United States Coast Guard

Marine Board of Investigation

Formal Hearing

Fishing Vessel Destination

Henry M. Jackson Federal Building

U.S. Coast Guard Thirteenth District

915 Second Avenue

Seattle, Washington 98174

August 7, 2017 - August 17, 2017

REPORTER'S OFFICIAL TRANSCRIPT OF PROCEEDINGS

(VOLUME III of IX)

DATE TAKEN: Wednesday, August 9, 2017

TIME: 9:03 a.m. - 4:18 p.m.

REPORTED BY:

Jeannie A. Milio, RPR
Official Court Reporter
Administrative Law Judge Office
Baltimore, Maryland 21202-4022

APPEARANCES

UNITED STATES COAST GUARD

MARINE BOARD OF INVESTIGATION PANEL MEMBERS

COMMANDER SCOTT W. MULLER, CHAIRMAN
Fifth Coast Guard District
Inspections and Investigations Branch (dpi)
431 Crawford Street
Portsmouth, Virginia

MR. JAMES GILLETTE, MARINE BOARD MEMBER
Investigations NCOE
1615 Poydras Street, STE 1030
New Orleans, LA 70112

LCDR PEDRO L. MENDOZA, MARINE BOARD RECORDER
COMDT, CG-INV-1
2703 Martin Luther King Jr. Avenue, SE
Stop 7501
Washington, DC. 20593-7501

TECHNICAL ADVISORS:
COMMANDER TAMARA S. WALLEN, MARINE BOARD LEGAL ADVISOR
Coast Guard Island
Building 51-6
Alameda, CA 94501-5100

MR. SCOTT J. GIARD
Rescue Coordination Center District 13 Command Center
Henry M. Jackson Building
915 2nd Avenue
Seattle, WA 98174

LCDR RANDY L. PRESTON
Investigations NCOE
1615 Poydras Street, STE 1030
New Orleans, LA 70112

YN1 CAITLIN K. CALVERT
Seventeenth Coast Guard District
Legal Office
P.O. Box 25517
Juneau, AK 99801-5517

APPEARANCES (continued.)

NATIONAL TRANSPORTATION SAFETY BOARD

MARINE BOARD INVESTIGATION PANEL MEMBERS

MR. MICHAEL KARR,
INVESTIGATOR-IN-CHARGE
Office of Marine Safety
490 L'Enfant Plaza East, SW
Washington, DC 20594-2000

APPEARANCES ON BEHALF OF PARTIES IN INTEREST

ON BEHALF OF VESSEL OWNER DAVID L. WILSON
SVETLANA P. SPIVAK, ESQUIRE
Law Offices of Holmes, Weddle & Barcott
999 Third Avenue, Suite 2600
Seattle, WA 98104

T A B L E O F C O N T E N T S

P R O C E E D I N G S

OPENING STATEMENT

CDR MULLER: Good morning. This hearing will now come to order.

Today is August 9th, 2017, and the time is 9:03. We are continuing at the U.S. Coast Guard Thirteenth District, Seattle, Washington.

I am Commander Scott Muller of the United States Coast Guard, Chief of the Inspections and Investigations Branch Fifth Coast Guard District, Portsmouth, Virginia.

I am the Chairman of the Coast Guard Marine Board of Investigation and the presiding officer over these proceedings. The Commandant of the Coast Guard has convened this board under the authority of Title 46 U.S. Code, §6301, and Title 46 Code of Federal Regulations Part Four to investigate the circumstances surrounding the sinking of the fishing vessel Destination with the loss of six lives on February 11th, 2017 approximately 3 nautical miles north of St. George Island, Alaska.

The investigation will determine as closely as possible the factors that contributed to the incident in order to develop recommendations aimed at preventing similar casualties.

Whether there is evidence that any act of misconduct, inattention to duty, negligence or willful violation of the law on the part of any licensed or certificated person contributed to the casualty, and whether there is evidence that any Coast Guard personnel or any representative or employee of any other government agency or any other person caused or contributed to the casualty.

This Marine Board has planned for at least one hearing session. The purpose of this hearing is to collect factual information. The Marine Board will use the factual information when developing its report of findings, conclusions and recommendations.

I have previously determined that the following individual is a Party In Interest to this investigation, Mr. David Wilson represented by Ms. Spivak of Holmes, Weddle & Barcott, LLC.

This party has a direct interest in the investigation and has demonstrated the potential for contributing significantly to the completeness of the investigation or otherwise enhancing the safety of life and property at sea through participation as a Party In Interest. All Parties In Interest have a statutory right to employ counsel to represent them, to cross-examine witnesses and to have witnesses

called on their behalf. I will examine all witnesses at this formal hearing under oath or affirmation, and witnesses will be subject to federal laws and penalties governing false official statements.

Witnesses who are not Parties In Interest may be advised by their counsel concerning their rights; however, such counsel may not examine or cross-examine other witnesses or otherwise participate. These proceedings are open to the public and to the media. I ask for the cooperation of all persons present to minimize any disruptive influence on the proceedings in general and on the witnesses in particular.

Please turn your cell phones or other electronic devices off or to silent or vibrate mode. Please do not enter or depart the hearing room except during periods of recess. Flash photography will be permitted during the opening statement and during recess periods. The members of the press are, of course, welcome. An area has been set aside for your use during the proceedings. The news media may question witnesses concerning the testimony they have provided here, but only after I have released them from these proceedings. I ask that any such interviews be conducted outside this room.

Since the date of the casualty, the NTSB and the Coast Guard have conducted substantial evidence collection activities and some of that previously collected evidence will be considered during these hearings. Should any person have or believe he or she has information not brought forward, but which might be of direct significance that person is urged to bring that information to my attention by emailing FVDestination@USCG.mil.

The Coast Guard relies on strong partnerships that execute its missions and this Marine Board of Investigation is no exception. The National Transportation Safety Board provided a representative for this hearing, Mr. Michael Karr, also seated to my left is the Investigator In Charge for the NTSB investigation.

Mr. Karr, would you like to make a brief statement?

MR. KARR: Good morning. I'm Michael Karr Investigator In Charge for the National Transportation Safety Board for this investigation of this accident. The NTSB has joined this hearing to avoid duplicating the development of facts. Nevertheless, I do wish to point out that this does not preclude the NTSB from developing additional information separately from this

proceeding if that becomes necessary. At the conclusion of the hearing, the NTSB will analyze the facts of this accident, and determine the probable cause independent of the Coast Guard. We'll issue a report of the NTSB findings and if appropriate the NTSB will issue recommendations to correct safety problems discovered during this investigation. Thanks.

CDR MULLER: Thank you, Mr. Karr.

We will now call our first witness of the day, Mr. Parrott of Jensen Maritime. Mr. Parrott, if you would please come forward to the witness table and Lieutenant Commander Mendoza will administer your oath and ask you some preliminary questions.

JONATHAN PARROTT,

A witness produced on call of the Coast Guard, having first been duly sworn, was examined and testified as follows:

LCDR MENDOZA: Please be seated.

Sir, may you please state your full name and spell your last name for the record.

THE WITNESS: My name is Jonathan Parrott, and my last name is spelled P-A-R-R-O-T-T.

LCDR MENDOZA: Please state your current employment and position title, sir.

THE WITNESS: Currently employed by Jensen Maritime part of Crowley Maritime and current title is director of new design development.

LCDR MENDOZA: Do you hold any professional licenses or certificates.

THE WITNESS: I am a licensed professional engineer, naval architecture, marine engineering in the State of Washington.

LCDR MENDOZA: Thank you, sir.

CDR MULLER: Good morning, Mr. Parrott.

THE WITNESS: Good morning.

CDR MULLER: It's a pleasure to meet you in person. I know for the last number of months we spoke a few times, mainly where you helped provide information to the Board and also very helpful information regarding stability and design to myself. So I appreciate your assistance.

THE WITNESS: A pleasure.

DIRECT EXAMINATION

BY CDR MULLER

Q. So if you would, to get started if you could further describe your company, the work and the projects it performs and your capacity and function in those projects.

A. Jensen Maritime was formed in approximately

1961 by Ben Jensen, who was a naval architect here in Seattle. For the first probably 20 years he was primarily, we were primarily involved in developing fishing vessels and small commercial work boats for the pacific Northwest and the Alaskan area.

Currently we are part of Crowley Maritime. They bought us in 2008, and we do some work for them but we maintain other clients in the fishing industry and the commercial markets.

Q. Are you active in any professional organizations and have you worked for the Coast Guard in the past and in what capacity?

A. Currently a member of -- lifetime -- or a fellow member of SAAMI (phonetic), it doesn't mean that much really, but I am also technical advisor to the North Pacific Fishing Vessel Owners' Association. And then for working with the Coast Guard, we have assisted the Coast Guard for many years in discussing with stability and just anything that they have requested us to do.

Q. Okay. Thank you. So as you are aware, we are here to discuss the fishing vessel Destination. Can you tell us how you came to know the fishing vessel Destination if not you personally, but your company?

A. The original name of the boat was the Compass Rose and she was the sister ship to the Judy B, which we designed in the late '70s. The Judy B was built at Nichols. The first owner of the boat, Tony Berand (phonetic) came to us and had a shipyard down in Texas contract the boat. We did some modifications to the vessel, to the original design, to suit his requirements and did the stability at the time and that was about the extent of the work.

Q. So to date the Board has not been able to locate or obtain any drawings of the fishing vessel Destination depicting the vessel's arrangements post its 1993 modifications.

So some of my questions with you today will focus on specific elements of the vessel's drawings as originally constructed in 1981 as the Compass Rose. Later on this morning I will be directing questions to other witnesses, ship builders and naval architects involved in the vessel's modifications. My questions for you then will form a foundation to better understand and establish the scope and extent of those modifications.

So if you can turn now to Exhibit 199. It's also displayed on the screen here and in front of you in the binder.

A. Yes. Thank you for that.

Q. This is the vessel's plans for the fishing vessel Destination as originally constructed in 1981 as the Compass Rose. Do you recognize these drawings? What are they?

A. The particular drawing is the original pot loading table that we developed from the stability of the boat at the time she was delivered from the shipyard.

Q. If I can just backup one second. So generally speaking, those drawings in front of you, are those the original design drawings?

A. Yes. They are the original design drawings from our files, yes.

Q. Right. And can you in those drawings or would you be familiar if the vessel was designed by your company to meet any standard such as load line or class?

A. At the time there was no requirement for classing or load line fishing vessels of this size. As a standard in our office, we use the ABS structural rules to design the structural scantlings and then for the stability we use the Coast Guard stability requirements that have been formulated in Part 28 in the current regulations.

Q. So to be clear, was this vessel as the Compass Rose, was that designed to the ABS standards that you currently use today?

A. Yes. We would have used ABS standards for the structural calculations, yes.

Q. Right. Thank you. Okay. So as you previously mentioned, the first -- what you have in front of you there is the Exhibit 199, page 30. On display is 30A, which is just a slightly blown up version. This is the pot loading table?

A. That's correct.

Q. So looking at this table, for Jensen Maritime when they produced this, because I don't -- would you have produced this yourself at the time?

A. That is my handwriting.

Q. Oh, that is? Okay. I'm glad I asked that question. So if you can recall when you produced this pot loading table, can you describe to us the form or philosophy used to create the table and calculations. Were they established in accordance with any particular standard?

A. The primary goal of our stability reports was to illustrate in a simple manner safe operating limits for the boat. The stability criteria establishes a certain standard for a series of

criteria writing arms and reserve buoyancy that as long as the boat meets those minimum standards, it has less of a chance of capsize.

If it doesn't meet the criteria, it just means it has more a chance of capsizing. It's a statistical analysis. So we use this and then we try to generate instructions and pot tables that are simple, that the skipper of the boat can quickly take a look and determine where he is on his fuel load and his cargo tanks and then determine how many pots he can safely carry.

Q. So how would a mariner, a vessel captain, utilize this table?

A. Well, we have -- it's basically broken down into two fuel loads, more than normal fuel load, less than normal fuel load. Note one defines what normal fuel load is. And then if you go down on the left-hand side determine how many sea water holds he has in use, and this vessel had three holds. And so we've got, the top line is all holds dry, which is a condition that was very rarely operated in. The boats tended to be just too far out of the water so the skippers like to have a little bit more in the water?

Then we went through with each one of the single holds and then combination of the two holds and

then the last line in the table is all three holds. So he would determine where he was in the fuel load, where he was in his cargo load, and then work over into the matrix to determine how many pots he could carry and how many tiers.

Q. Does this table calculate or take into account icing conditions?

A. This particular table does not. The instructions in the Master usually will say there was a potential icing condition, they need to reduce pots by so many pots.

Q. So this table, does it list that kind of instruction?

A. No. It wouldn't, this table does not list that.

Q. Okay. Does the table specify the size or weight of the pots used in the calculations?

A. Yes. Note two defines what pots were used for the calculations.

Q. Are you able to read that line?

A. Yes.

Q. If you would?

A. Note two says pots were assumed to be 6 foot 6, by 6 foot 6 by 34, weighing 700-pounds each and the weight includes lines and buoys.

Q. Thank you. So now I would like to discuss the outboard profile diagram. This is Exhibit 199, page 31 A for the purpose of display on the screen.

If you would, can you describe the height of the wheelhouse in relationship to the aft master's stateroom.

A. This particular design has flush pilot house where the pilot house and the master stateroom are on the same level.

Q. Can you also point out in that drawing where the life raft is located?

A. The drawing indicates that the life raft is on the housetop, just aft of the door into the pilot house on the starboard side.

Q. Thank you. On this drawing I see what I would call feeing ports, just above the water line, those squares there.

A. Yes.

Q. Would you agree, those are freeing ports?

A. Yes.

Q. How many are there?

A. There are four midships and then one more aft on the poop deck.

Q. Would you recall that you conducted calculations for or otherwise would the plans indicate

those freeing ports reflected any sort of standard in terms of surface area?

A. Freeing port areas we usually will calculate in accordance with ABS rules. As a standard I think .7 square feet plus a factor for the length on the well deck. The actual calculation would not generally be indicated on the drawings themselves, but we would make sure that we had sufficient space -- room for that.

Q. Okay. So, and would you recall, I mean, is this drawn to scale? In other words, would these freeing ports be representative depiction of its surface area?

A. They should be. They should be very close to within an inch in each general direction. The particular drafter that we had on this, that did the drawings is usually pretty careful with that.

Q. Okay. Thank you. Okay. If we can turn to the next page. Should be page 32. This is Exhibit 199, 32, 32A for the purpose of the screen display. This is a drawing of the hatch and tank covers.

Can you describe the arrangement and location of the hatch covers for tanks one and two? Could they be described as adjacent to one another sharing a common bulkhead?

A. They would be adjacent to each other. They would be offset because of framing and insulation in the hold. So there would probably be maybe 6 inches between the hatches, but there would be separate hatches and separate coamings for each hold.

Q. Can you describe the orientation or arrangement of the loading covers? Those are the smaller circles there --

A. Uh-huh.

Q. -- on the hatch cover. They could also be referred to as access hatch covers as well, but I think also loading covers because that's where the crew would load the crab into the tank.

Can you describe its arrangement based -- to the centerline. So in other words, are they centerline or off centerline?

A. They are off centerline. They're generally fairly close to where they would unload the crab pots to minimize, just basically minimize the distance the crab have to go into the hold. So they would be as close into the pot launcher as they could be.

Q. Okay. So if we can go to the next page, which should be page 27 of Exhibit 199, 27 A is depicted on the screen. Again, just a slightly zoomed in version of the plans.

So this depicts, page 27 depicts the drawing of the hold overflows. Can you describe the arrangement location and number of those shoots with each tank?

A. Each tank had its own overflow chute. About halfway across the chute was a bolted hatch in case crab got in there or something like that so they could clean it out. And then there were, each chute had two pipes going overboard with butterfly valves. And these would be on the opposite side of -- generally on the opposite side of where they were catching the crab.

Q. There's a pointer next to your right hand, one of those buttons should be a laser pointer.

A. Got it.

Q. Okay. So if you would, if you could point and describe where that overflow would exit the hatch. And if I may, I believe they call that the hatch coaming?

A. Uh-huh.

Q. Would you agree with me?

A. Yes.

Q. So if you can point to that location.

A. This detail is a section through the hatch, the coaming, the actual hatch coaming is over here.

Then the chute comes through here. There is the access hatches in this area, and then the pipes overboard are over here. This is a plan view down here where you've got the hatch coaming, the chute, the cleanout hatch is right there, and then the two pipes each overboard is right here.

Q. Okay. Is there some kind of grate or strainer in way of a coaming?

A. This indicates as grate on the opening at the hatch coaming and this would be to prevent crab from getting into the -- or full crab getting into the overboard chute and clogging it.

Q. You mentioned earlier there was some pipes with valves in it?

A. Yes.

Q. How many pipes per chute, overflow chute?

A. This drawing indicates that there were two pipes. Unfortunately the printing is just a little too small for me to determine the size, but it looks like they were six inch schedule 80 pipe or schedule 40 pipe going overboard from the end of the scratch -- the overboard chute.

Q. And how many pipes per chute?

A. Two pipes per chute.

Q. Okay. Very well. Thank you.

Let me just establish one train of thought, if you will. So we established that there's an individual chute, one per, and separate individual chute per hold. So when those tanks are flooded and tanked and overflowing would you agree with the statement that when it discharges overboard you would see -- if they were all flooded you would see three separate discharges or cascade effect through those pipes?

