

NATIONAL TRANSPORTATION SAFETY BOARD  
OFFICE OF MARINE SAFETY  
WASHINGTON, D.C.

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:  
SELENDANG AYU :  
:  
INTERVIEW OF TECHNICAL :  
SUPERVISOR RAJIV SARIN :  
:  
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An interview in the above entitled matter was held  
on Thursday, December 16, 2004, commencing at 4:10 p.m.,  
before:

BRIAN CURTIS, NTSB  
SEAN MCPHILAMY, USCG  
DARRELL HOWELLS, USCG  
CAPTAIN LEW KWOK YUE, IMC



1 joined sea in late 1978, and I worked my (indiscernible) as  
2 chief engineer in 1989, and more than 11 years, I was  
3 filling as chief engineer, and then I joined IMC Shipping as  
4 an assistant superintendent.

5 I was also sailing on their ships as chief  
6 engineer, and I joined as an assistant superintendent in  
7 June 2001, and then I was promoted to superintendent in 03.

8 MR. CURTIS: I guess we can start out. I'd like  
9 to have you go through the events, any contact that you had  
10 with the vessel, the Selendang Ayu, on December 6th,  
11 beginning -- and if you could put times to each event if you  
12 could, and what happened during the course, beginning on, I  
13 guess it would be December -- was it December 6th, in  
14 Singapore, and just dates and times, and each event.

15 When you corresponded with a vessel, and what you  
16 said to them, or e-mailed to them. Just take me through the  
17 time line of your correspondence with the vessel.

18 MR. SARIN: You know, I have not noted down  
19 exactly, and I cannot tell you the (indiscernible) call  
20 exchange, and on -- during the sad incident, and I cannot  
21 tell you exact times, and all that you know, because I have  
22 not noted as such, but there are e-mails on record, and the  
23 telephone conversations, which took place.

24 I can give you a general picture of what had  
25 happened. Well, in the morning, for 7th December, I can

1 relate everything to Singapore time. In the morning, I was  
2 woken up from sleep, and the Captain had called me, and he  
3 told me the main engine had been stopped, and the number  
4 three unit liner had cracked.

5           So, I asked him, what was his location now,  
6 because I wanted to know if he's very near land, or there's  
7 some eminent danger. He said there's no eminent danger, but  
8 they're not absolutely clear of land. So, now, the liner  
9 change will take a long time. So, I advised him that you  
10 want to cut out the unit and proceed, and then I talked to  
11 the chief engineer as well.

12           The chief engineer was beside him. I talked to  
13 the chief engineer. I asked him what had happened. He said  
14 the liner is cracked, and he has stopped the engine. So, I  
15 told -- and he was worried about liner too, you know, a  
16 section which he could not locate, and --

17           So, I told him there's not -- for the timing you  
18 have to cut out the unit, and proceed, and then he handed  
19 over the phone to the master, and I told the master I told  
20 the chief to cut out the unit, and take all precautions and  
21 proceed for the time being.

22           Then, later on, we can see whether when he cuts  
23 out the unit, and we start the engine, and we can see the  
24 performance, and see whether it is -- they should proceed,  
25 or whether to go to the Dutch Harbor. If a master had told

1 me that vessel is (indiscernible) from Dutch Harbor.

2           Then, he told me something about a (indiscernible)  
3 you know, he had some, what appeared to be some extra miles,  
4 or something. So, by the time -- I was very much worried  
5 about this technical matter, you know. So, I told him, it's  
6 up to you, and then, I also told him that I'll be calling my  
7 technical general manager, who is on leave, but like this  
8 was important, and you know, I thought I'll just inform him.

9           So, I, after some gap, I called him up, and I told  
10 him, this is the situation. So, he said okay, vessel is  
11 suffering, and is going to cut out a unit, and proceed. So,  
12 it was okay. Well, that is end of this. This is what  
13 happened before.

14           Then, I came to the office, and after I came to  
15 the office, I had -- the other vessel's also  
16 (indiscernible), and after some time, I check the  
17 (indiscernible) the vessel, and also the master had also  
18 called up, and there was a -- progress was very slow, you  
19 know? Cutting out this unit, and proceeding.

20           So, I had inquired with the chief engineer what  
21 exactly he was doing, and he was taking all the procedures  
22 according to manual. I told him, you're taking a bit long.  
23 Well, then, he's taking long, but when the ship's stopped,  
24 you know you can't -- whatever they're doing is  
25 (indiscernible) weather, whatever it is, you know?

1           So, I only write them, you please try to hurry up,  
2 and try to get the engine going, and then let us see what is  
3 the problem. Is something which is common, you know, which  
4 is affecting the other unit. Then, in that case, maybe  
5 other liner will start cracking or something, you know. So,  
6 then we will decide whether to go to Dutch Harbor, or ask  
7 for some assistance.

8           Basically, they had to cut out unit, and get their  
9 own power first for these later observations to take place,  
10 but unfortunately, they could never manage to start the  
11 engines, and after they cut out, and all this, they informed  
12 me that they are unable to start the engine, and the chief  
13 has tried a lot of things, you know.

14           The chief was on the vessel for the whole time.  
15 He was an experienced chief engineer. He was very well  
16 familiar with the vessel, and he had tried a lot of things,  
17 you know, and we also gave him some suggestions. For  
18 example, there's a -- is liner okay, or there's no water in  
19 fuel, or he has checked all the things according to the  
20 manual, and make those instructions in the manual not  
21 (indiscernible) until some reason's given, and all that.

