
7 key to the success of this program. I think that was the  
8 partnerships that were developed in this program. I think that's  
9 always been the key aspect of the success. So if one is not  
10 telling the other or we're not communicating well between the  
11 others, then we're not getting a full picture of the vessel's  
12 operation, the vessel's condition, the issues that might be  
13 affecting the safety of the vessel. So communication I have to  
14 emphasize is key.

15 Q. Have you found it frequently to be the case that Coast Guard  
16 field inspectors and ACS surveyors are not communicating?

17 A. We found several instances of that, and I even believe within  
18 the testimony during this Board, that was pointed out. In a lot  
19 of cases, I hate to say, people are using emails. In a lot of  
20 cases, the owner/operators of the vessel -- they're required to  
21 provide 14-day notification prior to an exam with the class  
22 society, approved class society, so the approved class society has  
23 time to notify the local unit to see if they need to or want to  
24 attend. In a lot of circumstances, the approved class society  
25 gets very short notice, like within a day or so of -- that the

1 vessel is available for exam. So by the time it reaches the Coast  
2 Guard for the marine inspection staff to look at the unit, they  
3 may not -- they already have other vessels scheduled and are not  
4 flexible enough to go out and attend the vessel enrolled in the  
5 Alternate Compliance Program.

6 Q. Another issue that was brought up during previous testimony  
7 is the ability of the ACS surveyor to properly research the vessel  
8 they're about to survey. A good example is Coast Guard  
9 requirements that may exist inside our Marine Information Safety  
10 and Law Enforcement System. In your opinion, does the ACS have  
11 proper access to research ahead of the surveys they conduct?

12 A. Currently they don't have direct access to MISLE, which is  
13 our program for documenting vessels and the activities, the  
14 outstanding requirements.

15 Q. Have you seen occasions where the ACS is not aware of  
16 requirements on a vessel that they were doing a statutory  
17 requirement on our behalf?

18 A. Yes. During our evaluation of a vessel -- it was actually a  
19 safety management system audit. The auditor from the ACS arrived  
20 and did not know that there were outstanding Coast Guard 835s for  
21 the vessel that had been outstanding. And the statement that the  
22 auditor gave to us, if I were aware of those, I would have  
23 modified the sampling I would have done for the audit.

24 Q. Now I'd like to touch on a few points on training for the  
25 Coast Guard. Do you think Coast Guard inspectors are properly

1 trained to conduct the oversight of the ACP exams that we have?

2 A. Well, when the Alternate Compliance Program was initiated  
3 back in 1996, the vision would be that marine inspectors who  
4 either have a hull examiner qualification or machinery examiner  
5 qualification would be directly involved.

6 Since then, the training program of the Coast Guard doesn't  
7 necessarily emphasize those qualifications as much as it used to.  
8 So your marine inspectors are essentially not required to get  
9 those two qualifications. Some still do, but it's not a -- not  
10 all do.

11 In this case, there is no Alternate Compliance Program  
12 training program at the marine inspector course. There is the 840  
13 book which provides guidance to the marine inspector. A marine  
14 inspector who has -- in my opinion has the machinery or the  
15 engineering qualifications would be able to utilize what we call  
16 the 840 book, which is the inspection guide, would be able to  
17 utilize that to do a good overall assessment of the vessel during  
18 a walkthrough.

19 The current method of doing the Coast Guard assessment of the  
20 vessel is equivalent to a port state control, where we're just  
21 going on board, checking the documents that we're responsible for,  
22 conducting a walk around the vessel, and I would say if you don't  
23 have some of the experience with deep draft vessels, a level of  
24 knowledge base that is generally found in someone with a hull or  
25 machinery examiner's qualification, you may not be willing to

1 appreciate some of the condition of the vessel and appropriately  
2 assess it.

3 Q. And you mentioned that our oversight exam is equivalent to a  
4 port state control examination. In your experience, is the Coast  
5 Guard conducting that in conjunction with the ABS, or I'm sorry.  
6 Strike that. Are they doing -- is the Coast Guard conducting our  
7 port state control level, ACP oversight exam in conjunction with  
8 the ACS Service?

9 A. No, and generally -- and that's -- they're done separately.  
10 It goes back to some of the issues with the communication that,  
11 you know, there is never a joint meeting to discuss the overall  
12 condition of the vessel. And generally if the Coast Guard finds  
13 something on the vessel, it will issue the 835, which is then  
14 provided to class. Class approves that or, you know, it  
15 determines and oversees the resolution of that requirement, and  
16 then goes back to the Coast Guard usually via emails that it's  
17 been completed, but there is never a general overall assessment of  
18 the vessel when people are on board.

19 Q. And just to clarify, to your understanding there are no  
20 required ACS qualifications for a Coast Guard member conducting  
21 oversight?

22 A. No, there is not.

23 Q. I'd like to talk about issues that you identified for  
24 training of the ACS surveyors. Is it your understanding that  
25 there are no specific surveyor quals required for ACP?

1 A. Well, the memorandum of understanding and the memorandum of  
2 agreement between the Coast Guard and the approved class  
3 societies, the approved class societies have agreed to have  
4 surveyors that are knowledgeable and are able to conduct the  
5 exams, either the international class or the supplement.

6 We've become concerned that there is some knowledge-based  
7 deficiencies in some of the areas. As I noted during the Marine  
8 Board of Investigation for this, that the -- one of the surveyors  
9 who was on board the *El Faro*, if I remember correctly, was not  
10 knowledgeable of conducting hydrostatic tests, and again it gets  
11 back to not only just the technical aspect of doing the inspection  
12 or the exam, it's also understanding the applicability of the  
13 supplements and how to apply them to a certain vessel.

14 Q. And I just want to clarify on that last answer. You -- are  
15 you saying that from viewing prior MBI testimony for the *El Faro*,  
16 you made a determination or an opinion that an ABS surveyor was  
17 not qualified to do the hydro test?

18 A. I would say I found her answer to that question concerning  
19 the hydro very concerning. Someone with experience with hydro  
20 testing would understand the intent of the hydrostatic test and  
21 that it is to determine that the pressure vessel is capable of  
22 withstanding the pressure at regular operating pressures and  
23 conditions.

24 Q. That leads me to another question. Do you think it would be  
25 important for the Coast Guard to have the ability to track

1 specific surveyor performance since they are conducting  
2 inspections on our behalf?

3 A. Well, I think that gets back to the need for communication  
4 between the approved class societies and the Coast Guard for --  
5 both at the local level -- the better communication, the better  
6 coordination of work at the local level would help facilitate that  
7 so we know the capability and the performance level of the  
8 approved class society surveyor.

9 In addition, again, the communication is to -- when we're  
10 meeting, discussing, we have some means of getting feedback from  
11 the class society itself if they have any concerns or issues with  
12 how the vessel is doing. But one of the roles when the Coast  
13 Guard does go on board, is to assess the vessel's overall  
14 condition. I would say if we continuously see a vessel that is  
15 not meeting minimum standards in accordance with whatever  
16 applicable regulations that it's supposed to meet, then there  
17 should be a means for the officer in charge of marine inspection  
18 or at the Commercial Vessel Compliance Office to engage with the  
19 class society to further discuss the -- what may have been missed  
20 and why is the vessel continually getting into a substandard  
21 condition.

22 Q. In your opinion, does the Coast Guard currently lack  
23 sufficient machinery and hull qualifications for their journeymen  
24 and advanced journeymen marine inspectors?

25 A. Well, I would say that because of the Alternate Compliance

1 Program it's allowed us to utilize the expertise of the approved  
2 class societies in those realms. So the -- to answer that  
3 question, I'm not aware of -- in one aspect, I'm not aware of a  
4 vessel that has not -- that's been held to the dock because  
5 there's not an approved hull or machinery examiner there to do the  
6 work.

7 I do think that it is important for the Coast Guard to  
8 maintain a pool of marine inspectors who have those qualifications  
9 so we can go engage with people who also have that level of  
10 experience so it's basically a good exchange of information and we  
11 have a better understanding of the technical aspects of a boiler,  
12 diesel engine, the hull, and whatever the other technical aspects  
13 are.

14 Q. In previous testimony, we briefly discussed the PR17 process  
15 with other witnesses. Can you describe what that is and how it  
16 works?

17 A. Well, I'm knowledgeable of it. I've never been directly  
18 involved in it, but it's basically the approved class society's  
19 ability to identify a nonconformity and have it addressed to the  
20 owner/operator of the vessel.

21 Q. And if I understand right, you previously testified that  
22 often the Coast Guard has to prompt the ACS to make that  
23 assignment. Is that correct?

24 A. Well, I -- I'll put it, when we submit a Coast Guard CG-835  
25 for a vessel, the class society is supposed to convert that into a



1 condition of class. We have indications that that was not being  
2 done. We have done follow-up with them, or units have done  
3 follow-up with them, and then have -- at that moment they have  
4 done it or at that moment they might say, hey, it's already taken  
5 care of it, and then the item may be dropped.

6 Q. Since the sinking of the *El Faro*, has there been a  
7 concentrated effort by your office to identify potentially older  
8 vessels or older ACP vessels and participate in the examinations?

9 A. Well, we continue to do that. We've been working very  
10 closely with the Commercial Vessel Compliance Office. They come  
11 up with the risk matrix. We've been doing the risk matrix. We're  
12 still participating in doing compliance exams and safety  
13 management audits, or document of compliance audits and safety  
14 management audits. So it still is a current task for the  
15 travelers.

16 CAPT NEUBAUER: At this time, I'd like to pass the  
17 questioning to the NTSB. Are there any questions? Mr. Young.

18 MR. YOUNG: Thank you, Captain.

19 BY MR. YOUNG:

20 Q. Good afternoon, Captain Flaherty. Can you just briefly  
21 describe your traveling staff? How many travelers do you have?

22 A. Currently we have one detached traveler. His expertise is in  
23 steam. At the office, we have one vacancy right now. The  
24 individual just transferred to a new position. I have three  
25 military travelers and one civilian traveler currently.

1 Q. And has that number of travelers declined in your experience  
2 with the Coast Guard since you started?

3 A. No, it's pretty much remained the same. We've always had --  
4 well, at least in the last 7 years, we've had three travelers  
5 civilian positions and three travelers military positions.

6 Q. And how does a traveling inspector become qualified for that  
7 position?

8 A. Well, basically it's an evaluation of the person's  
9 background. We're looking for people obviously who have extensive  
10 experience conducting exams on a variety of vessels. For myself,  
11 I have 11 qualifications for vessel inspections. So it's also  
12 specialty areas. One of the civilian traveling inspectors is  
13 highly knowledgeable with construction. The traveling inspector  
14 -- the other civilian traveling inspector is highly knowledgeable  
15 in steam. So we try to have a mixture of expertise in specialties  
16 within the traveling inspector staff. So one question from the  
17 field, either we have someone with the answer or we know how to  
18 acquire the answer to whatever their technical question is.

