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P R O C E E D I N G S

10:00 a.m.

1
2
3 Whereupon,

4 IDAR HOFSETH

5 having been first duly sworn, was called as a witness
6 herein and was examined and testified as follows:

7 MR. ROTH-ROFFY: Good morning. It's about
8 10:00 and the date is the 6th of June 2003. We are
9 here to interview Mr. Idar Hofseth with the Bureau of
10 Veritas. Good morning, Idar.

11 THE WITNESS: Good morning.

12 MR. ROTH-ROFFY: We'd like to know more about
13 if you have any information about any weld repairs that
14 had been done in the boiler since you've been
15 associated -- I'm very sorry.

16 Before we do that, let's go around the room
17 and everybody introduce themselves.

18 MR. CURTIS: Brian Curtis with the National
19 Transportation Safety Board, marine engineering
20 accident investigator.

21 MR. LAMBERT: Michel Lambert from Bureau of
22 Veritas.

23 MR. SWERDLOFF: Nick Swerdloff, counsel for
24 Bureau of Veritas and here with also Mr. Hofseth.

25 THE WITNESS: Idar Hofseth, senior surveyor,
26 Bureau of Veritas, Miami.

27 MR. FOONG: Chris Foong, VP for
28 ~~(inaudible)~~ technical operations, NCL.

29 MR. RILEY: John Riley, independent surveyor
30 for NCL.

31 MR. OLSEN: Ken Olsen, Coast Guard
32 Headquarters, Washington, D.C.

33 MR. STEINFORD: Terry Steinfeld, Coast Guard
34 Marine Safety Office, Miami.

35 MR. ROTH-ROFFY: Thank you very much. I'll
36 restate the question, Idar.

37 EXAMINATION

38 BY MR. ROTH-ROFFY:

39 Q Do you have any information that you can
40 share with us regarding any kind of repairs that have
41 been done in -- well, let's start with boiler number
42 23, on the drums or the headers or anything such as
43 that? Do you have any knowledge or recollection of
44 anything like that?

45 A No.

46 Q Again, how long have you been working on the
47 Norway as a surveyor?

48 A I came in in -- I think it was about -- I did

1 the first survey about 2001, in May. No, no, 2002 I
2 mean, 2002 in May. Last year.

3 Q Do you know anything about any other weld
4 repairs that might have been done on any of the other
5 boilers on the Norway?

6 A No.

7 Q In the steam drums, the water drums or the
8 headers, anything that's -- has there been any welding
9 on that?

10 A No.

11 Q What about testing, have you either directed
12 or witnessed any testing, such as ultrasonic or x-ray
13 or any other sort of testing on the drums or headers on
14 the boilers on the Norway?

15 A No.

16 Q Have you seen or do you have any knowledge of
17 any testing that was done on the economizers on any of
18 the boilers --

19 A No.

20 Q -- since you've been associated with the
21 Norway?

22 A No.

23 Q During your surveys of any of the boilers on
24 the Norway, have you noticed any irregularities in the
25 drums or the headers? For example, abnormal cracking
26 or pitting or any other condition that has raised
27 concern to you?

28 A No.

29 Q I believe last time you were here you said
30 you had done a complete boiler survey in -- was it July
31 of last year on one of the boilers? Do you recall
32 that?

33 A Yeah. I was aboard first in May for the
34 annual passenger ship safety survey and at that time
35 there was repairing for the repairs on boiler number 23
36 and 24. It was renewing of the super heater tubes.
37 Boiler 23 was down before that week, that I can't
38 remember exactly, but it was opened up to prepare for
39 those repairs.

40 Q So at that time you did a complete boiler
41 survey of number 23?

42 A That wasn't all of it.

43 Q I'm sorry, that was what?

44 A It was a part of it.

45 Q I'm still not understanding. You're saying
46 the complete boiler survey was a part of what?

47 A When it was opened up I looked inside the
48 boiler before they started that.

49 Q Before they started the repairs?

1 A Yeah. Because I was on board for the annual
2 survey and they prepared this boiler for the super
3 heater tubing.

4 Q Okay. Could you describe that inspection
5 that you did on boiler 23? For example, were the steam
6 drum internals removed so that you could access the
7 internals of the steam drum?

8 A No. That I can't remember exactly what was
9 opened up, but it was prepared for the repairs. But
10 again, you know, it was two boilers, they were both
11 down, so it will also be that they had to prepare for
12 boiler number 24, because that was the two they was
13 going to work on and they had (inaudible) was going to
14 do all the tube renewal.

15 Q So you say you did a complete boiler survey
16 of number 23?

17 A Yeah, but that was only the beginning. I was
18 on board again the 30th of May in St. Thomas. I was on
19 board because I checked those dates, so I think they
20 are correct. And the 4th of July in Miami. Let's see
21 to be sure. I wrote down the dates.

22 MR. OLSEN: I have this if you want to look
23 at it. You probably were here somewhere around that
24 date, too.

25 MR. ROTH-ROFFY: That was Ken Olsen. Thank
26 you, sir.

27 THE WITNESS: The 7th of July, the time
28 before I said I couldn't remember exactly the date.

29 BY MR. ROTH-ROFFY:

30 Q What is the correct date now?

31 A It was the 19th of May, 30 May, the 7th July,
32 24th of July.

33 Q Those were the dates that you were aboard
34 looking at the boilers on the Norway, correct?

35 A Now, the first time it was for a whole week.
36 That was for the renewal of the passenger ship safety
37 and the annual survey, so of course at the same time
38 you looked at the boilers. Again, as far as I can
39 recall, since it was two boiler, they're both down, but
40 23 was open first.

