NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF MARINE SAFETY

SUBJECT: Major Marine Accident, DCA 03 MM 032, Investigation Interviews

DATE OF INTERVIEW: Monday, June 2, 2003

INTERVIEWEE: Dan Arte Fleseland
Sr. 1st Engineer, SS Norway

INTERVIEWERS: Tom Roth-Roffy, NTSB
Brian Curtis, NTSB
Ken Olsen, USCG
Steve Cmar, NCL
Chris Oelschlegel, USCG
Chris, Foong, NCL
Carlos Paillacar, USCG

P R O C E E D I N G

(2:45 p.m.)

MR. ROTH-ROFFY: Good afternoon. The time is about fourteen forty-five, the date is the 2nd of June, 2003, and we called 1st Engineer Dan Fleseland back again to ask him a couple more questions.

We appreciate you coming back and talking with us. We'd like to see if we can get anymore information from you regarding the maintenance of the boilers, if you could help us with that. I know we kind of asked that pretty extensively last time we talked to you, but, I think, we're going to be just a little more focused this time.

Again, could you remind us how long you've been on board the Norway, when you first come on board.

MR. FLESELAND: I come on board January of 1999.

MR. ROTH-ROFFY: January?

MR. FLESELAND: 1999.

MR. ROTH-ROFFY: 1999, and that was as a 2nd Engineer, is that correct?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: This is your first time as a 1st Engineer, Sr. 1st Engineer, correct?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: Okay. We were wondering about some of the maintenance on the steam drums and the water drums and water wall headers, if you recall, from the time you were on board, what sort of repairs, welding repairs, might have been done to those headers and drums. Do you recall any such work being done?

MR. FLESELAND: Only that they have done some plugging inside the drum.

MR. ROTH-ROFFY: You don't -- do you have a recollection of ever seeing a welder doing any type of repairs, either a contractor or a ship's welder or anything like that on the boilers?

MR. FLESELAND: No.

MR. ROTH-ROFFY: Okay. Do you recall any other engineers talking about any kind of repairs to the drums or the headers?

MR. FLESELAND: No.

MR. ROTH-ROFFY: Something that's still not clear in my mind is the maintenance, the repair maintenance and whether you log that in the AMOS or not. Could you tell me about that again, so maybe I can understand it now? If something breaks down --

MR. FLESELAND: I have not done any logging of any of the pipes that have broken.

MR. ROTH-ROFFY: Okay, but other repairs to

other equipment? If the day workers or the watch engineer works on something and does an unscheduled repair --

MR. FLESELAND: Then the junior 1st he's writing everything down in this book.

MR. ROTH-ROFFY: Okay.

MR. FLESELAND: So, if it is something makes the job done, I also have this weekly maintenance report. I print out and I have it in one folder in my office and it is also has been signed off to -- David, and I also know that day again, David made it to superintendent.

MR. ROTH-ROFFY: Okay, so you prepare this weekly record, repairs, whatever, and you send it to the Staff Chief?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: Okay, but do you enter in AMOS? Do you put in AMOS repairs?

MR. FLESELAND: -- this kind of jobs.

MR. ROTH-ROFFY: I'm sorry?

MR. FLESELAND: No, I --

MR. ROTH-ROFFY: Not repairs?

MR. FLESELAND: No.

MR. ROTH-ROFFY: Okay. All right. That's all I have. Brian?

MR. CURTIS: Once again, I think we went through this in your last interview, but regarding make-up feed, did anybody notify you that as of late they have been consuming more make-up feed for the boilers in the recent past?

MR. FLESELAND: No. I don't know what normal is.

MR. CURTIS: That's all I have. Thank you.

MR. OLSEN: Hi. You said you were on board in 1999. You mentioned that there was some work done, some plugging done, but did that involve the lower drum? The boiler drum, the lower drum?

MR. FLESELAND: Not to that boiler, but we have done plugging between the ventilating tubes, not the drum, the stream drum.

MR. OLSEN: The stream drum.

MR. FLESELAND: I know before the accident we had some plugging of Boiler twenty-one, between headers and stream drum.

MR. OLSEN: Well, tell us about that. When you plugged them, what kind of testing did you do afterwards?

MR. FLESELAND: We fill up the boiler with distillates.

MR. OLSEN: Uh-huh.

MR. FLESELAND: And then we take the pressure up to, it depends, fifty kilos or something.

MR. OLSEN: About fifty kilos, and what's the operating pressure, sixty?

MR. FLESELAND: Yeah.

MR. OLSEN: You only take it up to fifty to see if it's tight?

MR. FLESELAND: Well, I can't say that we do that every time, but I remember last time we took it up to fifty.

MR. OLSEN: Yeah.

MR. FLESELAND: If you have a leak, you will see it long time before you --

MR. OLSEN: Have you ever taken it up to ninety?

MR. FLESELAND: No.

MR. OLSEN: Or -- I'm trying to do math here.

MR. CURTIS: Seventy-five.

MR. OLSEN: Seventy-five?

MR. FLESELAND: No.

MR. OLSEN: Do you ever recall any surveyors coming on board and observing a test that came up to seventy-five?

MR. FLESELAND: I know that there have been -- this -- has been on board.

MR. OLSEN: Uh-huh.

MR. FLESELAND: And done, when the boiler was online, they have taken the pressure up so they can test all the safety valves.

