UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

Investigation of: *ROGER BLOUGH* CASUALTY IN STURGEON BAY, WISCONSIN, ON FEBRUARY 1, 2021	Accident No.: DCA21FM015

Interview of: JONATHAN J. FRANK, Service Technician
Tweet/Garot

Bay Shipbuilding Conference Room
Sturgeon Bay, Wisconsin

APPEARANCES:

CWO [redacted], Investigator
United States Coast Guard

DAVID FLAHERTY, Investigator
National Transportation Safety Board

I N D E X

I N T E R V I E W

CWO [redacted]: This is Chief Warrant Officer [redacted] with the U.S. Coast Guard, assigned investigating officer for the fire that occurred on the *Roger Blough* on February 1st, 2021. We are in the front office conference room at Bay Ship. Sitting directly to my right, I have Jon Frank with Tweet/Garot and this is a continuation of a previous interview.

Jon, you're free to leave at any time. Do I have your permission to record?

MR. FRANK: Yes, sir.

CWO [redacted]: Okay. David, do I have your permission to record, sir?

MR. FLAHERTY: Yes.

CWO [redacted]: Okay, thank you very much.

BY CWO [redacted]:

Q. So what I have in front of Jon and I here is a PowerPoint for the *Roger Blough*, I put together some pictures, and David has that as well, so we're just going to click through, we have the title slide and we're just going to move past that.

And the first picture here is of the layup furnace. When you first come down the ladder well to the forward lower main engine room, this is the view from the bottom of that ladder well. In the picture you can see the majority of the furnace, you can see the burner cabinet, the exhaust fan, the night -- the power disconnect switch, and if you look closely, and there will be

pictures later on, you can see the control cabinet has burned and fallen off of the furnace proper. Looking at this picture, Jon, is there anything jumping out at you at this point, or just kind of take it in and see what you see.

A. Yeah. That's weird for how hot it is that, you know, you can have some spots really burned.

Q. Um-hum.

A. You know, like look at the barrel.

Q. Yeah, Jon's referring to that 55-gallon or 42-gallon drum. One question I had for Jon here is when we look at the furnace, we have this burner control cabinet, right? This black shiny discoloration on here, in your opinion, what do you think may have caused that?

A. I was going to ask you.

Q. Okay.

A. Yeah, that black -- you're talking this black part here, right?

Q. Yes.

A. Yeah, it's -- is that -- there's got to be a cooler spot for whatever reason.

Q. Okay.

A. In the steel, yeah.

Q. Okay. I'm just curious if you had any ideas. There are some photos coming up here and maybe --

A. No, that should be all kind of the same steel wrapped around

this whole power attic (ph.).
Q. Okay. I'm going to switch to the next slide. Here's a view looking directly forward towards the bow, the furnace on the right, just to show some of the area affected. Jon, as you can see here, we've got some equipment on the left side of this photograph here and you can see the damage is already starting to reduce --
A. Um-hum.
Q. -- away from the furnace. And we have plastic that's in the forefront of this picture at the very bottom that's still intact. Just trying to show you where --
A. Yeah.
Q. -- a fair amount of the heat had come from. Any questions or would you like me to move to the next one?
A. No, no questions.
Q. Okay, this is, again, looking forward and inboard towards the center line --
A. Yeah.
Q. -- middle of the vessel. You can see the furnace here. Here we get a better shot of some of the heat outlet ducting --
A. Yeah.
Q. -- and I just want to -- the next photo, you can see this cable tract with a lot of heat damage to it.
A. Yes.
Q. And I think the next photos we'll get into kind of show you.

You can see just inboard of the furnace we have drums that are intact, the paint's still in good shape.

Moving to the next slide, this one states it's looking forward and slightly inboard at the port side of the furnace. This bulkhead we see in the picture is the forward machinery space watertight bulkhead.