22           Then, he's tried from emergency stand, which would  
23 eliminate the runner, and all these things, you know? Some  
24 problems will get automatically -- emergency stand, when  
25 you're doing it, a lot of things get bypassed. So, if

1 there's problem in that -- that (indiscernible) sections,  
2 they automatically get bypassed, and then he (indiscernible)  
3 my hand, you know, all the fuel pressure, fuel, oil,  
4 injection pipes. So, those injections (indiscernible) you  
5 know? When the fuel is injected, there's injection job.  
6 So, there are a lot of things which he had tried.

7 Well, then, I thought that the only thing which he  
8 has done is really, has cut out the unit, and I asked him,  
9 are you (indiscernible) all the steps? One by one, in  
10 writing, what exactly you have done so that we can consult  
11 the makers, and not to leave out anything, because it could  
12 be a mistake made somewhere?

13 So, he send me, in writing, and then I consulted  
14 (indiscernible) BMW in Singapore, and they told us that for  
15 this case, only a couple of steps, like cutting out the  
16 fuel, and sending out the water were enough, because the  
17 basic difference was one (indiscernible), which he had left  
18 in an open position, you know, locked in open position.

19 So, that could be effecting some compression and  
20 all. So, I called up the chief, so as to not waste time,  
21 you know. I called up the chief, and told him immediately.  
22 You work back, and do only these two steps, and I followed  
23 up with the message to the vessel.

24 Well, after this, he did not start on fuel again.  
25 Again, the same problem. So, we went back to BMW

1 Singapore, and then we told them that it's not starting  
2 again. So, I was talking to Mr. Mayulin (phonetic sp.) and  
3 then he  
4 said -- he -- generally, he asked me what all has been done,  
5 and you know, and we told him.

6           So, he give one position that maybe when the liner  
7 had leaked, a lot of water had gone into the air cooler, air  
8 (indiscernible), and maybe chief can open the drain and  
9 check, and see if that is the cause. So, he asked chief  
10 engineer to do that and he said there's only five inches of  
11 water or something around that. I think it was very little.  
12 So, this was not, obviously, the cause.

13           Then, we gained some more advice, you know. Then,  
14 you check for that moment, and if necessary, you can  
15 (indiscernible) you can put people there, and the time of  
16 start, you can increase the fuel. If that has -- well, it  
17 also did not help. Then, we were struggling, you know, to  
18 see what exactly could be the problem, and we were also very  
19 tense, you know. That is a long time, and we have not been  
20 able to solve this problem.

21           So, next was that probably you know, there's no  
22 compression in the unit, and there's a possibility that the  
23 rings are broken. So, we told him to open the scavenger  
24 inspection bowl from the port side, and inspect, and give us  
25 a report what exactly is the state, and then he told us.

1 Except for two units, the rings are either broken or stuck,  
2 or black. Black would mean it's lost its elasticity, and  
3 gasses are starting to -- so, it was not a very good  
4 picture.

5           So, we report that this is the root cause why the  
6 compression engine is not picking up on two, because there's  
7 a lack of compression, and then we asked him to inspect from  
8 starboard side, and take the photographs, and send to us, so  
9 that we can have also a very clear picture, and at the same  
10 time -- well, when he has reported this number six unit.

11           We had seen their (indiscernible) and decided that  
12 if he could do this number six unit, he increases his  
13 chances of getting compression and engine will be able to  
14 start. So, we told him that as soon as possible, you  
15 immediately start working on this number six unit, and  
16 change the rings, and then try again.

17           So, he had taken out (indiscernible) and also we  
18 told him after the same time you give us all the position.  
19 Whether he had -- master had, in between, reported that his  
20 vessel is drifting towards one island, and we thought that  
21 there is a potential injure. So, -- well, our  
22 (indiscernible) was (indiscernible) that one. So, I can do  
23 (indiscernible) regarding all the -- but of all the  
24 technical things.

25           We told him to do this unit. So, next morning, I

1 came. I found that he has done -- taken out the cylinder  
2 head, but because of bad weather, a lot of rolling,  
3 and -- he is unable to take out the piston. So, he's unable  
4 to take out piston, and then, we call up the master, and  
5 told him that this has to be done, you know.

6           We know it's rolling, and all, but with some  
7 precautions, or whatever, they have to do this, but then, he  
8 thinks they were not able to do. They -- it was very bad  
9 weather, or a (indiscernible) and the master (indiscernible)  
10 and chief also said we're finding it tough to  
11 (indiscernible) this piston, but we told him that he must  
12 try to, with some precaution, but then, eventually, you  
13 know, they were not able to do, and in the later stages,  
14 when they were finally able to do, it was a bit late,  
15 because the last messages from the -- from the -- the  
16 last -- just before they went, you know.

17           The master had told us that it -- about one hour  
18 left that he should be able to do, but then, I believe that  
19 just when he would've finished, the ship ran aground. It  
20 (indiscernible) and the people were rescued, and all that.  
21 This is a general description. I may have left out a few  
22 things, because you know, I'm also a bit -- I'm very  
23 depressed regarding this incident.

24           MR. CURTIS: Yeah.

25           MR. SARIN: This is a general outline of what has

1 happened.

