U.S. DEPARTMENT OF COMMERCE

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

HYDROGRAPHIC SERVICES REVIEW PANEL

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PUBLIC MEETING

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THURSDAY
MARCH 17, 2016

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The Hydrographic Services Review Panel met in the Sam Houston Ballroom, Tremont House Hotel, 2300 Ships Mechanic Row, Galveston, Texas, at 8:00 a.m., Scott Perkins, Chair, presiding.

MEMBERS PRESENT

SCOTT R. PERKINS, HSRP Chair
WILLIAM HANSON, HSRP Vice Chair
DR. LARRY ATKINSON
DR. LAWSON W. BRIGHAM
LINDSAY GEE
KIM HALL
EDWARD J. KELLY
DR. DAVID MAUNE
CAPTAIN ANNE MCINTYRE
JOYCE E. MILLER
CAPTAIN SALVATORE RASSELLO
EDWARD J. SAADE

SUSAN SHINGLEDECKER

GARY THOMPSON

NON-VOTING MEMBERS

ANDY ARMSTRONG, Co-Director, NOAA/University of New Hampshire Joint Hydrographic Center
JULIANA BLACKWELL, Director, NOAA/NGS
RICH EDWING, Director, CO-OPS, NOAA

STAFF PRESENT

REAR ADMIRAL GERD F. GLANG, HSRP Designated Federal Official
GLENN BOLEDOVICH, NOAA/NOS
CAPTAIN RICK BRENNAN, NOAA
ASHLEY CHAPPELL, NOAA/OCS
GINA DAVENPORT, NOAA/NOS
CHRISTA JOHNSTON, NOAA/NOS
GARY MAGNUSON, NOAA/OCS
LAURA REAR MCLAUGHLIN, NOAA/CO-OPS
RACHEL MEDLEY, NOAA Customer Affairs Branch
LYNNE MERSFELDER-LEWIS, HSRP Coordinator
RUSS PROCTOR, Chief, Navigation Services Division, NOAA/OCS

DR. NEIL WESTON, Acting Chief, Coast Survey Development Lab

C-O-N-T-E-N-T-S

P-R-O-C-E-E-D-I-N-G-S

(8:14 a.m.)

CHAIR PERKINS: Okay, good morning. If we could be -- if you could take your seats, let's try to get the show on the road.

Great. Thank you. We'd now like to officially convene day three of the Spring 2016 meeting of the Hydrographic Services Review Panel.

I'd like to just start with a couple of remarks recapping some of the activities from yesterday. We had an excellent Panel presentation on regional vulnerability and resilience of the Texas coast.

I want to extend our thanks to Dr. Jeffress for putting that Panel together. You know, we heard a lot about the planning and the preparations that are being made for the 2022 datum change.

The Panel had a beautiful blend of professional practitioners and academic researchers. So, again, thank you Dr. Jeffress

for that.

We had the pleasure of having Dr. Callender, the Deputy AA with us, you know, yesterday as well. And appreciate his commitment and participation to the Hydrographic Services Review Panel.

We have some business activities that we're going to need to take care of here today before we conclude the meeting. Among those are completing the nominations process for the positions of Chair and Vice Chair.

We need to also identify a Chair and a Co-Chair for the Technology Working Group. And then we need to finish the action of consolidation or discontinuing of the four existing working groups.

Another item of business that we'll need to make sure we take care of is the discussion and selection of the location for the next meeting. And the dates for the meetings.

And so, I'm going to give you fair warning, look at your calendars, you know, try to

put a little thought into that. The end of August, beginning of September is what we're targeting.

So, the week based on the doodle poll that went out membership August 29, September 3, you know, was targeted. That is right before the Labor Day holiday.

You know, so travel on that Friday, September 4 could be busy. But, you know, look at, you know, take another look at your calendars and we do need to conclude that before we close today.

We're going to make an addition to the scheduled published agenda. You know that I've asked Ashley Chappell if she'll give us a briefing, you know, on the National Coastal Mapping Strategy, how the SeaSketch tool has been used effectively.

