

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of: *

*

FIRE ABOARD *GRANDE COSTA D'AVORIO* *

AT BERTH 16 IN THE PORT OF NEWARK IN * Accident No.: DCA23FM039

NEWARK, NEW JERSEY ON JULY 5, 2023 *

*

* * * * *

Interview of: RENATO MANDAPAT, Chief Engineer
Grande Costa D'Avorio

via Microsoft Teams

Thursday,
 February 22, 2024

The above-entitled matter came on for hearing, pursuant
 to notice, at 8:00 p.m. Eastern Time.

APPEARANCES:

INVESTIGATIVE TEAM:

CDR CHRIS BARGER
United States Coast Guard

LT. BRANDON REED, Recorder
United States Coast Guard

LCDR STEPHANIE MOORE, Assistant Investigating Officer
United States Coast Guard

LCDR KATIE WARD, Legal Advisor
United States Coast Guard

WILLY PITTMAN
Investigations, National Center of Excellence
United States Coast Guard

BART BARNUM, Office of Marine Safety
National Transportation Safety Board

NANCY McATEE, Fire and Explosion Specialist
National Transportation Safety Board

PARTIES-IN-INTEREST:

GARY LIPSHUTZ, ESQ.
City of Newark, New Jersey

PAUL KIM, ESQ.
Squire Patton Boggs
Counsel for Port Authority

JOHN LEVY, ESQ.
Montgomery McCracken
Counsel for Grimaldi Deep Sea

GINO ZONGHETTI, ESQ.
Kaufman Dolowich
Counsel for Ports America

TANNER HONEA, ESQ.
Freehill Hogan & Mahar
Counsel for American Maritime Services

FREE STATE REPORTING, INC.
Court Reporting Transcription
D.C. Area 301-261-1902
Balt. & Annap. 410-974-0947

7735267-BRR-060

I N D E X

<u>WITNESS</u>	<u>EXAMINATION</u>	<u>PAGE</u>
Renato Mandapat	Direct by LCDR Moore	8
	Direct by CDR Barger	39
	Direct by LT Reed	49
	Direct by Mr. Barnum	51
	Direct by CDR Barger	56
	Cross by Mr. Zonghetti	58
	Cross by Mr. Honea	63
	Cross by Mr. Kim	68
	Cross by Mr. Levy	74
	Redirect by Mr. Barnum	81

P R O C E E D I N G S

(8:10 p.m. EST)

CDR BARGER: All right. Good evening. Today is February 22nd, 2024, and the time is now 8:10 p.m. Eastern Standard Time. We are back on the record for the formal hearing regarding the fire and subsequent fire fatalities that occurred on board the *Grande Costa D'Avorio* on July 5th, 2023, in Newark, New Jersey.

I am Commander Christian Barger of the United States Coast Guard. I'm the lead investigating officer for this First District formal investigation and the presiding officer over these proceedings.

The First District Commander convened this investigation under the authority of Title 46 United States Code, Section 6301 and Title 46 Code of Federal Regulations Part 4. Our purpose is to investigate the circumstances surrounding this incident. The investigation will determine as closely as possible the circumstances and factors that contributed to the incident so that proper recommendations to prevent similar recurrences can be made.

Besides myself, the Coast Guard investigation team consists of Lieutenant Commander Stephanie Moore, Mr. Willy Pittman and Lieutenant Brandon Reed who is also the recorder. Legal counsel to the investigation is Lieutenant Commander Katherine Ward.

The National Transportation Safety Board is also participating in this hearing. Mr. Bart Barnum is the investigator-in-charge for the NTSB and is assisted by Ms. Nancy

1 McAtee.

2 The Coast Guard has designated five parties in interest to
3 this investigation. We will now take appearances for the party as
4 I call each. As you introduce yourself, please state your name
5 and spell your last name for the record. Grimaldi Deep Sea.

6 MR. LEVY: Good evening, everyone. This is John Levy, L-e-v-
7 y, from the law firm of Montgomery McCracken, representing
8 Grimaldi.

9 CDR BARGER: Okay. Thank you. Ports America.

10 MR. ZONGHETTI: On behalf of Ports America, Gino Zonghetti
11 from the law firm of Kaufman Dolowich, Z-o-n-g-h-e-t-t-i.

12 CDR BARGER: Okay. Thank you. American Maritime Services of
13 New York.

14 MR. HONEA: For American Maritime Services of New York,
15 Tanner Honea of Freehill Hogan and Mahar. The last name is H-o-n-
16 e-a.

17 CDR BARGER: Thank you. And for the Port Authority of New
18 York and New Jersey.

19 MR. KIM: Yes, Paul Kim, K-i-m, from the law firm of Squire
20 Patton Boggs on behalf of the Port Authority of New York and New
21 Jersey.

22 CDR BARGER: Okay. Thank you. And for the City of Newark.

23 MR. LIPSHUTZ: Good evening, everyone. Good morning, Chief.
24 Gary Lipshutz, L-i-p-s-h-u-t-z, first assistant corporation
25 counsel for the City of Newark. Pleasure.

1 CDR BARGER: Okay. Thank you. This evening, we'll continue
2 our formal proceedings through virtual witness testimony obtained
3 by Microsoft Teams.

4 Today's witness is Mr. Renato Mandapat, chief engineer on the
5 *Grande Costa D'Avorio* on July 5th, 2023. Lieutenant Reed, please
6 swear in the witness.

7 LT REED: Good evening, Mr. Mandapat.

8 CHIEF MANDAPAT: Good evening, sir. If you would please,
9 raise your right hand.

10 (Whereupon,

11 RENATO MANDAPAT,
12 was called as a witness, and having been first duly sworn, was
13 examined and testified, as follows:)

14 LT REED: Okay. Thank you. I now have a few preliminary
15 questions for you. Will you please state your name and spell your
16 last name for the record?

17 THE WITNESS: I am Renato Mandapat. Last name is M-a-n-d-a-
18 p-a-t. And my middle name is Nietez (ph.).

19 LT REED: Okay. On July 5th, 2023, what was your profession?

20 THE WITNESS: I am the chief engineer of *Grande Costa*
21 *D'Avorio*.

22 LT REED: And who were you employed by at that time?

23 THE WITNESS: By the -- I was employed by principal of
24 Grimaldi Shipping.

25 LT REED: Okay. What, if any, professional certificates or

1 certifications do you hold related to that position?

2 THE WITNESS: I have my license being a chief engineer. I
3 have also some training certificates with regards to STCW and
4 basic training for emergency firefight, advanced firefighting,
5 emergency first aid advanced and fast rescue boat training.

6 LT REED: Okay. And how long were you employed in that
7 position as of July 5th, 2023?

8 THE WITNESS: I was employed as chief engineer for -- on
9 board the *Grande Costa D'Avorio* for 6 months, but my service was
10 -- before the fire was only 1 1/2 month.

11 LT REED: Okay. Thank you, Mr. Mandapat.

12 The following witness may require the use of a translator.
13 Mr. Lopez, if you would please, raise your right hand.

14 (Whereupon,

15 FELIX LOPEZ

16 was duly sworn to interpret the questions and answers to the best
17 of his skill, judgment and ability.)

18 CDR BARGER: Okay. Thank you very much. Mr. Lopez, will you
19 please state your name and spelling your last name for the record?

20 INTERPRETER: My name is Felix Lopez. My last name is L-o-p-
21 e-z.

22 LT REED: Thank you very much.

23 Commander Barger, the witness is ready to proceed.

24 CDR BARGER: Okay. Thank you. Lieutenant Commander Moore
25 will be conducting the direct examination of this witness.

1 Lieutenant Commander Moore, please proceed.

2 LCDR MOORE: Thank you, Commander.

3 DIRECT EXAMINATION

4 BY LCDR MOORE:

5 Q. Good evening, Mr. Mandapat.

6 A. Good evening, ma'am.

7 Q. Can you give us a brief summary of your background and
8 experience as a chief engineer?

9 A. Well, I was on board *Grande Costa D'Avorio* as chief engineer
10 for my fifth contract. I took my first engineer position last
11 2019 up until 2023 with five vessels on board Grimaldi ships as
12 chief engineer.

13 Q. And how long have you been with Grimaldi in total?

14 A. I was with Grimaldi since 2010 or 2009.

15 Q. Do you recall when your initial chief engineer's license was
16 issued?

17 A. I was issued with my chief engineer license last 2019.

18 Q. And what flag issued that license?

19 A. Italian. I have my Philippine license and my Italian
20 endorsement as chief engineer.

21 Q. Okay. Thank you. Have you served on any other RORO ships
22 prior to the *Grande Costa D'Avorio*?

23 A. Yes, ma'am. I have served RORO ships on board Grimaldi
24 vessels.

25 Q. Have you served on any other types of ships as an engineer?

1 A. No. I served as a chief engineer only. With other ships, I
2 was still as a lower rank rating at that time.

3 Q. Okay. What types of ships were those?

4 A. I was on board oil tankers, almost all of the oil tankers
5 classifications. I also was on board bulk carrier ship and reefer
6 ships.

7 Q. Can you described the duties and responsibilities of a chief
8 engineer?

9 A. Well, the duties and responsibilities of a chief engineer is
10 being the head department of the -- the head of the engine
11 department. I am in charge of maintaining the vessel's propulsion
12 unit, the power generation unit. I am also in charge of taking
13 care of storage and requisitions, spare parts as well. And the
14 management of the whole engine team department.

15 Q. How big was the *Grande Costa D'Avorio* engine department? How
16 many people?

17 A. We have only seven people on board *Grande Costa D'Avorio*,
18 ma'am.

19 Q. What are your duties surrounding drills on board?

20 A. Being a chief engineer, my sole duty is to secure and make
21 sure that the engine will be ready when it comes to emergency.
22 Like when it comes to firefighting, I should make sure that the
23 fire pumps, CO2s, ventilations shutdowns and such or startups are
24 all operating normally. As with oil pollution, to make sure that
25 we have the lifeboat prepared and easily deployable when it comes

1 to oil pollution response, and aside from that, that's it.

2 Q. Generally, what are your duties surrounding maintenance on
3 board?

4 A. Well, for maintenance we do follow a certain program. I
5 recall this one as the AMOS system, A-M-O-S, which is the system
6 where the maintenance of the machineries are recorded by running
7 hours, and these running hours, when they reach a certain point,
8 they will pop in the computer and inform us that we need to do
9 this job so it will not be overdue.

10 Q. Does that system tell you exactly what to check or is it just
11 a reminder?

12 A. It will tell us what to check also and, you know, what needs
13 to be done and what needs to be replaced or over hold.

14 Q. What are your duties during loading of the ship?

15 A. During loading of the ship, usually my duty is to carry out,
16 oversee maintenance jobs on the engine department like there will
17 be jobs for maintenance of the main engine, the auxiliary
18 generators and auxiliary machineries as well.

19 Q. What are your duties if there were a fire on board?

20 A. My duty if there is a fire on board is to be on the engine
21 room, engine control room, make sure that the fire pumps are
22 running. I am also in charge of preparing the CO2 for releasing,
23 and keeping the ship on ready standby if it needs more or if the
24 ship needs more power to start one more generator and everything,
25 just to prepare everything for the emergency.

1 Q. Are your duties different for fire at sea versus in port or
2 are they the same?

3 A. They are the same.

4 Q. On July 5th, 2023, where was the *Grande Costa D'Avario*?

5 A. The *Grande Costa D'Avario* was at Port of Newark, New Jersey.
6 They were alongside that time.

7 Q. And what were the plans for the ship on that day?

8 A. The plans for the ship was they were -- we were loading
9 secondhand vehicles, and I have a plan which I discussed with the
10 second engineer prior to arriving in port to do an engine fuel
11 pump maintenance and the fourth engineer will be doing some
12 maintenance on the auxiliary machineries which is I think the
13 sewage discharge pump.

14 Q. Did you have any interactions with shore-based personnel
15 while the ship was in port that day?

16 A. No, ma'am. I didn't have any interactions, ma'am.

17 Q. When were you first made aware that there was a fire on
18 board?

19 A. I was made aware of a fire on board when I was awakened by my
20 sleep in the night of July 5 at around 9 p.m. when an alarm went
21 off, fire alarm went off in the heating (ph.). It's in -- an
22 alarm in my cabin, ma'am.

23 Q. What did you do after you heard that fire alarm?

24 A. Well, I woke up immediately. I heard a commotion outside my
25 cabin along the alleyway, too much like people are running around.

1 I started to go for my coverall and my -- and I was changing to my
2 coveralls as I heard the captain page on the ship's intercom for
3 me. He said the chief engineer, please go down to the engine
4 room.