A. Um-hum.

Q. In this photo we can see a lot of things, I can see the exhaust blower, I can see the burner cabinet, I can see the control cabinet here.

A. Yeah.

Q. The disconnect switch and in the background --

A. That's the oil filter.

Q. Right, we have our duplex diesel strainers there. And when you're ready to move to the next picture, Jon, you just say the word.

A. Yeah, go ahead.

Q. Now we're standing just aft of the furnace to its port side looking to starboard, again, just to kind of show the damaged area --

A. Um-hum.

Q. -- the heat affected zone.

A. It's the backside of the furnace.

Q. Yeah, so this would be the backside of the furnace, it's actually the starboard side in orientation to the vessel. To the

right of the picture, the bulkhead is the forward machinery space watertight, again, showing heat in the area of interest, and we have a black plastic bottle of cleaning supplies sitting on the drum and you can kind of see where the ducting is here.

A. Yeah.

CWO [redacted]: So in the picture, David, just to the left --

MR. FLAHERTY: Yeah.

CWO [redacted]: -- of the furnace, that ducting, that ducting goes down below the grating and supplies heat to the port and starboard main sea chest.

MR. FLAHERTY: Okay.

CWO [redacted]: And we can see our heat line here where the paint --

MR. FRANK: Yeah.

CWO [redacted]: -- is maintained. Jon noticed -- and David, some of the framing and equipment in the very far right hand of the corner by this bottle of cleaning supplies, you can see where we have paint intact on that forward machinery space bulkhead and in the picture there's a plywood door, it's a little hard to see, just to kind of show where heat did not come in at this furnace --

MR. FRANK: Um-hum, yeah.

CWO [redacted]: -- from this level, in my opinion.

MR. FLAHERTY: Okay, how much damage was sustained by the cable trays?

CWO [redacted]: How much damage to the cable trays?

MR. FLAHERTY: Yeah, the overhead where the cables are.

CWO [redacted]: Pretty substantial. So this furnace, when you look at the furnace, you can see this heat-affected zone, right, so you see the bottom portion --

MR. FLAHERTY: Yes.

CWO [redacted]: -- we still have paint intact, as well as that ducting. As we move up, that's where we had a larger amount of heat damage. So these cable trays are inboard to starboard of the furnace and we had a lot of melting up in the high -- higher portions of the overhead in this area. The same just aft of the furnace. Those cable trays, in the next couple photos will show, those have substantial deformation and damage.

Inboard of the furnace, we see this cable tray in the overhead, that's about as bad as it gets and that's approximately 7 feet from the furnace itself. Going forward, these cable trays get better; going starboard, they get better; and going aft, they get -- they get better to a point where they're --

MR. FLAHERTY: Right.

CWO [redacted]: -- unaffected within 12, 13 feet.

I'm going to go to the next slide. This should be -- it should say midrange photo. I'm standing at the center line looking directly to port, again, try to see some of this heat-affected zone. David, for you, and Jon, I'd just like to clarify, so to the right of this furnace we have round ducting coming in.

BY CWO [redacted]:

Q. Jon, is this the -- what is the purpose of this?
A. It brings your fresh air for your burner.
Q. Okay. I want to make sure that we all --
A. So that's going into the side of the cabinet.
Q. Okay, yeah.
A. Up front.
Q. Right into the burner cabinet.
A. Yeah.
CWO [redacted]: And then if we look, you see -- David, you see how we have a cable hanging down here in a loop?
MR. FLAHERTY: Yeah.
CWO [redacted]: In the bend of that cable, in that area, you'll see some soot-covered exhaust lagging.
MR. FLAHERTY: Yeah.
CWO [redacted]: And you'll see that leads around the aft section of the boiler, that's our main exhaust outlet.
MR. FLAHERTY: Okay.
BY MR. FLAHERTY:
Q. Below that cable that's sloping down in the middle of the furnace, there's a red area with a black kind of rectangle box around it, what's that?
A. That is your inspection window.
Q. Okay.
A. As far as before we start these things up after they had some failures, we would open that up and make sure it's not full of

fuel.

