UNITED STATES OF AMERICA

NATIONAL TRANSPORTATION SAFETY BOARD

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In the matter of: *

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MARINE BOARD OF INVESTIGATION *
INTO THE SINKING OF THE *SCANDIES ROSE* *
ON DECEMBER 31, 2019 *

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Edmonds Center for the Arts
Seattle, Washington

Tuesday,
March 2, 2021

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APPEARANCES:

Marine Board of Investigation

CAPT GREGORY CALLAGHAN, Chairman
CDR KAREN DENNY, Member
LCDR MICHAEL COMERFORD, Member

Technical Advisors

LT SHARYL PELS, Attorney Advisor
KEITH FAWCETT, Technical Advisor

National Transportation Safety Board

BARTON BARNUM, Investigator in Charge
PAUL SUFFERN, Meteorologist

Parties in Interest

MICHAEL BARCOTT, Esq.
Holmes Weddle & Barcott
(On behalf of *Scandies Rose Fishing* Company, LLC)

NIGEL STACEY, Esq.
Stacey & Jacobsen PLC
(On behalf of survivors Dean Gribble and John Lawler)

Also Present

LT IAN McPHILLIPS, Recorder

I N D E X

P R O C E E D I N G S

(8:03 a.m.)

CAPT CALLAGHAN: It's 0803 on March 2nd, 2021, and this hearing is now in session. Good morning, ladies and gentlemen. I'm Captain Greg Callaghan, United States Coast Guard Chief of Prevention for the 11th Coast Guard District. I'm the Chairman of the Coast Guard Marine Board of Investigations, and the presiding officer over these proceedings.

The Marine Board has established a COVID mitigation plan to comply with federal, state, and local requirements. As a result, no members of the public will be permitted to view this hearing in person. The Board will receive witness testimony through a hybrid of in-person, virtual, and telephonic means. Members of the Board have been placed -- have been spaced out far enough at the main table to remove their masks while seated to maximize clarity and minimize disruption. Members are to place masks back on at any time when leaving the table, and whenever approached by another person. I ask that anyone who is unable to maintain social distancing please keep their mask on unless actively speaking into the microphones.

Due to the extensive technology used to support this hearing and the potential for unanticipated delays or challenges, I ask that you please be patient with us in the event of any disruptions.

The Commandant of the Coast Guard has convened this Board

under the authority of Title 46 U.S.C. Section 6301 and Title 46 C.F.R. Part 4 to investigate the circumstances surrounding the sinking of the commercial fishing vessel *Scandies Rose* with the loss of five lives on December 31st, 2019, while transiting in the vicinity of Sutwik Island, Alaska. There were two survivors.

I would like to take this opportunity to express my condolences to the family and friends of the five crew members who were lost at sea. I note that many of you are watching this hearing on livestream due to the COVID restrictions in place. We appreciate you being here with us.

Upon completion of the investigation, this Marine Board will submit its report of findings, conclusions, and recommendations to the Commandant of the Coast Guard. Other than myself, the members of this Board include Commander Karen Denny and Lieutenant Commander Michael Comerford. The legal counsel to this Board is Lieutenant Sharyl Pels. The recorder is Lieutenant Ian McPhillips. The Coast Guard technical advisors to this Board are Mr. Scott Giard and Mr. Keith Fawcett. This Board's media liaison is Lieutenant Commander Scott McCann.

The National Transportation Safety Board is also participating in this hearing. Mr. Bart Barnum, Investigator in Charge for the NTSB *Scandies Rose* investigation, is here with us, along with Mr. Paul Suffern.

Witnesses are appearing before the Board to provide valuable information that will assist this investigation. We request that

all members of the public be courteous to the witnesses and respect their right to privacy.

The members of the press are welcome to attend virtually, and provisions have been made during the proceedings to allow the media to do so. The news media may question witnesses concerning the testimony they have given after I have released them from these proceedings. I ask that any such interviews be conducted with full consideration of the COVID mitigation procedures that the Marine Board has established.

The investigation will determine as closely as possible the factors that contributed to the incident so that proper recommendations for the prevention of similar casualties may be made; 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 credentialed person contributed to this 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.

The Marine Board planned this two-week hearing to examine all events relating to the loss of the *Scandies Rose* and five crew members. The hearing will explore crewmember duties and qualifications, shore side support operations, vessel stability, weather factors, effects of icing, safety equipment, the operation of the vessel from the past up to and including the accident

voyage, and survey imagery of the vessel in its final resting place. The hearing will also include a review of industry and regulatory safety programs, as well as the United States Coast Guard Search and Rescue activities related to the response phase of the accident after notification that the *Scandies Rose* was in distress.

The Coast Guard has designated parties in interest to this investigation. In Coast Guard marine casualty investigations, a party in interest is an individual, organization, or other entity that under the existing evidence or because of his or her position may have been responsible for or contributed to the casualty. A party in interest may also be an individual, organization, or other entity having a direct interest in the investigation in demonstrating 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 party in interest.

All parties in interest have a statutory right to employ counsel to represent them, to cross-examine witnesses, and have witnesses called on their behalf. Witnesses who are not designated as parties in interest may be assisted by counsel for the purpose of advising them concerning their rights. However, such counsel are not permitted to examine or cross-examine other witnesses or otherwise participate in the investigation.

I will now read the list of those organizations and

individuals who I've previously designated as parties in interest: *Scandies Rose Fishing* Company, LLC, represented by counsel appearing virtually today; crewpersons Mr. Dean Gribble and Mr. John Lawler, represented by counsel appearing virtually today; Mr. Bruce Culver, not present at this time.

The Marine Board will place all witnesses under oath. When testifying under oath, a witness is subject to the federal laws and penalties for perjury for making false statements under Title 18 U.S.C. Section 1001. Penalties could include a fine of up to $250,000 or imprisonment up to five years or both.

The sources of information to which this investigation will inquire are many and varied. Since the date of the casualty, the NTSB and 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 forth but which might be of direct significance, that person is urged to bring that information to my attention by emailing uscg.scandiesrosembi@gmail.com. This email address will be continuously monitored throughout the proceedings.

Mr. Bart Barnum will now say a few words on behalf of the NTSB.

MR. BARNUM: Good morning. I am Bart Barnum, Investigator in Charge for the National Transportation Safety Board's investigation of this accident. The Safety Board is an

independent federal agency which under the Independent Safety Board Act of 1974 is required to determine the cause or probable cause of this accident, to issue a report of the facts, conditions, and circumstances related to it, and to make recommendations for measures to prevent similar accidents.

The NTSB has joined this hearing to avoid duplicating the development of facts. Nevertheless, I do wish to point out this does not preclude the NTSB from developing additional information separately from this proceeding if that becomes necessary.

At the conclusion of this hearing, the NTSB will analyze the facts of this accident and determine the probable cause independent of the Coast Guard. At a future date, a separate report of the NTSB's findings will be issued, which will include our official determination of the probable cause of this accident. If appropriate, the Safety Board will issue recommendations to correct safety problems discovered during this investigation. These recommendations may be made in advance of that report.

In addition, on behalf of the NTSB, I would like to offer my deepest condolences to the families and those affected by this tragic accident. Thank you.

CAPT CALLAGHAN: Thank you, Mr. Barnum.

Yesterday, we heard from a representative from the Coast Guard who spoke about the fishing vessel program, a representative from the lifesaving equipment servicing company, and a Coast Guard Search and Rescue specialist for review of Coast Guard efforts

once the distress call from the *Scandies Rose* was received.

Today, we will hear from Coast Guard representatives involved in the Search and Rescue efforts for the *Scandies Rose*, as well as a representative from the Coast Guard Office of Search and Rescue.

At this time, we'll take a short recess and resume at 0815.

(Off the record at 8:12 a.m.)

(On the record at 8:16 a.m.)

CAPT CALLAGHAN: The time is now 0815. This hearing is now back in session. We will now hear from Captain Hollingsworth, United States Coast Guard, retired.

Captain Hollingsworth, Lieutenant McPhillips will not administer the oath and ask you some preliminary questions.

Lieutenant McPhillips.

LT McPHILLIPS: Please stand and raise your right hand.

(Whereupon,

JOHN HOLLINGSWORTH

was called as a witness and, after being first duly sworn, was examined and testified as follows:)

LT McPHILLIPS: Please be seated. You can be seated, Captain. Please state your full name and spell the last name.

THE WITNESS: John Hollingsworth, H-o-l-l-i-n-g-s-w-o-r-t-h.

LT McPHILLIPS: Please identify counsel or representative if present.

THE WITNESS: Lieutenant Commander Matt Pekoske. He's virtual.

LT McPHILLIPS: Counsel, please state and spell your last name, as well as your firm or company relationship.

LCDR PEKOSKE: Lieutenant Commander Matthew Pekoske, P-e-k-o-s-k-e, Coast Guard Judge Advocate and witness counsel to Captain John Hollingsworth.

LT McPHILLIPS: Captain Hollingsworth, please tell us, what is your current employment and position?

THE WITNESS: I'm chief operating officer for the Marine Exchange of Alaska.

LT McPHILLIPS: What are your general responsibilities in that job?

THE WITNESS: We have about 130 AIS receive and transmitting sites located throughout the coastline of Alaska. I'm responsible for the maintenance, installation, upkeep of all of those. Also, I have responsibilities for a 24/7 operations center which monitors (indiscernible) traffic as it comes through Alaska waters bound for either the far east or west coast of Canada or the United States. And we have a technical, IT department I'm in charge of as well.

LT McPHILLIPS: Can you briefly tell us your relevant work history?

THE WITNESS: Sure. Prior to this position I'm in now, I spent my entire adult life in the Coast Guard. Enlisted in 1988, went through Coast Guard basic training. I was a reserve during my senior year in high school. I drilled at Station Mayport,

Florida. I applied for the Coast Guard Academy but was offered Naval Academy Prep School for a year. I concluded that and then received my spot at the Coast Guard Academy. Graduated the Coast Guard Academy in 1994. Served on the Coast Guard cutter *Kushnet* (ph.) for two years out of Eureka, California, prior to going to naval flight training for the Coast Guard, graduated flight school.

After I got my wings, my first assignment was in Puerto Rico. I stayed there for four years as a duty standing H-65 helicopter pilot. I transferred to Savannah, Georgia. I was there for five years as a duty standing H-65 helicopter pilot, as well as engineering officer. Advanced education at Purdue University. My assignment was Coast Guard Headquarters at the Office of Aeronautical Engineering. I was in charge of resources there. From there I went to Kodiak, Alaska, to be the new aeronautical engineering officer there. Also requalified as an H-65 helicopter pilot for those three years.

From there, I transferred to Barbers Point in Hawaii. I was the executive officer of the air station there. Also remained qualified as a H-65 helicopter pilot. Another advanced education tour after that at the Naval War College in Newport, Rhode Island. That was for one year. From there, I transferred to Juneau and I took a district office where I was the chief of incident management. I retired from that job just last year.

LT McPHILLIPS: Thank you, Captain. Do you have any other

professional licenses or certificates related to your positions?

THE WITNESS: Commercial helicopter pilot and airplane pilot, single engine. No other present certifications.

LT McPHILLIPS: Thank you, sir. Captain Callaghan will now have follow up questions for you.

EXAMINATION OF JOHN HOLLINGSWORTH

BY CAPT CALLAGHAN:

Q. Good morning, Captain. Thank you for being here with us today. So, all my questions are going to relate to the timeframe up to the sinking of the *Scandies Rose* on the evening of December 31, 2019, and then the Search and Rescue efforts related to that case.

Utilizing this virtual format, we have the ability to pull up exhibits that will appear on your virtual desktop. If while viewing an exhibit you would like to highlight something or zoom in, our hearing recorder, Lieutenant McPhillips, can do so from here.

I will ask, please avoid using acronyms that are unique to the Coast Guard or the marine industry and try and use as much plain language in your descriptions as possible.

Speaking of your previous job at D-17, can you please tell the Board what your position was when you were assigned to the Coast Guard 17th District staff in Juneau?

A. Sure. I was the chief of incident management, which means I was responsible for Search and Rescue throughout the State of

Alaska. Also, for (indiscernible) response. And I also had responsibility for the small boats throughout the district as well.

Q. And what staff elements were you responsible for there in addition to the -- so, for instance, command center staff. What other staff elements are you responsible for in that job?

A. Sure. There's the GS-18 SAR specialists, information specialists worked for me, as well as the command center chief, lieutenant commander job that has responsibility for managing oversight of the command center. The command center has about right around 20 people that performed a 24/7/365 watch schedule. I also had the district response advisory team, which is the pollution response portion of that job, as well as one bosun who is responsible for the small boats. So monitoring that.

Q. In that position, do you oversee the qualifications of all the Search and Rescue mission coordinators assigned there to the district staff?

A. Yeah. I was the lead Search and Rescue mission coordinator. I signed off on the qualifications for all of the command center folks. All SMCs was designated by the SAR coordinator, Admiral Bell during my time, before him Admiral McCallister. So, the district admiral was responsible for actually signing off on the qualification for SMCs.

Q. Can you briefly describe the duties and responsibilities of the Search and Rescue mission coordinator?

A. Yeah. We kind of have the overall responsibility for the Search and Rescue cases that fall within that particular area of responsibility. We're the direct representative for the Search and Rescue coordinator, SC, Admiral Bell in this case. Just kind of make sure that the command center staff, which has a commanding duty officer and several other watch standers, operational watch standers, and radio operators in the sector command centers. Just make sure that the Search and Rescue cases are going as we planned them. The overall planning responsibility falls to the, to the SMC.

Q. Okay. And then, so one of the terms we heard yesterday is the active search suspension authority. Can you talk to us about that?

A. Sure. The active search suspension authority is designated by the SAR coordinator as well. There are -- those are different qualifications from the SMC. The ASSA, active search and suspension authority, is a little bit more of a position of responsibility than the SMC because they have the responsibility of determining when to stop searching for whatever search object you're looking for. I was also qualified as an active search suspension authority during my time as (indiscernible) for the district.

Q. Can you talk to us about the training that goes into obtaining Search and Rescue mission coordinator and then the active search and suspension authority?

A. Sure. The Coast Guard requires several formal courses to be attended in Yorktown, whatever is SMC school. That's about a week-long, I believe, as well as the Maritime Search Planning course, and that's really teaching folks how to manipulate the Search and Rescue optimal planning tool, or SAROPS, in the performance of research planning for our SAR cases. Lot of OJT like breaking (ph.) watches under the responsibility of a currently qualified SMC, like I would be on several calls, just kind of listening in to kind of get the lay of the land. I did that for a number of weeks -- a number of months actually before I was actually qualified as SMC after those formal courses were completed as required.

Q. And then, kind of moving into the area covered by D-17 there. Can you kind of talk about what makes the Coast Guard's Alaska area of responsibility in the North Pacific Search and Rescue region different than, say, that of Oregon and Washington coasts or the California coast?

A. Yeah. So, the District 17 area of responsibility has three separate SAR zones. One of them is for Sector Juneau, and that's basically Southeast Alaska, Yakutat south to Dixon Entrance. The Sector Anchorage area of responsibility is west of Yakutat along Prince William Sound just South of Kodiak. And then everything well south of Kodiak into the Bering Sea, the Arctic, is all the responsibility for District 17 and JRCC, joint rescue coordination center.

Whereas everywhere else in the United States that I know of, the district is responsible for waters well outside of where the sectors have responsibility for. The sectors have responsibility all along the coastline of their particular area, but the district goes beyond that, I believe, I want to say 50 miles, but I'm not exactly sure of that. So, the District 17 command center has more responsibility for day-to-day SAR than another district command center would.

Q. Okay. And in terms of communications, is that very similar or does that differ from that further south or down in the lower 48?

A. So, I don't have experience in another command center, but what I know of the Rescue 21 capabilities in the lower 48 and Hawaii is it's far more extensive than what we have available to us in Alaska for our VHF FM high sites. Rescue 21 has some pretty significant capabilities for direction findings, so if a call goes out, then if not one, multiple towers will build a direction find on that transmission location and basically identify it through lines of bearing, whereas we don't have that capability in Alaska.

The entire coast of the United States, the lower 48 has Rescue 21 coverage. Maybe small gaps, but in Alaska, it's not that way. There's significant coverage gaps along the coast of Alaska for VHF FM coverage. I want to say there's 19 percent of the Alaska coastline is covered by VHF FM coverage.

Q. Do you happen to remember from your time there whether or not

the area around Sutwik Island happens to be one of those areas with a gap in coverage or not?
A. Yeah, that does not have coverage. The furthest south coverage between Cold Bay -- there's a high site on Cold Bay, and there's also several sites on Kodiak Island, but none of the ones that run on Kodiak Island would reach down to Sutwik Island.
Q. Okay, thank you. And then, specifically focusing on aircraft, can you please describe some of the risk management processes that are built into how the Coast Guard operates in Alaska?
A. Sure. So, as far as -- are you asking for as far as aviation goes or all --
Q. Yes.
A. Aviation, okay.
Q. Aviation, yes.
A. The Coast Guard recognizes that Alaska is a more dangerous place to operate, especially in aviation, than other places in the Coast Guard. For that reason, they send only aircraft commanders to Alaska Air Station Sitka or Kodiak, with rare exceptions. If you have significant aviation experience like from prior service, if you transferred from the Army, they would evaluate that and determine if they were willing to send a more experienced non-aircraft commander to Alaska. But by and large, everybody gets transferred to either Kodiak or Sitka as a pilot or as a previously experienced aircraft commander.

When those pilots are transferred to Kodiak or Sitka, they also go through another service of instruction to teach them how to operate in Alaska because it's so different from everywhere else. It focuses on weather, significantly weather, as well as fuel planning, flight planning, because there's just not another airport with fuel available to you everywhere you're looking, basically. When I was serving in Georgia, for example, in Savannah, you would pass many airports that you could get fuel before you had to land for actually refueling because you were getting low on fuel. Whereas in Alaska, it's -- you have to make deliberative efforts to flight plan so you can make sure that you have safe operating conditions for your aircraft.

Q. Okay. When the regional command center requests resources from one of the air stations for a Search and Rescue case, can you describe the steps from the request to the resources arriving on scene and who is involved with those decisions?

A. Yes. The approval for any kind of aviation asset would go through the district command center, and it would go to the on-duty Search and Rescue mission coordinator, designated by me as DRM. The DRM position for all districts is an aviation experienced O-6, so a couple of the pre-requisites for the jobs are you have to have some sort of aviation experience and typically, that is for that area you're operating in.

So, for Alaska and District 17, it's normally a helicopter pilot. There have been C-130 pilots as well, but it has to be an

aviator; it has to be an O-6. That's a prerequisite. So long story for that, but the sector command centers, since the sectors typically don't have any aviation experience, we want to have that oversight just to make sure that the proper risk management methods are being employed.

So, when the sector command centers determine that they need then the aviation asset, they will ask the JRCC or the District 17 command center for that aviation asset for whatever reason they need it for, and then the commanding duty officer would typically call the SMC and let them know that that aviation asset's being asked for. And then, they go through the process of determining if it's warranted it or not, and that decision would be made by the SMC, designated DRM.

Q. Okay. And then, as far as from the district down, at the air station, how much communication are they involved with prior to making that determination?

A. Once the SMC makes the decision, the air station is likely already looped in. We like to give them as much of a heads-up as possible when they're requested for whatever case they're going to be employed on, so even before the SMC is asked for the aviation asset, typically, the air station would be notified that that's a possibility. So they would be able to start gathering information for the case to make aircraft configuration and crew configuration decisions before they actually get the go-ahead to launch. But when the launch authority is given by -- or the aircraft

employment permission is given by the SMC, they would let the sector command center know, and then they would direct the air station to launch whichever asset they're authorized.

Q. Okay. And you mentioned O-6. For the record, O-6 in the Coast Guard is a captain.

A. Yes.

Q. So, moving -- with regards to the air station in their -- I guess in their ready crews, can you talk to us about what the expectation is for an air station and how they're staffed to respond?

A. Sure. Maybe I'll give an overview of the two different air stations. Air Station Sitka has three H-60 helicopters, and typically, each aircraft is assigned a certain number of people to either operate or maintain it, and I believe it's -- it's either two or three, or three or four pilots per aircraft. So, if you have more aircraft, you're going to have more pilots to operate it, more mechanics to maintain it.

So obviously Sitka's complement of three H-60s is significantly lower than Kodiak's complement, which has six H-60s. More people just to do the work and perform the missions. Each air station has one Bravo-0, that means one Bravo-0 helicopter, H-60, which means that they should be ready to proceed on a SAR case within 30 minutes of notification of launch.

Kodiak also has C-130s and H-65 helicopters. The C-130s are in a similar ready status. They have one B-0 C-130 all the time,

as well as one H-60 B-0 all the time. The H-65s in Kodiak are the deployed assets. They deploy to the Bering Sea cutter to patrol the Bering Sea for Search and Rescue, law enforcement. But they're not in a ready status while not deployed in Kodiak. So given launch authority, they should be able to proceed within 30 minutes of notification when on-station in Kodiak.

So, sometimes, the C-130 has the bad weather that rolls through Kodiak, which either prevents them from taking off from the airport or actually being pushed out of the hangar. There's been instances where high winds have prevented the C-130s from being able to be pushed out of the hanger. But, when the forecasted winds are such, they'll preemptively launch a C-130 to stand the ready from Joint Base Elmendorf-Richardson in Anchorage, and then, they're given a two-hour requirement to proceed to launch just because the place where they stay is further away from the airport, they have to get some help from the Air Force to launch the airplanes; just more significantly logistically burdensome from when they were at home unit in Kodiak.

Q. Do you remember during the incident with the *Scandies Rose* if that were the case for pre-positioning the C-130s?

A Yes, it was. There was one C-130 that was in Anchorage just because of the weather that was rolling through during that period.

Q. And, to kind of talk a little bit about some of the challenges with meeting that Bravo-0 requirement, can you kind of

highlight what some of those challenges are?
A. Sure. So I mentioned before that there is significant training that goes into becoming a qualified aircraft commander -- an Alaska qualified aircraft commander once you transfer into Kodiak. That's just to kind of open your eyes as far as what risks are present in that environment: mountainous terrain, significantly more severe weather than you would see in other regions of the United States, cold weather. The weather is bad enough where they put us through survival training -- cold weather survival training in the first year that you're there just so if you happen to have to land somewhere because the airframe has a maintenance issue, you'll be able to survive until help gets there. I don't know of any other place in the United States that requires that kind of training, so that's just to give you some kind of insight as to how hazardous the conditions are there.

But, as far as the launch goes, when directed to launch, wherever the crews are, berthing, if it's the middle of the night, they'll go from the ready crew berthing and go to the hangar; the mechanics will typically -- the flight mechanic and the rescue (indiscernible) would typically get with the line crew, which is on station to make sure the helicopter, the C-130 is ready to go fly. They would get the aircraft ready while two pilots would typically do some flight planning for weather depending on where the location of the distress is. They would just see what kind of route they needed to fly to avoid the mountainous terrain. They

look at the weather significantly for that just because sometimes we can go over the top of the mountains and sometimes you can't. Going over the top, if it's clear, significantly reduces the time en route to fly there, but if you have to go around the mountains, it induces more time, more flight time to get to the distressed location. So we're looking into that.