2 MR. CURTIS: Okay, thank you, Rajiv. Yes,  
3 certainly a tragedy. We have some follow-up questions. If  
4 they were to replace the -- initially, if they were to  
5 replace the liner, how long would it have taken them,  
6 probably, to replace the liner, and get the engine started,  
7 if they did that initially?

8 MR. SARIN: If they did that initially, I would  
9 say, you know, it depends on the condition. If liner's  
10 stuck or something, you know, there was always a possibility  
11 liner gets stuck badly. Then, they would require some other  
12 efforts to -- and longer time, but (indiscernible) say about  
13 one and a half days, they should be able to replace the  
14 liner. About -- this is in good weather, and no  
15 obstructions, and if all goes well.

16 MR. CURTIS: You mentioned you spoke with a BMW  
17 rep., could we get his name and contact information from  
18 you?

19 MR. SARIN: Yes, there's a Mr. Steven Griswell  
20 (phonetic sp.) and there's Mr. Mayulin (phonetic sp.) from  
21 BMW, who we had contacted.

22 MR. CURTIS: Mayulin, could you -- how do you  
23 spell his name?

24 MR. SARIN: This is M-A-Y-U-L-I-N. I will -- just  
25 a minute, I will make it very clear to you.

1 MR. CURTIS: Okay.

2 MR. SARIN: That is, yeah, so this is Mayulin, M-  
3 A-Y-U-L-I-N.

4 MR. CURTIS: Okay.

5 MR. SARIN: And there's Mr. Steven -- Steven, S-T-  
6 S-A-N-Z R-A-E-F-E-R.

7 MR. CURTIS: His last name, again, please?

8 MR. SARIN: Is Golf, Romeo, Alpha, Echo, F for  
9 Finland, E for England, R for Romeo.

10 MR. CURTIS: Okay, thank you.

11 MR. SARIN: Raefer, (indiscernible) Raefer.

12 MR. CURTIS: Raefer, okay, and do we have a  
13 contact phone number for them? Do you have that there?

14 MR. SARIN: There's a phone number, 65 for  
15 Singapore, 6861, 8590.

16 MR. CURTIS: 65, 68, 61, 85, 90?

17 MR. SARIN: Yes, that is BMW Singapore.

18 MR. CURTIS: Okay, and these are the people you  
19 usually deal with for your technical support?

20 MR. SARIN: Yes, for main engine problems, we deal  
21 with them, but we deal with others also. For automation, we  
22 deal with (indiscernible) Automation.

23 MR. CURTIS: Okay.

24 MR. SARIN: Mission of (indiscernible) system, we  
25 deal with the (indiscernible) or we can deal with them as

1 well.

2 MR. CURTIS: I have a question. The Captain spoke  
3 that he had an auto slow down alarm on the bridge. What  
4 would -- were you aware that he may have gotten this alarm,  
5 and what would this alarm be an indication of?

6 MR. SARIN: I (indiscernible). Can you repeat?

7 MR. CURTIS: In speaking with the Captain, he  
8 indicated, on the bridge, at the time the engine broke down  
9 that on the bridge they got an auto slow down alarm, and I  
10 was wondering what would trigger this alarm, and what it  
11 would be an indication of?

12 MR. SARIN: Oh, auto slow down alarm? Well, he  
13 never mentioned about any alarm of this sort, and I believe  
14 that this, he could never have taken care of, because he was  
15 experienced chief engineer. So, I didn't -- I have no  
16 conversation regarding this, with the master, and this was  
17 not mentioned to us.

18 MR. CURTIS: Your correspondence, that was done,  
19 you say, most of it was by e-mail, is that correct?

20 MR. SARIN: With whom, the vessel, or BMW?

21 MR. CURTIS: With the vessel.

22 MR. SARIN: Oh, with the vessel? We have it,  
23 e-mail, and also telephone and conversation. Telephone  
24 conversation is most, because it is the quickest in  
25 this -- because master has not opened his e-mail, you know,

1 all the time. So, is not like us, we open our e-mail all  
2 the time. So, I give him some messages, and then I call him  
3 up to open the e-mails. So, it is wasted of time. So, the  
4 quickest way, in emergency, would be telephone contact.

5 MR. CURTIS: Now, the e-mails to the vessel, would  
6 they go to the chief engineer, or exclusively to the  
7 captain, and the captain would get all the e-mails? How did  
8 that work?

9 MR. SARIN: Yeah, the captain would get all the  
10 e-mails, and those which are technically related, well, he  
11 would pass on to the chief engineer.

12 MR. CURTIS: We'll be looking to get those  
13 correspondences, and we'll handle that here with Captain  
14 Lew.

15 MR. SARIN: Yes. Yes, we have got them ready. We  
16 can dispatch them.

17 MR. CURTIS: I'll arrange that through Captain  
18 Lew, to get those dispatched. You say you got the pictures,  
19 the photos, what did they give you an indication of? What  
20 did you see in those?

21 MR. SARIN: Well, they give us an indication,  
22 which is more and less in the picture with the chief  
23 engineer's report, which he told us. Number one, and number  
24 five unit are intact. So, they were intact. Number three,  
25 (indiscernible) they were broken, and number one was all

1    okay.

2                    Number two, three rings are broken, and number  
3    three unit, the top two rings are broken for one side.  
4    Other side, four rings are broken, and number four, fourth  
5    ring he could not pass that means it was seized, you know,  
6    and number five (indiscernible) shining. They're okay, and  
7    number two and three were blackened.