And if she could share with us a little bit of insight about the 2015 JALBTCX workshop and other IOCM activities. So, we're going to put that in at the beginning of this

morning's schedule.

So, with that we have something that we would like to do that also wasn't on the agenda. And I'm going to turn it over to Joyce Miller.

MEMBER MILLER: Admiral Glang, we've totally enjoyed working with you. I highly respect your -- excuse me, you aren't going to hear much from me today.

You're vision of the future of the Hydrographic Office, as well as your strong leadership in giving the Hydrographic Services Review Panel a clear mandate of how we should function. And what our roles are.

I've personally found that extremely positive. And I think it's helped the HSRP be a lot more efficient if you will.

So, in light of that, we have a very small token of our appreciation and respect. And if our -- I hope everybody saw it.

But, since -- I found a way to shake your hand, but I just washed this off.

(Laughter.)

RADM GLANG: Oh, thank you.

(Applause.)

CHAIR PERKINS: Thank you Joyce. And congratulation's Admiral, on your upcoming retirement. You will -- your service will be missed.

Ashley, are you in a position where we can? Great.

MS. CHAPPELL: Sure. Can I pull up a couple of slides? I'll just talk.

Well, good morning everyone. I'm Ashley Chappell, NOAA's Integrated Ocean and Coastal Mapping Coordinator.

I sit in the office of Coast Survey with Admiral Glang and everyone else there. Sure. A little closer?

I know a lot of you, but there are some new faces at the table. So, it's nice to meet you for the first time. Welcome.

I was asked to update you on a few things that we have going in the IOCM world in

our Integrated Ocean and Coastal Mapping world. The first of which is the National Coastal Mapping Strategy.

I briefed on this at our last meeting I think. Or maybe the one prior in L.A., Long Beach. I know I talked about it there.

We have had a National Coastal Mapping Strategy in the works for some time, directly resulting from our Ocean and Coastal Mapping Integration Act. What is that? Oh, wow. A tornado?

So, by law the Ocean and Coastal Mapping Integration Act and by the National Ocean Policy, we are mandated to do -- to develop a national coasting mapping plan.

These are all of the agencies that are involved in ocean and coastal mapping. Because we're one team, a working group focused on coordination, reducing duplication of effort.

Streamline, being efficient with taxpayer dollars. All of those good things. So, our National Coastal Mapping Strategy, when I

briefed it last time, had five pieces.

It had an aspirational sort of concept discussion about potentially surveying, or actually applying topo-bathy LIDAR for the entire U.S. coast on an eight-year cycle.

It talked about how we would annually meet to coordinate through an annual coastal mapping summit. It talked about standards.

Quality levels for bathymetric LIDAR that are akin to the ones that USGS has for topographic LIDAR. Those sorts of quality levels.

And a data management piece. Because the whole sort of soup to nuts of handling data is very important in order to get that data out and available for use.

And then finally an R&D component. And it builds upon what already exists, the good work that already exists between NOAA, Army Corps and USGS at the Joint Airborne LIDAR Technical Bath -- the Bath -- Bathymetric Technical Center of Expertise.

I was at a meeting yesterday and it flowed off my tongue very easily. I was very proud of myself. But today I got a little jammed up. Sorry.

So, the work that NOAA, Army Corps, and USGS as well as NAVO already are engaged in, in terms of bathymetric LIDAR and elevation became our focus for this first stage of the strategy.

I am happy to report that it is now -- it's cleared OMB. Only because we actually had to delete the aspirational piece that I just mentioned. The eight-year concept.

But, there's still a lot of really good things in it. The quality levels are there. The annual mapping summit. That instigation for coordination is there. And the other pieces.

So that will soon hit the street for public comment. It will -- it's a great starting point.

A great sort of framework upon which we will then build in acoustic -- strategy for

acoustic coordination on multi-beam and other types of mapping, other kinds of remote sensing, the pieces that we didn't cover such as digital imagery, hyper-spectral, and those sorts of things.