If it's nighttime, they really have to do a deliberate risk assessment. They have to look at factors like what's the (indiscernible) elimination? Are my night-vision goggles going to work real well? Is it snowing? Because that induces a little bit of problems with the night-vision goggles in whiteout conditions. So there's a whole bunch of things that goes through the minds of the pilots before they get in the helicopters, C-130 to go fly.

Q. And so considering some of those challenges that are somewhat unique to the area, has anything been done by the Coast Guard to try and shorten the timeframe from notification to launch?

A. I don't know of anything the Coast Guard has done deliberately to reduce that time. It really is a time constraint. You can only push aircraft out of a hanger at a certain speed. You can only go from one place to another to get weather to facilitate a quick launch. I guess one big step forward is the use of -- they're iPads. I forget what we called them, but they're -- they have flight planning software on the iPads which are connected via Wi-Fi to the air stations, so you can do some weather planning on the iPad. You can go flying with that as

well, so you can get a better situational awareness picture of where you are in space when you're flying than what the helicopter typically gives you.

Q. And so kind of fast forwarding and moving towards the incident itself with the *Scandies Rose*, can you talk to us about what your role was in the incident?

A. Sure. I was the duty Search and Rescue mission coordinator that night, which means if there's a SAR case for District 17 RAR, then I would be making decisions.

Q. Did you maintain SAR mission coordinator throughout the case?

A. That case initially was taken by Sector Anchorage just due to the location of it. Like I said earlier, the demarcation zone, if you will, Sector Anchorage SAR zone to where the District 17 SAR zone starts just south of Kodiak, it was pretty close to that line. The commanding duty officer, when he called me to let me know the case was going on, he said, yeah, it's in Sector Anchorage's zone; it's pretty close to the D-17 zone, but Sector Anchorage has got SMC on it. So, initially, it was Sector Anchorage's case until we took it over a little bit later.

Q. Is that unique or does that happen often in AOR?

A. Well, it depends on where the case is. If it's clearly inside one zone or the other, then that doesn't typically happen. Other instances when it could happen is the complexity of the case. Sector Anchorage has a complete staffed command center, as does Sector Juneau. They're a little bit more junior; they're

petty officers or third and second class petty officers where the District 17 command center is first class and chief petty officers, as well as having a -- normally an officer as the CDO. Their SMCs are very capable seasoned officers as well. Maybe not quite as experienced as the District 17 SMCs.

District 17 SMCs, as well as myself, we had the GS-13 SAR specialist. Typically, that's the one civilian that is an SMC, as well as the O-6, and then others as necessary. So I think, during that time, we had an O-5, my incident management assistant. He was a qualified SMC, as well as the command center chief, I believe, before he departed. So I guess that's just to say there's -- there are times when District 17 will take over a case from the SMC of the other sectors, but it's rare.

Q. Just to clarify, on the morning of the incident, do you recall if the regional command center was staffed in compliance with requirements for command centers?

A. As far as I know.

Q. And so, as SMC, how were you notified and briefed on the case initially?

A. I think it was around 10 o'clock that night, the CDO called me. I had just gone to bed for the evening. As soon as he said a potential sinking case, I jumped out of bed, moved downstairs, and logged onto my computer as I'm talking to him.

We have a situational awareness tool that the district command center subscribes to that's actually through the Marine

Exchange of Alaska. It's called PACTRACS, and it's an AIS picture of all the vessels that are emitting an AIS, automatic identification signal, throughout the waters of Alaska. And so, he told me that they had gotten the mayday call, what they thought the position was from that scratchy HF radio transmission to communications dispatch at Kodiak, and what the vessel name was.

So I went down, logged on my computer, and I saw that the vessel had gone late, meaning that the signal from the AIS transmitter was old. Typically, you get transmissions every several minutes, but this had been about 20 minutes since the last signal had been received. So, as I'm talking to the CDO, commanding duty officer, I said, well, if this is Sector Anchorage's case, make sure that they know they have an authorized helicopter right now. There was no delay in that. And then I kind of hung out and waited for his reply back, and that was a little bit later on.

Q. At that point, just so we can clarify, so at that point that you had got initial notification, at that point, you were not SMC for the case? Is that correct?

A. Correct, I was SMC for the District 17 command center. The SMC for this case was Sector Anchorage initially.

Q. Okay. Other than indicating that they had permission for an aircraft, were there any other directions that you gave for them to take specific action at the command center?

A. I don't recall at that time if I mentioned the C-130. It's

pretty important for anytime a helicopter goes a significant distance that they have some sort of a cover. We call it a cover because of the poor radio coverage we have in Alaska. We like to send -- if it's a helicopter, they're typically operating low to the water; therefore, their transmission range isn't very long and kind of spotty communications with other methods as well. Like HF from a helicopter is typically not as good as it would be from a vessel. So we like to send a C-130 to kind of cover them, to take the radio guard just to make sure everything's going okay, and if something's not going okay, then the C-130 would be able to take action, relay radio transmissions, things like that. Just makes for a more smooth case, and it gives a certain comfort level for the helicopter pilots. And I know that because I was one.

Q. And, from that point, can you take us through the rest -- kind of up -- you know, some of the rest of the morning, from when you -- from the time you were notified, some of the -- kind of the initial actions taken and then the follow-on brief that you may have received, and then indicate any other communications you may have had. Particularly, at some point, did you -- was it your responsibility to brief it up as well?

A. Yeah. So, I don't remember how much time elapsed, but at some point, it was determined that the case location was actually in the District 17 AOR, and then I think Sector Anchorage wanted to keep the case, but then it started to get a little bit more complex. And there was no sector assigned assets that were going

to be prosecuting the case. It was too far south for the patrol boats that are assigned to Anchorage, or any of the small boats, for that matter, to be involved in the case. And we had the Bering Sea cutter that was under the control of the District that was just outside Unimak Pass, I believe.

At that point, the District decided and I think Sector acknowledge that it was time to give the case up to the District. And it was in our AOR anyway, so we took it over. At that point, I got ready to go into work. I drove into work, and it was -- I think it was around midnight. I know that, because as I'm driving into work from my house, I see fireworks going off, and it was New Year's Eve. So about midnight I showed up at the command center after I had taken SMC just to make sure I had a good understanding of the case and could make some decisions based upon information in a timely manner.

Q. At the point that you got into the office, at that point, by midnight, had any of the resources been launched and en route to the scene?

A. So, when I had authorized the first helicopter, the first H-60 to be launched through my CDO to the Sector Anchorage command center, I think it launched about an hour and a half after that launch notification happened. So I believe that was already airborne en route by the time I got to the command center. I think the C-130 was as well. I don't know when the C-130 launched comparatively to the H-60, but I think the C-130 was also en route

to the scene, if not getting ready to launch.

Q. Once you got into the office, with one helo en route, can you talk to us about what other resources were available to you or being considered, and then any of the challenges that may have been encountered with those resources at the time?

A. Yeah, the Coast Guard cutter *Mellon* was assigned to the Bering Sea with their (indiscernible), so we knew that ahead of time, always knowing where they are. So we directed them to proceed to the scene even though it wasn't going to be an easy journey for them to get there. It was going to be several, several hours and some pretty snotty weather for them to even get to the scene. So we directed the *Mellon* to proceed to that area.

We knew that the weather was really horrible. It was going to be a delay for the C-130 to get there just because it was in Anchorage and the ready crews would have to perform some pretty significant risk management just due to the weather and nighttime before they would be able to launch. There's no other resources that were going to be able to get to scene, so we didn't even consider a patrol boat out of Sector Anchorage's AOR or a small boat from -- there's not one even within a day of that area anyway, so it would have been useless.

We did look at the situational awareness picture and see what other kind of boats were in the area using that AIS system, PACTRACS, and I think there was one vessel just to the west that was kind of tucked in. It looked like it was doing some weather

avoidance on its own. I believe they were contacted, and they declined to assist just because of the environmental conditions and the condition of that boat.

Q. Do you remember if that vessel had responded to initial callouts via radio call or if there was other mechanism used to contact them?

A. I think we ended up getting in touch with them from a satellite phone, I believe. Like I said, the radio coverage for VHF was non-existent in that area. They would have only been able to hear the HF emergent marine information broadcast that was put out by communication detachment Kodiak. I don't recall if they answered that or not. I think we contacted them via SAT phone, and they declined to assist.

Q. Okay. And as far as -- so talking about subsequent missions and resource deployments, can you talk about the process, the decision process and the timing of planning those subsequent resource deployments for this case?

A. Yeah. It was going to be a challenge because it's about 190 miles away from Kodiak, so roughly two hours of flight time. And an H-60 has about five hours worth of fuel, so two hours down, two hours back, they got about an hour -- a little over an hour probably on scene. So the helicopter search asset was going to be significantly challenging to keep on scene. I mentioned earlier, Kodiak has six H-60s assigned, but they have one helicopter crew that's on recall or status to launch within 30 minutes. All the

other people and helicopters that are assigned to Kodiak are assigned for other missions really.

So they try as hard as they can to muster up additional crews as the case requires, but sometimes that's a challenge, because if they're not identified in advance, then you don't know what you're going to get. People might be out of town on leave or, you know, out of cell phone coverage, could be out hiking, or -- you know, there's just a litany of other reasons that would make it challenging to recall additional crews. They were able to recall a total of four -- I think a total of four aircrews flew on this mission, so three recalled crews in addition to the ones that were designated as the SAR standby.

The C-130s, similarly, there's five C-130s that are assigned to Kodiak. They have longer legs, meaning they can stay on scene for a longer time, but during this case, it was really challenging for them to be any kind of a useful search asset just because of low cloud ceilings and visibility, snow. I think they did break through the clouds at one point to do a little bit of searching, but by and large, they were looking at the radar and keeping a good comms platform for the helicopters during their search efforts.

Q. Were you aware of any mechanical or other specific challenges for the resources that were being considered for this mission?

A. I think one of the helicopters, during the second or third search, had to return to base a little early because of APU

failure; that's the component that provides a little bit more power for auxiliary components, like heat, like blade de-icing, like engine de-icing. So without that in those conditions, the risk is elevated a little bit more, and I think the helicopter got aircraft commander to determine that he was going to return with that maintenance problem.

As far as the other constraints, I don't think there were any. I think they had to fuel the helicopter a little bit more just given the fact that it's so far away from Kodiak at the on-scene distress location, so they put more fuel in the tanks than -- they typically would not fully fuel the aircraft if there was a case closer to Kodiak because you need that power reserve in order to hover, and it takes less power if you have less weight on board to hover than a fully max gross weighted helicopter. So they had to put more fuel in the tanks, and that induced a little bit of a delay on the initial launch.

Q. Earlier you had mentioned the use of the Coast Guard cutter *Mellon* and routing them towards the scene. In terms of aircraft and deployed aircraft, do you remember if there happened to be deployed aircraft on board the *Mellon* at the time?

A. I believe there was, and that would be the H-65 -- it's called an Alaska Patroller, ALPAT for short. Typically, those helicopters are assigned to the Bering Sea cutter just to -- kind of as a force multiplier for the cutter. I believe they were sheltering -- the *Mellon* was sheltering in Beaver Inlet, which is

right around the corner from Dutch Harbor where they would go for logistics. They typically do that to kind of get out of the weather that rolls through during those periods of time in the wintertime.

But there's no way that they could get within launch parameters to launch the helicopter from the flight deck of the *Mellon* given the conditions they were in, and especially transiting to the scene. They were so far away, that helicopter wouldn't have been useful anyway. It doesn't have the same endurance as an H-60 does. Typically you get 2-1/2 hours max of flight time out of an H-65, even less when it's deploying from a cutter, because you can't carry as much fuel because you have to be lighter in order to launch. But in those conditions, the pitch and roll limitations that are assigned to the helicopter and the cutter combination would've prevented that helicopter from launching when it got close enough to even search.

Q. Okay. And then all those multiple resources are en route once they've been assigned and deployed to the area. What kind of work is being done in the command center from other staff or yourself at that point?

A. So they'd be looking into additional search patterns for when the current one is completed, gathering information during that time. If they have on-scene conditions, they would update the SAROPS, the computer program that we use to plan the search; they would be doing that. Just any kind of evidence that was gathered

from the scene; if they located anything in the water, like flotsam, a raft, they would be looking to deploy a self-locating data marker buoy, which simulates drift for either a person in the water or other objects in the water, and that's connected to a satellite that gives the GPS location every now and then to show what the drift pattern looks like. So I think there was one, or maybe two of those were deployed during this case. I think one of them failed, I think. It didn't provide any useful information, so we had to deploy a different one. All of this information is gathered and then inputted into the SAROPS tool to determine what the next location or the search pattern is going to be.

Q. Do you remember what the planners were using as search targets for their inputs during the initial phases?

A. Well, maybe during the initial phase, it would have been a swamped, capsized vessel. But when we were pretty certain the vessel did sink, then we shifted form that to persons in the water and also rafts. I think those were our two search objects we focused on.

Q. And then once the liferafts were located and the two survivors were lifted, how does the plan change for extended searches and development and planning?

A. Well, if we can talk to the survivors, that's the most important piece of information we can get. I think we did shortly after they landed back in Kodiak, we got a survivor debrief. We like to do that just to have the most accurate information in

order for deploying subsequent searches. And with that information, I think Mr. Lawler and Mr. Gribble had mentioned that they both got into their survival suits and they were kind of hanging out on the boat -- hanging, that was a bad word. But they were grappling with the boat until they could no longer do that, and they watched the boat sink down beneath them, and they didn't see anybody else come out. So, from that point, when we knew that they were rescued from a liferaft and the other liferaft was empty, we shifted to persons in the water searches for the following -- for subsequent searches.

Q. Can you talk to us about what's considered and how the Coast Guard proceeds when the searches don't reveal anything? So, when they're up and the search pattern doesn't reveal anything, how the Coast Guard proceeds from that point?

A. Well, every search has got to end, right? You can't keep searching forever because there's just not infinite resources out there. Plus, there's a certain amount of time that you would expect somebody who's missing to still be save-able. We have tools that are available to us that tell will us that, and survivability time is one of them. So you kind of plan your search for beyond what you would expect somebody to survive in the water because there's factors that go into being able to survive a little bit longer if their (indiscernible). So you're kind of -- you're in it for the time period that you expect to find somebody that is still alive. In this case, I think it was 13 hours or so,

a little bit more than that, that there would be somebody expected to be able to survive in that environment. We planned it out -- I think we ended up searching 19 hours or something like that.

But every search pattern subsequent to the one that you just completed, you've got a bigger field to cover because items in the water tend to dissipate from their location, especially with some of the conditions that were present that night with the high winds and heavy seas, that tends to disperse search objects in the water. So you're going from a small search area, relatively, when it first happens, to a very, very large search area over time. So you've got to cover more water for the subsequent searches than the previous.

And if you can get information, like if the survivors said there was a specific -- if they told us there was five liferafts, we would've kept searching for the additional three that we didn't find. If there was an EPIRB in the water, that would have been great information to help us nail down our search pattern. But I don't think that EPIRB was ever located. It didn't activate, so we didn't have that valuable piece of information available to us.

Q. With this case, do you recall when the families had been contacted by the Coast Guard or what that process normally is for the Coast Guard to reach out to families?

A. That would -- one of the main objectives coming in the command center early was to take that burden off of the guys that were actually (indiscernible) the search, the CDO and OUs (ph.).

I think, after we had recovered the two survivors, I had -- I can't remember if it was before or after, we got in touch with the vessel owner, and I did all the next of kin interactions, whether it be for the two survivors or the five that remained unlocated.

I got the initial list from the fishing company. I think it was Gelia Cooper. I think, when I initially called her, she was camping or something, so she didn't have any of that information available to her, so she made her way to the office or wherever she had her records. And then she gave me -- she actually gave me the forms the crewmembers are required to fill out for next of kin or emergency contact information. And so, from that, we had names and we had phone numbers for the missing crew of who they wanted us to contact in case of an emergency. That's what we used as a basis for a next of kin notifications.

After the two survivors were located and we had that next of kin information available to us, and before any press releases with any kind of specific information, I had -- it was very important for me to call all of the next of kin just to let them know what's happening. I did that early on in the case, and then several times during the case, I would provide updates via telephone for all of them.

Q. As the case progressed and had more media interest, more family and friends becoming involved, is there a way the Coast Guard managed that?

A. They have press releases, you know, public affairs guidance

on that. Typically, you don't want anything in the press to surprise any of the people that are involved in the case, so that's why we say we withheld information from the press until we could make positive contact with all of the next of kin of the crew, the five -- the seven crew, actually, because I talked to next of kin for the two survivors as well. I would talk to them personally before there was anything that was going out to -- being released to the general public via press release.

Q. Can you walk us through the process that the Coast Guard used, particularly in this case, to prepare for that suspension of search efforts towards the end?

A. Sure. So, after that initial search, we found the two survivors, and they gave us information in the case that they didn't see anybody else leave the boat, we knew we kind of had a challenge in front of us of for finding any of the remaining five people. We do the PSDA model, primary search decision aid, which is embedded within the Coast Guard's SAROPS program. Basically that tells you what the survivability time is and also -- I forgot the term for it, but it's the ability for someone to help with in their own rescue. Those numbers were indicating survivability time around 13 hours or so, so we knew we had 13 hours from the time we confirmed that the *Scandies Rose* went down to find anybody. Those 13 hours came pretty quick, and we ended up -- I think we went six hours beyond that, something like that. But all of that information was fed to the SAR coordinator.

For active search suspension authority for a missing person, we know a missing person -- a person in the water, that is not delegated to an SMC with ASSA authority; that goes right from Admiral Bell who is the SAR coordinator for District 17. He makes those decisions for missing persons, nobody else. So, early on in the case, I provided him -- well, several briefs throughout the case, just to kind of keep him updated on significant happenings, significant search efforts, and then also just kind of keeping him updated as far as what we're finding, the timelines for the PSDA model, the weather on scene, what the search assets are considering, next of kin interactions, things like that. I would let him know that throughout the case.

And when it was getting close, past the PSDA time, about 13-1/2 hours or so, we had to start letting him know this might be fruitless at this point to find anybody else in the water. Given the hazardous conditions for flying, for the folks that are actually looking for the people, it might be something to consider sooner than later. So I think we briefed him -- one of the final briefs before the active search suspension brief was, hey, if we don't find anything before -- I think sunset was the magic time, then we would like to ask for you to suspend the search. And that's kind of how it went.

I had to talk to the next of kin, all the next of kin as well just to let them know that was the plan as well, so they would not -- they would hear from me that we were going to suspend the

search before we would actually suspend the search, and we would take any input that they had.

Q. Do family members normally play a role in helping to determine or coming to that decision for the suspension? Is there a role the family members play?

A. Well, part of my responsibility as SMC is to communicate with them effectively and often and kind of have me be their sounding board. Typically, it's not a pleasant experience to tell you the truth. It is very difficult to call somebody on the phone, you can't even have a one-on-one conversation, just like we are right now even. This Zoom wasn't alive back a year-and-a-half ago that I can remember. Everybody telephonically, you don't know what their emotions are. If you can see somebody and sit on the couch with them and tell them the bad news that you're telling them in person, I think it's much better for that person to hear than on the phone. But I was restricted by a telephone conversation.

They would let me know things, like he's a fighter or maybe he's got a heart condition, or something like that. I don't remember any of those kind of factors weighing into this. But if the next of kind could give me information that would lead me to believe that maybe they did beat the odds or maybe they can survive past whatever the PSDA models say, then we would certainly take that into account. If there's more information, then we can even reopen the case after we suspend it. But there was none of those factors that weighed into this case.

Q. Once this case was complete, suspension was issued, do you recall at any point if there was a case review that was called for?

A. Yes, (indiscernible) asked for a case review, and I think the Deputy Sector commander for Sector Juneau completed that shortly after -- a couple months after the suspension.

Q. Do you recall if there were any recommendations from that case review, particularly any that may have been acted on since?

A. Well, I think Commander (Indiscernible) recommendations were for the Coast Guard to take a look at the assets that are assigned to District 17's AOR, including Air Station Kodiak's helicopter complement. I think he recommended that all the command centers review his case study for lessons learned, kind of top to bottom review of the whole case, which (indiscernible), everybody should hot wash the case, especially if it is as complex as the *Scandies Rose* case was. I don't remember any other recommendations he gave beyond that.

CAPT CALLAGHAN: Okay. Well, sir, I really appreciate your time this morning. At this point, that concludes the questions I had prepared for you. I'm going to now turn it over to my colleagues at the National Transportation Safety Board to see if they have any questions for you.

THE WITNESS: Okay.

CAPT CALLAGHAN: Mr. Barnum?

MR. BARNUM: Thank you, Mr. Hollingsworth. I really

appreciate your testimony and, obviously, the work you did on this particular accident case and your team there, so thank you. I have no questions. I believe my colleague does.

MR. SUFFERN: Yeah, thank you.

BY MR. SUFFERN:

Q. Good morning, Mr. Hollingsworth. I appreciate your time, as my colleague Bart mentioned. I do have a couple of quick questions regarding the weather information that you mentioned that was being able to be viewed on the iPads or electronic flight bags, EFBs. Do you know what specific application -- weather applications those are?

A. I know what the flight (indiscernible) looks like, but I can't come up with a name for some reason. It's FlightAware -- no, that's a flight tracking software. I can't remember. It's Coast Guard wide; it's mandated to be used by every pilot. It's installed on the EFBs, and thanks for reminding me of that. But it's pretty powerful. It's used in the civilian aviation industry as well. It's pretty extensive. Depending on if -- if it's got a satellite linked, then you can get real time weather on it. I don't know that the Coast Guard has gone that far yet. It's been a little while since I've been in the cockpit to have an EFB assigned to me, but I think they were getting to that point. It provides a pretty robust flight planning suite, especially in airplanes and helicopters that don't have such a good situational awareness tool available to them. Like the H-60 had -- the Tango

model had a pretty good suite of situational awareness tools, moving maps, things like that that are kind of industry standard in the civilian aviation world.

Q. Would that application be ForeFlight?

A. Yep, that's it.

Q. Okay, thank you. You were just mentioning, so once they take off, they don't have any updated weather information via that application?

A. I can't recall if they did at that time or not. I think the Coast Guard is moving in that direction via satellite antennaes they they install in the actual aircraft to be able to receive that information from satellite providers, but I don't recall if they had it at that point or not.

Q. And then, as far as what are other ways they can -- I mean, obviously, the weather is changing all the time. What other ways while en route or on the way back do pilots receive updated weather information?

A. Well, if they have an FAA facility that's within range of radio signal, they can call for updates. The C-130 flying overhead is a very important information piece for a helicopter that's flying a little bit lower, because they have far range -- further range for their radio signals. They can get a link back to the operations duty officer's desk who is sitting in front of the computer. They can help with that area. There's not a whole lot of weather (indiscernible) available actually throughout the

zone south of Kodiak Islands. It's basically NOAA, National Weather Service, and giving it their best guess based upon the information that they have. Nothing knocking against them, but they have -- it's very difficult to forecast weather in Alaska.