5 Q. Is that what you did?

6 A. Yes, ma'am. After I changed to my coverall, I immediately
7 ran down to the engine room.

8 Q. All right. And when you arrived at the engine room, what
9 happened next?

10 A. When I arrived at the engine room, I already saw the fourth
11 engineer in the engine room, and he informed me that the main fire
12 pumps are already running. And so I asked him to check if
13 everything is okay. And then while I was there, also the third
14 engineer came also down the engine room into the -- inside the
15 engine control room.

16 Q. Were you aware of where the fire was at that time?

17 A. No, ma'am. I wasn't aware yet at that time where the fire
18 is.

19 Q. What did you do after you spoke with the fourth engineer and
20 the third engineer?

21 A. So after I told them some instructions, to check the fire
22 pumps, I called up the captain and told me -- and I informed him
23 that engine team is in the -- in their position or as duty
24 required. And that is when he told me that they have fire on deck
25 10. That's just what he said.

1 Q. Was there a checklist or a guide to tell you what to do as
2 you were responding to that fire?

3 A. The checklist usually comes with the duties and
4 responsibilities being written on the master list, ma'am.

5 Q. Did you refer to it or use it on July 5th, 2023?

6 A. No, I didn't refer it because I already know it by -- as per
7 my duties, ma'am.

8 Q. Okay. You spoke about the interactions with the captain.

9 Did you hear any orders given by the captain other than the two
10 that you previously mentioned to go to the engine room and then
11 that report of the fire being on deck 10? Did you hear any other
12 orders given by the captain at that time?

13 A. At that time, I was just given to -- kept on standby and wait
14 for further instructions.

15 Q. While you waited further instructions, what did you do next?

16 A. I was just monitoring the fire pumps, pressures of the fire
17 pumps and making sure that we have enough power to support the
18 generator once we start to get -- have, you know, short circuits
19 or any sort of something to happen take.

20 Q. As you were monitoring those systems, were there any problems
21 or issue?

22 A. No, ma'am. I didn't encounter any problems or issues at that
23 time.

24 Q. And were the fire pumps at the pressure you expected them to
25 be?

1 A. Yes, ma'am. They were running at 9 bars, ma'am.

2 Q. Shifting to the CO2 system, what are the activation
3 procedures for the CO2 system on *Grande Costa D'Avorio*?

4 A. On the *Grande Costa D'Avorio* for initiating the CO2 release,
5 I have to prepare a certain valve which is what we call the pilot
6 valve. This what I have to open on a cabinet on the CO2 room
7 itself. And we have also remote controls in deck 12. That's the
8 CO2 room for release cabinet in deck 12 and that is included in
9 fire station number 1, and the one in deck 3 which is located just
10 outside the elevator room, and it is -- this one will also be
11 remotely activated, but this CO2 will release only on the engine
12 department whereas the one in deck 12 will release CO2 into the
13 cargo spaces.

14 So in releasing this one, I was -- I went to the CO2 room,
15 prepared the pilot cabinet. In this pilot cabinet, once I open
16 this one, there will still be no alarm or whatever. It will be
17 just pressurizing the system of valve cabinets. This one will
18 just open and pressure the valve cabinets for releasing the main
19 valve and the releasing of the zone valves. So it will be a pilot
20 valve and then on the cabinet valve itself where the zone is
21 included.

22 So once I open like what we had was fire Zone C, which is
23 from deck 6 to deck 11. So I opened this cabinet. Immediately
24 when I opened this cabinet, I already activated an alarm which
25 indicates that CO2 is giving out an alarm and that CO2 will be

1 releasing -- will be released. So upon opening this cabinet door,
2 I will see in front of me another Plexiglas which has a timer and
3 this timer -- in order for me to open this Plexiglas, I have to
4 align a lever to open, and this lever will be only aligned after a
5 certain time has elapsed. And thereby, once I pull out the in of
6 this lever, it will start to count to -- to count down for about
7 50 or a minute or so, and then this will also activate -- when I
8 pull out the pin and this timer starts, this one will activate the
9 shutdown of the ventilations, shutdown of the front extractors in
10 the cargo space involved with the fire. And then once the lever
11 has already aligned itself with the Plexiglas hole, I can open now
12 the door and I can already operate the two valves within this
13 cabinet which is the main valve, CO2 main valve and the CO2
14 distribution valve or the valve which goes into the affected area.

15 So I open this main valve and this one will only -- will
16 remotely open the valve actuator. So it will already open the
17 valve actuator which means that CO2 already on the main line, but
18 it's still within the branch, still not going into the space
19 affected. So when I open the branch valve which is Zone C, Zone C
20 is where the fire is ongoing, and this one will now -- CO2, once I
21 activate this valve, it will remotely open the branch valve going
22 to Zone C, and it will now -- CO2 will now go through the main
23 line, through the Zone C branch going to -- into the cargo spaces.
24 So this one will take for zone -- for all the cargo spaces. It
25 will take 10 minutes for CO2 to discharge. And after 10 minutes,

1 it will automatically -- the main valve will automatically shut
2 down by itself or close by itself which means that CO2 has already
3 released for a certain quantity for that certain zone.

4 And that's when I have to report that CO2 has already been
5 released to affected area, and the main valve is already closed.
6 And that is also where the captain will be waiting for a certain
7 time or as he demands it for the firefighters to check or inspect
8 if the fire was out or was it reduced or is it still ongoing.

9 Q. Just a few questions on that. When you first talked about
10 the process, is there anything that has to be done before you
11 activate the system to isolate or close any of the zones?

12 A. Yes, ma'am. Actually, there is these water tight doors that
13 are open which should be closed before releasing the CO2 which
14 from what I know is that it's standard procedure for the captain
15 to give instructions to everybody to make sure that the doors are
16 closed, all water tight doors are closed, ventilation and fire
17 dampers are all closed, masters are all done, and there will be
18 nobody inside the zones where CO2 will be deployed, ma'am.

19 Q. When you conducted fire drills on the ship, did you
20 incorporate closing those doors as part of your fire drills?

21 A. No, ma'am. We didn't -- I didn't experience closing doors
22 when we were doing drills as the doors were already closed when we
23 were doing the drills, ma'am. It's usually done at sea, ma'am.

24 Q. And you talked about firefighters checking to see if the CO2
25 was successful. When you say firefighters, are you referring to

1 the ship's crew firefighters?

2 A. Yes, ma'am. I'm referring to the ship's crew firefighters
3 which includes fight team number 1, which is composed of the chief
4 mate and the boatswain, ma'am.

5 Q. Who's authorized to activate the CO2 on the crew?

6 A. Well, I am the sole, primarily in charge of activating CO2
7 release in the engine -- in the whole ship, ma'am.

8 Q. Okay. And you mentioned a few areas that have controls.

9 Would you have to go to those areas to use those controls after
10 activating the pilot in the CO2 room?

11 A. No, ma'am. Those controls are like secondary controls. Like
12 if, for example, I cannot go into the CO2 room, I can still
13 release CO2 in the bridge or on the aft side of the bridge which
14 is fire station number 1. And I have also a remote control in
15 deck 3 or deck 5 that will be just about deck 3, because the deck
16 5 is a moveable deck and we use what we consider this as deck 3
17 because it's where the elevator for deck 3 is located. And that
18 door will also be remote control for operating the CO2 just in
19 case we have fire only in the engine room.

20 Q. Okay. Thank you for clarifying. On July 5th, 2023, can you
21 walk me through the activation of the CO2 system on that day?

22 A. So -- well, I was already on standby in the engine control
23 room waiting for further instructions when -- from the captain
24 when the captain called me and told me to go to the CO2 room to
25 prepare CO2 release into the affected area. That was around 2130

1 or 9 p.m. in the evening. So once I received the instruction from
2 the captain, that is by telephone, to go to the CO2 room, I
3 immediately ran together with the third engineer who is my
4 assistant at the time. We immediately went to the CO2 room and
5 from there, I tried to call the captain by telephone from the CO2
6 room, but we couldn't understand each other. He was receiving --
7 I can hear him answering the call but he can't answer me. He can
8 receive -- the captain cannot hear my voice. So I asked the third
9 engineer to go up to deck 5 and to relay the message from me by
10 radio to the third engineer in deck 5, and from there to the
11 captain on the bridge. So I just gave him instructions to the
12 third engineer that we are already here in the CO2 room and
13 awaiting for further instructions.

14 So the third engineer relayed that to the captain, and the
15 captain answered it by radio to the third engineer who also
16 relayed it to me in the CO2 room. We have to do this situation
17 because the CO2 is also part of the dead zone where communication
18 is not that good by radio. So when the captain knows that we are
19 in the CO2 room, we waited for his instructions to release and as
20 we are waiting, I can -- we can hear on the radio of the third
21 engineer that they were doing headcounts already. They were also
22 preparing doors to be closed and then when the captain gave
23 instructions to the third engineer which he later related to me
24 that we are to release the CO2.

25 Q. Do you remember the last time you used the phone in the CO2

1 room before the incident?

2 A. Yes, ma'am. We did -- we were doing like a month before, it
3 would be like June when we also had the CO2 release simulation and
4 also we did communications by telephone from the CO2 room to the
5 bridge and from the bridge to the CO2 room.

6 Q. Did you have any trouble during --

7 A. No.

8 Q. -- calls?

9 A. No, ma'am. We didn't have any problems with the telephone
10 that time.

11 Q. Okay. So, were there any problems releasing the CO2 on July
12 5th, 2023?

13 A. No, ma'am. We didn't have any problem with regards to
14 releasing the CO2.

15 Q. And I think you might have mentioned it earlier, but which
16 zone were you releasing on July 5th, 2023?

17 A. I was releasing CO2 into Zone C, that's Charlie, ma'am. Zone
18 Charlie.

19 Q. And I'm sorry to go back there, but the phone in the CO2
20 room, is that a sound-powered phone?

21 A. It's a telephone, ma'am. It's not a sound powered. It's a
22 typical normal telephone line.

23 Q. Okay. And you mentioned closing of doors. Were you made
24 away of any problems sealing CO2 protection Zone C, on July 5th,
25 2023?

1 A. No, ma'am. I wasn't aware of doors being not closed, ma'am.

2 Q. Did you receive any confirmation that the door was or had
3 been ordered to be closed?

4 A. I received only an instruction to release but any instruction
5 to close the doors, I did not receive anything from the captain,
6 ma'am.

7 Q. Earlier when we were talking about the system in general, you
8 talked about ventilation. What are the ventilation closure
9 procedures on board?

10 A. Well, there are actually two procedures which is different
11 from each other. One would be by manual closing this one. When
12 we say manual closing, the captain will have to push a pushbutton
13 in the bridge which will take off the breaker in the engine
14 control room thereby shutting down the extractors, ventilations
15 and the pumps -- I mean fans, for the fans itself.

16 So another method is when you open the CO2 door with the
17 cabinet, and when you pull out the pin of the Plexiglas, that's
18 when the automatic shutdown of ventilation and fans will occur,
19 ma'am.

20 Q. Okay. During your fire drills, was manual activation of the
21 -- that pushbutton on the bridge, was that part of the fire drills
22 at all?

23 A. Yes, ma'am. It is a part of the fire drill, and it is also
24 part of our routine task safety checks which we do every Saturday
25 that we do shutdowns and checks, safety checks Saturdays, ma'am.

1 Q. And on July 5th, 2023, was it manually activated for the
2 ventilation or was it through the CO2 system?

3 A. It was already manually activated. In fact, when I came down
4 to the engine room from my cabin, I already noticed that the fans
5 and the ventilators were already shut down, ma'am.

6 Q. Was that something you would expect to see when you went to
7 the engine room or was that different?

8 A. Well, I already expected that the captain will be shutting
9 down manually by pushing the emergency stop of the machineries,
10 ma'am.

11 Q. Are you aware if the ventilation was ever reactivated on July
12 5th, 2023?

13 A. That was already after I released the CO2, when the captain
14 already give instructions for me to go back to the engine control
15 room and reset the breakers for the ventilations and the fans,
16 ma'am.

17 Q. Do you recall about what time that was?

18 A. It will be like about 1 1/2 hour after I release the CO2. So
19 it will be like 9:30, 10:30 -- about 11 or about midnight, ma'am.

20 Q. Just going back to your actions on the evening of July 5th,
21 2023, after you released the CO2, what did you do next?