A. Yes. One for each tank that was overflowing. Yes. You would see three.

Q. So one can conclude that if you were to count the number of discharge overflows, you can then determine looking from the side of the vessel how many tanks were tanked; is that a correct --

A. You should be able to. The only complication there would be if they had the hatch, the whole hatch loose and so there was also water coming out from the gap in the hatch and going on deck. There would definitely be some extra water coming through the freeing ports, but it would be a much smaller volume so you'd be able to -- I think you'd be able to kind of determine which hold was still full from the water coming over the shoots.

Q. Would there be any reason why the crew would

keep the hatch loose?

A. Not that I can think of.

Q. Okay. Perhaps if they just didn't tighten it down tight enough?

A. Yeah, possibly.

Q. Okay.

A. Possibly. But the hatches are generally bolted down, so in general just open when they are just off loading.

Q. Okay. If we can turn now to Exhibit 199, page 35. This is the salt water circulation system or hold piping diagram. So looking at this drawing, can you describe the arrangement -- excuse me. Can you confirm that each hold has its own suction and discharge line?

A. That is correct.

Q. Can you confirm that the system is fitted with check valves?

A. Check valves were installed in both the suction and return lines, the supply and return lines.

Q. Just by way of explanation or education if you will, can you describe to the Board generally what a check valve would be used for or why naval architects or engineers would put that on a drawing?

A. It's to prevent back flow through the

system. You don't want -- these systems were usually designed to be able to flood one or all holds. And if you were just flooding one hold, you'd want to make sure that you weren't flooding other holds. If you had water in a hold and you closed off the system, or you shut down the system, you don't want the water flowing into another tank by mistake.

Q. Right. Would a term be used -- could you describe that as gravitate?

A. Yeah.

Q. One tank can gravitate into another?

A. Right.

Q. Okay. And that -- just by, again, frame of reference, that could also occur if one were not to close a valve, let's say?

A. That's correct. If one had a valve open. It could backflow through that valve into another hold.

Q. Thank you. Okay. I'd like to turn to the next exhibit, Exhibit 199 next page was 17. This is a drawing of the propulsion shafting, can you describe the location of what they call the stuffing box?

A. The stuffing box really isn't shown on this drawing, but there's about here is where they have a -- forgot the term -- but they have a shaft liner,

they have a liner here that would be where the stern tube bearing is, which is right here. And then the stuffing box would be just forward of that. On the boat itself it's approximately located at frame 12 and a half, I think. It's below the number three hold.

Q. So if we looked at the profile view?

A. Uh-huh.

CDR MULLER: Lieutenant Commander Mendoza, if you kindly would turn back to the profile view, which was page 31.

THE WITNESS: Actually, the general arrangement would probably be better.

CDR MULLER: Okay. Go back one if you don't mind.

A. Typically, you've got a shaft alley that runs underneath the holds. They've got hatches in way of the hold bottom for access, and so your shaft you'd have a stuffing box right here at the engine room bulkhead, and then back here where it was going into the stern tube, right about there is where the stern tube ends and the stuffing box would be right about there. And typically you would have a little access hatch right above that, so for inspection.

BY CDR MULLER

Q. And, again, to frame what is a stuffing box?

A. Stuffing box is a piece of equipment that goes around the shaft that prevents water from coming up from the stern tube into the boat.

Q. Okay. So would the stern tube then be the very last watertight envelope or structure of the hull of the vessel.

A. It would be the last basically watertight piece of equipment between the bearings and the shaft alley, yes.

Q. Okay. So then after that, the shaft would continue on, but connect to the propeller?

A. Right.

Q. So I would like to now shift the discussion more specifically to stability books. So if we can start to turn to Exhibit 219, which is an example Jensen Maritime Stability Information Book. So just to check in, does Jensen Maritime conduct stability assessments for fishing vessels or run tests and calculations to develop stability instructions?

A. Yes, that's one of our core businesses for the last 50 years.

Q. So roughly generally how many has your company produced over the years?

A. When I started in '79, 1979 with the company, being the junior naval architect, I did most

of the stability grunt work at that time. That was the tail end of the construction for the crab fleet, and we were probably doing 15 to 20 a year for the first five years and then switched over to trawlers, and I would have to say we've done probably 200 to 250/300 stability reports in the past 30, 40 years that I've been with the company.

Q. Okay. And ballpark figure, how many stability books has your company produced for fishing vessels in the last year?

A. In the last year I would say most of the work we've done has been -- they hadn't gotten the fleet that are governed by the alternate compliance safety program, the Coast Guard put into effect about ten years ago, and then the small trawlers and we're probably doing an average of eight fish boat stabilities a year for the past five years. Have to say that it's been a while since we've done a crabber, Probably four or five years since we've done the last crabber.

Q. So these stability books over the years that your company has produced, did they adhere to any established standard?

A. No not really. The standard -- Coast Guard has -- or the stability criteria have a standard set

of conditions that we need to run. We run extra ones just to make sure that we're covering all of the bases. We kind of formulated our own standard really during the first couple of years I was there with the company in '79 and '80. And the general format of the stability booklets hasn't changed that much since then. They're very similar to what we submit to ABS on load line fish boats and actually the tug boats that we do now, there's very little difference in the format.

Contents have changed a bit with the advent of PC and computer stability. We've been able to put more information in there, but a lot of that information is more suited to review of the stability booklet by the class societies rather than the skippers. So we've broken the stability booklets up into basically the first section, which is the results and the instructions, and then the appendices after that are the general information that the skipper may or may not need. It's primarily the first section of the booklet is where the pot loading table is and the instructions to the Master.

Q. So you just referred to a Coast Guard criteria, would that be found in 46 C.F.R. 28.500?

A. That's correct.

Q. Subchapter C, subpart E stability.

A. Yes. Part 28 has become the standard for fish boat stability, yes.

Q. Okay. So turning now to, this is page 1 of Exhibit 219. Again, it's the example Jensen Maritime stability information book. I call it an example because for the record, the stability book displayed here on the screen on the very top it just says F/V there is no fishing vessel name associated with this document.

Can you quickly -- can you describe why you produced this document and what you used it for.

A. The Coast Guard sector in anchorage requested a copy of a standard good format, for lack of a better term, stability booklet that they could take a look at and kind of make sure that the information presented in other booklets, produced by other people generally had the same information to the Master.

So this was a boat that is similar to the Destination, in that she's a crabber, about roughly the same size. She's been sponsoned. And so we prepared this, deleted the name, and so to protect the innocent there, and sent this up to Anchorage to the headquarters up there for their use.

Q. Okay. Thank you. So if we could turn now to pages 3 and 4, starting on page 3. This is the instruction section. Does the stability book provide information and operating instructions? Please describe some of those general operating instructions what is covered and in particular any discussion or indication regarding ice loads.

A. This is a pretty typical operating instruction letter to the Master. Basically, if we go through and we say how we've established the criteria, which is 46 C.F.R. Part 28, lightship weight, and center, basically saying in that section that if weights change, stability should be checked.

It's very important to maintain your watertight integrity. And just be aware of any loads and changes to the loads on the boat. Freeboard and trim is the next section and generally we're basically saying that minimum of six inches of freeboard at all times. Some boats have the capability of when they're fully tanked down, full of fuel and full of crab pots they can actually get very close to submerging the main deck so we established a 6-inch minimum even though at the deeper level, they could still meet stability criteria. We felt that at least 6 inches of freeboard was a minimum that they'd want to carry.

Trim, we basically leave that up to the skipper because trim will depend -- the optimum trim will depend on the weather conditions, heavier weather they will want to keep the bow up out of the water.

The next section is a consumables and this is where we establish run off procedure if it's necessary, what limits -- what tanks not to use, what tanks to use. The standard verbiage in there tank cross flooding valves should be closed, and the number of slack tanks kept to a minimum at all times.

If the vessel has ballast tanks, we discuss if there are limits on when and where they can use their ballast tanks. And then standard hold tank filling/emptying procedure.

Then we go into crab loads, further define what pots they use. And then we have ice loads in there where we use -- we explain what ice we use, this particular one is 1.32-inches on deck and a third of an inch on vessel size and we give them total weight.

And then --

Q. Excuse me, you just mentioned ice loads.

A. Uh-huh.

Q. So that would be --

A. That would be section eight on page two.

Q. Right. Good. Thank you.

A. And then the section above, the last -- we've got in there, when operating with potential icing conditions reduce pot loads by 45 pots for this particular vessel, but we'll indicate somewhere that there's a reduction in pot load for icing, for potential icing conditions.

And then lifting equipment, typically that's not a big issue for most of these boats. Worse case scenario is they're lifting a full crab pot, they are not very far over the side. Important instructions here would be weather tightness and seaworthiness. Just reminding them to be aware of where their watertight doors are open or closed, hatches, that they should check, the coamings and then make sure that the watertight door is actually watertight.

Q. If you don't mind I would just like to highlight one or two sections and maybe you can just read it. If you don't mind, if you can read the first two sentences of the ice loads. That's paragraph eight.

A. Section VIII says, "ice loads calculated for this report are U.S. Coast Guard/IMO recommended standard ice load for the Bering Sea. The standard ice loads for this vessel is 15.21 long tons, 34,063 pounds, which is equivalent to 1.32 inches on decks

and .33 inches on vessel sides.

Q. Okay. If you don't mind, the paragraph above, king crabbing loads.

A. Okay.

Q. The second sentence, start with rectangular pots.

A. Rectangular pots were assumed to weigh a maximum of 725-pounds each including lines and buoys, and measure 7 feet by 7 feet by 34 inches.

Q. Okay. One more, if you will, this is for the record. The first sentence in the last paragraph of the section X, weather tightness and seaworthiness. Starting with, the Master shall log.

A. The Master shall log all weight and buoyancy changes made to the vessel before each fishing season including description, weight and location. Where such changes are made, a naval architect shall be consulted to update the stability guidance as required by Section II.

Q. So regarding that last sentence you just mentioned, what would you consider the Master should -- what kind of weights should he log?

A. This is more -- we've run into issues where we've done stability tests on boats, especially the head and gut boats where five years after we've done a

stability report, we've noticed a fairly large weight gain. And the owners usually come back and say, oh, we haven't changed anything. And then we'll go back through the boat with them and they say, oh, yeah, that's right. We changed this pump. We put a bigger generator on. And they just find, oh, yeah, we have added weight. So that sentence is more along the lines to make the skippers aware that little changes can add up over time in weight gains.

Q. Is the intent of that paragraph to be all inclusive? In other words, is it just subject to the vessel itself? And I believe in naval architecture terms you might call that lightship condition or would it also constitute other weights that might be added to the vessel, specific cargo or perhaps even pots?

A. It would be, it should cover all weights. Lightship weight doesn't cover, like, pot loads. So if you go from a 750-pound crab pot to an 825-pound crab pot, you know, you need to adjust your stability criteria, pot loading table for that.

Q. Thank you. Okay. If we can turn now to page five of Exhibit 21. This is the loading table for this example stability book. Does this loading table detail describe the assumed weight and dimensions of the pots for the calculation?

A. It does in note two.

Q. Would you mind reading that for us?

A. "Rectangular pots are assumed to measure 7 feet by 7 feet by 34 inches by 725 pounds each including lines and buoys."

Q. Does the table describe minimum freeboard criteria?

A. Yes, in note four. "Conditions referencing this note may have less than 6 inches of freeboard depending on consumables loading." Whether they've got full fuel or they're at the bottom or top of the range of fuel loads. "Loads should be reduced to maintain 6 inches of freeboard."

Q. Does the table reference icing conditions?

A. In note five it says, "under icing conditions, reduce the pot load by 45 pots from the uppermost tier. Do not operate where this reduction results in a negative pot load."

Q. Okay. So my question here is: How does a Master apply icing conditions? Under what circumstances? Is it dictated about location, operating location by latitude? Is it dictated by the season, by month, or is it the presence of actual prevailing icing conditions?

A. It would be prevailing weather conditions.

We do not -- we do not say, you know, assume icing will operate between November and March because you might get weather conditions outside of that timeframe that could be potential icing. Weather is very unpredictable. So it's up to the skipper to kind of be aware of the potential weather he's going to see in the next couple of days and adjust the loads for that.

Q. Okay. Stepping back a little bit. My question here is how often and when should a stability book be updated or when is a new stability assessment required? So how often should these books and information books be reviewed?

A. That really depends where you are in the fisheries. For a load line boat -- well, for the head and gut boats that are using the alternate compliance program, they are required to review their stability every five years at a minimum. So we've generally been inclining those boats every five years. Outside of that, class rules will dictate, MTN, there's an MTN that we use for most of the Coast Guard inspected and class boats that you keep track of the weights that are added for lightship, and once they reach a certain threshold, then you re-incline the boat. For crabbers there is no set standard.

Q. So for a crabber, place us in context, if

you issued the stability book to a crabbing vessel, at what circumstances would you expect the vessel owner to approach you and start talking stability? What kind of scenarios?

A. Any type conversion. You know, adding length or sponsoning or changing the pilothouse. We've had people come to us where they've changed engines. You know, they pulled out their old engine and put in a new engine. We've had several, probably a dozen, dozen and a half, two dozen situations where we've gotten a call from the owner of a boat right before they were going out fishing saying, hey, we just changed our pot size. We need to adjust our pot loading table for new pots, weight and size.

Q. Okay. Thank you. All right. I'm almost done.

Moving along here. Earlier on in your testimony, you mentioned reserve buoyancy. Can you describe what that is, and I mean could that be kind of considered a safety factor or a buffer? And how that is incorporated in stability book information.

A. Reserve buoyancy basically is watertight volume above the waterline that will assist the boat in righting itself as it's healed. Typically on these, the reserve buoyancy is the poop deck, usually

an 8 or 9-inch raised deck back aft. And then on this particular style of boat, the forecastle forward. We have a fair amount of reserve buoyancy up there in the deckhouse. So it's critical to keep any of the down flood points into those spaces as far inboard and as high as possible.

There really, the only way they're incorporated in the stability booklet is in -- when we're doing our -- running our conditions on the computer with our computer model. In the instructions to the Master, they are basically covered with keep the watertight doors and access hatches closed.

Q. So as a naval architect conducts their calculations -- would a naval architect keep track of reserve buoyancy calculations? And is it running some scenarios or numbers? For example, playing around with different weights, different loaded conditions, different cargoes? Can a naval architect start to see a pattern in the calculations where the reserve buoyancy calculations would decrease or is that a fixed volume?

A. It's a fixed volume. It's interesting when I was doing stability way back when, we didn't have the computer power that we have these days. So we didn't run as many conditions. So the older naval

architect were -- one of the interesting things that happened as I came in was that we started getting enough computer power to generate, to take a look at different conditions. And one of the things that we found out was when the boats turned forward, they have a lot more reserve buoyancy and better stability, but that is offset by the fact that the pilothouse is now closer down to green water in the heavy weather?

So you had to adjust the loads and work with the skipper to say, okay, where do you want to draw the line? I mean, you can't have the boat going around nose down and maximize your pot table that way?

So we had to -- we started running more conditions, which you can see in the standard one where we have instead of two fuel conditions, we have six fuel conditions. We were able to, with more computer power we were able to generate better results and look at conditions where we hadn't looked at before.

Q. Okay. Can a naval architect start to see a pattern? Let's say there's certain stability criteria that we will say the vessel has to meet certain righting moments --

A. Right.

Q. -- and other criteria, can a naval architect

managing different scenario weights, is it possible for the naval architect to start to see that while some numbers may not exceed the established standard criteria, but the numbers are starting to get close, in other words, like a safety margin or the buffer or you're starting to dwindle, if you will?

A. Yeah. We can, you know, with computers and things like that we can see where we're getting close to the limits, and, you know, we generally will establish how close to the limit we want to get internally. You know, got to remember that the stability criteria is a statistical threshold, and just because you're at the limit if you go a hundredth of a foot, more foot degrees doesn't mean you're unstable. It just means you're increasing your chance of having a stability related accident. So it really depends on sea conditions also out there.

Q. Okay. Thank you. One final question: It may be in one of those diagrams in front of you, but generally speaking either in a vessel on the Compass Rose built in '81 or generally speaking in the fish holds, the tanks, are they fitted with any kind of ventilation to prevent over-pressurization or vacuum?

A. I know that we've been on the recent boats that they've had overflows and events I would have to

say on the Destination in the standard crabber, no, it does not have a separate vent other than the overflow chute.

CDR MULLER: Okay. Thank you. So that concludes my questions. I'd like to now turn it to the other board members.

Okay. We're going to have a short recess for five minutes for a quick break for the Board.

Thank you.

(Whereupon, a brief recess was taken.)

CDR MULLER: Okay. The hearing will now come to order. We are continuing our questions for Mr. Parrott.

Mr. Parrott, just want to remind you you are still under oath.

THE WITNESS: I understand.

CDR MULLER: So I have concluded my questions. I would like to now ask Mr. Gillette if he has any questions.

MR. GILLETTE: Yes, Commander.

DIRECT EXAMINATION

BY MR. GILLETTE:

Q. Good morning, Mr. Parrott.

A. Good morning.

Q. My name is James Gillette with the United

States Coast Guard. I just want to go back to Exhibit 199 page 30, I believe on screen it's 30A. And that's your Compass Rose pot loading table and on the bottom you were talking about notes earlier. Can you read note two? It talks about the pots were assigned to be 6 by 6 weighing 700 pounds each including lines and buoys. Where did you get that number from?

A. That would have been a number we got from the skipper, or the matter or the owner of the boats. It was actually -- typically the pots at that time were between 6 and 700 pounds, if I remember correctly.

Q. Were those basically always based on an average or did you ever have to physically weigh any of the pots at that time being the Compass Rose?