Q. As far as the weather information that you wish you have, is there something that you wish that was available there that is not available at this point?

A. Part of my job here actually is we have not only the AIS receivers and transmitters, but we're also putting up weather stations throughout coastal Alaska. I think we have about 57 of them now. They will broadcast whatever weather is on that site through the AIS transmitters. So, if you have an AIS system on your boat, you can receive that weather, and we're expanding that capability. So NOAA has several of those, FAA has several of those. FAA has weather cams as well, which are commonly used in the aviation community to determine if you're going to hazard into that weather. You know, it's -- I think it's getting better. From the time that I was first stationed at Kodiak to now, I think there's more available resources to look at weather patterns now than there was even ten years ago. But you can never have too much information, that's for sure. Just getting to the point where it's ubiquitous would be -- maybe never, maybe never going to get there.

Q. Circling back, what you mentioned earlier as far as if they're within range of an FAA facility, for that you were talking

about Alaska Flight Service?
A. Yeah, that sort of station, yes.
Q. And then, one last question as it pertains to the risk assessment and the weather conditions that are reviewed at that particular point, can you kind of step me through what weather is reviewed for said risk assessment and is it kind of color coded or scored based on IFR, VFR, snow versus rain? Could you step me through that?
A. Yeah, they -- my knowledge of how they're doing it now may be dated, but they would have the GAR score, green, amber, red score. Not only the weather, but crew fatigue would play into it. The weather is a major factor in determining what the risk is for that -- whatever particular mission. The complexity of the mission is another one. So the weather, I mean, they would look at ceiling and visibility certainly, they'd look at icing level, freezing level. They would look at if there is -- what is reducing the visibility? Is it snow or volcanic ash? Is it just clouds, fog, thinks like that?

And you have to pass a certain threshold before you can be allowed to launch. The commanding officer, at some point -- or the operations officer has to weigh in, if the weather is bad enough, to authorize a launch, unless it's acceptable by what the training standards are. So I'd say probably the major factor in determining the -- whatever the risk is for that mission is the weather.

MR. SUFFERN: Okay. Thank you very much for your time, sir. That's all the questions I have.

CAPT CALLAGHAN: Thank you.

At this time, sir, I'm going to pass it to counsel representing the two survivors, Mr. Stacey.

MR. STACEY: Thank you, Captain Callaghan.

Good morning, Captain Hollingsworth. Can you hear me okay, sir?

THE WITNESS: Yes, sir, good morning.

MR. STACEY: Perfect. I'm not sure if you had a chance to watch the testimony of Mr. John Lawler or Mr. Dean Gribble, but I want to echo their thanks to you and your team. John talked about how hearing the helicopter was one of the best sounds he's heard in his entire life, and so I want to pass along their thanks to you and your entire team for getting them out of the water and getting them safe. So thank you very much, sir.

THE WITNESS: You're welcome. I did watch Mr. Lawler's testimony, and it was heartbreaking, to tell you the truth. So I appreciate his thoughts as well.

MR. STACEY: Perfect.

Captain Callaghan, I don't have any questions.

CAPT CALLAGHAN: Thank you, Mr. Stacey.

And now, to counsel representing the vessel owners, Mr. Barcott.

MR. BARCOTT: Good morning, Captain Hollingsworth. Can you

hear me all right?

THE WITNESS: Good morning. I can hear you.

MR. BARCOTT: I just want to, on behalf of *Scandies Rose*, echo what Mr. Stacey said. The work you did in support of this mission was extraordinary, saved two people. And thank you for your work generally in support of the Alaska fishing industry, both with the Coast Guard and now with the Exchange, so thank you.

I don't have any questions, Captain.

THE WITNESS: Thank you.

CAPT CALLAGHAN: Thank you, Mr. Barcott.

Captain Hollingsworth, we have a couple follow-on questions from the Coast Guard. First, from Mr. Keith Fawcett.

BY MR. FAWCETT:

Q. Good morning, Captain. My name is Keith Fawcett. If you could, for the public, just briefly explain what a self-locating data marker is.

A. Sure. When I first started flying helicopters, we had this data marker buoy, and it's -- it looks like a little missile. It's about yea long and it's orange, it's got fins in the back and it's got a pointy end. It's got inside of it a radio transmitter and an antenna that attaches to the tail end. The fins part of it is like Styrofoam type of a material that will float. So, in the water, the fins float up and the antenna goes up.

It emits a radio signal, and it's on a certain frequency that an aircraft can direction find. It doesn't emit a GPS location.

It's simply just a radio beacon. So you put it in the water early in the case, and then a certain time elapses, you'll find it again, and you hone in on it by that signal it's emitting. And then, when you're right on top if it, you mark the location. You mark the location where you put it in, you mark the location where you found it at a certain time later, and then you can determine drift direction and speed from that information.

It is a pretty time consuming and onerous method of determining drifts. So the Coast Guard knew that, and we had technology available to us, so they employed this thing called a SLDMB, or a self-locating data marker buoy. It's a little larger than the data marker buoy was, but it also more closely models drift. It has fins that deploy once it hits the water that models a person in the water. So, once it's submerged, it has like a fabric fin type of situation where it expands when it's in the water and it drifts along with the water.

Anyway, it's got antenna as well, but it also has embedded GPS inside of it, so the signal it emits is picked up by satellites, and that information is fed into the Search and Rescue optimal planning system that the Coast Guard uses to plan for searches. It takes the searching for the data marker buoy out of it. You deploy it in the water, and it's supposed to start transmitting within a few minutes, and then it will be evident in the command center that it is transmitting, and then you get updates throughout its lifetime, which can be days, I think. And

you can use that information to update your planning software.
Q. So, in your testimony, you said one of the two marker buoys that were deployed failed, is that correct?
A. I think that was the case. They have a suspect track record for deploying, and that can be for many reasons. If you're throwing it out of a C-130 or going 200 knots, when it hits the water, sometimes it doesn't survive that initial entry. Other things like -- I don't know, it's just -- it's a violent entry into the water no matter how fast you're going deploying that thing. Sometimes they don't survive and sometimes they do. We typically plan for that though. The C-130s will fly with two if not more of those, just planning for the eventuality. Helicopters -- I think the H-60 flies around with one if not two, just knowing that they have a suspect rate of survival.
Q. So, in 2015, the steamship *El Faro* sank with the loss of 33 sailors, and, at the end of the Marine Board, we recommended that the marker buoys be upgraded to improve their reliability. Do you have any idea when the last time these marker buoys were upgraded to improve their reliability?
A. I know that they were at some point. The initial first models were horrible. They had failure rates that were just poor. And I know they have upgraded them, but I don't know when the last time they have.
MR. FAWCETT: Okay, thank you, Captain. We'll follow up later this afternoon. We have the SAR program manager from

headquarters, and he might have that information. Thank you, sir.

THE WITNESS: You're welcome.

CAPT CALLAGHAN: Thank you, Mr. Fawcett.

Commander Denny?

CDR DENNY: Thanks, Captain.

Good morning, Captain. Thank you for speaking with us today. I just have some questions based on your earlier testimony when you described, you know, some of the challenges that Search and Rescue assets could have. Is there anything that you think could be done to improve the infrastructure at either Anchorage or Kodiak to improve the response time, the launch time in adverse weather so that the assets could more closely meet the time standards for B-0, which was 30 minutes I believe you said?

THE WITNESS: Well, that air station was handed down to us from the Navy back in the end of World War II, and both of the hangers, I think, have been constructed since then by the Coast Guard. One of them was handed down to us by the Navy. The airport itself, the runways were legacy, and they have three runways that they can use, but sometimes due to the length of some runways and the direction of the winds, there's nothing you can do. Maybe you can ask Mother Nature to cooperate with you. I just don't think that there's anything that we could build that would help improve that response posture, no.

CDR DENNY: Okay, thank you, sir. That's all my questions.

CAPT CALLAGHAN: Thank you very much, Captain Hollingsworth.

So, without any more questions, I do -- would like -- would be interested, from your perspective and recognizing that you may or may not have been following since the beginning of the hearing, but particularly with relation to the Coast Guard activities that we've focused on so far, is there anything that we should be considering as part of this hearing that we haven't yet or that we haven't discussed this morning?

THE WITNESS: I think communications in Alaska is challenging, and I think there's steps that could be taken to improve that. We're focused on VHF FM radio transmissions, and I think that's good, but there are other methods out there to communicate with both mariners and aviation assets. I think ADS-B, which is a monitoring aircraft, that's a good technology going forward. I think, you know, in my current job, I see the value of the automatic identification system. That's developing over time as well. (Indiscernible) the transmission function of that technology, that's going to be a very large step forward in getting mariners situational awareness of weather, of any number of things.

I mean, there's legacy Notice to Airmen and Notice to Mariners that are published, and it's digital now, but it's kind of a yesterday's technology. There's technology out there to help improve situational awareness and safety, but I think it's -- some of it can be expensive, but I don't know if you can place a value on what it provides, especially looking back at the *Scandies Rose*

case. In Alaska, the communication is just not where it should be, I believe.

CAPT CALLAGHAN: Thank you for that. And, sir, so in closing, I do want to take the opportunity on behalf of the Board and on behalf of the Coast Guard, not only thank you for your service in this case and the efforts you and your team pursued to do the best that we could, but for your active duty service and your continued service in the maritime community, as mentioned before, in your current role. Thank you for that and, certainly, thank you for your time and testimony this morning.

THE WITNESS: You're welcome.

CAPT CALLAGHAN: At this point, you're now released as a witness at this formal hearing. Thank you again for your testimony and cooperation. If I determine this Board needs additional information from you, we will contact you through counsel. If you have any questions about this investigation, you may contact the investigation recorder, Lieutenant Ian McPhillips.

Thank you again, sir.

THE WITNESS: You're welcome. Thank you.

(Witness excused.)

CAPT CALLAGHAN: The time is now 0934. Our next witness is currently scheduled for 1030. If we are able to being sooner, we will update the time displayed on livestream. Until then, this hearing will now go into recess.

(Off the record at 9:34 a.m.)

(On the record at 10:00 a.m.)

CAPT CALLAGHAN: The time is now 1000. This hearing's now back in session. We will now hear from Lieutenant Chris Clark.

Lieutenant Clark, Lieutenant McPhillips will now administer the oath and ask you some preliminary questions.

LT McPHILLIPS: Please stand and raise your right hand.

(Whereupon,

CHRISTOPHER CLARK

was called as a witness and, after being first duly sworn, was examined and testified as follows:)

LT McPHILLIPS: Please be seated. Please state your full name and spell your last name.

THE WITNESS: Christopher Clark, C-l-a-r-k.

LT McPHILLIPS: Please identify counsel or representative, if present.

THE WITNESS: It's Lieutenant Commander Matthew Pekoske.

LT McPHILLIPS: Counsel, please state and spell your last name, as well as your firm or company relationship.

LCDR PEKOSKE: Lieutenant Commander Matthew Pekoske, P-e-k-o-s-k-e, Coast Guard Judge Advocate and witness counsel to Lieutenant Chris Clark.

LT McPHILLIPS: Thank you, sir.

Lieutenant Clark, please tell us, what is your current employment and position?

THE WITNESS: I'm currently a MH-60 pilot at Kodiak, Alaska.

LT McPHILLIPS: What are your general responsibilities in that job?

THE WITNESS: Well, I'm an Alaska aircraft commander, so I'm basically -- I fly the missions that Kodiak has for H-60 pilots. And I'm a PIC, so I can command -- I'll be the pilot in command on SAR missions and other various missions that we do here.

LT McPHILLIPS: Can you briefly tell us your relevant work history?

THE WITNESS: So I -- in 2005, I applied to the Academy, didn't get in, went to a prep school for the Academy at Marion Military Institute, then went to the Academy after that. Graduated in 2010 where I got stationed on Coast Guard cutter *Dependable* out of Cape May for about a year and a half until I got -- went to Naval Flight School in Pensacola for about two years. January 2014, I got to Air Station Elizabeth City for my first air station. Did four and a half years there, and then I got stationed in Kodiak, Alaska, in 2018 until present.

LT McPHILLIPS: Do you hold any professional licenses or certificates related to your position? Please explain if so.

THE WITNESS: I am a -- well, I'm a Alaska aircraft commander and then outside, I've got a commercial pilot and airline transport pilot, and I think that's about it.

LT McPHILLIPS: Thank you, Lieutenant. Captain Callaghan will have some follow-up questions for you.

THE WITNESS: All right.

CAPT CALLAGHAN: Okay. Good morning, Lieutenant Clark. At this time, I'm going to pass you over to Lieutenant Commander Comerford for a couple of questions.

Lieutenant Commander Comerford?

EXAMINATION OF CHRISTOPHER CLARK

BY LCDR COMERFORD:

Q. Good morning, Mr. Clark. Can you hear me pretty well?

A. I hear you well.

Q. All right. So this morning, all my questions are going to be related to the Search and Rescue operation for the *Scandies Rose* New Year's Eve and Day. First off, thank you for being on the line with us today and attending this hearing virtually.

A. You're welcome.

Q. If at any point we ask any question that you don't understand or if you have problems hearing because of technological issues, please don't hesitate to say so. I will repeat or rephrase the question.

A. All right.

Q. All right. Our time here this morning is relatively short, but if you need a break, please let us know.

A. All right.

Q. Using the Zoom platform, we do have the ability to share exhibits with you virtually. The recorder, Lieutenant McPhillips, will put any necessary exhibits up on your virtual desktop. If at any point you need to point something out on an exhibit, do so

verbally to the best of your ability, and Lieutenant McPhillips may highlight the described area for the benefit of the Board and the livestream audience. If he does so and the area he indicates is a little off or needs to be adjusted, please let us know. If any of our exhibits are used, please take time to refresh your memory or acquaint yourself with the information as we bring it up.

First off, Lieutenant Clark, any questions?

A. Not at this time.

Q. All right. Okay. So first off, were you a pilot for the airframe that rescued the crew and survivors of the *Scandies Rose*?

A. Yes.

Q. Okay. So in a minute, I'm going to ask you to share your story of this event. I'll ask you to do your best to avoid using acronyms and encourage that you use as much plain language as possible for the benefit of the public.

I understand that we're a little bit limited on time, but in telling your story, I would really ask you to describe or comment on some of the following things: first, weather en route, weather on scene, and weather during the return trip. Being eyes on scene, you have a lot of good perspective that we can gain. I would love to hear about the quality of communications throughout the Search and Rescue effort, your on-scene observations, the rescue operation itself, the challenges you faced, and any other information that you think is pertinent to this Board. So, when

you're ready, please start from taking off in the air from Kodiak and share your story.

A. Okay. So yeah, once we, you know, once we got the final launch approval, we ended up -- I'm assuming straight from the launch, you said?

Q. (Non-verbal response.)

A. Okay. Yeah, so we departed Kodiak. After doing a lot of planning, we knew we didn't have a lot of time on scene, so we had to kind of put a lot of time and thought into how we were going to get there. So we chose to go to the north side of the island where we took the Shelikof Strait basically to the on-scene position.

We were anticipating bad weather, but I think it ended up being a lot worse than what we thought right off the bat. Once we got to the other side of the island we immediately got into about 300-foot ceilings and a half a mile to no visibility where we had to fly the aircraft between islands to get to the Shelikof Strait where -- with the headwinds and the winds that are with the terrain causes severe turbulence. So I think this was the most challenging flight of my career just getting out there.

We were hitting multiple downdrafts and the turbulent air, took both pilots at times to keep the aircraft basically flying. We try to fly our max specific range. That is the airspeed that gets us the most distance for unit of fuel. En route, at times, due to the severe turbulence, we had to slow up a couple of times

just because it was too severe that we were having trouble keeping control of the aircrafts.

And then, en route, we basically -- it felt like we were on our own a lot due to the being low, and that side of the island with comms, there was times where we could just barely get a guard out to give our position. We were using channel -- VHF channel 16. Even that was hard to get in contact with anybody. So we were kind of on our own trying to come up with a plan for once we got on scene.

We had the search action plan, so we knew we had a search box that we had already programmed in and knew that we were not going to be able to complete that search due to our fuel. So we were kind of coming up with a plan as well as to, once we got on scene, how we were going to optimize our time. And I think we were going to try to cover that box as much we could based on basically what we had, and we were probably going to have to shorten the legs or maybe increase the track spacing just so we can cover more of that box.

We were kind of thinking -- like plan how we were going to do that, and we started discussing, you know, like our plans of if we found people, how -- we were kind of talking about hoisting and how we would do it with the weather. And so, once we got on scene, it was -- I mean, the entire way out there, we were probably at 200 feet because that was -- gave us at least where we could see the water below us. It was blowing snow, turbulent the

whole way, so we were on instruments inside.

Again, usually I was in the left seat, which is just kind of a common practice for the Alaska aircraft commander PIC so that they can manage the overall flight where the right seat pilot does the flying. And then, so I was doing a lot fuel planning, route planning, kind of coming up with like what we were going to do once we got there and how we were going to get back and using basically the fuel, like because it -- on the -- or in the helicopter, we have a computer that will -- it's pretty accurate with what you -- with what -- the winds you plug into it and the route and your planned air speed. It'll -- it's pretty accurate with like kind of giving you an idea of where your fuel will be in the future. So you can plug in multiple routes and kind of see what is going to give you the best fuel options.

So once we got on scene, it was like the weather miraculously opened up to about two miles, and we were flying towards the box, and we were under night-vision goggles the entire time, which is probably the only way we spotted the -- what looked like a flashing light at the time. It was actually the rafts going above and below the waves. So we flew towards that light, figured that was our best option at the time, and as we were getting closer, we were able to confirm that it was a raft, so we immediately went into rescue phase. We started going through our checklists quickly, and we made our approach to that raft.

And so we -- in a 60-foot hover, we were able to center out

our VSI, which is a vertical speed indicator, so it just basically tells you how fast you're climbing or descending, and you can use your radar altimeter, which shows the distance to the surface below you. And we were getting excursions of 30-plus feet, which is why we knew the seas were at least 30 feet. And then just with the turbulence and the wind, it -- like my duties as the PIC in the left seat where I'm managing the flight went to all safety pilot, so I was on the controls with the other pilot as we were trying to maintain a hover. With the blowing snow, we had to secure the lights, so we couldn't -- so we could at least try to maintain somewhat of a stable hover over the raft.

So we went through our checklist, and we kind of came up with a plan of how we were going to use the rescue swimmer, but we were going to keep him on the hook just because of fear of being able to get him back due to the seas below and just not being able to see. So we chose to do that, sent the rescue swimmer down, and as he was down, he was able to signal up to the flight mechanic who was operating the hoists that there was nobody in the raft. So I know we felt a little deflated at the time.

And as we brought the swimmer up, the pilot in the right seat who was flying happened to see under his night-vision goggles a waving light, and it was definitely not like the normal blinking light. It was a side-to-side, so we knew it was somebody trying to signal us. So we quickly got the rescue swimmer back up into the helicopter, and we kind of like had the flight mechanic, you

know, brief the swimmer on what we were doing, what we saw. And at that time, the -- even the flight mechanic was saying that he had to de-ice the rescue swimmer. It was so cold that the rescue swimmer, just from going out the door and coming back up, was covered in ice. So he had to help chip the ice off him, brush it off, and clear his mask so that he could see.

And then at that point, we quickly kind of hovered over to the next raft where we could see the flashlight, you know, and then two people on board waving at us, signaling us, and we immediately sent the swimmer down with the exact same plan. And, I mean, it was probably the hardest hoisting I've ever had to do with the other pilot flying, and there was times where, I mean, a wave would hit, and all of a sudden, the raft would be out the left side of the helicopter, and we we're having to, you know, work together to kind of keep a steady hover over this raft. And somehow, we got the swimmer to the raft, and he was able to hook the survivor to himself and then bring him up.

And at one point, the flight mechanic, I had to operate the hoist to the left seat because we have that option on our cyclic, which is the seat that we control the helicopter with, and I was having to operate because his fingers were going numb and he was losing dexterity with operating that hoist hook. So we were kind of coordinating with that, and we were able to send the swimmer back down after de-icing him again and grabbing the second survivor.

And once we got them in the helicopter, at that point, my biggest concern was where's -- you know, like I wanted to get information on where the rest of the crew was. And so I had him -- I had the flight mechanic, as soon as he was able to talk to them and yell at them, I was able to get the word that the -- they were the only ones that got their survival suits on and that they were the only ones that basically made it off the ship as it was overturning.

And so, at that point, we were -- we had very limited time on scene, and with that information, we didn't have time to really conduct a search. And I did a quick calculation, we had two fuel options: it was Sand Point, which was a shorter distance, but we would've had to have fought a headwind to get there, and based on the calculations of that and then plugging in Kodiak, we determined it was the same amount of time to get back to Kodiak with the -- what we -- since we had a headwind coming out, we knew we'd have a tailwind going back. So we chose with the known fuel there that we had there and the higher level of care, we just made a quick decision to go back to Kodiak to bring the survivors back.

And one thing I forgot to mention is, once we began hoisting -- so, again, I was on the controls -- we heard the C-130 show up, which is probably one of the best feelings, you know, that night for us because we could finally have a comms platform that we can get information back from home plate. And we utilized them as well to confirm that we -- the weather back in Kodiak was good

still. It was super windy, but the visibility was much better, kind of -- it was like a pocket of good visibility around the airfield in Kodiak. So we -- that also went into the decision to go back to Kodiak. And I think, if I remember correctly, it was about 40 minutes to get back to Kodiak. We were not able to use heat because of the limited fuel. In order to turn the heater on, we would have to turn our APU on, and that would have burned more gas and, I mean, due to how far away we were from any refuel places, we elected to keep that off.

And then we got back to Kodiak, and once we landed, I was able -- once you get like within 20 miles of the airfield, you can talk to the operational duty officer on one of the radios, you're in range to do that, and he basically told us that the district wanted to talk to the survivors. So once we shut the helicopter down, they were already in the ambulance, and I brought my personal cell phone to the survivors, and they were able to kind of talk to district and give them the -- answer their questions.

Q. Thanks, Mr. Clark. That was great. Couple of follow-up questions just so I can make sure I am clear on a couple of things. When you came on scene and you saw the first raft, you said that you thought it was a light, but it was the raft bobbing or being hidden and reshown from the waves. Was there any actual lights illuminated on that liferaft or was it the retro? What were you actually see -- can you clarify what you were seeing?

A. I can't clarify whether it was -- I mean, it appeared to have

been a light that was on top of the raft, and it looked like, from a distance, like it was blinking -- like a blinking light just because of it going above and below the waves.

Q. And for the other raft, it looked like someone signaling with a light when you saw the second raft? Is that what you said?

A. Correct.

Q. And this is incredible. You said the rescue swimmer, you had to de-ice after every hoist. How does that work? How do you get -- what's he wearing and what do you have to do to de-ice the swimmer?