22 A. I was instructed to be on standby in the CO2 room, ma'am, and
23 my -- when the captain -- when I called him, informed him that the
24 main valve is already closed and he told me to -- I asked him if
25 he needs more CO2 into the affected area, and he told me, no, not

1 yet, just keep on standby in the CO2, and I will be giving you
2 instructions later on. And, he mentioned about some people are
3 missing in the cargo space.

4 Q. Were you ever made aware who those people were?

5 A. No, ma'am. I wasn't made aware, but I was just thinking at
6 that time, that it was one of our crew who were missing as they
7 were -- as they are supposed to do checks when -- after I released
8 the CO2.

9 Q. Did you ever leave that standby position for any reason?

10 A. No, ma'am. I kept CO2 room for -- at standby until I was
11 given the order to go back to the engine control room.

12 Q. Okay. When you got that order to go back to the engine
13 control room, do you know about how long that standby mode was?

14 A. Well, I was in the CO2 room for almost like 1 1/2 hours,
15 ma'am.

16 Q. Okay. And then you went to the engine control room and what
17 happened next?

18 A. When I went to the engine control room, I informed the
19 captain by telephone that I am already in the engine control room
20 and waiting further instructions. And he told me to switch on the
21 breakers for the ventilations and the fans which first I
22 questioned him why we have to start as I have just released CO2
23 into the system, and he told me that they have to look for the
24 people who are missing. And that's just the information that he
25 gave me, and he didn't give me any more details about it.

1 Q. Okay. And then did you comply with that request?

2 A. Yes, ma'am. I did comply, ma'am, but as they have to save
3 lives. So I have to save -- to start -- to switch on the
4 breakers, ma'am.

5 Q. Okay. And then what happened?

6 A. When I switched on the breaker, I was monitoring on the
7 computer on the engine control room of the -- you know, if it's
8 working properly. So I have an indication there where the red
9 which is closed will turn into a green position which means that
10 the ventilators are open or the dampers I mean are open. So once
11 I switch on the breaker, this one will automatically open the
12 dampers but not the fans. So when I was monitoring the dampers to
13 be opening, I also observed that fans in deck 10 were operated for
14 about 30 minutes, ma'am.

15 Q. And after that, what did you do next?

16 A. After that, I was still on standby in the engine control room
17 when the captain again called me up and asked if I can do
18 something about the door in deck 12 which -- the water tight door
19 in deck 12, that if I can close this one, and then I asked the
20 captain, you mean that this one is still open? And he said, yes,
21 that if there a way that we can close this one. And I said that
22 there is a way, but we have to try it first, if we can do
23 something about it. So he asked me to go up to deck 12 by the
24 stairs and then immediately when I was going up, that's where I
25 reached deck 12, and the captain gave me instructions of what to

1 do with the door that was left open in deck 12.

2 Q. And approximately how long when you were waiting on standby
3 in the engine control room after the fans were running on deck 10,
4 and then getting asked to go up and check on that door on deck 12,
5 about how long was that?

6 A. When going up to the stairs, ma'am, going up to deck 12 from
7 the engine control room? Well, it too me just about 5 minutes
8 going up to deck 12, ma'am. So --

9 Q. Once you arrived -- I'm sorry. Go ahead.

10 A. So when I arrived there, the captain gave me instructions to
11 discuss things with the -- I've already seen the -- the first time
12 to see firefighters from port -- from the port, are already in
13 deck 12, ma'am.

14 Q. And when you arrived on deck 12, what was the initial report
15 you received?

16 A. When I arrive in deck 12, the captain gave me -- told that
17 this one was -- they tried to close this door, the water tight
18 door in deck 12, but they can't close it. So I asked if --
19 immediately, I run, I check and inspected the situation and asked
20 for spare breathing apparatus or at least face mask so I --
21 because the smoke was too much to -- and the heat was also there.
22 And, I went asked firemen from -- I'm not sure if it's from New
23 York or New Jersey, asks their department there if they have some
24 spare breathing apparatus that I can borrow to go into the pilot
25 and do something with closing the doors. And then the captain --

1 I also gave instructions to the first engineer, I called my
2 engineers and the fitters if we can do something, if we can try to
3 unhook the pin because our priority is to unhook the pin which is
4 securing the door from the frame. And that way, we can manually
5 close the water tight door from the outside.

6 As I -- we were trying to operate the panel by manual
7 operate, operating the solenoid bulbs but the smoke and heat is
8 just too much for us as we don't have spare breathing apparatus
9 and face masks. At that time, they were already used up, ma'am.

10 Q. You said they were already -- the ship's breathing apparatus
11 were already in use and not available?

12 A. Yes, ma'am. They were already used up, ma'am.

13 LCDR MOORE: Lieutenant Reed, can you please pull up Coast
14 Guard Exhibit 8?

15 LT REED: Yes. Just one moment.

16 BY LCDR MOORE:

17 Q. And while he's pulling that up, you mentioned controls for
18 the door are inside the space. Are there controls for the door
19 anywhere else on the ship?

20 A. We have the controls for this certain door. It is only
21 located inside the ramp, ma'am.

22 Q. Were there other doors like this one on board the ship
23 anywhere else?

24 A. Like for this one, ma'am, we have doors on deck -- going to
25 deck 1 and 2, and doors going down to deck 3, 4 and 5, ma'am.

1 Q. And the other doors, are there multiple controls or only one?

2 A. For the other doors, ma'am, their control is basically just
3 within the vicinity of these doors, ma'am.

4 Q. Okay. And we have Coast Guard Exhibit 8 on the screen. Is
5 this photograph familiar to you?

6 A. Yes, ma'am.

7 Q. Can you tell us what this is?

8 A. This one is the water tight door going to -- when you go
9 down, it will be deck 11 but on this area, this one is already
10 deck 12, ma'am.

11 LCDR MOORE: Lieutenant Reed, can you scroll down to the
12 second photo a little bit?

13 CHIEF MANDAPAT: Yeah, that will be deck -- this deck will be
14 deck 12, and you open this door, it will go down to deck 11.

15 BY LCDR MOORE:

16 Q. And this door, are there requirements on when it can be
17 opened or closed?

18 A. Well, actually, ma'am, this door will be -- supposed to be
19 shut, closed, when the vessel is preparing to leave the port.
20 Once the vessel starts to sail and this one is open, it will give
21 an alarm to the bridge indicating that water tight doors are not
22 closed and once the captain changes the mode of the vessel from
23 sea to -- to sea -- from harbor to sea, and any water tight doors
24 that are open will give an alarm. So they should know that it
25 should be closed when going to sea and open when they will be

1 doing cargo operations, ma'am.

2 LCDR MOORE: Lieutenant Reed, can you scroll onto the next
3 page please?

4 BY LCDR MOORE:

5 Q. Is this the same door we've been speaking about? Can you go
6 back on the story from July 5th, 2023? You asked for the
7 breathing apparatus. One was not available, and you're discussing
8 with the shore firefighters and the crew of the ship on what to do
9 next. What happened after you realized there was no breathing
10 apparatus available?

11 A. So we were actually trying to pull out the pin. If you can
12 see on the -- from what I'm look -- it will be on the -- if you
13 see it by the ship, it will be the starboard frame or -- yeah, it
14 will be -- yeah. If that one is -- it will be the -- if you are
15 looking at this one, it will be right-hand corner, there will be
16 frame in the door on the other side. That frame has a hole where
17 the pin, locking pin of security -- of securing this door is
18 pushed in. So we have to pull out this pin in order for this door
19 to go down hydraulically, but since we cannot control this -- by
20 hydraulically -- by hydraulic. So what we did was we tried to
21 pull out the hydraulic hose connection on the cylinder so we can
22 jack out the pin on this door but what's happen is the weight of
23 this door is pinning down the pin which we cannot pull it out,
24 ma'am.

25 Q. And just for the record, using like left or right or up or

1 down, where is this pin on the photograph?

2 A. On the photograph, it is not indicated on this one, but you
3 can -- but once you get under this door, there should be a
4 cylinder there on both sides, and a pin connected to it which will
5 go into the frame of this door, ma'am.

6 Q. When you were discussing the pins, were you made aware of any
7 attempts that were made to close the door prior to your arrival?

8 A. Yes, ma'am. The captain told me that they tried to close the
9 door by the panel but they weren't successful in doing so. And so
10 did the other crew, that the boatswain also tried to close this
11 one but they were not able to close it, ma'am.

12 Q. Did you receive any reports of what the specific issue was in
13 getting the door closed?

14 A. No, ma'am. I didn't receive any issues as they were just
15 telling me that it's not closing. It's not closing.

16 Q. If there were problems with the door closing, would there be
17 any visual or audible indications that there was a problem?

18 A. It should be. It should indicate that a fault is on the
19 panel itself but when I was asking them if they see something
20 blinking or a red light, the boatswain and the captain were just
21 telling me that what was blinking was the red color -- the green
22 color, not the red color.

23 Q. And do you know what a blinking green light would indicate?

24 A. The blinking green light indicates that the pumps on the
25 power pack room is running, and it's blinking which means that

1 it's starting to prepare by itself. And once it stops to blink,
2 and it shows full green -- red -- green color, this would mean
3 that the pumps are already in use and hydraulic is already
4 circulating within the system.

5 Q. We have some VDR information and at some point, there's a
6 fault that appears for the door, a PLC-2. Are you aware what that
7 fault is?

8 A. At that time, ma'am, I wasn't aware that there was a PLC
9 fault on the system.

10 Q. But if you hear the term, PLC-2 fault, would that be
11 something you're familiar with?

12 A. Yes, ma'am.

13 Q. Can you explain what that fault would indicate?

14 A. PLC, it's process logic controller which means that there was
15 an interruption of the operating system whereby it could be
16 sensors were broken or -- and that the door cannot identify itself
17 by the sensor if it's open or if it's closed, ma'am.

18 LCDR MOORE: And, Lieutenant --

19 CHIEF MANDAPAT: So basically when the door is open, it
20 should indicate that the sensors are aligned in the open position,
21 but once this connection is broken, so it will just indicate that
22 there is a fault and that the system doesn't know if the door is
23 closed or if it's open. So a fault is there and you have to check
24 what is really the condition of the door, if it's really open or
25 if it's really closed, not unless you realign itself again. Then

1 the system will know that it's open. Then the logic is to -- the
2 process for it is to close the system or the door, ma'am. But if
3 it's not recognizing whether the door is open or closed, it cannot
4 work on whether it'll have to close it or open it up, ma'am.

5 LCDR MOORE: Thank you for that explanation.

6 Lieutenant Reed, you can pull down Exhibit 8 for the time
7 being.

8 BY LCDR MOORE:

9 Q. Prior to July 5th, 2023, were you aware of any problems with
10 the water tight door on deck 12?

11 A. No, ma'am. I was actually even talking with the chief mate
12 after every operation of the vessel when it comes to loading and
13 discharging, and if he encounters any problem with the ramps, the
14 doors or the double decks and he was telling me that everything is
15 okay except for some minor leaks on the hoses, hydraulic hoses
16 which we always replace it with new ones when we -- when there are
17 leaks that occur, ma'am.

18 Q. And AMOS, the maintenance system you spoke about earlier, was
19 all the maintenance for that door conducted prior to the fire?

20 A. As far as what I can see from the AMOS system, it was done
21 before I came on board, ma'am, and they actually did some tests on
22 the CO2 release considering it is partial or part of the securing
23 the CO2 release that all doors must be closed, ma'am. This was
24 done during the vessel's last dry dock, ma'am.

25 Q. Do you recall when that was?

1 A. Dry dock was done on the December of 2022 I think.

2 Q. And do you remember the last time the door was closed prior
3 to coming to Newark?

4 A. Yes, ma'am. The door was closed during cargo operations in
5 Baltimore.

6 Q. And on July 5th, 2023, were any other doors like this door
7 closed on the cargo decks prior to the water tight door on deck
8 12?

9 A. Yes, ma'am. Actually the door going out to the weather deck
10 was open and they were able to close it successfully. The door
11 going to deck 3, 4 and 5, which is same water tight door was also
12 closed successfully and also the door going down to deck 1 and 2
13 were closed successfully at the time, ma'am.

14 Q. And these other doors, are they on a different system than
15 the door on deck 12 or are they all sharing one common system?

16 A. They are all sharing one common system or one common power
17 pack for pumps and motors for all the doors, all water tight
18 doors, ma'am.

19 Q. Do you know what time those other doors were closed?

20 A. Well, I was going to the CO2 room. So I have to go outside
21 engine control room, going out by the stairs and going into the
22 rampway. That's when I noticed that they were already closing
23 water tight doors going to deck 1 and 2 and water tight doors on
24 deck 3, 4 and 5. And I already saw the water tight door in deck 6
25 which was already closed, ma'am.