A. No. We never really got around to weighing each pot. It was usually manufacturer's weight and then typically we would add about 50-pounds for the lines and buoys on top of that.

Q. So you added the 50 pounds for the lines and buoys or did the Master? So with that said --

A. We would have -- I think at that time we had a standard 50 pound weight for the lines and buoys.

Q. So with that said, that would indicate that the Master would then have said at that time, the pot

would have been 650 pounds?

A. That's correct.

MR. GILLETTE: Okay. Thank you.

Commander, I have no more questions.

CDR MULLER: Thank you, Mr. Gillette.

Mr. Karr, NTSB, do you have any questions?

MR. KARR: This is Michael Karr with the NTSB. Just a couple of follow-up questions on the original Compass Rose drawings.

DIRECT EXAMINATION

BY MR. KARR

Q. That chute you were describing, was it like a duct?

A. Yeah. It would have been a duct. Bottom would have been the main deck and then there would have been a quarter inch plate sides and top.

Q. And did the original Compass Rose have a wooden deck above that duct?

A. Yes. The boat would have had a wear deck on top of that. I would assume that the planking would have gone over the chute itself. So it was wood all the way across. And then they would have had some type of -- either that or the clean-out hatch would have been flush to the wood deck or they would have had a removal section of the gradings to access the

hatch.

Q. And how, on the original Compass Rose, how was the discarded catch washed over the side?

A. I'm not sure how much discarded catch they would have had.

Q. Back then?

A. Yeah.

Q. So back then maybe they kept everything they caught, rather than --

A. Pretty much. But the scuppers or freeing ports would have been large enough so that they would have been above, the top of the openings would have been above the wear deck, so they could have gotten rid of anything they didn't want through those.

Q. So Mr. Parrott, a few minutes ago you talked about the sample stability book saying it -- when dealing with icing, it applies all of the time.

A. Uh-huh.

Q. All right. Well, in the regulations 28.550 Part 28, they specify a period of time for applying the standard that was used in those -- in that stability book, so can you just explain how you or Jensen Marine applies this regulation?

A. That regulation states that there are certain icing loads for various latitudes. There is

above a certain latitude, you have a certain amount of icing, and then when you get to the Bering Sea or the northern latitudes, you have more icing, that gets too complicated. We felt that breaking it down into separate icing loads for geographical locations is just adding more complication to the stability booklet that really isn't necessary. So we took the maximum amount of icing loads and basically aware of the fact that icing can occur at any time, that we gave them a limit on -- so, we really don't give them a time limit on icing conditions, and try to keep it up to the Master to be aware of what the prevailing weather conditions are.

Q. In conversation with fishing boat captains, or have you had a conversation with anyone with regard to when a vessel would be restricted in its pot loading, specifically would someone say, I only need to load this many pots between these dates specified in the federal regulations?

A. No, I don't think I ever talked with anyone about date limits.

Q. All right. Thanks. This might be a longer question, or a longer answer. Can you describe the services you provide the North Pacific Fishing Vessel Owners' Association as a technical advisor?

A. Basically, I'm a nonvoting board member. I'm there to kind of answer any questions they have on technical aspects of fishing vessels' regulations, just general information based on experience that I've had with various types of boats. Sometimes I won't say a thing in a meeting and sometimes they will ask an opinion. So it's kind of just very general assistance to the Board.

Q. Do you know of any Coast Guard guidance regarding icing for vessel captains?

A. Not any specific other than the requirements for the calculation for the weights. Calculation for the amount of ice that goes on the boats.

Q. How about the North Pacific Fishing Vessel Owners' Association, do they have any guidance?

A. Not that I'm aware of. They might -- I'm not particularly intimately familiar with the training they give the skippers. So they might mention that in their training, but I'm not aware of anything specific.

Q. Do you know of any processes that the Coast Guard or the National Fishing Vessel Owners' Association produced with regard to obtaining weather forecasts and freezing spray forecasts?

A. No.

CDR MULLER: Excuse me. If you can just speak a little closer to the mic, every mic's a little bit different and that one I think you have to get a little closer. Thank you and I apologize for interrupting, Mr. Karr.

A. I am not aware of anything regarding weather, how anyone develops the weather criteria or weather predictions other than the weather service. Most of the boats now have a tremendous amount of electronics on it and weather faxes. Weather fax I think is probably pretty old technology these days.

Q. How about are there any process for how to process a freezing spray warning?

A. Not that I'm aware of.

Q. Can you tell me, you know, in your mind when you have a heavy freezing spray warning and icing what are the risks and hazards that the boat faces?

A. Well, ice can accumulate very quickly aboard a boat especially depending on your direction of heading and everything like that. I've seen some pretty -- I've seen some pictures of some pretty severe icing on some of these boats. It's very, in my opinion, it's very unpredictable as to how the ice will accumulate on a boat. And it's something the skipper has got to be very much aware of.

I have no personal experience, since all of my sea time is basically off of the east coast in non-icing conditions.

Q. When you do the ice load calculation, you know, vertical, horizontal, does that take into account the stack of crab pots?

A. Yes. Typical our standard in the office is to use the vessel profile as an ice load and then calculate the ice load on the crab pots separately. So we won't deduct -- typically what you have is ice loads on the main deck and if we have a pot load on top of that, then we will also include the horizontal surface of the top tier of pots. And we always calculate the ice loads for the maximum pot load. And we don't reduce the pot icing load as we reduce the pot loads?

So it stays the same weight and the same center. So whether it's four tiers of pots or one tier of pots it's the same ice load for the crab pots.

Q. And when you calculate the surface area, is there any additional weight -- I mean, what if the spray gets down into the lower tiers? How is that accounted for?

A. We don't know -- the way we would account for that is the fact that we still have icing on the

deck, on the boat, but as I said, the icing in crab pots is very unpredictable. And you can get it all on one side of the boat and not on the other. So it's very difficult to calculate something like that.

MR. KARR: All right. Thank you, Mr. Parrott.

CDR MULLER: Thank you, Mr. Karr. Ms. Spivak, do you have any questions?

MS. SPIVAK: Just one question.

DIRECT EXAMINATION

BY MS. SPIVAK

Q. To clarify, as you sit here today you do not know whether the fish holds on the Destination had ventilation lines?

A. Could you repeat that?

Q. Yes. As you sit here today you do not know whether the fish holds on the Destination had ventilation lines?

A. No. We basically had no contact with the boat after the original owner had the boat built. So we have no knowledge of how she was setup after she was sponsoned.

MS. SPIVAK: All right. Thank you. That's all I have.

CDR MULLER: Thank you.

THE COURT: So that concludes our questions, Mr. Parrott. Before we conclude, are there any issues that you feel the Board should consider that we did not raise with these questions today?

THE WITNESS: No, I don't.

CDR MULLER: Okay. With that, again, thank you for your time.

THE WITNESS: Thank you.

CDR MULLER: So, Mr. Parrott, you are now released as a witness in this Marine Board of Investigation. Thank you for your testimony and cooperation. If I later determine that this Board needs additional information from you, I will contact you. If you have any questions about this investigation, you may contact the Marine Board Recorder, Lieutenant Commander Pedro Mendoza.

Thank you.

THE WITNESS: Thank you.

CDR MULLER: We will now take a 15-minute recess and prepare for our next witness, telephonic testimony from Mr. Tim Alls.

(Whereupon a brief recess was taken.)

CDR MULLER: Good morning, again. We will now reconvene the hearing. Come to order.

We would like to call our next witness,

Mr. Tim Alls.

THE WITNESS: That is me. I'm available by phone.

CDR MULLER: Thank you, Mr. Alls.

Lieutenant Commander Mendoza will now administer your oath and ask you some preliminary questions.

THE WITNESS: Okay.

LCDR MENDOZA: Sir, could you please stand and raise your right hand.

THE WITNESS: Yes.

TIMOTHY ALLS,

A witness produced on call of the Coast Guard, having first been duly sworn, was examined and testified as follows:

LCDR MENDOZA: Please be seated.

Sir, could you please state your full name and spell your last name for the record.

THE WITNESS: Timothy Craig Alls, A-L-L-S.

LCDR MENDOZA: Could you state your current employment and position title.

THE WITNESS: I currently have a company named Allseas Yachts, and I build expedition yachts for a living.

LCDR MENDOZA: Do you hold any professional

licenses or certificates?

THE WITNESS: No, I hold no certificates.

LCDR MENDOZA: Thank you, sir.

CDR MULLER: Good morning, Mr. Alls. This is Commander Scott Muller. I'm the Chair of the Marine Board of Investigation.

So I will be leading off with some of questions for you this morning.

THE WITNESS: Okay. I'm ready.

DIRECT EXAMINATION

BY CDR MULLER

Q. Okay. By way of background, Mr. Alls. Again, welcome. Could you further describe the present company you operate, the kind of projects it conducts.

A. My specialty is steel construction in the marine industry and so I currently build expedition yachts that are steel up to the main deck level and then aluminum super structure. And I've been doing that for the last ten years.

Q. Can you describe the company you operated in Seattle, Washington in the early 1980's including the work and projects you performed with that company?

A. Back in the earlier days I operated as a sole proprietor to a company that basically built

fishing boats from the ground up. My specialty was metal work. I seldom got into any finished work. I primarily just did metal work.

Q. Are you active in any professional organizations? Have you worked with the Coast Guard in the past, and if so, what capacity?

A. No. I have never worked with the Coast Guard before or any other organization.

Q. Mr. Alls, as you're aware, we are here to discuss the fishing vessel Destination. Can you tell us when and how you first came to know the fishing vessel Destination?

A. Honestly, I don't remember the timeframe on it. I'm sure you guys do. It was a long time ago. It was -- I had previously built a 58-foot for a client and he came back with another project sometime later, wanting to sponson the vessel Destination. So we undertook the process of building a new stern and then we were involved in cutting the boat in half, putting the new stern on the back of the boat and sponsoning the forward half.

Q. Mr. Alls, before we get into that in a little bit more detail, I just wanted to setup a little background. To date, the Board has not been able to locate or obtain the drawings of the fishing

vessel Destination depicting the vessel's arrangement post its 1993 modifications and sponsoning. Earlier this morning some of my questions with the previous witness focused on specific elements of the vessel's drawings as originally constructed in 1981 as the Compass Rose. As you were the ship builder during the modifications in '93, my questions to you will be to further explore and expand to better understand and establish the scope, the extent of those modifications and in particular any arrangements that the existing fishing vessel Destination had.

A. Okay. What can I answer?

Q. Are you aware of any plans that were created to support or reflect the work completed by your company on the fishing vessel Destination?

A. I'm sure I had plans and drawing at the time that I worked with, I just don't have them now. That was too long ago and I didn't archive or save those plans and drawings. The scope of my plans and drawings were really about my work. It was about me manufacturing a new stern, and how we were basically going to bring the new stern in to fair with the forward section of the boat.

So I didn't have anything to do with piping arrangements or anything like that. Other contractors

did the piping. Other contractors did the shafting and hydraulics. My scope of what I worked on and I did have plans and drawings for it, was simply to manufacture the shell for the boat.

Q. Okay. By way of reference, I would like to show Exhibit 130, which is a copy of the fishing vessel Destination's profile view post its 1993 modifications as found in the vessel's 1993 stability information book.

Do you have that in front of you, sir?

A. Yes, I do. Go ahead.

Q. Do you recognize this drawing?

A. Looks familiar. It's not one of my drawings. It looks like it was done by Rick Etsell.

Q. Did you assist in any way in developing or drafting of these drawings?

A. I assisted in the construction of the shell or the hull, but the final product, no. So partly, yes. In other words, my scope, my end of this was to manufacture a new stern that would fair into the forward piece. But that's as far as I went with it.

Q. And by new stern, where did the new stern begin, after which bulkhead?

A. Just after the aft engine room bulkhead. The boat was sliced in half at that point in time, and

my new stern slid up to it, which basically gave them new and bigger fish holds and lighter beams.

Q. Can you describe a little bit further the type of drawings that you used in your manufacture of that new stern section?

A. All I would have produced was lines drawings. At that point in time, this is in the old days. I didn't do C & C cut parts or anything like that. We took the lines drawings, we generated a table of offset and we built off of that.

Q. Can you describe table of offsets and the lines drawings a little further. Let me ask you this question --

A. When you talk about a lines drawing, it's very basic. It's a top view that shows the chine line, which is the lower break in the boat. The main deck level, what is the width of the boat at the main deck.

So you do that from the top view and then you also do it from a side view, and we put the two together and that generates three-dimensional points that you work off of, that's called the table of offsets.

Q. In terms of your developing that table, were you provided -- well, first of all, who hired you for

this project?

A. Dave Wilson.

Q. So when you developed your lines of offsets and your drawings, did Dave Wilson provide you with any specific instructions or criteria, dimensions?

A. Well, of course he --

Q. What did he ask you to do?

A. -- the master contractor this particular job, so he gave me the basic criteria of what he was looking for. This is how wide I want the boat to be. This is how long I want it to be. This is how much I want my fish holds to hold. All of that information came from Dave. I'm not a crabber, so I don't have that kind of information.

Q. Did he provide you any specifications for the arrangement on the main deck, in particular, the tank overflow shoots?

A. No. Basically the portion that I was working on was really from the main deck down. How they did their piping arrangement, their overflows on the main deck, their hatches, their winches, the equipment that goes on the boat, that's all outside of my expertise. I didn't have anything to do with that.

Q. So did your company install the hatches, for example, or did Mr. Wilson get another company to

install them?

A. Well, I'm sure I manufactured the coamings. I don't recall if I actually did the hatches or not. The coamings would be referring to the portion that sticks from the main deck up. I'm sure I built that. That would have been fabricated into the hull. The actual hatches, it was too long ago. I don't recall if I did the hatches or if Doug Bower did the hatches. He was assisting Dave with a lot of the finish work as well.

Q. So the modifications, the drawings that he developed, did you reference any existing vessel plans and did the modifications that you drew, were they consistent with those arrangements and existing plans?

A. I'm not sure if I completely understand your question. But basically, we work off of either the existing plans or I would have measured the boat directly. And I'm not sure which way it was. It was too long ago. In other words, this particular job you take the existing lines and you stretch them out and that is the way you develop the new hull structure that you're installing.

It's like a continuation of the old lines. In this case we were simply making the boat longer, wider, but it was following the same lines as the

original design.

Does that answer your question?

Q. Yes, sir.

I would like to turn now to Exhibit 199, page 31. It is a copy of the fishing vessel Destination as originally constructed as the Compass Rose.

A. 199 and what page?

Q. Thirty-one.

So again, I'm referencing the original line drawings or schematic of the vessel as it was built in '81 as the Compass Rose. So my intent here, I'm trying to gather, because we still don't have actual drawings of the fishing vessel Destination post its modifications in '93, I'm trying to use the existing plans, the original plans, as a reference point. And trying to determine as accurately as possible what changes may have been conducted to the vessel during the '93 modifications.

A. Okay. So exactly what is your question.

Q. So looking at this profile view of the Compass Rose, do you observe any freeing ports?

A. Yes. Are you talking about the scuppers on the side of the boat?

Q. Okay. How many are there?

A. Hold on.

(pause)

A. Five freeing ports.

BY CDR MULLER

Q. Okay. Do you recall in your drawings and in your modification work if you installed those freeing ports to meet any aggregate clear air standards, and if so, what was that standard and did you generate calculations to demonstrate compliance?

A. Honestly I couldn't tell you without the plans and drawings what we did for freeing ports. I can't even tell you if the freeing port arrangement came from me or if it came from Dave Wilson.

We tend to rely on the experience of the operators of the boat to give us freeing port information like that. We also rely on a surveyor to come back and look at the boat and give us damage stability or incline tests or other type of approvals that are outside of my knowledge and my range. I'm not a designer in the sense of a naval architect.

I am a structural steel builder. So I can put lines and drawings on a piece of paper, but I rely on other folks to do that kind of calculation and that kind of work. That's not my expertise.

Q. Okay. I would like to now turn to Exhibit

199, page 32, which depicts the hold and hatch cover arrangement. Again, this is from the Compass Rose. Looking specifically at the hold and hatch cover arrangement, do you recall if the tank overflows -- I'm sorry, excuse me. Do you recall if the hatches installed at the time of the modifications were arranged in a similar fashion?

A. I believe they were similar, yes.

Q. Were those access hatch covers, the loading covers, manhole covers if you will, do you recall if they were installed centerline?

A. If it was me doing it, I typically do them on the centerline. It's been so long ago, I couldn't tell you. Again, I always refer to the fishermen in this particular situation as to how he wants the arrangements done. I build to their specification as to the final product.

So if Dave told me to put them on the side, I would have put them on the side. If Dave told me to put them on the centerline, I would have put them on the centerline.

Q. Okay. Very well. Turning next now to Exhibit 199, page 27, which depicts the tank overflow arrangements.

I'm looking specifically at the bottom left.

A. Sorry. Which page number?

Q. Twenty-seven.

A. Twenty-seven. Okay. Go ahead.

Q. Okay. Looking at these drawings my observation on the bottom left you see three hatches. Those were are overflows and each hatch has its own overflow chute. Would you agree?

A. That's the way it looks on the drawing, yes.

Q. Did you install any overflow shoots during your modifications, and if so, would it have been similar to that arrangement?

A. I did not install any overboard shoots. The -- I think it was Doug Bower was there on the job, was doing recirculation if I recall correctly. I honestly, I don't remember all of the contractors, but this would be typical for bend boards, final fishing operations. That's not what I do. I don't think I did this. And I don't remember them being installed on the boat.

Q. Okay. Moving now on to page 35. Which depicts the sea water hold piping system. I believe you answered this one for us, but I want to double check. Did your company install the sea water piping system?