MR. OLSEN: Uh-huh.

MR. FLESELAND: But almost that is -- I don't know.

MR. OLSEN: You haven't seen them do a hydro above the operating pressure then?

MR. FLESELAND: I can't say how much they had that time because I had nothing to do with it.

MR OLSEN: Okay. Okay. When you plugged the tubes, did the ship's crew do it or did a shore gang do it?

MR. FLESELAND: Ship's crew.

MR. OLSEN: Ship's crew. And who would be involved in that process? What engineers?

MR. FLESELAND: Mostly the junior 1st and Nicolaisen, the second engineer in the boiler room.

MR. OLSEN: Is that --

MR. FLESELAND: My assistant.

MR. OLSEN: Nicolaisen. So, if there was a significant problem, it would be the junior 1st and Nicolaisen that should know about it?

MR. FLESELAND: Yeah, but like I say, when

they do the pressure testing, then I also having a look.

MR. OLSEN: Yeah.

MR. FLESELAND: If they tell me there's a leak, then I have to go inside and have a look also.

MR. OLSEN: Yeah, and from what you recall, even in these other boilers, was it a generating tube leak or a ford tube or a rear wall tube, what kind of tube leaks were you having?

MR. FLESELAND: Generating tubes and there also have been the ford, before this accident, mostly of the super heaters have been plugging down.

MR. OLSEN: Generator and superheated?

MR. FLESELAND: Yes.

MR. OLSEN: Have you ever become aware, on any boiler, any of the drums, the lower drum, the mud drum and the stream drum, any of the drums, have you heard of or know of any types of cracking, micro-cracking or thermal-cracking?

MR. FLESELAND: No.

MR. OLSEN: No. Do you -- have you ever heard anyone talk of extensive welding along the seams of the --

MR. FLESELAND: No.

MR. OLSEN: -- drums?

MR. FLESELAND: No.

MR. OLSEN: No. Okay, who might know something about that?

MR. FLESELAND: That must be the people who have been there a long time.

MR. OLSEN: Yeah.

MR. FLESELAND: Like the senior officers.

MR. OLSEN: Who?

MR. FLESELAND: Senior 1st, junior 1st, chief engineers.

MR. OLSEN: Yeah. Is there anyone on board -- who's been on board the longest that might know those types of answers? Maybe got back to '95.

MR. FLESELAND: That is -- and Anvik. They maybe know. I don't know.

MR. OLSEN: What was the first name?

MR. FLESELAND: Anvik -- the first name Bjoern. Bjoern Anvik, and -- they may know something. I have not been --

MR. OLSEN: Okay. No one ever discussed cracks of any kind in the boiler drums, is that correct, that you know of?

MR. FLESELAND: I don't know about anything about any discussion.

MR. OLSEN: Okay. Have you ever -- are you

aware of any time a vendor has been called out to work on the steam system, whether it's boiler drums or main steam line, has there been any vendors, contractors, that may have come out on board the ship to do work?

MR. FLESELAND: On the drums?

MR. OLSEN: Anything. Anything steam.

MR. FLESELAND: Yeah, we had -- in -- we had one man from Norse Diesel who was there doing some retubing of super heaters of Boiler twenty-four and also Sheba Engineering have done some -- they have -- at least Boiler twenty-four and twenty-two.

MR. OLSEN: Are there any other companies that might be used to do boiler work besides Norse Diesel or Sheba Engineering?

MR. FLESELAND: Before it was this -- in 1999 dock and Harrison Pipe --

MR. OLSEN: Could you say that slowly?

MR. FLESELAND: Harrison pipe.

MR. OLSEN: Harrison pipe.

INTERVIEWING MEMBER: Harispie, actually.

MR. FLESELAND: Harispie, okay.

MR. OLSEN: Harispie, H-A-R-I-S-P-I-E, something like that?

MR. FLESELAND: Yes.

MR. OLSEN: And where were they used?

MR. FLESELAND: That was at least they took Boiler twenty-two.

MR. OLSEN: Uh-huh.

MR. FLESELAND: Ventilating tubes. I can't remember if they did any super heaters, but I remember they did -- that was in '99 -- I noticed they had been on board before I started in the company.

MR. OLSEN: Uh-huh. They were used before. And where are they located? In what city?

MR. FLESELAND: I think it is England someplace.

MR. OLSEN: Have you ever seen any specialized testing of work done, beyond a hydro test?

MR. FLESELAND: No.

MR. OLSEN: Have you ever seen them do an X-ray or --

MR. FLESELAND: NO.

MR. OLSEN: -- a dye penetrant testing?

MR. FLESELAND: No.

MR. OLSEN: -- flux?

MR. FLESELAND: No.

MR. OLSEN: Okay. These weekly maintenance reports that you -- would a copy of the weekly maintenance report be found in the engine office on B Deck?

MR. FLESELAND: Yes.

MR. OLSEN: Would receipts from some of these vendors maybe, these contractors that you mentioned, would they also be found in the engine office on B Deck?

MR. FLESELAND: I don't know. I don't have them. I think it must be the Chief Engineer.

MR. OLSEN: Chief Engineer. Does the Chief Engineer work out of that -- is that really his office, the engine office?

MR. FLESELAND: He has one on the Olympic Deck.