So, it's all in an effort to just become more coordinate. More -- to be smarter about how we not only acquire data, which is sort of the easy part.

You know, talking about acquisition, coordination on acquisition is the easy piece. But the more challenging pieces, is all the rest of it that follows.

Linked to that is our SeaSketch site. And this is something -- we can circulate the link after I finish. But our SeaSketch site is exciting.

This is what I actually wanted to pull up Lynne, but you don't -- is there internet access that we could pull it up? So just go to SeaSketch.org while I'm talking.

And then in the projects, if you just

search on Federal, it should come up. Our SeaSketch site is our online coordination site. It's really been met with rave reviews and interest in participation.

The exciting development that I think happened after I spoke with you was that the 3D Elevation Program used it for their topo LIDAR. Their broad area announcement for grant funds, matching funds for coordination.

So, it really has a national focus. Not just coastal, but now national. And when it comes up, you can see the breadth of it.

But, the SeaSketch site is intended to put people who have areas where they need data together with people who have plans for data and somehow sort of -- not somehow, because it's actually happening.

So, if you go to projects, the second tab at the top. A live demonstration. This is how you get there, SeaSketch.org. And then search for projects. Just type in the word Federal and that should get you there.

Hit return. Hit enter. Hit the search button. There we go. Okay. So, this tells you a little bit about our project. And if you just X off in the top right corner, there we go.

So, this collects mapping priorities, needs, and requirements, as you see in the first layer -- category there. The 3D Elevation Program has its own folder where it puts in all of its proposed areas and then they go through a process of winnowing down to find matching projects.

And then we have planned and ongoing mapping projects. And maybe just turn on the -- just put a check in the topo-bathymetric LIDAR box. No, that's fine. But the next one below it. And the third one.

And then you could zoom in on the Gulf area just by clicking on the map. And you can just grab that map and drag it around.

But the power of this has already been demonstrated. But I think there's a lot more

that can happen with it.

You know, this is showing -- what you're seeing in that redline is actually the Army Corps plans for its topo-bathymetric LIDAR projects for five years around the U.S. Coast.

They know where they're going to be for the next five years. And that kind of information, even with agencies that only know a year out or a year or two out, when you can see where people plan to go and then where people need data.

And you can start to sort of think about how you could adjust. How you could augment with additional funds. How you could perhaps cover someone else's need.

It may overlap completely as we found in Maine, with surveys in Maine. That we had areas that we were doing, that NOAA was doing that the State of Maine was also interested in.

And they ended up doing some surveys in areas that we didn't go. And then we did other areas that they were interested in.

So, a very quick demonstration of the functionality and the utility of this SeaSketch site. I was just at a meeting in Charleston yesterday.

The southeast region sort of got together on how to tap mapping. And they are interested in using this to continue to coordinate.

It's not just for Federal agencies. It's for anyone, any entity that wants to participate.

The Northeast region, which is probably the furthest along for actually marine planning coordination, they've written it into their charter that they will be using the SeaSketch site to coordinate mapping.

I think that's it. Our annual summit, actually a note you have there, the 2015 JALBTCX Workshop. We use the JALBTCX Workshop as our sort of home base for our annual Coastal Mapping Summit.

Last year in Oregon it went really

well. But, we learned that we need to take a more regional focus. So, we're going to be latching onto regional meetings that different agencies are having to hold that same sort of summit, but on a regional stage instead of just one once a year.

RADM GLANG: Can you mention how many participants you had?

MS. CHAPPELL: Oh, sure.

RADM GLANG: And sort of promote and in person and what agencies.

MS. CHAPPELL: We had -- we were in Oregon. We had about, I guess 100 people there. And then we had 60 people on the phone joining by webinar.

And we didn't think that all of the JALBTCX participants would be that interested. But actually, they were quite interested.

We had not just Federal agencies, you know, the likely suspects, Army Corps, FEMA, USGA. But we had lots of private sector interests, academia is very interested. And the

states, the folks on the phone were mostly from the states.