8                    MR. CURTIS:  If we could just go through those --

9                    MR. SARIN:  (Indiscernible) number three.  So,  
10   there were three rings which are bad.

11                   MR. CURTIS:  I'm sorry, I didn't get all that.  If  
12   we could just start at number one cylinder, and if you could  
13   just give the condition as you go down, quickly?

14                   MR. SARIN:  Yeah, okay.  Okay, number one ring,  
15   they were all good.  In fact, he had done this unit Seattle,  
16   which was his last port of call.  So, this unit was okay.  
17   In number two unit, third ring was broken, and number three  
18   unit, the top two rings were broken.  Inspecting from port  
19   side, and inspecting from tower side, four rings were  
20   broken.

21                    This was the unit with a liner head also cracked.  
22   Number four unit, from port side, they're all shining, and  
23   he could press, they had elasticity, but from starboard  
24   side, the fourth ring he could not press, and number five  
25   unit was all okay.  There, all the rings were okay, and

1 number six unit, number two and three rings had blackened,  
2 and he could not press number three. This would be the  
3 situation from both port and starboard side.

4 MR. CURTIS: Okay.

5 MR. SARIN: So that would be (indiscernible). He  
6 has the photographs, and we will be sending them to you.

7 MR. CURTIS: There seemed to be a lot of broken  
8 rings there. Did that give you an indication of anything?

9 MR. SARIN: Yeah, these rings, you know, the  
10 immediate thing was to get the engine working, and we  
11 would -- we would do once we were able to start, you know,  
12 he put in lights, and see what exactly has gone wrong.

13 There are a lot of factors responsible for ring  
14 breakage. Like, cleaner lubrication, and (indiscernible),  
15 and sticky rings, or poor quality, damaged rings, and the  
16 crown, you know, the crown, the piston crown, also the  
17 groove lining surface, it is not good, and there's no  
18 sealing, and it can lead to collapse of the ring, and there  
19 could be, also, stuffing, you know.

20 There's something known as stuffing that the liner  
21 lubrication is not good, and there's a spot. They get spot  
22 (indiscernible) they lead to blow past, and collapse later  
23 on, and high (indiscernible) pressure. All these are the  
24 reasons. So, this -- well, we would have to determine  
25 later, once he get the engine going, then we would ask him

1 for the parameters, and all his observations, and we could  
2 then decide whether the whole engine is in a state where he  
3 could make the full (indiscernible) or we have to go to  
4 Dutch Harbor, or we could ask for some tug assistance. So,  
5 that was our planning, you know.

6 MR. CURTIS: Had this been a problem with this  
7 engine? Broken rings, had this been a problem in the past?

8 MR. SARIN: Well, this is not really to be an  
9 alarming state.

10 MR. CURTIS: You say that's -- you didn't think  
11 that was a -- what did you say, sir?

12 MR. SARIN: Well, I won't say that this was a  
13 problem. This was not a problem in the past.

14 MR. CURTIS: At this time, I mean, at the time, at  
15 the current time, did you think there were a lot of broken  
16 rings in there? Compared to what you would expect to see?

17 MR. SARIN: Yes, we were surprised, because he has  
18 inspected all his rings, and he has cleaned those  
19 (indiscernible) spaces in Seattle, and according to this  
20 logged on report, none of them were -- he has not mentioned  
21 that he found anything broken, and if he found anything  
22 broken, he would have mentioned it, and he was supposed to  
23 have taken some action.

24 MR. CURTIS: I'm just reading my notes. If you  
25 bear with me for a moment.

1 MR. SARIN: Okay.

2 MR. CURTIS: The fuel is -- have you had any  
3 problems with the fuel quality, or you think that possibly  
4 could've played a role in this?

5 MR. SARIN: (Indiscernible) regarding the fuel  
6 quality, well, we have seen the last three reports of the  
7 fuel analysis, and they don't show any abnormality, but then  
8 there is another thing, because of the number of tests,  
9 which they do, normally.

10 If you want to do a real complete test, you must  
11 do some other tests also. A complete test would be required  
12 to find some contamination, which goes undetected. So, for  
13 that and some more tests would be required, you know.

14 MR. CURTIS: Do you know --

15 MR. SARIN: In that respect, I cannot say, because  
16 whatever tests were done, they appeared to be within the  
17 specs.

18 MR. CURTIS: What would be the other contaminants  
19 that may not be on there that you might look for?

20 MR. SARIN: Besides those tendered tests, I don't  
21 have that much knowledge, but I know that there are some  
22 contaminants which can go undetected, and some fuel experts  
23 may be able to give a better idea regarding this.

24 MR. CURTIS: They indicated, the engineers'  
25 interviews, they indicated they used heavy oil, and then

1 diesel oil if they are going to maintenance on the engines.

2 Has there ever been a problem switching heavy to diesel oil  
3 that caused engine maintenance problems before?

4 MR. SARIN: Can you repeat the question?

5 MR. CURTIS: I understand they used, normally used  
6 heavy oil, but if they're going to do maintenance on the  
7 engine, they use lighter diesel oil. Does that cause  
8 problems going from a heavy to a lighter oil?

9 MR. SARIN: I don't think this -- in this -- in  
10 the system, (indiscernible) when the engine is  
11 (indiscernible) you can change over to heavy oil or diesel  
12 oil. So, I don't think that is any problem regarding that.

