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Vice Chair: Ed Welch

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Our metric, unfortunately, is measuring days at sea, and that's how we do our cost models. That's how we measure success.

We build into our scheduling plans enough margin in there to deal with things like maintenance, weather, personnel and so on and so forth.

So we try to achieve something around 94 percent operating day success rate.

So from those same three years for the TJ it was 91, 92, 94. However, when you look at that graph, that utilization is based on hours. So what Coast Survey does is they look at each ship, see how many hours those ships can be available or made available to do survey work, and that's what those rates are.

So you can see we're down below 80 percent across the board for -- so there's a problem with the metrics there.

I mean, ours -- ours were almost -- I mean, one would argue we're close to a successful metric, and obviously that's -- that's not how Coast Survey views it.

The chart does take into account weather

and safety issues. So what you're really looking at there is lost hours because of ship and survey equipment, personnel and possibility mandatory standdowns.

When you have nautical miles for TJ in '07, we're about 8,000 11,4 in '08 and then 12,8 in '09.

What this doesn't demonstrate from my perspective is really the true value of the data that's being collected on this ship. It doesn't really tell you where are they working, what are the conditions they're working in, and what's the chart usage in that area, tonnage, cargo. Value, what's the value of the cargo?

Did we or did the fact that we surveyed in those areas avert certain hazards, potential loss of cargo, life, environmental impacts, you know, were there possible port closures that needed to be considered.

The other thing I'm not quite sure of, and I'm working with the folks at Coast Survey, is are we optimizing these assets as best we can? Are we getting the biggest bang for the buck?

What you're also not seeing up here is

certain places that you are survey certainly are more difficult, higher risk, challenging than others, and they may require a higher level of effort, and you're not getting the same output.

So the chart certainly is an indication of what we're producing, but I don't think it gives you the full picture.

The recapitalization front, this is the -- the revised fleet recapitalization plan as we adjusted it for budget, for the new administration, for ARRA funds received. So there are certain assumptions that go along with this recapitalization plan.

It only looked at the ten oldest ships in the fleet. There was an understanding there was going to be no substantial growth in the number of ships and a certain funding profile.

So you can look at the different ships that the new ships are going to replace.

The interesting thing about the NSV, there wasn't a heck of a lot in the report about the NSV or what the NSV would look like, and I'll talk to that in a little bit.

We're also -- we also put together an aircraft recapitalization plan. We're putting together workforce plans for the NOAA corps officers and also for the wage mariners. We're also trying to come up with a small platform usage plan for NOAA.

We know -- in the second phase, we'll work on the second phase of this recapitalization plan, and what we're looking at is other assets, whether it's autonomous vehicles, unmanned vehicles, you know, whether it flies, floats or swims, are there betters ways, small boats and so on and so forth.

So it's not a one-to-one ship-to-ship replacement. It's holistic look at what assets are out there to accomplish the missions that we're trying to accomplish here.

Fishery survey vessels. Like I said, we've built four. We just took final delivery of PISCES, a Dyson. It has been operating seven years now. SHIMADA, we took preliminary delivery of SHIMADA.

As I said before, five is a shallow draft. We don't have the design for that. Six was

just awarded to Marinette.

And occasionally folks come up to you, well, why the FSVs first, you know? And unfortunately, or fortunately, depending upon your perspective, they can really made a hard case. You know, they got the Marine Mammal Protection Act, the Endangered Species Act, they got Magnuson Stevens.

Magnuson Stevens told them that -- fishing in '11, come up with a plan in '10. They've got 235 stocks that they have to manage. They can show the negative impacts of not measuring those stocks.

We added SHIMADA on the West Coast. As an example, we added SHIMADA on the West Coast. One would argue it's an additional capacity, because they showed absence of the SHIMADA doing the work on the West Coast was about $7 billion of economic impact to the West Coast.

So they can put hard numbers on the table, so that's why they get noticed.

One would argue, you know, it's a fishing industry, somewhere between a $70, $80 billion

industry. What's marine commerce? It's in the trillions. Is it 1.2 trillion or what -- it's huge, right?

So you got 80 billion and you got 1.2 trillion. What's wrong with the argument here?

I think President Obama uses the phrase "I inherited this challenge." I did inherit this challenge, but I think we also probably have something else in common. Our approval ratings are probably about the same right about now.

A quick history on swath. Original delivery date was June 2008. If you do the math, we're almost two years behind.

Originally $250,000 preliminary design contracts that were let to do the contract design, detail design and construction all at once, not an acquisition strategy for success.

You ball all that up and you give it to one person, and you eliminate a lot of competition when you do it that way.

Of course one of the potential shipbuilders came in and said -- and initially it was a $10 million bill. One of the initial

shipbuilders that was interested in building this said you can't do it for anything less than 15. They walked away. And the shipbuilding left standing said, well, we can do it.

So long story short, the contract design, detail design and construction was about twice the $10 million -- no, more than twice. It's about 20.2. At this point, it's about two years late.

And as of March 19th, we just got a report from Halter which indicated the vessel is 17.8 metric tons over its design weight.

This is after we've seated 22 metric tons a year and a half ago, eliminating 500 nautical miles off of the endurance of the vessel to help mitigate a 39-metric-ton problem.

So we've taken some serious action recently and are going to hold them accountable. We've told them to fix the problem, give us a new delivery date or we take the next steps.

So as you can see, the -- certainly the picture on the right is much more dated than

the one on the left.

The one on the left I believe it's either March or just a couple of weeks ago.

The vessel is almost done. It's -- they want to do builders trials this week, but we told them we're not sending our folks out in the middle of an oil slick, so we'll pick another week to do this.

So -- but it's close. It's close to being -- close to being done, but there are -- there are a couple of significant deficiencies that we're trying to get them to own up to, which is a good segue into the NOAA survey vessels.

As I indicated, there's supposed to be six of these vessels. Two of them are to replace the two hydroships, the FAIRWEATHER and RAINIER and the other four are going to replace the other multimission ships.

There wasn't a heck of a lot said about it in the report. And then based on that, we got a request -- not a request from Congress. It was written in language that we have to provide Congress a report which says evaluate "the

design and operations of future research vessels in the form of a NOAA survey vessel" -- and here's the "for" end -- "for multi-mission operations, to maximize on-site activities and modularize for versatility" -- "versatile platform availability."

So in the process of putting that report together, we took a look at our acquisition strategy, and we believe that we need to fix that so we can put something together for them that will be successful.

We need to look at mission operational performance requirements. We need to do feasibility studies, analysis of alternatives, look at the CONOPS, look at lifecycle and all the other good stuff and come up with a good design and construction process.

I got a couple of slides that I wanted to show you just to provide a little context of some of the acoustic quietness activities and design and engineering that went into the FSVs just to give you an idea of what the ramifications of some of these are and why you need to provide a different acquisition

strategy.

I don't know if you know or not, but the it FSV vessels were built to meet the ICES curve, the International Council for Exploration of the Sea.

Everybody knows that ships give off noise in a variety of places. It's not just shaft, prop and engines. It comes from everywhere.

I got these slides from the noise control engineering folks. They're on contract with Halter to work these issues, design and engineering issues so we can meet the ICES curve.

This is the gen set that was originally tested. What I want to emphasize here is -- that didn't work. There it is.

These are the -- these are the noise and vibration dampening mounts. There's 38 of them on this gen set alone. There's four gen sets and two main motors on these vessels. There's over 166 of these mounts. They're $300 apiece. They last about seven years. DYSON's is seven years old now.

So you can do the math there, and it gets

real expensive real quick.

Not only do you have to have them on the engines. Like I said, there's -- you got to isolate your auxiliary equipment, whether it's a fan, whether it's a pump. All of these have mounts, vibration- and noise-canceling mounts on them.

Why won't that work? All right. It's not only that, it's everything. Your clamps, your piping. Everything needs to be isolated.

Right here, this is the -- this is the noise- and vibration-dampening system for the stack. The stack is not fixed, so you've got all of these -- they kind of look like the shock absorbers on your car.

Everybody knows about prop noise and cavitation and the noise associated with that. That's the -- I think that's the SHIMADA's prop. A lot of engineering design went into that prop. A lot of testing of the hull with Carderock. And if this works, I can -- do you -- do you have to click on it?

VIRGINIA DENTLER: I might have to click on it.

ADMIRAL BAILEY: The ship has four hydrophones on it. What I'm trying to demonstrate here is there's a prop cavitation. And the ICES -- trying to meet the ICES curve all the way up to 12 knots. They want it all the way up to 12 knots.

(Sound played.)

ADMIRAL BAILEY: Pretty quiet. Hit the 11 knots. You can -- you've got to hit the blue -- right there.

VIRGINIA DENTLER: Got to find my mouses, too.

ADMIRAL BAILEY: Sorry.

(Sound played.)

ADMIRAL BAILEY: You can hear it starting to cavitate. Then 12. It's off the charts.

