

UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

* * * * *

Investigation of:

*
*
*
*
*
*
*

ENGINE FAILURE ON BOARD OFFSHORE
SUPPLY VESSEL OCEAN GUARDIAN
IN SHILSHOLE BAY NEAR SEATTLE,
WASHINGTON, ON MAY 27, 2022

Accident No.: DCA22FM021

* * * * *

Interview of: LARRY BRONSON, Port Engineer
Stabbert Maritime

Seattle, Washington

Tuesday,
June 7, 2022

APPEARANCES:

BRIAN YOUNG, Investigator
National Transportation Safety Board

[REDACTED]

[REDACTED]

U.S. Coast Guard Academy

BRAD WESTLUND
Stabbert Maritime

I N D E X

ITEM

PAGE

Interview of Larry Bronson:

By Mr. Young

4

By Mr. [REDACTED]

16

I N T E R V I E W

(1:15 p.m. Pacific Time)

1
2
3 MR. YOUNG: Okay. This is Brian Young, with the NTSB.
4 It is 1:15 June 7, 2022. We're in Seattle, Washington -- I'm
5 sorry, it's 2:14. We are interviewing the port engineer for the
6 Ocean Guardian. And again my last name is Young, Y-o-u-n-g.

7 MR. WESTLUND: Brad Westland, Stabbert Maritime. Last name
8 Westlund, W-e-s-t-l-u-n-d.

9 MR. BRONSON: Larry Bronson, port engineer, Stabbert
10 Maritime. Last name B-r-o-n-s-o-n.

11 MR. [REDACTED] Lieutenant [REDACTED]
12 Coast Guard.

13 MS [REDACTED] First Class Cadet [REDACTED] United States Coast
14 Guard Academy. [REDACTED]

INTERVIEW OF LARRY BRONSON

BY MR. YOUNG:

16
17 Q. And, thank you, Mr. Bronson, for your help today. We
18 appreciate you showing us around the vessel and sitting down to
19 talk with us today. If we could maybe start off a little bit and
20 talk about your maritime experience and how you came to have this
21 position as a port engineer.

22 A. So I've sailed from 1984 until 2012. I started off fishing
23 in Alaska, worked my way up to my chief engineer unlimited,
24 finished my sailing career working for Crowley Tankers. I've
25 worked on (indiscernible) vessels, cruise ships, Otis Supply

1 vessels, fishing boats, crab and long liners, and draggers.

2 Came ashore in 2012, Stabbert Maritime. Started off as a
3 port engineer. Came in here learning basically how to be a port
4 engineer from Chris Johnson and Andy over here ahead of me. Been
5 here doing overseeing shipyard periods, overhauls, projects,
6 installations for mobilization for clients. I oversee the day-to-
7 day engineer operations, requisitions, approvals, interface with
8 the chief engineers, engineering crew, lining up vendors and
9 vendor assistance for any problems they have, establishing a
10 network of vendors for areas of operations and then budgeting for
11 annuals and budgeting for yearly and special projects.

12 Q. And how many vessels are you responsible for?

13 A. Currently I'm responsible for three vessels, the Ocean Titan,
14 the Ocean Valor and the Ocean Guardian.

15 Q. And in your previous career, what was the highest license you
16 held?

17 A. Chief engineer unlimited, unlimited horsepower, gas, steam
18 and steam turbine -- I'm sorry, not steam turbine, but gas
19 turbine.

20 Q. Gas, and did you ever attend a maritime academy?

21 A. No, I did not. I worked my way up.

22 Q. Understood. I think the bulk of questions that we're going
23 to ask and talk about would be related to related to the
24 maintenance period leading up to the time of the incident on the
25 Ocean Guardian. Could you just give us a ballpark overview of

1 what work was being done since the vessel has been laid up here in
2 Seattle?