A. So I would actually have to talk to the flight mechanic, but he said he -- I think brushing the ice off of him and mainly his mask was iced up. So I assume they wiped the ice off of that as well so that he can see.

Q. And then, when you were on scene with the second raft, you said that the raft was kicked over to the left side. Just for clarity, why is that important?

A. It's just kind of to illustrate kind of like the challenges that we faced trying to hoist them. Like normally, you'll keep them out the right side because the pilot flying is in the right seat, so you want to keep visual with them. But when the waves hit, like that's, I mean, just kind of like illustrate how severe the waves were. It would push the raft completely underneath the helicopter to where we were having to use extra effort to keep them in sight and stay kind of over top of them.

Q. And you said that the plan was to keep the swimmer on the hoist. Did that stay the case throughout the operation?
A. It did.
Q. So you were actually having problems keeping sight of the swimmer as he's getting pushed around in the waves for the --
A. For the --
Q. -- (indiscernible) right-side cockpit?
A. For the pilot, correct. The flight mechanic has the option -- he's probably laid out on the deck of the helicopter with his head poked out, looking at him underneath the helicopter. So he's kind of painting a picture to us, and he's conning us the whole time, kind of telling us where they are, and we're following his conn for a lot of it.
Q. And then, you also said that you had to elect to not run the heaters, and you had mentioned that the co-pilot's hands were going numb. Could you describe how it felt in the helicopter for the return journey? Was it cold? What -- kind of go lay a little bit of that picture for me, please.
A. Yeah, I mean, it was -- I mean, I'm a very hot natured person, and I don't think I've ever felt cold in the aircraft, and I just remember I was freezing up front. And I know the guys in the back always hate when we complaint because it's always so much colder in the back for them, but even the deck of the -- there was a -- when we were pulling the survivors in with the swimmer, the flight mechanic even made a comment about how he was slipping on

the deck because of the ice on the deck of the helicopter in the back. So the -- I can't tell you what the temperature was, but it was colder than I've ever felt in a helicopter.

Q. Now, you also mentioned hearing the C-130 and the relief you felt. When you said hear, was that them coming in on radio guard or hearing their engine or -- please clarify that, please?

A. Yeah, they -- when they called out to us on the radio, it was crystal clear because they were overhead. I couldn't see them because of the weather, but just knowing they were on scene with us and that we finally had a way of communicating kind of -- that we were on scene -- I don't think -- that was the first time that we were able to communicate that we were on scene with survivors and hoisting so that we can kind of update back at home plate and SMC and everything.

Q. Other than the relief you felt, how was that communication going? Was it smooth communications or were there any issues with the communications once you've established the communications with the C-130?

A. Nope, at that point, everything was smooth. All we had was communications with the C-130, so they were relaying everything we had to say. And then when -- and it was nice because they could -- a lot of times, radio communications will come in, you know, with whoever has your guard or SMC, and they don't understand kind of where you are in the phase of the flight. So if you're hoisting somebody, I'm not going to talk -- you know, update them

because I'm in the middle of hoisting, so I'm backing up the other pilot, so there's a lot of (indiscernible). But the C-130's overhead, so they kind of knew like kind of what phase of flight we were in, so it was -- it made things a lot smoother knowing when we can talk to them and pass information.

Q. When you mentioned 20 minutes out of Kodiak, you made contact with the operations duty officer, I think that's what you referred to the person as. Between leaving the scene with the survivors and the 20-minute communication for the operations duty officer, were there any other communication issues on the return flight?

A. Not that I recall. We were able to talk to the C-130 prior to leaving. They stayed on scene, and we had -- I can't remember the exact timeframe, but because of the tailwind, we had a lot shorter of a flight back, so it didn't seem like we -- it might have been -- it's hard to recall exactly how the comms went. But I think we had decent comms with the C-130 for a little bit, and then once we got out of range with them, it wasn't long until we were able to talk to the operations duty officer.

Q. And this might be hard to remember, but do you recall how much fuel you had left when you landed in Kodiak, whether it's in minutes or some other measurement?

A. I want to say we had about 30 to 45 minutes of fuel left once we landed.

Q. I'm just -- forgive me while I'm reviewing my notes here to see if I have other questions. Okay. Thank you, that was the

follow-up questions from your story. I have some general questions about Air Station Kodiak and some of your responsibilities. We may come back to other questions as they come up about that event, but I just want to get some questions understood for Air Station Kodiak and your jobs there.

A. Okay.

Q. Now, we'll start with the operations duty officer. Could you explain what the operations duty officer is and what they're responsible for?

A. So the operations duty officer, they stand 24-hour watches as well as kind of like -- they come on same time the pilots do, and they basically man the desk in the operations center. They are the representative of the operations officer, so they -- they're the ones that take the calls from basically anything related to operations. So when a SAR case comes in from District or Sector, they'll call the operations duty officer, and then they make the decisions on, you know, whether to launch right away, or they kind of -- we have pilots, so it's all pilots that stand the operations duty officers, so they kind of have an idea of what's being asked of the aircrews.

And so they're kind of like the middleman between the Sector, D-17, and the aircrews. And then they brief the -- they keep the operations officer informed of everything that's going on and -- yeah, I mean, they stand 24-hour watch, so they sleep there at the Air Station and have a phone, pagers. They're in charge of

setting off the pagers when we're launching crews.
Q. Then can you briefly describe the assets, crews at Air Station Kodiak? How many aircrews? How many assets? And kind of give us a perspective of that, please?
A. Yeah, so at any given point, we have one SAR aircrew standing a B-0 watch for the H-60 and then one B-0 C-130 aircrew at all times. And then we have -- I don't know the exact number of pilots we have; it's a lot here. And then we have other missions, so we have a full flight schedule every day, except for on the weekends, which is usually just the duty crews. And so we have various like LE missions that are being conducted by those pilots.
Q. Have there been challenges? You mentioned the flight crew. Have there been challenges meeting --
A. I think you're -- I'm not hearing your audio anymore.
Q. Thanks. Have there been challenges meeting the ready crew status requirements for the flight crews at Kodiak?
A. In terms of -- can you elaborate on that?
Q. Yeah. For resource availability and the Bravo-0 status flight crews, in your experience, have there been issues being -- meeting the requirements for readiness status?
A. So for B-0 aircrews, like having people available?
Q. Yes.
A. No, I mean, I would say we always have crews available. I mean, we have designated crews that are scheduled, and I don't have any recollection of not being able to staff a ready crew.

Q. And just in general, are there barriers that exist that, you know, may make it a little bit longer than normal to launch or get on scene for Kodiak?

A. Yeah, I would say Kodiak -- I've only known one other air station, and I think Kodiak -- it's such a huge air station, and we're so spread out. I don't know if you've ever been to Kodiak or if anybody knows this area. Like we have the operations center which is in the C-130 hangar and then we have a huge ramp that's probably about 300 yards to get to the 60 hangar, and then the ready crew berthing, it's actually a long walk, so most crews will drive to whichever airframe. So I can speak for the 60s. If you get launched, it takes getting in your vehicle and driving to the 60 hangar a lot of the times. You could walk, but with the weather sometimes and it being icy, it'll take a little bit longer.

And then also, just in general, with the -- with our AOR and as large as it is and -- like when I was in Elizabeth City, we would -- when we got launched, we felt pretty comfortable launching quicker without doing as much planning. We still, I mean, obviously did planning, but there's always fuel stops. Here, the fuel stops are few, far and beyond, and it's -- you got to do a lot of extra planning. And the weather, there's not -- I mean, there's a lot of like your route that you're not going to have good weather coverage. So there's a lot of extra planning that goes into basically like -- especially a complex case like

this, the amount of planning.

Fuel, we take -- we have a standard load of gas that we have for our 60s, and any time the SAR case is basically off-island is kind of what I use, we have to add fuel, which takes time, to the aircraft to give us longer endurance. And I mean, yeah, it's just the planning.

Q. And could you talk about that evening from the same perspective? Were there -- like how were you notified? Were there challenges that evening on getting ready -- getting that helicopter ready to go? Could you speak to that time leading up to takeoff?

A. Yep. So I had actually -- I don't remember the exact time, but I'd actually just fallen asleep when the pager had gone off, so -- and it was pretty icy cold here, so I think I drove to the hangar with my head out the window just to get there quicker. And then, yeah, once we found out -- we got the initial word that it was -- it sounded like there was a sketchy mayday call -- or a scratchy like mayday call that was heard over the radio, and that was kind of the information we were given, so -- and we got the position that was given, so -- and I had heard that our operations officer was having a risk management discussion with SMC at the time.

So we got there, and we got dressed out, and I know I sat down with the other pilot and crew, and we spent a good amount of time planning with the weather, because we knew -- I mean, this

was one of those SAR cases where we knew this was going to be a very risky case to go out on, so we wanted to make sure we had the best possible plan for getting out there. And just with the location of where this happened, it was about 170 miles away, and the fuel options that we had, we basically knew that we were not going to have a lot of time on scene.

So we were trying to come up with a good route based on -- we used the Windy app, ForeFlight, which is a program on our electronic flight bag, which is an iPad that we use for flight planning multiple routes to try to give us the most time on scene. And so we kind of spent some time coming up with that and then doing a good, you know, risk management discussion with the crew. And then we determined we needed to add fuel to the aircraft, so we ended up basically holding -- or adding the maximum amount of fuel that we can carry with the weight that we had, and with that, I mean, that time adds up.

And then, once we get in the aircraft, with this weather that we're flying through, we had to do multiple checks in the aircraft with our blade de-ice/anti-ice equipment, which adds a little bit of time. And then just with the location of where the helicopter ramp is, when the weather's bad, a lot of times we'll taxi out to the main runways, which is a little bit of a haul to get out to the runways to depart. And after that -- yeah, I think that was pretty much the timeline.

Q. Now, you mentioned the Windy app and ForeFlight. Could you

talk a little bit about those? How do you use those two applications? Where are you extracting that information from?
A. So Windy, I just have the app on my phone. It is a program that gives the forecast -- like the current winds, and then you can kind of move the slide bar in time to kind of see what the app is forecasting for the winds to do, and it's just a visual representation of the winds with the State of Alaska, and you can zoom in, and you can, you can like pinpoint any point on the map, and it'll show you what the wind speed is at that time or -- obviously, in the present, it's more accurate, and then as you go on, you can kind of see what they're forecasting. So we use that to kind of come up with our best route, knowing like with distance and then kind of balancing that with the anticipated headwind.
Q. And for ForeFlight, is that provided in your cockpit computers or is that on an iPad or how is that given to you?
A. Yeah, so ForeFlight, it's on our iPad. It's an application. You can go into it and plug in like what airspeed you plan on flying and then what your fuel burn is going to be. So we use -- what we use our -- that's kind of what -- like we try to be conservative, so we use a little bit higher of a fuel burn, especially if you plan on hovering, because the aircraft will burn more fuel in a hover. And then, so we use that information. It also uses wind in the ForeFlight, but it's at -- not at the surface wind, so that's why we use Windy to kind of get a better representation what the winds are going to be and kind of compare

that with the route that we plug into ForeFlight to kind of come up with a timeline of -- it gives you a pretty accurate timeline and fuel burn for planning.

Q. Do you recall about where the winds are listed for ForeFlight? Is it a thousand feet? 10,000 feet or --

A. Yeah, it starts at (indiscernible) feet.

Q. (Indiscernible)?

A. It starts at a thousand feet.

Q. And you were, you said, down to like 200 feet and less for most of the Search and Rescue?

A. Correct, which is why we used the Windy app to help verify the surface winds.

Q. This might be a more difficult question or number, but from doing the advancements and pinpoints on Windy app, were there -- do you recall if it kind of aligned with what you saw on scene or were there still surprises when you were on scene for the on-scene conditions?

A. It aligned with it for the most part. I think the winds were a little bit strong on scene than what we were seeing, but for the most part, it was pretty accurate.

Q. And then you also mentioned risk management. Can you talk a little about risk management per the aviation -- well, let's say risk management that you had to go through for this Search and Rescue case?

A. Sure. So I mean, as the PIC, we go through a pretty -- we go

through a ORM discussion, part of every flight, especially on this flight. So we weigh risk versus gain. So we knew going into this that this was going to be a very high-risk mission to do due to the like weather, time -- like middle of the night. We were basically flying through the night.

And then the gain is what -- I mean, obviously risk versus gain, so we need to know what the gain is. And so there was a lot of discussion as to like what was the gain, and I know at that point, we were trying to get in contact with, you know, the ODO and where they were having the discussion, which comes from Sector and District, whoever's running the case, we get the gain from them kind of what the case is.

And so that's where we -- we go through the risk versus gain, balancing those two pieces of information, and obviously the gain was high as well, which is why we ended up taking off and going and completing this mission.

Q. I'm going to go a little bit into the coordination with Sector and District and other land-based assets, but the first follow-up question is related to communications with District. You said you used your cell phone so the survivors could talk to District. Is that typical for Kodiak, having to use your personal resources to complete communication calls for the District or other assets locally?

A. This is the first time I've ever had to do it. They just wanted to talk to the survivors, and the easiest way to do that is

I had District 17's command center on my cell phone, so I called them and handed my phone to the survivors in the ambulance. That's the only time I've ever had to do that though.

Q. So you landed the helicopter. Was it at Air Station Kodiak or was it a private -- alternative helipad?

A. It was at Air Station Kodiak.

Q. All right. Now, coming back to District/Sector, how -- what kind of -- how does the Air Station fit with Search and Rescue and when Sector's involved and District's involved? (Indiscernible) a very broad basis, describe that interaction please.

A. So the -- like us -- I mean, the SAR crews, we get directed to launch by whoever SMC is. We get approval through -- D-17 controls our helicopter assets, so they give the -- I think all requests for helicopters have to go through D-17, and then once they deem that they want to request the helicopter, that goes through our operational duty officer, and they're directing us to launch. And then, at that point, we get all the information that we can, and then we come up with a plan to launch, basically.

Q. And just so I don't forget to ask, was this the only flight Search and Rescue pattern you flew for this case?

A. This was, yes.

Q. And as for communication coming from the command centers or sectors, did you have adequate information for your Search and Rescue pattern?

A. I honestly don't remember how I got the search pattern. A

lot of times the ODO will get it ahead of time and can pass it to us. I don't remember if we got it that way or -- I mean, oftentimes, we will take off and get it in the air. I don't remember how we got it that night.

Q. And during this Search and Rescue case, there were long periods of time, specifically three, where there was no Coast Guard asset on scene searching. You've alluded to some issue -- some difficulties Air Station Kodiak has, but could you speak on this case a little bit about those gaps and why these happen?

A. I -- honestly, once I got done with that first flight, I wasn't really part of that decision process. But, I mean, we have one duty crew that is -- one duty crew that is assigned for that day. So if you're not assigned for duty, you're not really in a ready status. I have been called multiple times off duty to come in when another crew bags out or they need another crew for a case, and I don't -- I think that's just common practice.

And I think the gap came mainly more from like the distance from Kodiak and, I mean, it was like perfectly at our -- kind of like our max range for getting on scene and with minimal searching to where you have to depart again. So I think because you had minimal time on scene to search, it was a lot harder to have a continuous coverage to do that

Q. All right. And these are my last few questions. Lieutenant McPhillips, could you pull up Exhibit 78, Page 1? While he's bringing it up, Mr. Clark, this is the case review for the search

coverage for the *Scandies Rose*. It is written for District 17. My question to you, is this the -- have you seen this before?
A. I have not.
Q. When -- after the case -- and, Lieutenant McPhillips, you can put it down. In general, do you do a post-mission debrief at the air station for Search and Rescue cases?
A. For certain cases, we will. As an aircrew, after every flight, we'll do kind of a debrief. But I would do -- I was talked to in a case review, I was questioned, I can't remember by who, but I was a part of this.
Q. Okay. That's good. And did you have any other debriefs or hot washes with either Air Station Kodiak or the command center or District?
A. I remember I was -- it was a while ago. I don't remember exactly with who, but I know I've talked about it with like our operations officer afterwards, and I think that's about it.
Q. Thank you for your time this morning.
LCDR COMERFORD: Captain Callaghan, that's all the questions I have.
CAPT CALLAGHAN: Thank you, Lieutenant Commander Comerford.
Lieutenant Clark, I'm now going to pass to our colleagues here at the National Transportation Safety Board.
Mr. Barnum?
MR BARNUM: Thank you, Captain. And thank you, Lieutenant Clark, for speaking to us today and recanting that very heroic

event there. So I want to thank you for your efforts and also the testimony. I have no questions for you, sir. I believe my colleague does.

THE WITNESS: All right.

MR. SUFFERN: Thank you, Mr. Barnum.

BY MR SUFFERN:

Q. Good morning, Lieutenant Clark. I just have a few follow-up questions there regarding the flight, and appreciate your time today and a very descriptive, detailed of the flight there. On the flight out, you mentioned that -- or during the hoist phase, you mentioned that you had some deck icing. At any point during the flight, do you recall seeing any icing on the airframe or the windshield or windscreen or anything like that?

A. Yeah, once we landed and we got out, I did notice like our fuel tanks had a pretty thick chunk of ice on the front of them, but that was about what -- it from what I remember.

Q. Okay. And using the night-vision goggles, did the snow inhibit your forward visibility at all since it was blowing around? Did that create any issues?

A. Yeah, it's very disorienting at night, so we secured all of our lights just because of the light reflecting off the snow coming in just gives kind of like that Star Wars effect, which is very disorienting as a pilot. So I know most of the night, we were inside on instruments kind of hawking at altitude and airspeed, and then also we had our radar kind of gives us a good

idea of what's ahead of us on our flight path, and we match that up with the charts that we have to make sure we're -- everything's matching so we know where we are.

Q. Okay. And just to follow up on your pre-flight weather sources, you mentioned using the Windy app and then the ForeFlight. Are there any other applications or websites that you use during your pre-flight?

A. So we have a weather brief every day. We have a -- where we get the imagery of like forecasted icing, forecasted turbulence, we get those charts. And other than that -- I mean, there's not a lot. In the daytime, I think our most valuable weather reporting source are the FAA weather cameras, but at night, they're pretty useless for obvious reasons.

MR SUFFERN: Okay. That's all the questions I had, Lieutenant. I appreciate your time today. Thank you.

THE WITNESS: Okay.

CAPT CALLAGHAN: Now, Lieutenant, I'm going to pass you our parties in interest, counsel representing the survivors.

Mr. Stacey?

BY MR STACEY:

Q. Good morning, Lieutenant. Can you hear me all right?

A. Yes, sir.

Q. Perfect. Well, I want to echo the Board's thanks to you for your work. My name is Nigel Stacey. I represent Mr. Gribble and Mr. Lawler in this. So first I want to send my thanks, their

thanks, and their family's thanks to you for the work that you did in rescuing the two of them. You know, because of you guys, they're with us today, and so I want to make sure to thank you and your team for that.

I have just a very brief couple of questions for you. We've heard testimony during these hearings that Mr. Gribble and Mr. Lawler were out at sea for over four hours before you were able to rescue them. In your experience, is it common to be able find rescuers in the kind of weather you saw after four hours of a mayday call?

A. I -- this is a kind of unique case to me. I think the fact that they were in a raft and were able to signal us, which was huge, I think -- and the fact that the visibility did kind of open up to a couple miles at that point helped with the case. But other than that, I think that's all I really can elaborate on.

Q. Certainly so. Can you discuss just the icing conditions that were, you know, prevalent at that time? Would there be anything either in the chopper for you or in liferafts that you would like to see that would help make your job easier in securing individuals? You discussed the light, which was a good way for you to be able to find the raft. Can you think of anything else that could help in assist your searches?

A. Nothing off of the top of my head for that.

Q. Okay. When you were able to bring Mr. Lawler and Mr. Gribble into the helo, were you able to speak with them right when they

got onto the chopper?
A. I was not up front, but our flight mechanic, the hoist operator, he was able to -- I mean, obviously, it's super loud, and he was able to yell at them and kind of communicate that way.
Q. Okay. Could you be able to describe what their condition was like when they were brought up into the helicopter, sir?
A. I cannot from being up front.
Q. Okay. Thank you very much again. Thank you for your work.
MR. STACEY: Captain Callaghan, those are all the questions I have.
CAPT CALLAGHAN: Thank you, Mr. Stacey.
Now to counsel representing the vessel owners, Mr. Barcott.
MR. BARCOTT: Lieutenant, this is Mike Barcott. I represent *Scandies Rose*. Can you hear me all right?
THE WITNESS: Yes, sir.
MR. BARCOTT: Okay. So first of all, on behalf of *Scandies Rose*, we want to thank you for your extraordinary and heroic work that evening. Please pass that along to your whole team.
THE WITNESS: Yes, sir.
MR. BARCOTT: And on behalf of the fishing industry, I will say, it's a big ocean out there, and it makes people feel a little more secure knowing people like you are around. So thank you very much. That's all I have.
THE WITNESS: Thank you.
CAPT CALLAGHAN: Thank you, Mr. Barcott.

Lieutenant, I got a couple of quick follow-up questions.

Commander Denny?

CDR DENNY: Thanks, Captain.

BY CDR DENNY:

Q. Lieutenant, good morning. I did have a few questions from you.

A. Sure.

Q. Sorry, I'm having some technical difficulties. Give me one sec. Okay, we're back. Okay. So here were some of my questions. You talked about flight planning quite a bit. Do you use the Alaska Marine Exchange AIS-based weather information when you do your flight planning?

A. I don't think I've ever heard of that before. It might be something that I use, I just never heard of it being called that.

Q. Okay. No worries. Also, how long have you been stationed here at Air Station Kodiak?

A. Coming up on three years.

Q. So were you aware of the VHF HF comms gaps, communication gaps that you mentioned through your testimony, you -- were you aware of those large stretches of gaps prior to this flight?

A. I was. I had knowledge that that was not a good area for communications.

Q. At one point during the testimony, you talked about when the survivors boarded the helicopter after they were hoisted, that you guys got information that said that they were the only ones that

they had -- they communicated they were the only ones that got off the boat. Could they be sure of that information?
A. I mean, I don't know what they could be sure of. I -- obviously, I knew that there were people missing, and I wanted to know kind of what the chances were that they were still right there in our vicinity so that we can do a quick search with the limited fuel that we had left. And yeah, based on what they said, they said that they were the only ones that got survival suits on. I think they said maybe one other person might have had a survival suit on but that they were the only ones that got out of the wheelhouse as it was overturning. And so, with that knowledge, we just used that knowledge to kind of go from there.
Q. Okay. And in a later part of your testimony, you said that when you were doing pre-flight, you guys assessed the circumstances and that you had a standard load of fuel on the 60, and when you were assessing, you then had to add more fuel, which takes time because there's a process for that. And you said that you maxed out the fuel that the helicopter could carry. If you had not taken that time to add fuel, would you have been able to take the helicopter out, reach the location, and make it back safely?
A. No, absolutely not.
Q. Thanks, Lieutenant.
CDR DENNY: Captain, that's all I have.
CAPT CALLAGHAN: Thanks, Commander.