(Sound played.)

ADMIRAL BAILEY: It's interesting that the SHIMADA is dinging the prop. That's why we're doing those testings.

So again, as I alluded to throughout the presentation here, is what we started to do is looking -- look at our acquisition process.

Unfortunately, the government is set up

the way it's set up. Annual budgets are hard to work with sometimes. And when you're doing longly timed buys, when you're doing construction of facilities or for ships, it's tough to package all of that into an annual budget.

So there's always issues associated with the planning process and the funding process, and certainly the design process. Some of the things that we were constrained by, we were constrained by, you know, a common hull.

We had to stick with a common hull to satisfy certain mission requirements. The scheduling of funding, as I said, drove the study approach.

Some of the ship operational characteristics were based on historical needs and techniques, things they knew, things they liked. Didn't necessarily look at new mission operational performance parameters.

So all of that kind of adds up to being forced into a process that doesn't necessarily give you success.

Also, on the cost-estimating side of

things, when you let a contract to a single vendor with options and you do analogous cost estimates, I mean, what are you drawing from?

You're drawing from the data from a single vendor historical who not necessarily drives up costs but doesn't have to pay attention to costs as closely as you would want them to with those options. So your cost estimating gets very difficult.

We'd like to get into some sort of parametric estimating method where we not only look at analogous, we also look at what else is out there, other hulls, other designs and so on and so forth.

And the big thing that I'm really pounding right now is the lifecycle costs, particularly with these FSVs. I have no idea what these things are going to cost to maintain in the future, and we should know that up front.

You shouldn't get 10 or 12 years down the road and find out what your lifecycle costs are.

You can just look at those mounts and the acoustic quietness -- we estimate the acoustic

quietness in other vessels are at least $10 million over the life of the vessel.

So do you want to build that into the NSV? Is it worth doing that?

People tell me that the acquisition -- acquisition piece -- the acquisition design and construction piece only is about 25 or 30 percent of the lifecycle costs of the entire ship.

So the more time and effort and work you put up up front putting bid specifications together, good designs together, we'll get -- and I try to tell folks all time, if you do it right up front, you actually might save tens of millions of dollars down the road.

But that -- again, that's a tough argument to make in a -- an annual budget cycle.

So this is not a revelation. This is a type of design process. This is the one that the Navy uses. The first two steps, we think we can do most of that in-house. And then what we'd like to do is go out for competition for a contract design and then down-select from that competition for somebody to do a detailed

design and construction.

One would argue the way we've been doing it is we've never even gotten to detail design. And we've been doing some of contract design work on the fly, and it's cost us a lot of money.

The FSV class had weight problems of itself. We mitigated that with about a $750,000 change order, and then we had additional weight problems with the superstructure.

We had to go in and spend another $1.3 million on new design for the superstructure, which equated to building aluminum versus steel superstructure, which cost us another $650,000. It just goes on and on and on if you don't do it right up front.

I think that's it. And that's my -- that's -- that's our new P3. I had to put an airplane slide in there. You can see right there, the aircraft was taken out of -- out of mothballs and refitted up at INP in Halifax in Canada, and they put a Canadian flag on it.

That is the same airplane plane right

there. Unfortunately, at 2:00 on a Sunday morning, their fire suppression system went off and dumped 22 feet of foam on our airplane, so we got the cleanest airplane in the world.

Any questions?

ED WELCH: Thanks, Admiral.

Questions?

Larry Whiting.

LARRY WHITING: You mentioned AUVs.

ADMIRAL BAILEY: Yes.

LARRY WHITING: Can I talk about -- what is this, this is a PDF ship recap plan that I have here?

ADMIRAL BAILEY: Yes.

LARRY WHITING: How do you justify only 12 hours out of 36 of that thing moving -- being down, when an AUV takes probably at least that much more, 12 hours more, maybe even 24 hours in between survey types?

Have you got a new AUV out there?

ADMIRAL BAILEY: Do we have a new AUV -- no, I'm not -- I'm not sure I understand the question.

LARRY WHITING: In your analysis in this

thing, there's a comparison of AUVs to contractor-supplied AUVs.

Maybe I misunderstand what you're talking about.

ADMIRAL BAILEY: No, I --

LARRY WHITING: This is in your base document.

ADMIRAL BAILEY: Yes, the -- the comment I was making about AUVs is in the Phase II of looking at the rest of the fleet, is to take into consideration other assets, other platforms like AUVs.

That was not done with Phase I.

GARY MAGNUSON: Which document are you looking at, Larry?

ADMIRAL BAILEY: Is that the recap plan?

LARRY WHITING: You had some comparison. I can't find -- that thing is 120 pages long.

ADMIRAL BAILEY: Yes, it's thick.

LARRY WHITING: And I can't find it now, but I did go through it -- I'm sorry.

ADMIRAL BAILEY: They did address them, but they did not do an analysis. They did not compare AUVs -- AUV or a number of AUVs or

other small platforms versus a ship.

We did do that with the aircraft. We looked at UASs. We did an actual analysis of alternatives, an MPV analysis of UASs in aircraft, but we did not do it with that first phase, but we are going to do it with Phase II.

LARRY WHITING: Because I think that most of the AUV operators out there will -- will say that they have more downtime for a system, possibly ten -- four years into the future we'll have that better --

ADMIRAL BAILEY: Right. I think they're coming of age, but they're not ready for prime time. I think the report was probably written before we lost the 6,000 in New London.

LARRY WHITING: And then there was -- in your recap of the vessels, you alluded to a charter service.

ADMIRAL BAILEY: Right.

LARRY WHITING: Now, does that mean you're going to -- would be leasing the vessel or is that --

ADMIRAL BAILEY: Those charter graphs were -- each line can do whatever they want

with their money. I'm allocating a certain amount of money, and I spread that money, that O&M money across the fleet.

And if they need something beyond that which I can provide, they'll charter. Most of that is fisheries work, yes, near-shore fishery stuff, although I believe NOS does a fair amount of chartering, too.

Plus the fact there was -- there was $5.6 million allocated a number of years ago when we decommissioned two of our global class, our large vessels, and that's where a lot of the UNOLS charter goes -- money goes, to charter UNOLS vessels.

LARRY WHITING: I -- NSV-1, is that the -- that's the replacement.

ADMIRAL BAILEY: For the RAINIER, right.

LARRY WHITING: You have it down that it's almost four times more cost-effective than a charter.

What does charter read in that space? Are you going to -- would you consider leasing a vessel similar to the --

ADMIRAL BAILEY: They looked at charter

and -- they looked at charter and leasing vessels versus keeping the -- they looked at three things.

They looked at doing a service life extension, they looked at charter or they looked as replacement. And when they did the net present value analysis on those three options, it came out that they billed nine new and do a service life extension on a KIAWANA [phonetic].

LARRY WHITING: Okay. I was probably misinterpreting what I was reading.

ADMIRAL BAILEY: Okay, yes.

LARRY WHITING: Because I read it on the airplane down here. It was handed to me as I left.

ED WELCH: Admiral West.

ADMIRAL WEST: You mentioned on your bill problem -- is that a problem you've got to compete for union sailors? Is that your problem?

ADMIRAL BAILEY: We're both bound by the same statute for hiring and pay-setting; and actually, they're the pay-setting authority,

because they're the largest by far.

So we work with them and the unions to try to maintain some parity.

And the reason that they did that is they didn't want the federal agencies competing with each other and one agency offering a lot more money than the other and --

So they set it up that way, but they're the 800-pound gorilla in the room. They're pretty good about it.

I mean, but we looked at an example, we looked at increasing shore leave. Our -- one of our biggest complaints from our folks is they don't get enough time off based on the amount of time they spend at sea.

They look at the commercial guys, and it's typically 40-60 or 50-50. So they wanted increased shore leave. Of course for us, that might not have been a dramatic increase in the labor cost, but for UNOLS, it's -- for MSC, it's huge. So they're not going to go there.

ED WELCH: Jon Dasler.

JONATHAN DASLER: Yes.

Just talking about attrition, the moving

of the civic marine center to Newport, do they -- do you foresee that as being an issue?

ADMIRAL BAILEY: No. It was an issue for the 60 folks on beach. It's probably safe to say 55 of them didn't particularly like the idea. Five were ambivalent or were happy.

But as far as the ship and the officers -- because what we did when we reconstituted the staffing model is instead of assigning the wage mariners to a ship, we told them they would be assigned to a marine center, and then they could pick a home record wherever they want.

But whatever home record they pick, they have to pick the next closest marine center. That allows us to fly them home, pay for a ticket home every 90 days of deployment.

So I forget the exact numbers, but a fair percentage of them don't even live in Seattle. You could have folks on the East Coast staffing ships on the West Coast.

They're kind of like MSC. They just go wherever the ship is, and it's a condition of employment with them anyway, so they're pretty good about it.