13 MR. CURTIS: I'd like to move along a little bit  
14 now. Maintenance records, I understand you use BV Orchis  
15 program?

16 MR. SARIN: Yes, yes, we do that.

17 MR. CURTIS: How often are the vessel records sent  
18 to the office, and are they kept electronically?

19 MR. SARIN: Yeah, at each month end, the vessel is  
20 sending electronically to the office, at each month's end.

21 MR. CURTIS: So, would that be something we could  
22 potentially look to get? Maintenance records, say, for the  
23 past year, electronically, would that be doable?

24 MR. SARIN: Yeah, yeah, they've been sending us  
25 these reports electronically.

1           MR. CURTIS: That system, is that BV Orchis, is  
2 that correct?

3           MR. SARIN: BV Orchid, that is right. Gravel,  
4 victor, Orca.

5           MR. CURTIS: Does that track maintenance, parts,  
6 inventory, and everything?

7           MR. SARIN: I beg your pardon? What exactly?

8           MR. CURTIS: Does this BV Orchis program, does  
9 this track maintenance due, maintenance performed, and  
10 parts, inventory in the vessel, all that?

11          MR. SARIN: Yeah, yeah, this is -- this is the  
12 maintenance program that we are -- which we are calling, or  
13 you want to know about inventory?

14          MR. CURTIS: We'd like to just look at the  
15 entries, and maintenance performed. So, we'll probably be  
16 requesting, maybe, a year's worth of maintenance records  
17 electronically, but I can request that through Captain Lew.

18          MR. SARIN: Yeah, we have the record for  
19 (indiscernible).

20          MR. CURTIS: Okay, Rajiv, I'm going to pass the  
21 questioning on to somebody else now, and they'll identify  
22 themselves, and we'll continue on.

23          MR. SARIN: All right, thank you.

24          MR. HOWELLS: Hi Rajiv, this is Darrell Howells,  
25 with the Coast Guard. My first question is, for each unit,

1 can you isolate the jacket water?

2 MR. SARIN: Yes, yes, we can, we can.

3 MR. HOWELLS: Rajiv, can you give me an  
4 approximate time of when the Captain called, and woke you  
5 up?

6 MR. SARIN: Let's see, when he was working up  
7 (indiscernible) I was asleep, and I did not see the time,  
8 but it was not daylight. So, I guess it was before 6  
9 o'clock.

10 MR. HOWELLS: Rajiv, do you remember what time you  
11 went to bed that night?

12 MR. SARIN: I beg your pardon?

13 MR. HOWELLS: Do you recall what time you went to  
14 bed that night?

15 MR. SARIN: I don't recall. Maybe around 12:00 or  
16 something, 11:00, or 12:00 in the night.

17 MR. HOWELLS: When he woke you up, and you talked  
18 to him, did you go back to sleep, or did you stay awake?

19 MR. SARIN: I wanted to have a nap, you know, but  
20 I was worried, and I wasn't able to sleep again. I had  
21 closed my eyes, and you know, I was trying to get asleep,  
22 but I was unable, and then I called up my technical, general  
23 manager also, and apprized him of the situation, and then I  
24 had to call -- call back the vessel before going to office.

25 MR. HOWELLS: Could you tell me the name of your

1 technical manager, please?

2 MR. SARIN: The technical general manager, Mr.  
3 (indiscernible).

4 MR. HOWELLS: Thank you. Rajiv, are you the one  
5 that requested the pictures?

6 MR. SARIN: For the vessel, I, basically, I am in  
7 communication. So, yes, I requested the master, and I told  
8 the chief engineer, you take the photograph, and please send  
9 it to us.

10 MR. HOWELLS: Okay, give me a second here. I'm  
11 going through my notes. Rajiv, when you were speaking  
12 earlier, it sounded like you said something about an  
13 emergency stand, or something? I didn't quite understand  
14 that.

15 MR. SARIN: Yes.

16 MR. HOWELLS: What is that?

17 MR. SARIN: Do you want me to explain about the  
18 emergency stand?

19 MR. HOWELLS: Yes, please.

20 MR. SARIN: Yes, this is for -- this emergency  
21 stand is where our emergency maneuvering is located. We  
22 have a -- we can do the maneuvering from bridge, or we can  
23 do it from control room, or we can do it from this emergency  
24 stand, and this emergency stand, bypasses a lot of things  
25 like your (indiscernible) and all that you know?

1           So, if there's a problem in that section of  
2 the -- of the engine, then we are eliminating, you know? We  
3 are eliminating a lot of things, even if they are wrong. If  
4 the (indiscernible) party, or whatever, if -- when you do it  
5 from the emergency that's why it is called emergency,  
6 because in case of problem in other sections, you can bypass  
7 and you can quickly maneuver the engine.

8           MR. HOWELLS: Okay, thank you. Rajiv, can you  
9 tell me what type of alarms are on the vessel pertaining to  
10 the main engine?

11           MR. SARIN: Oh, there would be many alarms. It  
12 has -- I -- and pulling water temperatures, and I -- radio  
13 (indiscernible) temperatures, exhaust temperatures, lube oil  
14 temperatures, piston cooling temperatures, manual air  
15 pressures, low lube oil pressures for bearing, and the  
16 (indiscernible) and all (indiscernible) a lot of alarms will  
17 be there. Whenever spring air low pressure for exhaust  
18 (indiscernible) and we'll have air portals, low pressure.  
19 Whenever a lot of pressures.