BY CAPT CALLAGHAN:

Q. Lieutenant, I just have one thing. I'd like to pull up a few photos just for the public's sake and some reference points. And so not particularly the view that you may have, but I wanted to see if this compares to what you saw. These are pictures from the C-130s on the airfield. So, Lieutenant McPhillips, can you pull those up for us? So it's -- as you -- tell me when you have those up in front of you.

A. I can see them.

Q. So is this a good representation of what the airfield looked like that evening when you took off?

A. It is. That's in -- that's (audio skip) in Anchorage. It did not (audio skip) Kodiak.

Q. In comparison to this, what kind of conditions were you seeing on the airfield in Kodiak?

A. So in Kodiak, it was actually -- the visibility was actually -- it was probably the -- there was a pocket around the airfield in Kodiak of good visibility. It was very windy and turbulent, but visibility wise, it was actually pretty decent right there at the airfield.

Q. Excellent.

CAPT CALLAGHAN: Lieutenant McPhillips, you can pull that down, please.

Lieutenant, I really want to thank you for your time today. You know, I think, as everyone mentioned and your testimony

highlights, the conditions that day certainly presented more than its share of challenges for you and the crew and the subsequent flight crews to get out there and perform your mission. And so I want to thank you for what you do, for the efforts by you and the crew that evening in getting out there and picking up the two survivors, and in general, what you do every day.

And so while you've made testimony that some of those were conditions that you hadn't seen before or flown in, you did it nonetheless, and you went out and picked up some survivors. And I think the nation's grateful for what you do, so I want to take the opportunity to thank you. Thank you for your -- taking the time to go through your testimony today.

THE WITNESS: Thanks, Captain.

CAPT CALLAGHAN: So at this time, you're now released as a witness at this formal hearing. Thank you for your testimony and cooperation. If I do determine that the Board needs additional information from you, we'll contact you through counsel. If you have any questions about the investigation, you may contact the investigation recorder, Lieutenant McPhillips.

Thanks again, Lieutenant Clark.

THE WITNESS: Thanks, Captain.

(Witness excused.)

CAPT CALLAGHAN: The time is now 1058 a.m. Our next witness is scheduled for 1130 a.m. If we are able to begin sooner, we'll update the time displayed on livestream. We will now go into

recess.

(Off the record at 10:58 a.m.)

(On the record at 11:15 a.m.)

CAPT CALLAGHAN: The time is 1115. This hearing is now back in session. We will now hear from Captain Jonathan Musman.

Captain Musman, Lieutenant McPhillips will now administer the oath and ask a few preliminary questions.

LT McPHILLIPS: All right. Good morning, Captain. Please stand and raise your right hand.

(Whereupon,

JONATHAN E. MUSMAN

was called as a witness and, after being first duly sworn, was examined and testified as follows:)

LT McPHILLIPS: Thank you, please be seated. Please state your full name and spell your last name.

THE WITNESS: Captain Jonathan Edward Musman. Last name spelled M-u-s-m-a-n.

LT McPHILLIPS: Please identify counsel or representative, if present.

THE WITNESS: I mean, Lieutenant Commander Pekoske, but he's not -- he's online, but I'm by myself at my house.

LT McPHILLIPS: Thank you, Captain.

Counsel, please state and spell your last name, as well as your firm or company relationship.

LCDR PEKOSKE: Lieutenant Commander Matthew Pekoske,

P-e-k-o-s-k-e, U.S. Coast Guard Judge Advocate, witness counsel to Captain Jonathan Musman.

LT McPHILLIPS: Captain Musman, please tell us, what is your current employment and position?

THE WITNESS: I am on terminal leave with the U.S. Coast Guard. I left the *Mellon* on Friday.

LT McPHILLIPS: Aboard the *Mellon*, what were your general responsibilities in that position?

THE WITNESS: Commanding officer.

LT McPHILLIPS: Can you briefly tell us your relevant work history?

THE WITNESS: I've been a cutterman for the last 24-plus years, stationed on six cutters, starting with the *Steadfast* in '96 to '98; *Anacapa* from '98 to 2000; the *Aspen* from '05 to '07; the *Hickory* in Homer, Alaska, which is probably the most relevant to this testimony, from '09 to '12; and then on the *Bertholf* from '12 to '14; and as a commanding officer of Coast Guard cutter *Mellon* from 2019 until last Friday.

LT McPHILLIPS: What is your education related to your position?

THE WITNESS: I went to the U.S. Coast Guard Academy from 1992 to 1996, and I hold a 100-ton license.

LT McPHILLIPS: Captain, do you hold any other professional licenses or certificates related to your position?

THE WITNESS: I'm a licensed professional engineer in the

State of Alaska as a civil engineer, but I don't know how much that relates to this testimony.

LT McPHILLIPS: Thank you, Captain. Captain Callaghan will now have follow-up questions for you.

CAPT CALLAGHAN: Good morning, Captain, and thank you for joining us this morning. At this time, I'm going to turn it over to Mr. Keith Fawcett.

Mr. Fawcett?

MR. FAWCETT: Thank you, Captain.

EXAMINATION OF JONATHAN E. MUSMAN

BY MR. FAWCETT:

Q. Good morning, Captain Musman. How are you today?

A. Good.

Q. Listen, what we're going to do is we're going to limit our questions to the timeframe leading up to the accident, and then after and during the Search and Rescue activities. We're going to use exhibits, which we will pull up on the screen, and we will give you plenty of time to look at them. And if you want us to move around in the exhibit to show us some detail or zoom in, if you'll tell us, the recorder, Lieutenant McPhillips, will do that for us. Are you ready to go?

A. I am.

Q. Okay. So, Lieutenant McPhillips, if you could please pull up Coast Guard Exhibit 76, which is a Search and Rescue presentation, and if you would go to page 5. Yeah, there you go. And shift

into the bottom left corner, and zoom in on the Coast Guard cutter *Mellon*, if you would, sir. Okay. Fill the screen a little bit more. That's good.

So, Captain Musman, using this image of the ship, could you talk a little bit in general about the missions that the cutter *Mellon* performed in the Alaskan Maritime Region?

A. So *Mellon* has a long history, decommissioned in September of this year after 52 years of service, and we have -- my time on board, my first deployment was working for District 17 doing North Pacific guard, where we did fisheries law enforcement on foreign nations. We left Seattle, stopped in Dutch, and then worked our way across the North Pacific all the way over to Japan. We did somewhere over 40 boardings during the course of that.

And then the next two deployments that we did, including the one where this case happened, were both Alaska patrols during my time, and we typically go up for about 90-day trip, sometimes less in the winter because of crew endurance issues, but we'll stage out of Dutch Harbor and do law enforcement when it's possible, and the rest of the time, we're typically on Search and Rescue standby, waiting for the call, trying to be at the highest level of readiness we can be at.

Q. So you've don't a great job avoiding acronyms, and we appreciate that for the benefit of the public. So looking at the *Mellon* here in this image, could you talk about her capabilities for Search and Rescue in a case such as this *Scandies Rose*?

A. Yes. We, we have a sprint, we can -- we normally cruise on one engine or two engines, and we'll get pretty good fuel efficiency to be on scene for a long time. But we can come up on one of our main gas turbines and do about, just over 20 knots, and then for twice the fuel burn, we can go about 24 knots, 25 knots, on both main gas turbines. The big risk with that is with the age of the ship, our steering gear is the weakest link when it comes to that with the amount of thrust being put on the steering gear.

Other than that, we can -- we deploy with a helicopter, and depending on the condition of the helicopter, if it's fully ready to go, depending on where we're patrolling, we'll have the helicopter either embarked in the hangar, or we'll have it ashore in Dutch Harbor where it can have a, sometimes a better response. And if we're at sea we can't launch them because of the -- what the weather looks like.

We carry two small boats. Both are around 23 feet long, and capable in smaller sea states, and we have a surface search -- we have multiple surface search radars, three of them. And one air search radar.

So those are, that's pretty much covers our Search and Rescue capabilities. We have, you know, as other ships, we'll have searchlights and deck lighting, and all kinds of, you know, minor equipment. But that's the major capabilities. We'll get out, a long ways away, on scene at a fairly reasonable clip, and then stay on scenes for a while.

Q. So for this, when you got the call to respond to the *Scandies Rose* accident, did you have a helicopter on board the vessel?
A. We did not have our helicopter on board. They were, they were not fully mission capable, and they were in Dutch Harbor, I believe waiting for parts.
Q. And by fully mission capable, you mean, would I be correct in saying that you mean that there was a mechanical issue?
A. When we searched through our records, and just the way the records go, I didn't have, I don't have full access to, to that for the last few weeks, as we got ready for this. But the ship's log stated they were in Dutch Harbor, down.
Q. So just for clarification, when they -- in a previous testimony, someone said an aviation detachment was aboard. What they're talking about is people who were aboard that support helicopter operations?
A. So the, the way, the way it's gone for my team's last two deployments to Alaska is when the helicopter flies off to Dutch Harbor, they take the full aviation detachment with them to work on the helicopter at the hangar that they have in Dutch Harbor. So we didn't have any of the, the aviation detachment, or the helicopter on board. They were all in Dutch Harbor that day -- that night.
Q. So we could pull the ship image down, Lieutenant. So, captain, from your vantage point as the commanding officer, and the principal individual that's responsible for the ship, what are

the unique challenges of operating the Cutter *Mellon*, or any other Coast Guard cutter in Alaskan waters?

A. The weather. Number one.

Q. And could you elaborate for us?

A. The -- you have the largest state in the Union, with limited forecasting capability. You're getting forecast areas that are the size of entire states for one small forecast area. And the weather is exceptionally challenging. The way the weather comes from the west, there's limited -- you don't have as much data as, you know, if you're sitting in, you know, anywhere on the East Coast, most of the weather is passing from west to east.

You get to see what that weather impact had all the way across the country before it gets to you. And even somewhat on the West Coast, as the weather swoops across the North Pacific. You get to see how that weather's building and changing. And in the Gulf of Alaska and the Bering Sea, there's very limited weather sensors to the west, and how those are going to react with the weather coming out of North America is always one of the biggest challenges.

So I would say the weather is the biggest thing, and then on a, on a major cutter that's 52 years old, the second biggest challenge is keeping it running. So those are the two hurdles you face staying mission ready in Alaska.

Q. How about communications? Do they present any problem for the operation and response to the sinking of the *Scandies Rose*?

A. Not for us, it did not.
Q. And could you have, could you hear the comms with the helicopters and listen to their flight activities from the ship?
A. No. VHF range and UHF ranges, we're, I think we were 600 miles away. I mean we weren't even close. We couldn't hear any of the traffic.
Q. So when you were out on patrol, were you on patrol at the time you got the tasking?
A. We were moored in Beaver Inlet, standby for weather, so (indiscernible) in circles, waiting for a call. It keeps us more ready than being anchored, or being moored in Dutch Harbor.
Q. So the call comes in, could you talk about how that call came in, and what your direction was from shore side in terms of what you're expected to undertake?
A. So we got the call at 2326. We were in Beaver Inlet at the time and we loaded up -- so normally, what we'll do is we'll run on one engine to try to conserve fuel, and with the diesel engines, you don't want to lag them, so we'll run on one because we want to go slow.

So we order up a second main, and we didn't go straight to the turbine, which gives us 20 knots, immediately because the proximity of Stillwater. So we had -- we got up on two mains, 15 knots, steamed our way out of Beaver Inlet and then once we got out into a little more open water, we ordered up the gas turbine.

We came up on the first gas turbine, and had some issues.

Switched over to the second gas turbine, and went to 20 knots heading towards -- and the tasking was to make best speed to last known position of *Scandies Rose*. So we cut a track line through the Shumagin Islands, knowing that we'd have to do a couple of -- when you get within three miles of shore water, we have -- we bring more people up on the bridge to make sure that, that we transit safely.

And so with going through the Shumagin Islands, we'd have to bring more people on the, onto the bridge of the ship. Bring more people up, have people up on the (indiscernible) ready to drop an anchor in case we had a mechanical issue. And we went through the Shumagin Islands to make best speed. And that was our initial tasking and plan.

Q. So in a minute, I'm going to ask the Lieutenant to pull up Coast Guard Exhibit 076 and go to page 4. But before I do, how many men and women serve on the ship?

A. So on the day in question, we had 25 officers, and 123 enlisted.

Q. So at what point, Captain, did you begin to assess the risk of the mission that you were about to undertake?

A. I, I mean, we begin the risk assessment as soon as we got the call. We were, you know, we were in Beaver Inlet. It's dark. It's New Years Eve. It's cold. The weather is not ideal. And we're going to go steam across the Gulf of Alaska at, you know, at best speed.

So immediately you're assessing the risk. And as I said, we came up on two mains to try to get us out of the Inlet quickly, but not at gas turbine speed. And then once we got into open water, based on the risk, we came up to full on one engine. So it's a continuous risk assessment and, yeah, continuous risk assessment and discussions with my senior leadership team on the ship.

Q. So graphically, the risk assessment assigns colors to risk, red being highest, and green being least. Am I correct in that?

A. Yes.

Q. So you got tasked for the mission and are beginning to get underway, what color would have represented the risk that you identified?

A. I would say we were definitely in the amber range, as we, as we came out of Beaver Inlet. Just steaming around in Beaver inlet on December 31st, we were at the very top of the green threshold and anything goes wrong, you're immediately in Amber. You're in Alaska, there's no one to help you, and you're close to shore water, and the water's so deep you can't anchor. So yes, we were in green, but amber's right around the corner.

Q. So as the mission progresses, and we'll talk about that a little bit more, you assess the risks, could you assign a new level of risk like (indiscernible) and begin search operations. Could you reevaluate risk and assign it a new, I'll say color just for the simplest term, of risk for your ship. Could you reassign

that?

A. Yeah, I think once we, you know, by the next afternoon when we got on sea. And I'm trying to -- let me grab my notes. I can tell you want time here. So at -- so we got on the scene about 1600, or 1615 we arrived on scene. And we started our search pattern. And as we slowed down and turned, so we've been running down, downwind and down swell the whole time. So a lot of the weather would have been at our back.

And then as we turn our first search pattern, we're looking at how much ice we had, and there was enough with darkness quickly approaching, that before it got dark, I wanted to get the crew out there to remove the ice, because our risk was going to climb up. And then once it gets dark, the last thing I want to do is have 25 junior folks removing ice from the icy decks of a ship. So we did that. We stopped our search pattern. Cleaned off the ice, and then continued the search pattern. So that was, you know, we're skipping ahead, you know, almost 16, 17 hours later.

Q. And we'll circle back on the ice issue, but I'd like the Lieutenant, if he would, please pull up Exhibit 76 and go to page 4, which are tracks, search assets, and you'll see when we get there, if you zoom down in the corner, if you can tighten up in the lower left section. You'll see the position with the gold star of the Coast Guard cutter *Mellon*.

A. Um-hum.

Q. And the green triangle represents the position, last known

position of the *Scandies Rose*. Captain, could you just, as we move along the track, talk to us a little about the voyage down in there. You mentioned the ship was favorably deposed in terms of the weather, because the seas and wind were on the aft section. Could you briefly talk about the trip down to the search site, and what you did to plan for the search activities when you got on scene?

A. So we were given a creeping line search by District 17. We departed Beaver Inlet, which is not where that -- that star's not where we started at 2326 when we got the phone call, when we got the call to divert for Search and Rescue. Then we proceeded through south of, of Unimak Pass, and then on a northwesterly course.

Seas were about four foot sea waves with six foot swells is what's in the ship's log for overnight, four and seven, you know, going back and forth out of the 3-3-0 was the ships logs for the early morning hours. And the winds were out of the northwest between 25 and I think we have a high of 40 knots at 1200.

So it was heavy, you know, definitely heavy weather on our stern. We're going fast for our sized cutter, and our age of cutter. And the -- it becomes hard to steer. We transited up through Shumagin Islands and because the cutter's been decommissioned, all of our navigation software that had all of our specific track lines on it, has been removed. And I have not -- I didn't have access to it.

But from the ship's logs and as you guys could see, when we reviewed our ship's logs, we did set the modified navigation detail twice during the day, and then at one point, after we set modified navigation (audio interference) Captain Riddle at (indiscernible) to talk about pros versus cons of me coming up on a second mean gas turbine because we were in a little bit more protected water, and I'd have the ability to run just a little bit harder.

But the con of that being my on-scene time, or my ability to be diverted for another case if it were to come up. Because we end up burning about twice as much fuel. When I spoke to him, the conversation ended with it would probably be the best answer for you to come up on both mains to try to get there before sunset. And I wanted to make sure that my bosses understood the risk of me coming up on both engines, to get three more knots.

And so we came up at 1039 on both main gas turbines. And throughout the day, we were in restricted visibility, and we just had to have multiple people, including myself, on the bridge to try to make sure that we were in compliance with the navigation rules going 25 knots in restricted visibility.

So that was, it was definitely a challenging transit. But we, we went the most expeditious route we could, and tried to make the best absolute speed we could, knowing there could be Mariners in distress on the other end.

Q. So this, this graphic simply represents the distance from,

from the approximate notification position to the last known position, but it would be fair to say that your course would have been through a series of islands and so forth, that's not represented here. Right? You'd have to do some more precise navigation to reach the distress scene?

A. Absolutely.

Q. So I'm kind of getting ahead of myself, but I want to talk a little bit, you talked about the stresses and strains on the vessel. You've talked about the consideration for the speed that the vessel was going to make in the seaways, steering issues. But, Lieutenant McPhillips, if you'll pull up Coast Guard Exhibit 096. You mentioned icing. And these are two images that were supplied by you, I believe, that show icing and the actual sea conditions that the *Mellon* encountered. There's two slides, so you can ask Lieutenant McPhillips to advance when you'd like. But could you describe the icing that we see in these pictures?

A. So we were running, when we left Beaver Inlet to head to the last known position of the *Scandies Rose*, we were mainly running down swell. So you don't, you don't get nearly as much icing as you do if you're running into the winds, or into the seas.

And so on a down weathers run like this, it wasn't -- we were building some, and as we were, you know, as the winds kind of pushed (indiscernible) the ship, you get a little spray and so we got to the search position, it was not -- even when we turned on our first leg back, we started hitting, and it was probably about

two to three inches of solid ice on the deck.

You can tell by the, the life lines are a pretty good indicator. And the ship's not very well insulated, so you can see like all the ribs where the, where the ribs melted off. Can you advance to the next picture?

Q. I'm sorry. There's only one slide there. We have another one, I believe, which is 095. If you could pull that up, Lieutenant, when you have a chance.

A. And that's what de-icing on a Coast Guard cutter looks like.

Q. Can you pull it back up again, Lieutenant? And just stop as soon it pops up. Thank you. So, Captain, how fast did the ice form on the ship?

A. We had not de-iced since we left, since we left Beaver Inlet. And part of it was, a lot of times I really -- I want to slow down. I don't want to be going 20 knots in case someone were to fall over. You have people walking on ice. You have people, a lot of times, it's a lot of junior folks. You have people shoveling the ice over the side. And just one slipped move, and one of these people could fall over.

So I, I typically want to go as slow as possible. And on our way to the search area, I didn't want to slow down. So we, we just stayed on it until we got there, and then as it looked like sunset, we weren't going to be able to finish our entire search before sunset, I stopped the search for a moment to de-ice the ship, and then we went back and resumed our search pattern we were

assigned.
Q. So this was the first of January, the next day, after the sinking, how long was -- did you have daylight? Do you have an approximate figure for that?
A. I can tell you when the logs have sunset. Sunset was at 1710. So 5:10 in the evening.
Q. Do you have an approximate sunrise time?
A. Sunrise that day was at 0935 for us.
Q. And as a ship handler, could you feel the effects of the ice that was beginning to accumulate on the ship?
A. I would -- this amount of ice, on this cutter, I would say no. But I have definitely been in situations where I have in the past on Coast Guard cutter *Hickory*, multiple times.
Q. So this ship is going to be engaged in Search and Rescue activities and you have to send a large number of your ship's workforce out onto the (indiscernible) the bough of the ship to break this ice off. And Coast Guard men and women are physically fit, and medically screened. Did this like introduce some fatigue into the duties, or their capabilities for the Search and Rescue mission that you were undertaking?
A. Yes. I mean, there's definitely a level of fatigue for any person to go out in cold weather, and swing a hammer, and shovel something. But I mean most of these folks, if we weren't in such heavy weather, they, they'd go down the gym and spend a half hour, 45 minutes down there exercising each day.

So there's an immense tradeoff. I'm sure there's people that it was fatiguing. I know other people were excited to go outside time and get some exercise. The -- in this picture right here, one of my deck watch officers got injured, injured his back shoveling snow the moment I took this video, and spent the next four days in a horizontal position, trying to get his back to straighten back out.

Q. Thank you, sir. So, Lieutenant, you can pull that down, and if you would, pull up Exhibit 76, which is another part of the Search and Rescue presentation, and go to page 14. And if you will back out a little bit. Okay. That's good. So we had Mr. Giard, our Search and Rescue specialist, talk about the common operating picture that the Search and Rescue software delivers, that represents probability of detection. But I want to a little clearer here. So if I'm looking at these squares, the light green and the gray would mean the less probability that a victim would be found in that location. And the purplish red, that would represent a higher probability. Is that correct?

A. I don't know. But I'm not -- this isn't a software that's part of my job.

Q. Okay. So this information is not transmitted to the ship. Is that correct?

A. Not, not to me.

Q. Okay, and is the parameters of the search patterns, if you look up in the upper left corner, you'll see a black rectangle

where it has the cutter *Mellon*, and then there's an S form. Is that information conveyed to the ship in terms of how to conduct the search pattern?

A. They give us the coordinates of each, each point of the search they'd like us to go on.

Q. So they don't send out this graphic to kind of show a common picture, and the activities of all the Search and Rescue assets. Is that correct?

A. I'm not sure. They may do that in some cases. But we did not -- I did not see that for this. And I've seen other big cases when I was (indiscernible) a sector where they overlay all the different unit search patterns, we get an idea where you were, in this situation, we were given our search, our creeping line search to complete. And it populated on our navigation software, and we executed the search as we were tasked.

Q. And when you say populated on your navigation software, do you mean that the shore-based people sent that search pattern to the ship, and the ship had everything done? Or did it require some work by your navigation crew to plot or input this data, and then carry out the search?

A. I think it's more of the second. They give us the corner points of the search, and we have to have someone go in and punch each lat/long in.

Q. So the search speed, could you talk about the search speed? So you come up on gas turbines. You've arrived on general

location of the Search and Rescue operation. Talk about the, if you would, Captain, the search speed during that operation.
A. I think our number one goal during this search was the attempt to maintain our (audio interference). As we attempted to go down to what I would consider my, you know, ideal search speed for a search like this, the winds and seas we were, we were steering 40 degrees off of our creeping track line search lag, trying to maintain, maintain our course.