Q. Okay.

A. And in there, in there it shows your -- that's your burner compartment on the inside there.

MR. FLAHERTY: All right.

CWO [redacted]: So what we've seen in the photos so far and what I tried to document is to show where the heat was --

MR. FRANK: Um-hum.

CWO [redacted]: -- for the primary fire.

MR. FRANK: Yeah.

CWO [redacted] So we've seen aft of the furnace, we've seen starboard and we've seen port. As we go through the pictures, I'd also like to show that there isn't substantial heat damage below the furnace nor in front of it and we'll see that here in a minute.

This photo is just to kind of bring us back in to where we first started. There's a red circle on here and that is the -- that's the heat outlet for the furnace, one of two. That one's for primary machinery space heating and then the ducting directly to its right goes to feed directly onto the sea chest.

And one thing to note, David, the cable -- these cable trays you see in the overhead, that's a cleaner burn. So the cable trays in the previous pictures you saw very black, dripping plastic, that was still in a dirty burn phase. So what I'm seeing in this photo and as well as some of the ones coming up, the

cables, the fuel has been spent, the fire has consumed everything that it could in that area.

MR. FLAHERTY: Right.

CWO [redacted]: We move to the next slide, this is a close-up of the heat outlet. Just above this heat outlet vent here is the port side cargo boom trunk. Laying directly on top of that sloped plate is the cargo unloading belt. And you can see in the picture how the lower portions of the picture is very dark, we have a lot more soot and still combustible materials remaining. When we look at the steel here, everything has been consumed and we start to see pretty substantial structural deformation, I tried to capture in the pictures as best I could.

Moving to the next one, this is standing to the port side of the furnace, looking inboard. Again, that heat outlet is shown and we can see more rolling of the overhead plating, and some of the more extensive damage to the cable trays.

And Jon, stop me when you see something interesting. This is standing just aft of the furnace looking inboard again. Again we can see with some major support, transverse framing that's got structural damage due to the high heat and these cable trays where some of the metal and all of the plastic consumables have been reduced to ash. In this area, anything you touch crumbles apart.

The next slide is a midrange photo of the same, trying to show some of the structural deformation.

Okay, I've switched to the next slide, this one says standing

at the furnace's heat vent outlet looking directly aft. So this is looking directly at those cable trays and I think it shows a little bit better the amount of heat coming out of the furnace.

Standing on the port side looking inboard, here in this photo in the bottom section you can see a piece of orange duct tape that was placed there to mark the main power feed inlet, and that is your disconnect switch right there.

MR. FLAHERTY: Okay, I see it.

MR. FRANK: That's just all oil soaked, from fuel oil?

CWO [redacted]: In my opinion, it looks like there is an oily residue on the furnace.

MR. FRANK: Okay.

CWO [redacted]: Yeah. It looks -- so the reason I say that is when we get these photos, you can see this dark line on that combustion air box, David.

MR. FLAHERTY: Yeah.

CWO [redacted]: From that wavy line on down, things have a glisten to them and it's a very oily substance, tried not to touch it, but it seems as though there was some type of fuel oil on this.

MR. FLAHERTY: Yes --

(Crosstalk)

CWO [redacted]: And I think --

MR. FLAHERTY: Where -- I'm sorry. Where in that picture would I see a fuel line?

CWO [redacted]: In this particular picture you can see a fuel line. So if you look just barely to the left of the furnace where the air inlet comes in for fresh air, on the left side of that combustion box --

MR. FLAHERTY: Yeah.

CWO [redacted]: -- do you see some very white tape on some piping?

MR. FRANK: In the vertical, right alongside the furnace.

CWO [redacted]: Right alongside the furnace on the left side of the photo. There's a black pipe coming straight down, there's a white on it.