41 Q I'm sorry, if you could recap, 12 through 19
42 you were on board for the renewal of the passenger ship
43 survey and the annual.

44 A Yes.

45 Q On 30 May you were at St. Thomas and what did
46 you look at then?

47 A Then it was also a Coast Guard drill and I
48 was also down and looked at the boilers.

49 Q You looked at which boilers?

1 A Again the -- since both was -- the work, you
2 know, I can't remember if it was 23 or 24, because both
3 was re-tubed, so it's better to say it could be either.
4 Q It could be either on the 30th?
5 A Yes.
6 Q How about on the 7th of July in Miami?
7 A The 7th of July, that (inaudible) but of
8 course at that time also I been looking at both. That
9 was boiler number 24.
10 Q On the 7th of July you looked at 24?
11 A Yeah. And the 21st of July, that was boiler
12 number 23.
13 Q The 21st of July?
14 A Yes, 21st of July.
15 Q The 21st of July would then be the date of
16 the complete boiler survey?
17 A Yes.
18 Q On 23?
19 A The finish of the survey.
20 Q So you started it earlier and then you
21 finished it on the 21st?
22 A Yes.
23 Q About how long does it usually take to do a
24 complete boiler survey, in hours I guess?
25 A It all depends. If everything is ready, you
26 know, you come and you look it goes relatively quickly.
27 If you have to wait, of course then --
28 Q Right. But actually looking at time, how
29 long would it take you to look if everything was ready?
30 A If everything is opened up and ready, I'd say
31 two, three hours.
32 Q Do you normally have the steam drum internals
33 removed or is that not done?
34 A The steam drum is always opened up, but I
35 have not been in the steam drum because the manhole is
36 a little bit too small.
37 Q On the upper steam drum?
38 A Yeah.
39 Q And the internals are not taken out, is that
40 correct? Typically, usually?
41 A In the steam drum?
42 Q Correct.
43 A What internals are you --
44 Q I think there might be some -- like a dry
45 pipe, some slosh plates and a chemical feed line, some
46 other piping inside of there.
47 A If you find any problem, it will be removed.
48 Q But normally the internals are left in place?
49 A Yes.

1 Q And you visually look from the outside?
2 A Yeah. You visually look from the outside.
3 Q Okay.
4 A But in this case I can't remember exactly
5 what was out and what was in because of the repairs.
6 Everything could have been taken out.
7 Q Sure. I believe the repairs that were going
8 on on boilers 23 and 24 were re-tubing of the super
9 heaters? I believe you said that?
10 A Yeah.
11 Q Re-tubing of the super heaters, would that
12 require removal of internals from the steam drum?
13 A Not necessarily.
14 Q Not necessarily. What about your inspection
15 of the lower drum, the water wall drum? Excuse me, the
16 water drum. Is that manhole accessible to you?
17 A No. You can look in, but I can't get in.
18 Q What about the smaller drum or the header,
19 the water wall header? Is that manhole accessible?
20 Can you get into there?
21 A No, it's too small. But you can look in.
22 Q You can look in?
23 A Yes. You can look for corrosion or whatever,
24 but it's limited.
25 Q So you normally do not go into the lower
26 drums?
27 A No. It's not required.
28 Q Not required?
29 A No.
30 Q Who normally assists you from the company,
31 NCL, either ship's crew or superintendent? Who
32 normally walks with you when you do your survey?
33 A I normally deal with the superintendent and
34 when I come on the ship, I deal with whoever is
35 available, depending what survey it is and I will of
36 course deal with the captain and the chief engineer and
37 in the engine room, of course the chief engineer and
38 the superintendent and whoever is available for
39 inspection. It don't necessarily need to be the chief
40 engineer going, it could be the first engineer, it
41 could be the staff chief.
42 Q Do you normally do the inspection by yourself
43 or does -- are you guided or followed by a crew member?
44 A I am followed by a crew member, but sometimes
45 I do it on my own also, I go around and look whenever I
46 have time, you know.
47 Q Right. Normally would you do it by yourself?
48 Just give us --
49 A It all depends. If it is something very