MR. OLSEN: And what do you call that office?

MR. FLESELAND: Chief Engineer Office.

MR. OLSEN: Okay. Duh. I'm sorry. So we have two main offices where we keep stuff; the engine office on B Deck and the Chief Engineer's Office and that's up by his room?

MR. FLESELAND: Yes.

MR. OLSEN: Okay.

MR. FLESELAND: Closest cabin on Olympic Deck.

MR. OLSEN: Are you the person who puts the boiler -- I know you said you put systems online and do that, but do you put the boiler online?

MR. FLESELAND: No.

MR. OLSEN: No.

MR. FLESELAND: Before, when I was 2nd, if I was on watch --

MR. OLSEN: Uh-huh.

MR. FLESELAND: -- in and out.

MR. OLSEN: Yeah. Did you ever have --

MR. FLESELAND: It depends which watch was done at that time.

MR. OLSEN: Which watch, which 2nd engineer watch would have the responsibility for the boiler? Do you know what I mean?

MR. FLESELAND: Like, say before, when we mostly had two and three boiler online, like after that or during the standby, say from St. Thomas, then the watch team it was done -- that's four to eight watch. They are putting that boiler online and if they maintain the speed up to the -- okay, and it is normally the eight to twelve watch. Sometimes also twelve to four watch which are taking that boiler out-of-line again.

MR. OLSEN: Okay, different watches would --

MR. FLESELAND: Yeah. You can say mostly everybody is involved because every four weeks, you're changing watch.

MR. OLSEN: Okay. During that process, the 2nd engineer on watch would be in charge of bringing the boiler up and putting it online?

MR. FLESELAND: Yes.

MR. OLSEN: Have you ever, as 1st engineer, as Sr. 1st Engineer, have you ever had concerns on how often those boilers were heated up and cooled down?

MR. FLESELAND: Yes.

MR. OLSEN: What were your concerns? Was it too quickly? Too slow?

MR. FLESELAND: No, but like before when I was in -- sometime the boiler was online for more than two years.

MR. OLSEN: Uh-huh.

MR. FLESELAND: And now it’s in and out very often and you see also sometime -- what you call -- the sedimentary --

INTERVIEWING MEMBER: Sediment?

MR. FLESELAND: Yeah -- sometime it fall off, so you’d have to reboot it. Every time one boiler is offline, they used to check it.

MR. OLSEN: Uh-huh.

MR. FLESELAND: Taking -- I guess, have a look in the front wall.

MR. OLSEN: Is it correct then, to think

that perhaps they light off and shut down the boiler too many times? Too often? A little bit?

MR. FLESELAND: Yeah.

MR. OLSEN: What happens when you do that? What are some of the -- well, what could happen? Is it thermal stress? What could happen if you do that? What's the danger, I guess, is the question? I'm sorry.

MR. FLESELAND: I can't say -- because heat up and cool down so many times, but I don't know. I think about -- how would you say -- what did you call -- thermal --

MR. OLSEN: Thermal expansion, contraction?

MR. FLESELAND: I have not think about -- what I think about is stress, you can say.

MR. OLSEN: Yeah.

MR. FLESELAND: To metal, but I never thought about anything like this could happen.

MR. OLSEN: Yeah. I sort of asked this in another question earlier, but did any other engineers at your level express concern over the way they operated the boilers; up and down and up and down? Did any of the other engineers feel the same way, generally?

MR. FLESELAND: Yes.

MR. OLSEN: Yeah.

MR. FLESELAND: Because it mostly makes more work for us, then we have leaks.

MR. OLSEN: Yeah, the -- expand and crack?

MR. FLESELAND: Mostly, the pipes, in the -- pipes, super heater pipes.

MR. OLSEN: Now, did you shut the boiler down because of saving fuel?

MR. FLESELAND: Yes.

MR. OLSEN: That was the procedure?

MR. FLESELAND: Yes.

MR. OLSEN: I saw signs in the control room that talk about keeping minimum, excess air to save fuel?

MR. FLESELAND: Yes.

MR. OLSEN: How -- your super heat temperature, how was it low or was it normal, or was normal low?

MR. FLESELAND: Do you mean when we are on low firing?

MR. OLSEN: No, generally. General super heat --

MR. FLESELAND: -- you use to maintain just below 490 degrees something.

MR. OLSEN: Four ninety?

MR. FLESELAND: Four eighty, I think it is.

MR. OLSEN: Four eighty c?

MR. FLESELAND: Four eighty or four, yeah, four eighty.

MR. OLSEN: Do you know at what temperature your high temperature super heater alarm went off?

MR. FLESELAND: Four ninety, just over four ninety, I think. I can't say -- did you say when it went off?

MR. OLSEN: Yeah, the alarm sounded. What was --

MR. FLESELAND: -- the alarm go off again or when did it go on?

MR. OLSEN: Just first time it sounds. At what temperature is your high super heat alarm temperature?

MR. FLESELAND: Four eighty-six, four eighty-eight. I can't say --

MR. OLSEN: Okay.

MR. FLESELAND: -- I also don't know if it is set in the monitor safe or boiler, I can't say.

MR. OLSEN: Yeah, it might vary on the setting.

MR. FLESELAND: But it should be set.