19 Q. Understood. Thank you. When it comes to being trained for  
20 ISM audits, are all the travelers trained for that?

21 A. Currently all of them are trained except one, and that's  
22 because his focus has been primarily on propulsion boilers.

23 Q. Now when it comes down to the marine inspectors on the field  
24 unit, what percentage of those marine inspectors dealing with the  
25 ACP program are qualified to be participating in the audits for

1 ISM?

2 A. Currently the ACP officers, there is no requirement for them  
3 to receive auditor training. Auditor training has been in the  
4 past available for -- and it was required at some point for what  
5 they used to call senior marine inspectors, but that -- it's  
6 currently my understanding that that was stopped and the focus of  
7 the auditing was moved primarily to the Commercial Vessel  
8 Compliance Division -- Domestic Division at Headquarters.

9 Q. So during an ACP oversight review by the Coast Guard, if  
10 there were some ISM issues to identify or review, would that be  
11 conducted by the local field unit marine inspector or would that  
12 be transferred up to either travelers or CVC?

13 A. If it's the inspection side, the physical exam of the vessel,  
14 that would still go to the local unit. If it's on the auditing  
15 side, most likely it would be either the travelers or the staff at  
16 the Commercial Vessel Compliance Division.

17 Q. And in your opinion, do you feel that the ISM reviews are  
18 being conducted properly and that the people at the field level  
19 are able to identify corrective actions and findings and handle  
20 them properly?

21 A. Well, generally the field units, as I understand, have not  
22 been directly engaged with the auditing process. Sometimes they  
23 do arrive, but we've -- when we've gone out to do oversight of an  
24 audit, safety management system audit, we've always encouraged the  
25 local unit to attend. In some cases they do. Sometimes they have

1 a workload that they're not able to attend, but the -- there's --  
2 there is no requirement that the person attending has the audit  
3 experience. They're basically there -- I would say in most cases  
4 they're there to learn and get a better idea of how the vessel is.

5 Q. And that rolls into my next line of questioning, preparing  
6 for these surveys and inspections. If the ACS is unable to review  
7 MISLE, and the Coast Guard is not able to review the ACS'  
8 database, is there a requirement for this process to take place?

9 A. Well, the Coast Guard is supposed to have the ability to  
10 review any of the materials maintained by the approved class  
11 society. They do have links to them. So Coast Guard personnel  
12 going on a vessel should be aware that that stuff is available to  
13 them. In addition, the Coast Guard personnel, marine inspector  
14 conducting that type of exam should prep for it, identify any  
15 outstanding items, both from the approved class society as well as  
16 from the Coast Guard involvement with the vessel.

17 On the other side, currently the approved class societies  
18 don't necessarily have direct access, as I mentioned before, to  
19 the Coast Guard documentations.

20 Q. Thank you. I think just to be clear, I think you may have  
21 answered Captain Neubauer's question regarding ACP training. Is  
22 it correct that I understood there was no ACP training going on  
23 now at the Coast Guard?

24 A. The only training that is conducted is on-the-job training at  
25 the local unit. There's no formalized, what we call a C-school

1 training. The marine inspector course, which is the initial  
2 course that apprentice marine inspectors go through as they're  
3 starting to learn this profession, there is no -- outside of maybe  
4 potentially mentioning what the Alternate Compliance Program is,  
5 there is no specific training on what is expected or what is not.

6 Q. Had there been previously at the onset of ACP?

7 A. Initially when the Alternate Compliance Program went into  
8 effect, there was training but that was primarily with the  
9 approved class society surveyors so they would understand --  
10 providing them training on what the Coast Guard was doing during  
11 its inspection of a vessel. It was done in 1996, and it's my  
12 understanding the last time it was done was in 1997.

13 Q. So in order for the marine inspectors to be qualified to do  
14 the ACP inspections, they do on-the-job training and they're using  
15 an inspection book called the CG-840. Is that correct?

16 A. That's correct. In addition --

17 Q. And --

18 A. Excuse me. In addition, there is the information within the  
19 *Marine Safety Manual* as well as the Navigation and Vessel  
20 Inspection Circular 295 Change 2.

21 Q. And as in the report, it's stated that the inspection book  
22 CG-840 hasn't been updated since 1999. Do you know of any plans  
23 for that to be renewed and updated?

24 A. I believe that's included in the overall review, and  
25 following the submission of the Traveler's Report, Admiral Thomas

1 directed the review and implementation of corrective measures to  
2 enhance the program. That's been ongoing, including meetings with  
3 the approved class societies.

4 Q. Regarding steam vessels that are enrolled in the ACP program,  
5 I understand that as of last September, there are only 39 active  
6 inspected steam vessels. Is the Coast Guard in your opinion  
7 equipped to support steam vessel inspections throughout the ACP,  
8 even with lack of a vintage vessel COE and based on the experience  
9 and the qualifications of these marine inspectors?

10 A. Well, even though the Vintage Vessel National Center of  
11 Expertise was disbanded, I believe, 4 years ago -- it might have  
12 been a little bit longer -- we did keep the specialty for the  
13 steam travelers, steam inspector. They do hold on-the-job  
14 training for steam inspections on an annual basis at Duluth,  
15 Sturgeon Bay, where there is -- although the vessels up there are  
16 not enrolled in ACP, we still have some steamships where we do  
17 training. It is still possible for a marine inspector to achieve  
18 steam qualifications. It's not as easy as it used to be since,  
19 you know, with the vessels, steam vessels going into Alternate  
20 Compliance, we generally don't have the availability to get on  
21 board like we used to in the old days, per se.

22 Q. Understood. Thank you. One of the items noted was the 14-  
23 day notification for the surveys and inspection. How is that  
24 enforced?

25 A. Currently that's one of the things we brought up with the

1 approved class societies. We have not issued, to my knowledge,  
2 any notice to the companies to comply with that. We do recognize  
3 that they do have very tight operating schedules, but we have  
4 emphasized when we have met with various companies one-on-one that  
5 the importance of that, it helps prepare the approved class  
6 society marine surveyor with enough time to evaluate the vessel,  
7 get different -- get the different background information on the  
8 vessel, and also, it provides the Coast Guard with the opportunity  
9 to go on board the vessel if needed.

10 So I'm not aware of any direct communication with companies,  
11 but any time the travelers or the units have been going out and  
12 engaging with companies, we have been reminding them of that  
13 important notification timeline.

14 MR. YOUNG: Thank you.

15 That's all I have, Captain.

16 BY CAPT NEUBAUER:

17 Q. Just a follow-up to that question. Is there any minimum  
18 timeline for the Coast Guard notification or is it expected that  
19 it would be immediate after the ACS is notified?

20 A. Generally what I've seen in the related guidance was within a  
21 couple of days, 2 or 3 days to notify the Coast Guard. It's my  
22 understanding, and generally a lot of times they do submit -- when  
23 receiving notification, they will on a routine basis notify the  
24 local unit via email just saying, hey -- and the travelers are  
25 also listed on those and, you know, we'll get notifications on a

1 regular basis via email.

2 Q. Have they received notice that there were some concerns  
3 relayed from Activities Europe and Far East Activities, in regards  
4 to ACP? Can you expound on that, any concerns you received from  
5 those commands?

6 A. I received direct -- I had a direct meeting with the current  
7 commanding officer of the Activities Europe. He had previously  
8 drafted a memo to the Commercial Vessel Compliance Office  
9 concerning some -- a lot of similar issues we've been discussing  
10 here today, about the vessels enrolled in the Alternate Compliance  
11 Program, communication with the approved class society, issues  
12 continuously being found on vessels, substandard conditions and,  
13 again, generally the same stuff we've been discussing today.

14 Q. Did the traveling inspectors generally get involved with ACP  
15 oversight exams overseas?

16 A. Yes, we do. We travel everywhere, wherever we're needed.

17 Q. During your increased oversight of the ACP program, can you  
18 give a percentage of the vessels you found to be in full  
19 compliance versus a general percentage of vessels you found with  
20 issues like watertight integrity or hull nonconformities? I guess  
21 I'm looking for the number of vessels in full compliance versus  
22 vessels you found with multiple deficiencies?

23 A. Well, we utilized the risk assessment to examine the vessels  
24 that were already listed with having previous concerns. So among  
25 those vessels, they were already -- you can say that they were



1 already having some issues before the travelers were directly  
2 involved. Due to -- we have been on board a few vessels in the  
3 Alternate Compliance Program and we found -- that were not on the  
4 list, that we found that those two or three vessels were in pretty  
5 good condition.

6 Q. How many vessels have you checked overall would you estimate?

7 A. As of today, I think 18.

8 Q. So out of the 18 vessels, 2 or 3 were not on your targeted  
9 list; is that correct?

10 A. That would be accurate.

11 Q. And those 15 or 16 other vessels, are you saying you did find  
12 serious safety deficiencies?

13 A. We found a variety of vessel issues, the worst being the two  
14 vessels that were eventually removed from service, the vessel that  
15 went into dry dock. We are -- you know, and again. these vessels  
16 were previously in some cases on the risk assessment list for 3, 4  
17 years continuously. So that's one of the reasons we wanted to  
18 focus why these vessels kept ending up on that list.

19 Q. Now I want to clarify for the record, I think you said  
20 targeted list. Risk assessment list is the proper terminology; is  
21 that correct?

22 A. That's correct.

23 CAPT NEUBAUER: At this time I would like to go to the  
24 parties in interest. Mr. Fawcett, you have a question?

25 MR. FAWCETT: Yes, sir.

1 BY MR. FAWCETT:

2 Q. Good afternoon, Captain.

3 A. Good afternoon.

4 Q. Just a couple of questions to follow up your testimony. In  
5 addition to the Vintage Vessel NCOE that has gone out of  
6 existence, do you use the other NCOEs to facilitate the work of  
7 the traveling inspectors?

8 A. We have on occasion, yes.

9 Q. And turning to the consequences of a marine entity being  
10 issued Coast Guard 835s or no sails, if they get a record of no  
11 sails, can it affect their business bottom line in terms of the  
12 competitiveness of a vessel in service?

13 A. That's not a preview of what I look at. It's something I  
14 don't look into.

15 Q. And just finally, if an authorized class society asks the  
16 local OCMI or the officer in charge of marine inspection for  
17 information in the MISLE database, which is the marine safety  
18 database, do we have an obligation to share that information with  
19 the authorized class society?

20 A. To be honest, I'm not aware that we do, but I would have to  
21 double check with the -- it is public record, but I'm not aware  
22 that units regularly do that.