20           MR. HOWELLS: Okay.

21           MR. SARIN: A lot of -- sorry, alarm.

22           MR. HOWELLS: Okay.

23           MR. SARIN: We had checked up with the chief if  
24 there are any (indiscernible) the ring related alarms in the  
25 dual oil pressure, (indiscernible) all these things, alarm.

1 They'll be many, many alarms.

2 MR. HOWELLS: In your experience, if you were on a  
3 vessel that had a cracked liner, what alarm would you expect  
4 to get?

5 MR. SARIN: Oh, in a cracked liner, you can have  
6 pulling water pressure low alarm, because the water is  
7 leaking out. You can have a high pulling water temperature  
8 outlet alarm for that particular unit.

9 MR. HOWELLS: Would you have a high cylinder  
10 temperature alarm?

11 MR. SARIN: Beg your pardon?

12 MR. HOWELLS: Could that cause a high cylinder  
13 temperature alarm?

14 MR. SARIN: High cylinder temperature?

15 MR. HOWELLS: Yes, do you have that kind of alarm?

16 MR. SARIN: High cylinder -- cylinder --

17 MR. HOWELLS: Unit, unit.

18 MR. SARIN: Oil (indiscernible)? There would  
19 be -- there would be an exhaust gas division temperature  
20 alarm. Division alarm for exhaust temperature.

21 MR. HOWELLS: Okay.

22 MR. SARIN: When they (indiscernible) these alarms  
23 or any alarms, you know, this chief would have reported.  
24 So, we have asked him if there's anything abnormal, which  
25 you have noted. So, he has not told us anything more

1 abnormal, you know.

2 MR. HOWELLS: Okay.

3 MR. SARIN: So, if he had reported any more  
4 things, then we would have discussed amongst ourselves, or  
5 we would have gone back to BMW. So, we had all the  
6 (indiscernible) and you have any problem, or anything else,  
7 observations, you please tell us so we can either consult,  
8 or we can let you know what to do.

9 MR. HOWELLS: I'm not sure if you can answer this,  
10 but on the bridge, if there was an alarm, any of those  
11 alarms that we just talked about. On the bridge, would it  
12 say, for example, high jacket water temperature, or would it  
13 just be an automatic slow down alarm? On the bridge?

14 MR. SARIN: Yeah, on the bridge, you won't have so  
15 much detail, but you would have slow down.

16 MR. HOWELLS: Okay.

17 MR. SARIN: Slow down, maybe, I think. I'm not  
18 sure, but slow down, should have. I'm not sure about that.

19 MR. HOWELLS: But in the control booth, it would  
20 say more specific, is that correct?

21 MR. SARIN: Yes, the more specific alarms would be  
22 in the engine alarms would be in the engine room, where you  
23 can detect what exactly which unit, or what.

24 MR. HOWELLS: Earlier, you said that you were  
25 concerned that it was taking a long time to isolate that

1 unit. Is that correct?

2 MR. SARIN: Yes, yes, we were concerned that he  
3 has taken a bit long, you know. He (indiscernible) just  
4 (indiscernible) and could have cut out the unit, and get  
5 started.

6 MR. HOWELLS: How long, in your opinion, would it  
7 take to isolate that unit?

8 MR. SARIN: Well, with all these tests like  
9 (indiscernible) cut out like they have described in the book  
10 for where a cracked liner case would be applicable. Maybe  
11 two, two and a half hours.

12 MR. HOWELLS: Okay.

13 MR. SARIN: With all the paper working and you  
14 know.

15 MR. HOWELLS: How long did it take the chief  
16 engineer?

17 MR. SARIN: I beg your pardon.

18 MR. HOWELLS: How long do you think it actually  
19 took him to do that?

20 MR. SARIN: Well, Singapore time, I think  
21 15 -- around 15, 30. We have send message to him. We have  
22 received a message regarding the steps taken at 15:32, we  
23 got this e-mail where the vessel has reported by e-mail, all  
24 the steps he has taken to isolate the main engine unit  
25 three.

1           So, I guess maybe my call would have been to him,  
2    about I'd say 15 minutes before that, and he has isolated.  
3    Plus, he has tried out, so we have to factor in that. Maybe  
4    he must have finished around 2 o'clock, or 3 o'clock  
5    Singapore time. Maybe 2 o'clock because he would -- he's  
6    (indiscernible) chief and I, you know, he wouldn't  
7    (indiscernible) a lot of things before he would come to the  
8    office for any help or -- So, I guess about (indiscernible)  
9    he must have already tried, and --

10           MR. HOWELLS: So, you're saying that you think he  
11   finished about 14:00 Singapore time, approximately?

12           MR. SARIN: About, about, I do not ask him,  
13   because you see, I was -- I was not an investigator. I was  
14   going to help them, you know.

15           MR. HOWELLS: I understand. Do you know what  
16   times --

17           MR. SARIN: Nautical time, okay, this time there's  
18   this time is --

19           MR. HOWELLS: Okay.

20           MR. SARIN: -- and it will be very significant for  
21   me, you know, to knock down all this time. More worried  
22   about solving the problem.

23           MR. HOWELLS: I understand. I appreciate that.

24           MR. SARIN: So, I can give you approximations.

25           MR. HOWELLS: Okay, approximations are fine. So,

1 we think he finished approximately 14:00. Do you know about  
2 what time, Singapore time, he would've started?