1 Q. And at any point during your time on deck 12, was the door
2 able to be closed?

3 A. I beg your pardon, ma'am.

4 Q. When you were on deck 12, kind of troubleshooting the door to
5 get it closed, did it ever get closed?

6 A. When I was troubleshooting, we didn't -- we were not
7 successful in closing the door, ma'am.

8 Q. Were any other attempts made besides the interaction you
9 talked about with the pins? Was any other attempts made to either
10 close the door or seal it off in some other way?

11 A. Yes, ma'am. We -- the firefighters were putting a vinyl or a
12 tarp to cover this door, but the pressure of the air coming out
13 was just too much that it's just blowing it out, ma'am. And we
14 also tried to disconnect the cylinders hoping that we can jack out
15 the pins but it didn't work, ma'am.

16 Q. You mentioned a lot of parts and procedures. Is there a
17 document that tells you how to operate that door?

18 A. Yes, ma'am. By emergency, we can operate this one, ma'am,
19 but since the panel is inside the affected area, we tried to get
20 some breathing apparatus so we can go inside the ramp and operate
21 this one, but we didn't have any available breathing apparatus.
22 So we just can't go inside the ramp, ma'am.

23 Q. And does this -- do the doors on board have a manual to tell
24 you how to operate them?

25 A. Yes, ma'am.

1 LCDR MOORE: Lieutenant Reed, can you please pull up Coast
2 Guard Exhibit 10?

3 LT REED: Yes. One moment.

4 LCDR MOORE: You might have to zoom in just a little.

5 BY LCDR MOORE:

6 Q. Are you familiar with this document?

7 A. Yes, ma'am.

8 Q. Can you explain to us what this is?

9 A. So basically these doors have the same system, these three
10 doors, door 2-3, rampway door 3-6 and the door deck 6 -- I mean
11 there's four doors, rampway door deck 12, has basically one system
12 of operation and it's all the same. And operating this door is
13 that you have to just -- on the panel, operating panel itself. So
14 it will be a switch which you will operate to start the pumps, the
15 hydraulic pumps, and these pumps, once you push the button for
16 opening or closing, it will activate the cylinder, hydraulic
17 cylinders which will go to open or close the door. And, another
18 set of cylinders which will secure the door or this will be the
19 securing the clips or the pins for this system. So it says that
20 initially the door is moved approximately 100 millimeter clear of
21 the frame. So this one is what I was talking about, that we
22 cannot pull out this pin from the frame because the weight of the
23 door is pinning out -- down on the pin. So this why you have to
24 move it so that the door will be clear, the pin will be cleared of
25 the hole, and it can pull out the pin. And once this one is

1 pulled out, it will give an indication that pins or bolts or clips
2 are off. And this one will give an indication for the PLC to
3 start lowering or opening the door by itself, ma'am.

4 So when it comes to the emergency operation, so, you'll have
5 to do a portable hand pump if the pumps or the hydraulic pumps are
6 not working, but if it's working, you don't have this portable
7 hand pump, but you can you just activate this solenoid bulbs by
8 pushing the open position or the closed position. That way, you
9 are bypassing the automatic control. So it will be directly
10 activating on the bulbs. So when you push to open, you are
11 actually opening a certain ramp or a port hole that hydraulic will
12 be passing in pressurizing the cylinders to either close or open
13 the system. So.

14 Q. And this document says ramp 4A door deck 12. Is the same
15 we've been referring to, the water tight door 12?

16 A. Yes, ma'am.

17 LCDR MOORE: Lieutenant Reed, can you go to page 3 please?

18 BY LCDR MOORE:

19 Q. You spoke about a portable hand pump unit.

20 A. Yes, ma'am.

21 Q. Was there one available on the ship?

22 A. We have actually two available on the ship, ma'am.

23 Q. Were they something you considered using when the door would
24 not shut?

25 A. Yes, ma'am. We considered using this one. Actually we did

1 brought up one already in deck 12, but since we cannot go inside
2 the ramp where we have to connect the hoses externally because of
3 the smoke and the heat that was coming out of the ramp. So we
4 just have to -- and I also have the power packs are all running.
5 So I can -- you can sense that the hydraulic oil is running in the
6 system as they were able to close the water tight doors at 6 deck,
7 2-3 and on the deck 1 and -- 1 and 2, ma'am.

8 Q. So just to be clear, if you have the hand pump, you still
9 have to connect it inside the space to be able to use it?

10 A. Yes, ma'am.

11 LCDR MOORE: Okay. Lieutenant Reed, can you go to page --
12 I'm sorry. One minute.

13 BY LCDR MOORE:

14 Q. You talked about the solenoid valves and manipulating those
15 as a different emergency procedure. Those valves are also inside
16 the space for water tight door 12?

17 A. Yes, ma'am. They are inside the ramp, ma'am.

18 Q. Do you recall what color those valves are?

19 A. When we were receiving it, they were colored black and blue
20 and silver, like stainless steel, ma'am.

21 Q. Okay.

22 LCDR MOORE: All right. Lieutenant Reed, can you go to page
23 5 please? And just towards the bottom.

24 BY LCDR MOORE:

25 Q. Referring down to the bridge indicators, the indicators on

1 the bridge would show if they door's not closed. Is that correct?

2 A. Yes, ma'am. Red is not closed, ma'am.

3 Q. And that would be for water tight and weather tight doors or
4 is that different?

5 A. So it will be -- for the water tight doors, ma'am, including
6 the ramp itself, ma'am.

7 LCDR MOORE: Can you go to page 12 please?

8 BY LCDR MOORE:

9 Q. And you spoke about the solenoid valves for emergency
10 operation. Is this the emergency operation you were referring to
11 or is it different what's on the document?

12 A. This one is basically what we do when we use it for emergency
13 operation, ma'am.

14 Q. Did you ever practice or drill emergency operation of the
15 water tight door on deck 12?

16 A. No, ma'am. I never did drill or practice of operating the
17 emergency operation of these doors, ma'am.

18 LCDR MOORE: And then page 14.

19 BY LCDR MOORE:

20 Q. And I think you already clarified this for me but under
21 emergency operation, it talks about the portable hand pump and
22 being able to operate the door by external means, but to clarify
23 that, you still have to hook that portable hand pump up inside the
24 space to operate it?

25 A. Yes, ma'am.

1 Q. Okay.

2 LCDR MOORE: And then page 17.

3 BY LCDR MOORE:

4 Q. Earlier you were testifying about -- you were talking about a
5 green light, a blinking green light indicator. Would that be on
6 this operation panel?

7 A. Yes, ma'am.

8 Q. Can you tell which one of the lights you would expect when
9 you heard that there was a green flashing light?

10 A. So it will be on this green which we have the name ran (ph.)
11 on it, ma'am.

12 LCDR MOORE: Okay. The witness is referring to the first
13 green button on the middle row in the second column.

14 BY LCDR MOORE:

15 Q. If you had a PLC fault, would that indicate anywhere on this
16 panel or somewhere else?

17 A. Yes, ma'am. It will indicate here on the green or red, red
18 color fault. So it will also indicate other computer in the ramp
19 or hydraulic power pack room because there is an indication -- an
20 indicator lights on the panels which would indicate which one is
21 not working, ma'am.

22 Q. Would the bridge also receive an indication?

23 A. Yes, ma'am.

24 LCDR MOORE: Just for the record, the witness identified the
25 red indicator on the first row in the second column.

1 Okay. Lieutenant Reed, you can take down Coast Guard Exhibit
2 10. I'm just reviewing really quickly my notes.

3 BY LCDR MOORE:

4 Q. So just as the event unfolded on deck 12, were you told any
5 additional problems with the door prior to your arrival after
6 starting to discuss the actions that the crew took?

7 A. There was no problem with the doors at that time, ma'am.

8 Q. Okay. That is all the questions that I have for you at this
9 time. So I think I'm going to pass it over to Commander Barger.
10 I think we're going to short break before we move on to any other
11 follow-up questions.

12 CDR BARGER: Okay. Thank you, Lieutenant Commander Moore.

13 The hearing will now take a 5 minute recess. The time is now
14 9:26 p.m. Eastern Standard Time. We'll reconvene at 9:31 p.m.
15 Eastern Standard Time.

16 (Off the record at 9:26 p.m. EST.)

17 (On the record at 9:32 p.m. EST.)

18 CDR BARGER: The time is now 9:32 p.m. Eastern Standard Time,
19 and the hearing is now reconvened and back on the record regarding
20 the fire on board *Grande Costa D'Avorio*. This is a continuation
21 of Mr. Mandapat's testimony.

22 Mr. Mandapat, as a reminder, you're still under oath.

23 CHIEF MANDAPAT: Yes, sir.

24 CDR BARGER: And I will turn it back over to Lieutenant
25 Commander Moore.

1 LCDR MOORE: Thank you, Commander. I'm now going to go
2 around to the rest of the investigation team for any follow-up
3 questions. Commander Barger, do you have any questions for this
4 witness?

5 CDR BARGER: Yes. Thank you.

6 BY CDR BARGER:

7 Q. Mr. Mandapat, I appreciate all of the great information
8 you've provided us so far. I just have a couple of follow-up
9 questions to ask you.

10 A. Yes, sir.

11 Q. Mr. Mandapat, you mentioned on July 5th, 2023, while the ship
12 was in port, that you had some of your engineers doing maintenance
13 on it sounded like several different systems in the ship. Is that
14 correct?

15 A. Yes, sir.

16 Q. Was there any maintenance being done on the hydraulic door
17 system while in port that day?

18 A. No maintenance work carried out, sir.

19 Q. Okay. And to clarify, that includes any work on water tight
20 door number 12?

21 A. Yes, sir.

22 Q. And then with regards to that hydraulic system for the water
23 tight doors, we talked a little bit about what happens when
24 there's a fault in the system. So if there's a fault that occurs
25 with one of the doors, does that render the door inoperable or can

1 it still be used?

2 A. When the fault, like if it's open, and it can't be closed, we
3 still have other options where we can manually close this door as
4 well as when it's in open position, we can still have options to
5 manually open the door from using either the one that they have
6 shown with the cylinder valves where you have to push with your
7 pin with a pin or by the use of these external portable hand pump.

8 Q. Okay. And then you mentioned that the hydraulic doors and
9 the decks that can be hydraulically raised and lowered, all
10 operate off the same power pack.

11 A. Yes, sir.

12 Q. Is that correct?

13 A. Yes, sir. That is correct.

14 Q. Can multiple doors and decks be moved at the same time?

15 A. Actually they can be moved all at the same time but we prefer
16 to move it one-by-one so hydraulic pressure will not be
17 distributed all over the system.

18 Q. Okay. But it would be possible to operate more than one at
19 the same time?

20 A. Yes, sir. It would be possible.

21 Q. Okay. And if there is a fault or alarm related to the
22 operation of one of the water tight doors, you mentioned an alarm,
23 I believe you said in the hydraulic control room. Is that
24 correct?

25 A. Yes, sir. That's where the power pack is.

1 Q. Okay. Would you also hear the alarm in the engine control
2 room?

3 A. No, sir. It will be just a small LED light that would be
4 indicating -- it will be just blinking, no audible alarm, sir.

5 Q. Okay. And that blinking light, is that located on the power
6 pack control panel or is that something that is in the engine
7 control room itself?

8 A. That is in the power pack control itself, sir, on the power
9 pack panel board, sir.

10 Q. Okay. So if there were to have been a fault with the system
11 while you were in standby, either in the CO2 room or your time in
12 the engine control room, would that have been something that would
13 have come to your attention?

14 A. Not unless they will be informing me that they have a problem
15 with the door closing or opening or whatever it is. That's only
16 where we get information and we have to go to the power pack room
17 to see and check one is the problem and we have this red blinking
18 light is on.

19 Q. Okay. And do you have a member of the engineering staff
20 standby in the hydraulic room while a door is being operated?

21 A. During the time, no, sir.

22 Q. Okay. Switching then to the CO2 system, how often does that
23 low pressure CO2 system get inspected?

24 A. Well, we always do the -- the pressure is inspected by our
25 electrician every day. He has a log of it taking readings of the

1 pressure and operators (ph.) every day, and there is also a
2 monitor on the bridge. It's a mimic pressure gauge or pressure
3 indicating system where it is digital and what we have on the CO2
4 room is analog or it's just a -- you know, the pressure gauge that
5 we have with the dial. So that will be in the CO2 room, and on
6 the bridge will be a digital pressure transmitter. In the control
7 room, in the engine room, we don't have anything to monitor the
8 pressure of the CO2.