23 Q. Thank you very much, Captain.

24 CAPT NEUBAUER: At this time, I'd like to go to the parties  
25 in interest. TOTE?

1 MR. REID: No questions, sir.

2 CAPT NEUBAUER: Mrs. Davidson?

3 MR. BENNETT: No questions.

4 CAPT NEUBAUER: ABS?

5 BY MR. WHITE:

6 Q. Good afternoon, Captain. With regard to your report in  
7 Exhibit 329, isn't the purpose of the ACP program to eliminate  
8 redundancy in commercial inspections while maintaining an  
9 equivalent level of safety?

10 A. That is correct.

11 Q. And to the extent that you've examined vessels or 18 vessels  
12 under the oversight responsibilities of the Coast Guard, how many  
13 vessels are in the ACP program that are deep-draft ocean vessels,  
14 if you know?

15 A. I believe it's 149. It might be higher than that. I'd have  
16 to double check the records, but it's -- yeah, let me double check  
17 on that. I'm sorry. I'm not recalling it right now.

18 Q. And as far as your targets, in your report, at the end of  
19 your report, Exhibit 329, I understood that you had a target or  
20 recommendation trying to reach 2 percent of those vessels. Is  
21 that your target?

22 A. We were looking at going out and doing -- participating in  
23 exams of 2 percent of the vessels that were not on the risk  
24 assessment list.

25 Q. And can you tell us out of those 149 vessels that you

1 estimate that are in the ACP program, how many have the Coast  
2 Guard put on risk assessment -- the risk assessment list?

3 A. The CVC target list or the risk assessment list, that is  
4 developed by CVC based on their own internal criteria. So that  
5 list can change depending on the vessel's condition history or  
6 other aspects.

7 Q. As of the writing of the report in September of 2016, do you  
8 recall how many vessels were on the risk assessment list?

9 A. I'd have to go look at the list. It was just a list of  
10 vessels. I would have to go back and double check on that exact  
11 number, but it was definitely over 10.

12 Q. And to the extent that there was a matrix, is that something  
13 that CVC determines, whether a particular vessel meets the  
14 criteria under the matrix to be on the list or is that something  
15 the traveling inspectors determine?

16 A. As previously I think documented by Captain McAvoy, they're  
17 responsible for that. So you could reference his testimony.

18 Q. And do you think there would be any value in sharing that  
19 risk assessment list with the ACSes to assist them and to  
20 communicate with them as far as what the Coast Guard considers to  
21 be a risk?

22 A. Well, I would look at it as, again, under communication. Any  
23 time that the Coast Guard or an ACS encounter a vessel that they  
24 believe has some issues affecting its ability to meet compliance  
25 requirements, that direct engagement between the ACS, either the

1 local office or with the local Coast Guard unit, I think is the  
2 most efficient way of getting that identified and hopefully  
3 quickly resolved.

4 Q. So it's your understanding that the local Coast Guard office  
5 would share with the local class office or the class surveyors  
6 what vessel was coming into the port that was on the risk  
7 assessment list?

8 A. My understanding, the risk assessment list is FOIA. So it's  
9 something that's generally not shared outside the Coast Guard.

10 Q. Do you think it would be of value to share it with the local  
11 inspectors or the ACSes?

12 A. Well, the Coast Guard inspectors are copied on a message on  
13 the vessels. So they are informed of it. So they go out and do  
14 additional inspections. At this time, the way the current system  
15 is set up, I don't think that would be the best method to address  
16 the safety concerns. I would go back, and based on my  
17 recommendation on communication at the local level, between the  
18 local class society and the local unit, is if one or the other  
19 comes up with issues related to a vessel, they quickly engage the  
20 other more so than just emails, to meet, maybe do a complete  
21 evaluation of the vessel at the earliest opportunity and to  
22 resolve the issues either identified by the class society or  
23 identified by the Coast Guard as quickly as possible.

24 Q. You know, during the course of the hearings, there have been,  
25 you know, some questions or some communications concerning notice

1 of a class or statutory survey and how that's communicated with  
2 the local Coast Guard office. You've addressed that in your  
3 testimony this morning. Is it your suggestion this morning that  
4 email is not the best way to communicate that a vessel is due to  
5 arrive in a port so the Coast Guard could look at it?

6 A. I think email is an effective method, but if, as was  
7 documented in the previous testimony by one of the surveyors for  
8 ABS, he would send out an email and not get a response back. In  
9 my opinion, if you're sending an email out with important  
10 information and not getting a response back, maybe in that  
11 circumstance that may not be the most effective means of  
12 communication.

13 Q. Would you expect the Coast Guard personnel that received that  
14 notice, would you anticipate that they would call the surveyor to  
15 coordinate its efforts or ask whether the survey can be delayed or  
16 coordinate in that manner?

17 A. Again, it's depending on -- I'd have to engage with each one  
18 of the people who are receiving the email. Again, my whole  
19 emphasis has been on improving communication on both sides. So I  
20 would say if anyone is receiving information, the class society or  
21 the Coast Guard, and it's relevant to a vessel exam or vessel  
22 safety issues, that engagement after that should occur.

23 Q. And to the extent that the local Coast Guard office may not  
24 have the personnel either qualified or available to board a vessel  
25 under the ACP program, would you recommend or would you consider

1 it helpful if that risk assessment list was shared with the ACS so  
2 they could attend or make a potential or a focus or bring  
3 particular focus to an item on that list?

4 A. Well, the Coast Guard unit, if they need to, they can contact  
5 the travelers, and we routinely go out and, actually, that's one  
6 of our roles, to supplement, if needed, units that don't have the  
7 resources or the qualified person to do the work. So we would --  
8 I would recommend to the unit to contact the travelers and, again,  
9 if our availability is there, we will go out and do the inspection  
10 or participate in the exam.

11 Q. On that same issue of notification, you know, based on  
12 discussions and meetings between the Coast Guard and ABS, I  
13 understand the notification at issue has been addressed, and that  
14 the notifications for both planned and in attendance have been  
15 significantly reduced. Is that correct?

16 A. Are you basically asking have we seen improvements within the  
17 communication?

18 Q. I'm asking, one, whether the communications have been  
19 improved and, two, have they met the target of 10 days or 2 weeks?

20 A. We have seen some improvements in the communication, but we  
21 still do see incidents where they're not meeting the target 14  
22 days.

23 Q. You made reference to the supplement. To the extent that the  
24 supplement has been I guess in effect since the ACP program  
25 commenced in let's say 1996, how many revisions to the supplement

1 has the Coast Guard considered or approved?

2 A. Well, I would say that the supplement concerns are pretty  
3 much a recent evolution. I would say that the -- to further  
4 clarify, you would have to address your question to engineering  
5 standards office. I don't have the information to answer that  
6 question. That's not directly my specialty.

7 CAPT NEUBAUER: Mr. White, I just have a follow-up on a  
8 question. Do I take it that you said that you've seen some  
9 improvement in the supplement update recently? Is that accurate?

10 THE WITNESS: I think I was answering his question on  
11 communication. The -- I think as I previously mentioned, and it's  
12 documented in the report, when the Alternate Compliance Program  
13 started there was only one classification society approved. So  
14 maintaining the supplement back then, again, was not much of a  
15 challenge. Since the addition of additional class societies have  
16 occurred in the last 5 or 6 years, maintaining supplements for the  
17 different classification societies has become a burden.

18 CAPT NEUBAUER: Thank you. Mr. White.

19 BY MR. WHITE:

20 Q. Staying on the subject of the supplement and hydrostatic  
21 testing, I noted in your report, you make reference on page 5, in  
22 paragraph 9(a) to hydrostatic testing. In connection with what  
23 you have written there and our understanding, is it accurate to  
24 say that based on your review of the supplements, the various  
25 supplements in place with class societies, some class societies



1 have specific requirements for hydrostatic testing and some do  
2 not?

3 A. As stated in the report, that is correct. Some do and some  
4 do not.

5 Q. And to the extent that you referenced earlier testimony  
6 before the MBI, as far as the testing of the hydrostatic testing  
7 on *El Faro*, it was on the economizer and not the boiler, correct?

8 A. Well, the economizer is the pressure vessel that's connected  
9 to the operation of the boiler. The economizer is a -- I would  
10 consider the economizer part of the boiler.

11 Q. And to the extent that the attending surveyor indicated that  
12 it was subject to the surveyor's discretion according to ABS  
13 rules, whether to test -- hydrostatically test the boiler or  
14 economizer for that specific pressure, did you -- are you aware of  
15 that testimony?

16 A. I'm aware of that testimony, but I'm also -- the hydrostatic  
17 testing of any aspect, any pressure vessel related to the  
18 propulsion boiler has been an issue with ABS on other vessels.

19 Q. Okay. But again, that's not specifically addressed by the  
20 supplement but was addressed by ABS rules as far as the discretion  
21 of the surveyor to test it at a pressure she deemed acceptable?

22 A. Well, what I find concerning is the -- with her comments was  
23 her hesitation to do it based on the fact that it's a 45-year-old  
24 boiler. The -- if I remember -- and again, I don't have the  
25 transcripts in front of me, but she referenced that the boiler was

1 45 years old and she didn't feel comfortable doing the hydrostatic  
2 testing based on the age of the vessel or age of the boiler,  
3 indicating that she didn't fully understand what the purpose of a  
4 hydrostatic test was.

5 Q. But you're in agreement that CFR requirements for the testing  
6 of the boiler were not applicable on *El Faro*?

7 A. Well, due to the fact that under the Alternate Compliance  
8 Program the -- it's based on the international rules, class  
9 society, and then the supplements, that would be correct. But the  
10 Coast Guard has emphasized the need for hydrostatic testing as an  
11 appropriate means of determining if a boiler is fit for proper  
12 operation. But again, with that testimony, if my recollection is  
13 correct, it was her statements about why not, why she was not  
14 going to do a hydrostatic test that were concerning and the  
15 understanding or failure to understand the appropriate need to do  
16 it at times.

17 Q. Based on your CV or the background you described earlier this  
18 morning, you were the chief inspector in San Juan during the time  
19 frame from 2012 to 2014, correct?

20 A. No, I was what they call the Deputy Sector Commander.

21 Q. And what would be your responsibilities in that post in San  
22 Juan?

23 A. As the Deputy Sector Commander, I was in charge of ensuring  
24 the operation of all missions performed by that unit.

25 Q. And did that include any oversight of the ACP or the vessels

1 that visited the port?

2 A. That was one of the missions, that's correct.

3 Q. And are you familiar with Mr. McMillan from the San Juan  
4 Office?

5 A. Yes, I am.

6 Q. And can you tell us how Mr. McMillan's qualifications compare  
7 with what you would expect for a trained marine inspector?