JONATHAN DASLER: I'm not sure, is the marine center, is that under the ORF or do they have their own budgets for that?

ADMIRAL BAILEY: The marine centers?

JONATHAN DASLER: Yes.

ADMIRAL BAILEY: That's all the ORF stuff. And, you know, we're -- we're scheduled to move MOCP in July of '11.

ED WELCH: Other comments?

Admiral -- Virginia, can you go back to the slide with the timeline for replacement of vessels. I think you missed it. There you go.

I believe, Admiral, in our last meeting when we saw slide or its predecessor, I think if I'm recalling right in our letter to the administrator with also comments and observations, we expressed some concern about the extended gap with the FAIRWEATHER down the bottom.

ADMIRAL BAILEY: Right. Right.

ED WELCH: Can anybody remember if we put that in our letter to the administrator? We talked about it. We'll have to check.

Can you talk a little bit more about

what's happening there.

ADMIRAL BAILEY: With the gap portion?

ED WELCH: Yes.

ADMIRAL BAILEY: That gap -- originally there were no gaps, but based on -- and again, this is -- the previous administration approved this. Got a new administration. We've only funded one ship so far in this plan, and that's been through ARRA, so things may change dramatically here. I don't know for a variety of reasons but the gaps were originally established because of the funding profile that was set up.

Nominally, to do this and close those gaps is about seven $75 million a year was required., If you wanted to keep it somewhat level-funded.

Price -- Lautenbacher at the time was not willing to jump into this thing at the $75 million. He wanted to jump in 50 and kind of ramp it up, and once you start doing that you created those -- you create those gaps.

And this has got to be balanced with everything else that NOAA does. They got a

$2 billion satellite program so it was just a -- it was a compromise that that was made.

I'm -- you know, gaps like that just, you know, to me are unacceptable. I mean, what you're saying is you don't need the vessel.

ED WELCH: Well, that's exactly right, because a gap, to me, implies there's an end date, there's an interim date -- I mean there's a gap period and then there's a start date.

ADMIRAL BAILEY: Right.

ED WELCH: But there's no start date on this. This is a gap that goes to the end of the plan.

ADMIRAL BAILEY: Well, that's a bit misleading, because the plan ended at '24. It's supposed to be a seven year gap when you go to Phase II which picks up at '25, you'll see that gap will end.

ED WELCH: Well --

ADMIRAL BAILEY: But you're right. It's not represented.

ED WELCH: Well, Phase II doesn't even exist yet. So to me, that's not a seven-year gap. That's an end.

And if I might make an analogy to some folks here, this looks like to me as far as your hydrographic ships, you're getting in the same position as the Coast Guard has gotten with their -- with their icebreakers.

And all of a sudden -- and they -- they let things go. It was a major capital expense. They couldn't come up with the political clout or the justification, and so let the icebreakers go. They even left -- they even decommissioned one, and now they're having to spend got knows how much money to recommission decommissioned 40-year-old ice breaker because all of a sudden the Arctic is a big thing.

And I would encourage the current administration to look at this, particularly in light of the presentation that was made earlier that was talking about one of the emphases of NOAA is going to be infrastructure.

Well, this is about as much infrastructure as anything is, and you've got a glaring gap that's more than a gap on one of your two main hydrographic ships.

That just looks very worrisome to me.

ADMIRAL BAILEY: I agree. I expressed my concern just as recently as a couple of days ago, that if you keep pushing things to the right, you're starting to line up design activities, construction activities, delivery activities.

And if the workforce is not there -- this is a very well choreograph -- all those major repair periods are very well choreograph. You got to hit those at the right time or -- because if you're going to extend everything, then you got to put more money, and the MRPs extended beyond that which you've already designated as a service life.

So it does -- it starts getting into a point where it's just unmanageable and you just reconstitute the thing.

Don't really want to go down the road because to the best of my knowledge, this is the first recap plan that's ever made it through an OMB.

ED WELCH: Any other comments?

John.

JONATHAN DASLER: Yes.

I guess just to -- questions about the acoustically quiet ships.

I'm assuming this is for -- for a better signal-to-noise ratio with sonars, is the primary reason, is that --

ADMIRAL BAILEY: I believe. I don't have anybody from fisheries here. I don't want to mischaracterize what they're doing, but I think their ultimate goal is to be able to measure the marine resources, the biomass, without putting instrumentation in the water.

JONATHAN DASLER: So that's just --

ADMIRAL BAILEY: Necks in the water.

But they've shown with some of the vessels -- they do comparative tows with the older vessels like the FREEMAN and newer vessels like the DYSON, and they've actually got some evidence that the more acoustically quiet vessels aren't scaring the fish as much as the other ones, so -- but it's -- it's at a price.

JONATHAN DASLER: Right.

So that's not -- I guess I was thinking that was for the NOAA survey vessels, but --

ADMIRAL BAILEY: See, that's the thing. They get into this multi-mission thing, and they want to be able to go fishing with them.

So do you want to pour 10, 15, whatever the number is, million dollars into acoustically quiet vessel that's going to fish 30 days a year, not to mention the fact I'm a little concerned that you hang too many ornaments on his Christmas tree, you're going to break its back.

ANDY ARMSTRONG: And that's one of the things I would offer to this group, is two dozen NSVs are going to replace a hydroship.

There's no longer going to be an exclusively designated hydroship, one would argue.

JONATHAN DASLER: Because a lot of the -- like the RAINIER, for example, the big gun, I mean, most of survey work is done by the launches.

ADMIRAL BAILEY: Right. And that's why I kind of put the brakes on the NSV study, to take a harder look at the requirements and see, you know, the 66 requirements were thrown on

the table and said put this on a ship. The ship was about -- in a conceptual world is about 300 feet, and we're not going to build a 300-foot ship.

Can't -- first of all, can't get the money for that. And then the O&M will eat you alive, but does it really need to be that big?

So that's why we're taking a harder look at the NSV requirements, acquisition, strategy, design and so on and so forth.

I'm only funded -- I got -- I think I got 3 million in '11 to do the design work.

JONATHAN DASLER: So I guess that said, in terms of multi-mission, have they thought about putting survey launches on the fishing vessels and making those survey launches or survey vessels?

ADMIRAL BAILEY: Want to answer that, Gary?

GARY MAGNUSON: No, they haven't.

ADMIRAL BAILEY: What the recap plan has demonstrated is there's a whole heck of a lot of work -- requirement is about 120 sea days a year that NOAA could do if given the assets to

do it.

Back in 1980 there were nine. I think there were nine hydrographic survey vessels. Three -- well, there's supposed to be four. Back then, there may have been four or five fisheries vessels. That whole thing has flipped. There's ten boats, ten ships designated exclusively to the fishery research right now, fisheries, mammals, so on and so forth.

ED WELCH: Any other questions?

SHERRI HICKMAN: What's the size of the new vessel?

ADMIRAL BAILEY: Which one?

SHERRI HICKMAN: The --

ADMIRAL BAILEY: The fishery survey vessel?

SHERRI HICKMAN: No.

ADMIRAL BAILEY: The NSV?

SHERRI HICKMAN: Yes.

ADMIRAL BAILEY: We don't know.

SHERRI HICKMAN: What's the length of it?

ADMIRAL BAILEY: We don't know. He's kind of -- I'm using this report to Congress to --

what we're telling them is here's some background. Here are the requirements. Here are the lessons learned over ten years of constructing fishery surveying vessels and HASSLER.

Here is the way we did it in the past. The acquisition strategy we used, here's the money we put towards design, contract design, detail design and so on and so forth.

Here's the way the industry does it, and here's the way we'd like to do it.

I can't ask for money. But what I'm trying to demonstrate to them is what the value of putting a little more money up front to do the types of analysis that need to be done to get a ship designed and constructed properly.

None of the five vessels that we just taken ownership of, none of them were delivered on time.

Like I said, HASSLER is almost two years late. And one can easily point the finger at Halter. It's not all Halter's fault. We're somewhat guilty in that regard, too, and then that's why I'm trying to switch it.

I don't want to jump into building six new survey vessels and get into the situation that we're in now. And FSV-5 is supposed to be its own class of ship, too.

And I explain to folks that you build one, you build a hundred. The first one, you got to take the time to do it right.

JONATHAN DASLER: So if you were going to ask the HSRP for a recommendation or if we were to consider a recommendation for the ship recapitalization, I guess one of the things I'm getting out of it is maybe more effort needs to be spent up front on design.

ED WELCH: Yes.

JONATHAN DASLER: I'm trying to get this into how we could table this into a recommendation to help this process.

GARY MAGNUSON: Yes. The HSRP based on Admiral Bailey's presentation is he's concerned about NSV-1 and NSV-7, RAINIER and FAIRWEATHER replacement such that we don't want to repeat the same problems that we saw with the fishery survey vessel and HASSLER, and we want to make sure that those two NSV vessels are designed to

do what the hydro folks need them to do.