A. (Inaudible response.)

Q. Can you repeat that, sir?

A. I don't think we did the sea water recirculation system. If I remember correctly we were up against a very slim timeline and my company was focused on the hull and the structural and trying to get this boat put back together so they could go fishing. So there were many other contractors down there working on the boat so we could achieve that goal.

Q. Did your company install the compulsion shaft?

A. No, we did not.

CDR MULLER: Okay. This concludes my line of questions for you, Mr. Alls.

Now I turn to the other Board members for any further questions.

Mr. Gillette?

MR. GILLETTE: Thank you, Commander.

Good morning, Mr. Alls. My name is James Gillette with the United States Coast Guard.

THE WITNESS: Good morning.

DIRECT EXAMINATION

BY MR. GILLETTE

Q. I just have one question and it refers to time. How long did it take you to sponson the boat?

A. If I remember correctly, it was about a six week job to do the final sponsoning on the boat. But we took almost nine month previous to that to manufacture the new stern. So he fished the boat. We manufactured the stern.

When he was done with the season, he brought it back in. They hauled it out of the water. We cut it in half. And I think it was less than two months turn-around time, and the boat was gone.

Q. You said that you didn't do any of the arrangements. When you were sponsoning the boat did you have to cut out any of the piping or anything along the lines of that?

A. No. Basically, we cut the boat in half at the engine room bulkhead. So there was nothing left from the engine room bulkhead back. So from there forward all of that piping was getting replaced after the boat was sponsoned.

Q. Were the hold sizes, did they get increased?

A. I'm sorry. Can you state that question again?

Q. Yes. Did the hold tanks, was the sizes of those tanks, were they increased?

A. Yes, they were.

Q. Can you share with us how much they were

increased?

A. I have no idea. I'm sorry, that was too long ago.

MR. GILLETTE: Okay. Thank you, Mr. Alls.

Commander, that's all of the questions I have.

CDR MULLER: Thank you, Mr. Gillette.

NTSB, Mr. Karr?

MR. KARR: I have none.

CDR MULLER: Thank you.

Ms. Spivak?

MS. SPIVAK: None.

CDR MULLER: I have no further questions.

Mr. Alls, before we conclude, is there any other elements that you feel the Board should consider, perhaps anything that we might have missed in this segment with you today?

THE WITNESS: No. I'm sure you guys are considering every possible angle on this, you know. I have never seen a steel boat come apart before. So to me, this is a roll-over situation, but, you know, that's just speculation.

If I can answer any more questions about the sponsoning of the boat, give me a call. I will be happy to tell you what I know.

CDR MULLER: Thank you, Mr. Alls.

THE WITNESS: You're welcome.

CDR MULLER: So you are now released as a witness at this Marine Board of Investigation. Thank you for your testimony and cooperation. If I later determine that this Board needs additional information from you, I will contact you. If you have any questions about this investigation, you may contact the Marine Board Recorder, Lieutenant Commander Pedro Mendoza. Thank you, sir. Good day.

Okay. The Board would like to now call its next witness, Mr. Etsell.

Lieutenant Commander Mendoza will administer your oath and ask you some preliminary questions.

LCDR MENDOZA: Please raise your right hand.

RICHARD ETSELL,

A witness produced on call of the Coast Guard, having first been duly sworn, was examined and testified as follows:

LCDR MENDOZA: Please be seated.

Sir, please state your full name and spell your last name for the record.

THE WITNESS: My full name is Richard Etsell. Last name is E-T-S-E-L-L.

LCDR MENDOZA: Please state your current

employment and position title, sir.

THE WITNESS: I am self-employed, naval architect.

LCDR MENDOZA: Do you hold any professional licenses or certificates?

THE WITNESS: I do. I'm a licensed professional engineer state of Washington in naval architecture and marine engineering. I also hold a two hundred ton Coast Guard masters license.

LCDR MENDOZA: Thank you, sir.

CDR MULLER: Mr. Etsell, welcome. Good morning.

THE WITNESS: Good morning.

DIRECT EXAMINATION

BY CDR MULLER

Q. Pleasure to meet you in person. I know we chatted a few times. I'm glad to see you were able to appear in person because just recently you were underway chartering one of your yachts; correct?

A. That's right. It was not a charter, but...

Q. You were operating the boat; right?

A. Yeah, uh-huh. I'm glad to be here in person.

Q. If you can further describe your present company that you operate.

A. Well, I've been in private practice as a naval architect since about 1988. And I have worked over the years with a variety of craft and came to specialize in small passenger vessel designs and then classic and vintage historic vessel restorations. I'm currently semi-retired from the practice and currently doing primarily the yacht captaining.

Q. Do you have any -- are you active in any professional organizations? Have you worked with the Coast Guard in the past, and if so, in what capacity?

A. Society of Naval Architects and Marine Engineers and that sort of thing and have not worked directly with Coast Guard. I've submitted plans, plan reviews for small passenger vessels, that sort of thing.

Q. As you're aware, we are here to discuss the fishing vessel Destination. Can you tell us when and how you first came to know the fishing vessel Destination?

A. Well, it was a long time ago. I don't remember a lot of the details. I recall that the vessel was already under construction. The new stern section was already under construction. I believe there was another naval architect that had done some preliminary work on the project and I don't recall if

he had to stop work on it for some reason or another, but I was called in to help out. And so the task was going to be to do the trim stability following the reconfiguration of the vessel, and also tonnage - recalculate the tonnage for the new vessel?

And so I do recall going down to Mr. Alls' business and measuring up the hull, and he had already started construction on it. I spent quite a bit of time just tape measuring and going through and laying out notes and plans for developing my own drawings.

Q. Were you specifically approached by Mr. Wilson? Hired?

A. You know, I don't remember exactly. I don't remember if I met Mr. Wilson directly or not. I must have. I think I talked to him on the phone and that was how I got involved, originally. But I just don't really remember the details.

Q. So when you accepted the project, was there any specific tasking or instructions by Mr. Wilson or any other individual specifically that directed you to accomplish certain tasks?

A. Well, again, I don't remember, you know, a lot of details of the conversation or whatnot. I just know that what I ended up doing was to prepare a lines plan for use in stability and do an inclining test and

stability report for the vessel. And also to do a tonnage plan to submit for recalculating tonnage.

So I can only presume that we talked about that on the phone and he told me what it was he was doing.

Q. Okay. I would like to now turn to Exhibit 7, the Trim and Stability book for the fishing vessel Destination dated October 1993.

(Witness complies.)

BY CDR MULLER

Q. So looking at Exhibit 7 -- it should also be in the binder in front of you, sir. Page 1, cover page, do you recognize this document?

Who generated this document?

A. Yes, I do.

Q. What is the purpose and intent of this document?

A. It's to report on the trim and stability of the fishing vessel Destination following the modifications that were done in 1993.

Q. When generating this document, did you create it to confirm to any particular standard or available guidance? If so, please describe?

A. Well, I used a variety of guidance. The C.F.R. Part 28 for uninspected fishing vessels was

certainly one of them. The format of the report is really my own standard.

Q. Did you conduct any stability information booklets for fishing vessels before you did the fishing vessel Destination's? If so, can you give us at least a ballpark figure of how many for how long?

A. Yeah, fishing vessels -- well, first of all I graduated in 1980 and went to work for a small -- or a medium sized shipyard, Tacoma Boat Building, had Military and Navy contracts, and I was in charge of weight control and stability for those projects.

And then around 1986 I went to work for an independent naval architect named Ted Drake, who was primarily concerned with fishing vessels. Most of his work was fishing vessels. And at that time he had a lot of fishing vessel stability jobs in the works. And I worked exclusively on fishing vessel stability for several years there. And I probably did 20 fish boat stability projects there. And then went out on my own in 1988 and did a number of fish boats. I don't know how many, but maybe three or four on my own.

Q. Okay. So let's turn now to Exhibit 7, page 2. This is the table of contents. Using this table of contents, can you briefly describe the main

sections of the stability information book?

A. Well, it's divided into six sections. The first part I labeled discussion, and that's where most of the information that was -- that I considered relevant to the Master of the vessel was contained. And the second part was loading examples that showed more of the specific loadings that were example loadings of carrying crab pots and the different configurations of consumables.

Part three was the more technical data, the inclining test data, lightship calculations. Most of these were kind of for the record. There's a record there of the hull envelope, the points that were used to determine the buoyant hull form. And then in part 4, supporting data, where I had more detail. Particulars of loading also included tank capacities and sounding tables, and hydrostatic properties.

These are all static tables and numbers. Part 5 was an excerpt from stability of fishing vessels from the North Pacific Fishing Vessel Owners' Association's document. They had a book for guidance for fishing vessel owners and I excerpted the entire stability section of that book.

And part 6 is a stability letter that was posted for posting onboard the boat as well.

Q. Now if we can turn now to exhibit page 4 and 5, introduction.

Can you briefly summarize what's provided in the introduction section. What's the intent, and how would you expect the Master to utilize that information?

A. Well, the introduction is just stating that the vessel was inclined on October 17, 1993, and that the lightship particulars had been determined. And that trim and stability characteristics had been computed for the vessel.

It also had caution in there that if the vessel's services changed or if the vessel is modified that the report becomes invalid. And listed the standard for uninspected commercial fishing industry vessels of 46 C.F.R. Part 28. And that was used as a basis for the standards in the report.

There was also a note there that the regulations actually require owners to have stability checked whenever substantial alterations are made. And so I pointed out that I included a table there for keeping track of such changes.

Q. If you would, it appears that the last sentence in that paragraph is underlined. Presumably you might have underlined it to add emphasis. Would

you agree with that statement?

A. Yes.

Q. Okay. Would you mind reading that last sentence.

A. The owner is responsible for complying with the stability regulations, and must keep track of changes made to the vessel so that the applicable calculations can be made if the, quote, "substantial alteration," unquote, limits are exceeded.

Q. Okay. Now, looking at the next section on this page that also continues onto page 5, under instructions. Can you please explain the purpose and use of a center of gravity mark, and how weights added above or below this mark can affect stability.

A. Well, yeah, the center of gravity is a culmination of all of the weights on the vessel and can be represented by a single point on the vessel. And so on the loading diagrams, I would typically put a center of gravity mark. And it's important because the stability is affected by any weight changes above or below that mark.

And the point I made here was that continuing onto the next page, if additional weight is placed above the center of gravity mark, that's bad for stability. That impacts stability. If it's

placed below stability [sic], it can generally improve stability. And just for operators to be aware of that fact.

Q. Okay. If we can turn now to Exhibit 7, page 7, which depicts the vessel's profile & arrangement.

So who created this drawing, what steps and processes were taken to create it?

A. I created it and I used the Jensen drawings as a basis for part of it from the measurements that I took, Tim Alls' job, altered it and made it into the as modified version.

Q. Other than this general profile drawing, did you create other drawings such as hatch cover arrangement plans, tank overflow drawings, et cetera?

A. No.

Q. We can turn now to Exhibit 7, page 8, the crab pot and other deck loads table.

If you could, please describe how a vessel Master would utilize and apply its criteria.

A. Well, it's a table showing the -- there's a column called "Holds Tanked," and there's a list down there that was the options that could exist. Either one -- tank number one tanked; tank number two tanked; tank number three tanked; or one and two; one and three; two and three; or all three tanked.

And then there is a -- going across, it gives a list of how many pots would be allowed under that condition, and during summer and during winter.

So during winter being if icing conditions are expected, there's fewer pots, if necessary, but in summer, it would be without icing conditions. And it shows how many pots and how many tiers could be loaded during those conditions.

Q. How did you come about in creating this table in this particular format? Was it influenced or informed by the vessel owner or Master or other guidance?

A. I don't think it was necessarily influenced by the owner except that I was -- I do remember was that their normal operation was with two holds tanked, but generally just try and covering, covering the extremes. Some of these conditions -- most of these conditions are with 100 percent fuel and water. And them some of them are also with 10 percent and those conditions are to show differences in the loading of the boat consumables-wise. But basically just trying to bracket as much as possible the possible conditions that might be seen.

Q. I know you already introduced the concept of the two columns, the summer and winter. I just want

to readdress that a little bit. Can you describe under what circumstances as author of the Stability Table, you would expect the vessel Master or the Captain when using this table would apply or follow either column, specifically winter, the winter column.

A. Yeah, well, winter would be whenever icing is expected and that north Pacific fisheries, they generally know when they're going to be expecting icing or not and can plan accordingly.

Q. So would you expect a vessel Captain to apply the winter column criteria throughout the winter months during all voyages? Or is it dependent on the forecasted or prevailing icing conditions?

A. It would be his call. It would be a judgment call based on the forecast. It might not even be though winter months. It could be other times as well. But no, not necessarily. They could use the higher pot numbers if the conditions were such that they didn't expect any icing.

Q. Does the table indicate the assumed size and weight of the crab pots used to calculate the permitted number of pots allowed per loaded condition?

A. No, this table does not.

Q. Is the assumed size and weight of the pots otherwise indicated in the stability book?

A. I don't believe it is in this book. The total weight is just given for total loads of pots.

Q. So how does one -- how did you calculate the total weight? Were you aware of the weight of each pot when you conducted these calculations?

A. Oh, yes. Yeah. I was told by the owner -- well, by the operator the weight of the pots. And that's the weight that I used.

Q. I'm sorry did you say owner?

A. No. Operator.

Q. The operator, the vessel Master?

A. Right.

I don't remember who that was. But on the vessel during the inclining test, we spoke about all of the those sorts of things and I was told the size and weight of the pots.

Q. Did you take any steps to calibrate, verify, confirm the weight of the pot information he was providing you?

A. No. No, I didn't.

Q. Okay. Let's turn now to exhibit page 9. The second paragraph has text regarding summer and winter conditions. Can you expand on the statement whenever icing conditions may be anticipated and when you would expect fishing vessels Masters to apply the

icing conditions?

A. Well, whenever icing conditions may be anticipated. Kind of self-explanatory.

Q. So the term anticipated, what is your expectation of a Master? What's the range of anticipate? Is it in terms of timing, short-term, long-term, matter of minutes, hours, days?

A. Well, it's before leaving port. It's when leaving port with how many pots they have onboard. They know the conditions and what time of year and whether or not to expect icing. They needed to plan on using the winter condition tables.

Q. Okay. Still on page 9, but also now continuing onto page 10. The section entitled icing conditions. In there it mentions ice buildup used on this report is in accordance with U.S. Coast Guard regulations for operation in the Bering Sea 1.3 inches on all horizontal surfaces and 0.65 inches on all vertical surfaces.

Do you concur with that statement there?

A. Yes, uh-huh.

Q. Okay. Can you explain why the 1.3 and the 0.65 inches was utilized in this report?

A. Well, as it says, it's in accordance with the Coast Guard regulation for uninspected fishing

vessels. That was the standard that was to be applied.

Q. For the record, if you would, can you read the second sentence in that paragraph?

A. Yes. Larger accumulations can occur however and all icing situations should be treated seriously.

Q. So in accordance with this paragraph, does it provide measures or precautions or steps for the Master regarding icing conditions?

A. Well, it goes on to say possible actions to take to reduce ice buildup are a change in speed or heading to reduce spray and physical removal of the ice.

Q. I'd like to, for the record, specifically, add the first paragraph on page 10. Would you mind reading that for us?

A. Sure. "In the event of heavy icing, extreme caution must be used when deciding whether to turn away from the wind and run with the seas to avoid further ice buildup. The already top-heavy vessel will then be exposed to beam seas and heeling inertias during the turn, and then following seas after the turn. The following seas will not pass as quickly as head seas, leaving the vessel perched on wave crests at times, causing a potentially serious reduction in

stability. (See page 5-14 concerning the effects of following seas.)"

Q. And again, section 5, according to the table of contents was stability of fishing vessels?

A. Right.

Q. Information I believe you referred to the North Pacific Fishing Vessel Owners' Association Guidebook; is that right?

A. That's right.

Q. A little further down on page 10 is a discussion on down-flooding.

A. Yes.

Q. There's a discussion that indicates flooding angles of 80 to 90 of heel that the engine room vents in the stack. Assuming all watertight doors and hatches are secured. Does your stability book indicate the down-flooding angles at the hatch covers and hatch loading covers?

A. No. Because they were considered watertight.

Q. Also on page ten under Water On Deck, please describe the section regarding freeing port size and number. How did you establish this determination and do you have supporting calculations? Are those calculations provided in the stability book.

A. The calculations were not included in the stability book, I don't believe, but I did them separately and then drew them on the plans accordingly that they used for building the freeing ports.

But they came from 46 C.F.R. 28.555 and there's an actual formula there for determining the appropriate sizes.

Q. So when you drew the plans, the freeing ports that you depicted on the profile view was an accurate ratio to the plans?

A. Yes. It was scale.

Q. Also on page 10, under Beam Winds and Rolling. Please describe the mentioned adverse effects on the vessel, and how you would expect the Master to compensate.

A. Well, beam winds can affect rolling if they become synchronous, in other words, the frequency of the waves gets close to the natural frequency roll of the vessel then each subsequent roll can get greater and greater and lead to extreme rolling, very large angles. Masters, any vessel Master is certainly aware of this effect. The correction is to, in those situations is to change your course and either take them on the stern quarter or into them more to change the frequency that the waves are hitting and reduce

that rolling.

Q. If we can now turn to page 11 of the exhibit. This includes a paragraph entitled, Responsibility Of Master. For the record, could you read that section, sir?

A. Yes. "These recommendations and instructions should ensure adequate stability under normal conditions. They are not, however, intended to override the judgment of the Master who must use every means at his disposal to ensure that the stability of the vessel is adequate to meet the sea and weather conditions encountered."