9 Q. And does the CO2 system ever get inspected by an external
10 party that tests the system in its operation?

11 A. Yes, sir. This one is usually done during dry dock of the
12 vessel or when they are replenishing the CO2 like the CO2 level
13 gets way, way down, that they have to refill it again with CO2.
14 That's the time that they do tests, external -- by external
15 companies. They do tests and check for leaks, why the quantity
16 has dropped to such a level. And they'll be reporting this one to
17 the company for the results that the external companies get.

18 Q. Okay. And did that ever occur while you were on board the
19 *Grande Costa D'Avorio*?

20 A. No, sir. It never occurred but from the turnover that the
21 former chief engineer gave to me, the former chief engineer
22 informed me that they were -- that the CO2 system was just
23 recently refilled during the vessel's last dry dock.

24 Q. Okay. And you mentioned, you mentioned that there's two
25 remote stations where CO2 can be released. I believe you

1 mentioned deck 12 can only release CO2 into the cargo spaces?

2 A. Into the cargo spaces. Yes, sir.

3 Q. Okay. And then the station that's located at deck 3, where
4 can --

5 A. Yes.

6 Q. -- that discharge CO2?

7 A. For the compartments on deck 3, it will be just discharging
8 CO2 into the engine room depart -- engine room spaces only.

9 Q. Okay. So the CO2 room, the control there is the only place
10 where you can discharge CO2 throughout the entire system?

11 A. Throughout the entire ship, sir.

12 Q. Okay. And then you mentioned that it was possible for a
13 second release of CO2.

14 A. Yes, sir.

15 Q. Could you describe how that would occur?

16 A. So this will be just basically I have a certain push button
17 on the pilot board of the CO2 where it says additional CO2. So I
18 will just have to push this one and the main valve that I
19 mentioned earlier which automatically closed when -- after an
20 elapsed time of 10 minutes. So I will have to push this button so
21 this valve, main valve will open also thereby releasing CO2 into
22 the affected area. As long as I push this button, it will keep
23 injecting CO2 into the affected area. Once I release this button,
24 this one will close the valve and stop discharging CO2 into the
25 area.

1 Q. Okay. And, how much CO2 is left in reserve after discharging
2 into Zone C for 10 minutes?

3 A. For 10 minutes, when I -- when I checked how much level was
4 remaining, I've seen 14 cubic meters of CO2 remaining on the tank
5 by the level itself.

6 Q. Okay. And by depressing that button, you could discharge all
7 of that remaining CO2 into the -- Zone C?

8 A. Yes, sir. By pressing this button, I can discharge all of
9 the remaining CO2 into the affected area, sir.

10 Q. And is it possible to discharge the extra CO2 from either of
11 those remote stations you described?

12 A. Yes, sir. They can also release it in deck 12, sir.

13 Q. Okay. And that would be the same procedure?

14 A. Yes, sir. Just pushbuttons, sir.

15 Q. Okay. And I believe you previously mentioned that you had
16 advised the captain that there could be a second CO2 release. Is
17 that correct?

18 A. Yes, sir. I asked if he wants to inject more CO2 into the
19 Zone Charlie or Zone C. And he just told me to -- no, no. We
20 have some person missing. Just keep on standby in the CO2 room.

21 Q. Okay. And was there ever another discussion on releasing
22 more CO2?

23 A. No more, sir. He didn't give me any more instructions for
24 releasing CO2, sir.

25 Q. Okay. And is it possible at all to connect a water supply to

1 the CO2 system piping so as to use that system as a sprinkler
2 system if you needed to?

3 A. Yes, sir. In fact, we have a connection for air. We have
4 connection for water to be injected into the affected area, sir.

5 Q. Okay.

6 A. And to be used as a sprinkler system.

7 Q. Okay. And can you describe how that process would work?

8 A. It would be basically the same thing. Only we will be
9 connecting the hose of the fire, fire hose into the main line and
10 then opening the valve of the fire hydrant going into the system
11 -- going into the CO2 line and going into the branch and spray
12 water into the affected area.

13 Q. Okay. And is there an existing connection for that to be
14 done or would piping have to be modified?

15 A. There is already an existing connection. We just need to
16 connect fire hose to it, sir.

17 Q. Okay. And if you needed to, would the water supply from the
18 ship's own fire pumps be sufficient to run through the system or
19 does it have to be shoreside?

20 A. It will be available by the power of the fire pumps on board,
21 and it can also be used shoreside fire hoses, sir.

22 Q. Okay. And was utilizing the system in that way with water
23 something that was ever discussed?

24 A. Yes, sir. I mentioned it to the captain that if he needs, we
25 can connect fire hose to the CO2 instead of injecting CO2 into the

1 system. This would serve as injecting water into the system, but
2 he mentioned it to -- we will still have to talk it over as we are
3 afraid for the stability, for the treatment stability of the rest
4 so that once we inject too much water into the cargo spaces, we
5 might list -- it might enhance the listing of the vessel, sir.

6 Q. Okay. And did you -- were you ever made aware of whether the
7 CO2 release appeared to be effective on suppressing the fire?

8 A. When I was injecting or I was on standby in the CO2 room, I
9 didn't have any information whether the fire was out or not. I
10 only had the information when I was going up into the bridge to
11 talk with the captain about the issue of this open water tight
12 door in deck 12, sir.

13 Q. And when you first got up to water tight -- or up to deck 12,
14 where you saw the water tight door, can you describe the
15 conditions at that door?

16 A. Well, the condition of the door was it was still open. Smoke
17 was coming out of the -- black smoke and heat was also coming out
18 of this open water tight door. So there was already -- the guys
19 were just keeping a fire wall of -- water wall -- I mean water
20 wall so as to prevent additional smoke or just to lessen the
21 exhaust of the gases as I have just injected the CO2 into the
22 cargo space.

23 Q. Okay. And can you describe how they were doing the water
24 wall?

25 A. Well, it was -- the fire hose or the -- the fire was -- the

1 hose was injected through -- it's like a stream or a fog system,
2 fog mode, where it doesn't have to be on the jet, but it's more on
3 the, you know, the fire that they have to do to pour it on the
4 door. So basically that's just what they were doing when I was
5 releasing the CO2.

6 Q. And you mentioned that you were made aware by the captain
7 that there was somebody missing in the cargo space. How long
8 after the discharge of CO2 were you made aware of that?

9 A. Well, actually when I started the CO2. So it took me 10
10 minutes for -- as per operation. It's 10 minutes time to
11 discharge, and then about -- after I reported to the captain that
12 the valve was automatically closed. So it's just about 5 minutes
13 that the -- I asked the captain if he wants more CO2 to be
14 released but he said, no, no, no, we have some persons missing in
15 the cargo space. So that's when I was thinking that probably some
16 crew who went inside to check if the fire was out or not was lost
17 or something happened with the crew that went to check in. So
18 that's just when I was aware that people are missing already.

19 Q. And then with regards to the ventilation system, you said you
20 -- when the master or the captain ordered you to, you reset the
21 breaker, and I believe you said that the dampers will reactivate
22 or open automatically. Is that correct?

23 A. Yes, sir. Once I reset the breakers to where -- to reach on
24 position.

25 Q. Okay. And then for the extractors, is that something that

1 has to be manually turned on?

2 A. Yes, sir. It will be turned on manually.

3 Q. And do you know by who?

4 A. By the captain or by the order of the captain to the relief
5 officers on the bridge, sir. The engine room doesn't have any
6 control of operating these dampers. It's only by the computers.

7 Q. Okay. And then is the -- once they're turned back on, is the
8 only way to turn off the ventilation, the pushbutton on the bridge
9 that you said then shuts off that break again?

10 A. Yeah. To turn off the fans, they can switch off on the
11 computer but if they want it to be shut down together with the
12 ventilation or with the dampers. So they will have to push this
13 emergency stop button, sir.

14 Q. Okay. And when the extractors or the ventilation is running,
15 is that something that you can see and monitor in the engine
16 control room?

17 A. Only it's like a view of the system in the computer, ship's
18 computer, but to operate it, it will be taking -- you have to ask
19 for the chief mate to send the control to the engine control room
20 so I can operate this.

21 Q. And after or once you've reset the breaker and then the
22 extractors or the ventilation was turned back on, do you know, was
23 it ever -- did the breaker ever trip again to where you had to
24 reset it?

25 A. Yes, sir. When I reset it on and then I was monitoring it on

1 the computer and the dampers are already opening up, turning into
2 green colors, and then when I saw the pumps were running,
3 ventilation fans or extractors were running, specifically in deck
4 10, and then after 30 minutes, the damper -- the circuit breakers
5 again were switched off, sir.

6 Q. Okay. And did you ever turn them on a second time?

7 A. No more, sir.

8 Q. Okay.

9 A. I just let it on the off position, sir.

10 Q. Okay. So just one time it was reset, ventilation was turned
11 on, and then it was shut off 30 minutes later?

12 A. Yes.

13 Q. Never cycled on and off?

14 A. No, sir.

15 Q. Mr. Mandapat, that's all the follow-up questions I have for
16 you. I'll turn it back to Lieutenant Commander Moore.

17 A. Thank you, sir.

18 Q. Thank you.

19 LCDR MOORE: Thank you, Commander. Lieutenant Reed, do you
20 have any questions for this witness?

21 LT REED: I do.

22 BY LT REED:

23 Q. Hi, Mr. Mandapat.

24 A. Hello, sir.

25 Q. I have just a few questions for you. Earlier when you were

1 talking about fire drills, you said that they were usually done at
2 sea. Have you ever done any fire drills in port or simulated for
3 in port?

4 A. No, sir. I never experience doing fire drills or simulations
5 in port, sir.

6 Q. Okay. The second question I have for you, you were talking
7 about it's your sole responsibility to activate the CO2 system.
8 Is there anybody else on the vessel that's trained to operate the
9 system?

10 A. Yes, sir. I have my second engineer or my first assistant
11 engineer knowledgeable of activating the CO2 system.

12 Q. Okay. Is there anybody else on the boat or is it just
13 primarily you and him?

14 A. It's -- basically it's me and him, sir.

15 Q. Okay. And then do you know how many cubic meters of CO2 were
16 dumped in the space initially during that 10 minute timeframe?

17 A. During the 10 minute time, the amount that was dumped into
18 the affected area was 20 tons or more or less 20 cubic meter.

19 Q. All right. That's all the questions I have for you. Thank
20 you very much.

21 A. Thank you, sir.

22 LCDR MOORE: Mr. Pittman, do you have any questions for this
23 witness?

24 MR. PITTMAN: I have no questions for the witness.

25 LCDR MOORE: Lieutenant Commander Ward, do you have any

1 questions for this witness?

2 LCDR WARD: I don't either. Thank you.

3 LCDR MOORE: Okay. Thank you. I'm going to pass to the
4 NTSB. Mr. Barnum, do you have any questions for this witness?

5 MR. BARNUM: Yes, I do.

6 BY MR. BARNUM:

7 Q. Chief Mandapat --

8 A. Yes, sir.

9 Q. -- you were talking earlier about the -- your resetting the
10 ventilation. And then earlier you were talking about how when you
11 release CO2 the procedure that you had to do. When you reset the
12 ventilation, did you have also reset anything in the CO2 room?
13 You discussed a pin that had to be removed that tripped
14 ventilation from there.

15 A. Yes, sir. When the captain told me to go to the CO2 room,
16 and I informed him that I will have to secure the CO2 first before
17 I reset the ventilation dampers. So I put everything back into
18 its -- I put the CO2 into the normal condition that it was prior
19 to releasing, and then I left the CO2 room and went back to the
20 engine control room and reset the breakers for the ventilation and
21 the dampers.

22 Q. Okay. Great. Thank you. And then the only other question I
23 had was on the exhibit.

24 MR. BARNUM: Lieutenant Reed, could you bring up Exhibit 8
25 please, page 4?

1 LT REED: Yes. One moment. I'll pull it up.

2 BY MR. BARNUM:

3 Q. So, Chief Mandapat, you said the captain asked you to go look
4 at the water tight door 12 at some point and see if you could
5 close it. Were you, were you actually, were you actually -- were
6 you able to see the control panel for water tight door 12?

7 A. From my point of view when I am still -- when I was outside,
8 I cannot see the panel by itself, but what I can see is just two
9 green lights.