And they -- we had solicited areas of interest before the meeting so that we had something to discuss when we got to the meeting. So, we were kind of bowled over by the level of interest even with that first sort of step out.

RADM GLANG: Gerd Glang, Coast Survey. So, this is a really important piece of information that Ashley is sharing about the success of that workshop and how SeaSketch works.

Because I'm going back to the first day when we heard from -- the question raised from a few Panel members about, I think it was in our Panel discussion with -- when Chris Frabotta from the Army Corps spoke about duplication and how we coordinate.

And my sense was there's an implication that NOAA needs to be doing more. But, I would -- frankly I would suggest that other agencies need to do more as well. And their awareness needs to be raised.

And so one last bit of information is that the Ocean and Coastal Mapping Integration Act, which was passed in 2009, these things only last for five years. Unless they're deliberately removed of course, the Act continues to stand and we continue to follow the Act.

So, the reports to Congress will continue that Ashley mentioned. There are two, one for the agency and one from the inner agency that get sent to Congress. Every two years?

MS. CHAPPELL: Every two -- alternate years.

RADM GLANG: Yes. So, I don't think we've gotten any feedback on those from -- they just sort of go into the black hole.

But, the point is, the Act is due to be reauthorized. And if we think IOCM is important, or if the Panel -- in the Panel's views IOCM and this kind of behavior where you see agencies getting their act together and coordinating is important, it would be terrific if the Panel could express that.

There is no champion that I'm aware of right now for reauthorizing that legislation.

MS. CHAPPELL: That is true. But, the same idea appears in the National Ocean Policy and also in actually the National Strategy for the Arctic Region. All mentioning the same concepts of IOCM.

RADM GLANG: Right. So, and one of the things we talked about Ashley, was getting the Panel to think ahead. And how they might advise the administration after a transition.

So, things like National Ocean Policy and the National Strategy for the Arctic Region are products of an administration. And they could potentially go away after we transition to a new administration.

The legislation is somewhat more enduring. So, that's why I made that connection.

MS. CHAPPELL: Good point.

CHAIR PERKINS: Is there anything in the Digital Coast Act that speaks to IOCM? Or is there a legislative opportunity there to combine

the reauthorization of IOCM into the current Digital Coast Act that's --

MS. CHAPPELL: I think that -- this is Ashley Chappell. The Digital Coast Act explicitly says, you know, that it is in conjunction with all of the existing laws including the Ocean and Coastal Mapping Integration Act.

MEMBER GEE: Lindsay Gee. Just so if you're coordinating now the ongoing mapping activities, does this include then looking at the data holdings from all the different agencies? Or the previous survey, so you're not surveying areas that are already being done?

Is that being addressed as well?

MS. CHAPPELL: Yes. If you -- who's got the conn on the SeaSketch site? Can you scroll all the way to the bottom?

Actually you can just see it there. Right at the bottom line. This is not the place you would go to do your due diligence. But, we do have some resources.

If you can click on the arrow under existing data just to open it up. That little black. Okay. That turns everything on.

So that -- we do with our SeaSketch site have sort of quick look at what exists. And where there are data portals that we can, you know, pull services in.

But again, we advise folks to be more diligent about looking. Because you know, we don't have every data source in here. But, this is just a snapshot.

RADM GLANG: So, there's another piece to this right? When SeaSketch is showing you existing data, it's harvesting it from, for instance, NCEI.

It's a place formerly known as NGDC, the NOAA archive. Which is where all our geophysical mapping data is being archived.

But, I did want to point out that there was an Executive Order from 2013 that tells Federal agencies that you have to essentially -- you're responsible for the stewardship of your

data when you've collected it with Federal money. And that includes grant recipients.

So, grant recipients who go do mapping, they're also required to share their mapping data through the archive. And that's poorly enforced at the moment.

VICE CHAIR HANSON: If I could, Ashley. So, I can't think of anything, any better news then this of things that we've been working on in the last few years.

I know that Admiral Brown and Steve Stockton have been meeting. You guys have aided issues. You've been to a lot of things trying to learn how to collaborate and reduce some of that redundancy.