Q. Okay. Noting that in the first sentence the word "normal conditions" is used.

A. Uh-huh.

Q. As the naval architect and author of the stability book, can you describe situations in which that would not be considered as normal conditions.

A. Well, there's -- lots of situations would not be normal, such as damage to the vessel, equipment failures, you know, any breaches in the hull or flooding, collisions, groundings, you know, all sorts of things.

Q. Okay. Now let's turn to Part 2, loading examples. This is exhibit pages 13 and 14.

Do you recall why you chose to depict these particular loading conditions and pot load sketches?

A. Well, it's 200 pots. I was told that's how many pots that they carried. And that's what they liked to carry and so I chose it for that reason.

Q. On this page, the sketch of the vessel's loading conditions, specifically looking at the tiers, how many tiers of crab pots were depicted on that picture?

A. Four.

Q. Can we turn to the next page. Should be page 14. This is a picture of condition number 3: Full consumables, full pot load, two holds tanked.

Which holds are tanked in this depiction?

A. Number one and number two.

Q. And how many tiers are depicted on the loading condition?

A. There are four.

Q. And according to the information on the page, how many total pots in this condition?

A. Two hundred.

Q. I'd like to just point your attention down to the bottom of the page comment section. It says the maximum pot limits for this loading condition are as follows: Holds one and two full.

Can you read the criteria, the pot limit for summer and winter?

A. Yeah. For holds number one and two full, 249 pots and five tiers in summer. And 224 pots and five tiers for winter.

Q. Okay. So under that condition, you have over 200 pots at five tiers, summer and winter; correct?

A. Yes.

Q. But the picture that's depicted on top shows four tiers. Do you have a similar depiction in the stability book that represents five tiers?

A. No.

Q. Okay. I'd like now to turn to Part 3, Inclining Test Data and lightship Condition, exhibit, page 24. Would you describe the intent and purpose of this page, its discussion on tracking changes to the lightship condition. That is, what are your expectations for the vessel owner and/or Master in applying and maintaining this table?

A. Well, this table was an attempt to make it easier for the operator or the owner to keep track of the small changes that are made to the vessel so that they could tell when the accumulation of changes were large enough to warrant requiring new stability

checks.

So typically, this would be for switching out equipment, adding heavier engines or making certain changes to the boat, putting on a heavier boom or, you know, whatever kinds of changes they might make that in and of themselves are not considered substantial, but when they tally up and are all added together they become significant.

Q. So the term lightship, what does that refer to?

A. That's the vessel with no consumables, no product, no crab pots, none of the removable items, consumable liquids, provisions, but it does have spare parts and oil in the engines and that sort of thing, but otherwise it's the bare boat.

Q. So on this page in the stability book, would you expect the vessel owner or Master to log and track changes in pot, buoy, and line weight?

A. No, I don't think that's the intention of this. That's another issue because those are not concerned part of lightship.

Q. Would changes in pot weight, pot gear, would that affect vertical center of gravity?

A. Certainly.

Q. So if you would, I'm referring to the

paragraph discussing vertical center of gravity, VCG. Raised 2 inches or more. Could you read that paragraph for us, please?

A. "Vertical center of gravity, VCG, raised 2 inches or more, for Destination the lightship VCG is 15.03 feet. An example of the amount of weight that would raise the ship's VCG 2 inches would be the removal of 10,000 pounds at the height of the engine room grading."

Q. Can you describe in more detail the location of the engine room grading? Is this essentially the working deck of the engine room? What is the engine room grading?

A. Yeah, that would be the working deck in the engine room.

Q. So I notice you included an example there to illustrate a change in VCG. And your example, it would be a situation where it actually would decrease; right? By removing 10,000 pounds?

A. No, that increases the VCG. That shows that by removing 10,000 pounds at a low level in the vessel, that increases the VCG.

Q. Okay. Conversely speaking, broadly speaking, and obviously I'm not asking you to do the specific math here, but broadly speaking, so that's

removing weight toward -- at the bottom of the vessel; right?

Examine the converse situation where we add a similar type of weight, but higher above the vessel, call it at the main deck, call it above the main deck, what effect on VCG would that kind of scenario produce?

A. It would also raise the VCG?

You say adding weight, adding high up?

Q. Yes.

A. Yeah. Removing weight down low or adding weight high up would have the same effect on VCG.

Q. Just to confirm, would adding weight to crab pots increase the VCG?

A. Certainly. Yeah. They are definitely above the center of gravity.

Q. Would you expect, without doing the math, broadly speaking 10,000 pounds of added pot weight to increase the VCG by 2 inches?

A. I can't say. I would have to do the math.

Q. That's fair. Understood. Okay.

A. But, again, just crab pots are not part of the lightship weight. This was, the intent is to keep track of the vessel itself. Any change in the pot weight would be cause for redoing the stability. This

is all based on a certain pot weight. And that's what I was told. This is the pot weight that they've always used. This is the pot weight they have, and it was 650 pounds, plus 50-pounds of weight and gear inside and 700 pound pot weight.

I think the change in pots would constitute a change in the vessel's service basically. A change in the vessel's pot weight would be a change in the vessel's service.

Q. Okay. Let's move now on to Part 5. Stability of fishing vessels. Looking at page 51. And we also have copies in that binder next to you.

If you could, please describe the intent of this section. That is, why you included it in the Stability Book, and the guidance you drew from when crafting this part.

A. Well, I thought at the time, while I still do, that the chapter on stability of fishing vessels in and this manual the Fishing Vessel Owners' Association put out is a very clear illustration of stability and how various factors affect the stability of the boat. And it's designed to be very readable for vessel Masters. It's not for naval architects. It's for people who are actually running the boat and loading the boat.

And I thought it was a very clear presentation. And so just in the interest of helping to understand what all of this is about, I excerpted the entire chapter into my reports.

Q. Turning to page 59, there is a paragraph there on effect of icing. How would you expect the vessel Master to implement the intent and advice mentioned in this section?

A. Well, I guess I'm not really sure what you're asking. How? I would just expect him to read it and to understand the effect of icing, so that he's aware of what happens when ice builds up on a vessel.

Q. And as I mention that question, I also realize that we almost addressed that earlier as part of your introduction section to the Stability Book; is that --

A. Yes. Uh-huh.

Q. Nonetheless, I'm still trying to get for the record that Part 5 has these sections in it. So let's take a look at page 60. This has a paragraph on the effects of down-flooding.

A. Yes.

Q. My question to you, I guess, if one were to read this section, would you, could they draw the conclusion that an open loading hatch for a hold or

access to the storage hold constituted nonconformance to the intent and advice of this section?

A. Yes, I would say that.

Q. If we can turn now to page 63. Page 63 is the Stability Letter issued to the fishing vessel Destination on 27 October 1993. Of course, do you recognize this document?

A. Yes.

Q. Can you describe its purpose and summarize its key elements?

A. Well, its purpose is to make basically a certificate that would state that the stability had been checked, and I would always provide a laminated copy as well to be posted onboard the vessel and recommend that it be posted onboard the vessel. And it points out that anyone who is operating a vessel should have familiarity with the Stability Report prior to operating. And then has some general precautions as standards of keeping cross connections closed and emptying holds, various things like that. And pointing out that there is a maximum number of crab pots that can be carried and that information is in the stability report.

Q. Final question: How often do crabber fishing vessels owners or operators interact with the

naval architect who produces the stability book. Is it a regular basis? Maybe what I'm trying to ask is at what point would you expect to hear a call back from a previous customer from a fishing vessel crabber, and I'm just wondering how much they engage with the naval architects.

A. Yeah. You know it varies a lot. It depends on the particular owner and their operation. I have had some clients who are kind of regulars and they contact me on a regular basis because they want to put a new crane on or they want to do something different and they want to know if that's okay and that kind of thing. And so some of them I've been -- I've had clients that I've had for years who have come back to me on a regular basis. Others I never hear from them again.

It's probably more common that you just don't hear from them again until or unless they do something serious to the boat, they're gonna -- like they sponson it and something. They want to do something major, but...

CDR MULLER: Thank you. That concludes my additional round of questions. I'd like to now turn to the Board members for their questions.

Mr. Gillette?

MR. GILLETTE: Thank you, Commander.

Good morning, Mr. Etsell. My name is James Gillette with the United States Coast Guard.

THE WITNESS: Good morning.

DIRECT EXAMINATION

BY MR. GILLETTE:

Q. I would like to go to Exhibit 7, page 13.

This is kind of follow up to some of the questions that the Commander was asking. First, I'd like to ask, you said that an operator told you that they carried 200 pots. Do you remember who that operator might be?

A. The note on the drawing I had said Jarl, J-A-R-L, I don't remember. I don't remember any details from back then. But there was a name there.

Q. Okay. This has to do, you said that you -- you were asked a question about the picture of the vessel and it shows how many crab pots are on that picture and how many tiers there are. And there are four in that picture. And you were asked something along the lines, why wasn't there five in that picture? Can you answer that again? What's the answer to that?

A. Because 200 was the load that they specified that that's what they like to carry and so I want to

more match their typical loading.

Q. So looking on the left-hand column under the particulars of loading, it says first tier pots, I believe that's 85. Do you see that?

A. Yes, uh-huh.

Q. And then it goes on to second tier pots, third tier pots, and fourth tier pots. Is that how you were expecting them to be loaded to get to that 200?

A. Yes. Yes. I believe I asked about it at the time, and that's what they told me pots on edge, they can get 85 and so on. That's how they loaded them.

Q. Was the size of the crab pot itself, was that considered at the time?

A. Yes, uh-huh.

Q. What was the size of a crab pot at the time of this picture?

A. 7-foot by 7-foot by 34 inches.

Q. So on the bottom on the comments section, the picture you show shows 200, on the very bottom it was mentioned that holds one full, holds two full. If tanks one and two were full or pressed, which one would that be? Two hundred forty-nine pots and five tier, summer/winter. Can you explain which one that

would be --

A. This is a page with just one hold tanked.

MR. GILLETTE: Excuse me. Go to the next one. To condition three. Sorry about that.

BY MR. GILLETTE

Q. We're going to go to Exhibit page 14.

A. Okay.

Q. So to kind of get back to that same question, on the first tier pots, it says 85. Do you see that?

A. Yes.

Q. Okay. So the picture depicts the same, that I asked before. But on the very bottom where it talks about how many holds are full, can you tell me what it says on holds one and two full?

A. For holds one and two full, 249 pots in five tiers for summer. Two hundred twenty-four pots in five tiers for winter.

Q. When you did your calculations and you saw how high they go up, did you ever see them personally to match the drawing?

A. Personally on the boat when they are fully loaded with pots, you mean?

Q. Yes.

A. No, I never did.

CDR MULLER: Okay. We are going to take a quick five-minute recess for a Board huddle. Thank you.

(Whereupon, a five-minute recess was taken.)

CDR MULLER: Good afternoon. The hearing will come to order. Thank you for your time with allowing us to take a quick recess. Just absorbed a lot of information and we wanted to make sure that we were moving forward in the right direction collectively.

So we will continue on with questions for Mr. Etsell.

Mr. Etsell, I just want to remind you that you are still under oath.

THE WITNESS: Yes, I understand.

CDR MULLER: So Mr. Jim Gillette.

BY MR. GILLETTE:

Q. I'm going to bring up Exhibit -- this is Exhibit 127. This is the picture of the aft end of the Destination on February 9th, 2017. By looking at this photo or this exhibit, does it match your condition three of tanks one and two pressed on the depiction of your photo that's inside the Stability Report?

A. Well, I see that there's five tiers on there

and so it doesn't match the drawings. Is that what your question is?

Q. Yes.

A. I can't tell how many total pots there are, though. It exceeds what's shown here for holds one and two full.

Q. Yes, Mr. Etsell, with prior testimonies, that's 200 pots at five tiers.

So with 200 pots, five tiers, does that match the Stability Book that you provided?

A. No. No. Not exactly.

Q. Trying to kind of see if we -- if the view of the book is to assist the Master to loading and that's 200 pots at five tiers. We're just trying to figure out how the Stability Book is helping him out, I guess. If you can help us out with that.

A. Well, I mean, it's -- the Stability Book allows 249 pots and five tiers with holds one and two full. So this is within that.

Q. But seeing that picture there with 200 crab pots. If we were to put -- if there was to be 249 pots on there, would they have to go up a tier? Can they make the maximum, I guess --

A. I can't answer that. I'm taking their word for it, that it's 200 pots there. But there is no

provision in my stability report for six tiers. That's just not an option in any condition.

MR. GILLETTE: Okay. No further questions, Commander.

CDR MULLER: Thank you, Mr. Gillette. NTSB, Mr. Karr?

MR. KARR: This is Michael Karr.

DIRECT EXAMINATION

BY MR. KARR

Q. Mr. Etsell, when you calculated the ice accumulation for this Stability Book, can you tell me how you accounted for the vertical and horizontal area of the crab pots?

A. Well, unfortunately I don't have that calculation any more. Typically, I would take the total profile area of the vessel and apply the profile amount prescribed in the C.F.R. and the total horizontal area, prescribe the horizontal area as prescribed in the C.F.R.

Q. And I'd like for you to tell me or let me ask you this: Have you seen photographs of pictures of vessels in the Bering Sea with large amounts of ice accumulation?

A. I can't say that I -- I have seen pictures of vessels with large ice accumulation, and I don't

recall exactly when or where or if they were in the Bering Sea or where, but yes, I've seen heavily iced vessels.

Q. Well, I'm just interested in your thoughts of the risks and hazards the captain would have to address if he had more than 1.7 or 1.3 inches of ice on his horizontal surfaces and more than .65 inches of ice on his vertical surfaces.

A. Yeah, well, it's a difficult thing to calculate and it's probably a difficult thing to come up with a standard for, icing varies and depends on the angle you are to the wind and just a lot of factors. So by applying the total profile area, certain thickness when, in fact, you're going to get a heavier thickness up forward and a lessor thickness back aft maybe, and that sort of thing. So yeah, I don't really have any other comments about that.

It's written in the C.F.R. there that that's what's expected to be applied and as I mentioned in the report certainly you can exceed that. It can get out of hand. I've seen -- I remember one picture in particular of a vessel that was grounded somewhere and left sitting for a bit and it was just totally encased in ice. And it can get away from you fast. I know that.

MR. KARR: Thank you, Mr. Etsell.

I have no more questions.

CDR MULLER: Thank you, Mr. Karr.

Ms. Spivak?

MS. SPIVAK: No questions.

CDR MULLER: I have one follow-up question.

Lieutenant Commander Mendoza, if you could pull up Exhibit 127 again.

DIRECT EXAMINATION (continuing)

BY CDR MULLER

Q. Mr. Etsell, looking at this exhibit, which is a picture of the fishing vessel Destination while at port at Kloosterboer. Do you see that gear loaded on top of the pots?

A. Yes.

Q. Does your stability book have any provisions that took that kind of gear on top into account?

A. No.

Q. So would that gear loaded on top be consistent or in compliance with your Stability Book?

A. No. No. Not per se.

Q. If you look at the stern here, there's a gap or an opening, we have come to learn that gap being referred to as a tunnel, which is essentially a row -- a space built underneath the stack of crab pots to

allow the crew to go from the forward section, the bow/the house to the stern. Did you take into account in your drawings and Stability Book a tunnel?

A. Well, there's no place to really take it into account. It's just a matter of how many pots -- otherwise, I mean 85 on deck is what I was told that they could get on deck standing on edge. And I assumed that included the tunnel.

CDR MULLER: Okay. I have no further questions.

Mr. Gillette, do you have any follow-up questions?

MR. GILLETTE: No follow-up questions.

CDR MULLER: Thank you.

NTSB?

MR. KARR: None.

CDR MULLER: Ms. Spivak?

MS. SPIVAK: No.

CDR MULLER: Okay. That concludes our questions. Mr. Etsell, thank you for your participation and information you provided today.

Before I close, is there any information that you think the Board should consider that may not have been mentioned at this time.

THE WITNESS: No. I think you're doing a

pretty thorough job of covering all of the bases.

CDR MULLER: With that, Mr. Etsell, you are now released as a witness at this Marine Board of Investigation. Thank you for your testimony and cooperation. If I later determine that this Board needs additional information from you, I will contact you.

If you have any questions about this investigation, you may contact the Marine Board Recorder, Lieutenant Commander, Pedro Mendoza. Thank you.

THE WITNESS: Thank you.

CDR MULLER: The time is 12:30. We're going to recess for one hour and reconvene at 1:30. Thank you.

(Whereupon, a luncheon recess was taken.)

CDR MULLER: Good afternoon. The hearing will come to order. We would like to call our next witness, Mr. Olafasson.

LCDR MENDOZA: Please raise your right hand.

GISLI OLAFSSON,

A witness produced on call of the Coast Guard, having first been duly sworn, was examined and testified as follows:

LCDR MENDOZA: Please be seated.

Please state your full name and spell your last name for the record.

THE WITNESS: Name is Gisli Olafsson and last name is spelled O-L-A-F-S-S-O-N.

LCDR MENDOZA: Please state your current employment and position title.

THE WITNESS: Naval architect. Company is KraftMar Design Services. They're naval architects.

LCDR MENDOZA: Do you hold any professional licenses or certificates?

THE WITNESS: PE with the State of Washington.

LCDR MENDOZA: Thank you, sir.

DIRECT EXAMINATION

BY CDR MULLER

Q. Good afternoon, Mr. Olafsson and welcome. By way of introduction, could you further describe your occupation at KraftMar Design Services and specifically the type of work and projects you have performed.