It was a -- I remember it was exceptionally challenging to try to go slow when you're, when you're into 30 knots of wind and about 12 foot of seas, to try to go six or eight knots, and could not just search, as you're just getting pushed sideways.
Q. So generally, you followed the search pattern and you, the term crabbing or twisting in the wind to make that search pattern. Would that be correct?
A. Yes.
Q. So how hard would it be, you're looking -- what are you looking for at this point? You enter the search area. Have you been told that you're looking for people in the water, potential people in the water, or a raft, or debris? What were you looking for?
A. There had been discussion during the mid part of the day about someone had sighted a raft, and then about, I think it was about an hour or so before we got on scene, they had verified that the raft was floating. And I think a helicopter had gone and

either recovered it or sunk it. But originally we were kind of racing to try to help find that. But when we, as we were approaching, I believe all the aviation assets had already returned to base at that time.

Q. So in general, based on your considerable cutterman experience at sea, how hard is it to locate a person in the water from the vantage point of a ship?

A. Challenging. Absolutely challenging. Especially in heavier weather.

Q. So would this search pattern, this design that as you moved along that serpentine sort of S-shape, the distance between the tracks would give you the coverage so that you could possibly find a man in the water, as opposed to going faster or moving those parts of the S further apart to expand the search area. Would that be correct?

A. That would be correct.

Q. So can you give us any idea of anything, any equipment, and I'm not talking about necessarily Coast Guard equipment or any equipment. One of the things that's been discussed here would be personal locator beacon. Would that assist you in more rapidly finding a person in the water?

A. Yes.

Q. And how would that work? Do you know?

A. It would put out a signal, we would use the directional finder and find the person that's sending the signal.

Q. So for the ship, and I'm getting to the answer of my question, but was there any equipment that performed poorly, or not as designed? You mentioned steering concerns due to the age of the ship. Anything else?
A. Not that I know of.
Q. And how about anything, the crew, or the ship itself, that performed very well in this particular mission?
A. I mean it was definitely, it was definitely challenging navigation and operations as we went through, you know, fairly narrow passages at a high speed with, you know, as I said, multiple times during the day we, we ran into fog banks and we just held our speed going through the fog banks, trying to get there was expeditiously as possible with the whole goal of getting there to try to get a search done before sunset.
Q. So you trained regularly on Coast Guard ships to rapidly recover a person in the water. What is the benchmark that you use in this training for the amount of time someone might be incapacitated, that you use in your training? How quick do you need to recover a person in the water, in your training?
A. Well for the Coast Guard training, for our internal man overboard drills, I believe it's about 9 minutes for a ship board pickup. I think it's somewhere in that realm.
Q. I've asked you a lot of questions, and I thank you very much, Captain.
MR. FAWCETT: Captain Callaghan, that's the end of my

questions

CAPT CALLAGHAN: Thank you, Mr. Fawcett.

Captain Musman, I'm going to now go to our colleagues at the National Transportation Safety Board.

Mr. Barnum?

MR. BARNUM: Thank you, Captain Musman. I appreciate your testimony today and also your efforts and your -- thank you for your service, for your long career in the Coast Guard. I have no questions. I believe my colleague does.

BY MR. SUFFERN:

Q. Good morning, Captain Musman. I appreciate your time today. I just had a couple of questions related to the weather information that you used on board to gather as you're heading up to the Search and Rescue grounds. What weather information and weather sources were you using?

A. So what sources was I using to make my judgments? Or what are we using on board the ship to gather weather data? I guess that's, that's -- can you clarify?

Q. Yes. Both of them, I guess both of those questions, yeah. So what are you using? Do you have weather instruments on board that you're gathering information from? And then what types of, I guess, forecast information or things that prolong -- longer outlooks that you're determining, you know, is it safe to go all this way in this, this type of weather?

A. Okay. So on board the ship we have, you know, thermometers,

barometers, anemometers. They're all calibrated on a regular basis. There's a calibration schedule for all the weather gathering equipment. And as was submitted, you see that we have a weather log where hourly, underway, and every four hours in port, they -- the crew takes weather readings.

And the -- I would say the one thing is the crew has, it's always a challenge on true winds, but I usually try to verify that with them every time. It's one of the big jokes on, on my ship was what's the first thing the Captain's going to ask when he walks onto the bridge, and the question I always ask is what are the true winds. And then I usually want them to tell me which direction, relative to where we are, relative to our heading, where those true winds are.

So I'm constantly using my internal, you know, our internal sources, and then for external forecasting and modeling, I've used Windy for the last couple of years pretty heavily. And before that, it was Stormsurf was the go to. And then once in a while, I'll check in the NOAA forecast. But like I said at the beginning of my testimony, the NOAA forecast, some of those forecast areas are the size of a midsize state.

So it's, it's kind of hard to get that more micro-weather, especially if you're operating close to the Alaska Peninsula or within the Shumagins to try to get that micro, more micro-weather that you see in those areas. And I found that Windy, a lot of the modeling with Windy is pretty accurate.

Q. So do you use that information on your phone? Is there a computer, internet available there on the bridge that you queue that information?

A. We have internet in most of the, most of the offices and stateroom on the ship. It's not very fast. It's very similar to sharing dialup with 150 of your closest friends. So it's gotten better of late, but usually, if it's getting really slow, I can have our IT folks turn other people off so I can get enough bandwidth to check a couple different weather sources.

Q. Okay, and then do you relay the, you know, it sounds like you take hourly, or four hourly weather logs. Do you relay that weather information to other Coast Guard sources? Or the National Weather Service, or any other sources when you're taking those logs?

A. Yeah. We do send weather observations to the National Weather Service to help them build their forecast models. And that's on a regular scheduled reporting that they ask for.

MR. SUFFERN: Okay. Thank you so much, Captain. I appreciate your time. That's all the questions I have for right now.

THE WITNESS: Okay.

CAPT CALLAGHAN: Thank you.

Captain Musman, I'm now going to pass it over to our parties in interest, counsel for the two survivors.

Mr. Stacey?

MR. STACEY: Thank you, Captain Callaghan.

And thank you, Captain Musman, for your work and your distinguished work with the Coast Guard. I have no questions for you, sir.

CAPT CALLAGHAN: Thank you, Mr. Stacey.

And now to counsel representing the vessel owners, Mr. Barcott.

MR. BARCOTT: Good morning, Captain Musman. My name is Michael Barcott, counsel for *Scandies Rose* in this matter. Are you able to hear me all right?

THE WITNESS: I hear you fine.

MR. BARCOTT: Fantastic. First off, on behalf of the vessel owners, I really want to take a moment to thank you and your entire crew's efforts during this search for the *Scandies Rose*. At this point, I have no, no questions for you. Thank you very much for your testimony today.

CAPT CALLAGHAN: Thanks, Mr. Barcott.

And, Captain, I just have a couple of quick follow-up questions from Commander Denny.

THE WITNESS: Okay.

CDR DENNY: Thanks, Captain.

BY CDR DENNY:

Q. (Indiscernible) today, I did have a few follow-up questions for you. When you were describing the *Mellon*'s capabilities, you said that there were, I believe, two mains, and then two turbines.

Is that correct, sir?
A. That's correct.
Q. Okay, and what type of fuels do the mains and the turbines use? Sand fuel or different fuels?
A. Sand fuel.
Q. And what kind of fuel is that, sir?
A. Marine gas oil, MGO. We pretty much burn whatever we can get.
Q Okay, and to the best of your recollection, during that transit from the time that you were directed to head to the last known position of the *Scandies Rose*, until you got on scene and began your search, about how much fuel did the Coast Guard cutter *Mellon* burn? Because you've mentioned multiple times that for twice the fuel burn, you could get that extra couple of knots per hour. Could you, to the best of your recollection, let us know how much fuel you burned?
A. (Indiscernible) we have the engineering logs, and we have the soundings for those two days. I believe it was over 90,000 gallons. Almost half of our, of our fuel in 24 hours.
Q. So okay. I'm just going to repeat to make sure that I heard you correctly. You're saying that you burned more than 50 percent of the cutter's fuel source in order to transit in that 24 hour period, in order to get there. What did that do to the Cutter *Mellon*'s stability?
A. It does not make it great. We did get down to about, around

62 percent. We should start considering balancing, but because the ship is so old, we don't have dedicated balanced tanks. So if we're going to balance, that means we're going to put salt water in a fuel tank and then, then you typically have to get your fuel tanks cleaned because the next iteration is growing stuff in your fuel tanks.

So I'm pretty sure we burned about 90,000 gallons of fuel in that transit. It was -- my biggest concern was getting a second call for a different Search and Rescue case, as there were multiple vessels leaving Kodiak, heading for the Bering Sea those days, and not have fuel to be able to respond to another case.

And so I think our instability, we can work through that. It's having the endurance to be able to, to go and respond to another case. So we, we did, at the end of this case, we made a slow steam back towards Dutch Harbor and immediately refueled the cutter.

Q. Understood, Captain. Thank you. That was actually my other question in that, the overarching risks and gains, so you just explained that. Thank you, sir. I just want to make sure that I heard you correctly.

At one point you said it was 16 to 17 hours of transit at your best speed, and you had extra people on the bridge, which also increased fatigue for some type of your crew. So in your assessment, is it a fair statement to say that your risk was creeping up?

A. Yes. I would definitely say, you know, as I reviewed the logs over the last couple of days, you know, we were going well over 20 knots in restricted visibility. And so for anyone who's been at sea on a Coast Guard cutter, that is, that is not common.

Normally, a Coast Guard cutter in restricted visibility, you're coming down to the lowest reasonable speed you can be at. And then for people that are familiar with Alaska, as you're through the Shumagins in restricted visibility at 25 knots, there is a likelihood that you can come upon a 25 or 35 foot vessel, which isn't, isn't picked up on radar. They're not on AIS, and they're the one that pops out of the fog when you're doing 25 knots, that you -- the first time you see them is 150 to 200 yards away.

And so we were -- there was a good deal of risk. I was personally on the bridge all those times we had multiple, you know, one or two deck (indiscernible) on the bridge to try to mitigate, bring those risks down. And we wanted, we really wanted to get there before sunset on the 1st. That was a strong goal for not only myself, I think for the whole crew.

Q. Thank you, Captain. I've got two more questions. And one of them was you mentioned in your history that you were stationed on the Coast Guard cutter *Hickory* out of Alaska, and you also mentioned later in your testimony that while on the *Mellon*, you did not feel the effects of the de-icing because, and I assume, please correct me, but it's because it's a larger ship that the

(indiscernible) the *Hickory*. Can you just elaborate on that a little bit? Is that because of the size of the *Hickory*?
A. We just, my time on *Mellon*, I've been, I was pretty fortunate, we had, you know, multiple times with that icing conditions, but I think -- I've been pretty lucky to be able to mitigate it by either slowing, or turning, or removing the ice. I know there's a couple of times we were north of Saint Paul Island, we were making ice. But it wasn't, wasn't steamed up again.

On the other hand, I had probably three separate occasions on Coast Guard cutter *Hickory*, one of which I had -- we had such heavy icing that the whole port side of the ship was -- we were in a lolling condition. We had a (indiscernible) break loose because it, it iced up and it went back and hit the port side ladder that goes up to the wheelhouse. I mean we, we had some really, you know, nightmare nights with ice in the Shelikof Strait, just northeast of where the last known position of *Scandies Rose* is.
Q. So sir, from your experience, what are the physical impacts that icing has on a, on a vessel let's say the size of the *Hickory* since that's your experience? You mentioned lolling, could you describe that for the benefit of the public?
A. Yeah. You can feel the ship as, you know, we are icing, on my experience, on *Hickory*, we're icing, the weather was to our -- off our port bow, probably, you know, relative 3-2-0-3-3-0-0 so just, just off our port bow, you know, 10:30, 11:00 on a, you know, it's 12:00, it's off your bow, and so we were building up a

lot more ice on our port side than we were on our starboard side, and you could feel the ship would, it would lean to port, and then it would come back. And it was, you know, you had a list, but then you also had that, it would just be slow to that side, and then sort of recover.

And then the downfall of that is, as the next, next spray comes and hits you, it all washes that same side. And then you just, you kind of go and kind of dancing in that, in that direction. So that's, that was the challenge that we faced on that night of icing, especially when -- so I end up going the wrong direction, just so I can keep the seas right off my bow.

Q. And, Captain, I think I might have missed this --

A. I can't hear you. Commander Denny, I think you're muted.

Q. Sorry about that, sir.

A. There you go.

Q. I'm the technical difficulties person. So my question was just going to be, so how -- what is the length of the *Hickory*?

A. 225 feet.

Q. I'm just pulling up the *Scandies Rose*, just to understand the comparison for both the Board and the public to get that sense of the size of the vessel in comparison to (indiscernible).

A. Yeah, 225 feet, 2,000 tons. Pretty big ships.

CDR DENNY: So for the benefit of the public, the size of the *Scandies Rose* was about 113 feet. So, so roughly, smaller, so it was quite smaller than the *Hickory*, and you guys were experiencing

that kind of lulling. Thank you for helping us understand those conditions in that area. Thank you, Captain. I have no further questions, sir.

CAPT CALLAGHAN: Thank you, Commander Denny.

Captain Musman, I just kind of -- ask Lieutenant McPhillips to pull up the video one more time and, Lieutenant McPhillips, if you could just pause it as soon as you get it up.

BY CAPT CALLAGHAN:

Q. So, Captain Musman, what I'm kind of looking at here is the port rail there, on the port side, on the left of the video here, appears to be a solid wall of ice. But in, in terms of framing that for reference, looking at the starboard side, that's a three-wire rail that goes between the posts. Is that correct?

A. It is.

Q. And as a history to that, to paint a reference for, we've done a lot of talking about ice, and particularly looking at how it goes up on pods and different surfaces. Just trying to paint that picture there on how that seemingly built a, a wall along the bulkhead there.

A. If you look forward, just to the, just to the left of the 76 gun, you can see how the, just a little bit to the right of there, right in there, it's -- basically, it's filled in those safety nets. The ice has -- right there where the cursor is, whereas on the starboard side, where it's getting a little bit of a lee from that port side icing, that it, it did not fill in the safety net

as much.

Q. Yeah, and that's a great reference point. And very similar to how kind of (indiscernible) on individual crab pods.

CAPT CALLAGHAN: Thank you, Lieutenant McPhillips, you can pull that down.

Captain Musman, I really appreciate your time, making the time to sit with us today and share your firsthand account of just the operation of the vessel and what the unseen conditions were for that case. So I really appreciate your time. Certainly want to recognize your time, your career in the Coast Guard doing this for the (indiscernible). Just to extend our appreciation for what you have dedicated so much time you do, so thank you for that.

THE WITNESS: All right. Thank you.

CAPT CALLAGHAN: At this time, you are now released as a witness from this formal hearing. Thank you for your testimony and cooperation. If, at a later time, we determine that this Board needs additional information from you, we will reach out and contact you through counsel. If you have any questions about the investigation, please feel free to contact the investigation recorder, Lieutenant Ian McPhillips.

Thank you very much for your time, Captain.

THE WITNESS: All right, thank you.

(Witness excused.)

CAPT CALLAGHAN: The time is now 1209. This hearing will now go into recess and will resume as scheduled for the afternoon. If

for any reason we're able to begin sooner, we'll update the time displayed on livestream.

(Off the record at 12:09 p.m.)

(On the record at 1:00 p.m.)

CAPT CALLAGHAN: The time is now 1300, and this hearing is now back in session. We will now hear from Captain Schlegel and Commander Nassar.

Captain Schlegel, Commander Nassar, Lieutenant McPhillips will now administer your oath and ask you a few preliminary questions.

LT MCPHILLIPS: Good afternoon, Captain. Good afternoon, Commander. Please stand and raise your right hand.

(Whereupon,

CLINT SCHLEGEL and SAMUEL NASSAR

were called as witnesses and, after being first duly sworn, were examined and testified as follows:)

LT MCPHILLIPS: Please be seated. I will be asking each of you questions about your background, starting with Captain Schlegel.

Captain, please state your full name and spell the last name.

CAPT SCHLEGEL: Clint Schlegel, S-c-h-l-e-g-e-l.

LT McPHILLIPS: Please identify counsel or representative, if present.

CAPT SCHLEGEL: That would be Lieutenant Commander Pekoske.

LT McPHILLIPS: Counsel, please state and spell your last

name, as well as your firm or company relationship.

LCDR PEKOSKE: Lieutenant Commander Matt Pekoske, P-e-k-o-s-k-e, U.S. Coast Guard Judge Advocate, witness counsel to Captain Schlegel.

LT McPHILLIPS: Captain, please tell us, what is your current employment position?

CAPT SCHLEGEL: Current employment is with the U.S. Coast Guard, and I'm currently the office chief for the U.S. Coast Guard Office of Search and Rescue, which is within Coast Guard's Office of Response Policy.

LT McPHILLIPS: What are your general responsibilities in that job?

CAPT SCHLEGEL: My general responsibility is to manage the policies specific to the Search and Rescue missions of the U.S. Coast Guard.

LT McPHILLIPS: Can you briefly tell us your relevant work history?

CAPT SCHLEGEL: I currently have 23 years of service in the Coast Guard, with 13 of those years in Search and Rescue operational assignments. The majority of those have been as an aviator in an H-65 helicopter.

In addition, I've managed units, operational units, on the Great Lakes, managing five helicopters, responding to Search and Rescue cases on the Great Lakes, and also as the deputy sector commander on the west coast for Sector Humboldt Bay, managing

three helicopters, two cutters, two response boat stations on the west coast, the, obviously, Search and Rescue missions, in addition to others.

LT McPHILLIPS: What is your education related to your position?

CAPT SCHLEGEL: I previously held the Search and Rescue mission coordinator designation, as well as the active search suspension authority, in addition to several other courses that I've attended throughout my career, relating to my designation qualification as a aircraft commander.

LT McPHILLIPS: Do you have any other professional licenses or certificates related to your position? Please explain, if so.

CAPT SCHLEGEL: No. I'm sorry, no, I do not.

LT McPHILLIPS: Thank you, Captain.

Commander, please state your full name, and spell your last name.

CDR NASSAR: Yes, good afternoon. Samuel Nassar, spelled N-a-s-s-a-r.

LT MCPHILLIPS: Please identify counsel or representative, if present.

CDR NASSAR: Yes, Lieutenant Commander Pekoske.

LT MCPHILLIPS: Please tell us, what is your current employment and position?

CDR NASSAR: I am the chief of the Communications and Infrastructure Division here in the Office of C5I Capabilities,

where we manage communications requirements and infrastructure requirements for the U.S. Coast Guard.

LT MCPHILLIPS: What are your general responsibilities in that job?

CDR NASSAR: Understanding, as far as communications and infrastructure needs, where gaps are. And so if you can't communicate in a certain area, we generate requirements, trying to fill those gaps. Also, for the systems that we have in place, if they're not working correctly, essentially they aren't meeting the requirements.

You know, we apply resources and we apply direction to those managing programs, into those service centers to basically -- to fix whatever gaps that we have. So it's a combination of, you know, does what we have meet the requirements? And if there's a new, emerging requirements, generating new requirements the fulfill those needs.

LT MCPHILLIPS: Can you briefly tell us your relevant work history, sir?

CDR NASSAR: Yes. So I come from electrical engineering background. Actually, electrical engineering from U.S. Coast Guard Academy. Class of 2003, as a matter of fact. Then got my master's degree in electrical engineering, as well, with a focus on communications. That was 2008. I've served in a number of positions involving broadcast and communications systems, including the navigation center, where I managed a ACE navigation

broadcast called Differential Global Positioning System.

Also served as engineer officer, operations officer, and for a brief period, I was also executive officer of Communications Area Master Station Pacific, where we were -- basically oversaw all the operations involving communications. I should -- let me correct myself. Oversaw all the communications supporting operations in the Pacific theater. And that includes oversight of the communications station in Kodiak, at the time, that was stood up.

So we free-structured a little bit of how we managed communications and how we, you know, the Communications Command, if you want to call -- or, sorry. Refer to it as Communications Command now, but we have -- back when I was in that position, the command I was at was responsible for the D-17 region.

LT MCPHILLIPS: Thank you, Commander. Do you have any professional licenses or certificates related to your position?

CDR NASSAR: So, as far as on the infrastructure side, I hold a certification called the Certified Information Systems Security Professional. It's a cybersecurity certification. But it more closely aligns with cybersecurity and network infrastructure, rather than kind of legacy kind of plain old voice communications.

LT MCPHILLIPS: Thank you, Commander.

Captain Callaghan will now have follow-up questions for both of you.

EXAMINATION OF CLINT SCHLEGEL AND SAMUEL NASSAR

CAPT CALLAGHAN: Good afternoon, gentlemen. Thanks for being with us today. You were provided with a virtual format with the ability to pull up exhibits that will appear on your virtual desktop. If, while viewing exhibits, you'd like to highlight something or zoom in, the hearing recorder, Lieutenant McPhillips, can do so from here.

Just as best as you can, please try to avoid using acronyms that are unique to the Coast Guard or the marine industry, and try to explain in plain language, as best as possible. I know both of you gentlemen had prepared a brief presentation, and what I'd like to do is first start with Captain Schlegel, allowing you the time, sir, to make your -- the presentation that you provided. And from there, we can do a few follow-on questions, and then move into Commander Nassar's presentation.

Lieutenant McPhillips, can you pull up Exhibit 107, please? And, Captain Schlegel, I'd like to turn it over to you, sir, if you wouldn't mind bringing us through this presentation?

CAPT SCHLEGEL: Sure. Thank you. Many of these items were previously spoken to here. The question -- the only thing I can add, a few more details. Under the director of Search and Rescue, policy is divided into two policy segments. The first policy segment deals primarily with Coast Guard Search and Rescue policy. It also deals with the SAR case study program, as well as, we have the subject matter expert in SAR theory -- or, excuse me, Search and Rescue theory, and also an oceanographer, who helps assist us

with drift theory and how that's implemented into our Search and Rescue Optimal Planning System as well.

Our second division primarily serves in the national and international engagement piece in regards to the Search and Recuse mission. We have membership on the National Search and Rescue Committee. We also have staff who manages our mass rescue operations program, in addition to our SARSAT or Search and Rescue Satellite-Aided Tracking system.

Next slide, please.

From a federal response standard, the Coast Guard receives its authority through 14 U.S. Code 521, which essentially authorizes the Coast Guard to render aid to distressed persons on the high seas or within the waters within the U.S. jurisdiction. They use very specific language within this U.S. Code, and I have it underlined there.

The Coast Guard may perform any and all acts necessary to rescue and aid persons and protect and save property. Using that term, may, essentially provides -- or its interpretation is that it's a permissive in nature, to allow us to do that mission. And there's no further language that delineates any specific response or other standards that the Coast Guard needs to meet, in response to our SAR coordination efforts.

Next slide.

Within Coast Guard internal response policy standards, we do have a resource planning standard, and I would like to note, a

resource planning standard, what that is. That essentially guides the Coast Guard's decision on where we align our, specifically, our Search and Rescue resources along our coastline.