8 A. If my recollection is correct, he has a hull qualification.

9 Q. And how many years has he been in the Coast Guard?

10 A. He's a -- if I remember correctly, he's a retired warrant  
11 officer, and a civilian marine inspector. So I would assume he --  
12 and I'd have to double check, but I would assume he has probably  
13 close to 25 years of service, but I would have to admit I'm not  
14 directly knowledgeable of how much time he has in service.

15 Q. And do you consider the San Juan Office of the Coast Guard to  
16 be properly staffed to conduct its surveys in San Juan?

17 A. Under the guidance that's currently -- at the time and under  
18 the guidance of the Alternate Compliance Program, I feel that they  
19 are conducting the exam as appropriate.

20 Q. And as far as the relationship or the communications between  
21 the San Juan Office and ABS, did you confer with Mr. McMillan or  
22 anyone in that office concerning their acceptance or any  
23 complaints concerning the level of communication?

24 A. Well, I was never provided any information to -- or  
25 complaints as you put them. I know that the Coast Guard

1 inspectors were dealing directly with the vessel, but as I  
2 understand it, and there is mentioning that they have in their  
3 activity report, they did have some engagement with the class  
4 society, but I think the challenge at the time was ABS primarily  
5 was doing its Alternate Compliance Program exams up in  
6 Jacksonville and the Coast Guard at the time was doing it down in  
7 Puerto Rico, at least for two of the vessel exam periods, if I  
8 remember correctly.

9 Q. To the extent that Mr. McMillan indicated that his  
10 communications and relationship between his office and ABS in San  
11 Juan was a good one, do you have any information to contradict  
12 that?

13 A. I do not have any information that contradicts that  
14 relationship, but as I said, as we did our evaluation of the  
15 Alternate Compliance Program, we did find communication concerns  
16 in other areas.

17 Q. This morning, we had Mr. Sirkar from the Marine Safety Center  
18 testify and there was some discussions as far as stability. Based  
19 on your review of the ACP program, have you spoken to any of the  
20 MSC representatives or any representatives at the MBI concerning  
21 the computer programs that are used by the Coast Guard and used by  
22 ABS?

23 A. We, as part of our evaluation, looked into the computer  
24 programs for the trim and stability as an oversight because we  
25 were identifying that there was -- people were using the trim and

1 stability computer program and were no longer familiar with the  
2 trim and stability booklet.

3 Q. My question's a little different. My question is whether you  
4 spoke specifically to any individuals in the Marine Safety Center,  
5 with the office in San Juan, concerning computer programs that  
6 were utilized or audiolized for cargo securing or stability or the  
7 like?

8 A. I did not directly but my staff did, and they briefed me on  
9 the conclusions of those discussions.

10 Q. And did anyone on your staff indicate to you that the  
11 CargoMax program is approved by the Coast Guard?

12 A. The software?

13 Q. The software or the use of the program.

14 A. The Coast Guard does not approve the software for the trim  
15 and stability loading.

16 Q. So you've never seen any approval issued by the Coast Guard  
17 concerning the acceptance of CargoMax software?

18 A. I'm not aware of any.

19 Q. How about the other programs that are out there that are used  
20 by other class societies? Did anyone on your staff indicate to  
21 you what computer programs are used by other class societies?

22 A. Again, we were focused on the general oversight. I do not  
23 have that information directly, but I think that's something that  
24 would have to be redirected to Captain Mauger, who is in charge of  
25 the Marine Safety Center, for any other programs I may not be

1 aware of that are out there.

2 Q. Have you spoken with any members of the MBI or anyone at MSC  
3 concerning interaction with ABS during this casualty and the use  
4 of the RRDA program?

5 A. Since that was related directly to the marine casualty  
6 involved in the *El Faro*, we made the decision, since there's a  
7 Marine Board of Investigation, that that would be handled by the  
8 Marine Board of Investigation. While we do mention the *El Faro*  
9 incident in here, our findings and stuff are based on information  
10 that we gathered outside of the Marine Board of Investigation.

11 Q. To the extent that the report complains of a monopoly created  
12 by the use of approved software by the classification societies,  
13 to the extent that other classification societies and ABS accept  
14 submissions using other computer programs, would you still  
15 consider that to be a monopoly?

16 A. Well, I think it was -- the thing about the monopoly is that  
17 the association of a class society with a computer program and  
18 utilizing it on the ships that are under their -- are chartered by  
19 them or hired by them to do their compliance program.

20 Q. And is that your understanding, that they can only use the  
21 HECSALV software?

22 A. Well, it's my understanding that it is what it -- from what  
23 our gathering was, I mean, if there is additional information that  
24 is contrary to that, I would take that in the conclusion. But  
25 currently the systems are, as I would say, specific to a class

1 society.

2 Q. But sitting here today, you can't share with us what specific  
3 programs your staff presented to you and any analysis they  
4 provided concerning the use of computer programs by the Coast  
5 Guard or anybody else?

6 A. Well, the Coast Guard doesn't approve the computer programs.  
7 So that would be outside of our ability to evaluate.

8 Q. But the Coast Guard uses computer programs, don't they? Do  
9 they use GHS? Is that a monopoly because they use it?

10 A. Well, that's a contractor that we've reached out to, but --  
11 and I'm not involved in the procurement of computer programs for  
12 the Coast Guard, so I don't know how the process directly  
13 involves. But when we're mentioning this, there are overall  
14 things, is we have a computer program that is utilized by ships  
15 that is taking the role of what was the trim and stability  
16 booklet, that people are utilizing and that the classification  
17 society that they hired are providing, and that the system -- and  
18 also I think we mentioned some other aspects of cyber security  
19 concerns and some other aspect of that computer program, that we  
20 don't have any venue as the Coast Guard over.

21 Q. So your complaint is twofold. The first complaint is you  
22 don't feel the CargoMax program should be used in place of the  
23 trim and stability booklet. Is that correct?

24 A. No, I think the goal of our information we provided in there  
25 was something that we found when we were doing the evaluation. If

1 the -- one of the things we identified is that that computer  
2 program is not approved by the Coast Guard. We don't do an  
3 evaluation of it, or at least I'm not aware that the Marine Safety  
4 Center does do approval, but we're engaged with them. But we do  
5 believe that it's something that raises concerns, if they are  
6 introducing new computer programs, that the Coast Guard is not  
7 keeping up with the progression of these new systems to facilitate  
8 the trim and stability of a vessel.

9 Q. Is that a technological problem faced by the Coast Guard,  
10 keeping up with the programs?

11 A. I would say it's something that we haven't previously  
12 addressed and we currently haven't looked into. That's why I was  
13 bringing it up in my report.

14 Q. Based on your recommendations, is one of your recommendations  
15 that there should be a separate ACS office or billet?

16 A. I may have related to that a few recommendations but that was  
17 essentially part of one of them, yes.

18 Q. Is your further recommendation that the attending marine  
19 inspectors in the local office visit the vessel under the ACP  
20 program at a certain percentage of the time?

21 A. We, you know, we didn't change any of the recommendations on  
22 when they have to attend. Our recommendation was for the  
23 travelers to try to do oversight of other vessels that are not on  
24 the risk assessment or targeted list.

25 Q. You mentioned steam qualifications. Out of the 149 vessels,



1 how many, if you know, still have steam plants?

2 A. I believe the number is 33 or around 30.

3 Q. You mention in the report that many of the vessels in the  
4 U.S. fleet were approaching or in excess of 30 years old, correct?

5 A. That's correct.

6 Q. And would you anticipate that the level of repairs or  
7 renewals for a vessel would increase as the vessel ages?

8 A. That is something that generally happens with the age of a  
9 vessel.

10 Q. So it's not a lineal relationship?

11 A. Well, in a lot of cases, that depends on how much care and  
12 maintenance that the owner/operator puts into a vessel. There are  
13 some vessels in operation now that date back to the end of the  
14 19th Century and the boilers have been updated and refurbished on  
15 several occasions and they operate just like new.

16 MR. WHITE: Thank you, Captain. I have nothing further.

17 CAPT NEUBAUER: Herbert Engineering, do you have any  
18 questions?

19 MR. SCHILLING: Yes, sir, just a few.

20 BY MR. SCHILLING:

21 Q. Hello, Captain.

22 A. Hello.

23 Q. I'd just like to follow up on one of those points that ABS  
24 was just making on the loading instrument manufacturer and it's  
25 relationship with ABS. Are you aware that the manufacturer, that

1 CargoMax software was producing a loading instrument for 30 years  
2 before there was any relationship with ABS?

3 A. I do recall understanding that it was in existence before,  
4 yes.

5 Q. And after 35 years, up to the present day, it's produced for  
6 ships being constructed worldwide by all classification societies  
7 and being approved by all class -- all major class societies and  
8 flag administrations?

9 A. I'm aware that it is utilized in several different aspects  
10 but my focus when we looked at the thing was specifically to the  
11 vessels enrolled in the Alternate Compliance Program.

12 Q. And further, that ABS approves loading instruments from all  
13 different manufacturers, not just this particular one?

14 A. I'm aware that ABS is involved in others. I'm not aware of  
15 the extent of it, but I am aware.

16 Q. Is there any reason to believe there's any preference given  
17 to this particular product when we do the approvals?

18 A. I wouldn't be aware of that if there was.

19 MR. SCHILLING: Thank you very much.

20 CAPT NEUBAUER: The hearing will now recess and reconvene at  
21 5:00 for the final round of questioning.

22 (Off the record at 4:46 p.m.)

23 (On the record 5:03 p.m.)

24 CAPT NEUBAUER: The hearing is now back in session.

25 BY CAPT NEUBAUER:

1 Q. Captain Flaherty, for this round of questioning, I want to  
2 focus on the ACP program as it relates to TOTE Services and your  
3 findings that you had over the course of time since the accident  
4 voyage. Let me start with, can you explain --

5 A. I'm sorry. I just want to clarify something that I said  
6 previously. I think I referenced to a question about the auditor  
7 qualifications in field units, and I said that there's some  
8 qualified auditors. What I should have said instead was there are  
9 marine inspectors who have attended auditor training, just to  
10 clarify that.

11 Q. Okay. Thank you. Any other clarifications?

12 A. No.

13 Q. All right. Then we'll move on to the second line of  
14 questioning. I'd like to discuss the Traveling Inspection  
15 Office's involvement with TOTE Services after the *El Faro* sinking,  
16 and the first thing I want to focus on is the document compliance  
17 audit that your traveling inspectors were involved with in early  
18 2016. Do you recall that audit?

19 A. Yes, I do.

20 Q. Over the course of that audit, before -- actually strike  
21 that. What was the purpose or intention of the Coast Guard  
22 travelers that were on the audit team? Were they observers?