MR. OLSEN: With the frequent lighting off

and securing boilers, did you feel confident that the other engineers adequately knew of the safety issues and the precautions necessary or did you have some engineers that you may have felt a little uneasy about?

MR. FLESELAND: Yes, some more than this.

MR. OLSEN: Has or were any of those engineers fired because of their inability to properly operate the boilers?

MR. FLESELAND: If I feel that somebody don't know it good enough, then I'll also not allow them to do it. That also being -- then -- like this three months I've been around they have not been taking out, so -- of course, we have them nearly three online.

MR. OLSEN: Excuse me? You have them --

MR. FLESELAND: We have nearly three boiler online --

MR. OLSEN: All the time?

MR. FLESELAND: -- all the time. For these three last months.

MR. OLSEN: Did the schedule change and is that the reason why you have to have them on the line?

MR. FLESELAND: When I come back from vacation, there was a problem with the generator, mach seventy, so it was --

MR. OLSEN: I see.

MR. FLESELAND: -- that's why I need some extra steam for turbine generator.

MR. OLSEN: I see. Has there been any times where the fact that they were on the line presented a problem because it wanted to get into the boiler to do work or shut it down?

MR. FLESELAND: No.

MR. OLSEN: Okay. I think I'm good for now.

MR. OELSCHLEGEL: Yes. Chris Oelschlegel. I had one question. When you have a maintenance item that you thought was beyond a regular ship's force maintenance that you thought is something that should be done in the shipyard, was there a procedure, or did you have input on writing shipyard specifications?

MR. FLESELAND: No.

MR. OELSCHLEGEL: No. Okay. That's all I had. Thank you.

MR. CMAR: I don't have any questions.

MR. ROTH-ROFFY: I'd like to follow up on what Ken Olsen was asking about the boilers, cutting them in and out. You said that, since you've been back, this trip, which is I believe ten weeks, are you ready to go on vacation now?

MR. FLESELAND: Yeah, I was supposed to go the same day as --

MR. ROTH-ROFFY: Okay, so, for the past ten weeks, you've been running three boilers, but the time, your previous contract, you were cutting them in and out and I think you described to us how you were doing that every trip you would go down, you would leave Miami with two boilers?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: And then at some point you would light off a third boiler and steamed Miami on three boilers?

MR. FLESELAND: No, to Bahamas.

MR. ROTH-ROFFY: To Bahamas, and then would you go back to two boilers?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: So, each time you would leave with two boilers, go to three boilers, go back down to two boilers each trip, each seven days, and how did you select which boiler would be shut off? Did you have some kind of a strict rotation system to equalize hours or how did you do that?

MR. FLESELAND: No, that is -- if they -- normally, they have three thousand hours routine leave in the boiler room and they would try to take it out and do some repair with this -- for example, first they clean, wash the boiler, and then they normally have

to do some more in Miami, so it depends on what kind of a decision they -- like you know if you have -- if you have to take a three thousand hour routine, then you would have to take out that boiler.

MR. ROTH-ROFFY: Did you try to equalize hours so that -- what did you -- stagger them so, you know, you would be able to plan for your three thousand hour -- did you have some kind of a schedule like that?

MR. FLESELAND: No.

MR. ROTH-ROFFY: Who determined which boiler to shut off after you left Miami, I mean, after -- no, you left Miami with two boilers, who determined which boiler to start up, to light off? Was that your guidance?

MR. FLESELAND: No, it's not me, but from before we, when I was 2nd Engineer, and I come on watch, and I know that one boiler should be out or in. It was normally the man who had the boiler, his assistant.

MR. ROTH-ROFFY: Okay, so --

MR. FLESELAND: And also sometime the Chief Engineer also write it in this one book he has in columns for night totals.

MR. ROTH-ROFFY: Okay, so the Chief --

MR. FLESELAND: If I come on watch and

I did not know whose boiler it was, then I always checked there, in that book.

MR. ROTH-ROFFY: Okay, so the Chief Engineer wrote night orders every night or was it the 1st Engineer?

MR. FLESELAND: No, not every night, but he did, for example, every night before -- if he had a standby the next morning, he would write down.

MR. ROTH-ROFFY: Okay, and that night order book, is it a thick log book, handwritten or is it a computer --

MR. FLESELAND: Handwritten.

MR. ROTH-ROFFY: Okay.

MR. FLESELAND: Thick like this.

MR. ROTH-ROFFY: Okay, that’s about an inch thick, just for the record or twenty five, two point five four centimeters. And where is that book kept? Is it kept in the Chief’s office or down in the control room?

MR. FLESELAND: Down in the control room.

MR. ROTH-ROFFY: Okay.

MR. FLESELAND: On top of the -- drawer.

MR. ROTH-ROFFY: Now, please describe the procedure that you have used in starting up a boiler. Say you’re on watch and you knew that you had a to

start up a boiler, the third boiler say, would you describe the warm-up procedure that you used to use when you were sailing 2nd and junior on your watch? You know, the firing, cutting in and --

MR. FLESELAND: It is the stoker who's actually doing it.

MR. ROTH-ROFFY: Right.

MR. FLESELAND: Like firing -- normally, say, if it was on my watch, we have to put it online. They would have started with this in the morning. So, if there was, say, I come on watch at four o'clock, we had maybe already -- so we use to put it online after we start sailing. Say like, when the steam front needs more steam, slowly, slowly, put it online, say around when we have it around seventy rpm.