We develop a two-hour, essentially, response ring, dependent on that particular Search and Rescue asset's general transit speed. And we try to minimize any coastal gaps in that two-hour response ring on where we align our resources. However, policy recognizes that Search and Rescue's very unique. Each case is unique. And while this is a resource-planning standard, there is no definitive response standard to arrive within the area within two hours.

Not all areas can achieve this two-hour response standard, due to, obviously, the vast amount of open ocean. And there are some unique areas, both domestically and internationally, that has a much smaller Search and Rescue demand, so we align our limited resources to ensure they're utilized to the best use of the public.

The Coast Guard policy permits a wide breadth of response efforts, and we allow a tailored approach to each Search and Rescue case, depending on the circumstances surrounding that particular case. We're allowed to use not only Coast Guard resources, but commercial, civilian. Our local, state, and federal resources, as well.

Next slide, please.

At the very beginning of what is called the U.S. Coast Guard

Search and Rescue Addendum, it specifically states that this document provides no standard of care or obligations that shouldn't be relied upon by the Coast Guard to meet any specific performance requirements in regards to Search and Rescue. And again, this policy speak to -- each Search and Rescue case is very unique, and the circumstances and environment can be very hazardous, and it would be unreasonable to ask that Coast Guard to have a specific standard of response for every Search and Rescue incident.

Next slide, please.

I was asked also to provide a short overview of the Search and Rescue Satellite-Aided Tracking System, which is commonly referred to as SARSAT. I've divided it up into two segments. And it's a little small on my screen. I might refer down to my notes here. On the left-hand side is the international component. And on the right side is a domestic component. I'll first speak to the international component, which is often referred to as COSPAS/SARSAT.

COSPAS is a Russian translation. It's a Russian term indicating Space System for the Search of Vessels in Distress. As an international component, there are four parties back in 1979 who decided to develop this system, to include the United States, the Russian Federation, Canada, and France. Currently, there are additional 39 other countries and five organizations which participate in this program. Its headquarters is in Montreal,

Canada, with a secretariat to help manage that program with a staff of 11.

Down in the bottom left-hand portion are the different system components on the international or global level. There are over 50 satellites currently in orbit that participate in the Search and Rescue program, that have Search and Rescue antennas on them that can detect distress alerts from distress beacons. There are over 100 -- well, called local user terminals that are located around the globe that are able to track and collect and communicate to these satellites to receive these distress alerts. The local user terminals, once they receive an alert, they transmit that alert to a mission -- the associated mission control center. And there are over 30 of these across the world.

As an interesting statistic, there are over two and a half million registered distress alert beacons throughout the world. And in 2019, over 2,700 lives have been saved, using this system. On the right side is our domestic system. There are also four parties to this, which the National Ocean and Atmospheric Administration, or NOAA, is the lead agency, along with the U.S. Coast Guard, the U.S. Air Force, and NASA.

This dates back to 1984, through a formal memorandum of understanding that is typically renewed every five years. And it's headquartered in Suitland, Maryland, with a staff of six, along with 30 other additional contractors who help manage the system.

Again, on the bottom right are the U.S. system components, which include over 25 U.S.-owned satellites, which have a SAR payload, or SAR antenna on the satellites that are able to receive these distress beacons, which provide, again, a global coverage around the world, along with the international component. We have over -- we have 11 local user terminals that are located within the continental United States.

One is located in Alaska, one in Hawaii, and another one in Guam, again, to be able to track and communicate to these satellites. And we have a single mission control center that the local user terminals will transmit those distress alerts to. That's also located in Suitland, Maryland, at a NOAA facility. These distress alerts will then be properly distributed to the rescue coordination center in which the distress alert is located. In addition, we support 31 other countries through our mission control center.

So if a distress alert occurs within their Search and Rescue region, that alert will be sent to that country's rescue coordination center. Including the Department of Defense, there are over 700,000 registered U.S. beacons, and just over 400 lives saved in 2019, using this system.

Next page, please.

Here's a graphical depiction of the Search and Rescue Satellite-Aided Tracking System that's a little easier to understand. Typically, any three devices can be used to initiate

the system. These include, I believe you understand EPIRBs, which are typically maritime-based. ELTs are Emergency Locator Transmitters, which are typically related to aviation.

And PLBs, which are Personal Locator Beacons, which are basically -- any commercial or any private person can purchase these and own them. Once you've registered them, that helps the Search and Rescue Satellite-Aided Tracking System identify who the person in distress is. When the device is turned on or activated, approximately every 50 seconds, it sends a signal, which is received by one of these many satellites that are around the globe.

When a satellite receives that signal, it transmits it to the associated local user terminal, and then transmits that to the mission control center, which determines the location of the distress alert and transmits it to the appropriate rescue coordination center.

Now, I'd like to note, Steps 1 through 5 are a completely automated process, without any human intervention. On Step 5, the appropriate rescue coordination center will receive the distress alert, and if there's an associated position with that distress alert, internationally, are required to provide a Search and Rescue coordination mechanism, in order to communicate an attempt to rescue those in distress.

On the right-hand side is another graphical depiction of the participating countries around the globe, that are highlighted in

green, that participate in this program. And there are a few statistics located underneath.

Next slide, please.

I'm going to provide a quick, broad overview of the Coast Guard SAR, Search and Rescue, policy system, and how it was developed, and how we utilize it. From an international perspective, there were two what we call conventions that began to explain and provide a standardized Search and Rescue platform in the international realm. This was in 1944. It's commonly called the Chicago Convention. And in 1979, it's called the SAR Convention.

From these two conventions that culminated in the publication in 1999 of the International Aeronautical and Maritime Search and Rescue Manual, which is the global standard for Search and Rescue response policy. Domestically, we have the U.S. National Search and Rescue Plan, which -- there are several agencies that participate in that, to include the Department of Homeland Security, Department of Commerce, Department of Defense, Department of the Interior, Department of Transportation, the Federal Communications Commission, and I forgot two additional agencies, to include NASA, as well as the Department of State, participate in this Search and Rescue plan.

And there's an associated National Search and Rescue Committee. Further defining the national plan is the U.S. National Search and Rescue Supplement to the IAMSAR Manual. And

at the Coast Guard level is the U.S. Coast Guard Addendum to the National Search and Rescue Supplement, which I had referred to before.

These top three documents are available on the National Search and Rescue Committee's website. We have an Atlantic and Pacific Area Search and Rescue Plans, and then finally, further stratified into the District Search and Rescue Plans.

Next slide, please.

This is a very broad overview of how our Search and Rescue system is structured. We have a Pacific and area commander, which typically have several district commanders underneath, and as noted, the district commanders are the internationally-recognized rescue coordination centers. Within each district commander, there can be several sector commands, which are not the most basic, but our most active Search and Rescue coordinating mechanism in the Coast Guard.

However, the area commander, district commander, or a sector commander, any three of those entities can coordinate a Search and Rescue response. And then we have a myriad of rescue assets that any level of that command structure can utilize to coordinate Search and Rescue efforts. And again, a reminder, it doesn't just have to be Coast Guard assets, but we have the ability to coordinate with the other participating members of the national Search and Rescue Committee, including local, state, federal resources, and commercial, private, and international.

Next slide, please.

Here, a quick definition of a rescue coordination center. And, again, it's established globally to promote the official organization of Search and Rescue's services for those in distress. At the bare minimum, a rescue coordination center is required to have communications abilities to both receive distress alerts and to try to communicate with those in distress.

These include any designated rescue subcenters, in which included in the Coast Guard side are sector commanders -- or sector commands are considered rescue subcenters to the district commanders, which are the internationally-recognized rescue coordination centers.

Next slide, please.

Here's a graphical depiction of how the Coast Guard districts are established. The blue stars are the district offices. And again, those are designated -- or, rescue coordination centers. And then the orange, or they may look red, circles, with a few exceptions on this map, are the sector commands. And again, those are probably the busiest or most local rescue coordination mechanism in the Coast Guard, outside of our Search and Rescue units.

Next slide.

Here's a graphical depiction of our Search and Rescue regions. As you can see, it's very vast, so it not only includes our domestic waters, but also international waters. And again,

this is all based off the SAR Conventions that I mentioned earlier. And I have one more slide. Specific to this incident, Sector Juneau, within -- the lines there describe their Search and Rescue region, again, which is quite vast, that they're responsible for coordinating Search and Rescue to anyone who's in distress.

That concludes the, I guess, my formal presentation of slides, and I'm happy to entertain any questions.

CAPT CALLAGHAN: Thank you, Captain. Greatly appreciate that. I think -- and those slides helped and will answer a lot of -- have answered a lot of questions, so I'm going to try and narrow it down. Can you please describe what a joint rescue coordination center is, what the difference between a joint rescue coordination center is and, say, a sector command center?

CAPT SCHLEGEL: Typically, a -- I've never worked at a joint rescue coordination center, so I can't talk from personal experience. But typically, those are going to be our partner federal and state and potentially local agencies, and are generally locations, instead of each agency having to man their own coordination center, that they collectively establish a single point where all the individual agencies can work at, and typically has provided quicker and faster coordination between the different agencies.

CAPT CALLAGHAN: And so on an internal Coast Guard level, at the district level, you talked about the regional SAR

coordinators. So can you highlight -- is there any difference between the regional, internal regional coordination centers and the sector command centers?

CAPT SCHLEGEL: Sure. I'll start a little bit broader, at the rescue coordination centers, which I think you're referring to as the district command centers. Typically speaking, the Coast Guard structure is dependent on the complexity of the case, the number of rescue assets or rescue resources that are responding to the case, or perhaps the location of the case, that the district command center may take ownership of coordinating that response. At the sector level, they typically have a smaller area of responsibility.

So that last slide there was for, well, typically -- that was the district or D-17 Search and Rescue region. The sector Search and Rescue region would typically be a bit smaller. Their coordinating mechanism typically is a lot closer with the local units, because they -- or the local resources, to include state and local, because they live and work in the similar areas, typically speaking. And typically, the sector command centers will have increased communications capability.

And again, the sectors typically do it on a more frequent basis than the district command centers. However, as I mentioned before, internationally, the rescue coordination centers are required to maintain communications capabilities, and the districts provide that, also. So I hope that helped a little bit

to answer that question.

CAPT CALLAGHAN: Yes. Thank you. And so I'm going to kind of tie everything to the Alaskan region. And can you talk about -- talk to any differences with regards to coverage for the Alaska Rescue Coordination Center from any of the others across the country?

CAPT SCHLEGEL: Sure. I don't know if I -- I've never served within that district. The rescue -- the district commanders have the flexibility to establish their own lines of communication and how they want to manage their cases. And that's not necessarily a directed Coast Guard policy on how they do that.

So we allow them some flexibility, depending on their area of responsibility and where their rescue resources are, of how they want to utilize -- either if a case is going to be going by the district command center, or if it's going to run by the sector command center. And I'm not familiar with the District 17 -- their specific policy in regards to this.

CAPT CALLAGHAN: Okay. And earlier, you talked about engaging resources outside the Coat Guard. Can you tell us more about the tools the Coast Guard utilizes to engage entities outside the Coast Guard to assist in Search and Rescue?

CAPT SCHLEGEL: Sure. And I may start on the broader level. On the National Search and Rescue Committee, as I mentioned before, I think there's nearly 80 different agencies that are involved in the National Search and Rescue Plan. So that's our

very broad coordinating mechanism for that. And then that further goes down to the area commanders, district commanders, then eventually to the sector commanders, which I would call our -- probably our most tactical Search and Rescue coordination mechanism.

So they may be coordinating with individual fire departments, individual beach patrol, or the local sheriff or county sheriff and their rescue resources, whereas a district command center may have a better coordinating mechanism with the state, say, the State of California, and their rescue resources, or some federal agencies that serve a more broader area, such as FEMA and other agencies such as that.

So typically, it's -- the more tactical is going to be -- tactical coordinating mechanism is your sector level, and it gets more broader as you go up in the organization.

CAPT CALLAGHAN: Okay. And I wanted to ask -- the tools that a sector command or a district command center would use to contact other, you know, reach our to other mariners, to, you know, outside of public entities, to assist?

CAPT SCHLEGEL: Sure. You know, at the very basic form of any kind of Search and Rescue response is typically VHF, Very High Frequency marine band radio broadcasts. And we have certain standardized ways in order to publish broadcasts that we've received a distress alert, and that we would ask for any and all assistance, and if we know the location of that distress alert,

and ask anyone to report if they had heard or seen anything familiar with that.

So that's a fairly standard response at the sector level for any kind of distress alert. And then there's a myriad of other communication methods from there, via cell phone, satellite communications. I've already mentioned radio. And then other coordinating mechanism with other agencies, if that answers your question.

CAPT CALLAGHAN: Yes, it does. And so earlier we heard testimony, and we talked a lot about particulars with regard to this case and, you know, the issuance of urgent marine information broadcast. And so from a programmatic perspective, are you aware of any efforts to try and broaden the scope of how the Coast Guard gets those broadcasts out? For example, we have such a vast network of AIS users. Are you aware of any efforts to try and create an automatic ping for a broadcast to AIS users within a certain area?

CAPT SCHLEGEL: I am not familiar with any initiatives utilizing AIS.

CAPT CALLAGHAN: Are you familiar with any other initiatives that maybe aren't just -- maybe aren't using AIS, but just in general?

CAPT SCHLEGEL: From my period serving as the deputy sector commander of Sector Humboldt Bay, I know our command center -- and managing other command centers, we're looking at potentially

automated ways in order to make that broadcast, so a member actually in the command center would not have to physically make those broadcasts on the regular occurring basis that are required, but rather, it would be an automated system. But outside of that, I'm not familiar with any current initiatives. Yeah, I'll leave it at that.

CAPT CALLAGHAN: Okay. And then, with regards to response times, you kind of mentioned that two-hour standard. Right? Obviously caveated by, it's a broad standard that certainly allows for flexibility, given a different multitude of circumstances, including distance and other circumstances for each case. In relating that to the areas within Alaska, are you aware of any efforts, programmatically, to try and improve the likelihood of meeting that standard, given the weather challenges?

CAPT SCHLEGEL: We've had several recent Search and Rescue case studies, which currently have not been completely reviewed and approved, but have indicated that there are areas that -- there's a perception that we could provide some benefit of additional resources in an area. Specifically, Alaska, obviously very vast and very large, and when you look at other areas of the country, the number and locations of Search and Rescue assets are not as great as in other locations.

However, the Coast Guard also looks at a broader instance of the number of cases and the activity, the maritime activity, in that particular area, to try to align their rescue resources. And

understanding, a lot of these resources are established, and especially on the east coast, were just simply based on the fact that that was the earliest part of the United States as a nation, and where our predecessors such as the U.S. Lifesaving Service and other services were based, many, many, many years ago, that we happen to still utilize.

But many places on the east coast are redundant. So the Coast Guard continually looks at reprioritizing our assets to where they could be best utilized.

CAPT CALLAGHAN: Thank you for that. And again, you mentioned the case study program. Can you tell us a little bit more about that case study program?

CAPT SCHLEGEL: Sure. The policy does reside in my office, so the case study program provides the opportunity for the sector, district or area commanders to direct a SAR case review. The idea behind these is to identify any lessons learned from a SAR incident, and to be able to vet any corrective actions that we feel is necessary to prevent a similar incident from happening in the future, or to help improve the Search and Rescue system.

And there are some triggers that require these, but most often, they're optional. And I can try and go through and explain that. There's basically three areas that are specifically required. If a search -- if a search object is found outside of the designated search area, it is required to do a Search and Rescue case study. If a search object is found after active

search suspension is provided, that's also a requirement. And then any time the district commander or Search and Rescue coordinator would require one.

So that's a pretty broad statement that can apply. And then they're all -- they're voluntary, as well. The sector commander can voluntarily decide to do one on their own, if they feel there's sufficient lessons learned, that they'd like to share throughout the Coast Guard.

CAPT CALLAGHAN: And once it's initiated, can you just briefly describe the process for carrying out that case study?

CAPT SCHLEGEL: Sure. Typically, on the -- there are two types of SAR case studies. One specifically uses the term study, and then there's a SAR case review. SAR case review is what you may consider a more condensed version of a SAR case, and the SAR coordinator can designate only certain parts of the SAR case to be reviewed. And that helps to save time and resources to gain where they believe the lessons learned are located at.

A SAR case study is required to review all aspects of the SAR incident, and it's a more formalized report. Typically it takes more resource hours to produce that, and to route that through the different levels, the chain of command, to ensure the recommendations fit the findings of fact within that case review study.

CAPT CALLAGHAN: Do you know if either a study or a review was conducted for the *Scandies Rose* case?

CAPT SCHLEGEL: Yes, I believe a SAR case review was completed.

CAPT CALLAGHAN: And that is -- just to clarify, that's the more condensed version of the --

CAPT SCHLEGEL: Yes. And I say condensed just to confirm that it allows the SAR coordinator to define the limits of the study.

CAPT CALLAGHAN: Sure. And are you aware of any recommendations that came out of that review?

CAPT SCHLEGEL: It's currently still under review. And so while it's currently under review, I typically do not release any of the case studies until they're approved.

CAPT CALLAGHAN: Okay. Thank you. And then regarding communications in Alaska, sir, are you aware in the policy, overarching policy office, looking at Search and Rescue, are you aware of any known, like, communication capability gaps in the Alaska region?

CAPT SCHLEGEL: Yeah, unfortunately, I'm not familiar with the specifics of any gaps in any particular area from my office in Search and Rescue Policy, no.

CAPT CALLAGHAN: Okay. Well, thank you, sir. I'm going to -- that's all the questions I have for you. I'm going to try and use that to transition to Commander Nassar.

And I think, Commander Nassar, you provided a brief presentation to kind of talk about capabilities. So I'll let you

go ahead and run through that. We'll pull it up here. I'll let you run through that, and I'll follow on with a few questions for you, as well.

CDR NASSAR: All right. And just for everyone's awareness, the capabilities that I'm going to discuss, you know, were the ones that were relevant to the case. You know, of course, Rescue 21, always kind of on the forefront of Search and Rescue, so we're going to discuss the coverage of that capability. And then we'll also discuss HF, as it was the way that Search and Rescue called, that distress call went through.

So, again, Commander Sam Nassar, coming from the Communications and Infrastructure Division of the Office of C5I Capabilities. 14 years' experience in the Coast Guard, involving maritime communications. Like I stated at the beginning, a number of roles, supporting various communication systems, ACE navigation systems, leading the PacArea, Master of Communications, Studies Operations Officer, and particularly, as a highlight, and then just electrical engineering and radio frequency background from formal education. So again, thanks for having me, and I'm happy to give this brief to you all today.

So next slide, please.

All right. So really, what we're seeing here is the coverage of Rescue 21. And then we also have, with the green triangle, the Search and Rescue area. The key point here is, and it's pretty clear by looking at the chart, is the vessel *Scandies Rose*, at the

time of the distress, was outside of the coverage area of Rescue 21. Many folks say, well, how does that work? You know?

And while I'm not going to go too deep into the physics and the engineering aspects of the communications, I do have a diagram kind of in the top left, as you can see, that kind of just -- that really, at a basic high level, describes why we have limited range. And as you can see, on the left side of that picture, you can see the Earth is shaded in grey, and then you see an antenna tower in the top left, right there.

So as you're broadcasting, or if you're receiving, eventually, the curvature of the Earth prevents that radio signal from traveling any further. So really, what happens is, and we say in the, you know, operational field, we say, even on the engineering side of things, we say we have a line-of-sight obstruction. And so if you have a line-of-sight obstruction, in the case of VHF, you know, a line-of-sight obstruction would interrupt, you know, VHF propagation.

And let me remind everyone, as well, that Channel 16 is VHF. It's 156.8 megahertz. It's in the VHF band. When you run into the curvature of the Earth, the signal rapidly attenuates. And so you just lose that ability to communicate. So in many cases, especially with the maritime application, it's actually -- it can be helpful, and in this case, you know, with Search and Rescue, obviously, it can be hurtful sometimes.

But having that limited range helps, because when vessels are

at sea and they're trying to coordinate amongst each other, having limited range actually helps, because you don't want to hear people that are too far away. So in the case of just regular operations, out at sea, coordinating ship-to-ship, bridge to bridge, as we sometimes say, that works with advantage. And so that's why VHF is typically relied on for these types of communications, for maritime communications.

On the other hand, you know, when you need more range, and you're relying on VHF, it can obviously be very hurtful, in some cases. And particularly with the many cases that Search and Rescue, where all they had was a VHF radio, and they weren't able to call out. And so I wanted to point this out. I was asked to point out the coverage of Rescue 21, because we know folks out there are trying to better understand the systems and its capabilities, and so hopefully from a coverage perspective, this chart clearly shows where we have coverage.

Now, the other thing I wanted to point out is, why do we specifically have coverage in these areas? And I know many mariners, even Coast Guard, have, in fact, asked this question many times. And the answer, it's twofold. One is, when we were building the system, we started the acquisition for Rescue 21 in the early 2000s, and as we developed the requirements, we actually had plans to have additional coverage in certain places. And really, what we found is the lack of infrastructure.

So that's things like power and telecommunications circuits,

to act as a connection back to where this communication's going to be heard, was really unavailable. And I know that Alaskans out there especially know this. The infrastructure issues have been around for obviously a long time, of course. They're improving, but at the time we acquired the system, there were a lot of constraints to, you know, for basically infrastructure.

And so really, what it came down to is, if we really wanted to provide coverage everywhere in the Alaska region, the cost was -- it was unfathomable to even estimate. So the approach they, you know, the acquisitions team took is working, you know, working with the various offices, and working, you know, with the mission managers, and working with D-17 themselves, prioritize the most significant areas, where there's vessel traffic, also in the significant areas where we require port monitoring control.

And so you're going to see coverage in areas like Prince William Sound. You're going to see coverage in other areas where there's likely to be just increased traffic in general. And again, this system where we put the sites and where we provided the coverage, again, was prioritization done by a large group of stakeholders to basically maximize the resources that we had, to complete this project. This was all done under the understanding that there's other means to communicate in Alaska.

So for example, Captain just mentioned the COSPAS/SARSAT system, which is a satellite system. Of course, there's other systems out there, as well. For example, Inmarsats and Iridium

now offer GMDSS satellite communications. And so, you know, really, as kind of, like, a leading to my next topic is with Alaska in general.

And I've learned this from talking to watch standers. I've actually sat in the command center in Juneau, and I've obviously sat in the communications, you know, command center at various times in my career as operations officer. You need more than just one way to communicate. You know? And mariners out there need to ensure that they're carrying, you know, multiple means of being able to communicate, obviously for distress purposes most importantly.

And so with that said, let me -- let's go to the next chart. And I'll briefly explain another way we can -- another way we can -- the Coast Guard can be contacted for Search and Rescue. So this chart is going to talk about high-frequency communications. And understand that high-frequency was really one of the only ways that mariners could communicate prior to satellite technology. And so we're kind of going way back here. But HF has been around in the maritime community, you know, essentially since it was invented.