23 A. That is correct. They were observers.

24 Q. During the course of the DOC audit, did the traveling  
25 inspectors expand their examination?

1 A. Well, they were heavily engaged with the lead auditor and the  
2 other members of the audit team with -- due to the fact that this  
3 is an audit of a company that recently lost a vessel, that they  
4 were asking additional questions and engaging more with the audit  
5 team than normally would have been seen in other document  
6 compliance audits.

7 Q. Would you say their role went beyond observer? Were they  
8 active participants in the audit?

9 A. I would say that they were not specifically active  
10 participants in the audit. They did not change, in my opinion,  
11 any audit outcome, but they were communicating with the audit team  
12 some of their observations that they were making.

13 Q. At some point during that document compliance audit, did they  
14 do some investigative work on behalf of the Marine Board of  
15 Investigation?

16 A. I don't know if they necessarily did it on the Marine Board.  
17 They were observing what was done when they were interviewing the  
18 crew. Maybe that would include it, but it wasn't specifically for  
19 the Marine Board.

20 Q. And can you describe what actions the traveling inspectors  
21 took during the audit?

22 A. Well, basically -- and before -- let's see. The traveling  
23 inspectors were on board the *El Yunque* prior to that. So I want  
24 to make sure that that's not confused on the actions that they  
25 took at that moment versus the audit. But they were there with

1 the audit team as they were interviewing the crew members as part  
2 of the auditing process.

3 Q. At some point during the DOC process, did the traveling  
4 inspectors request to examine the *El Yunque* exhaust ventilation  
5 trunk?

6 A. That was done, yes. That's correct.

7 Q. I'd like to reference Exhibit 201. Exhibit 201 are  
8 photographs taken during that examination of the *El Yunque* hold, 3  
9 hold starboard exhaust ventilation trunk. Does that look familiar  
10 to you?

11 A. Yes, it does.

12 Q. On the lower photograph on the first page, there's a picture  
13 of a finger going through what looks like a corroded bulkhead. Do  
14 you see that photo?

15 A. Yes, sir.

16 Q. Can you describe generally what the traveling inspectors  
17 found inside the exhaust ventilation trunk?

18 A. They discovered extensive wastage of the steel plating,  
19 basically side shell interior wastage. In essence, they found  
20 that the whole ventilation trunk itself had an extensive amount of  
21 wastage that had, from their opinion, had not been addressed in  
22 many years.

23 Q. Were there any additional concerns found that were not  
24 wastage related?

25 A. At this time, I don't recall anything outside of the wasted

1 stuff. I know there was -- from my recollection, there was a lot  
2 of discussion about how much wastage was in those trunks and that,  
3 again, it looked like the wastage or conditions of those trunks  
4 had been like that for a long period of time.

5 Q. If I could call your attention to page 2 of Exhibit 201.  
6 This was a photograph that was also taken inside the exhaust  
7 ventilation trunk, and it shows a longitudinal going through a  
8 bulkhead. Can you give a description of what's occurring there,  
9 sir?

10 A. Yeah. As I recall, it looks like the -- it's not connected  
11 where it's supposed to be connected across and it's actually going  
12 through the shell there. So there's an opening that, if I  
13 remember correctly, was not supposed to be there.

14 Q. Can you summarize the findings of the document of compliance,  
15 how it was done on TOTE Services?

16 A. If I recall correctly, there were five nonconformities and  
17 four observations. The nonconformities covered, for example, the  
18 knowledge of the chief mate with the trim and stability booklet;  
19 he was well aware of how to utilize the computer program but he  
20 was not knowledgeable of how to use the trim and stability booklet  
21 itself, but the two other officers on board had knowledge of that.

22 There was a port engineer, if I remember correctly, was not  
23 knowledgeable of trim and stability although he was also  
24 knowledgeable of how to utilize the computer program.

25 There was a question about some investigations that TOTE had

1 not completed as it relates to its responsibilities for the safety  
2 management system, investigations into casualties involving other  
3 vessels that are listed under the document of compliance, and I  
4 think, in general, that covered all the different areas.

5 Q. And for the record, was the *El Yunque* under the Coast Guard's  
6 ACP program?

7 A. The *El Yunque* is or was under the Coast Guard Alternate  
8 Compliance Program.

9 Q. After the traveling inspectors identified the issues inside  
10 this exhaust trunk, what actions were taken?

11 A. The local unit which, if I remember correctly, had a marine  
12 inspector there present, was notified. An evaluation was  
13 conducted on what to do next. It was recommended that the trunk  
14 itself be examined to see if any corrections, what they would do  
15 to it, as well as it was recommended that the class -- approved  
16 class society conduct an evaluation of the rest of the trunks on  
17 board the vessel to determine if their conditions were similar and  
18 if they needed to be addressed.

19 Q. Were there any Coast Guard 835s issued in regards to the vent  
20 trunk requirements?

21 A. I believe the Sector Jacksonville issued an 835 specifically  
22 for the -- to address the trunks.

23 Q. And to your knowledge, was that 835 and class concerns  
24 satisfied?

25 A. It's my understanding that the approved class society

1 surveyor communicated back to the unit that the other trunks -- I  
2 believe it's also listed in the testimony, that the other trunks  
3 were examined and were found satisfactory.

4 Q. Are you aware of any follow-up DOC audits on TOTE Services  
5 after that early 2016 audit?

6 A. Well, based on the findings from the audit team, they  
7 recommended the issuance of a 90-day document of compliance that  
8 allowed TOTE vessels to still operate while it also allowed them  
9 to address the other issues in addition to the ones I mentioned  
10 that were identified in the ABS audit report.

11 Q. Were there any downflooding concerns identified due to the  
12 wastage and the longitudinal penetrations found in the exhaust  
13 trunk on the *El Yunque*?

14 A. I think by default, the wastage, I think the concern was at  
15 the time when we were doing the investigation into the *El Faro*  
16 that the -- and this is before we had the transcripts from the  
17 vessel data recorder, we had concerns of potential downflooding  
18 through the ventilation ducts. So these findings where you had  
19 rust conditions, penetrations that weren't supposed to be there,  
20 and overall, you know, wastage conditions of the vent trunk, that  
21 there seemed to be a consensus that there could be a possibility  
22 for downflooding.

23 Q. What was the resolution after the 90-day assessment period?

24 A. The 90-day assessment period, TOTE addressed the outstanding  
25 -- the nonconformities to the satisfaction of class and class was



1 in communication with the Coast Guard. So the DOC was issued.  
2 Specifically for this, this was addressed basically once we  
3 received -- or at the time, once we received the indication back  
4 from the class society surveyor that the other trunks had been  
5 checked, we were at the time satisfied with the information.

6 Q. Are you aware if a Coast Guard inspector also checked those  
7 trunks to verify they were checked?

8 A. That was sent to -- and my understanding of how the events  
9 took place, the trunks were not looked at again by the Coast Guard  
10 until the vessel was up in Tacoma, Washington, where it was at the  
11 time going to be retrofitted and modified for service up in  
12 Alaska.

13 Q. As the vessel was preparing for service in Alaska, did the  
14 traveling inspectors have any involvement after that point?

15 A. After we received the initial notification from the local  
16 unit, they had discovered that the condition of the remaining vent  
17 trunks was substandard and had significant wastage, the traveling  
18 inspectors attended.

19 Q. And to clarify, that notification came from the Coast Guard?

20 A. That's correct. That notification came from the Prevention  
21 Department at Sector Puget Sound.

22 Q. I'd like to call your attention to MBI Exhibit 295. This  
23 exhibit is the Coast Guard activity summary report from the MISLE  
24 system, Activity ID Number 5836311. It's an inspection report  
25 done by Sector Puget Sound. Would you agree with that assessment?

1 A. I would agree.

2 Q. Looking at page 2 of that report, I want to read an entry  
3 that's dated 6 to 12 April 2016. "Boarded vessel as before to  
4 direct gauging of third-party surveyor, extensive gauging  
5 completed at multiple suspect locations on deck." It continues  
6 later, "Evidence of long-standing uncorrected wastage exists. For  
7 example, layers of paint around significantly wasted frames."  
8 It's signed by Mr. John Winters, who was a marine inspect at Puget  
9 Sound.

10 Looking at the next entry down from 20 April 2016, it says,  
11 "Received a 123 item work list based on gauge report, intended  
12 work." And then the next entry from 20 May 2016 says, "Boarded  
13 vessel as before, examined supply vents through the holds 1  
14 through 3 port and starboard, 6 total. Observed gaskets missing,  
15 holes in vent ducts, gasket flanges wasted, holes in side shell in  
16 way of vent inlets. Required all to be added to work list."

17 The next entry is for 14 August 2016. It says, "The company  
18 has halted work on returning the vessel to service. Received  
19 request to place vessel in lay-up status and the vessel is to be  
20 scrapped."

21 Does that match what your travel inspectors observed during  
22 their time on *El Yunque*?

23 A. Yes, it would.

24 Q. Do you know what ultimately happened to the vessel?

25 A. It's currently down in Brownsville, Texas waiting -- or

1 currently being or waiting to be scrapped.

2 Q. In your opinion, the wastage and the deficiencies found in  
3 the exhaust and supply trunks of the *El Yunque*, were they  
4 longstanding, extending beyond a full survey cycle or inspection  
5 cycle for the vessel?

6 A. In my opinion, yes.

7 CAPT NEUBAUER: I'd like to pass the line of questioning to  
8 the NTSB at this time. Mr. Young.

9 MR. YOUNG: Thank you, Captain.

10 BY MR. YOUNG:

11 Q. Just two follow-up question, Captain Flaherty. At what point  
12 during inspection regimes do you think those ventilation trunk  
13 issues should have been identified?

14 A. Well, I think at the very least during the vessel's dry dock,  
15 depending on when they're doing it, examining the vessel from the  
16 outside, looking at rust areas, to follow up, or internally when  
17 you're looking around and you see indications of wastage, to  
18 examine them more extensively just to determine how extensive they  
19 are.

20 Q. And do you have any records of any inspections or  
21 documentation such as these inspections that would have happened  
22 on the *El Faro*?

23 A. The Coast Guard, as I understand it from Sector Miami,  
24 attended the *El Yunque* in dry dock in 2014. Indications are at  
25 the time they were on board, due to the fact that the vessel was

1 on the risk assessment list, they did attend the vessel. Their  
2 narrative does describe them entering tanks, and they do mention  
3 in their narrative that TOTE was looking at the vent ducts, doing  
4 some steel replacement around or near one of them, but it does not  
5 go into detail on that.

6 Q. And to clarify that, is that the *El Faro* or the *El Yunque*?

7 A. That was the *El Yunque*.

8 Q. Okay. And to clarify a previous statement, after the  
9 inspection of the *El Yunque* in Jacksonville, they found -- the  
10 Coast Guard found one ventilation duct to be deteriorated, and  
11 then inspected the remainder and all the others to be  
12 satisfactory. Then after the vessel went to the West Coast, the  
13 same ventilation ducts were further inspected by additional Coast  
14 Guard travelers and found those ducts to be wasted?