And then I'll hand them my retirement letter. I don't know if they're going to be happy.

No. Again, it's a totally different administration. That's what we're working with. Lautenbacher was -- the guy spent 41 years in the Navy. He knew infrastructure. He knew you had to replace this stuff. He's a process guy.

And now we've got a new administrator, and she's focused in on other things, not to say that that's wrong, but sometimes we need folks like you to kind of nudge her a little bit and say this stuff is important from our perspective and here's why.

ED WELCH: Okay.

Admiral, thanks very much for your presentation. We'll be in further communication with you

ADMIRAL BAILEY: Okay.

ED WELCH: We're going to move now on -- Jill, we've got a real Washington NOAA acronym here, "IOOS."

So we're going to be talking about Integrated Ocean Observing Systems, and Jack Harlan is going to be making that presentation for us.

JACK HARLAN: I'll make one correction. We're not going to be talking about IOOS. We're going to be talking about HF radar.

That's what I do and what I am here to talk about.

ED WELCH: All right. We'll strike off "IOOS," and we'll go to --

JACK HARLAN: I'm the manager for the HF Radar National Network, and that's what I am going to focus on here.

This is more of a technical presentation, a little bit different from what you've heard today so far.

We're pretty late, and I don't normally give a briefing on HF radar in 25 minutes, but I will try.

So I may just skip some slides here.

ED WELCH: We've got some time devoted towards the end of the day towards some of our activities that we can -- we don't want you to

cut yourself short. Make the presentation you want to do.

JACK HARLAN: I understand.

So HF radar actually for oceanographic applications was invented in NOAA in the research labs back in the '70s, so you might say it's a mature technology.

There are three or four companies in the world that provide them, and so it has a lot of applications. This is kind of just a background. This is the basic take-home message, if nothing else.

There are some critical applications where it can be used. You get hourly, near-realtime service currents maps of them with relatively high resolution, actually less than a kilometer to about 6 kilometers, and they are small, compact systems generally that are relatively low maintenance and autonomously run.

So what under the IOOS banner we're doing is developing a data management distribution system for the data but also managing all the radars themselves and the people who supply

those radars.

I should say a little bit about myself, I guess. I'm actually a technical guy. I have a doctorate in aerospace engineering, but I've been working in radar for about 20 years, HF radar pretty much full time.

Actually go all the way back to the early '80s when this was developed in NOAA.

So I was brought into NOS several years ago, worked for Rich Edwing and Mike Szabados. We did a lot of groundwork within CO-OPS for establishing this network.

And as it's evolved slowly through the last few years since IOOS became an actual program, we've pretty much carried on those same activities but just in a little more -- gotten a little bit more focused now.

So just an outline. Okay, background. We did that.

Talk about what's out there now, the products that come out of it and some applications and where we're going in the future.

What are these things?

Well, they are small antennas. This is a transmit antenna. You can see there's our standard size person there next to it, and that gives you an idea of how big it is typically.

That's just a transmit antenna. There is a receive antenna there.

Actually, right now these are called CODAR systems. That's an acronym. But there's a company that actually is called CODAR Ocean Sensors who evolved from the NOAA labs back in the '70s.

Very small footprint on these. There's a typical enclosure. Sometimes you do need a little shed, though, depending on the situation. That was in Southern California there, and so the weather being what it is, you don't need a whole lot of infrastructure for weather.

How it works, well, I guess I would say very well. I'm not going to go into the technology too much, but it has some pluses, as you can see.

You can operate in any kind of weather. It goes well beyond line of sight up to 250

kilometers from shore. Very low power, so there aren't any issues with radiation. And, like I said, it's a mature technology.

We have problems on the minus side. Interference from other radars or other users, actually. Usually not a radar. Usual from radio

And you do need to have pretty much water that is deep enough that is -- it's just half the radio wavelength, so usually you're talking about few meters in depth or more.

Interference is a problem, and we're working on getting permanent licenses so that isn't a problem. And waterway nonlinearities, which I'm not going to get into, frankly.

So there are two basic kinds of radar. Ninety-five percent of the ones are the small ones, like you see on the left side there. There are a handful of larger ones that comprise these larger rays. But, as I said, only a handful or so of those.

What we've got is basically for the data distribution, there are portals, there are nodes and there are sites. Sites feed into the

portals. Portals feed into the nodes, and although acronyms there are a bunch of academic institutions where we have portals, because -- the reason is, is that those institutions supply nearly every single one of the radars in existence.

NOAA has about four of them, which are owned by CO-OPS, and those are part of the network, at least one of them is right now in the Chesapeake Bay area. But mostly we have 29 institutions with over 100 sites that have been identified.

Typically 80 to 90 of those are running. Since they are research radars, they go up and down as the PI sees fit, so that's what we're dealing with. We're dealing with a research-to-operations situation.

Radar specs. For some of you, this may be of interest. Resolution is on the order of a few centimeters a second. Range, as I was talking about, resolution from less than a kilometer to 6 kilometers.

And you can -- depending on how you process the data, you can get hourly or

20-minute updates, depending on what you're interested in.

And, as I said, 200-plus kilometers is not uncommon. We're conservative usually. We say about 150 kilometers.

And the accuracy is on the order of five to ten centimeters a second, depending on what kind of timescales you're talking about.

Surface current speed is actually one of the easiest things to measure in HF radar. As you go down, it gets harder to measure wave parameters. You can measure wave heights to some extent, and that's something that is likely to be coming along here.

It's probably hard to read this, but this is basically the number of radar sites over the last -- well, from 2004 to 2008. You can see there is a rapid increase in the number of radars in the US.

And the reason I don't go any further is because that's pretty much a straight line right now. It's pretty much capped off there. And a lot of that growth, at least 30 of those -- actually maybe 40 or more -- are

because of the California -- State of California COCMP program that was devoting $21 million to HF radar for coastal ocean monitoring.

And as those sites came into the network, it obviously made it grow very rapidly.

So looking at this nationally, I did have a link here to go to one of the servers. I don't know, should we risk doing that? Is that an idea? We can -- want to try it?

Okay. When the map comes up, click it. Go ahead and just zoom if -- if you could -- you know, you can just push that around.

VIRGINIA DENTLER: Okay. Where do you want me to go?

JACK HARLAN: May as well go down to the Gulf Coast. Yes.

Over the past week, I've been involved in getting three radars up and running down there. They were taken offline because of a beach nourishment project.

And so over last weekend, a bunch of people were working on their crew of about three people, actually, but working long hours

into the night to try to get everything up and running.

I had to get special permission on a short-term there.

So anyhow, there are a bunch of vectors there. The radar, right now we get probably on the order of 60 to 100,000 vectors every hour from around the country.

And we are -- there are radars all over the place, as I said, so there's actually three there.

If you go down and click that -- if you move your cursor down below the map, it says HF radar sites. There's a little box to the left. There you go.

Anyhow, you'll see there are three in the West Coast of Florida, and then the three that I just mentioned that were just put in.

And those data are going into the OR&R, that is our Office of Response and Restoration, to their trajectory forecasts.

If you pull one of those up on the Web or if you see one somewhere, it will say that HF radar data was used in that forecast.

So those are our two main applications, if you will, spill response and Coast Guard search and rescue.

Coast Guard is now using HF radar operationally on the East Coast in the Mid-Atlantic since last May, so it's been just about a year now.

So anyhow, that's -- that's just -- we can go back to the -- to the brief here. Okay.

Anyhow, that's a static picture just in case we couldn't get to the website.

So as I said, we -- what we're doing here is leveraging about $60 million in investment over the last -- these radars have been out as long as from the early '90s, so some of them are getting pretty old, but -- so it's probably a ten-to-one ratio, the amount that NOAA has put in, or IOOS has put in, sorry. Most of the money has not come from IOOS.

As I said, it's probably ten to one or twenty to one. So you're probably familiar with IOOS a little bit. You got to use 11 regional associations or regional coastal observing systems, including the Caribbean and

Alaska and the Pacific islands, mainly Hawaii and the Great Lakes, as well as our CONUS area.

We can talk all day about those, but this is a static from Google Earth of the sites that we now nominally have. This is fairly accurate.

The red or the different-colored circles indicate the type of radar. That is, some of them go out further from the coast than others, and you'll see down in the Gulf Coast there we have those blue ones which can go out 150 or more.

I know for a fact that those systems are going well out beyond that. So the yellow ones are like 45 kilometers, kind of our standard systems. The red ones --

The only ones that we have in the US right now are in San Francisco Bay, and they're just within the Bay because they're only used for those kinds of environments.

So we did a gap analysis. We had all the regions kind of put their wish list together and also looked at their needs, and you can see they tried to come up with where they would put

new radars if they had them.

And you can see the Gulf Coast was really missing quite a few there. But even so, there's a place where you don't see a gap and there should be now, because the radars that were there were defunded by Texas General Land Office, who had been funding them, and it was 100 percent cut.