MR. FLAHERTY: Oh, okay. Yeah, yeah, I see it now. Yes. It's the fuel pipe.

CWO [redacted]: So if you follow that pipe up and then forward, you'll see two more pieces of tape, these mark our fuel inlet to the furnace as well as the fuel supply from the main tank.

MR. FLAHERTY: Okay. In the valve over there, that's for the fuel, as well.

CWO [redacted]: Yeah, so in the vertical pipe run, sir?

MR. FLAHERTY: Yeah, right.

CWO [redacted]: Yeah, that's that quarter-inch ball valve for disconnect. For --

MR. FLAHERTY: All right. So the fuel line is coming from the left-hand side of the picture, it's taking an elbow down, another elbow through the strainer and then another elbow and then

it's going back up through the valve, and then the fuel line eventually connects over and goes to that box.

CWO [redacted]: That is correct. And I have much better pictures showing that path, sir.

MR. FLAHERTY: Okay.

CWO [redacted]: Hopefully, that'll help. This picture's really good because it kind of gives that lay of the land where we have fuel piping because once you get close up, it's hard to see where everything's going.

Let's switch to the next slide here. This photo is directly under that burner cabinet. You'll see the -- you see the night switch in the right, just center of right in the photo?

MR. FLAHERTY: Yeah.

CWO [redacted]: It's in the down position. That's in the off position, but the heat caused the securing method to fail, so this switch has just dropped down. You'll see a rectangular thing leaning up against and kind of under that night switch there.

MR. FLAHERTY: Uh-huh.

CWO [redacted]: That is the cover to the control cabinet that we see just to the left. You'll see some metal conduit coming down to a box lying on its face on the grate there.

MR. FLAHERTY: Yeah.

CWO [redacted]: That's the main --

MR. FLAHERTY: Yeah.

CWO [redacted]: -- control cabinet. Is that correct, Jon?

MR. FRANK: Yes.

CWO [redacted]: Okay.

MR. FLAHERTY: So that's not -- that's not normally -- that should be against something. That fell out sometime during the fire.

MR. FRANK: Yeah, it was attached right there.

CWO [redacted]: Yeah, it literally --

MR. FLAHERTY: Okay.

CWO [redacted]: If you just leaned it up against the boiler and lifted it up above that squirrel cage, that's her location, based on the boat configuration.

BY CWO [redacted]:

Q. Jon, when you left the vessel, was this box still connected to the furnace?

A. Yes.

Q. Okay. And this lid over here by this disconnect, that was off so the crew could observe?

A. I don't remember if we left it off or we left it on.

Q. Okay.

A. I would say off, being where it's located.

Q. Yeah, and that's -- my understanding is that it was left off so engineers could monitor those contact makers.

A. Yes.

CWO [redacted]: I'm going to switch to the next slide now. Again, this is just a better view to kind of show the orientation

of that control cabinet. It's kind of hard to see where it mounts, but just another viewpoint.

MR. FLAHERTY: So let's see. In this picture of me standing on the port side of the furnace looking directly inboard at the port side lower section of the furnace, there's no fuel lines going, there's no fuel lines right here.

CWO [redacted]: The fuel lines are just barely out of view. The fuel line comes in to the side of -- so the box you see in this upper left-hand corner that takes up a good portion of the photo, the fuel line comes in to the side of that, to the left of --

MR. FLAHERTY: Okay. And then is there any -- that box where the burner is that's just above where these control boxes and the night switch and everything's armored, is there any openings in that? I see a line where a cable's going in there, an armored cable. So if there's -- so stuff could drip out from the top of it if it was collecting, right?

CWO [redacted]: So through this cable penetration in the unit, the way it appears to me is if there were oil in that control unit, it could be dripping down through this. It would follow this cable and it would also drip out the seams. This box is not tight. It's seam --

MR. FLAHERTY: Okay.