15 A. It's my understanding that after the initial duct was  
16 discovered, that the Coast Guard did not participate in any other  
17 inspections, but that was the 835 for that was passed to the  
18 marine surveyor for the class society, and that was the individual  
19 that did the further survey, but that's my understanding. I'm not  
20 aware of personnel from Sector Jacksonville doing anything in  
21 addition to that.

22 MR. YOUNG: Thank you for that clarification.

23 No further questions.

24 CAPT NEUBAUER: At this time I'd like to go to the parties in  
25 interest. TOTE?

1 MR. REID: Can we just take a quick break, sir?

2 CAPT NEUBAUER: The MBI will recess and reconvene at 5:35.

3 (Off the record at 5:24 p.m.)

4 (On the record at 5:35 p.m.)

5 CAPT NEUBAUER: The hearing is now back in session. Before  
6 we go to the parties in interest, I have one follow-up question.

7 BY CAPT NEUBAUER:

8 Q. In regards to the vent trunks issue, after the traveling  
9 inspectors identified the issues with the vent trunks on the *El*  
10 *Yunque*, did you or your staff do a review of the MISLE record to  
11 check for inspections on the *El Faro's* vent trunks, or the surveys  
12 that were done?

13 A. The last -- the *El Faro* was dry docked, if I remember  
14 correctly, in 2013. The Coast Guard did not attend that dry dock.  
15 The Coast Guard did attend the dry dock in 2011, and there was no  
16 mention in the review of the activity report of anything related  
17 to the vent trunks.

18 CAPT NEUBAUER: Thank you.

19 At this time, we'll go to the parties in interest. TOTE?

20 MR. REID: Thank you, Captain.

21 BY MR. REID:

22 Q. Thank you, Captain Flaherty. If you would, please refer to  
23 Exhibit 20 please, page 1, which is a photograph of the vent  
24 trunk. How was this -- when was this first shown to you?

25 A. When was I informed about the concerns with the vent trunk?

1 Q. When was the first time you saw this picture?

2 A. I think I saw this picture roughly a few days after the  
3 document of compliance audit. I don't recall seeing it before  
4 then.

5 Q. Did you know that the hole visible there was caused by a  
6 hammer used by one of the inspectors?

7 A. I'm aware of that, yes.

8 Q. Are you aware of when the last inspection of the *El Faro* was  
9 conducted by the Coast Guard?

10 A. Outside of just the annual inspection, as I previously  
11 mentioned, the vessel -- I think the last time the Coast Guard was  
12 on board for a dry dock for the *El Faro* was 2011.

13 Q. Okay. And the Coast Guard conducted an annual inspection in  
14 March of 2015. The inspectors actually came here to testify. Are  
15 you aware of that?

16 A. I'm aware of that, yes.

17 Q. And one of the inspectors was asked about if you had anything  
18 else to add to the report about the company and he said, "No,  
19 other than that the TOTE vessels, the ones that we've done in San  
20 Juan, they're actually better operators." And the witness goes on  
21 to state, "TOTE seemed to be a lot better in their safety  
22 management of their vessels just in general. The vessels I think  
23 were actually in a little better condition, too." Does that  
24 surprise you?

25 A. As I look at it, that's his opinion as a marine inspector.

1 Q. Another inspector testified -- another Coast Guard inspector  
2 testified. When asked about the safety culture at TOTE, he said,  
3 "Everything I've seen over the years, they have a very good safety  
4 culture. It seems like they really take pride in it. If there  
5 would have been a problem, if they had any issues, they would call  
6 us and let us know or they have scheduling of exams. They're  
7 always good about scheduling exams. We never really had any  
8 issues with them in that regard, and if there's a problem with  
9 them, they let us know." Does that surprise you?

10 A. Again that's the interaction of that marine inspector with  
11 the -- TOTE. Again, that's that person's opinion.

12 Q. Can you please refer to Exhibit 127 please? Captain, the  
13 testimony I just read to you, do you have any reason to -- of the  
14 inspectors that inspected the *El Faro*, do you have any reason to  
15 discredit that or not believe them?

16 A. It's not believing or not believing. They're expressing  
17 their own opinions of what they observed.

18 Q. Okay. Refer to Exhibit 127 please. When the annual  
19 inspection is conducted, Captain, what areas of the vessel does  
20 the Coast Guard inspect?

21 A. Well, it's firefighting, lifesaving equipment, general  
22 walkaround of the vessel to look for anything that might be -- you  
23 know, looks like it needs additional review or inquiry, checking  
24 the documents, safe manning certificate, make sure they're all up  
25 to date and valid.

1 Q. In fact, looking at the inspection report, the Coast Guard  
2 conducted an annual exam in March of 2015. Is that not right?

3 A. That's correct.

4 Q. If you would refer to page 121 please. Does the inspection  
5 report indicate that the inspectors inspected the accommodation  
6 and occupational safety aspects of the vessel?

7 A. According to the report, it looks like they check --  
8 according to the report on the inspection results, it looks like  
9 they looked at all of the applicable parts of the vessel that they  
10 were supposed to and everything says satisfactory.

11 Q. So they looked at the communications aspects of the vessel,  
12 correct?

13 A. Well, that would be the general alarm, any of the other  
14 notification systems within the ship.

15 Q. And they looked at the construction, the load line aspects of  
16 the vessel, did they not?

17 A. Well, it's listed as inspected. As a general walkaround,  
18 yes, they did do that. Again, this is under the Alternate  
19 Compliance Program. The Coast Guard marine inspector during this  
20 type of an exam is looking around for anything that significantly  
21 raised questions or concerns. So it's not that they're conducting  
22 what would be equivalent to a dry dock where they're crawling  
23 tanks and doing a more substantial underneath -- under the hull  
24 walk or anything like that.

25 Q. And they inspected all of the vessel's documentation, did



1 they not, according to this report?

2 A. Yes, and that's to be expected during this type of an exam.

3 Q. And according to this report, they inspected the electrical  
4 aspects of the vessel. Is that not correct?

5 A. That is also listed here. Again, that would be a general  
6 walkaround, unless -- what is invisible -- visible to the marine  
7 inspector when he's doing a walkaround of the vessel, for this  
8 type of exam. So it doesn't indicate if anything was located  
9 maybe behind a post or any type of equipment that might not have  
10 been up to standard. Just anything that was visible.

11 Q. And they looked at the firefighting aspects of the vessel,  
12 did they not?

13 A. Again that would be a test of the fire system. I'd have to  
14 look at the narrative located above it to see if there's anything  
15 that they specifically looked at or did not look at. So without  
16 examining -- without being able to read the narrative, you'd have  
17 to look at this as more of a summary of the whole inspection  
18 without getting into particulars.

19 Q. Well, it says inspection results, does it not?

20 A. Well, it's part of the whole document for the inspection. An  
21 Activity Summary Report, as we referenced in this, can be -- have  
22 multiple inputs, multiple narratives. So if you could kindly just  
23 give me a chance to review the above information, I would be  
24 better able to address specifically what they might have looked  
25 at, firefighting, lifesaving or any of the others.

1 (Pause.)

2 THE WITNESS: As you note in the narrative there, the  
3 discussion about the type of bilge pumps in the system, and again  
4 something about that they're not rated for the class LASH point,  
5 and that they've amended the COI to properly address that, and  
6 then it was also contingent on the operation of the vapor and  
7 smoke detection. Let's see, they reviewed the ABS class surveyor  
8 report and the International Convention certificates were  
9 endorsed. Conditions -- yeah, there's two outstanding conditions  
10 of the vessel to be completed next dry dock. Vessel is scheduled  
11 to go out of service in October '15. So in there, I would have to  
12 reference what the two outstanding conditions of class were.

13 Q. But the bottom line is, Captain, this inspection was  
14 conducted by two Coast Guard inspectors and at the end of that  
15 inspection, they concluded that the vessel satisfied all laws and  
16 regulations of the United States. Is that not correct?

17 A. Well, based on the inspection and the information that was  
18 provided by the class report, that lists the two issues that still  
19 remain outstanding, they do mention the steering gear had some  
20 issues and again that was to be addressed by the attending  
21 surveyor, but, yes, based on the extent that this inspection  
22 covers for a vessel involved in the Alternate Compliance Program,  
23 they found that the vessel was fit for service.

24 Q. At the end of Mr. McMillan's report, he says, "In my opinion,  
25 the vessel was found fit for route and service as indicated on the

1 certificate of inspection at the time of the inspection." Do you  
2 have any reason to doubt that?

3 A. I have no reason to doubt it at the time he was inspecting  
4 the vessel, and the items that he saw during that inspection, that  
5 the vessel was fit for route and service, keeping in mind that the  
6 goal of doing an Alternate Compliance Program exam is to reduce  
7 the duplicity of the ABS, or in this case the approved class  
8 society surveyor, and the Coast Guard marine inspector. So a lot  
9 of the information he's basing this on is a walkthrough of the  
10 vessel and the fact that the approved class society conducted the  
11 exam prior to, as I understand it, and had found no other  
12 significant issues as well.

13 Q. Do you have doubt if the Coast Guard inspectors found some  
14 deficiency that was material to the condition of the vessel that  
15 would not have been corrected or identified by them and corrected?

16 A. It's the duty of all marine inspectors, once they come across  
17 an item that is not in compliance or raises the risk of safety to  
18 the vessel or crew, to identify it and make sure it's properly  
19 addressed either through utilizing the approved class society or,  
20 if not, through the 835 process.

21 Q. Thank you.

22 CAPT NEUBAUER: Any further questions, TOTE?

23 MR. REID: No further questions.

24 CAPT NEUBAUER: Mrs. Davidson?

25 MR. BENNETT: No, sir.

1           CAPT NEUBAUER:  ABS?

2           MR. WHITE:  Yes, sir.

3           BY MR. WHITE:

4  Q.    While we're on the subject of notification concerning  
5  Mr. Reid's questions, the 14-day notification, that's the  
6  obligation of the owner, correct?

7  A.    That is correct.

8  Q.    And as far as oversight, in your report you indicated that,  
9  "The Coast Guard does not perform review, oversight or approval of  
10  equipment/software required by class rules."  Just to revisit  
11  that, is that an accurate statement?  Do you consider that to be  
12  an accurate statement that they don't perform review, oversight or  
13  approval?

14  A.    Currently of the software that was previously discussed, it's  
15  my understanding that we do not.

16  Q.    As far as corrosion, based on your experience as a surveyor,  
17  does the Coast Guard provide you with any specific training on  
18  corrosion?