So those radars actually aren't there, so there would be even more needed down in the Gulf.

But putting anything on the coastline down there is really difficult, and so if we could put in half that many, we'd be happy.

Now, if you go to CODAR, for example, and buy a radar, this is what you'll get for a standard system. It's a single pole, so it's much easier to find a place to put it.

And when you're working on coastal areas, you can imagine high real estate costs, people don't want radars and posts in their view shed.

So the smaller you can have something to put out there, the better. And so now we have a system that's single-pole. So I'm looking

forward to replacing a lot of the old ones as they -- as they need to be with these new ones if -- or putting in new ones that are like that.

It just makes permitting much, much easier, and permitting is the longest part of putting in a radar.

So applications, as I said, search and rescue is up there and spill response. Those are our two main groups that we work with I have been for many years now, but a lot of other things, harmful algal bloom forecasts and simply modeling, just improving our knowledge of how circulation is working.

You don't see marine navigation up there. Oh, yes, I do. There it is. All right.

Actually, can you try clicking on that top link? See if this works.

Long Beach Harbor, the Marine Exchange out there worked with a regional association out there, and they were already working with the so-called CEDA program, with the wave buoys, and said we'd like something simpler that's more integrated. And this was the shipping

industry out there saying we would like -- I probably have the wrong link. It's totally blank. I'm sure it's not down.

There's always all sorts of -- okay. There's the legend. Anyhow, you can choose all sorts of different things. You have the shipping lanes and nautical charts you can pull up underneath it. And don't ask me too much about what thought call charts they are, because I couldn't tell you.

So anyhow, it's an integrated product that was actually basically designed and asked for by the Marine Exchange out there. It wasn't the other way around.

So they said okay, we'll try to do it in Southern California. SCOOS was able to put that together with them fairly rapidly.

So you can get the radar data on here. You can get all sorts of wave information. I think you even might have -- well, you do have -- you have wave -- yes, all the nominal wave parameters.

And I'm not sure what all else is in there. But anyhow, it's just an example of

several products we have. Okay. Let's go on.

So one thing that CO-OPS has been doing is putting together a title --

VIRGINIA DENTLER: Did I do that.

JACK HARLAN: Yes, could you go back? I'll go back. That's underway, where you'll be able to get a tidal chart for -- you can pick out any one of those points within that big map of surface currents and look at tidal velocities for a particular point, and that's still, to my knowledge.

Let's see. Some of these are just really costly situations where HF radar came into play and helped out quite a bit.

In California where they have -- obviously beaches are very important out there, and they had to move some wastewater pipes, so they coordinated with the folks that provide the HF radar data out there to do some -- to time it properly to do the least damage.

So Deepwater Horizon spill, as I said, I've been working on this since it happened. And the radars came online Friday night. That's -- the red symbol there is the Deepwater

Horizon.

So we've got pretty good coverage there. No complaints so far.

As I said, spill hazmat is using this constantly now operationally. And this is just a static picture of that previous product I was showing you just in case we couldn't get to the website. That shows the nautical charts.

And another example, as I was talking about, where they had to basically cut this pipe open and start the spilling out wastewater a mile from shore instead of 5 miles from shore, which got people pretty excited, and so it was actually a huge success with --

I was there at a meeting when the head of the wastewater department out there was just ecstatic about how well this went because it could have been his job, possibly.

So for search and rescue, this is kind of a -- gives you an idea of the improvement that you can get when you use radar.

This is some simulations that were done prior to them going operational. And in the top right there, you see basically the spread.

The colors just indicate after a certain number of hours. But without using HF radar, you have this huge search area to do.

I mean, it's most of the State of New Jersey. And then in the bottom, that's really -- with the radar, the area is much smaller. And in the -- I think that's 24 hours in the green area. Maybe six hours. I'm sorry.

But it's -- nonetheless, it's a much smaller area any way you look at it. So Coast Guard is completely signed on to using this data whenever it's possible.

One of the big things that I spend a lot of time doing was just trying to -- we're working this international process, trying to get transmit licenses, because we're using frequencies on a not-to-interfere basis, and that's just not a way to do operations.

So it's been quite a process and it's got many hoops and we're still underway, so we got our fingers crossed on that.

We -- when we were putting the data management together, we used standards that

have been accepted generally. They're open standards. Basically it's the adopt, adapt or create, so hopefully you can adopt one or adapt an old one or as a last resort create one.

So two years ago, I convened a panel to create a national plan for taking HF radar to operations, and basically that plan was released last September. It's available at that website, at our IOOS.gov/hfradar, and it goes pretty much soup to nuts, the whole 9 yards, if you will, as to how you might do that.

What else is going on this year is that -- second to the last bullet is that we're strike to take the thing they're doing on the Mid-Atlantic coast and take that to the whole country to provide that search and rescue product for the Coast Guard, so there's a small amount of money available, and that's underway or will be underway soon when we get our FY10 funding out to the regions.

Last thing, there was a Small Business Innovation Research award that was just announced about a week or so ago. So we -- the

folks that submitted the proposal won the award and just -- and in a nutshell, it's -- you can -- to do attendant [phonetic] calibrations is really important for your radars, and there's a way to do that, they think, with -- using the AIS system as a target, a hard target.

So this -- and this is just a schematic cartoon of -- give you an idea of the search and rescue product. It's a lot of moving pieces, as they say, and it's all over the country.

A lot of the work is going on at SCRIPPS. That's SIO on the lower left there. Rutgers has a role. ASA is Applied Science Associates, and University of Connecticut, and of course the US Coast Guard, that's their environmental data server there, so --

And our partners at the National Data Buoy Center as well. So just all -- a lot of moving pieces, but a lot of very willing participants.

So again, this is just the same slide we saw at the beginning and reiterating some of these things. It's been around for a long time

and pretty much works, so I think that's where I'll stop.

ED WELCH: Okay, Jack, thank you.

Comments, questions?

Andy McGovern.

ANDY McGOVERN: Thanks.

Quick question: Has there been any studies done -- I see where the HF -- it's great at giving the surface currents, which is good for search and rescue and spill response; but navigation, a lot of times it's the current below the surface may be different.

Has therein been a study with, let's say, an ADCP and HF radar run together and linking the two just to get a relationship between, let's say, at that point between surface and water column currents?

JACK HARLAN: Well, that's always going to depend on the circulation of that particular place. They could be calling this -- it's all sort of relationships, right?

I mean, so yes, I mean, there have been; but, you know, the radar only sees, if you will, the upper approximately one meter, three,

you know, or so of the flow.

So beyond that, no, you know, you don't know.

ANDY McGOVERN: I guess my question is could you -- because the HF obviously takes a much larger area, if you did enough studies between the relationship, could you now cast based on the surface current what's going on below it on a normal day?

JACK HANLAN: I see what you're saying, but it would have to be site-specific, I think.

ANDY McGOVERN: Oh, yes, definitely.

JACK HANLAN: Oh, sure. Sure, yes.

And there have been, like I said, some studies on that, but it would have to be very site-specific.

ANDY McGOVERN: As I understand, it would be a lot easier to maintain. ADCPs are maintenance -- not necessarily nightmares, but they have to be cleaned, where this is --

JACK HANLAN: Yes.

ANDY McGOVERN: -- easier.

Once you did the studies, then you tend to be done.

JACK HANLAN: Yes, I think you could. But -- well, there's some technical challenges there in terms of, you know, when some of your shallow areas are so shallow that there's all sorts of nonlinear effects and turbulence and -- I don't know.

I can see the hydrodynamic challenges there, you know, but it's doable.

ED WELCH: Jon Dasler.

JONATHAN DASLER: Yes.

Do you collect backscatter reflectivity?

You mentioned water qualities. I don't know if that means you're just tracking the currents or if you're getting some kind of reflectance on that.

And if so, do you think there's the ability to track slicks and oil with HF radar?

JACK HANLAN: No. That was only meant to -- water quality in the sense of telling the -- you know, anything that floats in the water we tell you is surface current.

Anything floating, whether it's a person or garbage or whatever, we can help with that.

But no, the reflectivity, if you will, is

basically unchanged by the water quality or the water changes.

Only when you get into very slow salinity areas, like the Great Lakes, for example, that's when you're going to have some attenuation that the range is going to be really -- really degraded.

JONATHAN DASLER: It will be interesting, I guess, if you get a big enough slick within the range, because I wouldn't suspect you'd see some change on a large slick.

JACK HANLAN: Yes, it shouldn't.

In fact, if you do the math, the current waves we're measuring on the order of 10 meters in wavelength.

So in theory, you should actually get better propagation because your wave becomes more sinusoidal rather than cussant and have a nonlinear wave, so you could actually get even more perfect -- I mean, if the sea were a perfect sinusoid, you know, we'd have perfect radars, but it's not, so we --

JONATHAN DASLER: You also mentioned difficulty in siting.

Is there much bandwidth required at these sites or is it relatively low?