MR. ROTH-ROFFY: Okay. Could you describe in more detail -- well, maybe start this way -- if you needed a boiler by a certain time, when would you start firing it? When would you start warming it up or when would you begin warming it up?

MR. FLESELAND: It was the same every week. Today they start in the morning around eight o'clock.

MR. ROTH-ROFFY: They will start around eight o'clock in the morning firing it and then --

MR. FLESELAND: It also depends for how long

time it had been out, but, normally, around eight o'clock.

MR. ROTH-ROFFY: Okay. Yeah, say it hadn't been out, hadn't been water-washed and there was no refractory work that had to be dried out, say it had been shut down the week before, it would start firing around eight o'clock and then --

MR. FLESELAND: Maybe a little -- I can't just know to say six o'clock --

MR. ROTH-ROFFY: On the eight to twelve watch.

MR. FLESELAND: -- or eight o'clock. Sometime also like they, say, the man at the boiler, he may have some tests maybe already in the evening, just so that he know that there's not any problem.

MR. ROTH-ROFFY: Right.

MR. FLESELAND: So that is already ready for lighting.

MR. ROTH-ROFFY: At sometime early in the morning, six or eight o'clock in the morning --

MR. FLESELAND: Eight o'clock they would normally start.

MR. ROTH-ROFFY: They would put fire in there and they would start it firing. Would they fire it continuously?

MR. FLESELAND: Oh, no.

MR. ROTH-ROFFY: Would they stop and start the fire?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: Do you know what type of schedule they had for starting and stopping a fire?

MR. FLESELAND: I can't say exactly how many minutes, around five minutes -- five -- how long it's out. In the beginning, maybe it is around -- I'm not sure how long the time they -- they stop.

MR. ROTH-ROFFY: Okay. You're not trying to just --

MR. FLESELAND: In the beginning.

MR. ROTH-ROFFY: -- remember something that

MR. FLESELAND: I would say everything was written down in that log book that they have, the stokers, just exactly how minute in and out.

MR. ROTH-ROFFY: You don't remember?

MR. FLESELAND: Not -- I can't say how long they do in the beginning, I don't know.

MR. ROTH-ROFFY: Okay, and when you would come on watch, you had the twelve to four watch? You said it was already twenty kilos.

MR. FLESELAND: If I come on watch four to eight.

MR. ROTH-ROFFY: Oh, four to eight, it already had twenty kilos.

MR. FLESELAND: And the ten to four watch, maybe it's slower -- start to rise past -- in the end of ten to four watch.

MR. ROTH-ROFFY: About twenty kilos. And then, how much further would you fire it on the --

MR. FLESELAND: Four to eight watch?

MR. ROTH-ROFFY: Yeah.

MR. FLESELAND: Let's say -- around, say, standby then they may have already forty-five kilo, and then they slowly take it up. It depends how long time. Sometimes the ship is delayed. Sometimes so many passengers coming back really late, so it depends it has to take an extra trip. That also happens sometimes. So I can't say exactly.

MR. ROTH-ROFFY: I'm just -- I appreciate you being patient with me, but I was just trying to get an idea of how quickly you raised it from cold, you know, up to full pressure. Was it about twelve hours?

MR. FLESELAND: No, it's --

MR. ROTH-ROFFY: From the time they loaded off until the time it was put online.

MR. FLESELAND: --on line?

MR. ROTH-ROFFY: Pardon me?

MR. FLESELAND: You mean from the start of lighting to when they put it online?

MR. ROTH-ROFFY: Right.

MR. FLESELAND: Say eight, ten hours.

MR. ROTH-ROFFY: Okay. So, if they started at eight in the morning, four in the afternoon, you would put it online?

MR. FLESELAND: Six.

MR. ROTH-ROFFY: Six o'clock?

MR. FLESELAND: Around six.

MR. ROTH-ROFFY: Around six in the evening, you would put in online, and that was for arrival to?

MR. FLESELAND: To start sailing, to raise it okay.

MR. ROTH-ROFFY: I'm sorry?

MR. FLESELAND: When we leave St. Thomas, for example.

MR. ROTH-ROFFY: Okay.

MR. FLESELAND: But no one has the most to have the boiler all the time when standby is now around four o'clock from St. Thomas.

MR. ROTH-ROFFY: Okay, and you would leave St. Thomas with three boilers and you were steamed to Bermuda with three boilers?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: And when you left Bermuda, would you go -- or arrival --

MR. FLESELAND: Two boilers?

MR. ROTH-ROFFY: Okay, and then, how would you cool that boiler off? What was your procedure? Would you just bottle it up or would you leave the vents open for a time or how would you do that?

MR. FLESELAND: They dry -- say like the funnel vent, it's open to we come down to fifty-five kilos.

MR. ROTH-ROFFY: So you leave the funnel vent open until it came down to fifty-five kilos?

MR. FLESELAND: Yes, approximately fifty-five, and then, all the dryness open. So slowly the boiler will pour out the steam, but they maintain the water level.

MR. ROTH-ROFFY: Right.

MR. FLESELAND: Also, they have -- blow down after they take the boiler offline.

MR. ROTH-ROFFY: They've given a bottom blow?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: Every time they took it off they would bottom blow it?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: So about how long would it take for the steam pressure to drop down to zero?