3 A. Sure. The main bulk of this was the addition of the shelter
4 deck, the -- a lot of space, the additional accommodation station,
5 the addition of the two ton cranes, both the 5 ton and the 60 ton,
6 and then the 150 ton A frame. That was all the structural and new
7 mechanical issues or I guess additions. We're also adding a
8 ballstar treatment system, reverse osmosis system and then during
9 that time we did the top end overhauls on engines number one and
10 number four. At that time when we were doing the lower
11 inspections, we found bearing issues, so we proceeded with number
12 one and then we went through number four. We replaced the main
13 bearings and the rod bearings. Number one, two and three we
14 replaced all the rod bearings. The main bearings were inspected
15 and passed so there was no reason to change those.

16 Q. And just in the big scope of things, how long has this
17 shipyard period been going on in the vessel? When did they arrive
18 here to start the work on the back deck?

19 A. We came off contract if I remember right August of last year.

20 Q. August.

21 A. I'd have to go back to my records, if I remember right.

22 Q. And do you have a range of dates when the engine work was
23 being done?

24 A. Sure, the top ends were done in -- let me see the dates on
25 this one -- February. They started, I believe --

1 (Phone ringing)

2 A. -- my apologies. They started in end of January if I
3 remember right, and then continued on to February. It looks like
4 they finally wrapped up on this one February 28.

5 Q. Of this year?

6 A. Yes.

7 Q. On main engine one and four?

8 A. On main engine one and four and two and three.

9 Q. Two and three. And when you said that some bearing issues
10 were found on one and four, what kind of issues are we talking
11 about?

12 A. That was one, two, three and four. What they did, when they
13 pulled the main bearings, they sound -- found wear in pitting
14 inside the bearing, number one main bearings, and on the rod
15 bearings on two, three and four. The main bearings were in good
16 condition, there was no sign of pitting, but on two, three and
17 four they found pitting on some of the bearings, so we made the
18 decision to change them all.

19 Q. And do you have any idea how many hours it had been since the
20 previous overhaul when that work was being done?

21 A. So the overhaul by Poncat (ph.) was done in Durban, South
22 Africa, and that was done at 47,237 hours. The engines were
23 pulled, long box were rebuilt, and they were reinstalled, and the
24 work -- this was done at 58,108 hours.

25 Q. Can you say that number again?

1 A. 58,108. It had slightly over 10,000 hours on them.

2 Q. Okay. And just for the record, do you recall what the
3 interval is for bearing inspection on the mains?

4 A. I don't know that there's necessarily interval for bearing
5 inspections. Normally what you do is during the top end if it's
6 been more than five years, Class will have you do an inspection on
7 them. We did when we first bought the boat, we did lower end
8 inspections. We pulled one main bearing and one rod bearing for
9 Class on each engine. They passed. I don't have the actual hours
10 on that one. I do have the top end overhauls. For that
11 particular engine, the top end was overhauled when we took
12 possession of it in March of 2020. The hours aren't on the
13 service report unfortunately.

14 Q. Is that when you took over the vessel?

15 A. That's when we took over the vessel.

16 Q. In March of 2020 you purchased the vessel?

17 A. Yeah, we purchased it, put it through its five year dry
18 docking, did the reactivation for ABS and Coast Guard.

19 Q. Okay.

20 A. Did the top end service work on those two engines with a plan
21 that the next down period which happened during this time, we
22 would do the top ends on the others to spread out the cost.

23 Q. And since the vessel has been in service, do you do a routine
24 maintenance of oil analysis?

25 A. Yeah, the last oil analysis was done right before the boat

1 came off contract in September and -- there it is. I put it --
2 that's the last service and it came back with no normal, no water,
3 no commrant (ph.), TBN was good, TQ index was 6, no -- yeah, it
4 was a good repot.

5 Q. No issues.

6 A. No issues.

7 Q. And then when the work was being done here at the shipyard,
8 who was performing the maintenance and the overhauls on these main
9 engines?

10 A. NC Machine was contracted to do all the work.

11 Q. And is that a vendor you've been working with over some
12 period of time or is this your first time working with them?

13 A. I've worked with them for a very long time. We've used them
14 on multiple occasions throughout my career here, and I've used
15 them with other companies.