10 Q. Okay. So this here is a picture of a similar control
11 panel --

12 A. Yes, sir.

13 Q. -- on a sister vessel. Is this similar to also the *Grande*
14 *Costa D'Avorio* setup?

15 A. Yes, sir. It's basically the same setup, sir.

16 Q. Okay. And the two green lights that you said that you saw,
17 would those also be similar to the ones indicated in this upper
18 picture?

19 A. Yes, sir.

20 Q. Okay. If the red -- you were talking earlier about the red
21 fault light. If the red fault light was illuminated, would you
22 expect to have seen it as well?

23 A. Yes, sir.

24 Q. Okay. And, just to be clear at any time a red fault light on
25 this panel?

1 A. Yes, sir. I did not see any red fault light during that
2 time, sir.

3 Q. Okay. And then you were also talking about the emergency
4 solenoids which are pictured. Could you tell me where they're
5 pictured in this picture?

6 A. Yes, sir. You can see here on -- from the drawing, on the
7 left -- if you are facing the panel, it's on the left side with
8 the blue colors. So the one in the middle is the white which is
9 an instruction of how to operate this one. And down the white
10 color is a black mechanism. So those are the solenoid valves
11 which have to be activated during emergency. And on the lower
12 portion are valves which are isolating valves which will go to the
13 cylinders and to the pins, sir.

14 Q. Okay. And did you or your crew make it in this far in order
15 to try to function these solenoid valves?

16 A. We tried, but we can't get near. Even though it's just a few
17 meters from the door, but it's really the smoke that is preventing
18 us from reaching this part of the ramp.

19 Q. Okay. So you were not able to actually manually try to shut
20 the --

21 A. No, sir. We didn't, we didn't. We were not able to do that
22 one, sir.

23 Q. Okay. And then just a final line here about the fault
24 indicator on this panel.

25 A. Yes, sir.

1 Q. I think you said earlier that you'd expect that fault light
2 to be illuminated if there is a PLC fault. Was that accurate?

3 A. Yes.

4 Q. What other faults would you expect that light to also be
5 illuminated? Is there some others that would illuminate that
6 light?

7 A. It could be the -- if you can see on the panel, it will be a
8 big red button on that one, on the right side.

9 Q. Um-hum.

10 A. That will be the emergency stop button.

11 Q. Okay.

12 A. So if this one is pressed or activated, it would also
13 indicate a fault, and it will also indicate on the bridge and in
14 the hydraulic control room panel, sir.

15 Q. Okay. Could a -- and you told us this initially I believe in
16 your initial interview, but just for the record here, if there is
17 an emergency pushbutton to press at another station, would it
18 indicate as a fault on this panel?

19 A. It would indicate whichever door was located with this
20 emergency stop button, sir. So, if like -- if it's activated in
21 deck 12, it should indicate in the mimic diagram in the bridge and
22 in the hydraulic control room that the emergency stop button for
23 deck 12 was activated. If it's in deck 6, it should indicate that
24 such pushbutton was activated in deck 6. So it will relate to
25 each -- its own door with its own emergency pushbutton.

1 Q. Okay. How about if the emergency pushbutton was depressed
2 locally at the pump unit, the HPU? Would that indicate on all the
3 panels of a fault?

4 A. Yes, sir. Actually we have an emergency stop button for
5 everything in the hydraulic control room panel. Once you press
6 this one, you cannot operate all doors and all the hoistable decks
7 and even the stern ramp cannot be operated once the emergency stop
8 button in the hydraulic room is activated.

9 Q. Okay. And so other possibilities of that red light,
10 obviously the communications between that HPU unit in the engine
11 room and this panel is hardwired. Would you expect to receive a
12 fault light if for some reason the wiring was interrupted between
13 the two units?

14 A. Yes, sir. I would expect that the fault will be coming from
15 deck 12 and there was break of communications from the HPU to the
16 PLC you need into the panels in the cargo -- hydraulic room, sir.

17 Q. Okay. And then I guess lastly, do you know where -- looking
18 at these photos here, on the bottom of the panel, there's three
19 groupings of wires that goes into a single wire run. Do you know
20 where that wire run leads? How does it --

21 A. Yes, sir. This wire will have to go down to deck 11, deck
22 12, and all the way until deck 6, but it will go down to the deck
23 5 outside. So it will just run down the middle, and it will go
24 aft to -- aft -- when I say aft, I hope you understand aft, that
25 it's going to the backside of the ship. So, it's -- basically

1 this wire will go down until deck 6 and to deck 5. One deck 6 and
2 deck 5, it will go to the rear of the vessel where it will go down
3 again in deck 5, going to deck 3 where the hydraulic control or
4 the power packs are located.

5 Q. From where it is right now, it's on the I guess outboard port
6 side.

7 A. Yeah.

8 Q. It goes directly down through 11, 10, 9, 8. It stays
9 relatively in the same right there or does it crossover midship to
10 the starboard side or another location?

11 A. No, sir. This one will go directly to -- until it reaches
12 the power pack whereas another set of control will be also coming
13 from deck 6 which will be already amid ship of the vessel, sir.

14 Q. Okay. Yep, understood. Thank you, Chief Mandapat. That's
15 all the questions I have.

16 A. Thank you, sir.

17 LCDR MOORE: Ms. McAtee, do you have any questions for this
18 witness?

19 MS. McATEE: I don't have any further questions. Thank you,
20 Chief.

21 CHIEF MANDAPAT: Thank you, ma'am.

22 LCDR MOORE: Commander, that's all the initial questions from
23 the investigation team.

24 CDR BARGER: Okay. Thank you.

25 BY CDR BARGER:

1 Q. And, Mr. Mandapat, just one last follow-up question related
2 to Mr. Barnum's last question there about that wire run.

3 A. Yes, sir.

4 Q. So it runs straight down the power side you said until you
5 get to deck 6. Where that wiring runs down through like deck 11
6 and deck 10, is it -- if there was a fire in those cargo spaces,
7 is that wire run exposed to the fire in the cargo space?

8 A. Yes, sir. The wire run is expected to fire if there will be
9 fire occurring in decks 6, 7, 8, 9, 10 and 11.

10 Q. Okay. So it's not protected in any way from being exposed to
11 or open to the garage areas, the cargo areas?

12 A. Yes, sir. It is open to the garage area, and it's just a
13 rubber sheathing or what we call a -- it's just a group of wires
14 that just passes through the decks.

15 Q. Okay.

16 A. No fire protection on this one, sir.

17 Q. Okay. Thank you.

18 CDR BARGER: Mr. Mandapat, the parties in interest will now
19 have an opportunity to ask questions as well. As we have done
20 with previous witnesses, in order to ensure equitable time and
21 opportunity for each party in interest to ask questions, each
22 party will have approximately 10 minutes for cross-examination
23 within the scope of the direct examination questions and relevant
24 to inform for the purpose of our investigation.

25 Grimaldi Deep Sea.

1 MR. LEVY: Commander, can I go last please? Did you hear me?

2 CDR BARGER: Yes.

3 MR. LEVY: May I go last please?

4 CDR BARGER: Yes, sir. That will be fine. Ports America.

5 MR. ZONGHETTI: Thank you.

6 BY MR. ZONGHETTI:

7 Q. Chief, I just have a few questions for you. Chief Mandapat,
8 I appreciate your testimony. The CO2 system that is aboard the
9 vessel specifically with respected to Zone C, is the amount of CO2
10 that is designed to be discharged on initial discharge calculated
11 to be discharged when the zone is sealed, meaning the weather
12 tight doors are all closed?

13 A. As per the amount of quantity that was discharged, it's not
14 as per the designed quantity to be discharged, sir.

15 Q. How do you know how much to discharge into a zone?

16 A. Well, the amount of CO2 to be discharged in a zone is stamped
17 on the tank. So I was expecting 30 cubic meters or 30 tons to be
18 discharged into the affected area as per on the stamped quantity,
19 but when I read the gauge, I just got 20 metric tons or 20 cubic
20 meters discharged into the affected area, sir.

21 Q. Do you know why that happened?

22 A. I have no idea of why it happened, but I have some theories
23 of the reason -- probably the reason why this one happened.

24 Q. And what do you believe the reason was?

25 A. There are a lot of factors. It could be level corrections,

1 when it's going down. Part of it would be going -- when the level
2 is going down, the pressure is decreasing and that level was
3 already not giving the correct quantity. Or, it could be some --
4 I don't want to speculate --

5 Q. Okay.

6 A. -- but just my theory. It will be just some pipes that are
7 clogged or somewhere else. I don't know.

8 Q. Okay. That's fine. But the system -- is the -- the system
9 is designed so that all the doors should be shut when the
10 discharge occurs so it's a sealed discharge. Is that correct?

11 A. Yes, sir. It's a sealed -- supposed to be a sealed
12 discharge, sir.

13 Q. If -- what time did -- were you called by the captain to go
14 up to deck 12 in order to see about closing that door up there,
15 the weather tight door?

16 A. I was called by the captain to check on the water tight door,
17 it was about almost like 2 or 3 in the morning already, sir.

18 Q. Okay. So the fire started about 9 o'clock in the evening on
19 the 5th, and you were not called up until 2 or 3 in the morning on
20 the 6th of July?

21 A. Yes, sir.

22 Q. After the order was given to seal the weather tight doors in
23 advance of the CO2 discharge, do you know if anyone from the
24 engineering department was called to deck 12 to see about closing
25 that door?

1 A. I only had the knowledge after the fire, when we were already
2 booked in the hotel that the captain asked the fire team number 2
3 to check which is composed of my second assistant -- my first
4 assistant engineer and the fitter. They were asked by the captain
5 to have a look at this water tight door as it was reported to him
6 that it was not yet closed.

7 Q. Do you know if they went inside this space at all?

8 A. I'm not sure. I have no idea.

9 Q. Okay. Anyone who would have gone in there, whether there was
10 a fault or an inability to close the door for any reason, anyone
11 who would have gone in there to close the door or to try to fix
12 any problem would have been closing the door and closing
13 themselves inside of the space where the fire was. Is that
14 correct?

15 A. Yes, sir. If you were able to close this door, you will
16 still be trapped inside the rampway going down to deck 11 where
17 you will get only exit at the door to deck 11.

18 Q. Have you served or do you know about Grimaldi vessels that
19 have controls for the weather tight door on the outside of the
20 fire space?

21 MR. LEVY: Objection. Beyond the scope.

22 LCDR WARD: Can you please clarify a little further than that
23 as far as why?

24 MR. ZONGHETTI: Me or Mr. Levy?

25 LCDR WARD: Mr. Levy.

1 MR. LEVY: Sorry. The Coast Guard and the NTSB have asked no
2 questions about what Grimaldi might have on other vessels. So
3 this is beyond the scope of the direct examination.

4 LCDR WARD: Mr. Zonghetti, do you have anything to --

5 MR. ZONGHETTI: One of the issues certainly here and what's
6 been asked about is, you know, why this door couldn't be closed,
7 and this witness has said he couldn't close it because he would
8 have walked into the fire zone where there was smoke and heat.
9 And certainly whether there are other designs particularly with
10 this owner is relevant to that issue or other designs available
11 period. And --

12 MR. LEVY: It is absolutely not relevant.

13 MR. ZONGHETTI: It certainly is relevant.

14 LCDR WARD: Okay. Excuse me. Excuse me. Excuse me. Can we
15 please one by one. It makes it really difficult to hear both of
16 you but also this is transcribed and I do think the objection is
17 sustained as far as asking his recollection of vessels outside of
18 this particular ship. It's not relevant for the purpose of this
19 witness.

20 BY MR. ZONGHETTI:

21 Q. Chief Engineer, would controls on outside of the fire zone
22 have alleviated the problems that were encountered in closing the
23 door on the day of the fire?

24 MR. LEVY: Objection. It calls for expert testimony.

25 MR. ZONGHETTI: He's an expert. He's the chief engineer on

1 the vessel.

2 MR. LEVY: No, no, no, he's not an expert on --

3 LCDR WARD: The objection's sustained. It's sustained.

4 BY MR. ZONGHETTI:

5 Q. Okay. One of the problems you had getting into the space
6 where the controls were was you couldn't get breathing apparatus.
7 Is there any ability to refill breathing apparatus on the vessel?

8 A. Yes, sir. We have ability to refill breathing apparatus on
9 the vessels.

10 Q. Where can you do that?

11 A. On the fire control station number 1, by the second officer,
12 sir.

13 Q. And what deck is that on?

14 A. Deck 12, sir.

15 Q. Do you know whether that was attempted to be done when you
16 were up there looking for breathing apparatus?

17 A. The second officer informed me that they tried to refill one
18 or two cylinders but it's taking them some time, sir.