A. We do a lot of work for the fish boat guys and the tugboat guys.

THE WITNESS: Is this too loud?

THE COURT REPORTER: It's not that, I just don't understand what you are saying.

THE WITNESS: Okay. I'll speak slowly to begin with and then just let me know.

THE COURT REPORTER: Thank you so much.

THE WITNESS: No problem.

A. Yeah, so we're naval architects and marine engineers and we do most of our work in the marine industry. We mostly work for boat owners, but we provide drawings for shipyard projects most of the time.

It's a lot of structural work and some stability work, and some normal marine/mechanical work.

BY CDR MULLER

Q. Approximately, over the years, how long have you been doing or conducting stability assessments on fishing vessels and can you give me at least a ballpark figure of how many assessments you have done over the years?

A. Okay. I have been a naval architect in the northwest since 1989, I think, and never done anything else except being a naval architect. And in my early years I worked for others, obviously, and there we did stability work not continuously, but it was part of the normal work. And in our current work we handle stability maybe once a year, maybe every other year so

we're not doing like a full incline every year. Average maybe every other year, sometimes but that can change. Sometimes it's twice in one year.

Q. So in regards to stability, under, broadly speaking, under what circumstances are fishing vessels required to reassess their stability information books?

A. When they do changes that can be assumed to have effect on stability. It's not overly well defined, but there are guidelines and we look at those, and that's what's done. Does that answer the question?

Q. Yeah, that's fine.

So as you're aware, we're discussing the fishing vessel Destination, so if you would, can you tell us when and how you first came to know the fishing vessel Destination?

A. I think I got a phone call from the shipyard and Dave was one of their customers and he was thinking about putting a bulbous bulb, and shipyard called me and invited me to a meeting with him. And I got to know Dave. And he explained to us what he wanted to do and the goal for us was to design the bulb, the shape of it and then provide structural drawing so that the shipyard could build it and then

we would visit with the shipyard during construction, partnering.

Q. Was it at that time that the topic of the new stability assessment was brought up and who brought it up?

A. No. It was not at that time at all actually. It wasn't until at the end of the project and it was via email from the shipyard and we then worked on it for David.

Q. Okay. So I would like to talk about the bulbous bow installation. So if we could take a look at Exhibit 153, page 28. This is a design drawing for the bulbous bow.

A. Yes. Correct.

Q. So looking at this drawing, do you recognize this?

A. Absolutely.

Q. Do you recognize this drawing as a KraftMar product?

A. Yes, absolutely. Yeah, it's one of our drawings.

Q. Was it you that you developed this drawing?

A. Yes. We do these projects as a team in the office. Yes, I was the lead on this one.

Q. And when was this drawing produced?

A. Did you say when?
Q. When? What month and year?
A. It was 2012 in October or November.
Q. Looking at the notes on the top left, it says general notes.
A. Yes.
Q. Can you read note number two and explain plumbed for fresh water.
A. It means that you could run fresh water into the bow if you wanted the bow to be heavier, you could fill it with fresh water in an easy way, you know, through a piping system.
Q. So can it be filled and emptied?
A. Yes. Sort of like a bulbous tank would be piped.
Q. Right. Do you recall -- do these drawings depict how that filling or emptying of that bulbous bow occurs? Are there piping diagrams associated with this?
A. No, there is not.
Q. So where would the piping arrangement, to ballast that bulbous bow, be located on the vessel.
A. Okay. There's a water tank inside the engine room, water tank just aft of the bulbous bow. And that tank has piping, obviously, and most likely

scenario is that they use that piping, tied into that piping because there would have been a pump associated with that.

Q. So if we could turn now to Exhibit 151, page 23, which is a picture of the newly constructed bulbous bow.

A. That's correct, yeah.

Q. Would you recognize this bulbous bow as the completed project, the installation of the bulbous bow?

A. Yes. As shown in this photograph. It says fully completed there. The (inaudible) on the top has been added, and the V section on the bottom has been added. The bulb has been painted, the bottom paint, and it looks like looking pretty close to launching the boat, looks like.

Q. In your capacity as a naval architect for this project, did you ever visit the vessel.

A. Yes. Absolutely. We never do a project where we don't attend the construction. It's very rare at least. It's a huge part of what we do, is we make ourselves available to the owners and the shipyards. We show up, and we answer whatever questions they may have about details. For example, on this drawing there may be something that they feel

might not be shown, so they can ask us directly if we're there. So we provide that face-to-face communication.

Q. And this project took place where?

A. Pacific shipyard in town.

Q. In Washington, right?

A. Yes.

Q. State of Washington.

A. Often called Catfish.

Q. Okay. Was the vessel outfitted with any crab pots at the time?

A. No. No. It was just in shipyard. No pots at all, and just the basic ship there.

Q. So if we can turn now to Exhibit 7, page 68 and 69. This is a Stability Letter dated 28 October 2013 by KraftMar.

A. Yes.

Q. So do you recognize this document as your document?

A. Yes, it is created by me.

Q. What is the intent and purpose of this letter?

A. It's to document what has taken place. So there is somewhat of a written record of what they just did in that yard although that part is brief, it

also summarizes the study that we did for the owners. We were asked to look at the effect of the condition of the boat to the stability of the vessel.

Q. Looking at the letter, specifically paragraph two, you talk about GM.

A. Yes.

Q. And then the next sentence you talk about a reduction of only about 2 inches; is that correct?

A. Yes.

Q. So does that paragraph summarize the results of the installation of the bulbous bow?

A. Yes, it's a statement to express to the owner that the changes are very minor in a sense. GM is one indicator for stability. There are numerous others. So GM does not just work by itself, but it's a good indicator of what is going on. This vessel is rather -- has high, what we call high GM values, way above 2 foot. When you have a boat with GM of 2 foot, have you to be -- 2 feet or lower even -- you have to be extra careful with any weight changes on a ship like this. They are not -- I think I can fairly say not nearly as crucial.

Q. Okay. Looking at paragraph four, last sentence. Looks like the letter, it indicates that you advised the vessel operator about icing

conditions. Can you explain that letter, about that part of the letter, your intent there?

A. Yes. We know that icing is something that happens to them out there from time to time. So it's a very crucial, important part of the stability assessment. So it's really a standard for us and probably most other naval architects to always mention it whenever we can. To try to remind them and emphasize that they have to be careful, and they have to be alert and be ready to deal with the situation when it arises.

Q. And at the end of that sentence you include a short discussion about, or reminder about taking good care of the door leading out to the main deck; is that correct?

A. Yeah. So that's the door on the forecastle bulkhead, leading from the main deck into the quarters where the galley and the staterooms would be. So this is a very important door. It's usually midships and it's there for a reason, so that will allow the ship to heel quite a bit before water would get to it.

It's always considered weather-tight when it's closed, so water cannot flood through the door when it's closed. And when we say what we are saying there to take good care of it, it obviously is

supposed to be closed when they are out to sea except just when it's being traversed through. But it needs to be attended to also.

It needs to be in good shape, and gaskets need to be maintained, and they have to work properly. That's what we are reminding him; although we don't spell it all out, but that's the gist of it.

Q. So is the intent there by reminding them to take care of that door, and as well by extension as you mentioned keeping that door closed while underway, is that to prevent potential down-flooding?

A. Oh, absolutely. Yes. Yes. The forecastle is part of the bow envelope. So when we do the stability calculations, the hull and the forecastle work together, and if water can flood into the forecastle, then it really isn't watertight anymore.

Q. Okay. I would like to take a look at essentially the last paragraph there.

Maybe I'll just read it, and then we can discuss it.

A. Yes.

Q. It says, "Please report to me any planned future significant weight changes, such as changes of crane or any major relocations of existing weights so that we can record and track the changes properly

until the next inclining test is performed.

It is our understanding that you plan to perform a new inclining test sometime during the latter part of this year.

Did I read that correctly?

A. Yes. That's what that says.

Q. So what would include, in the section there where you recommend to record and track the changes, and any major relocations of existing weights, can you give me some examples of what you would have in mind that would fit that scenario?

A. Yeah. This is really meant for sort of major equipment, such as the pot launcher, the crane, a generator down in the engine room. Let's say there was a need to build a little deck locker up on deck for storing tools or such. It will be for such a scenario. Let's say somebody decided to raise the height of the bulwarks, maybe add a foot to the bulwarks, that would definitely be a steel addition, want to record and keep track of, because that directly affects the lightship value of the ship. This is used in the stability calculations.

Q. Okay. And at the end there, you mention that you understand that there might be a new inclining test. How did you come to that

understanding?

A. We don't shy away from sort of encouraging the owners to think about inclinings. It creates work for us. There is quite a bit involved in doing one. So it keeps us busy and it's a nice way to update the technical and safety information for a ship. So we don't hesitate to sort of suggest that we hope that they will come to us for their inclining work, but we never know what is going to happen exactly.

Q. With that in mind, to be clear, were you approached by Mr. Wilson to potentially do an inclining experiment or test at a later date?

A. No. No, we were not.

Q. Okay. I would like to turn now to Exhibit 7, page 64 through 67. These are weight calculations.

A. Yes, that's correct.

Q. So do you recognize this as part of the process you used to generate the stability letter?

A. Yes.

Q. So these calculations here, maybe using these calculations as a guide, but in general I'm looking for the process in which you performed your stability calculations you used to draw your conclusions regarding your Stability Letter and the change to GM.

A. Okay. So since this was meant to show the effect of the bulb addition, we took a condition out of the existing booklet, the one created by Etsell, and we calculated the weight to see the weight of the bulb, and we (inaudible) some other smaller steel modifications taking place on the ship, so we estimated the weight of those, and we added them in to show the change in this case actually the total weight of that condition.

We have since, actually, taken this sheet and update it, made it more probably easier to understand and so we could at some point share with you, if you care for that.

Q. Okay.

A. But this is basically a combination of prior known numbers, and new numbers for the modifications in 2012.

Q. And those modifications were essentially steel work?

A. Yes. Yeah, mostly steel work. Yes.

Q. So did any of these calculations include assessment of any changes in the weight of the pots?

A. No. This is -- no, that's not included there. No.

Q. If we can turn to page 67. This is a plan

view of the vessel.

A. That's correct.

Q. Did you refer to this drawing while conducting your stability assessment? Page sixty-seven. I call that a plan view. If you want to call it something else.

A. Yeah, it's called either a plan view or often it's a tank plan (sounds like), kind of standard document for boats. We created this ourselves, based on some information that was available, but this is also a document that we have since improved on, we can share that with you too. To help with people that are maybe looking at the technical end of these things.

That shows the holds and fuel tanks, basically general arrangements of the tanks and holds. It's one that we, if one doesn't exist for a ship, then we always try to create this very early on because it's a good kind of roadmap, or -- well, maybe not a roadmap, but a map of what is inside the ship.

Q. So at any time, did Mr. Wilson or the shipyard provide you with a listing of any changes of the weights onboard the vessel?

A. You mean weights that happened in 2012 or prior or --

Q. So to do your assessment, did you ask for

any information from the shipyard or Mr. Wilson?

A. Yes, we did.

Q. And what information would that include?

A. Yes, we did. We did ask for information. We asked -- we knew the shipyard was doing steel replacements; although, we were not involved in those replacements, but we saw them going on. So when David asked us to look at this, the effect of the bow, we needed to know about this steel replacement.

So we talked to the shipyard, and we also kind of in our travels in the yard we knew things were going on, it was quite obvious if a section was carved out, some anchors were being replaced. It was obvious to us something was being done there.

And the bow, there was some ice strengthening going on, basically anchors were being replaced with stronger angles in the framing, and then in the stern there was some damage. I think general hull damage that was being replaced with new steel. So, yes, we did get information from them about those things.

Q. Okay. So it generated your stability assessment letter.

When conducting your stability assessment, did you conduct assessments to determine any changes

in the Vertical Center of Gravity (VCG) lightship displacement, and/or longitudinal center of gravity or was your assessment basically limited to just GM?

A. No and yes. We looked at the Vertical Center of Gravity, basically the spreadsheet, that's what comes out of the spreadsheet. And at the same time we tried to calculate the longitudinal center also, based on the information that we have. And in the end, we came out with a new lightship. We can compare it to the old lightship. And those centers also, the Vertical Center of Gravity and the longitudinal center of gravity.

Transverse is the side to side center and that one almost never changes, but these things tend to be kept symmetrical on the ship, especially steel work, equipment changes can change the transverse, but the steel tends not to.

So yeah, in our assessment of the GM we had to do the -- calculate the Vertical Center of Gravity. And that actually -- the vertical center is growing, it's going up and that's usually a negative thing. So in this case the Vertical Center of Gravity actually came down, not by much, just a fraction, but it calculated to come down. And now, of course, it's a positive thing for the outcome of the project.

We also, we also look when we are looking at the effect of the bulb, we created a hull model, when we say a hull model, it's just a series of points that describe the hull shape along the deck ends and the chine and the key, then we import these into our stability program, that's used to calculate the stability.

And so we did that and we run cases where we can see the effect of the bulb. Often worry is that something up in the bow in a forepeak area can have a negative effect because there is a typical forepeak ballast tank is not such a great ballast tank. It's there, yeah, to help with the trim of the ship, but it's so high in the bow, it doesn't really help the transverse stability necessarily.

So we look carefully at that, and in this case the bulb is almost neutral in a sense. If it has some negative effect because of its shape, it counteracts that with its weight, and the weight of the fluid that is put inside it. So she's pretty much, yeah, almost neutral. Doesn't really change the stability at all. And we can show this in more detail at some other time, you know, with engineers. We can show those calculations and demonstrate that if needed, obviously.

CDR MULLER: Okay. Thank you. That concludes my line of questions. I'd like to hand it to the Board members.

Mr. Jim Gillette?

MR. GILLETTE: Commander, I have no follow-up questions.

CDR MULLER: NTSB, Mr. Karr?

MR. KARR: Michael Karr.

DIRECT EXAMINATION

BY MR. KARR

Q. Can you tell me if you know of any Coast Guard stability policy or guides for the industry?

A. Yes. It's in the C.F.R. Part 28. It's the standard for fishing boats, basically. It describes what we have to calculate the stability to. So it says in there what the GM needs to be, what the range of stability is in degrees, so that's the standard that we use.

Q. Do you know of anything other than what's in the regulations that the Coast Guard or the industry may publish to help the mariners apply the stability rules?

A. I don't think there is that much of that out there. This is really kind of the guideline, and the rulebook. It's the law, it's basically the law, the

C.F.R.

MR. KARR: All right. Thank you.

CDR MULLER: Okay. Thank you, Mr. Karr.

Ms. Spivak.

DIRECT EXAMINATION

BY MS. SPIVAK

Q. Good afternoon. Just to qualify one point about your Stability Letter of January 28, 2013. When you were discussing the incline test, was that a test that was required the Destination have performed?

A. No, not specifically required.

Q. Okay. Was it necessary the Destination should have performed that test before she could operate with the addition of the bow?

A. No.

MS. SPIVAK: Okay. Thank you. That's all of the questions I have.

CDR MULLER: Thank you, Ms. Spivak.

Just one more round turn on questions. Mr. Gillette?

MR. GILLETTE: No more follow ups.

CDR MULLER: Mr. Karr?

MR. KARR: None.

CDR MULLER: Okay. I have nothing further myself.

Sir, that completes our questions for you this afternoon. Is there any other input or information that you believe the Board should consider that may not have been discussed this afternoon.

THE WITNESS: Yes. We have quite of bit of experience dealing with ships and so we kind of have a good understanding of tank plans and how bows are usually constructed and built, and basically what's inside the shell of a ship. So we can maybe be in assistance in developing some of the drawings that seem to be, sort of, needed in this process to thoroughly looking at this. And we have kind of started doing some of that in the office.

So we are perfectly willing to share some of that with you guys. Whenever that may be needed. And I'm talking about sort of a cross-section through the midship area and another one back aft that would show there's a double burn fuel tank (sounds like) that is shown on our tank plan, but we don't have any documents that really fully describe it in detail except what we are sort of creating. So we're kind of doing a little bit of reverse engineering which we are used to doing.

So basically I'm offering that to you guys.

CDR MULLER: Well, thank you for that. And

for awareness, at least, the Board has already started working with our Coast Guard Marine Safety Center with its team of naval architects. And we already started passing along some of the information we've gathered so far regarding the vessel stability and, of course, they use the techniques and the methodologies and the computer software that's available to them. But certainly, if they would feel it beneficial to reach out to you, I can mention that to them, as they move forward with their assessment.

Our commitment here at this hearing, of course, is to collect the broad scope and as accurately as possible all available facts, and, of course, with those facts and more accurate facts that we give to our Marine Safety Center and naval architects that will better enable them to produce their product. So that's our goal moving forward after the hearing.

THE WITNESS: Yeah, and if I may add, we're sincerely hoping within this process, we definitely want to be involved in it as much as we can so we're totally available to answer questions any time we can come to meetings on short notice and it's also my hope that out of this will come some sort of a strengthened relationship between the skippers and the naval

architects and the owners and the engineers. We work with, some of these people very closely, all year round, but others we see more seldom, sometimes they live far away and they don't come into town that often. But people are only a phonecall away.

And we would like to see a much closer working relationship overall especially on these safety issues, you know. Things like icing. It's -- the amounts are described in the C.F.R. that he was asking about. It says how much we're supposed to use in the vertical and the horizontal surfaces, but of course, we have seen photographs from past years where the ships can collect a lot of ice. And we would like to hear from the skippers, maybe have kind of an informal meeting once a year, where naval architects are invited from us and from the competition and different skipper, guys that have been out in Alaska for many years, we'd like to hear from them, you know, have them talk to us face to face and describe these situations so we can really learn as much as we possibly can about these things.