1 important, then I will of course have someone with me.
2 Q Could you tell us about your previous
3 experience in the marine industry, how long you've been
4 working with BV and what sort of jobs you've held?
5 A I started with BV 4th of January in '94.
6 Q During your employment with BV, what sort of
7 jobs or positions have you held?
8 A I've had the same position.
9 Q Surveyor?
10 A Yeah.
11 Q Have you worked at other ports besides Miami?
12 A Yeah. I have been traveling around Caribbean
13 and in Florida, South Carolina.
14 Q But have you worked out of the Miami office?
15 A I've worked out of the Miami office all the
16 time.
17 Q And you travel around as needed?
18 A Yes.
19 Q What about before '94, were you employed as a
20 surveyor in the industry or --
21 A I worked 24 years for Norwegian Cruise Line.
22 Q In what capacity did you work with NCL?
23 A Chief engineer and superintendent.
24 Q Did you sail aboard the Norway as an
25 engineer?
26 A No.
27 Q Were you employed as a superintendent on the
28 Norway?
29 A No.
30 Q Did you work on other steamships with NCL,
31 other than the Norway, either as an engineer or
32 superintendent? Other steamships or was it motor?
33 A No, NCL has only one steamship.
34 Q Was that the Norway or another one?
35 A The Norway.
36 Q Only the Norway?
37 A I was not involved at all.
38 Q Okay, not involved. About how many years did
39 you sail as chief engineer with Norway and how many
40 years as superintendent?
41 A With Norwegian Cruise Line?
42 Q Yes.
43 MR. SWERDLOFF: I think you said he sailed
44 with Norway. I'm sorry to interrupt.
45 MR. ROTH-ROFFY: I'm sorry, go ahead and
46 clarify that.
47 MR. SWERDLOFF: I think you said in your
48 question -- you asked him how long he sailed on the
49 Norway.

1 MR. ROTH-ROFFY: I'm sorry. I meant to say
2 NCL.
3 BY MR. ROTH-ROFFY:
4 Q About how many years did you sail with NCL as
5 a chief engineer and as a superintendent?
6 A It was 24 years.
7 Q Total?
8 A Yes. Total, as chief engineer and
9 superintendent.
10 Q About how many years as chief and about how
11 many years as superintendent, if you can recall?
12 A I was for a long time assigned as chief
13 engineer and then I worked in the office six months and
14 sailed as a lead chief engineer for two months on two
15 different ships. I was a little bit flexible, but I
16 sailed more or less seven, eight years straight as
17 chief engineer.
18 Q Before you went into this rotation?
19 A Yeah.
20 Q Could you describe the training that you have
21 received from BV in doing boiler surveys? Have you
22 been to any classes or specialized training in
23 conducting boiler surveys?
24 A No, nothing in particular. We have a
25 program, a computer program called CATS and we also
26 have literature, you know, so you can look at yourself.
27 Q I'm sorry, what was that word?
28 A We have literature.
29 Q Literature?
30 A Yeah. We have something called TNS and in
31 there you'll find everything doing the survey.
32 Q TNS is what?
33 A That is a program or whatever you would call
34 it we have for conducting surveys. That is the
35 guidelines. It is the guidelines for doing a survey.
36 Q Is that part of the computer training that
37 you mentioned or is that other reference material?
38 A It is in the computer so you can print it out
39 and you can also -- it used to be in books before.
40 Q It's just that your documents have been put
41 onto the computer now?
42 A Yeah.
43 Q And that's called TNS. Do you know what that
44 stands for?
45 A I don't know what TNS stands for.
46 Q But it's like a reference library or
47 something?
48 A It is a reference library.
49 Q The other computer training that you referred

1 to, is that also basically printed material, guidance
2 material? Is that the same program or is that a
3 different program?

4 A No, that is I believe built on the TNS and
5 it's also used by (inaudible).

6 MR. ROTH-ROFFY: Okay. I'm going to pass to
7 Brian.

8 MR. CURTIS: Brian Curtis.

9 EXAMINATION

10 BY MR. CURTIS:

11 Q Good morning, Idar.

12 A Good morning.

13 Q During the complete survey, did you do a
14 hydro pressure test of boiler 23?

15 A It was done in connection with the
16 replacement of the tubes, to see if the tubes were
17 leaking.

18 Q Is there a part of the survey that requires
19 you, aside from testing the tubes, to test the
20 integrity of the drums? Or how high do you test the
21 pressure in the drum, basically I guess I'm asking.

22 A I think about 70. It's supposed to be so
23 many percent over the working pressure.

24 Q Do you recall what that percent is?

25 A No, I can't say for 100 percent sure, but
26 something strikes me and I think 10 percent over the --
27 you can go higher I believe, but someplace it says the
28 number.

29 Q As part of the survey, does it require you at
30 any time to place -- do you know what I'm referring to
31 as a "gag on a safety valve"? The hardware to prevent
32 it from lifting?

33 A Yeah. You have to do that. You have to lock
34 it.

35 Q Can you just describe the procedure involved
36 in that?

37 A You have like a clamp you put under and hold
38 it.

39 Q Do you do this sequentially through the
40 safety valves?

41 A Yeah. You have to. If you go over the
42 safety valve pressure for testing, you have to lock
43 them. You have different arrangement in a couple of
44 them, but you have normally this type of a clamp you
45 clamp down.

46 Q At any point during that test do clamp all of
47 the safeties and go above the pressure of the highest
48 safety valve setting?

49 A Exactly the procedure you do I can't recall,

1 but of course you have to pressure test the whole
2 boiler, you have to lock all of them.

3 Q Have you ever done that test on these
4 boilers?

5 A I can't recall exactly what I did at what
6 time, but it was done. Not put it in the record
7 because of the testing of the super heater tube.

8 Q During the last complete inspection, do you
9 recall which crew member in the vessel accompanied you
10 during the inspection of the header drum, the lower
11 outboard drum?

12 A No, I can't recall. As I said, the crews are
13 off, they have only a few months on and a few months
14 off or whatever, so you have only 50 percent of the
15 crew at one time, so it's impossible to say who, but
16 the people who had been aboard at the time.