16 Q. And how would you describe the relationship between
17 yourselves and this company?

18 A. Oh, we have a great relationship with them.

19 Q. No issues?

20 A. No issues. No, we've -- they've always stood by us and we've
21 always stood by them, you know. We used them when we did the
22 overhauls in Louisiana. So we brought -- we flew them in to do
23 the work.

24 Q. Okay. Going forward what is your plan as a company with the
25 damaged engine number three?

1 A. Right now I have a -- we purchased some engines down in
2 Louisiana, appropriate blocks, and we're having them re-long box
3 built and dyno'd. Right now I believe all but three parts are
4 left to be retrieved. They've already started the teardown on the
5 engines, so they should have them within -- by the end of next
6 week we should have the engines ready to ship up here, and then we
7 have to remove the oil pan to bring it in, but we will ship -- put
8 them together as long blocks. We won't disassemble the heads or
9 anything. We'll draw back in, but the pan in place, drop it back
10 in, oil pan back on, do the alignment. We'll take a look at the
11 rubber couplings at the same time, determine if we need to replace
12 those. I suspect we will anyways. They're \$250, so we'll go
13 ahead and change those. And then we'll move forward with wiring
14 harness repairs. We purchased four used engines that have wiring
15 harnesses on them, so we will remove the wiring harnesses, check
16 them, make sure there's no damage to them, and use those to repair
17 the other damaged wiring harnesses.

18 Q. How many engines do you think you'll need to replace on the
19 vessel now?

20 A. There's three wiring -- three engines need wiring harness
21 repairs.

22 Q. And the engine itself? Just number three is going to get
23 swapped out on here?

24 A. That's the only one that has the damage. We'll have the
25 other ones -- we plan to inspect the lower ends as just

1 precautionary because of this, and then we'll do bore scopes in
2 the liners, make sure we don't see any problems there.

3 Q. In the other engines?

4 A. Yeah.

5 Q. Okay.

6 A. Yup.

7 Q. Other than the pitting on the bearings that was observed
8 during the previous open and inspect, was there any other issues
9 found with the engines?

10 A. No, no, the engines were up -- all the engines have been
11 operating normally. No issues at all. Parameters were all good.
12 No reports of any deficiencies as far as that goes.

13 Q. And in order to inspect all the bearings, the engine and the
14 connecting rods all do need to be disassembled for a full
15 inspection, is that correct?

16 A. Yeah, you have to take the upper and lower bearing shells out
17 of one connecting rod in order to do that, and you have to remove
18 the cap and rotate the main bearing upper shell out to be able to
19 inspect that.

20 Q. And for the engines, were each of those done or is it one
21 sample from each engine?

22 A. One sample was done for each engine. Once they determined
23 that the rods needed to be replaced, we replaced those, and the
24 one samples that were removed out of the main bearing showed good
25 so we did not replace those.

1 Q. Okay. And you have all the records, too, so we don't have to
2 go --

3 A. Yeah.

4 Q. -- into that, of all the work that was done on all these
5 engines.

6 A. Yeah, yeah.

7 Q. Okay.

8 A. We have to provide all our service records to Class, so we
9 always have the service records for that.

10 Q. Right. I know you've only had possession of the vessel for
11 two years, but when you did purchase it, were you given the
12 previous records from --

13 A. Yes.

14 Q. -- the previous owners?

15 A. I have that.

16 Q. You have all that?

17 A. I have the service records. I don't have their day-to-day
18 maintenance records, but we have service records.

19 Q. Okay. One of the things we've seen in another accident with
20 engines burning similar to these is that they didn't have pre-lube
21 pumps on and the company is being proactive in adding them. I see
22 these engines have pre-lube pumps.

23 A. Um-hum.

24 Q. Do you know by any chance if that was the way they were
25 originally equipped or if they had been added by either yourself

1 or the previous customer?

2 A. No, as part of the power management system, these have a pre-
3 lube pump on them. The power management calls for an engine, and
4 unless it's a fast startup it allows it to pre-lube, and the
5 engine -- you can hear the pre-lube come on, and then after it's
6 reached its pressure, then the engine starts. So -- and that was
7 equipped from day one.