CWO [redacted]: -- construction, so it's -- you know, it's got five sides to it, essentially, all bolted in place, so oil could leak at the seams as well as come down, follow the cable path to

this control cabinet that we see face down in the photograph.

MR. FLAHERTY: Okay. Okay.

CWO [redacted]: Okay, I'd like to switch to the next one. Dave, is that all right with you?

MR. FLAHERTY: Yeah.

CWO [redacted]: Thank you, sir.

All right, it's just another photo, this is the middle section of the furnace, try to focus on this. Here, Jon, this is our main exhaust outlet --

MR. FRANK: Yes.

CWO [redacted]: -- blower, correct? Here in the photo you can see some of that fuel piping again. It comes in from -- forward from the duplex strainers, takes a 90, comes down six inches, there's a ball valve there and then it comes down and there are better photos coming up, but if you look very carefully, this fuel pipe runs just behind this fresh air inlet and then it terminates into this control cabinet, and you'll be able to see that very clearly in the next couple of photos.

This is the upper section of the furnace, I switched to the next slide, it says standing on the port side of the furnace looking inboard at the port side of the upper section. And this kind of gives a feel, you can see how the overhead is sloping, again, that is --

MR. FLAHERTY: Yes.

CWO [redacted]: -- the cargo unloading boom trunk for the port

side. The photos don't show the magnitude of the structural deformation as well as real life, but I would say that the deformation is fairly substantial. It appears there's a tremendous amount of heat just above this furnace and then continuing about 10 feet forward of this heat outlet and you can see that 90 on top of the furnace, that 90-degree trunk there for the heat vent outlet.

The heat directly above that and moving aft of this in the gas flow path is where most of the structural damage is in this area. In the photo, if you look at the left side of this furnace, you can see a little junction box, David.

MR. FLAHERTY: Uh-huh. Yeah.

CWO [redacted]: The cable coming out of that is spent, the insulation is gone, it's been wasted, but the --

MR. FLAHERTY: Right.

CWO [redacted]: I believe that goes to the emergency bus.

MR. FLAHERTY: Okay.

CWO [redacted]: So we have the disconnect switch on the -- that we saw earlier towards the bottom of the furnace, that's the main power inlet, and this other cable is for emergency power line.

Next slide we should have two photos. This is a fuel tubing exiting the burner cabinet. I'm standing on the port side of the furnace looking directly inboard. The first photo, laid on the deck to get a shot from below and the red arrows in the second photo show the direction of flow into this cabinet. That tubing

appears to be stainless steel tubing. I laid on the deck in this location to try to show where some of the discoloration is present and when I look at the bottom of this control cabinet, in the first photo on the left, you can see this wavy discoloration here as well as unspent carbon-like material. It looks as though there was an oil product dripping or flowing in this area.

I'll just say potentially, not definitively. And we can see the clean air inlet to the burner assembly, that duct work there on the left side of the photos, that has discoloration on it, as well, until you turn that 90 and then that clears up.

And David, if you notice in this picture, you can kind of see what I'm talking about on that burner cabinet, how it's all just ribbed together.

MR. FLAHERTY: Yeah, I saw that (indiscernible).

CWO [redacted]: Okay.

MR. FLAHERTY: Right.

CWO [redacted]: I'd like to go to the next slide. This photo is directly above where we just saw. Here we have our main fuel inlet piping to the furnace, that's the red arrows. The green arrows is supply from the diesel oil storage tank going to the duplex filters. One thing to note in this picture, you can see on the overhead all paint and combustible materials have been consumed and if we look at this picture carefully, in the lower left corner that's encompassed by these red arrows, this whole lower section, we still have paint and carbon that has not been

consumed by the fire and you'll see it, I think, in a photo I have coming up, almost dead center in the photo, on the very bottom, you see what looks like a four by four beam. It's a big piece of four by four wood that's just hung on hangers on the bulkhead. For whatever purpose, I don't know. When you look at that close, the only parts of that four by four that are affected are the (indiscernible) portions facing the furnace showing that the heat was coming from the direction of the front end. I believe I have a better photo coming up. We'll switch to the next slide.