17 Q Would that be a part of your report, who you
18 did the survey with or the inspection?

19 A No. That's not required either.

20 Q In any of your inspections of NCL vessels did
21 you ever find yourself having to recuse or remove
22 yourself from the inspection due to a possible conflict
23 of interest with say a high degree of familiarity with
24 the chief engineer on the vessel?

25 A No, not at all.

26 MR. CURTIS: That's all I have right now.
27 Thank you.

28 MR. LAMBERT: No question.

29 MR. ROTH-ROFFY: Chris?

30 MR. FOONG: I just want to clarify --

31 MR. ROTH-ROFFY: Chris Foong.

32 MR. FOONG: Chris Foong, I'm sorry. NCL.

33 EXAMINATION

34 BY MR. FOONG:

35 Q You said that you do not normally go into the
36 drums and it was not required. Could you clarify
37 whether it is not a requirement due to rules BV
38 guidance?

39 A It's not called for in the rules, to my
40 recollection.

41 Q Did you also receive any notification
42 regarding any special notification of design to this
43 boiler? Any notification of special information or
44 defect sometimes experienced?

45 A Well, to my recollection, if it has been
46 anything, they have been by report coming and I cannot
47 recall any serious problem any time.

48 MR. FOONG: Thank you.

49 MR. RILEY: No questions.

1 MR. OLSEN: I have a few questions. Ken
2 Olsen.

3 EXAMINATION

4 BY MR. OLSEN:

5 Q I'm curious about the inspection record,
6 particularly for boiler number 23. It indicates that
7 there was an inspection in '99, then about in July
8 2002, which is about two and a half, a little over or a
9 little less, whatever, you have another complete
10 survey.

11 But what I'm wondering about is why we had
12 this last survey only eight months after instead of a
13 two and a half year period. This survey here. Why was
14 that a complete survey in only eight months?

15 A I think I answered that the first time, but
16 the main reason, if you have the boiler open up like
17 this for all this big repairs, you will -- not all the
18 time, but sometimes you (inaudible). I cannot say for
19 sure, but I remember it was something that was not
20 showing up on the service status at the time.

21 Q I'm sorry, service status?

22 A Yeah, service status. That tells you what
23 service is in t computer.

24 Q Oh, okay. I've got it.

25 A Then looking back, I think I decided because
26 of the extent of the repairs and also it was not
27 recording properly in the computer, I decided to
28 (inaudible).

29 Q Is that your signature there? It's hard to
30 see. My question is could you tell us these other
31 surveyors?

32 A This is in Germany. The signature I don't
33 know, but it's complete survey of boiler number 23 and
34 that was 3rd of November.

35 Q Are all these persons who signed this element
36 of this certificate, are they in Norway or are they in
37 the --

38 A No. All this service in this hand, that's
39 mine.

40 Q All this is yours?

41 A That is mine.

42 Q Very good.

43 MR. ROTH-ROFFY: Ken, just for the record,
44 you're referring to?

45 MR. OLSEN: I'm referring to -- what is this?
46 This is information concerning boilers, let me back
47 up. It's an annex document which describes survey work
48 performed by BV inspectors and it covers the last three
49 years. It describes the visits and nine visits are

1 indicated.

2 BY MR. OLSEN:

3 Q Does BV have any arrangements with the ship
4 board engineers to perform some inspections on behalf
5 of BV or are there requirements?

6 A I don't understand what the question is.

7 Q Are some inspection responsibilities required
8 by the Classification Society given to the ship board
9 engineer?

10 A I still don't --

11 MR. LEHRER: I think what he's asking is do
12 you have the engineer -- I'm sorry to interrupt.

13 BY MR. OLSEN:

14 Q The chief engineer is certified to do some
15 work on behalf of BV; is that correct?

16 A That's correct. That's for continuous
17 survey.

18 Q That's what I was getting at. I'm sorry if I
19 asked it poorly.

20 MR. LEHRER: I'm sorry to have interrupted.

21 MR. OLSEN: No, we appreciate the
22 clarification.

23 BY MR. OLSEN:

24 Q I have a question. What is the Mini ISM?
25 Did you ever hear of Mini ISM?

26 A Yeah. It's a small guideline book we use.

27 Q What are the contents of that book?

28 A You know, it is a guideline. It's not
29 necessarily something you use all the time. But let's
30 say you're looking for clearance on a propeller shaft,
31 what normally will be the rule, but if the manufacturer
32 of equipment say otherwise, then you will have to go by
33 the manufacturer's recommendation. That can be for
34 clearance or whatever on the shaft.

35 Q General guidance?

36 A General guidelines, but it's not something
37 that is mandatory.

38 Q You said earlier that you had worked for NCL
39 in a couple different positions. Do you recall,
40 perhaps in the early '80s, or do you have any knowledge
41 of any recommendations that suggested the replacement
42 of the boilers due to some type of thermal cracking?

43 A No.

44 Q Have you ever had any type of knowledge or
45 heard other people talk about thermal cracking issues
46 with respect to these boilers on board?

47 A Not to my recollection.

48 Q If the ship board engineer found that he
49 needed to repair the seam of a drum, is that a

1 procedure that BV would inspect or be involved with?