And now there isn't any system for something like this. And I think it really can come from ourselves, some of us naval architects we can step up to the plate and kind of drive, maybe, some of this

through and yeah, we don't like to hang out with the competition, but I think on things like this, it's where we have to come together to sort of be proactive. Actually, that's my hope is what's going to come out of this. And one suggestion that I would like to make is in the process we can take older naval architect, the guy that's trying to retire or semi-retire and is not well known inside our little group to each other, so older guy like that could take a lead role, you know, he could be made sort of ice master, okay, and he takes that as his baby and maybe over two or three years he makes sure that we come to these meetings. He calls us up and gets us together and lectures a little bit and makes sure that the skippers come and talk to us. Because I think the more we know about this thing, and the more we know how quickly the ice can accumulate and how to deal with it aboard the ship, the more we know the safer we can be, there is no question in my mind. But that's my vision. And I think about it every day. So I just wanted to share that with you.

CDR MULLER: I appreciate that. Thank you.

THE WITNESS: I also would like to say one more thing. That my company, there hasn't been a day gone by since this accident that we haven't thought

about the crew and their families.

CDR MULLER: Thank you, Mr. Olafsson.

With that, you are now released as a witness to this Marine Board of Investigation. Thank you for your testimony and your cooperation. If I later determine that this Board needs additional information from you, we will contact you. If you have any questions about this investigation, you may contact the Marine Board Recorder, Lieutenant Commander Pedro Mendoza.

Thank you.

THE WITNESS: Thank you for inviting us.

CDR MULLER: Okay. We are going to take a 15-minute recess. Thank you.

(Whereupon, a brief recess was taken.)

CDR MULLER: Good afternoon. The hearing will come to order. We would like to call our next witness, Mr. Nylander.

LCDR MENDOZA: Sir, please stand and raise your right hand.

LANCE ARTHUR NYLANDER,

A witness produced on call of the Coast Guard, having first been duly sworn, was examined and testified as follows:

LCDR MENDOZA: Please be seated.

Sir, please state your full name and spell your last name for the record.

THE WITNESS: It's Lance Arthur Nylander, and Nylander is N-Y-L-A-N-D-E-R.

LCDR MENDOZA: State your current employment and position title, sir.

THE WITNESS: My employment is Dungeness Gear Works, Incorporated and I'm president of the company.

LCDR MENDOZA: Do you hold any professional licenses or certificates?

THE WITNESS: Nope. Just hands-on experience. I started building king crab pots for the Bering Sea on January 2nd, 1976, and have been doing it my entire adult life. I formed the company, Dungeness Gear Works 30 years ago. We're celebrating our 30th year.

LCDR MENDOZA: Thank you, sir.

CDR MULLER: Okay. Mr. Nylander, welcome.

DIRECT EXAMINATION

BY CDR MULLER

Q. By way of introduction, could you further describe your business at Dungeness Gear Works and what role you play. And also, we're also looking for the amount of business, how many vessels you deal

with, how many crab pots you deal with on an annual basis. Trying to get an idea of the breadth and scope of your business.

A. Well, the good old days, I think my record banner year was about 14,000 king crab pots back in 1991. It kind of varies, goes up and down for five, six years when rationalization took place. I haven't built a new king crab pot for the Bering Sea for almost six year. We build all different types of pots, black cod pots, shrimp pots, dungeness pots, you know, various types of aquatic pots.

I have done some work for NOAA, federal government there for studying species of -- the Steller's endangered species, Steller sea lion, I helped them design pots to use to study what was going wrong with the population. Did that for almost seven years.

Q. So broadly speaking, I guess your observations have been part involved with the industry and the crab pot business. Can you explain if and how crab pots typically used by Bering Sea crabbers have changed over the years? That is, have you seen a trend whereby crabbers have been using larger and heavier pots?

A. I would say typically when they started out,

you know, a lot of these guys were existing when I started my company. I just worked for my competitors at the time prior to that. But, you know, in some cases they go a little heavier. I know that when you contacted me about this, you know, I've never built a pot for the Destination. They were originally a Dorian Metal Fabrication customer. I always did PR to try to get guys to come my way, you know, but they were staunch with their builder that they've used for many years.

And when I was contacted about this, I actually acquired the records from Eclipse Supply, he had purchased the records from Dorian. And when I purchased the records and miscellaneous equipment from Eclipse, when they were shutting down the business due to rationalization. There wasn't going to be room for everybody to survive. Like I said, I didn't build a pot for five, almost six years for the Bering Sea. It was either fish pots or something else. Kind of hung on, of course, I did a lot of work for Russians for the Bering Sea and during those quiet years.

So I had sent you a cut sheet and of course that cut sheet is coded. Dorian always liked to code things, put boat tag names on the pots. I use the full boat name on the vessel. We tag every unit that

we manufacture. And it has a, the code is DO6. And it was in the file, Eclipse's file under the Destination. So I would say it's a pretty good chance that it probably was the Destination cut sheet.

And then when you had contacted me about this, I just had it sent to you. I didn't bother to crutch the numbers that were actually on this spreadsheet. And after analyzing it and looking at it. You know, somethings have changed to the pot design since then. One thing is here there's about 15 pounds of weight, which is a Tanner Hood (phonetic). Early on, when they would fish, instead of king crab, they'd fish for other species, the bairdi and the opilio crab.

The fishermen would put a wooden board across the top of the tunnel, so the king crab couldn't get in. Because if you got too many king crab in there, the bairdi wouldn't go in the pot. So then the State of Alaska decided to make it a regulation required that they put a Tanner Hood in there to restrict the opening so king crab can't get in. Because it's all about reducing handling mortality issues.

So there was a guy that invented a plastic hood that goes on there. Those were the most widely

used. And then the State decided that that was too flimsy and required that it couldn't flex over 3 inches under 20lbs of pressure. And so that's when the competitors started making steel hoods, knowing that they wouldn't flex. There was a plastic one by Norsol (phonetic) which was then turned to Eclipse Gear and Supply.

And he just put a plastic stiffener on there so it would not flex under 20lbs of pressure. I designed a new plastic hood that would meet the regulation, and, you know, I'd go out to sea and do research, different types of things, you know, to experiment and test and try to always make a better mousetrap. That's why I'm still here today, I guess, because I keep trying to reinvent the wheel.

That hood actually increased the catch of opilio crab by about 20 percent in eight hours or less and all of the pots that are used today have my synthetic hood on there. And they only weight about 8lbs. These steel hoods used to weight about 14. So you can take, you know, take almost 15 pounds off and then add 8lbs to get a more accurate weight on them.

Another item to address --

Q. Just one moment. So it sounds like you want to talk about pot weight.

A. Yeah.

Q. Okay. We'll stick with that topic, but let's at least for display purposes pull up the appropriate exhibit, which I believe you're referring to is 164.

A. Yep. There's my beautiful fax machine with all of the lines through it. Sorry.

Q. So this is what you've provided us previously.

A. You can see down at the -- where it says, total steel weight, right above that, tunnel board bars, tunnel board angles, tunnel board bottom, tunnel board top. If you add all of those together, that's four, nine, almost 15lbs. Those were removed from his pots probably starting back in 2002. They don't last very long. They're thinner metal. The material used to coat them to get them to last longer from rusting up was -- it's a vinyl that was porous and conductive, so the salt water would get right underneath, you push it off, and the next thing you know they were falling apart.

So I invented this other hood and they are still very popular today. So just to get your weight correct there.

And there was another item that I wanted to

discuss regarding this, is the -- they call them -- my company calls them combo tunnels. Back in the late '80s I was asked by a customer if I could come up with something that would easily convert the king crab pot to a fish pot so they could catch some hanging bait on the grounds. Because they could legally, you know, catch -- use up to 20, during those, you know, fisheries, this is when it was open access back then. They catched their own hanging bait for the pot.

So I came up with this combo tunnel. And I was actually -- had plans to actually patent the design, I was so excited about it. And before I know it, Dorian Metal Fab had copied it off the dock. And it adds about 15 more pounds to the pot. So originally his cut sheet was probably real close to being accurate of, you know, around 700lbs, but you add another 15lbs and when I, you know, customers asked for it, you know, and some of the vessels have all combo tunnels on their pots because they fish for cod --

Anyways, so a lot of the boats, you know, use that on all their gear. And they go and they do cod season first. They take the hood out, put triggers in, flip the panel down and set vertical, and they put the flex fingers in, retain fish.

Q. Okay.

A. Then they reverse the process when they go crabbing.

Q. Okay. Let's get back to -- let's establish some of the basic foundation. I heard a lot of information there about changes to the pots, very much what we're interested in and my original question is: How have the pots changed? What I'm really curious about is size and weight.

A. You know, it kind of goes -- I would say initially, some of the smaller boats had lighter pots and based on how they handled them on deck, and how the motor handles them off shore, they'll get bent up, you know, or the crane will pick it up and pulls it too tight and so it will bend the top cross on the pot.

So, you know, you beef it up in some of the weaker areas, it ends up making it a heavier pot. And when they talk about changes, you know, like the combo tunnels it adds 15lbs to the pot. You want me to modify the pot to keep it at your original weight or, you know, and take three quarter web liners off the top of the pot, put 5/8th in and get it real close to your original weight. And typically the answer is always no, the extra 15lbs in there is fine. I want

to be able to catch some hanging bait.

Q. Okay. More broadly speaking, industry wide, over the decades, what was your typical pot size and weight in the '80s?

A. Probably 650, 700 pounds. They're pretty much right the same in there.

Q. And are they six and a half by six and a half?

A. Well, six and a half, I mean, even six by sixes, not very many. Some of the other fisheries, Kodiak Fishery is a much smaller boat. They use a picking style pot. I mean, those are maybe 350, six by six, top loader, end dump.

Q. What about the '90s, what's your typical length and weight of a pot in the '90s?

A. Probably 650, 700 pounds, 750. Probably 650 to 750.

Q. Okay. How about in the 2000s?

A. Probably about the same, you know. I recently had a customer --

Q. Is that with -- I'm talking just the pot now.

A. Yeah.

Q. Not the lines and -- or are you including the lines and the buoy as well?

A. No. I'm talking about the pot weight.

Q. Steel?

A. The customer orders, they tell me how heavy they want the pot. How heavy do you want the pot, and they tell me. And we can form it in with what their requests are.

Q. Okay. So, now that we're --

A. And I scratched my head on this when I reviewed, when I reviewed Dorian's old cut sheet. You know, like, okay, well how did this change. Well, he decided, you know, the Destination asked for combo tunnels, like Dungeness Gear Works makes and so he added it in there. I mean, you can run these numbers several different ways, but, you know, the error somehow -- you know, he has it listed in there, but once you add it up, you know, I gave it to my guy, we came up with a total finish weight of the 721.58, but then you gotta take about 15lbs off of there because the steel tanner hood came out and you're going to add about 8lbs in for the plastic tanner hood, because it's much lighter to be accurate for today's weight approximately what you have.

And he was probably originally around 700lb pot and it was a choice, you know, if they want all combo tunnels in there -- and I also -- there was

another cut sheet in his file from Eclipse Gear and Supply, it was actually some -- it's listed as a -- you didn't get a copy of this -- it's listed as a 700 pounder. His cut sheet is really scribbly, kind of old school, I had my guy go through it and look at what the weight was, and we came up with a total finish weight of 715 pounds point 87.

Q. For the pot itself, no gear?

A. Yeah, that was the Eclipse Gear and Supply manufactured some gear for the Destination in 2002. So they're both, you know, approximately right in there.

Q. Okay.

A. And while we're at it, there's one more item here that came to my attention, and Buddy Bernstein and Dave Wilson purchased some gear from another customer of mine that was in my yard, Mystery Bay, and it sat there for -- the owner Tim Kennedy, you know, brought them in, said, this is what I want, recondition them, and they sat there probably for a couple of years. And then all a sudden, he was like, well, hey you got those pots, you know? I said, oh, yeah, they're still sitting there. I understand they're for sale. About how much do they weigh? I said, I think they're around 700-pounds.

So in 2014 we analyzed them and we came up with a total weight of 719-pounds. And he didn't have the combo tunnels in there, but it was a little bit beefier pot than the Destination's. And I don't know how many of those were allocated to the Destination because at the time they had, you know, more than one vessel. And I don't know if they allocated those -- it was 101 pots. I don't know if they allocated those to or not. I wanted to bring that up because it was an oversight on my part because I recall, and I didn't even handle the transaction, it was a purchase and sale agreement between two boat owners. And I didn't manufacture those pots either?

I did see that Eclipse Gear and Supply manufactured some in '99. They have two sales orders here, one was labeled 725 pounder. And another one in '98 for 700lbs and maybe they made the adjustment to the top of their paperwork in '99 to a 725 pounder. Typically, they kind of use round numbers. Not an exact number.

I'm recently manufacturing a bunch of black cod pots for the new fishery in the gulf of Alaska, and the guys are being real specific about what they want because it's a lot of small boats. And so I was like, well, how heavy do you want the pot? Okay.

Well, you know, he says, well, I can't go over sixty pounds. I said, I will get it as close as I can.

So I modified the design so that the weight -- and the closest I could get was 62-pounds. And he's like I'm okay with the 62lbs because they can only put so many pots on. I mean, as manufacturers we're not responsible for how many pots they stick on the boat. I have no idea what their stability reports are or anything like that. I don't make any of those decisions. I just manufacturer the pots for the customers. And pretty much everything is pretty much custom built. You know, I have been asked a few times -- my production manager is like, let's just make everything all the same. It would be easier. And I said, well, if we do that then, you know, anybody can make them. I said here comes China, you know, if they're exactly the same.

All these fishermen like their own little bells and whistles. They want this a little beefier, that little thing. I mean, the king pots in the Bering Sea that I manufacture probably range from, you know, just typically it's a bigger boat and little bit bigger pot, but probably 600 pounds to almost a thousand pounds. I have 8 by 8 that I make for the Arctic Sea that are around 950lbs. They are big beefy

pots and, of course, that boat is huge. When he went to that design he sponsoned, had the boat sponsoned to handle the weight of those.

And part of the change was due to the, you know, the pot limits back in the early '90s and some of the companies immediately stepped up from a six and a half by to an eight by eight because they can only carry so many pots and or, you know, there was a pot limit. They couldn't fish 500 pots like they used to in good old days, you know, so...

Q. Okay. All right. Let me just catch up on our display here.

A. Yep. Yep.

Q. That exhibit in front of you, the first page.

A. Uh-huh.

Q. And you have a pointer there in front of you if you want to point.

A. Oh boy.

Q. That job number is on the top left, correct?

No. Not that exhibit there, Exhibit 164, it's in your binder.

A. Yeah. I have it. Let me find it.

Q. So are you saying this is not your cut sheet? This was from a predecessor that happened to

be in your file?

A. Yeah. A competitor.

Q. Okay. So the job numbers's at the top left; correct?

A. D06, yeah.

Q. And that's associated with the Destination and specifically the Destination?

A. I would assume so, yes.

Q. Well, how did you get to that assumption?

A. Because he always used to code his jobs, on the tags of the pots so nobody could figure out what boat it was going to. That was his own personal code as a manufacturer. He figured it was nobody's business, thinking that if I saw it, I could copy it and then contact the Destination, hey, I can build your pot for this much.

So this cut sheet was in the Eclipse file under the Destination. So I'm assuming that it's for the Destination.

Q. Okay. And then the next information to the right is size; right? Can you read that for us? What is that?

A. Where am I looking here?

Q. To the right of the job number, D06.

A. Seven by seven by thirty-four, yes.

Q. And the date all the way to the right?
A. 3/15/2000.
Q. What is the next row?
A. Twenty-five.
Q. And the weight all the way to the right, what is that?
A. Six hundred ninety-eight.
Q. Have you been able to verify the calculations on this cut sheet?
A. Yes. After I sent it to you I didn't bother to add it up or anything this is what I have, and I had my guy go through it and he came up with a total weight of 721.58.
Q. That's about 22lbs more than what's listed here?
A. Yep. And I'm assuming how that happened was the combo tunnel was like an add on, okay, and it never got adjusted in the weight on this. This is not Dorian's sales order. In all of his records there was no sales orders provided when he sold the records to the Eclipse --
Q. Do you keep sales orders?
A. Yes.
Q. Did you interact or sell, or refurbish, have any business transactions with Mr. Wilson?

A. Yes, I have.

Q. Do you have sales orders?

A. Yes, I do.

Q. Did you bring any of those with you today?

A. No. I thumbed through them and I did 50 refurbished, probably four or five years ago. I did two batches. One was, it was supposed to be 55 and 56 came in and then another batch of 50 came in. And I'd have to look up the dates on those. And I refurbished, you know, ever since -- a little bit before rationalization but in when rationalization started there was 50,000 pots sitting on the beach. It went from 250 vessels, down to around 60 to 80 that currently fish.

And kind of that number averages a little bit every year because they're allowed to co-op. All of the other boats got tied up and the owners lease out their quotas to a handful of boats and there's tons and tons of pots on the beach. Over the last 12 years, roughly, I have done thousands of them. And I don't analyze them for the weight. I can probably look at one that had never been refurbished and tell you where it came from.

Q. Do you provide that information to your customers?

A. The weight of a refurbished pot?

Q. After you refurbish it, do you give them any kind of written documentation --

A. Of the weight? No.

Q. -- of the weight?

A. No, we don't analyze the weight. We chop out broken steel, bent steel, weld in the same size that was in there, and then we web it to their specifications. And there's -- I've done lots and lots of them. They're a can of worms. I'm currently doing a job for a customer of about 44 pots and there is probably seven different sizes. It's a mixed bag. I don't even know how they can stack it like that.