8 Q. Okay. So it was a requirement when the ship was built to
9 have pre-lubes as part of the programming to do an auto start.

10 A. It was called out in the original ship's specifications --

11 Q. Okay.

12 A. -- as to what they wanted.

13 Q. Okay.

14 A. So that's what was installed.

15 Q. Okay. So that would -- you can deduct that they've always
16 had pre-lube pumps on them.

17 A. Yes.

18 Q. Okay. And were you aboard for the sea trials the other day
19 when the failure happened?

20 A. Yes.

21 Q. And based on all your experience, would you say that the crew
22 did a timely and effective job at handling the situation?

23 A. Yes.

24 Q. Do you have any critique on lessons learned that maybe things
25 could have gotten any better, any which way?

1 A. Boy, that's a tough one because I would probably say that the
2 crew wasn't seasoned, so having not worked together there was a
3 little bit of confusion, you know, as to who was doing what, but
4 once they got into the groove, they did a great job. So -- and
5 that's always a tough one, you know, when you have a new crew.

6 Q. Yeah, yeah.

7 A. But we had done some reviews beforehand. Everybody knew
8 where to get stuff, you know, so I'd say we did very well.

9 Q. And do you think as a representative of the company that this
10 situation would be shared across the fleet or any safety alerts
11 come out? Like how do you handle this to disperse this
12 information throughout your fleet?

13 A. So what we would obviously put out an incident report, and
14 we've notified all the other crews of what happened and what we
15 found out. Basically, you know, the fire response and everything
16 else. We'll probably go through and take a look at where the weak
17 points are in our system after this so that we can address it and
18 then amend it on our other ships. One being I think the power
19 supply for the quick closing valves is what we mentioned was that
20 once that shorted out it ribbon effect, so there was a fusible
21 link between them, so we would take a look at that and prove that.
22 You know, there's schools of thoughts on once a fire happens, you
23 know, and how you want to be able to recover, and there's certain
24 items we should probably look at to make it easier to recover.

25 Q. And does this company give you the ability to make those

1 changes and have these meetings and make --

2 A. Oh, yeah. Oh, yeah.

3 Q. Have you ever been aboard a vessel or worked as a port
4 engineer with any sort of engine failure similar to this?

5 A. This is the only company I've been a port engineer with,
6 so --

7 Q. Okay.

8 A. -- I did see a failure on a BMW cross head bearing bolt that
9 came out and the bearing cap came off while we were underway
10 coming out of New York. That's the only time I've been a part of
11 the engine failure like this.

12 Q. And based on your experience, do you have any idea as to what
13 may have caused the engine to fail at this point?

14 A. There's no heat in the bearings, there's no heat in the crank
15 shafts, there's no sign of any of that, so I would have to say
16 there was a bolt failure of some type it would seem to me, that --
17 what caused it I can't say to you, but it looks to me like it was
18 a failure of a piece of equipment rather than a bearing
19 overheating. There's no signs of heat bearing damages or heat in
20 any other bearing, so loss of lube oil pressure you would see
21 bearings, multiple bearings of heat issues, you know. Loss of
22 lubrication just generates heat bearings, they melt. There's not
23 a single sign that I saw. I haven't seen the bearings, I've only
24 seen the crank shaft --

25 Q. Right.

1 A. -- and the rods, so there's nothing in there that tells me
2 that heat built up before it failed.

3 Q. And do you know if this particular cylinder and connecting
4 rod assembly was the one that had been pulled to be inspected
5 during the shipyard period on this engine?

6 A. They were all pulled so they were all replaced on this
7 engine, so all of the bearings and all of the connecting rods were
8 disconnected, bearings replaced and then reconnected.

9 Q. For the number three.

10 A. For the number three.

11 Q. Including the main?

12 A. No main bearings were done on that.

13 Q. No main bearings, but the connecting rod bearings --

14 A. I'd have to go back through and take a look and see if they -
15 - which main bearing they pulled. They don't say which main
16 bearing they pulled, they just said they -- rod bearing, so I'll
17 have to ask NC Cat which main bearing they pulled.