2 A Of course they need to know about it.

3 Q Beforehand or afterwards?

4 A Beforehand because there is a very strict
5 procedure with the welding process.

6 Q Could you just touch on that? Could you just
7 tell us more about a normal welding procedure on a seam
8 on a drum?

9 A Well, it has to go -- it will be sent to
10 (inaudible) so they will make the decision on that.

11 Q The request?

12 A No, no. The request will be made to us and
13 we will forward it for welding experts. Then we need
14 to know the content of the material and the electrode,
15 whatever. But that is very complicated and important.

16 Q That's the administrative side. How about
17 the actual work on the ship? Would there be preheating
18 involved, would there be grinding? What type of
19 preparation would be necessary for such a surface, if
20 you know?

21 A Well, whatever is necessary to be done, the
22 procedure is it will go to (inaudible) for clearance.
23 Nothing is done unless you follow that procedure, which
24 of course includes the heating process and cool it down
25 and all this. I'm not a specialist in this, but if you
26 get this procedure, you follow that procedure.

27 Q If I was a ship operator and I had a two
28 boiler ship and I saw that I had a problem in my seam
29 in my water wall header, if it was as big as this one
30 how long would that take? Is that a decision that can
31 be made in a few days or is it a matter of phone calls?

32 Is that a lengthy procedure to get that approval to
33 proceed?

34 A It will be a lengthy procedure.

35 Q Really?

36 A Yes.

37 Q So the ship could be operating with limited
38 propulsion during that time?

39 A Yeah. You will have to wait.

40 Q If you went on board at another date in the
41 future and you saw what appeared to be work in the
42 drums, what would you do? Work that BV had no
43 knowledge of, what would your procedure be? How do you
44 know that that was approved work?

45 A Again, you know, this is -- if I have seen
46 that work was done, I would immediately tell them to
47 stop the ship, if necessary, if someone was preparing
48 to repair a drum.

49 Q When you're examining a drum and it's kind of

1 a tight fit and you don't want to go in because you
2 can't go in, do you use any other tools to look inside?
3 Do you use mirrors or how do you get a good feel of
4 the condition of the internals?

5 A Well, the only thing you can do is to use
6 your flashlight and see as far as you can and if you
7 see any corrosion or anything. But it's limited what
8 you can do and it's not required by Class to do that.

9 Q I have in front of me TNS-05, which is some
10 of the documents that -- or the TNS was referred to as
11 a guidance document.

12 Am I correct to say that such documents are
13 only for general guidance or is it your perception that
14 this represents specific guidance to perform
15 inspections?

16 A It's general.

17 Q We spoke briefly about hydraulic testing,
18 hydro testing. My last ship had a little high pressure
19 pump. Is a separate hydro pump a Class requirement for
20 the vessel?

21 A No.

22 Q So then feed pump pressure is adequate, is
23 that correct?

24 A Yeah.

25 Q It indicates in this TNS document boiler
26 complete surveys. We've already established that this
27 is just general guidance. Do you enter the super
28 heater cavity when you're doing the survey?

29 A I can't specifically remember the fuel tanks,
30 what I have done and what I didn't have done. But I
31 inspected the super heater fuel tank.

32 Q One last question, just so I get it straight.
33 Sometimes if the drum manhole is large enough you
34 might enter completely, other times not?

35 A Yeah. If I'm able to get in, I will go in.
36 Just to see if there is anything, but if you can't get
37 in, then you will have to rely on the --

38 Q On the light?

39 A Yeah.

40 MR. OLSEN: I think that's it. Let me look
41 at my notes here. (Pause.) That's it. Thank you very
42 much.

43 MR. STEINFORD: Terry Steinfeld.

44 EXAMINATION

45 BY MR. STEINFORD:

46 Q Does Bureau Veritas have a requirement for
47 periodic testing of the boilers, specifically a
48 hydrostatic test fire sides and water sides?

49 A No.

1 Q What would trigger those types of exams?

2 A If -- for instance, if you have had repairs
3 and if you have any suspicions of any problem.

4 Q If I understand you correctly, if there's no
5 problems detected on a vessel it could go for years or
6 decades even without examining the fire side or water
7 side?

8 A Not examined. We examine, but you are asking
9 for pressure test.

10 Q Well, both. I said three separate tests,
11 hydro, water side and fire side.

12 A Is not required to test, so I can't answer
13 you when you ask whether 10 years or 15 years, talking
14 about for that particular Norway.

15 MR. ROTH-ROFFY: All right. It's Tom Roth-
16 Roffy. Maybe you could just clarify what a complete
17 boiler survey is and how often that's done, maybe you
18 don't understand what a complete boiler survey is.

19 MR. STEINFORD: Well, specifically opening up
20 the drums even when there's no suspicion of any
21 problems is that required to be done on a certain
22 interval?

23 THE WITNESS: No, it's not. The complete
24 survey is every two and a half year.

25 MR. ROTH-ROFFY: That would include opening
26 up of the drums?

27 THE WITNESS: Yeah. We have to look in
28 there. I can't say 100 percent sure if it is requires,
29 so I'll open the drums. I believe that to be a part
30 and I will ask for that.

31 BY MR. STEINFORD:

32 Q Terry Steinfeld. I'm looking at TNS-05,
33 specifically 2.2.1 and they define a "Complete Survey"
34 as a full internal and external exam of all parts and
35 the question was is that required at a certain interval
36 during the life of the boiler?