19 Q. Whatever the fault was or whatever the problem closing the
20 door was, had there been controls on the outside, would you have
21 been able to clear a fault?

22 MR. LEVY: Objection. He's using the back door to this
23 issue. It's beyond the scope.

24 MR. ZONGHETTI: It's not beyond the scope. It's --

25 LCDR WARD: Are you asking -- you're asking for a

1 hypothetical scenario, and his take on that. Mr. Zonghetti, is
2 that the question you're proposing?

3 MR. ZONGHETTI: I'm asking if there had been -- okay. I'll
4 break it down.

5 BY MR. ZONGHETTI:

6 Q. You had the ability, sir, if you could have gotten into the
7 space to close that door, whether there was a fault due to the
8 emergency stop being pushed or whether there was a lack of
9 alignment in the sensors. Is that correct?

10 A. Yes, sir.

11 Q. So the problem was getting into that space where the controls
12 were because the fire was there?

13 A. Yes, sir.

14 MR. ZONGHETTI: That's all I have. Thank you.

15 CDR BARGER: Thank you. American Maritime Services.

16 MR. HONEA: Thank you.

17 BY MR. HONEA:

18 Q. Chief Mandapat, I'm a little confused on the amounts of CO2
19 we discussed. Can you tell me what was the capacity of the CO2
20 storage tank?

21 A. The capacity of the storage tank is 34 tons or 34 cubic
22 meters, sir.

23 Q. And then how much CO2 would be released for -- what was the
24 full amount of CO2 that would be released for Zone C?

25 A. For Zone C, it should have released more or less 30 or 29

1 cubic meters, sir.

2 Q. Okay. So of the total 34 tons, a full -- the full amount
3 required for Zone C was 30 tons. Is that right?

4 A. Yes, sir.

5 Q. Okay. But after you released CO2, how much CO2 was, in fact,
6 released?

7 A. In fact, as per the gauge that I've seen, there was only
8 about 20 tons or 20 cubic meters that were actually released into
9 the Zone C.

10 Q. So if that were accurate, then that would mean that roughly
11 2/3 of the required amount of CO2 was released?

12 A. Yes, sir.

13 Q. In addition, that 30 tons though is designated to be released
14 for Zone C, that also considers that all of the ventilation and
15 all of the water tight doors are closed as well, correct?

16 A. Yes, sir.

17 Q. And in this case, the door on deck 12 would not close,
18 correct?

19 A. Yes, sir.

20 Q. There was some discussion earlier about a PLC fault. Is that
21 a fault that would register on the alarm panel on the bridge or in
22 the engine room?

23 A. As per PLC fault, it would indicate only a fault on the
24 bridge on the mimic diagram. It's only a mimic diagram where you
25 see the vessel and it's just blinking the location. And on the

1 engine room, it is located in the power pack room where the panels
2 are there. And there you can isolate or you have a more detailed
3 description of the fault that was indicated.

4 Q. So a PLC fault for one of the water tight doors, are you
5 saying would result in a blinking light on the water tight door
6 panel?

7 A. Yes.

8 Q. Or is -- okay. Let's clarify. Is that on the water tight
9 door alarm panel or somewhere else on the bridge?

10 A. One will be on the lower side. So you will have a default
11 that should be lit. On the bridge, it will be just red -- small
12 red LED light on the mimic diagram. And in the hydraulic power
13 pack room, it will indicate a more detailed fault where it is
14 located.

15 Q. The PLC fault, as I understood it, means essentially that the
16 system doesn't know whether the door is opened or closed. Is that
17 right?

18 A. Yes, sir.

19 Q. All right. So to tell if the door is opened or closed, a
20 crewmember would have to physically view the door and then could
21 observe whether it was open or closed?

22 A. Yeah. If there was like a fault on this door, and then -- so
23 what happens is usually the deck department will be informing the
24 officers and the officers will be informing the engine room that
25 we have a fault on the doors or on the ramps or on the stern ramp

1 system or the hydraulic system. And that's where we just have to
2 go and investigate which is the problem and which is the best --
3 we can check if there was also this emergency stop pushbutton,
4 emergency stop was activated. And they'll just have to reactivate
5 the emergency stop and the fault will just go away or that there
6 was wire break. If it's wire break, it's a complex matter already
7 that I have to call the electrician, do troubleshooting and
8 everything. And then when it comes to sensor breaks, it'll just
9 be checking, visually checking if we have the magnets and the
10 solenoids are not aligned, that's why it's giving a fault and it's
11 indicating that the pins are not secured or the doors are not open
12 or the doors are closed.

13 Q. So one possible cause of the PLC fault could be that the
14 emergency stop button was depressed. Is that right?

15 A. It's a possibility, sir.

16 Q. And if that were the case, to correct it, one would have to
17 simply pull the button back out, to pull the depressed button out?

18 A. Pull the button back out, yes, sir.

19 Q. And if that were the cause, that would clear the fault. Is
20 that correct?

21 A. Yes, sir.

22 Q. Okay. And that type of emergency stop button is found on the
23 control panel for the water tight doors. Is that right?

24 A. Yes, sir. For every water tight door, we have their own
25 individual emergency stop push button.

1 Q. Okay. There's some talk also about the location of the
2 cabling that leads from the control panel for the water tight door
3 on deck 12 and how it proceeds to the power pack room. Do you
4 recall that testimony?

5 A. Yes, sir.

6 Q. Is it right, I understood you to say, the cables from the
7 control panel for water tight door number 12 run directly down to
8 deck 6 on the portside, correct?

9 A. Yes, sir.

10 Q. Based on it's location on the ramp, are you familiar with the
11 location of the ramps on deck 11 and deck 10? Would that cabling
12 essentially run directly next to the ramps on those subsequent
13 decks as we go down?

14 A. Yes, sir. There are --

15 Q. Go ahead.

16 A. The cabling on the ramp will be running from deck 11, deck 10
17 but it will be on the rear side or on the back side of the vessel,
18 sir.

19 Q. Right. But -- so if someone were standing at the top of the
20 ramp at deck 10, that cabling would be running right next to them
21 down the side of the ship. Is that right?

22 A. Down the side of the ship, yes, sir.

23 Q. Okay. I believe those are all my questions. Thank you, sir.

24 A. Thank you, sir.

25 CDR BARGER: Thank you. Port Authority of New York-New

1 Jersey.

2 BY MR. KIM:

3 Q. Hi, Chief Mandapat.

4 A. Hello, sir.

5 Q. I just have a few questions for you.

6 A. Yes, sir.

7 Q. So you mentioned that the ship had two portable hand pumps
8 that might be used if the water tight door couldn't be closed.

9 A. Yes, sir.

10 Q. Could you describe how those would be used?

11 A. We have -- this will be composed of a solenoid -- same
12 solenoid bulb as installed on the panels, but this one will just
13 have two external hoses which will be connected to the in and the
14 out of these solenoid bulbs. So when we connect this one, and we
15 want to open the door, so we have to shift the lever to the in
16 hydraulic hose and then we have to pump, pump hydraulic oil
17 manually to pressurize the cylinder. And when this cylinder is
18 pressurized, you will have to still push the pin so it will go
19 into the local cylinder that will be opening or closing or pulling
20 out the pin or putting in the pin. So when you're -- I'll give an
21 example. Like when you were closing this door, so I will be
22 putting in my hydraulic hoses into the pin first. So the pin and
23 I will be pumping in so the pin will extract from the frame and it
24 will be free. The door will be free from the frame itself. So
25 once the cylinders are already extracted and the pin is already

1 free from the door, I will have to pull out the hydraulic
2 cylinders again, shift it to the hydraulic cylinders that will
3 open and close the door.

4 Q. Okay. What is the length of the hose that you need to
5 connect to the solenoid valve?

6 A. It's like a quick -- it's only a quick clipping hose. It's a
7 pin where you just have to push it in, and twist it to lock it
8 into position.

9 Q. Okay.

10 A. So that's just it. And then you just have to pump and push
11 the pin so the hydraulic oil will flow into the cylinder and push
12 the piston of the cylinder to close and the remaining hydraulics
13 on the exhaust side, on the other side, will exhaust thereby not
14 reducing pressure on both ends of the cylinder. So it's like
15 pushing in here and exhausting the other. So when you want to
16 open, you have to push here and then exhaust on the other side
17 also.

18 Q. Okay.

19 A. So it's basically just a play (ph.) of in and out of the
20 hydraulic cylinder into the system. So when you -- what we were
21 trying to do is we were trying to get access to this connection
22 where we can connect this hydraulics and hoses but we just can't
23 reach it even though it's just near. With no available facemask
24 and breathing apparatus, we -- it's hard to reach that very short
25 distance.

1 Q. Where -- could you tell me where exactly that needed to be
2 connected to?

3 A. It's just from the drawing that they showed a while ago, it's
4 the -- you can see the panel is direct -- that is directly on the
5 panel and on the left side is the blue hydraulic connection.

6 Q. Okay.

7 A. So that is where we can connect the portable hose -- portable
8 hand pump.

9 Q. You're referring to the blue panel, those pictured on Exhibit
10 8 before?

11 A. Yes.

12 Q. Next to the control panel?

13 A. Yeah, yeah.

14 Q. Okay. So you described that you and another engineer spent
15 some time with a few firefighters trying to manually close that
16 door by knocking out pins. Is that right?

17 A. Yeah, yeah.

18 Q. And how long were you doing that for?

19 A. Almost like 30 minutes.

20 Q. Thirty minutes?

21 A. Yeah. We did -- the ones who were working were basically the
22 firefighters, not our firefighters but port firefighters because
23 they have their own breathing apparatus but still, the weight of
24 the door is just too heavy, and we even tried to, you know, jack
25 it up with a jack so I can just -- we can just push this door up a

1 little bit, but to free the cylinders or the pins because we
2 already disconnected the hydraulic line on this one. So once we
3 pushed the pin inside, it will just spill hydraulic oil into the
4 outside, you know, area. So -- but then the weight of this door
5 is just too heavy that the pin cannot be extracted manually.

6 Q. So how many firefighters were you working with at that time?

7 A. There were three people, three firefighters. Two were
8 interchanging with each other, and the other one was holding the
9 stepladder. So --

10 Q. Okay.

11 A. -- probably four firefighters.

12 Q. And during that process, did you ever mention to them that
13 this door can maybe closed by going to the solenoid panel?

14 A. No, I never -- I didn't mention it to them.

15 Q. Okay. Do you know why --

16 A. But I was, I was trying to borrow some portable fire
17 breathing apparatus from them so I could personally go and see
18 what's wrong with the panel or I can personally go and close this
19 one.

20 Q. Um-hum.

21 A. My plan was to close it halfway through and then I'd go out
22 on the same deck, not go down where the fire is. We'll just have
23 to close it halfway, and then just release the hydraulic oil or
24 take out the hydraulic hoses so it will -- the door will just
25 close by gravity from itself. So it will just go like this with

1 no more hydraulic pressure preventing the door from opening, but
2 it didn't materialize because, you know, I -- we -- I was informed
3 that they'll be sending some breathing apparatus but we waited but
4 no breathing apparatus arrived unfortunately.

5 Q. Okay. And you said after that, the firefighters tried to
6 seal the door with some kind of tarp --

7 A. Yeah.

8 Q. -- but that wasn't working either, right. Okay.

9 A. It's not working also. So we even -- they even tried to put
10 some ropes around the tarp to hold it in position but it's not
11 working.

12 Q. Okay. You mentioned that the CO2 system, it can also be used
13 using the ship's fire pumps as a fire sprinkler system. Is that
14 right?

15 A. Right, right. Yes, sir.

16 Q. Okay.

17 A. The fire sprinkler system, sir.

18 Q. Okay. And you said that you mentioned to the captain as
19 well?

20 A. Yes, sir.

21 Q. And do you remember exactly at what point in time you told
22 him that?

23 A. That's when he called me up to -- and asked me if we -- they
24 have -- we have -- how much is remaining on the CO2, and if I ask
25 him if I -- he wants me to add more. And then when -- after that,

1 he said just a moment. I'm just recalling this one. Just a
2 moment. There is somebody missing. And then when they started to
3 do the ventilation, fire was out again and they were doing
4 firefighting. And that's when I said we can use -- because we
5 don't have enough, you know, for CO2 to inject into the entire
6 Zone C. So it's just basically what's left in the tank. So I ask
7 -- I suggested that if in case we don't have CO2 any more, we can
8 use fire hydrant or fire hoses to connect into the CO2 line to
9 work as a sprinkler, but he said that we will be injecting -- we
10 might be injecting too much water which would affected the
11 treatment stability of the vessel.