And it certainly is a much better story to tell when you can walk into a new Administrator's office, a member's office and talk first about the things we're doing proactively to be more efficient with the money you're getting.

So, next question is, where does the

funding for this come from? And something as elaborate as this and complicated as this, a little bit of tongue and cheek, how much is this effort costing?

MS. CHAPPELL: Well, we funded our initial use of this through Sandy Supplemental monies. It's actually very inexpensive. It's -- we're using -- SeaSketch was actually developed by UC Santa Barbara.

And so, we just have an instance of it. It's actually not -- it's all based on web services. So, there's nothing, you know, no hardware or no software really.

But, so really it's just the site license. And then any development work that we've put in where they've tweaked things specifically for us.

I think the total has been about 60K.

VICE CHAIR HANSON: So, nothing to do the right thing. Almost nothing to do the right thing, so.

RADM GLANG: But there's more to it,

right? So the SeaSketch is a tool that allows people to communicate and share information.

But, it's getting those people actually aware of what we're doing. And building the relationships and engaging.

That's where Ashley has been the champion, her and her team. So, we pay for that out of Coast Survey's base salary.

The IOCM -- the work the IOCM team has been doing, and we showed you the Barnegat Bay compilation work the other day, that was paid for through Sandy Supplemental money.

That money goes away, we're going to lose those people. So, there is no base funding dedicated for IOCM. That comes straight out of our mapping and charting base for the program.

VICE CHAIR HANSON: As part exists is the overall mission. I think that's something we can probably highlight in the future.

I guess the next step would be is to have an example of where this collaboration has actually resulted in cost savings. In a more

efficient, and more comprehensive surveys. And maybe you already have a dozen of those in your back pocket.

MS. CHAPPELL: I could talk about them now. Or I could just write them up and send them to you. But one example --

VICE CHAIR HANSON: How about your favorite one?

MS. CHAPPELL: Okay. Well, the first one was -- one of my favorites was during the Sandy, you know, it wasn't the immediate response. Because the Sandy Supplemental funds that we received, of course, came after the initial fast response effort.

But, that's actually why we developed the SeaSketch site. Because we knew that agencies, lots of agencies were going to get Sandy Supplemental funds.

And we knew a lot of it was going to go to mapping. And we did not want kind of a repeat of situations where we have three agencies who are acquiring data in the same area,

completely unaware of what each other is doing.

And so with Sandy, we all started at the interagency end -- within NOAA, to say let's approach this differently this time. And so the SeaSketch site sort of -- we landed on it. It was serendipity.

It just kind of all came together. But, we found the SeaSketch tool. And it just met our needs for what we wanted to do.

So, the first instance was NOAA put in its planned areas for topo-bathy LIDAR acquisition. And then USGS had a -- was doing county by county acquisition.

And we realized that for topo LIDAR, we realized that what USGS was collecting of course in the Sandy area overlapped very much with the strip that NOAA would collect at the coast. And we thought that was a little too redundant to just let it go.

And after some coordination, Mike Aslaksen's group was able push their project areas back far enough to collect what USGS needed

in certain areas. Which meant that USGS didn't have to collect those.

And they put their resources to their second tier planned efforts. The ones they weren't going to fund, but now they had resources to do it.

So they actually acquired more in other areas. So, that was sort of our first big win.

Some of the others, some have been bigger, some have been smaller. But, what I like about this tool is that what -- the really exciting ones are the small groups like the National Estuarine Research Reserves or other smaller entities that kind of really don't have a great sense of how to understand who's doing what where.

And when you can put the limits of their marine protected areas or their NERRs, you know, up. And then show them who is doing what nearby.

And all they have to do is call up,

you know, call up the Army Corps, Jennifer Wozencraft at the Army Corps. And say, you know, could you actually push the edge of your, you know, westernmost lines further back to collect more of my NERRs or my wildlife refuge.

And we've had several instances of that. You know, where it really doesn't cost that much to push it.