MR. FLESELAND: That depends on what's the -- say at least two hours. Do you mean before it is totally zero?

MR. ROTH-ROFFY: Right.

MR. FLESELAND: At least two hours.

MR. ROTH-ROFFY: Two hours?

MR. FLESELAND: At least.

MR. ROTH-ROFFY: So then, when you left Bermuda, the boiler would be off, and from Bermuda did you go to Miami?

MR. FLESELAND: With two boilers.

MR. ROTH-ROFFY: With two boilers, okay. And was that the normal way you cooled it down, or did it vary?

MR. FLESELAND: -- to keep one of the forced draft fans running.

MR. ROTH-ROFFY: To help cool it down a little bit?

MR. FLESELAND: Yeah.

MR. ROTH-ROFFY: Did they run it on low speed or high speed or do you remember? The forced draft fan?

MR. FLESELAND: They take it down to twenty-five percent.

MR. ROTH-ROFFY: I'm sorry? Twenty-five percent on the forced draft fan?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: Damper position?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: Was it one fan or two fans running? The upper and lower or just the lower?

MR. FLESELAND: You have always one fan running. If they open up on the inside, then they have to stop it, but so long as the boiler, you can say our standby, there's always one fan running.

MR. ROTH-ROFFY: And the drum vent, did you open that before it got to zero or not? Was that something you normally did? I mean, if you already drained it through the drains, it's probably --

MR. FLESELAND: No. I never opened it.

MR. ROTH-ROFFY: Never opened --

MR. FLESELAND: No. Only the drain.

MR. ROTH-ROFFY: And which drains was it? Super heater drains?

MR. FLESELAND: All of them.

MR. ROTH-ROFFY: All of the drains you had opened up?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: And the fan, you said you ran it at twenty-five percent. Is that as soon as you put the fires out and purged it out, would you start the fan on it or did you start the fan later?

MR. FLESELAND: The fan's running all the time.

MR. ROTH-ROFFY: Running all the time. So, as soon as the fire is --

MR. FLESELAND: Is out, you take it down to twenty, twenty-five.

MR. ROTH-ROFFY: Okay, Dan, I think -- Brian Curtis.

MR. CURTIS: Dan, you mentioned that you had concerns with the frequency of the boiler being brought up and down, and you mentioned that you've spoken with others regarding this, that they had concerns as well. Was that this trip?

MR. FLESELAND: When you -- been some plugging, you can say leak, I don't feel that is normally, but the boiler is not new. It's old. So you can see how that was more maintenance than normally.

MR. CURTIS: Right. And because of your concerns, did you speak with your superiors regarding this matter?

MR. FLESELAND: No.

MR. CURTIS: The stoker book, is that the book that's kept in the --

MR. FLESELAND: Telephone --

MR. CURTIS: -- telephone --

MR. FLESELAND: Yes.

MR. CURTIS: And what information is held in that? What information would be written in that book?

MR. FLESELAND: Say when they start lighting, when they put boiler online, offline, bottom blow, things like that. Every watch write what they had wrong.

MR. CURTIS: Did every watch use that same book or did each watch have their own book?

MR. FLESELAND: Same book. Also, tey would say if they cleaned the fuel -- filter like they do, like they did one times a week.

MR. CURTIS: That's all I have. Thank you, Dan.

MR. OLSEN: I just want to touch back on Tom so I get it clear. When you secured the boiler, did you always drain them out? Was that more the routine draining them out completely or did you just blow it down some, but still keep water in the glass? How high was the water level when it was completely secured and

there was no pressure, how high was --

MR. FLESELAND: Normal level.

MR. OLSEN: Normal water level?

MR. FLESELAND: Yes.

MR. OLSEN: But the fan was running?

MR. FLESELAND: Yes.

MR. OLSEN: But the fan was kept on. Okay, that's clear. Who sets the procedures for securing the boiler? Who's in charge of those procedures?

MR. FLESELAND: It's something they have done since they buy the ship.

MR. OLSEN: Yeah.

MR. FLESELAND: Because the routine was -- he was already there when I come so.

MR. OLSEN: Did anyone ever say: Gee, we need to talk about the Chief Engineer about cooling this thing down so quickly with the fan on?

MR. FLESELAND: Not that I know.

MR. OLSEN: How many registers were left open when the fan was running?

MR. FLESELAND: You mean to take out?

MR. OLSEN: No. You know how you got the damper, your registered damper, the piston and it opens the veins?

MR. FLESELAND: They're all closed. When

they take the boiler offline, they take out all of the dampers.

MR. OLSEN: So, all the dampers were closed?

MR. FLESELAND: Yes.

MR. OLSEN: Well, how did the air get through the boiler then?

MR. FLESELAND: It's only -- when -- and they have the fan in the --

MR. OLSEN: Uh-huh. So it was going all around the boiler, and only a little bit was going in the boiler whatever leaked by the veins?

MR. FLESELAND: Yeah. Of course, there -- in the center of -- you have where the -- used to be.

MR. OLSEN: Yeah.

MR. FLESELAND: -- that would still be open.

MR. OLSEN: Going in from --

MR. FLESELAND: --

MR. OLSEN: Did anyone every talk about changing those procedures?

MR. FLESELAND: No.

MR. OLSEN: Shutting off the fan? Closing the vents?