12 Q. Okay.

13 A. So it will be like more or less but more -- past midnight
14 already if I'm not -- I'm not sure what time is it, but it's past
15 midnight already.

16 Q. Do you remember if it was after the ventilation was turned on
17 and then turned off or before then?

18 A. It was when the fire reignited already. It was already after
19 the ventilation was turned off.

20 Q. Okay. So sometime -- it's fair to say sometime after the
21 ventilation was turned back off and before you went up to try to
22 shut the door?

23 A. Yes.

24 Q. Okay. Thank you. Okay, Chief. That's all the questions
25 that I have for you.

1 A. Thank you, sir.

2 Q. Thank you.

3 CDR BARGER: Okay. Thank you. The City of Newark.

4 MR. LIPSHUTZ: Thank you very much. I don't have any
5 questions. Thank you.

6 CDR BARGER: Thank you. And Grimaldi.

7 BY MR. LEVY:

8 Q. Chief Mandapat --

9 A. Yes, sir.

10 Q. -- let me ask you just a few questions if I could because I'm
11 confused about the chronology of what's happened. First, as I
12 understand it, after the fire started around 9 o'clock, you went
13 down to the engine room. Is that right?

14 A. Yes, sir.

15 Q. And then sometime after that, did -- the captain then ask you
16 to go to the CO2 room to prepare to release the CO2. Is that
17 right?

18 A. Yes, sir.

19 Q. And about how long between after the fire started did you get
20 to the CO2 room if you can remember? About how long?

21 A. Because I stayed, it took me more or less about 3 minutes to
22 go down to the -- 3 minutes -- 20 -- 10 minutes. From the fire --
23 the start of the fire until I went to the control -- to the CO2
24 room, it took me about -- it took about less than 30 minutes.

25 Q. Okay. So then once in the CO2 room, the captain authorized

1 you to release the CO2 into Zone C. Is that right?

2 A. Yes, sir.

3 Q. And you did that?

4 A. Yes, sir.

5 Q. And I understand from your testimony that when you opened the

6 valves to release the CO2 into the Zone C, there's a time that's

7 set in the mechanism of releasing the CO2 that goes for 10 minutes

8 in releasing CO2. Do you follow me?

9 A. Yes, sir. Yes, sir.

10 Q. Is that correct?

11 A. Yes, sir. That's correct, sir.

12 Q. Okay. So when you opened the valves, all the valves you need

13 to open and finally, you know, open the release the CO2, the

14 system will release CO2 for 10 minutes.

15 A. For 10 minutes.

16 Q. Is that correct?

17 A. Yes, sir. That is correct.

18 Q. Okay. And the quantity that you expected to be released into

19 that zone was 29 to 30 tons?

20 A. Yes, sir. That is what I expected, sir.

21 Q. Okay. And after you released the CO2 and after the 10

22 minutes went by, you looked at the gauge and the gauge showed that

23 only 20 tons had been released. Is that your testimony?

24 A. Yes, sir.

25 Q. Okay. So, you must have been sitting there scratching your

1 head saying what's going on here because you expected 30 tons and
2 the gauge was only showing 20 tons. Did the gauge ever change
3 over time? Did it show that more got released?

4 A. No, sir. I was monitoring the gauge as it was going down,
5 but when 10 minutes was past, it only showed around 14 tons
6 remaining. So I expected it to be more or less -- more.

7 Q. Right. But I'm talking about after that. After that first
8 release of the CO2, did you later look at the gauge, and did that
9 gauge show that more CO2 had been released, or that there was less
10 CO2 left in the tank?

11 A. Well, I double check it after some time before I left when
12 the captain told me to go to the engine control room. I double
13 check the level, and it's still the same, sir.

14 Q. Okay. Did -- was there a time when you double checked it and
15 you found that it had dropped to only 10 tons?

16 A. Yes, sir. That was already way after the fire when we were
17 already back on the ship and monitoring everything for
18 preparations for towing. That -- the quantity of the CO2
19 remaining in the tank has become less --

20 Q. Okay.

21 A. -- than I was observing before.

22 Q. So, what -- tell us about this gauge that you were looking
23 at. Is it a dial gauge?

24 A. No, sir. It is a magnetic level gauge whereby this works in
25 the form of a magnet which a certain flow is connected where the

1 level is and it floats at the level of the liquid inside the tank
2 goes up, this one will also magnetize the flaps, and it will
3 indicate which level it is. So when it's going down, so this flow
4 will also go down and whatever the level the liquid is in that
5 position, it will magnetize the flap and there is these two
6 colors, white and red. So when it's white, it means that it's the
7 empty space and the red is the level of the liquid.

8 Q. Okay. So have you done anything to check whether that gauge
9 is accurate?

10 A. I didn't check whether this one is accurate.

11 Q. Okay.

12 A. But from, but from previous readings of the electrician, this
13 level gauge coincides with the digital. This one is two separate
14 measuring devices. From the bridge, we have the digital level
15 transmitter which coincides the same with the one on this level
16 gauge, sir.

17 Q. Okay. But you -- when you were looking at the gauge, you
18 didn't go up to the bridge and look at the bridge there, did you?

19 A. No, I did not check it any more.

20 Q. Okay. And in any event, in any event, you called the captain
21 and said, do you want me to release more CO2?

22 A. Yes, sir.

23 Q. And you did that while you were in the CO2 room?

24 A. In the CO2 room, sir.

25 Q. And is that when he told you the people are missing and he

1 did not -- or one person was missing and he did not want to
2 release the CO2 at that time?

3 A. Yes, sir.

4 Q. Okay.

5 A. I ask him if he want to release more CO2 or what is remaining
6 because I have more CO2 inside the tank, and he said, no way, just
7 keep on standby as --

8 Q. Okay.

9 A. -- people are missing in the cargo space.

10 Q. Okay. When did you learn, if ever, that the missing people
11 were firefighters?

12 A. It was already after the incident when we were already
13 abandoning the vessel that I heard some sort of a talk between the
14 chief mate and the -- it's just a verbal message that I heard like
15 they were talking about the two firefighters they recovered were
16 already dead or some sort.

17 Q. Let me ask you this. When you got up to deck 12, the captain
18 called you up to deck 12, whether that was a couple of hours or
19 more after the fire started, was it after midnight that you were
20 called up there?

21 A. After midnight, sir.

22 Q. Okay. And when you got up there at midnight or sometime
23 after midnight, were there any firefighters? Did you see any
24 firefighters bodies removed from the vessel?

25 A. No, I didn't notice firefighters being removed from the

1 vessel, sir.

2 Q. So do you think that they -- if there were firefighters lost
3 which we know there were, that they were removed from the vessel
4 before you got to deck 12?

5 A. Yes, sir, from what I know.

6 Q. Okay. And so all this effort that you put into trying to
7 close the door to deck 12, that all occurred after the
8 firefighters had removed the two missing firefighters from the
9 ship?

10 A. That is when the captain already shut off the ventilations
11 and I was asked to do something about -- when fire was reignited,
12 and I was asked to do something about this open water tight door.

13 Q. Okay. So last questions here deal with the green lights that
14 you saw on the panel. Now, first off, again if you saw them on
15 the panel, it must have been after midnight.

16 A. Yes, sir.

17 Q. Okay. And the ship's logs would show when the fault light
18 went off, wouldn't they?

19 A. It should be, sir. Yes.

20 Q. Yeah, it should be on the vessel data recorder, right?

21 A. It should. Yes, sir.

22 Q. Okay. So when you went and saw -- looked in there if there
23 was green lights and no red light, why could -- why did the door
24 not close then?

25 A. It's only my opinion, sir. From -- could be that this red

1 fault, it could be that this indication that a lamp was busted.

2 So it's not indicating any fault.

3 Q. So it was broken by that point in time?

4 A. Probably it must have been broken in that point of time, and
5 that is why they were not getting -- they can see that it's all
6 green. It's all normal. So they were trying to operate it but
7 it's not work when, in fact, it has been -- it was already
8 deactivated by the fault.

9 Q. I see.

10 LCDR MOORE: Can you clarify with that answer whether you
11 know that or you were speculating that that's the case?

12 CHIEF MANDAPAT: I'm just, you know, I'm just telling that I
13 was speculating.

14 LCDR MOORE: Okay. Thank you.

15 BY MR. LEVY:

16 Q. Okay. You haven't done any analysis of the control panel
17 that got burned in the fire to see if that told us anything about
18 when the fault light came on, how it -- why it came on, things
19 like that?

20 A. Yes.

21 Q. That's correct. You haven't done that.

22 A. I haven't. It was all just trying to close the door --

23 Q. Okay.

24 A. -- in an emergency.

25 Q. Okay.

1 CDR BARGER: And, Mr. Levy, just one last question.

2 MR. LEVY: Yeah. Chief Engineer Mandapat, thank you very
3 much.

4 CHIEF MANDAPAT: Thank you, sir.

5 MR. LEVY: And it's Mandapat. Mandapat.

6 CDR BARGER: Thank you. Do any of the members of the
7 investigation team have any additional follow-up questions?

8 MR. BARNUM: Yes, sir. I have one question.

9 CDR BARGER: Okay.

10 REDIRECT EXAMINATION

11 BY MR. BARNUM:

12 Q. Chief Mandapat, Bart Barnum, NTSB. Just one follow-on
13 question from Mr. Levy regarding the level indication on the CO2
14 tank. You were saying that -- you were describing the type of
15 level indicator. I'm also very familiar with those level
16 indicators. Do you know if -- were you -- when you were observing
17 the level after the CO2 release, did it require any manual
18 encouragement? Did you, did you bang the level indicator at all
19 to see if the level changed or were you just looking at it?

20 A. I was just looking at it, and I can already see as the CO2
21 was releasing, the level was also going down, but then it stopped
22 at this certain point when the valve closed automatically after 10
23 minutes, and the level was just there. And, we tried to look at
24 it after already when the fire was already out or after a few more
25 days when we were already back on the vessel. We tried to, you

1 know, bang it, if it's working properly, and it still going up,
2 going down but it's still in this 14 ton level. After a few days,
3 it just started to drop slowly going down, down, until what's
4 remaining of it was like less than 10 or about 4 cubic meters or 4
5 tons remaining.

6 Q. Okay.

7 A. That's when the temperature was also going up already.

8 Q. Okay. So you didn't bang it the night of the fire but a
9 couple of days later, you banged it, and it was still at 14.

10 A. Yes, sir.

11 Q. And several days later, that's when you saw it was down to 4?

12 A. Yes, sir.

13 Q. Okay. Thank you for that clarification.

14 MR. BARNUM: That's all the questions I had.

15 CDR BARGER: Thank you. Do any of the other members of the
16 investigation team have any follow-up questions?

17 (No response.)

18 CDR BARGER: Okay. None heard, Mr. Mandapat, that ends the
19 interview today. I want to thank you for your testimony. You are
20 subject to recall, and the sequestration order remains in place
21 until released by me, and you will be notified by Lieutenant Reed,
22 our recorder, once you are released from the proceedings. So
23 thank you very much, sir.

24 CHIEF MANDAPAT: Thank you.

25 CDR BARGER: And the time is now 10:52 p.m. Eastern Standard

1 Time. The hearing will remain in recess pending scheduling of
2 additional virtual testimony.

3 CHIEF MANDAPAT: Yes, sir.

4 CDR BARGER: We will now end the recording.

5 CHIEF MANDAPAT: Sir, just a quick question about the -- I
6 will be --

7 (Whereupon, at 10:52 p.m., the hearing in the above entitled
8 matter was recessed pending scheduling of additional virtual
9 testimony.)
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

CERTIFICATE

This is to certify that the attached proceeding before the
NATIONAL TRANSPORTATION SAFETY BOARD

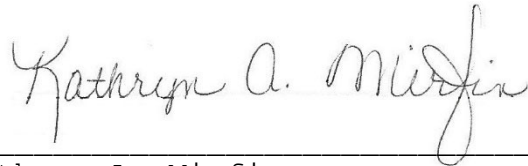
IN THE MATTER OF: FIRE ABOARD *GRANDE COSTA D'AVORIO*
AT BERTH 16 IN THE PORT OF NEWARK
IN NEWARK, NEW JERSEY ON JULY 5, 2023
Interview of Renato Mandapat

ACCIDENT NO.: DCA23FM039

PLACE: via Microsoft Teams

DATE: February 22, 2024

was held according to the record, and that this is the original,
complete, true and accurate transcript which has been transcribed
to the best of my skill and ability.



Kathryn A. Mirfin
Transcriber