37 A It's two and a half year. But you asked for
38 pressure test.

39 Q The pressure test is not part of that?

40 A No.

41 MR. ROTH-ROFFY: Okay. The tape is about to
42 run out. What I'd like to do is stop, take maybe a
43 five-minute break and then we'll come back and switch
44 the tape and we'll resume.

45 (A brief recess was taken.)

46 11:00

47 MR. ROTH-ROFFY: Okay. The time is about
48 11:00. We took a brief break and turned over the tape.
49 We are resuming our interview of Mr. Idar Hofseth of

1 Bureau Veritas. Who was asking questions when we left
2 off?

3 MR. STEINFORD: I was.

4 MR. ROTH-ROFFY: Do you have any more?

5 MR. STEINFORD: I'm finished.

6 MR. ROTH-ROFFY: I'll go ahead and start
7 another round here, I'll start off, Tom Roth-Roffy.
8 John?

9 MR. RILEY: John Riley. Has there been
10 consideration of our document request, please?

11 MR. ROTH-ROFFY: Let's go off the tape and
12 talk about this.

13 (Off the record discussion.)

14 MR. ROTH-ROFFY: We're back on the record,
15 it's just a couple minutes after 11:00. I think, John,
16 you're satisfied with the way we're going to proceed
17 now?

18 MR. RILEY: Yes, I am. Thank you.

19 FURTHER EXAMINATION

20 BY MR. ROTH-ROFFY:

21 Q Idar, you mentioned that you had worked with
22 NCL as an engineer and superintendent for 24 years, but
23 you had not worked on the Norway; is that correct?

24 A That's correct.

25 Q And that the Norway was the only steamship
26 that NCL operated and you did not work on other
27 steamships; is that correct?

28 A I've not worked on all the steamships. I
29 have been surveying all the steamships for Bureau
30 Veritas.

31 Q Do you have a steam license or motor license
32 or both?

33 A I have full steam education, but I've not
34 been (inaudible) on steam. I've been working on diesel
35 ships also, you have quite a lot of steam, even the old
36 piston steam machines as generator, so I have some back
37 ground in steam.

38 Q Your education in steam, could you describe
39 that a little bit? Education or training in steam
40 operations.

41 A In the school in Norway you can get both the
42 theoretical parts and it is equal to -- both diesel and
43 steam engine is equal and we have education in
44 engineering degree, one for diesel and one for steam.

45 Q Did you receive an original license as a
46 steam engineer?

47 A No.

48 Q What license do you hold, sir?

49 A Chief engineer license, diesel.

1 Q From which country?
2 A From Norway.
3 Q I'm sorry. For my own understanding of the
4 hydro testing requirements as part of the survey and
5 the safety valve lifting requirements as part of the
6 survey, does the survey require that you lift the
7 safety valves?
8 A For the two and a half year, yes.
9 Q And that lifting is done with the boilers
10 firing?
11 A Yeah.
12 Q With steam pressure to lift them; is that
13 correct?
14 A Yeah, that's correct.
15 Q That procedure, would that involve gagging
16 some of the safety valves to prevent them from opening
17 so that you would verify that the one you're looking at
18 would open?
19 A Yeah. You have to block the other ones. You
20 take them one-by-one.
21 Q If you can recall, how would you do that?
22 Would you start firing the boiler and raise the
23 pressure and lift one of the safety valves without
24 gagging others or would you immediately gag some and
25 lift the first one designed to lift?
26 A Normal procedure is that you gag all the
27 other ones and you take one-by-one. When one is done,
28 then you gag that and you go to the next one.
29 Q That's for testing the safeties with steam?
30 A That's the normal procedure.
31 Q What about the hydro testing, what is the
32 normal procedure for hydro testing? I guess I should
33 ask first is there as part of your annual or complete
34 boiler survey do you perform a hydro test?
35 A No. Only there is some repair you do it and
36 if you feel that you might do it, then you do it.
37 Q If there has been no repair work done on the
38 boiler, then you would not normally do a hydro test?
39 A That's correct.
40 Q And if you do a hydro test, to what pressure
41 would you raise it again? Could you --
42 A As I said, I think the normal is
43 approximately 10 percent over the working pressure, so
44 you don't do major damage to the boiler.
45 Q And that would involve blocking or gagging
46 the safety valve. Is that correct?
47 A Yeah.
48 Q All of the safety valves would be gagged?
49 A Yes.

1 Q I think I understand now how that works.
2 Regarding the inspection again of the drums and the
3 headers, you said that normally you would not enter,
4 you would do a visual from the outside with a
5 flashlight. I believe it was Ken that asked you if you
6 had any other special tools that might assist you.

7 Have you ever used such things as a bore
8 scope or some sort of an extendable mirror or anything
9 like that to assist with inspection of inaccessible
10 areas?

11 A No. That would be difficult because of the
12 distance. If it was any problem, of course then we are
13 doing whatever was necessary to inspect it.

14 Q Did you ever use a bore scope say on a
15 cylinder or a piston of a diesel engine?

16 A Bore scope, what do you mean?

17 Q Like a fiber optic type of a device with a
18 light on it and it's on --

19 A Yeah.

20 Q Have you used that before on other
21 inspections that you can recall?

22 A No. Only if (inaudible) for some particular,
23 if you can't see properly, then you will have to use
24 it.

25 Q Have you ever personally used that kind of a
26 device in conducting surveys?

27 A Yes.

28 Q Does your office have one in Miami here or
29 where would you get one from?

30 A Well, normally most of the ships will have
31 one. If they don't have one and you feel it's
32 necessary, you will go get the necessary tools you
33 need.