Okay, bottom right of this picture you kind of see that four by four charring and again, on this forward machinery space bulkhead that we're looking at is just 32 or 36 inches from the furnace, the front of that furnace. This is our duplex fuel strainer. Again, I have the path, green arrows indicates from the diesel storage tank, red arrows are going to the furnace. The duplex strainer, the lever that lies between them is currently set for dual service, so it's actually filtering through both strainers.

MR. FLAHERTY: Okay.

CWO [redacted] You'll see that each strainer has its own valve for the purposes of draining. The valve on the right, you'll see closer coming up, there was a hose attached, there's a hose clamp fitting on that, but that hose has been consumed. The one on the left, we'll get a close-up here on the next slide, I believe.

Here we go. So this is looking directly at the forward

machinery space bulkhead, the furnace is directly to my back in this photo. The valve on the left to the outboard strainer, the port side there, is open, appears to be open. The valve on -- directly to the right appears to be closed. The spent hose, the consumed hose on that starboard filter there, the right filter, led to a five-gallon bucket for draining, for cleaning. This hose in the left photo here, the strainer, that hose is substantially damaged by fire and this hose leads elsewhere through the (indiscernible).

The next slide, this is a close-up of the PO hose connection to the outboard strainer's drain valve. You can see the hose to the right has been consumed, the one to the left, and it leads elsewhere to the engine room, there's substantial damage. And with that valve being open, I think fuel gravity, drained via gravity.

This is a close-up of that fuel hose to the furnace. On the next slide.

Now I've switched slides again, David, to make sure we're following in the right place. The title on this one says hose leading up to the open duplex strainer valve along the bulkhead --

MR. FLAHERTY: Yes.

CWO [redacted] -- going forward to the furnace.

MR. FLAHERTY: I'm on it.

CWO [redacted] All right, cool.

MR. FLAHERTY: Yeah.

CWO [redacted]: Thank you. These red arrows follow the direct path of the hose leading off the open valve from that strainer on the left. Here you can see that wooden beam a lot better. You'll notice that the paint on the bulkhead is intact, the beam has charring and burning to it, but that is limited to the side that faces the furnace. The end of the beam closest to us has the most damage. As you move further inboard, it gets better.

Moving to the next slide, this is from the starboard side of the furnace looking at that same hose, traveling up through the vessel. You can see the wooden beam again. The damage is reducing as we get further inboard.

Moving to the next slide, you'll note the bottom left-hand corner there's an arrow coming up, that's where we last left off with this hose and you can see here it transits into the cable trays and continues on its path. In this picture, also, you'll see some white duct tape hanging from a pipe. This pipe is the diesel oil storage tank supply line to those duplex strainers.

Jon, I apologize. I haven't opened that furnace up yet.

MR. FRANK: The front cover?

CWO [redacted]: Yeah.

MR. FRANK: I was going to ask, I was wondering --

CWO [redacted]: I would love to have that open for you, now is not the right time for that --

MR. FRANK: No.

CWO [redacted]: -- just yet. We haven't gotten that far. A lot

of interested parties here --

MR. FRANK: Yeah.

CWO [redacted]: -- and that's the -- that's the part where you're going to have a lot more to say, I believe, but I wanted to take the opportunity to show you some of this stuff and see what you thought.

Moving to the next slide, you should see the cable tray in very poor condition. There's a red circle or oval there and that is showing the fuel hose that was coming off that left side fuel strainer. It transits through the cable tray for 20 or so feet. We're about 10 feet to the port of the furnace at this point with a pretty heavily affected area, pretty heavily affected by heat and fire. And the hose is broken apart and burnt up substantially for a 5- or 6-foot section.