19  A.    As part of your qualification process to become a hull  
20  examiner, we do send people to -- in addition to on-the-job  
21  training, formalized training, Yorktown, we do send people to  
22  additional training in metallurgy and structure, aluminum, to a  
23  certain extent steel.  Not all marine inspectors may go to that,  
24  but the goal is that if one marine inspector does, he comes back  
25  and trains the others.  I would say just based on a photograph of

1 that hull area where the finger is sticking out, that that would  
2 indicate to me that that had been severely corroded for a while.

3 Q. Getting back to my question for a minute, Captain, as far as  
4 corrosion and the Coast Guard training marine inspectors for  
5 corrosion, would the inspectors at San Juan Office have that  
6 training that you just described?

7 A. They would have that training and -- but again, as I've  
8 reiterated, during an Alternate Compliance Program exam, the role  
9 is to walk around and look at items. Again, in this case, if --  
10 as I understand, that would not include going around and hammering  
11 areas unless you specifically saw something related to a hole in  
12 the vessel or some other corrosion that would indicate significant  
13 wastage. Walking around the deck as a general walkthrough may not  
14 identify that.

15 Q. Okay. Getting back to my question, the surveyors in Seattle,  
16 would they have, those marine inspectors have the same training in  
17 corrosion?

18 A. I would assume they would have the same training in  
19 corrosion. But when they were there, the vessel was about to go  
20 into dry dock, so that would require them, as part of the  
21 evaluation of the vessel, to do a much more extensive review than  
22 you would during an annual ACP exam.

23 Q. And the Coast Guard inspectors that attended the *El Yunque* at  
24 the Grand Bahamas Shipyard, would they have the same training that  
25 you described for corrosion?

1 A. Again, the training that they receive, if they were -- and I  
2 don't know if they were specifically hull examiners or had a hull  
3 qualification, but I would assume if they did, they would have had  
4 the same level to identify the corrosion as I would expect a  
5 marine surveyor from the ACP.

6 Q. So just to be clear, the surveyors in Puerto Rico and the  
7 surveyors in Jacksonville -- excuse me -- the marine inspectors in  
8 Puerto Rico, the marine inspectors in Jacksonville, the marine  
9 inspectors in Seattle and the marine inspectors that attended the  
10 *El Yunque* in Grand Bahamas Shipyard, all had training in  
11 corrosion?

12 A. I would assume they would have had some training in how to  
13 evaluate the condition of steel and determine -- initially when  
14 there's identification of a spot that may have been corroded, a  
15 further examination would be validated, but I would also assume  
16 that the class surveyors who are attending from whatever the  
17 approved class society would have similar training, if not more,  
18 if they are conducting a similar type of exam.

19 Q. So moving back to the training for a minute, did any of your  
20 training on corrosion have any explanation as to localized  
21 corrosion or what areas of the vessel may be susceptible to  
22 localized corrosion?

23 A. Well, any -- essentially a vessel is operating in an  
24 environment that is, you know, that is corrosive. It's a  
25 saltwater environment. Outside of electrical issues or issues

1 related to a direct exposure -- continuous exposure to wind and  
2 weather in saltwater conditions, you know, a vessel would be  
3 susceptible to corrosion if not properly maintained and examined  
4 over time. So again, if I was to make a deck walk of a vessel,  
5 versus doing -- being in the dry dock, I think those are two  
6 different levels of exam right there that would be conducted.

7 Q. And, Captain, based on your training, your experience, as a  
8 traveling inspector, would an area of a vessel subject to  
9 saltwater exposure and humidity and heat be subject to localized  
10 corrosion?

11 A. Well, again this -- it looked like corrosion and it can be  
12 caused by the pocketing of water. If there was water retained in  
13 this area for a period of time and sitting stagnant at the lower  
14 level there, which I think that is the deck below, to me that  
15 would be a potential spot for a higher rate of corrosion. If I  
16 was aware that that was a pocketing area, hull areas, you know,  
17 they aren't protected by an anode system or any other system that  
18 prevents or helps mitigate corrosion activities, might be less,  
19 but again it would be -- anyone who is going on board the vessel  
20 and conducting a survey for the ship's structure, maybe even for  
21 the dry dock aspects, would be looking around and if they did see  
22 areas of severe corrosion or indications that there might be, that  
23 would require further examination.

24 Q. Getting back to my question, to the extent that a ventilator  
25 would be subject to saltwater, subject to heat, and subject to

1 fatigue, would that be an area in your opinion that might be  
2 subject to localized corrosion?

3 A. Well, localized corrosion, if you're defining it as the whole  
4 vessel, that whole vent trunk would be exposed to the humidity,  
5 the corrosion, everything else, and in addition to this area which  
6 was kind of unique for this vessel, the between deck area, as it  
7 was referred to, was an open area. It was below the main deck.  
8 So it was open to all the wind and weather that was accompanying  
9 the ship. But the indication here is that when looking at this  
10 from a general walk of the vessel, you see some rust stain, it may  
11 not catch your eye, but if you were there at the dry dock and you  
12 saw indications of rust, either from outside of the ship or from  
13 the inside of the ship, I would assume that during the dry dock  
14 exam that the -- anyone attending would examine below deck for it.

15 Getting back to my question, is it your opinion then that the  
16 ventilators on the *El Faro* and the *El Yunque* would be more subject  
17 to localized corrosion due to the fact they're subject to  
18 saltwater, they're subject to humidity and heat and fatigue?

19 A. Well, one of the things I discovered when I was reviewing the  
20 cases, and this is the activity report for the *El Faro* --

21 Q. Respectfully, Captain, I'm only looking based on your  
22 experience, based on your training in corrosion and based on your  
23 understanding of local corrosion, whether the ventilators are  
24 areas of the vessel that are subject to localized corrosion?

25 A. I would answer it this way, that any area of the vessel that



1 is directly exposed to wind, wave and sea conditions that the  
2 vessel is experiencing in a saltwater environment would be exposed  
3 to corrosion.

4 Q. And based on the pictures that we show in Exhibit 201, for  
5 hold number 3 on the *El Yunque*, the exhaust ventilation trunk, can  
6 you tell me the condition of the portside exhaust ventilation  
7 trunk at frame 159 and 162?

8 A. At the time -- currently I don't have a picture of it, but at  
9 the time when we received this information, it was just that they  
10 discovered that and had requested that it be further examined.  
11 Let's see. Yeah, it was -- when I went back, I was on board the  
12 vessel when it was in Brownsville, and it was the port side that  
13 we did look at, if I remember.

14 Q. I'm looking -- and my question, sir, respectfully, is that  
15 the time the picture was taken in Figure 1 -- okay, that's a year  
16 before you visited the vessel in Brownsville -- whether or not you  
17 know the condition of the port side number 3 ventilation trunk, at  
18 Exhibit 159?

19 CAPT NEUBAUER: Sir, you just referenced Exhibit 159?

20 MR. WHITE: No.

21 BY MR. WHITE:

22 Q. I'm looking at Exhibit 201, and there's a picture in Figure 1  
23 of the number 3 starboard exhaust ventilation trunk. So the  
24 picture with the figure -- with the finger and the hammer is from  
25 the number 3 starboard side. My question -- that's at frame 159

1 and 162 according to the (indiscernible). My question is what can  
2 you tell us? What can the Coast Guard tell us about the condition  
3 of the portside ventilation trunk at frames 159 to 162?

4 A. On the port side?

5 Q. Yes.

6 A. Well, at --

7 CAPT NEUBAUER: I just want to clarify. Do you mean at the  
8 time of that survey?

9 MR. WHITE: Correct.

10 THE WITNESS: Well, sir, if I may -- if you recall, once we  
11 identified the issue on the starboard side and an 835 was required  
12 for the -- to the vessel to examine the rest of the potential --  
13 or the other vents for potential corrosion, and we received a  
14 report back, which was also part of the testimony for this Marine  
15 Board, that a marine surveyor had looked at the rest of them at  
16 the time and had said that they were in satisfactory condition.

17 BY MR. WHITE:

18 Q. Did the Coast Guard inspect the ventilation trunks at that  
19 time and go back to you and say they were satisfactory?

20 A. I have no information related to -- I've got the activity  
21 report from that which covered the ventilation part. It also  
22 covers the issue related to the sprinkler system and the CO2  
23 system. Now the sprinkler system, as noted in --

24 Q. My focus, sir, is just on the ventilation trunks.

25 A. Well, I think this information would help kind of clarify the

1 answer. The ventilation trunk under the Alternate Compliance  
2 Program, the Sector issued an 835 which was sent to the approved  
3 class society, ABS, for them to conduct an additional evaluation  
4 of the other trunks.

5 Q. So sitting here today, sir, you have no understanding as to  
6 what the condition of the trunks were found to be at the time of  
7 the survey in Exhibit 201?

8 A. Well, we were basing the further evaluation of that on the  
9 information that was going to be provided to us by the approved  
10 class society.

11 Q. And do you recall what Coast Guard inspectors were aboard the  
12 vessel at this point? Was one of the traveling inspectors aboard  
13 the vessel?

14 A. I believe there were two traveling inspectors on board at the  
15 time and one inspector from Sector Jacksonville.

16 Q. Okay. So they -- the only thing they looked at was the  
17 number 3 starboard exhaust ventilation trunk? Is that your  
18 understanding?

19 A. They were looking at that with the -- again, under the  
20 Alternate Compliance Program. The unit issued an 835 to the  
21 approved class society for them to examine it further and they  
22 would report it back to us.

23 Q. Okay. So they didn't survey anything further than this  
24 because they issued an 835? Or did they survey something and  
25 found nothing?

1 A. Well, if they surveyed -- if the -- are you talking about the  
2 Coast Guard or the marine surveyor?

3 Q. Coast Guard.

4 A. Well, if the Coast Guard came across this, that's what the  
5 current procedures are. You come across something like this, you  
6 identify it, you issue an 835 that goes to the approved class  
7 society, and the approved class society will review it in  
8 accordance with what the 835 states, and then depending on the  
9 findings, recommend additional actions to the owner/operator of  
10 the vessel.

11 Q. So sitting here today, sir, your testimony is that the two  
12 traveling inspectors that were placed upon the *El Yunque*, after  
13 the loss of the *El Faro*, saw this condition, issued an 835 and  
14 didn't inspect anything further?

15 A. Well, the traveling inspectors do not issue the 835. The 835  
16 came from the officer in charge or marine inspector which was a  
17 Sector Jacksonville. The role in that was to, you know, that we  
18 came across something that was a concern and we were working with  
19 the approved class society with them to have it resolved in  
20 accordance with policy and procedures of the Alternate Compliance  
21 Program.

22 Q. So you don't know if they looked -- if your traveling  
23 inspectors looked at anything other than the number 3 starboard  
24 exhaust ventilation trunk, correct?