18 Q. Okay. Okay. Thank you. I don't have any other questions at
19 this time. I'm sure the Coast Guard does. Thank you for your
20 time.

21 A. Thank you.

22 BY MR. [REDACTED]

23 Q. This is Lieutenant [REDACTED] with the Coast Guard. So
24 does your company's quality management system or SMS or, you know,
25 either of those that you guys might have, have anything in terms

1 of overseeing the repairs or is that left completely to Cat during
2 that -- the engine work process?

3 A. Generally I -- we almost always ask the engineers on board,
4 the chief engineers, to monitor the daily progress and make sure
5 that they're happy with it.

6 Q. Okay.

7 A. We're usually pretty interactive with what we see as far as
8 when a piece of equipment is removed, if they show signs of damage
9 we go back to them and we say we verify and we agree with it.
10 When they were doing the reassembly we're usually in the same
11 space. Not necessarily working with them, but we do watch it.

12 Q. Okay. All right. And then in terms of SMS, do you guys have
13 any requirements on the marine casualty reporting, incident
14 reporting, any of that kind of stuff?

15 A. I would have to actually look in the SMS to do that, but,
16 yeah, I think we have a casualty reporting, but I can't say for
17 certain.

18 Q. And then I know you were on board that day. Was there any
19 discussions on board that you were a part of in terms of possibly
20 notifying Seattle Fire, the Coast Guard or any other external
21 company or assets that may have been able to respond and stand by
22 in case of reflash or to help fight the fire, anything like that?

23 A. No. My initial position was that it was as to muster. Once
24 the full muster was accounted for, then I actively started helping
25 them with the fire locks by doing a fire boundary watch and, no, I

1 was never on the bridge for any conversations --

2 Q. Okay.

3 A. -- for that.

4 Q. And then I understand that you, you know, the morning after
5 the incident occurred, you were out of office for a while, but
6 before you left the office that day, was there any discussion
7 about reporting this to the Coast Guard?

8 A. Not that I'm aware of.

9 Q. Okay.

10 A. I think there was a discussion about the Coast Guard form,
11 but, no --

12 Q. Okay.

13 A. -- not that I know of.

14 Q. I don't think I have any further questions.

15 MR. YOUNG: I have one follow up that you made me think.

16 BY MR. YOUNG:

17 Q. When the work was being done on these engines, was there any
18 sort of ship's crew around for the overhaul in the January,
19 February timeframe?

20 A. Yes, there was. I believe that would have been Jay Monroe
21 (ph.), one of our Q-meds and -- oh, his name's escaping me -- not
22 Elvis -- yeah, there's one other guy. His name is escaping me
23 right now.

24 Q. Somebody that maybe down the road we might want to talk to
25 who may have interacted with the people who were doing the work at

1 the time --

2 A. Yeah.

3 Q. -- just to see what was going on --

4 A. Um-hum.

5 Q. -- throughout that time.

6 A. Yes.

7 Q. But there were some --

8 A. Yes, there were some people on there, yes.

9 Q. Okay. Sounds good.

10 A. Engles (ph.), that's who it was.

11 Q. Was that a Q-med or a chief engineer?

12 A. Q-med. Engles, yeah.

13 Q. Q-med?

14 A. Yeah.

15 Q. Okay. Do you have any questions for us while we're on the
16 record?

17 A. No, no.

18 MR. YOUNG: Anything from your side?

19 MR. [REDACTED] No.

20 MR. YOUNG: You all set? All right. So thank you again for
21 your time. We will stop the recording.

22 MR. BRONSON: Thank you.

23 MR. YOUNG: Thank you.

24 (Whereupon, the interview was concluded.)

25

CERTIFICATE

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

IN THE MATTER OF: ENGINE FAILURE ON BOARD OFFSHORE
 SUPPLY VESSEL OCEAN GUARDIAN IN
 SHILSHOLE BAY NEAR SEATTLE, WASHINGTON
 ON MAY 27, 2022
 Interview of Larry Bronson

ACCIDENT NO.: DCA22FM021

PLACE: Seattle, Washington

DATE: June 7, 2022

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



LOIS D. RUSH
Transcriber