Moving to the next slide, so the furnace in this picture would be -- all the way to the right of the picture you can see that vertical ventilation duct that goes to the sea chest, can you kind of note there, David? And what you see here is the hose where it comes out of the cable trays and ends up terminating in a valve and there's a steel fabricated drum with a lid on it and that's where this hose terminates.

And the final slide shows the drum with the lid off.

MR. FLAHERTY: Interesting.

CWO [redacted]: Yes.

BY CWO [redacted]:

Q. So Jon, from our standpoint, you've had a chance to kind of look at the furnace, how do you feel is a potential -- do you think the furnace was an issue in this situation? Do you think that may have been an origin point?
A. You can tell it's definitely hot there.
Q. Right.
A. I mean, I'm no fire expert, but I'm sure you get somebody involved that knows all that scientific stuff that's -- like you see, everything's burnt, hot there. As you get away, it slowly dissipates.
Q. Any of those pictures stand out to you as something that you think we should focus on or something that you're like huh, this may have been contributing to the fire in any way, shape or form? Or is your specialty, you really, you want to get in there, right?
A. Well, I'd like to see the inside but I don't know whether that's going to tell you anything, you know, inside the cabinet, if that's going to tell you anything or anything. But like when you took the picture of the bottom, you can see all that fuel must've been flowing in there.
Q. Yeah. You know, with the idea that that fuel is continuing to flow in there, it doesn't matter what safety features you have --
A. No.
Q. -- on the furnace at that point.
A. If you start a fire on the outside -- inside that cabinet but

outside the burner, it's going to create a draft and it's going to pull that -- I would think it's going to pull that fuel in and as soon as it gets up and going, I mean, that unit could've shut down just like that, but as soon as it's gone, it's gone.

Q. Right. And if you notice, in the slide, it showed that the primary heat outlet --

A. Um-hum.

Q. -- and the path, the hot gas flow in that path where we have more destruction, that tells me -- my belief is that it is possible that there was a fairly large fire being fueled within that unit and it was just finding its path of exit.

A. Yeah.

Q. And like you said, it's going to draft through the exhaust system whether the blower's on or not.

A. Yeah.

CWO [redacted]: Okay. I really appreciate your time.

Mr. Flaherty --

MR. FLAHERTY: Yeah, has anyone -- no one's opened up that burner cabinet yet, huh?

CWO [redacted]: That has not -- no, that has not taken place. We've been standing off on that. I was waiting to see if someone from NTSB would be able to attend for that part of it and the company --

MR. FLAHERTY: Yeah, unfortunately, right now with the COVID restrictions they have on the federal employees, I can't -- I

could try, but they've being saying no to travel for me for almost a year now.

CWO [redacted]: Fully understand and I'd be happy to move things forward from the (indiscernible) level on my end, however you'd like to proceed. Excuse me. I know that the company has their fire investigators that have been out; we worked some pretty long days. They have departed and it looks like they're not going to be back until middle of February, so I'd say they won't be back for at least another week for Key Lakes fire investigator.

The availability of the other two investigators that were hired by Bay Ship, that's up in the air, as well. We're waiting to see when they're going to come down and wanting to see if Tweet/Garot or the manufacturer of the furnace wants someone present, so they're working all those things out and we've not opened up that cabinet as of yet.

MR. FLAHERTY: Yeah, I think for this -- looking at the photographs they provided, and they're really good, one of the next things that has to take place is opening up that cabinet, seeing if there is a fuel leak in there because if, as a fuel leak happens, you get carbon on the sight eye, even if the sight eye shut down the furnace but if there's still fuel leaking in there because it's being gravity fed down, you know, and with all the fuel that's located below it, that looks like it coated it and then you also mentioned fuel in the -- a substantial amount of fuel in the bilge. Yeah, it would be interesting to see if there

is a natural -- a failure of a fuel line inside that cabinet.

CWO [redacted]: Yes, sir.