MR. FLESELAND: No.

MR. ROTH-ROFFY: Okay. I hate to interrupt, but the tape is about finished on this side, so we'll

stop the tape and flip it over.

(Whereupon, the parties went off the record and the interview subsequently resumed.)

MR. ROTH-ROFFY: It's twenty-eight minutes after three o'clock and we're on tape, side 2, of our interview with Dan, the 1st Engineer. Ken Olsen?

MR. OLSEN: Do you know why the procedure was to keep the fan running?

MR. FLESELAND: No.

MR. OLSEN: Did you ever look at the instructions in the boiler book, or the boiler manual, were the instructions the same as the procedure that was being used?

MR. FLESELAND: I don't know.

MR. OLSEN: Okay. Other manuals, did you ever see any information on the ship's documents that had the steps for securing a boiler?

MR. FLESELAND: No.

MR. OLSEN: If you, on you own, without talking to the Chief Engineer, and you made the decision to shut the fan off, or to shut the vents, would you have been reprimanded or would you have gotten in trouble to change the procedure?

MR. FLESELAND: I don't know.

MR. OLSEN: You don't know.

MR. FLESELAND: That has never -- I never thought about it.

MR. OLSEN: Yeah.

MR. FLESELAND: This was just normal routine, so I just keep it running same as they always have done.

MR. OLSEN: Yeah. All right. I think I'm done.

MR. PAILLACAR: Carlos Paillacar, U.S. Coast Guard, Marine Safety Office. When you did your three thousand hour, when you turn off the boiler for the clean-up inside, would somebody go in and check, let's say, the drums? Did someone do a visual inspection of all other systems, other than the furnace for cleaning?

MR. FLESELAND: Not inside the drum.

MR. PAILLACAR: But they would look at the condition of the pipes and the furnace?

MR. FLESELAND: Yeah, and look at the sedimentary on the front wall, or the back -- plates and all these things.

MR. PAILLACAR: When would a more extensive, visual inspection occur with ship personnel, at some point say the drums, would there be at any point, one of the ship engineers do a visual inspection of the drums?

MR. FLESELAND: I have not seen nobody -- it must be only the classification.

MR. PAILLACAR: Now would that be conducted by the class society?

MR. FLESELAND: Yeah.

MR. PAILLACAR: Okay.

MR. FLESELAND: That's only I know.

MR. PAILLACAR: Nothing more questions.

MR. ROTH-ROFFY: Okay, we're almost done with you. Was there a procedure, a posted procedure, in the boiler room that outlined or described how you would start it up and fire it?

MR. FLESELAND: No.

MR. ROTH-ROFFY: Was there a procedure in the boiler room posted that described how you should shut it down and open the vents and open the drains and forced draft fan?

MR. FLESELAND: No.

MR. ROTH-ROFFY: There was nothing that gave you a step-by-step on how to do that?

MR. FLESELAND: No.

MR. ROTH-ROFFY: So, it was just kind of passed to you as, you know, the way you've always done it? Everybody knew how to do it?

MR. FLESELAND: Yeah.

MR. ROTH-ROFFY: Would you say that?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: Do you know if there was a procedure in the ISM Manual that would have covered this, you know, starting up, lighting off boilers and shutting them down?

MR. FLESELAND: I have not read. I read all through this ISM books and I have not seen any specific step-by-step process.

MR. ROTH-ROFFY: Okay. You mentioned that, as a result of the frequent cutting in and cutting out of boilers that you hade more maintenance and you thought maybe it was caused by that. Could you describe some of those maintenance items that you thought occurred more frequently than they should have? You said more than normal, I believe, is what you said. I think you said about piping systems had leaks, right?

MR. FLESELAND: If you have the boiler online and you get a leak, then you have to take it out. If it is leaking badly. We try to take it out as soon as possible.

MR. ROTH-ROFFY: A leak?

MR. FLESELAND: You will see it on the reading for the distillate consumption, and you also

see on the make-up system. You may get low levels along, for say, the --.

MR. ROTH-ROFFY: Okay, but the increased leaks, where were they? On the boilers themselves or the main steam piping to the main engines?

MR. FLESELAND: No, no. That is, as I say, the generating tubes mostly.

MR. ROTH-ROFFY: Oh, generating tubes. How about flanges and packing glands, did you have any kind of --

MR FLESELAND: -- any leaks as long as I have been there on the steam lines, super heater lines.

MR. ROTH-ROFFY: Okay. Brian Curtis?

MR. CURTIS: I actually have one question. Brian Curtis. I realize you've never taken the pressure, working pressure, but just for clarification, when the class society was there doing their boiler test, did you ever see the safety valves gagged, so they could take the pressure above working pressure, and they wouldn't life so that you could check above the working pressure, or the safety valve working pressure?

MR FLESELAND: That time they gave us -- they did lift when they should lift, the safety valves.

MR. CURTIS: But did you --

MR. FLESELAND: I was not there when they were doing it. I was on the ship, but I was not on watch.

MR. CURTIS: During the class survey?

MR. FLESELAND: No. No.

MR. CURTIS: So you've never seen the safety valves gagged then?

MR. FLESELAND: No.

MR. CURTIS: That's all I have. Thank you.

MR. OLSEN: Just some other questions. You have steam license. Tell us about your license. Is it steam and motor, steam?