JACK HANLAN: In terms of frequency?

JONATHAN DASLER: Well, just transmitting data off whatever, a site -- I'm assuming you can't use something like QoS --

JACK HANLAN: Yes. In terms of that kind of bandwidth, yes. Communications bandwidth, yes. You need high-speed Internet really anymore. You need a high-speed -- although we have now -- we have everything from radio modems to cell modems, regular old landlines, satellite communications and hard cables, and so everything is possible.

Whatever is best, you know, we'll use.

JONATHAN DASLER: There's a lot of platforms out in the Gulf --

JACK HANLAN: Yes.

JONATHAN DASLER: -- where I guess visibility isn't so much of an issue.

JACK HANLAN: Yes. There are a lot of challenges working on the oil platforms, and that's another half hour. It's -- we've tried that.

ED WELCH: Other comments?

Andy?

ANDY ARMSTRONG: Will these work from a ship or do they have to be absolutely still on the land?

JACK HANLAN: That's a good question.

There have been studies not that long ago, within the last few years, from -- ONR funded some studies, just relatively recently, and it's -- it's real tough, but it's -- it may be possible.

I -- you know, I wasn't involved the study, obviously, but it's -- it may be doable, but it's going to be hard.

ED WELCH: Anyone else?

Do I understand you correctly that for most of these sites, some entity other than NOAA is putting up the majority of the funding?

JACK HANLAN: Absolutely, yes. Almost all of them.

ED WELCH: Okay.

So while NOAA has been involved in the technology development and the promotion and uses the data that's generated by these or can

use the data, you're not really -- it's not really a budget -- doesn't have a big budgetary implication for you.

JACK HANLAN: No, no. It's a huge leveraging, as I said, yes.

Like I said, about $60 million we estimated last year had probably been put into HF radar over the last 18 years or so.

ED WELCH: Is the Coast Guard funding some of these?

JACK HANLAN: No, none.

ED WELCH: They're using it, but they're not funding it?

JACK HANLAN: Yes. Generally they don't fund.

ED WELCH: Sounds like the Coast Guard. I'm sorry. I shouldn't say that.

JACK HANLAN: Yes.

ED WELCH: Okay, good. Thank you. Excellent.

All right. We've come to the part of the program where we've got some time for public comment.

Kathy, did you give me the list or do you

want to --

KATHY WATSON: Right here.

We're going to start with Bob Hamilton with the Woods Hole Group.

Is he still here?

BOB HAMILTON: Right here. Where do I go?

ED WELCH: Why don't you go up there.

BOB HAMILTON: Thank you for the opportunity. I will be brief.

Again, Bob Hamilton with the Woods Hole Group.

I just wanted to take this opportunity to brief you on a local initiative that's taking some time, but our hope is to put another dot on the NOAA PORTS map some day.

We're a company that's involved -- we're a contractor to NOAA, CO-OPS. We do a lot of current data collection. We service a lot of the PORTS equipment on the West Coast, Gulf Coast, and here on the East Coast, and a few years ago took it as sort of a personal initiative to fill a conspicuous absence in the PORTS network, that being Boston and some areas in the Northeast. It's interesting to us

there's not a PORTS system in Boston.

So a few years ago we started working with a group of local stakeholders, including the pilots, the Boston Pilots, including some of the elected officials, including some of the environmental organizations.

We worked with some folks to host some workshops where we would have prospective users of the PORTS data in Boston and the vicinity, come to a number of workshops, define what types of data might be most usable in the region.

We actually extended those workshops throughout to the north, through New England, up through Maine to get sort of informal advice from a number of folks on the types of data they'd like to see.

This was done cooperatively with some folks from NOAA, of course. And as you imagine, the wish list came back pretty big. So we went back and sort of collectively tried to do some prioritizing, worked with some folks at NOAA to define what a Boston PORTS might look like and that, again, became maybe bigger

than a Boston PORTS.

And subsequently have had some follow-up discussions with folks on trying to implement a program. I'd say this to you today, just to let you know, that hopefully this will be coming forward and it's something that you'll see as reality some day.

As you're aware, there are certain challenges associated with the funding of PORTS, whether it's the installation or the ongoing operation and maintenance.

So where we stand right now is where we're building sort of a local coalition of stakeholders who have a vested interest. And a few small victories along the way, some small progress but no victory as of yet.

I guess the reason I'm sharing this information with you is so you know that it's going on. We hope to have an expanded network. To the extent that you see any activity on this, obviously the local stakeholders are looking for support.

And our short-term goal is to build enough stakeholder interest so we can formally request

NOAA to come in and do the user-needs assessment that would then go to funding.

So that being said, it's just a simple update on some local activities in the spirit of this being a regional meeting. And hopefully some day we'll have good news that it will be on a website and there will be data that are being used.

That's all I have. Thank you.

ED WELCH: Thank you, Bob.

Do you have any observations as to why there's a -- Boston has not had a PORTS up to now?

Is there any conclusion you came to as why it was omitted in the system?

BOB HAMILTON: I guess the simple answer is initially lack of awareness, frankly. So that part of the education process is still going on.

I think the basic reason, the simple answer is lack of funding, and it's probably as simple as that.

ED WELCH: Who are some of the officeholders that you're working with.

BOB HAMILTON: Officeholders?

ED WELCH: You said political officials?

BOB HAMILTON: Right. So Congressman Delahunt is the primarily -- his office is primarily behind the initiative. They're very supportive. He's actually exiting his office this fall, so we're in the process of looking for some additional --

Well, "we." There's a stakeholders group in the process of looking for additional support there. But they definitely stepped up and helped coordinate the users meetings that we had to define the needs. But now it's a matter of taking it to the next step.

There was one small victory -- it's probably debatable whether you consider it a victory or not.

There was a debatable state bill in response to an oil spill that included some taxes on transit of cargo, and that may or may not be a good idea, depending upon what side of the fence you fall on, but there was a line we put into that bill that if money is generated in some way, shape or form, that it could be

used for installation and/or operation of a PORTS system.

And our hope is that that will become reality some day. This will be a way for the local stakeholders to make it happen, lacking federal support.

ED WELCH: Okay.

Incidentally, Woods Hole Group has an interesting periodic email newsletter about their activities on the list, so I enjoy seeing that periodically.

Are there questions? Comments?

Tom.

TOM JACOBSEN: Jacob --

ADMIRAL BAILEY: Two Toms. Long Beach Tom.

TOM JACOBSEN: Okay.

How big a system is the Boston system in rough costs, what you're looking at?

BOB HAMILTON: The numbers are a little bit old at this point. So, like I said, the first wish list that came back was huge.

When it was pared down, the basic requirements looked somewhere -- something like

New York PORTS. So that's -- somewhere in between Narragansett and New York PORTS, something like that, six to ten station type installation with a range of equipment from current meters to meteorological to actually there was some requirements for airgap as well.

The installation costs, as I remember, when they're estimated at the time were on the order of hundreds of thousands.

Annual operations and maintenance costs were on the order more of like a hundred thousand or a little bit more than that, depending upon how many stations actually went up.

TOM JACOBSEN: Okay.

BOB HAMILTON: And that includes the full regular, you know, monthly service of equipment as per the NOAA protocols.

TOM JACOBSEN: Mm-hmm.

BOB HAMILTON: And I would add, admittedly, why are we involved in this? We're doing a lot of this work. So there's some real and some perceived self-interest in trying to make this happen.

But that's why we're building this group of stakeholders that really wanted to make it happen, and we feel like we're doing this all over the place, and in our backyard there's not a system.

So to the extent that we can help make it happen, we understand it's going to be on the heels of the actual users, and that's the path we're taking.

ED WELCH: Tom Skinner.

TOM SKINNER: Just to follow up a little bit on that, I've often wondered the same question, why Boston doesn't have a PORTS, and was talking informally at some of these meetings and others about PORTS in Boston and thought, well, maybe one of the reasons is that the users may not be familiar with everything they can be used for.

Discussed it with Deb Hadden, who is the assistant port director for Massport, and we were talking about trying to get some folks from NOAA up to do a briefing to the monthly port operators group on how various people, you know, pilots and so forth, in other areas use

PORTS.

And it looked like things were coming together, and I got an email somewhere in the middle of it that was basically -- obviously an email from NOAA that said, you know, faculty members shouldn't be scheduling meetings, which I think sort of missed what I was trying to do.

And fairly recently I got -- I saw Deb Hadden, and she said I still haven't heard from anyone from NOAA about doing a PORTS presentation. And I mention this because if this is something that's of interest, I think there's some -- a fair amount of willingness to -- receptivity to having a presentation before the port operators groups in the Boston area and still -- still a window to maybe generate some interest among user groups.

ED WELCH: Well, perhaps that might be something we want to consider for our report to the administrator.

Any other comments or questions? Okay. Thanks. We appreciate you being part of this. Good presentation, and thank you very much.