BY CWO [redacted]:

Q. And you know, as long as we have Jon here, Jon, do you know how long the post-purge cycle is for something like this on a furnace or could you find out for me?

A. Call these things -- typically, for a decent piece of equipment, it's typically 30 seconds is kind of a standard. This may have a shorter one. Oh, post-purge or pre-purge?

Q. Post-purge.

A. Oh, post-purge. There may not be much of a post-purge, it might just shut off and that's it. Typically, they do. I'd really have to -- I'd have to ask the manufacturer on that.

CWO [redacted]: Okay. David --

MR. FRANK: That would be typically a 30-second -- I'm kind of going off our normal -- our average boilers we work on.

CWO [redacted]: Okay.

MR. FRANK: Thirty seconds prior to, 30 seconds after, sometimes longer ones, bigger ones.

CWO [redacted]: David, the reason I bring that question is if we did have fuel leakage, once the fire was sustained and supplied within the cabinet, that system doesn't just hard stop the post-purge. That, as a safety function, will continue for its preset amount of time. So for 30 seconds or 5 minutes, however long that period is, you're forcing air through the furnace which is feeding

the fire, causing it to get hotter until that cycle either (a) goes through its predetermined time frame or (b) the heat gets to a point where it affects multiple shutdowns and the system fails.

MR. FLAHERTY: Right.

MR. FRANK: And don't forget about the draft from the stack because that's -- you know, let's say it was running --

CWO [redacted]: Um-hum.

MR. FRANK: -- and then they had a fire external of the furnace but got into the furnace, like in the gap, and it malfunctioned and shut down, you still could probably have a natural draft. A natural draft --

CWO [redacted]: Oh, absolutely.

MR. FRANK: -- going up that stack because -- yeah.

MR. FLAHERTY: Yeah, I mean, the fire would be pulling in air.

MR. FRANK: And the stack being hot would be giving you a draft.

CWO [redacted]: Right. So it would be natural circulation at that point. Given the heat of the fire from what we've seen in some of the photos, that would be pulling up through the stack, which would kind of turn that heat outlet into, for lack of a better term, of a flame thrower --

MR. FRANK: Yeah.

CWO [redacted]: -- on that overhead, causing things to progress.

MR. FRANK: A blow torch.

CWO [redacted]: So Jon, that's all I have questions, as far as questions for you right now. Do you have anything else, looking at the photos, any concerns or things you recommend we focus on moving forward?

MR. FRANK: Not off the top of my head or -- yeah, nothing I can pinpoint out.

CWO [redacted]: Okay. Once we get that thing opened up, we'll have a lot more answers, I believe.

Mr. Flaherty, do you have any follow-up questions or concerns for Mr. Jon Frank right now?

MR. FLAHERTY: No, not at this time. But again, I appreciate your time.

CWO [redacted]: Absolutely. And I share that, as well. Thank you so much for taking the time to go through this.

David, we do have some documentation from Tweet/Garot that I'm going to obtain in just a moment. I'll start putting all these files together and start shooting them over to you once I have them available.

As of for right now, though, I'd like to conclude the interview, thank you so much for your cooperation. Unless there's any other questions, we'll touch base again here in the future.

All right, thank you very much, David, for participating in the interview and if you need me, give me a ring. Other than that, Jon, thanks for your time.

MR. FRANK: All right, no problem.

CWO [redacted]: Thank you. This concludes the interview.

(Whereupon, the interview was concluded.)

CERTIFICATE

This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF: *ROGER BLOUGH* CASUALTY
IN STURGEON BAY, WISCONSIN
ON FEBRUARY 1, 2021
Interview of Jonathan J. Frank

ACCIDENT NO.: DCA21FM015

PLACE: Sturgeon Bay, Wisconsin

was held according to the record, and that this is the original, complete, true and accurate transcript which has been compared to the recording accomplished at the hearing.

[redacted]

Transcriber