Q. Let me give you the scenario. If I'm a fishing vessel owner and I bring 50 pots to you to refurbish and all of them weigh 700-pounds.

A. Yep.

Q. Without gear, just webbing and steel.

A. Right.

Q. It's conceivable that the pots you refurbish may be heavier and even some might be lower; is that right?

A. Well, you know, it depends on how long they set at the bottom of the ocean, they rust away. Out of this guy's pile I just did, there was probably two

that was kicked to the curb because there was hardly any metal left and I said it's not worth it. We may as well just make you a new pot. And so we chopped them up.

Q. So as an order that I just gave you a number of pots to refurbish, you don't give me any paperwork to show how much they finally weigh?

A. No. Not on a refurbished pot. No. It would be a lot of work just sitting there and analyzing every pot.

Q. Would it be a lot of work for a fishing vessel owner to re-weigh the pot?

A. In my understanding, a lot of them weigh their pots, their finished pots with their lines and buoys. So they've got a good idea how many pots to stick onboard based on their, you know, what it says they are allowed to carry, you know. And I've heard at one point in time, this goes back many years, that the Coast Guard was actually boarding the vessels when they had their pre-inspection, that they were physically weighing a pot and looking at what their -- what their engineered for what they -- what the vessels are allowed to hold.

I thought the Coast Guard was doing that. And I heard that that was, you know, part of their

program now. Of course, now it's a can of worms with all of these refurbished pots. I mean, different sizes, shapes, and weights, and I know that pots came from other vessels where I can kind of recognize them, you know. But, you know, it's still cheaper to refurbish a pot than it is to get a new one.

Q. Okay. We're absorbing a lot of information here. So I'm --

A. I've been doing it for 41 years, so I've got a lot of information. You're asking me some questions that I don't really analyze on a daily basis. You know, I think you -- first question was how many pots have I made? Well, I can tell you that I probably production-wise --

Q. I'm most interested in the Destination, of course.

A. Yeah, I know. I know. I've probably done --

Q. So I heard 2014, '99, '98 and I heard pot weights of 719, 720, 700, 725.

A. Yeah. Yeah. Yeah.

Q. Okay.

A. You know, this year I'm probably at around 6,000 units, but that is a lot of black cod pots. I couldn't tell you how many -- I probably made I think

only twenty new king pots this year. It's a combo style pot so that they can, you know, we do some pots that are five species pots, so they can use it for, you know, four different species of crab and also fish for fish with them. It saves them money to have a multi-species pot, they don't have to have, you know, twice the amount of gear.

Q. Right.

A. And that's gotten quite popular over the years. A lot of pots since the, you know, I invented the combo tunnel back in the late '80s, early '90s. Then the cod pot fishery took off and so the guys that did both fisheries would have those combo tunnels.

Q. Let's shift over from pots now to what I call the gear.

A. Okay.

Q. But that's the shots, the buoys?

A. Yep.

Q. So, if we can turn to Exhibit 164, page three.

A. Yep.

Q. This was in that file. And have you had a chance to validate this information?

A. Yep, uh-huh. I drafted this for you. With all the little bells and whistles on there.

Q. So many buoys is in this package here in this sheet?

A. Should be two.

Q. Can you point to the sheet where that's listed? Is it the LD2?

A. LD2 and LD3.

Q. And how much does an LD2 buoy weigh?

A. It weighs, this information is from the manufacturer LD2 is 508.

Q. And LD3?

A. Is 808. Those are usually pretty close. They, you know, when they were made they pour a certain amount of the liquid into the mold and then they spin and rotate and it's baked on the inside of the shell, and so that weight should be fairly accurate.

Q. So that's the difference between an LD2 and an LD3?

A. Is the weight.

Q. Is the weight of the plastic or the amount of plastic?

A. The buoyancy, the size, the diver buoy is the larger one, that's the one that gets to the main line and then the trailer buoy is the only two that's based, spec'ed out to their specifications some of

them want ten fathoms, some of them want seven fathoms. Some of the guys even use a little cork, a little trailer cork buoy like a sponge buoy or a light actual buoy. It just depends on their setup and length of the vessel. That's how they retrieve the gear from the ocean. They throw a hook out between the two buoys and bring it in.

Q. Okay. So how many, in this sheet here, how many lines are there or shots?

A. There is three. It pretty much -- it's pretty rare that you will see vessel fishing for a opilio crab with anything less than three, maybe two and a half. But as far as I know, you know, we provided the line for -- he started buying my brand of line poly steel which is manufactured in Canada probably in 2002, I think. He's been using that poly and we use the formula for the poly steel. I'm sorry, the hydro-pro sinking line at 31.67.

When I thumbed through the records of the Destination, the Eclipse Gear and Supply sold them SSR100. The weight is still 31 pounds and some change, so that 31.67. So real close.

Q. Okay.

A. Different line manufacturer.

Q. For the record just document on this sheet.

The two shots -- well, three shots, but...

A. Yeah.

Q. So if we look at the first item.

A. Yep. The floating line. Two 33 fathom shots, 29.17 each, a total of 58.34 combined.

Q. Okay. So there's two lines of that type?

A. Yeah.

Q. And the next one down is?

A. The hydro-pro sinking line which is actually SSR100 on his pots. Some of the skippers like their own brands of line or what have you, and I verified the weight of the SSR100, which is a Samson product, Canadian product and it was 31 and maybe a little less, yeah, they're both 31 pounds and some change.

Q. Okay. So the total weight of the gear on this sheet is a total on the bottom right?

A. Yeah, the miscellaneous and all of the rigging specifications, everything that goes on the -- for the rigging -- although, I see my office manager listed the weld on anodes on there at 7.2lbs, and actually my total of, when I totaled this out, my product manager also included the anodes. So you need to take 7 pounds off of that document of the 721. I actually want to furnish you with this, this is my version of this cut sheet. But I see it's doubled

here. I got the weld on anodes here and I got the weld on anodes there. So one of those needs to be taken off for your total weight.

Q. So subtract 7 pounds from the total weight.

A. Yep.

Q. And the total weight listed is, for the record?

A. Well, there's one that includes the anodes for the pot would be 721.58 okay. And then you're going to take 7.2 pounds off the rigging weight from 149.28. So you got to reduce that by 7.2 pounds and that should be your official weight. I was under the understanding you guys managed to retrieve a pot from the wreckage.

Q. That's for later on testimony.

A. Okay. Okay. So you might be able to just -- well, obviously you can officially weigh one, and actually have a physical weight off of, you know, so...

Q. Potentially.

A. Yes. Yes.

Q. Okay. So let me just ask this: The process for most of your customers and particularly let's just stick with Mr. Wilson. Did he ever approach you and say I need X, Y, Z pot of this dimension and of this

weight?

A. No, I have never, he never asked me to quote him a price on a pot ever. He was -- they were --

Q. So did you -- Mr. Kennedy's pots that you refurbished --

A. Oh, yes. I did not build those either.

Q. But you refurbished them?

A. Yes, I did. And I was asked by David Wilson how much they weighed, and so I analyzed them. I also provided that --

Q. So he asked you how much they weighed before he purchased them from you?

A. He said, you have any idea how much they weigh and I said, oh, around 700 pounds, okay. So...

Q. Did Mr. Wilson pay you for those pots?

A. No, he did not. He paid Tim Kennedy directly that transaction. I had nothing to do with that financial transaction.

Q. And then Mr. Kennedy paid you for the labor?

A. Tim Kennedy, brought the pots in, and asked to refurbish them, how do you want them refurbished to? And actually the frames were in excellent shape. There was no steel work to do on them whatsoever.

Q. Did you get any money for the work?

A. Yes. Tim Kennedy paid me the fee for

re-webbing them, yeah. I actually felt that the pots could have been fished another four or five years before they needed to be refurbished because even the body web was in great shape.

Q. Okay. How long does a typical pot last for before it needs --

A. Well, typically the first thing typically goes out is the tunnel web around the tunnel areas, they start to wear, to pop holes and they can kind of patch it or so on. And actually you will see that in about seven years. I've probably done refurbished pots that are at least twenty years old, probably more than that.

I mean, back when I started, you know, back at White Metal Fab in 1976 and he was using rebar and all sorts of stuff. They were real rustic back then. And I couldn't tell you how much those weighed because that wasn't my specialty at the time. I just put the web on. That was my job that I was hired to do, so...

CDR MULLER: Thank you. I have no further questions. I would like to get a copy of what you brought today.

THE WITNESS: Yeah.

MR. KARR: Can I ask the Recorder to collect that now.

THE WITNESS: Yeah, I actually put these together. And if there's any further questions or whatever, I'll be happy to come back. I only ask that I don't come back tomorrow. I'm participating in a fund raiser for the fishermen's memorial for a vessel that went down in the '90s. And I'm taking some clients and I sponsor a few holes. You know, the fishing community is pretty tight.

CDR MULLER: Okay.

THE WITNESS: Here is, this is my revised version. As long as you note those corrections that I just spotted here going through there. This one you can have it's Destination, it's the Eclipse sale to the Destination it's labeled a 700 pound pot manufactured in 2002, fifteen units. I did the best with this chicken scratch cut sheet, so you can have that one.

CDR MULLER: Thank you.

THE WITNESS: And then here is my version of what I faxed you. So you have the Mystery Bay, the Eclipse and Dorian. And my version is the fancier version on the front of those.

CDR MULLER: Okay.

THE WITNESS: And the trend, I mean, I've been doing this a long time, so it's hard to pinpoint,

you know, I've seen guys go from six and a half by to seven by, and actually recently this year first time ever for a customer he's going from six and a half by's to seven by's. We're building 30 units. Ten of them for bait and -- exclusively for bait, not with the combo tunnels and then so he's, you know, bigger and heavier.

It happens on occasion, you know. And it's up to them how many pots they carry, you know. And you know, everything is all fine. It's a beautiful ride and everything is all good to go until you get into heavy icing conditions and that's when you're asking for trouble. I've done a few trips in the Bering Sea over the years, mainly in the late '90s, early 2000's to do research on different types of gadgetry and try to make a better fishing mousetrap.

I kinda got a bad taste in my mouth when they rationalized the fishery. Go from Olympics-style fishery to quotas to catch and so there was no race for fish anymore, to get the fastest fishing pots. So I kinda lost my taste for it a little bit.

But I've been up, you know, in icing conditions. I went out and I used ice hammers on the bow of the boat in bad conditions to help out, you know, and helping the guys out. It helped me out to

do my little research on the mousetrap to try to make it better or what have you.

One season we went all the way up north to get some gear up there and to see how it was doing and we managed to get it and then turned around. We got the gear onboard and then the ice and the wind was on the stern. And we got all the way back down, you know, to where we were going to set them and as we were taking them off the stern, the ones on the very back, stacked a couple stacks on the back, they weren't stacked very high because it was only 40 units. Boat could easily carry 250, I think that's what the vessel carries now.

The big hundred and eighty foot mud boat roughly, but those pots on the stern, you know, with that ice hitting them, you know, they were literally frozen to the deck and a couple of them they couldn't even set because they were almost blocks of ice. They were so full of ice, they couldn't even get the doors open or the lines and buoys out. And some of them they set, and they almost wanted to float because they set them, you know, to get them off the deck. So, you know, icing conditions is a very awful thing. You know, so...

CDR MULLER: Okay. Thank you.

THE WITNESS: All right. Thank you.

CDR MULLER: Let me now ask if the board members have any questions for you.

Mr. Gillette?

MR. GILLETTE: Thank you, Commander.

DIRECT EXAMINATION

BY MR. GILLETTE

Q. Good afternoon, Mr. Nylander. My name is James Gillette with the United States Coast Guard.

A. Uh-huh.

Q. If a crab fisherman comes in and asks to buy a pot from you at 700lbs, do you weigh that pot when you're done making the pot?

A. We, you know, it's pretty accurate. We used to a lot, you know, just to see. It was mainly just to see how much weld we were putting into it because, you know, we don't hook something up to analyze how much weld we're putting into it, but I want to know how much weld is going into it because, you know, the weld wire is expensive. You know, I'm actually doing an order right now and it's for cod. Basically the same type of frame, king crab's, you know, frame and they were fishing 600lb box and they decided that that pot wasn't heavy enough for them because it was skipping in the past with the drag of the line on the

buoys and skipping and bouncing on the bottom, and moving on them.

So they asked to up the weight to 700lbs, from 600 to 700lbs. And then they made a couple of changes. I invented something, which eliminates the heavy door to open and close and it's a purse dump. There's no steel. We sew it right to the frame. So you take that door off, you're actually removing 50lbs. And so my production manager asked, well, should I incorporate that weight from the door back into the pot? I said absolutely. He's asking for a 700-pound pot?

And we crunched the number on it and it's, with the netting and stuff, it's right in there. It's probably maybe 695lbs. And that's probably as close as I can get it. I'd rather do it a little bit under than over.

Q. Okay. But do you have any scales?

A. Yeah. I got hanging scale and I have a floor scale, but you can't quite get a pot on a hanging scale. I've got it there. I haven't used it in quite sometime. We calculated everything out based on the cut length of the steel. It's a pretty accurate formula. And, you know, it comes right in with what they're asking for.

Just like if they want the combo tunnels, it's like okay, you know, it's going to add 15lbs to the weight of your pot. Do you want me to modify the pot to make it, you know, the weight that you had or do you care if it weighs 15lbs heavier. No, I don't care. Just twenty of them for bait.

Q. Has anybody called you back and said, hey, I asked for 700, but it was too heavy?

A. No.

Q. Or too light.

A. No. I had a, recently had a comment from one of my customers. I actually, a couple, two years, or no, it was last year, there was a new fishing supply company that came into Seattle here called North American Fishery Supply, and their parent company is Mørenot, the Norwegian based company. They have a huge factory in China. And it was like ten or eleven vessels, 750 units landed in Dutch Harbor directly from China.

And, you know, I'm in the know. I know what's going on. It's my industry. And I got the vessel name and so on, so I started calling the customer, it's like hey, what are you doing? You call and get a quote from me. It's like, well, wait a minute, there's a hundred pots there with my boat name

on it. I didn't buy a hundred pots from him. There's over half of them there that aren't even sold, the netting and everything was all messed up.

And one of the comments from one of the guys that fished 12 -- that got 12 of the pots to try, he said he didn't like them. They seemed really heavy. I personally looked at them on the spit up in Dutch Harbor and they looked heavy to me. I didn't analyze them. But, you know, I think their version is to make the thing beefier so it looks better than mine and heavier. And the pricing was -- it was an inside job, get my pricing and then quote the ship from, straight from China --

CDR MULLER: Sir, we're just trying to work on process, not chitchat across Dutch Harbor, pots, you know, we're trying to stay focused on the Destination.

THE WITNESS: I understand. Okay.

MR. GILLETTE: All right. Thank you, Mr. Nylander.

THE WITNESS: Thank you.

MR. GILLETTE: No more further questions.

CDR MULLER: Thank you.

Mr. Karr, NTSB?

MR. KARR: Michael Karr.

DIRECT EXAMINATION

BY MR. KARR

Q. How many facilities do you have where you actually do welding and repairs of the crab pots?

A. Just one.

Q. Just one. And how many employees actually do the repair on the crab pots?

A. My whole crew is about 20 now.

Q. Okay. Thanks.

A. Back in the early '90s it was a hundred, had two shifts going. But the whole industry is charged now, so...

CDR MULLER: Nothing further?

Okay. Ms. Spivak?

MS. SPIVAK: No questions.

CDR MULLER: Okay. Well, I think that does it for our questions with you today. Thank you for the additional information that you provided. The Board will take the next few days to take a look at that information, and as such we may have to recall you.

THE WITNESS: Yeah, that's perfectly fine.

CDR MULLER: Certainly not tomorrow. I'm glad to hear you're doing a fund raiser for a good cause. We will be more in contact with you next week.

THE WITNESS: Okay.

CDR MULLER: About filling a time slot.

THE WITNESS: Okay.

CDR MULLER: For future --

THE WITNESS: If you have further questions, sure.

CDR MULLER: If needed.

So I'm going to thank you for your testimony. We are now complete with your testimony for today; however, I anticipate that you may be recalled to provide additional testimony at a later date. Therefore, I'm not releasing you from your testimony at this time, and you remain under oath. Please do not discuss your testimony or this case with anyone other than your counsel, the National Transportation Safety Board or members of this Coast Guard Marine Board of Investigation.

If you have any questions about this, you may contact my legal advisor, Commander Tamara Wallen.

CDR MULLER: Thank you. Okay. That ends the testimony for today. We will recess and reconvene tomorrow at 9:00. Thank you.

(Whereupon, the hearing adjourned for the evening.)

REPORTER'S CERTIFICATE

I, Jeannie A. Milio, Registered Professional Reporter, an Official Court Reporter for the United States Coast Guard, do hereby certify that I stenographically recorded the proceedings in United States Coast Guard's Marine Board of Investigation Formal Hearing RE: Fishing Vessel Destination, held on August 9, 2017, at 9:00 a.m. (PT) at Henry M. Jackson Federal Building, U.S. Coast Guard Thirteenth District, 915 Second Avenue, Seattle, Washington before the U.S.C.G. Marine Board of Investigation.

I further certify that the page numbers III-1 through III-163 constitute an official transcript of the proceedings as transcribed by me from my stenographic notes to the within typewritten matter in a complete and accurate manner.

In witness whereof, I have affixed my signature this 5th day of October, 2017.

[redacted]

Jeannie A. Milio, RPR

Official Court Reporter