BOB HAMILTON: Much appreciated.

ED WELCH: Okay.

Now we've got Don Jacob from SAIC.

DON JACOB: Thanks. I don't know if I'm the last person, so I'm standing in between you and your liberty card, so I'll keep this real brief.

ED WELCH: I'm the last person, so don't worry about that.

DON JACOB: You take the heat then.

I'm a vice president/division manager in Newport, Rhode Island and Mystic, Connecticut office, so kind of a regional guy.

First of, thanks for having this up here rather than having to go somewhere else. I really appreciate the drive this morning rather than a flight.

And we have two major customers. The first is NOAA. The second is the Naval Oceanographic Office. So in our business this is kind of our core business.

The first thing that I really enjoyed today, I thought it was a terrific group of speakers. And the panel, in particular, I thought was fantastic.

Speaking to that, on behalf of -- I got a couple of my colleagues here, John and Larry from his previous -- pre-retirement life, I'd like to just reiterate that the commercial contract survey community does, in fact, have a fairly robust ability to react to things such as the two issues that were talked about on the panel up in Maine and Canada with a flyaway capability on very short notice using vessels of opportunity to go out there and get surveys like that done that wouldn't really require NOAA.

Secondly, in response to John's gaps there, you know, there may be -- I guess I'll just say that there may be places where industry could help fill those gaps when they almost never really happen, despite planning.

And you were talking about a hundred million to $200 million cost for a -- for an oil spill event or something like that.

When you look at the $30 million a year that Congress appropriates for its contract survey backlog line item, it's a fairly small number. It's well below the noise in the

national budget. So I would continue to push to see that raised, because you get a lot of bang for the buck.

And secondly, there was discussion about tide stations, lack of tide stations, specifically in the Arctic. We've been doing a lot of work with the Navy, Naval Oceanographic Office, on the ellipsoidal reference survey.

I know that NOAA has also done ERS, but this is a technology that's becoming very mature. The Navy is implementing it. It was a -- NAVO's CO's number one priority last year for us, and it really allows you to do very accurate tidal work without tide stations being involved, without using GPS, the z-component GPS, something that's worth maybe having a brief at a future meeting.

And thirdly, kind of a kudo to NOAA, who is a very valued partner of ours. They took particular -- I guess I'm talking here about Jeff Ferguson in particular, for whom I have great regard.

But NOAA HSD has done a really good job of balancing ARRA funding and the contract survey

backlog funding for contractors in such a way that for many of us, it's allowed a year-round capability so that you're not running out of funding in the winter and then hoping against hope that the line item gets passed and you're not in a continuing resolution situation, wondering whether you're going to be able to get going in the spring and get mobilized, et cetera.

So that's really -- it's something that NOAA has done with malice aforethought. They really thought this through. It's been a great help to contractors, and it gives us a much more stable workforce.

It lets -- lets us get going right in the spring without having to worry about the line item and the budget. So I commend HSD for doing a really good job.

And there are definitely cost efficiencies there, because you save yourself one demobilization and a remobilization, and it's a good thing all around.

So that's all I have to say except thank you for letting the public attend. It was a

pleasure.

ED WELCH: Well, thanks, Don. Don't leave.

Could you talk a little bit more about the specifics of what your company did with the ARRA stimulus funding?

DON JACOB: Yes.

Well, in most cases stimulus for us was for degree mapping. And we did that in the Gulf Coast -- we had one in -- one in Georgia and one in the Gulf Coast.

It allowed us to maintain our workforce and, in fact, hire two additional survey personnel, junior survey personnel, one of whom was right out of Maine Maritime and another who is -- we tried to steal from Nome, successfully, sorry.

And we have a third open billet right now, so it really did what it was supposed to do, put young Americans to work, and it provided a great amount of additional survey.

But it was a case -- I think a classic case of what the -- what the Obama administration called shovel-ready projects in

the sense that NOAA already had these survey sheets ready to go, the remapping ready to go.

They knew what they wanted to do, and it was simply a case of using existing contract vehicles -- in our case, the omni vehicle -- and applying money to those vehicles and putting contractors to work, so it worked very well.

And I don't know if it affected John, but for us it was a really nice way to keep going for a couple of years.

ED WELCH: So basically, it -- it provided an infusion to a private company. It hired two or three people that otherwise wouldn't have been hired.

DON JACOB: Correct.

ED WELCH: And it produced data that the government needed and is now going to work.

DON JACOB: And it's data that would have been collected but further down the pipeline, you know, two years, three years farther down.

They would have gotten there, but it let us accelerate, let us expand a little bit.

The challenge is going to be now to --

when the ARRA dries up, to hang onto those folks who, you know, after you've trained them for three years, they're even more valuable.

And so we'll work with HSD. And, you know, I know that Jeff's very aware of that, and we of course want to grow. But it was a -- I think a very, very successful application of the ARRA.

ED WELCH: Are there comments or questions for Don? Thanks.

DON JACOB: Thanks.

ED WELCH: Thanks for hanging in there.

Are there any other folks that didn't sign the list that would like to make a comment or address the panel? Here's your chance.

Okay. All right. We've come to the official end of our program. We have a little bit of a wrapup.

One thing I think might be worth taking a minute or two, do people on the panel have specific things that they think we ought to at least put on the list for consideration tomorrow as far as going into our report and recommendation letter to the -- to the

administrator?

Particular themes or specific things we might want to speak about?

For example, Tom, maybe your observation about helping arrange a meeting of the Boston user's community and appropriate folks from NOAA as far as possibility of the Boston PORTS system.

That would seem to me to be one thing we could do.

Tom?

TOM JACOBSEN: Well, I'd like to talk a little more about PORTS also.

This morning when we listened to Jennifer in her next-generation strategic plan, you never mentioned PORTS, the futures of PORTS. So I think we should talk a little more about PORTS across the nation.

ED WELCH: Okay.

And I think we might have some of those on tomorrow's agenda. But in terms of, you know, possibilities for our recommendation list, we can certainly do that.

Andy?

ANDY McGOVERN: Thanks, Ed.

I think we need to build on -- your observation of this morning on the importance of the marine --

ED WELCH: Excuse me. Kathy, are you getting this stuff down?

KATHY WATSON: Yes.

ED WELCH: Okay.

ANDY McGOVERN: The Marine Transportation System where it had it just under coastal communities, that's really got to be ramped up. It's not a coastal community issue. It's a national issue.

I think we need to punch that up with a formal recommendation.

ED WELCH: Reemphasize to NOAA that commerce doesn't mean coastal commerce but means meanings national commerce. Okay.

Jon?

JONATHAN DASLER: Yes.

I think perhaps maybe we can get that read back from the -- or get a -- I don't know if we can get that from the court reporter, Admiral Bailey's comment on the fleet recapitalization.

I don't know if we captured all of that, but if we could get that pulled out of the transcript, I don't know if that's possible, to evaluate, recommendation about the --

ED WELCH: Some comment that we don't want to -- we don't want to -- we want to make sure the hydrographic replacement vessels actually perform the hydrographic -- are capable of performing the hydrographic services.

And also I'd like to express some concern about this looming gap or -- I don't think we ought to call it a "gap." I think we ought to call it a "void" for the -- for the second hydrographic vessel.

JONATHAN DASLER: And I guess capturing his comment about more planning up front as opposed to referring to in the process.

ED WELCH: Right.

Larry?

LARRY WHITING: The gap was defined as charter work, which implies contracting. So I'm not too sure it's the best way to go.

ED WELCH: We'll work on that. I'm sure we can come to some acceptable way of phrasing

it.

Anything else? Matt.

MATT WELLSLAGER: I've got one question. It seems that the direction of NOAA right now seems to be moving a little bit more towards ecosystems, environments, that type of thing.

And I'm wondering since we haven't put the final pen to paper on the five most-wanted, should we try to embellish a little bit more into the five -- what is it, the five findings here and add some type of a environmental touch to this to get administration's bite into it a little bit more?

ED WELCH: Well, that's a fair point, and we're going to be discussing where we are tomorrow as far as the reaffirmation and revision of the -- of the most-wanted list.

So I think that's probably appropriate for -- as part of that discussion. So if you can -- if you can remember to bring that up, that would be good.

MATT WELLSLAGER: Okay, thank you.

ED WELCH: Tom?

TOM SKINNER: I think we usually do this,

but just either a recap of the presentations on the panel or recommendations that come out of what was discussed I think is always useful, and I think --

I mention a recap just because sometimes it's just good to be able to see what we heard in our periodic reports to the administrator.

ED WELCH: Okay.

Well, I think a recap is good. And in terms of recommendations, I think we ought to pay some attention to Captain Peacock's efforts with the Maine senators about possibly some attention to the survey needs of that area up there and maybe have some kind of endorsement or acknowledgment that that seems to be an area that there's a great deal of interest in.