34 Q Do you have it in the office or would you
35 have to rent one?

36 A No, we don't have in the office.

37 Q Okay. Do you know if the SS Norway has any
38 special tools like that, like a bore scope, an optical
39 hydroptic bore scope or any other devices such as that?

40 A I can't recall, but most likely they will
41 have them.

42 MR. ROTH-ROFFY: That's about all I have.
43 Brian?

44 MR. CURTIS: I don't have any questions.

45 MR. OELSCHLEGEL: Chris Oelschlegel.

46 EXAMINATION

47 BY MR. OELSCHLEGEL:

48 Q When you said the first engineer is
49 authorized to carry out inspection of continuance

1 machinery survey on behalf of BV, can you clarify
2 whether that would also include inspection of the
3 boiler or any of its major components?

4 A It will not include the boiler, but some of
5 the pumps and some of the equipment not attached to the
6 boiler they will be allowed to survey when the survey
7 would be granted.

8 MR. OELSCHLEGEL: That's all I have.

9 MR. RILEY: John Riley.

10 EXAMINATION

11 BY MR. RILEY:

12 Q When you carry out a complete survey, is
13 there a check off list that is used as an aide memoir
14 during the survey and then filled in and returned to
15 the head office as part of the survey reporting?

16 A We have the check list and that is also the
17 report.

18 Q Is that given to the ship owner and the ship?

19 A That will be sent to the ship. It will be
20 printed out, that is sent, it might be a month, it
21 might be two months later. That is the check list and
22 it's also the report.

23 Q Is there any other document besides that
24 check list that is sent internally to the head office
25 of Bureau of Veritas?

26 A No. That will be a copy of the same.

27 MR. RILEY: Thank you.

28 MR. ROTH-ROFFY: Ken Olsen.

29 FURTHER EXAMINATION

30 BY MR. OLSEN:

31 Q The check list that we just spoke about the
32 same document as the Mini ISM?

33 A No. The Mini ISM, that is a general
34 guideline. It's a small book, general guidelines.

35 Q Is there a specific name for this check list?
36 If we wanted to formally request it, what would we
37 specific call it?

38 A It is the check list and it is also the
39 report.

40 Q Just the check list/report. Okay. I have
41 one other question. Could you tell us some of the
42 operational issues when you test of safety of one
43 boiler? What do you do to the other boiler during this
44 process or the other boilers that are sharing loads?
45 Can you go into some detail about that?

46 A You have to explain more in detail.

47 Q If I have two boilers and I'm testing the
48 safeties on this one, is there anything special that
49 goes on with this one during that testing?

1 A It is closed off.
2 MR. OLSEN: Everything is closed off. Okay.
3 Thank you.

4 MR. STEINFORD: Terry Steinfeld.

5 FURTHER EXAMINATION

6 BY MR. STEINFORD:

7 Q Was the chief engineer of the Norway
8 authorized to conduct any machinery surveys on behalf
9 of BV?

10 A Yeah.

11 Q Do you recall what specifically? Was that
12 specifically for an individual chief engineer or just
13 any chief engineer who was assigned at the time?

14 A One engineer. The company have to apply to
15 get them certified for continuous machinery survey.
16 They will get a certificate, but they will be certified
17 only for that particular company, so when they leave
18 the company, they will not be certified anymore. Or
19 they can be certified by the next company. That is the
20 procedure.

21 Q So the certification you're just describing,
22 that's to an individual person, correct?

23 A Yes.

24 Q Do you recall who specifically was authorized
25 on the Norway to do that?

26 A As far as I remember, I think it is three of
27 the chief engineers is certified. One had his on both
28 -- on other ship, but as far as I remember, they are
29 certified. They all did last years.

30 Q And if one of those chief engineers surveys a
31 specific piece of machinery that he's authorized to do,
32 how is that communicated to Bureau Veritas?

33 A I verify the record when I come on the next
34 visit. I verify the record and he will show me.

35 Q If I understand you correctly, the chief
36 engineer would prepare a record which is then retained
37 on board?

38 A Yeah.

39 Q Is there anything transmitted to the Bureau
40 Veritas office?

41 A If it is anything wrong or anything like
42 that, it will be reported and we can also get the print
43 out from the maintenance record for that particular
44 item.

45 Q And when you're doing your various surveys,
46 how do you reflect that you reviewed the chief
47 engineer's report on board for specific machinery?
48 Would that be reflected in your own report?

49 A Yeah. We will report it. It's on the

1 report. It is in the record system and it's reported
2 that it's done. If it is without remarks, it is
3 without remarks.

4 MR. STEINFORD: All right. Thank you.

5 MR. ROTH-ROFFY: I don't believe I have any
6 further questions. Does anybody in the group? John
7 Riley?

8 MR. RILEY: John Riley.

9 FURTHER EXAMINATION

10 BY MR. RILEY:

11 Q Is there any time period within which you
12 should carry out such a verification of work carried
13 out by the chief engineer?