25 A. They were there for just a general walkaround, but if you

1 remember correctly, the primary reason why they were there was  
2 during the document of compliance audit.

3 Q. Do you recall whether or not anyone looked in the ballast  
4 tanks or the double bottom tanks? Would that be an area of  
5 localized corrosion?

6 A. The ballast and -- the bilge and ballast -- excuse me -- the  
7 ballast tanks were examined when the vessel, if I remember  
8 correctly, was down in Puerto Rico or at a later date.

9 Q. Do you recall whether the tanks were inspected in  
10 Jacksonville?

11 A. They might have been inspected in Jacksonville but right now  
12 I don't remember specifically, but Commander Venturella was -- did  
13 look into the ballast tanks at the time.

14 Q. Okay. And would the ballast tanks be areas where localized  
15 corrosion or be areas susceptible to corrosion through, again, the  
16 presence of saltwater?

17 A. Well, obviously any time steel is exposed to saltwater,  
18 there's a potential of corrosion.

19 Q. So it's an area that's subject to corrosion?

20 A. Well, again, any of the steel on board a vessel is subject to  
21 corrosion.

22 Q. Can you tell me as far as the 835 that you mentioned for the  
23 vent trunks on the *El Yunque*, can you tell us the date of that  
24 835?

25 A. I'm looking to see if it's listed on the activity report from

1 Sector Jacksonville.

2 CAPT NEUBAUER: Do we not have the 835 available?

3 THE WITNESS: I'm currently just scanning it. I don't see it  
4 listed, but I remember it being mentioned.

5 CAPT NEUBAUER: Let's take a recess to locate the 835. The  
6 hearing will reconvene at 6:15.

7 (Off the record at 6:09 p.m.)

8 (On the record at 6:15 p.m.)

9 CAPT NEUBAUER: The hearing is now back in session.

10 Before we continue, Mr. White, I think Captain Flaherty wants  
11 to make a clarification on a point.

12 THE WITNESS: Yes, thank you. I just want to clarify my  
13 reading of the narrative for the vessel activity from Sector  
14 Jacksonville as it relates to the *El Yunque*. I mistook the 835  
15 that was issued for the sprinkler system as it also being  
16 referenced for the vent ducts, but it is documented in there that  
17 the information was passed to a ABS concerning the vent trunk and  
18 concerns with the others, and that they had -- it was reported  
19 back. And again, communicating directly with the approved class  
20 society is an acceptable method in accordance with the policy and  
21 guidance currently in the NVIC and *Marine Safety Manual* for  
22 passing this information on.

23 But they did talk about the repairs that were done in  
24 accordance with the approved welding procedures with qualified  
25 welders and approved materials, and also the -- it is referenced

1 also during Commander Venturella's traveling inspection report.

2 So again, just to clarify, the 835 that I was referencing for  
3 the vent trunk was referencing the sprinkler system.

4 CAPT NEUBAUER: Mr. White, based on that clarification, do  
5 you have any additional questions?

6 MR. WHITE: I do.

7 BY MR. WHITE:

8 Q. As far as the inspection, sir, in Jacksonville in November  
9 2015, can you tell us what Coast Guard inspectors were aboard the  
10 *El Yunque* at that time?

11 A. The one I have in front of me for the activity report is  
12 dated 15 December -- oh, okay. So it's the -- I think, again,  
13 this is the -- was focused on the vessel's stability, hull  
14 structure and cargo loading as it was related to part of the  
15 investigation for the Marine Board of Investigation.

16 Q. To the extent there was an inspection in Jacksonville in  
17 November of 2015, can you tell us the experience level and the  
18 qualifications of Lieutenant Commander Aaron Dino?

19 A. Aaron Dino currently is a traveling marine inspector. He's  
20 got a hull qualified if I remember correctly and he's a very  
21 knowledgeable and experienced marine inspector.

22 Q. And Commander Venturella, who is on the MBI, he's one of the  
23 traveling inspectors as well, correct?

24 A. That is correct.

25 Q. Chief Warrant Officer Duncan?

1 A. I don't know Chief Warrant Officer Duncan's background. I  
2 haven't reviewed it.

3 Q. Chief Warrant Officer Scott Gradel?

4 A. I have not reviewed his qualifications either. So I'm not --  
5 I don't know what -- if they're journeymen or advanced journeymen.

6 Q. Lieutenant Commander Matthew Meskun?

7 A. I've worked with Lieutenant Commander Meskun. As I  
8 understand it, he is hull qualified but I don't know if he has any  
9 -- what his additional qualifications are.

10 Q. Juan Hernandez?

11 A. I do not know Juan Hernandez. So I'm not aware of what --

12 Q. I understand he's listed as a trainee, but aside from  
13 Mr. Hernandez, it looks like five other representatives of the  
14 Coast Guard were aboard the *El Yunque* in Jacksonville. So to the  
15 extent that they were no 835 issues issued on the ventilation  
16 trunks, is it your understanding that they walked through the  
17 vessel but didn't look at any areas that might be subject to  
18 localized corrosion, all six of them?

19 A. I think the focus of their exam on that day was to check the  
20 ballast tanks. So I don't know if they had walked by that area.  
21 I'm assuming they probably went on board and went down below  
22 decks.

23 Q. So do you think they went in the ballast tanks?

24 A. If I remember correctly, some of the ballast tanks had --  
25 were dry tanks and you could not access them because they had --



1 what was that material? They had some material in there. They're  
2 permanent ballast tanks. So either concrete or some type of  
3 slurry or bricks. I don't recall. I'd have to read the report on  
4 that.

5 Q. And did Commander Meskun in Jacksonville indicate that the  
6 vessel was fit to proceed?

7 A. He was there from Sector San Juan. Again, I think he was  
8 participating as just evaluating the condition of the hull,  
9 especially within those tanks. He was not there to give a  
10 complete evaluation of the entire vessel.

11 Q. Was anyone there from the Coast Guard to give any complete  
12 evaluation of the vessel?

13 A. Again, they were specifically guided by Captain Neubauer, if  
14 I remember correctly, to conduct an internal exam as part of the  
15 Marine Board of Investigation of those specific tanks. I think it  
16 was related to the fact that there was another vessel that had --  
17 a similar vessel in construction to the *El Yunque* and *El Faro* that  
18 had hull plating issues and maybe a hull of plate failure, and  
19 they were examining the structure. And again, it was part of the  
20 investigation to try to identify potential causes that resulted in  
21 the loss of the *El Faro*. So it mostly focused in the internal  
22 tanks, the saltwater ballast tanks. In here they've got a view of  
23 the 2A port and starboard. So that's some of the tanks that they  
24 went on board.

25 Q. Looking at Exhibit 201, do you know whether these pictures

1 were taken at the same time or different times on the *El Yunque*?

2 A. There is no -- again, there is no date associated with the  
3 above picture and the below picture, but I do know that Commander  
4 Odom was on board the vessel during the DOC audit and that that  
5 occurred during the DOC audit.

6 Q. And typically when the issue of corrosion or localized  
7 corrosion, does it get better in time if it's not addressed or  
8 does it get worse?

9 A. Well, anything related to corrosion, depending on how it's  
10 manifesting, usually gets worse over time.

11 Q. And sitting here today, sir, for the *El Yunque*, did you  
12 evaluate the condition of the trunks based on the special survey  
13 in Grand Bahamas in 2014 and subsequent passage of time until your  
14 own inspection or the Coast Guard's inspection in November of 2015  
15 when these pictures were taken?

16 A. The marine inspectors from Miami who were on board the  
17 vessel, in reviewing their narrative, they conducted inspections  
18 of some tanks. They did note at the time that TOTE was replacing  
19 some steel area that had corroded in the vicinity of one of the  
20 vent trunks, but the detail within the activity report isn't very  
21 extensive.

22 Q. And while those surveyors -- while those marine inspectors  
23 that attended the vessel in Grand Bahamas Shipyard were trained in  
24 corrosion, sitting here today and looking at the narrative, you  
25 don't know if they looked at any of the ventilation trunks,

1 correct?

2 A. Well, again, I don't have that narrative in front of me. It  
3 was when I was reviewing it. Again, it would be that the  
4 circumstances related to the ventilation trunks when Commander  
5 Odom was on board was following potential downflooding spots and  
6 that the -- for him to request looking at the internal of the vent  
7 trunk I would say was more or less just kind of gathering an  
8 overall understanding of how the vessel was constructed.

9 Q. That's great. My question was with regard to the marine  
10 inspectors in the Grand Bahamas Shipyard, and the question is  
11 whether or not you know whether those marine inspectors inspected  
12 the ventilation trunks while they attended the vessel?

13 A. Again, based on the narrative, I do not know if they did or  
14 did not.

15 CAPT NEUBAUER: Mr. White, I'm starting to come up on the end  
16 of my time in the venue tonight. I'm just wondering if I should  
17 bring Captain Flaherty back tomorrow morning for further  
18 testimony?

19 MR. WHITE: Thank you.

20 CAPT NEUBAUER: Would you recommend that we do that?

21 MR. WHITE: Yes, sir.

22 CAPT NEUBAUER: Captain Flaherty, are you available to come  
23 back tomorrow morning first thing for testimony?

24 THE WITNESS: I am.

25 CAPT NEUBAUER: The hearing is now convened [sic], and we'll

1 reconvene with Captain Flaherty at 9:00 a.m. tomorrow morning.

2 (Whereupon, at 6:27 p.m., the hearing was recessed, to  
3 reconvene, Wednesday, February 8, 2017, at 9:00 a.m.)

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1

CERTIFICATE

This is to certify that the attached proceeding before the

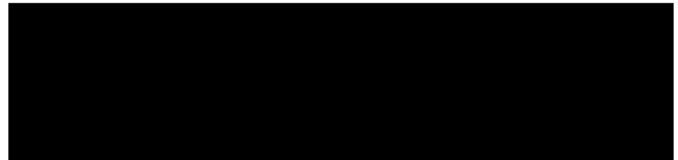
NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: MARINE BOARD OF INVESTIGATION  
INTO THE SINKING OF THE EL FARO  
ON OCTOBER 1, 2015

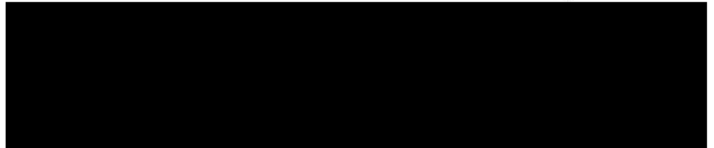
PLACE: Jacksonville, Florida

DATE: February 7, 2017

was held according to the record, and that this is the original,  
complete, true and accurate transcript which has been compared to  
the recording accomplished at the hearing.



U.S. Coast Guard  
Official Reporter



Transcriber