3 MR. SARIN: Well, he should have started  
4 immediately after the phone call, when I told him that we  
5 must wait (indiscernible).

6 MR. HOWELLS: The phone call where he woke you up?

7 MR. SARIN: (Indiscernible) because when we have  
8 to analyze, you know, what is wrong, and then we have to  
9 decide what to do, and we know there's bad weather. So, the  
10 sooner the things are done, the better.

11 MR. HOWELLS: I see. You're saying the phone call  
12 when he woke you up?

13 MR. SARIN: Yes, yes, that's right.

14 MR. HOWELLS: Was that on the 7th, Rajiv?

15 MR. SARIN: I beg your pardon?

16 MR. HOWELLS: Was that on the 7th of December?

17 MR. SARIN: Yes, Singapore time, 7th of December  
18 that's right.

19 MR. HOWELLS: One thing I don't understand is,  
20 when they had the problem, they broke the manual out, and  
21 followed the steps. Then, when you talked with them, you  
22 told them not to do all those steps, just to do two steps.  
23 I'm wondering why the change in procedure?

24 MR. SARIN: Well, the thing is that initially, I  
25 had told him that he must go according to the book, you

1 know. That's the general guideline. He must take all the  
2 precautions, be careful, while doing this. So, he has done  
3 it according to the book, and it is described in the book.

4 So, these is different. Yes, we agree. This is  
5 different, and one of the major differences, locking the  
6 exhaust valve in the open position, and which the problem,  
7 the reason is that when you lock the exhaust valve in open  
8 position, then you don't get a compression of the broken  
9 unit, you know.

10 MR. HOWELLS: I see.

11 MR. SARIN: There's a difference, but either of  
12 them is okay. If you lock the exhaust valve in open  
13 position, you don't get compression, and if -- and if you  
14 leave it closed, then you will get some compression in the  
15 unit.

16 So, (indiscernible) BMW has basically advised us  
17 to -- we have corresponded with BMW, and told them,  
18 (indiscernible) this is a step, which you prescribe in your  
19 book, and these are the one (indiscernible). So, BMW said  
20 no, this were enough. So, we went back to the  
21 (indiscernible) and told them, okay, you do like this.

22 MR. HOWELLS: So, correct me if I'm wrong. You  
23 went back to BMW, and they told you, no, don't use all those  
24 steps, just use the two steps? Is that correct?

25 MR. SARIN: Yeah, that's right.

1           MR. HOWELLS: Okay, thank you very much. That's  
2 all I have. Does anyone else have -- okay, Captain Lew is  
3 next.

4           CAPTAIN LEW KWOK YUE: Rajiv, this is Captain Lew  
5 here. Rajiv, the vessel received bunker at Seattle, and --

6           MR. SARIN: Yeah.

7           CAPTAIN LEW KWOK YUE: -- the vessel received  
8 bunker in Seattle, and the bunkers were sent for analysis  
9 under the company plan. I believe these bunker's report was  
10 sent to the vessel. Can you remember, roughly, how many  
11 days after receiving the bunkers was it sent to the vessel,  
12 this report?

13          MR. SARIN: When -- what happened, we normally get  
14 the report immediately. We send -- I don't remember, but it  
15 will (indiscernible). When the date of the (indiscernible)  
16 have been sent. I don't remember how many days before it  
17 was sent.

18          CAPTAIN LEW KWOK YUE: Would you normally advise  
19 the chief engineer any shortcoming of the bunkers? To take  
20 note of so that there is precaution for the operation of the  
21 engine?

22          MR. SARIN: Captain, can you repeat your question?

23          CAPTAIN LEW KWOK YUE: On the bunker analysis that  
24 you have received, looking at it --

25          MR. SARIN: Yeah.

1           CAPTAIN LEW KWOK YUE:  -- would you advise the  
2 chief engineer any precaution to be taken?

3           MR. SARIN:  Well, the report is self explanatory,  
4 and this is (indiscernible).  There is nothing wrong.

5           CAPTAIN LEW KWOK YUE:  Okay.

6           MR. SARIN:  Nothing wrong in this analysis.

7           CAPTAIN LEW KWOK YUE:  All right, you mentioned  
8 that you -- the superintendent role is to give technical  
9 support, and other matters.  In this emergency, what support  
10 did you think you could have provided more, beside emergent  
11 technical support?

12          MR. SARIN:  Well, basically, technical support,  
13 but here I have all (indiscernible) are other department  
14 like (indiscernible) also have combined to do teamwork in  
15 this emergency.

16          CAPTAIN LEW KWOK YUE:  So, your role is  
17 strictly --

18          MR. SARIN:  -- (indiscernible) informing.

19          CAPTAIN LEW KWOK YUE:  Your role, in an emergency,  
20 is still technical support, is that correct?

21          MR. SARIN:  Basically, yes, but then if in any  
22 other requirement, I'm required, I will do -- I would also  
23 support, if need be, I would also support doing anything.  
24 Well, to the best of my ability.

25          CAPTAIN LEW KWOK YUE:  There was discussion

1 between you and the technical manager. Was there any advice  
2 from the technical manager that was given that you think is  
3 best for the vessel?

4 MR. SARIN: Now, you see the technical manager is  
5 on leave. The general manager technical is on leave, and  
6 there's a senior superintendent in his place in the office,  
7 and I have consulted him regarding this, and it's all like  
8 teamwork. What exactly is the question?