MR. FLESELAND: Steam and motor. As a 1st Engineer, steam and motor, class two.

MR. OLSEN: Steam and motor, class two. What would a Chief Engineer have?

MR. FLESELAND: Class one.

MR. OLSEN: Class one, okay. That's just different terminology than us. Now, in those examinations, are their segments that deal with boilers difficult or are they -- how tough is the steam examination for steam Chief Engineer? Do they adequately test -- in your opinion, I realize --

MR. FLESELAND: Do you mean when he goes to school?

MR. OLSEN: Yeah.

MR. FLESELAND: I don't know how to say how hard or tough, but it was tough enough.

MR. OLSEN: Yeah. That's good enough. Are they as thorough in steam as they are in diesel propulsion to study and the examination?

MR. FLESELAND: Mostly, as I know other people to say, they feel it is more harder to take the steam than the motor. When you take the -- school, you have both of them, never mind if you are taking -- if you are sailing on a motor vessel and you go through -- school, you also have to take the steam part.

MR. OLSEN: Is that for auxiliary boilers or does it also include main propulsion boilers?

MR. FLESELAND: Main propulsion boilers.

MR. OLSEN: Okay.

MR. FLESELAND: Main steam plants.

MR. OLSEN: Okay. Done.

PANEL MEMBER: One question. When the ship is going into -- you've been on the ship about four years now, since 1999 -- do you -- when the ship is scheduled to go to the shipyard, do you, as the Engineer, go to the shipyard with the ship, or --

MR. FLESELAND: Yes.

PANEL MEMBER: You do?

MR. FLESELAND: Yes.

PANEL MEMBER: Okay. Okay. And, I guess, does it depend upon which engineering position you have on the ship which maintenance jobs are being done in the shipyard that you have to keep a watch on or an eye on?

MR. FLESELAND: They split it up -- some have their own system like that.

PANEL MEMBER: And who would normally have -- if there was any main propulsion boiler work scheduled for the shipyard, which engineer on the ship would have responsibility for the main propulsion boilers or does it change from shipyard to shipyard?

MR. FLESELAND: Depends again who is on board, but for my time here, it has been mostly two guys who have changed. One's on vacation. The last time I was in dry dock it was both on at the same time.

PANEL MEMBER: Okay.

MR. FLESELAND: And then there was two of them there.

PANEL MEMBER: Okay, which engineers, I mean, at which level?

MR. FLESELAND: 2nd Engineer.

PANEL MEMBER: 2nd Engineer, okay. That's all I have.

MR. PAILLACAR: Carlos Paillacar. When the class society came to do the survey, do you know how long, how much time, they had spent on one boiler to do all the tests on that boiler?

MR. FLESELAND: Oh, I can't say. I can't say for how many, one, two -- I don't know. You mean to take the test?

MR. PAILLACAR: Yeah, to do all that -- within the boiler. How long it would take a surveyor to do the tests for a boiler? To test all the systems, to do any pressure testing that he would have to do to do the boiler survey?

MR. FLESELAND: I can't say. I don't know.

MR. PAILLACAR: Okay.

MR. ROTH-ROFFY: You have a class two license. Is that like a 1st Engineer's license?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: Is it a Norwegian license or a Bermuda license or both?

MR. FLESELAND: That is a Norwegian one, but, you know, after I get promoted to 1st Engineer, then we have to apply again to the Bohemian and I have still not got that back, but I have ten weeks ago.

MR. ROTH-ROFFY: Okay, did the ship recently reflag from Norwegian to Bahamas or do you know? When

you sailed last trip, did you have a Bahamas license?

MR. FLESELAND: Yes, as a 2nd Engineer.

MR. ROTH-ROFFY: Okay, and you also had a Norwegian --

MR. FLESELAND: --

MR. ROTH-ROFFY: -- 2nd Engineer? You mentioned there's a problem with the Mac Diesel 17 or 18?

MR. FLESELAND: Seventeen.

MR. ROTH-ROFFY: Yeah, and I believe the first time you talked you said it was a rewind problem?

MR. FLESELAND: Yes.

MR. ROTH-ROFFY: Do you know -- is it out in the shipyard, I mean, ashore or are they working on it now or --

MR. FLESELAND: They're working on it now. It is back on again.

MR. ROTH-ROFFY: Oh, it is back on?

MR. FLESELAND: It's -- from seamen who is working to --

MR. ROTH-ROFFY: Okay, has it been completely fixed now or are they still working on it?

MR. FLESELAND: Still working.

MR. ROTH-ROFFY: How long have they been working on it?

MR. FLESELAND: They -- when it come back here for -- was it May 18th, and we -- down to the boiler room and the seamen's people they -- they come on board the same day as accident, but I think they come two or three days later because they did not allow them to come aboard.

MR. ROTH-ROFFY: So the standard was ashore for rewinding, is that correct, or just came back?

MR. FLESELAND: No.

MR. ROTH-ROFFY: Okay.

MR. FLESELAND: It took maybe two months to do it.

MR. ROTH-ROFFY: That's all I have. Brian? Okay, Dan, we are done with you. Thank you very much, again. You've been very, very helpful. The time is about twenty minutes to four and that concludes our interview.

(Whereupon, at 3:40 p.m., the interview of Mr. Dan Arte Fleseland was concluded.)