Also, I think it would be worthwhile us commenting in some way on the need to not let the process or new choices of membership on this panel extend any longer than it has to as far as the new solicitation.

KATHY WATSON: What do you mean by that?

ED WELCH: Well, in other words, we missed one year, and we're going to have 11 people

replaced all at one point. Let's not miss another year.

If we're going to -- if we're going to defer the decision, at least let's have a decision, you know, in this -- in this particular round. And, you know, otherwise we -- although I like all you folks.

I mean, heck, we'll all keep coming to the meetings. It's good for us to keep coming to the meetings, but I'm not sure it's what Congress wanted when they directed that the membership rotate on periodic schedule.

Did you have something, Elaine? Please, Elaine.

ELAINE DICKINSON: I was saying make it a lifetime appointment.

ED WELCH: Well, then we'd have to get Senate confirmation. I'm not sure some of us could get through Senate confirmation. Okay.

How about administrative stuff, Kathy, of our acting designated federal official?

KATHY WATSON: Well, let's see. That would be -- well, getting back to the membership solicitation and the FRN -- I'm

sorry.

Getting back to the FRN membership solicitation, it closes June 30th. We're expecting to take about maybe a month and a half or two months. That depends on Rich, Juliana and Captain Lowell evaluating how many applicants we get in. We might have 120. We might have 150. We don't know.

Those recommendations --

ED WELCH: You're being awfully optimistic, aren't you?

KATHY WATSON: Well, there are a lot of 2009s that are already responding back that they still want to be considered.

Okay. And those recommendations, there's 11 panel people that this group -- evaluation group selects goes to NOS, Dave Kennedy. And of course he reviews it, approves it or not, and we go back if he wants us to go back to the drawing board.

And if not, it goes to Lubchenco. And then of course that's her discretion. We're hoping that these panel people that we recommend, she would approve those.

But if so, then we're hoping a decision would be made by October. Then that would give us two months to do security clearance process and all of that, January 1.

SHERRI HICKMAN: How many do we have now? How many applicants, resumes?

KATHY WATSON: I haven't receive any 2010. I've just actually gotten 2009 people that are saying consider me for the application process.

SHERRI HICKMAN: And that was how many?

KATHY WATSON: I probably got about maybe 15 people already.

SHERRI HICKMAN: Okay.

KATHY WATSON: Since the FRN was issued April 22nd.

ED WELCH: But in the 2009 solicitation, didn't you get over 60 applicants?

KATHY WATSON: There were 70 applicants.

ED WELCH: So that was a pretty good number, a pool.

Can I ask if there was, you know, obviously a feeling that they wanted to throw a wider net for applicants, what did NOAA do to throw a wider net?

In other words, why are we -- why are we not assuming that the current pool of applicants won't be pretty much looking like the last pool of applicants?

KATHY WATSON: There's no guarantee on that.

JULIANA BLACKWELL: I believe, you know, when they readvertised, there was a slight wording change, trying to encourage a wider -- a few additional scientific areas that were highlighted there.

But hopefully through word of mouth and through your support, it will reach out to invite other subject matter experts in these -- in these fields to apply for these positions as well.

So there's no guarantee, but we're hopeful that we'll have a wider variety in other areas that will be applying for it this time.

ED WELCH: I'm just maybe a little bit jaded, but it just seems like to me that the -- that the leadership of the Federal Register is sort of the rather narrow and rather constant group of people.

So are we -- are we looking at sending messages out other than through the Federal Register?

KATHY WATSON: Ed, I've been instructed by NOAA leadership. I've already sent the Federal Register announcement through the NOAA civil rights office. They are a dispersing it amongst their constituents and so forth.

I've already sent it through NOAA -- excuse me, NOS P-Pad, and they're sending it out through their legislative processes.

And then, of course, after we get back from this meeting, I'll continue to send it out through all the other channels.

ED WELCH: Okay. That's good.

Some of you read Dennis Bryant's marine -- daily marine blog, and I know he put something in his, but those are -- those types of things are a great way of putting the word out.

Andy.

ANDY McGOVERN: I was just trying to say, if you're looking to reach certain scientific specialties, then I would look to advertise in newsletters that those people would be reading

and not will the Federal -- in addition to the Federal Register.

Because, as Ed said, those that read the Federal Register have to read the Federal Register. It's not exciting.

ED WELCH: And people that constantly read the Federal Register, you know, they -- it starts affecting them. And you can see what it did to me.

LARRY WHITING: One quick question.

ED WELCH: Larry.

LARRY WHITING: Yes. Okay. We extended -- one of these terms -- is the new term going to be for a three- and in the four-year?

KATHY WATSON: No, it's going to be for the full four-year term. The two-year, three-year and four-year was only when the HSRP charter was first established, and then everyone after that became four-year terms.

And then this new panel will be a four-year term.

ED WELCH: That's a good point Larry raises.

So, in other words, under the current situation, we'll be getting 11 presumably new appointees. All of them will be four-year terms, and all of the terms will run out in four years from now.

SHERRI HICKMAN: Well, they're not going to -- you're only going to pick five this time, right?

KATHY WATSON: No. There's going to be 11 vacancies to fill. Your five that -- you were extended.

ED WELCH: That's a problem. That's a problem. And we ought to highlight that problem in our -- I mean, we met -- I mean, "we" -- the calls of just the circumstances, we missed a year.

But we don't need to institutionalize the missed year, which is what we'll do if these things are four-year appointments.

I don't know if the statute gives flexibility to have less than four years appointments.

ANDY McGOVERN: It's for the remainder of -- the terms -- it's a third every, you

know, quarter, whatever it is.

And then if you're appointed -- because this is what happens. I've seen people appointed to the remainder of the term, and it was so late that they got one meeting out of that term.

So it's -- it's for remainder of that term, and then they can be reappointed again, but --

JONATHAN DASLER: Actually, we were looking in the charter earlier, so I think before we were just looking at the Hydrographic Services Improvement Act, but it's spelled out pretty good in the charter.

Actually, in the charter it says at the end of four years, you can continue on until you're replaced. So there wouldn't be a limit necessarily at four years but it's until your replacement is found. I think it's under Item F in that charter.

But I think the other thing in the charter -- and I think that was some of the concern that was also raised -- is is the focus going to change.

But the focus of the panel is pretty specific in the charter, so if -- if the administration is thinking of changing that focus, then something would have to be done with the charter as well.

ED WELCH: Well, we really identified two related but separate issues here. One is the expertise and the qualifications and the background, and the second is preserving the rotational period of whoever is chosen.

So we -- we ought to discuss that a little bit more as far as what we want to say in the letter.

Okay. Is there anything else we need to attend to this afternoon? Kathy?

Tiffany has something.

TIFFANY HOUSE: I need the rest of the travel vouchers and timecards. I think I only have this side of the room.

ED WELCH: And those are in the back of our blue packets?

TIFFANY HOUSE: Yes.

ED WELCH: And you don't need them right this second but before we get out of here

tomorrow.

TIFFANY HOUSE: Yes.

ED WELCH: Okay. All right. Kathy?

KATHY WATSON: Okay.

For the dinner at Hemmingway, it's 7:15 p.m. So there is a shuttle that can take nine people.

Does anybody have a rental car? Otherwise --

TOM JACOBSEN: I have a car.

KATHY WATSON: Okay. Then the rest of you will have to do a car or a taxi.

TOM JACOBSEN: I can cram about eight. No, three, four.

ED WELCH: So what time do we need to be down here in the lobby?

KATHY WATSON: 7:00. That's good enough.

ED WELCH: 7:00, okay. And then we start -- we start our program tomorrow at 8:30 here?

KATHY WATSON: Yes.

ED WELCH: And is there a breakfast like there was this morning?

KATHY WATSON: Yes.

ED WELCH: And what time will that open up?

KATHY WATSON: 7:00 a.m.

ED WELCH: 7:00 a.m.

So if we come down at 8:30, the eggs will be cold.

KATHY WATSON: So get here at 7:00.

ED WELCH: Okay. Well, I don't know if 7:00 a.m. is worth hot eggs or not.

Anybody else have anything?

Andy Armstrong.

ANDY ARMSTRONG: I did see a note that testimony tomorrow is going to be webcast. So if the chairman wanted, we could look at it, it might be way late or out of sequence, but just -- just bring it to your attention.

ED WELCH: And so if we have a choice between a tie with a spot on it and a clean tie, we should wear the clean tie if we're going to be on the Web.

ANDY ARMSTRONG: No, I mean the Arctic testimony.

ED WELCH: Oh, the -- oh, you mean we aren't going to be webcast. I'm sorry. So

we've got competition for our own proceedings.

We might want to consider having webcast this thing at future meetings, though. It might be -- it might -- it might blow some servers with all the people coming on.

Okay. Let's -- we're degenerating fast here. Thanks to everyone, and we'll see everybody informally later this evening or formally tomorrow morning. Perfect.

(Proceedings adjourned at 5:55 p.m.)