14 A It comes up every year, one time a year and
15 the chief engineer, I will sit down and give him a list
16 of what is new, then we go through his records and then
17 we credit it.

18 Q If the chief engineer carries out a survey, a
19 specific survey, do you have to carry out the
20 verification within a given period?

21 A No.

22 Q There's no limit on when --

23 A No.

24 Q So if he carries out the survey for example
25 today, one year later from now you could verify it, if
26 that's the next time you are on board the ship?

27 A Yeah. But the system don't really work 100
28 percent like that. It works -- when I come aboard I'm
29 showing this is due the next three, four months and
30 then we will go into his maintenance system, sometimes
31 I sent it to him, and all the times we just do it. We
32 go through the maintenance records he have aboard and
33 also sometimes we go and look at (inaudible) together,
34 if it's necessary.

35 Q Thank you. During all the period that you've
36 been associated with the Norway, besides all the
37 routine reporting and surveys that we've been
38 discussing, have you found it necessary at any time to
39 report, confidentially by a separate memorandum, on any
40 issues to do with the Norway and the condition of the
41 vessel?

42 A No.

43 MR. RILEY: Thank you.

44 MR. ROTH-ROFFY: I just have a couple more
45 questions and I think we'll be done with you.

46 FURTHER EXAMINATION

47 BY MR. ROTH-ROFFY:

48 Q I'd like to learn a little bit more about
49 your training and certification as a BV surveyor. You

1 mentioned the computer training. Is that a required
2 training that you have to complete and then sign off on
3 as having done it or is it just kind of like a
4 reference that you refer to as needed?

5 A I cannot fully understand what the question
6 is.

7 Q Do you have any required training that you
8 have to do periodically or once in a while to be a
9 surveyor?

10 A Yeah. We do -- two years ago we had the
11 exam. Before that, four or five months before that we
12 worked all this CATS, that's just a program, so then we
13 had to study and we had a written exam.

14 Q And that was a couple of years ago?

15 A Yeah.

16 Q Two or three years ago would you say?

17 A Yeah. But it constantly comes out new -- you
18 know, things in the rules and all this and then you
19 update yourself constantly.

20 Q Have you had any training in metallurgical
21 analysis or evaluation of cracks or pitting, anything
22 like that as part of your training as a surveyor?

23 A Not formally. Of course you know over the
24 years I've observed all kind of pittings or corrosion
25 or anything. You know, that's practical.

26 Q Sure. But have you received any guidance or
27 training on how to evaluate cracks and pitting and
28 other abnormal conditions on boilers?

29 A Only self-study.

30 Q Does the CATS program include that sort of
31 training on evaluation of cracks and pitting? If you
32 know.

33 A I would say briefly, no details.

34 Q Does BV have required periodic training or
35 recurrent training that surveyors have to do? You
36 mentioned this exam two or three years ago. Is that
37 something that you have to go through every two or
38 three years or is that just a one time deal?

39 A Well, it was the first time we had this kind
40 of exam. I don't know what they will do in the future,
41 but this they had one time when I have been there.

42 Q So you don't know if it has future
43 examinations or training?

44 A But we constantly have, but not from this
45 particular boilers or this system in general. Of
46 course, you know, if you have something new they will
47 have a course. For instance, the ISM they updated,
48 then they will do courses. That's the way it is done.

49 Q Did you have training, a course that you took

1 on ISM?

2 A No. Well, I had one, but long time ago.

3 MR. ROTH-ROFFY: Okay. I'm going to give
4 anybody a last chance, a last crack at it.

5 MR. CURTIS: Brian Curtis, just one question.

6 FURTHER EXAMINATION

7 BY MR. CURTIS:

8 Q If you were to look into a drum and identify
9 visually cracks in that drum, what would be your next
10 course of action? Who would call in the expert to
11 identify these cracks?

12 A I will call in, hand it out immediately.

13 Q You would call or would you have the company
14 bring in their own?

15 A Oh, no. Tell them to, of course.

16 Q So they could bring in a representative --

17 A Yes.

18 Q -- of their own.

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

20 MR. OLSEN: I've got just a last question.

21 FURTHER EXAMINATION

22 BY MR. OLSEN:

23 Q Could you give us an idea of the type of
24 thermal stresses that you might find in a boiler and
25 where we might look to find evidence of thermal stress
26 in the steel components?

27 A In what area of the --

28 Q Any area.

29 A It's a very wide question. You have to
30 specify a little bit more.

31 Q Okay. Just say where you have a stub off the
32 drum attached to a valve or the feed inlet pipe, that's
33 a good one. The feed water inlet pipe. Is there
34 anything unusual that --

35 A What I will look for -- let me take a drum,
36 since is a little bit -- you will look where you have
37 -- you know, around the manhole, if you can reach or
38 you have any attachment for a valve or any place where
39 you have materials is welded together or have a
40 different shape, so you have possibilities of cracks.

41 MR. OLSEN: Thank you.

42 MR. ROTH-ROFFY: Okay. I think we're finally
43 done with you. Thank you for being patient with us and
44 talking with us. You've been very helpful. Thank you,
45 Idar.

46 THE WITNESS: Thank you.

47 MR. ROTH-ROFFY: That will conclude the
48 interview of Mr. Idar Hofseth and the time is around
49 11:27.

1 (Whereupon, at 11:27 a.m. the interview was
2 concluded.)