9 CAPTAIN LEW KWOK YUE: What was the additional  
10 advice that was given by the technical manager during your  
11 discussion when you initially contact the technical manager  
12 when this event happened?

13 MR. SARIN: Oh, the technical general manager, he  
14 was on leave. He was in India, and I basically, informed  
15 him that this unit is going to be cut out, and we are  
16 proceeding, and we will observe, and he says it's okay.

17 CAPTAIN LEW KWOK YUE: One last question. The  
18 liners that is in the ship right now, are they original  
19 since delivery, or it has been changed previously before?  
20 Any of them, would you know?

21 MR. SARIN: Yes, I know that none of the liners  
22 were ever changed in this vessel, and this liner which is  
23 there on board, is original supply from the time of delivery  
24 of the vessel.

25 CAPTAIN LEW KWOK YUE: Okay, thank you. I have no

1 question more, Rajiv.

2 MR. SARIN: Okay, thank you, Captain Lew.

3 MR. CURTIS: Yes, Rajiv, Brian Curtis again. Just  
4 going back to the condition of the cylinders, there seemed  
5 to be a lot of broken rings. Did you discuss this report of  
6 all these broken rings, and the condition, with BMW?

7 MR. SARIN: Yes, we did. We send them the report  
8 from the vessel, and we had a reply from them on e-mail.

9 MR. CURTIS: What did they have to say?

10 MR. SARIN: Well, they say that results are for  
11 piston unit inspection indicates poor cylinder condition  
12 with unit three plus six collapsed. Two units collapsed.  
13 With collapsed piston rings, will sure have an effect on  
14 compression.

15 Required for (indiscernible), but the remaining  
16 four units are in more or less good condition, starting on  
17 the -- if the remaining four units are in more or less good  
18 condition, the starting of the engine should be possible,  
19 provided the fuel (indiscernible) is not faulty, and they've  
20 given us some advice.

21 Some functionality of fuel valves,  
22 (indiscernible), and position of fuel pump roller guide, and  
23 then jacket temperature, and fuel temperature, and some  
24 other advise. When an engine is started, it should be from  
25 engine control side, emergency control, and actual

1 (indiscernible) is available, and when giving fuel index,  
2 they have some people checking the high pressure pipes for  
3 injection and (indiscernible). Most of these, have already  
4 been taken care of by us, you know, during the check.

5 MR. CURTIS: So, is it -- did they think it was  
6 normal to have, maybe, one broken ring in a cylinder,  
7 typically?

8 MR. SARIN: Yeah, (indiscernible). If more or  
9 less is okay, then it should be in the -- starting of engine  
10 should be possible, provided the fuel (indiscernible) not  
11 fault again. They'd given us these checks and all this.  
12 Report is there with us. We will also be forwarding to you.

13 MR. CURTIS: And also, we'll be interested in  
14 getting the correspondence. Not only between the vessel and  
15 you, but also between BMW and you, just to get their --

16 MR. SARIN: Right, we have noted that and we will  
17 be forwarding you all the requirements.

18 MR. CURTIS: In previous reports from chief  
19 engineers, was this pretty standard for this engine to have  
20 one or two cylinders with excessive ring breakage?

21 MR. SARIN: Oh, we don't have any -- anything  
22 else, any problem that was stated or related.

23 MR. CURTIS: So, this was kind a new problem,  
24 then?

25 MR. SARIN: Yeah, yeah.

1 MR. CURTIS: Okay.

2 MR. SARIN: This is a --

3 MR. CURTIS: Hold on just a second, sir. I guess  
4 that's about all we have. Can you think of anything we  
5 didn't ask that you may want to tell us that we didn't touch  
6 on today, in the interview?

7 MR. SARIN: I can't think what. I mean, you know  
8 the questions, or anything from you. I cannot think of  
9 anything.

10 MR. CURTIS: Just one question, and I appreciate  
11 the sensitivity of the loss of the chief engineer. I just  
12 want to get a feeling for what you thought his capabilities  
13 of a chief engineer, how he was technically? If you could  
14 just give me a brief overview?

15 MR. SARIN: Well, this chief engineer was very  
16 experienced. He was about eight or nine years experienced  
17 as chief engineer, and he had been with us for a long time,  
18 and this was his fourth time as chief engineer on this very  
19 same vessel.

20 I would expect that he was finally familiar with  
21 the systems, and so, he was not very intelligent, but he was  
22 a hard worker, and I have no complaints against the chief  
23 engineer as such. I mean, people all make mistakes, but as  
24 such, he was in okay category, okay category. Not very  
25 good, but okay category.

1           MR. CURTIS: All right, sir. Well, thanks, Rajiv,  
2 and I may be in touch with you in the future, but I  
3 certainly appreciate your time today, and we all do here,  
4 and you have a nice day, and we'll possibly in touch in the  
5 future. Thank you.

6           MR. SARIN: Okay, thank you, sir.

7           (Whereupon, at 5:07 p.m., the interview was  
8 concluded.)

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## C E R T I F I C A T E

DEPOSITION SERVICES, INC., hereby certifies that the attached pages represent an accurate transcript of the electronic sound recording of the proceedings of the National Transportation Safety Board Interview regarding the grounding of the Selendang Ayu on December 9, 2004.

INTERVIEW OF TECHNICAL SUPERINTENDENT

RAJIV SARIN

Eve Jemison, Transcriber