So we're talking, you know, early 1900s time frame, when all this technology came to bear, and it was implemented. You guys may even recall the Titanic, how they got that distress signal from the Titanic. It's all started from there. And this over-the-horizon capability, we call, again, high-frequency

communications, you know, used for distress, has been around, you know, for decades. And the Coast Guard has maintained sites over the years to be able to pick up these long -- you know, these mariners that are out at sea at, you know, long ranges, to be able to go out there and execute Search and Rescue missions.

So real quick, on the top left of this chart, you see basically a website. It's the Navigation Center. This is available to the public. What this webpage is showing is the HF distress and U.S. Coast Guard contact frequencies. And what I've done on the top right of the chart is kind of take a piece of that website and made it bigger, so that everyone can see it. So if you wouldn't mind just scrolling over to the right-hand side of that chart, please? Thank you.

So what you see in this is basically what we're telling the public, is that we're monitoring these frequencies at these different stations. And so in this piece of the website, you can see, on the top of this table, the Kilohertz, Ship, Station. That's basically the frequency. You see 4125 in the top left. And as you go across, you'll see three stations that we were trying to highlight, at least in this case, in this table. On the right-hand side, circled, is November Oscar Juliet. That is the call sign for Kodiak.

And if you scroll down to the bottom of the chart, on the bottom right, November Oscar Juliet monitors a number of different communications sites simultaneously. So if you wouldn't mind just

scrolling down to the bottom, there, of the chart? There we go. So on the bottom right, you see a picture of Alaska, and then you see a number of HF high sites.

And so you'll see Nome up top. You'll Point Higgins, Kodiak, Shemya, Cold Bay, and St. Paul. These are all locations where we actually have HF communication sites, where we're able to transmit and receive -- where we're able to transmit and receive HF distress frequencies. And in particular, those frequencies that are listed in that table above. And so for this case, the call came in on 4125, as we call it, the frequency. It came in through the Point Higgins communications station, which is pictured on the top right. It's southeast Alaska.

Now, the next question you might be asking was, why Point Higgins, when we have all of these other sites? In fact, there's a lot of other sites that are even closer to the Search and Rescue area. So if we go down to the bottom left corner of the chart, and again, I'm going to keep this high-level, but in simple terms, with favorable conditions, HF or high-frequency communications is capable of achieving over-the-horizon distances, due to ground wave and sky wave propagation.

So really, in layman's terms, you can see an antenna tower on the left-hand side of the diagram, and you're actually transmitting to what looks like it's the sky. And so we call that the ionosphere. And so in many cases, with HF, depending on the time of day and depending on the frequencies, there's a lot of

variables involved with HF communications, and I'd like to just remind everyone of that.

But the high-level is that you can actually bounce signals off of this layer of the atmosphere called the ionosphere, and you can actually get that signal back down at the receiver, which is on this diagram on the bottom right of the diagram. So that's really how you get around the line-of-sight issue. And the previous slide was actually 21. We've pointed out the coverage limitations, due to not being -- not having the line of sight, not having the range. And as the wave propagates into the Earth, you lose that signal.

Well, with HF technology, and HF transmissions, that signal actually bounces off the ionosphere, and can bounce down to the receiver. And many folks may have friends or family or maybe yourself, your ham radio operators, for example. Ham radio operators use HF to try to achieve over-the-horizon communications to various parts of the world, and in some cases, you know, hobbyists will actually get, with very lower power, all the way around the world. It's pretty incredible what you can do. But of course, it varies with the conditions. It varies with everything from what's happening with the sun -- literally, the sun affects the ionosphere.

There's many different layers of the atmosphere that play a part. And so what we've done in the Coast Guard, to try to counter that, is build as many sites as feasible, to support

communications to basically increase the probability that we're going to be able to receive a signal. So in this case, with the frequency that they transmitted at, the *Scandies Rose*, the 4125, at that time of day, it came in best at Point Higgins.

And just, you know, for the audience, just know that another time of day, or maybe, you know, given a varying atmospheric condition, that signal could've come in through any one of these towers. So point being is that we monitor all towers in this region simultaneously, and so that's how we received that communication on that day.

And so that's the conclusion of the formal brief. Again, I wanted to give some insights on how Rescue 21 is set up, and how long-range communications works in the HF realm, and hopefully that helps.

CAPT CALLAGHAN: Yeah, thanks for that. That was helpful. And so couple of quick questions for you. So in terms of the frequencies that we are monitoring in the Coast Guard, could we or should we be doing more in the way of outreach to ensure the visibility of the different frequencies that we're monitoring? And what I'm trying to get at -- are we doing anything beyond, you know, the NavCen website to get that outreach out there?

CDR NASSAR: That's a very good question. So we do have our official ways of, you know, sharing this information with the public. The NavCen is one venue. Mariners have many references, you know, that they should be, you know, consulting, to figure out

the types of distress communication equipment they have, and what type of frequencies we're monitoring.

So let me just point out one, as an example. This is a publication, and it's called the List of Radio Signals. There's another publication. This is called the Safety of Life at Sea. It's a treaty. Right? And so the information is in here. The information's on the NavCen website. So my opinion, I think there's always room for improvement.

And I know that when, for example, although this is kind of separate from the *Scandies Rose* case, but with Rescue 21, for example, with some of the maintenance issues that we've had more recently, we know that D-17 really was proactive in trying to increase that awareness and increase that communication.

So I guess my answer would be, if you're a mariner, and especially if you have multiple souls on board, it is their responsibility to make sure that they understand who to contact, so in this case, obviously, the U.S. Coast Guard, on what frequencies. There's different times of days that we monitor different frequencies, and that's for the reasons I pointed out on the HF slide, the high frequencies right above the variables and HF propagation.

And so it's complex. HF communications, particularly, is complex. And mariners, I would say, have to ensure that they are doing their due diligence to make sure that they understand how to communicate. Now, in years past, you know, and this is, you know,

more my opinion from my own studies and from my own experience, I think mariners, because they more relied on HF communications, better understood it. And I think we've seen this internally in the Coast Guard, as well.

With new technology and satellite technology and things like cellphones, you know, we've kind of lost a little bit of that -- what we call an art of HF communications. And so I would say that there is room for improvement. I would say there's always room to increase the awareness. But at the end of the day, if you're taking folks out, if you're taking yourself out, they should know how to communicate.

CAPT CALLAGHAN: Thank you. And then, the last question I have for you, Commander, is, given the known gaps in the communications in Alaska, are there any efforts currently underway to improve that coverage?

CDR NASSAR: Okay. So there are. I left out one position that I think is now relevant, since you're asking this question. A position that I was in in my last tour was at the Coast Guard Research and Development Center. And in that position, we're forward-looking, of course, research and development, trying to figure out how we can better do our mission, trying to figure out and better understand our gaps and how we can close those gaps. My area of focus in that position, or I should say, one area of focus, was communications.

And we did a lot of research on how to improve and different

ways we could use technology to maybe improve communications. Now, a lot of the efforts that are happening right now are at their early stages. And we have gotten champions inside the Coast Guard at the senior leadership level to sponsor these. And I can name a couple as an example.

So first example is, we have a project with University of Alaska, the Arctic Domain Awareness Center. It's sponsored by DHS Science and Technology. And their project right now, and we're actually -- we did an official kickoff for this -- is to go out an interview Alaskan mariners and ask them, in particularly, you know, about their equipment and their communications knowledge, and where they see themselves going, as far as communications. You know, just, you know, a few examples.

We know that there are a lot of emerging space-based capabilities that are going to come to bear. And if anyone's been watching the news, you know that, for example, SpaceX, they're going to be launching a satellite constellation, which is going to provide, you know, internet pretty much everywhere. Can't speak for them, of course, but, you know, we know in that Gulf of Alaska and Bering Sea region, for example, SpaceX will be providing coverage there.

There's a number of other companies that are promising, you know, connectivity solutions. And these companies have actually filed with the FCC for ground stations, and have filed, you know, with the government, the official government channels, to actually

launch spacecraft and satellites and put them on orbit. And so we're seeing a lot of promise for increased communications capability by industry, as well.

And so, going back to the project, the initiative that we're doing here, it involves reaching out to the mariners and understanding, really, what it is that they need and, really, what it is that would help them go about their everyday business, whether they're rec boaters, whether they're fishermen, any other type of mariner, the goal of this project is to connect with the mariner in figuring out what products, as in things like weather, marine safety information, what is it that they need?

And as far as distress communications, what are they carrying? What do they intend to carry? And we're actually interested to see if they're actually going to, you know, maybe sign up or, you know, procure some of these emerging commercial internet services, like I mentioned, the SpaceX Starlink internet. So as they're fishing, for example, in the middle of the Bering Sea, middle of the Gulf of Alaska, they actually can be connected to broadband, which not only will provide them a connection to the regular world while out at sea, but can offer an alternative way for distress communication.

So that's the first project I want to highlight. That's been sponsored by our leadership. That has been kicked off by DHS Science and Technology and the Alaska Domain Awareness Center, and we are in the beginning of processes of actually setting up

meetings with local communities and with the mariners. That's going to be done by the Arctic Domain Awareness Center, to really start communicating and connecting with the mariner -- with the mariners themselves, if that makes sense.

The second project, if you'd like me to talk about that, I can. It's still in the beginning stages. But it involves using satellite technology for Search and Rescue. And if you'd like me to speak to that one, I can, as well.

CAPT CALLAGHAN: Yeah, sure, if you could briefly highlight what that one is?

CDR NASSAR: Roger that. So what we realized, especially with the maintenance issues in Alaska, is that maintaining Rescue 21 is extremely difficult. I could spend hours going over photos and showing you imagery of iced-up antenna towers, snowbanks covering antenna systems, generators, microwave systems. These are all the systems that are actually providing the infrastructure and connectivity that actually make these communications work.

And so it's one thing to be out on the water, to be out at sea -- and I'm speaking more towards Rescue 21 right now. But to hear a broadcast or to be able to communicate with the Coast Guard on that system is one thing. But if you saw the back end, you know, I personally think that the maritime community would be shocked of the conditions that these sites have to survive. Again, extreme amount of ice, cold temperatures.

And then when they do break, which is sometimes almost

inevitable, we have to fly a helicopter, you know, you have to actually land on the mountaintop in the helicopter, and if there's snow and ice or other hazardous conditions -- in many cases, fog is an issue in Alaska -- it's very difficult to get maintenance folks out there to get technicians out there to fix the sites. And so again, I will say on that note, again, that is why it is so important for Alaska mariners to be able to communicate in more than one way, specifically for that reason.

But going back into the project, to briefly describe the project, I briefly mentioned before, there are emerging commercial satellite services that are basically offering internet. And then many of these satellite constellations have capabilities, for example, to receive VHF.

And so one of the projects that we are considering, and that we are trying to determine the feasibility right now, is basically using this technology to be able to receive VHF out at sea, using these satellites. So right now, we are in a requirements decomposition phase, and so that's a fancy way of saying we're working with DHS Science and Technology to really understand the gap in the problem, and at the same time, we're looking at all the feasible -- the solutions that may be feasible, that might be able to actually accomplish something.

It's a very R&D -- you know, it's very much R&D. And so when we work in R&D, we kind of go bold, but we're unsure of the outcomes. But right now, the effort is there to explore, and try

to demonstrate the utility of some of these capabilities to enhance communications in the area. And then, you know, that doesn't, you know, and it just -- for us in the United States, in the U.S. Coast Guard in particularly, to do this R&D is really only step, because the maritime community is truly global.

And so we're also factoring in international maritime organization, and other, you know, maritime, marine electronics standards organizations that all have to come together to really close the gap.

So those are the two major efforts. One is more connecting with the user, in this case, Alaskan mariners, and that's going to be done by the University of Alaska. The second is exploring new technology, and one focus area, again, is the satellite technology to see if we can actually receive VHF distress alerts using satellite.

And again, that's very R&D focused, but what I'm trying to say, at least in the testimony, is that the effort is there to try to close the gap and explore other options, you know, other than towers on mountaintops that constantly, you know, beaten down by a harsh Alaskan environment.

CAPT CALLAGHAN: Thank you for that. That's actually very helpful, and greatly appreciate the detailed explanation.

At this time, I don't have questions for you, gentlemen. I may have some follow-ons. But what I'd like to do is pass it over to my colleagues at the National Transportation Safety Board for

further questioning.

MR. BARNUM: Thank you, Captain Callaghan.

Hello, this is Bart Barnum at NTSB. I do have a couple questions, one for each of you. Mostly clarification questions on the presentations. First question.

For you, Captain Schlegel, thank you for the very in-depth presentation. I learned a lot from that. But Rescue 21, could you just tell me what that is?

CAPT SCHLEGEL: Well, I am not the resident expert on Rescue 21, but on the very plain language, it's a very high-frequency radio spectrum which mariners can utilize to transmit voice communications.

MR. BARNUM: Okay. And sorry if that should've been directed at Commander Nassar. Is there anything you could add to the Captain on what Rescue 21 is?

CDR NASSAR: Sure. Yes, absolutely. So Rescue 21 is the name of a system. Right? And so Rescue 21 is a system name, but really, what we're doing, as Captain mentioned, is we are actively listening on Channel 16, which is, you know, on Channel 16, which is 156.8 megahertz. It's a VHF FM. We're actively monitoring that frequency for distress alerts. And so that's the classic mayday, mayday, mayday. We're listening for that.

And Rescue 21 is the name of the system that we deployed, you know, along our coastlines, to basically have that capability. Now, Rescue 21 does do a few other things outside of monitor those

distress frequencies. But for the sake of this, you know, this testimony and the relevance, it's the receipt of Channel 16, which is our voice distress alerting, and it's also probably important to note, too, that there's also digital selective calling. That's another capability.

That's a red button on the mariner's VHF radio they can push, and if they push that red button, and everything's properly configured, that will send their GPS coordinates with their vessel ID, identification, a form of identification, to the command center that's receiving that. And then they can go ahead and execute that Search and Rescue mission and continue the communication. So again, Rescue 21 is a system name, providing that capability.

MR. BARNUM: Great. Thank you for the explanation, there.

Captain Schlegel, you talked a lot about sector command centers, and then district command centers, and their areas of jurisdiction, if you will, areas of -- or I forget exactly the term for it. Understanding in this case, the initial onset, there's some confusion of who had the authority or jurisdiction for the Search and Rescue operations.

Ultimately, once it's determined, and I know you mentioned, district command usually takes a higher level, you know, Search and Rescue. They have more assets at the ready, you know, cutters, airplanes, helicopters. Now, I guess my question is, sir, who at the sector command center makes the decision to

ratchet it up to, district's going to take over now, we need a cutter there, we need multiple assets?

CAPT SCHLEGEL: Sure. I can answer that. Typically, the sector commander may make a recommendation to the district commander to take over a case, depending on the, again, the complexity of the case, if he feels that their command center is not the most suitable resource to plan that effort. And then also, the district commander, as the kind of authoritative figure for the sector, can take the case, as well. And each district may have different policies, as I mentioned, on when and how they do that.

MR. BARNUM: So not necessarily every accident or every Search and Rescue operation, will the sector contact the district? I mean, is there certain minor examples where district, you know, isn't briefed on it?

CAPT SCHLEGEL: I would say it would be very rare that a district command center would not be aware of a case that a sector command center is working. They typically have routine conversations.

MR. BARNUM: Okay. Thank you. Understood. Thank you.

And then my last question, Commander Nassar, just for clarification, was on your presentation.

Lieutenant McPhillips, will you bring that back up, 109? And then, yes, that page, please.

So as you mentioned, sir, the height -- the *Scandies Rose*

broadcasted a mayday call, a high-frequency, 4125. It was received at Point Higgins. Is that a manned station? Or did that get automated or transferred through? It's my understanding that comms at Kodiak actually received that transmission in Kodiak. So just, how did that work?

CDR NASSAR: Okay. Yeah, I can -- so all these HF sites that you're seeing, at this point in time, they are all remote sites. So there's nobody physically sitting at Point Higgins.

MR. BARNUM: Okay.

CDR NASSAR: And, like, the other sites at Nome, St. Paul, Cold Bay, and Shemya. There's a little bit of a nuance. Kodiak was a manned station, you know, previously. And we have done a reorganization internally, and this is really mainly due to technology, because now we have the network capabilities that we have. Essentially, what you're doing is, you know, you're connecting that site to basically a wide area network, and all of those communications are going back to one central command.

It's the name of the command is called Communications Command, appropriately named. That is in the Chesapeake, Virginia area. And there's watch standers that are there. And I would recommend, if you have questions about that watch and how it's manned, and how they do their operations, that you contact the commanding officer of Communications Command. You know, he can speak to this in depth, and he has logs and he has different things, training, if you have, you know, more in-depth questions

to how that site operates.

But what I can speak, from where I sit, is that those sites at this time are remoted, and that they're monitored in Chesapeake, Virginia, you know, through a watch there.

MR. BARNUM: Okay. So in this particular accident, the Port Higgins station received the mayday transmission on a high frequency, and then the Communications Command in Virginia responded to it, and then contacted the sector district command? Is that -- I'm sorry, the sector command center, and told them?

CDR NASSAR: Yeah, so broadly speaking, that's how it works. You have your communications station that's monitoring. Like I said, with the specific case of the *Scandies Rose*, I don't want to speak for, you know, for the commanding officer of that unit. But I can definitely provide the contact information, you know, to provide that link, there.

But for general purposes, and broadly speaking, the watch stander there actually performs the communications there, locally at COMMCOM, and can relay various communications from, in this case, you know, whoever's actually, you know, the lead in this Search and Rescue mission. So obviously Juneau would relay, you know, what they want communicated, you know, through other means.

MR. BARNUM: Okay. And just to finish this, just for my own clarity, so the person at the command center in Juneau or Anchorage, whether it's district or sector, they didn't actually hear the high-frequency transmission. It was actually relayed to

them through the COMMCOM, as you said, in Virginia.

CDR NASSAR: I can't say with certainty. But I highly recommend that you contact the Commanding Officer of COMMCOM, because he will be able to explain, very much detail, exactly how it goes down. There's a number of ways it could've happened. And that's why I'd like to just leave my answer at that. If you want that detail, I request you contact COMMCOM, at command.

MR. BARNUM: Commander Nassar, Captain Schlegel, thank you both very much. That's all the questions I have.

CAPT CALLAGHAN: Thank you, Mr. Barnum.

Gentlemen, now I'm going to pass it to our parties in interest.

Counsel representing the two survivors, Mr. Stacey?

MR. STACEY: Thank you, Captain Callaghan, and thank you, Captain Schlegel and Commander Nassar. We have no questions for you.

CAPT CALLAGHAN: Thank you, Mr. Stacey.

And over to counsel representing the vessel owners, Mr. Barcott.

MR. BARCOTT: Thank you, Captain.

Captain Schlegel, Commander Nassar, thank you very much. We have no questions. Thank you.

CAPT CALLAGHAN: Thank you, Mr. Barcott.

I do have a couple of quick follow-up questions for you, gentlemen, particularly for -- more towards Captain Schlegel. Can

you talk about the B-0 requirements for SAR units?

CAPT SCHLEGEL: Sure. As I mentioned before, the broader federal requirements don't stipulate any type of particular response posture, and our B-0 or, as probably it's been defined in other testimony as a 30-minute response window from the time of notification to time of underway, is set by the District Commander. And they designate which units are required to maintain that readiness level.

CAPT CALLAGHAN: And so, in events where it's deemed that it may not be possible to meet those standards, anything that can be done, to help mitigate that, to meet the B-0 requirement?

CAPT SCHLEGEL: Could you rephrase the question?

CAPT CALLAGHAN: So I guess, in areas, say, like Alaska, where it's -- the weather conditions and just the geographic area, like we talked about earlier, make this requirement hard to meet, on a fairly regular basis, are there things that can be done to help mitigate that, in advance? As far as -- go ahead, sir.

CAPT SCHLEGEL: I think I understand your question now. Yes, the district commander has very broad authority to manage the rescue resources within their region. So if a particular location is experiencing, or maybe anticipating experiencing, very severe weather, say, similar to a hurricane, approaching the Gulf Coast, that district commander has the ability to move their resources to other locations, out of the path of the storm, or maybe, in Alaska, and, again, not as familiar with that area, but severe

weather that may provide the lack of ability for a resource to respond, if it was located there, they have the ability to relocate to another location.

CAPT CALLAGHAN: Okay. And then, you know, for this particular case, it was the case for the C-130s being relocated up to Anchorage for that particular reason. Okay.

Thank you, gentlemen. That's all the questions I have. I want to thank you both for taking the time out of your day to provide testimony for us today, and help answer some of these questions. We greatly appreciate it. I know it's a little later over there on the east coast, but I really appreciate your flexibility and willingness to participate.

So, gentlemen, at this time, you're now released as witnesses from this formal hearing. I thank you again for your testimony and cooperation. If we later determine that this board needs additional information from you, we'll contact you through counsel. If you have any questions about the investigation you may contact the investigation recorder, Lieutenant Ian McPhillips.

Thank you both.

CDR NASSAR: Thank you.

(Witnesses excused.)

CAPT CALLAGHAN: It's now 1419. This current schedule has no more witness for today. Tomorrow, we are scheduled to hear from representatives from the survival equipment industry, as well as representatives from the Crawford Nautical School, and additional

Coast Guard witnesses, to talk about programmatic -- different program matters within the Coast Guard, related to not only -- areas that the investigation wants to look at for further improvement.

We thank all the witnesses for today's participation and for their flexibility. Again, all the exhibits presented today will be posted on the MBI media site with -- added to the exhibits that will be available, 109 and 129. Is that correct?

(No audible response.)

CAPT CALLAGHAN: And at this time, it is now 1421 on March 2nd. The hearing will now adjourn for today and resume at 0800 tomorrow, March 3rd.

(Whereupon, at 2:21 p.m., the hearing was recessed.)

CERTIFICATE

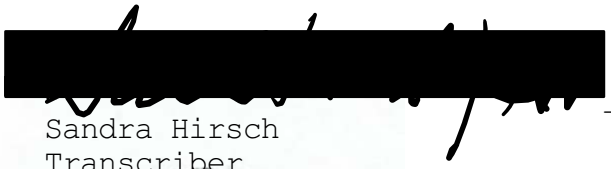
This is to certify that the attached proceeding before the

NATIONAL TRANSPORTATION SAFETY BOARD

IN THE MATTER OF:	Marine Board of Investigation Into the Sinking of the *Scandies Rose* On December 31, 2019
PLACE:	Seattle, Washington
DATE:	March 2, 2021

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

Charlene Brown
Transcriber



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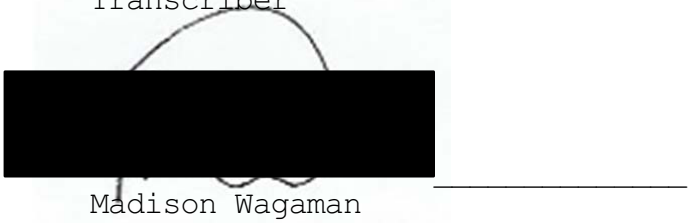

Madison Wagaman
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