Or they can augment with additional resources. Again, it doesn't cost that much because the major project is already covered.

So, those are some of our successes. I think we're working on some now with Massachusetts, who is planning for potential wind energy. That's been in the news.

But now they're looking at the transmission cables that might come from these wind energy sites as they approach land. And there's a really nice sort of congruence there with surveys that NOAA's already doing.

So, we're talking about some adjusting for work that the TJ's doing in Buzzards Bay to

cover some of those needs. Or directing them -- directing the State of Massachusetts to other agencies that can help them.

So, I'm working on that one right now.

CHAIR PERKINS: Great. It's really exciting to see that SeaSketch has moved inland. And that it's being used, you know, in the interior of the U.S. as well.

You mentioned the 2016, you know, coordination meeting. Will that happen in conjunction with JALBTCX again? And has the date been established for that?

MS. CHAPPELL: The -- oh, goodness. The JALBTCX dates, I think, are July 19 to the 21 in Silver Spring this year. Everyone is welcome of course.

Those are -- okay. I just want to make sure because the JALBTCX dates flip flopped a lot as well as some other things.

We are going to have a summit there. But in addition, we are, as I said, we'll be having regional summits. We're going to latch

onto existing meetings and not create our own.

But, you know, we're looking for meetings that bring a lot of these mapping interests together. Maybe for another purpose. But, you know, they're there. And we can add an afternoon.

Some might include the, you know, the 3D Elevation Program folks move around the nation in a similar way as they talk about their BAA, their Broad Area Announcement. There are lots of regional planning body meetings.

IOOS Association, regional association meetings. So, there's a lot that we can latch onto.

MS. BLACKWELL: May I ask a follow-up question? This is Juliana Blackwell.

Ashley, yesterday we were talking a little bit about this coordination effort. And in particular, FEMA. I know that you mentioned them.

But, could you expand a little bit on whether or not FEMA is engaged in this process

and these meetings that are occurring, such as the annual coordination meeting? And also just the IWG-OCM coordination body was one of the groups that was mentioned in the TMAC, the Technical Mapping Advisory Council annual report from last year.

Again, it was a large report. But, it was listed as one of those bodies. And FEMA was basically a -- it was suggested to FEMA that they continue to support that coordination group.

But, could you just say a few words about FEMA's role?

MS. CHAPPELL: Sure. FEMA is one of our more active IWG-OCM participants. They're always there. Paul Rooney and some of his colleagues when he can't be there, are always in attendance.

FEMA typically collects topographic LIDAR. And so in an ocean and coastal mapping group, in some cases when we're talking about topo bathymetric LIDAR, they don't feel like they're always, you know, that much of a

participant.

However, I think that they will be moving more, they will be growing more interest in topo-bathy LIDAR because I think of course that coastal near-shore interface is very important. And it will be even more important to FEMA as we go on.

I will say FEMA has been, after some initial push back, the strongest proponent of SeaSketch in our group. Because they had a project tracker that was kind of built to do this sort of thing some years ago.

But, it had grown obsolete. It wasn't being maintained. And it was very clunky anyway. And sort of the elegance of this one, they -- Paul Rooney immediately recognized it.

And he actually came up with the schema that we use. We try to keep it very simple. We have what we call metadata light.

You know, we don't -- the whole -- this whole framework is built on being easy. Because people aren't going to share information

if it's burdensome. Because this is really data about plans.

And FEMA came up with this sort of framework of that. And has been the strongest proponent.

And I've really appreciated Paul Rooney's support as we talk to the Federal Geospatial Data Committees, IT Development folks who are developing -- redeveloping the marketplace. Which is the place where all the Federal agencies are supposed to put their plans by law or by directive from OMB.

And it's kind of -- it was there with Geospatial One Stop. And sort of fell off. But, they're redeveloping it. And we've really been pushing them to, if not take SeaSketch entirely, take what SeaSketch does and have it there.

And FEMA's been right with me in advocating for that. So, I really appreciate that.

MEMBER GEE: Lindsay Gee. I guess the question again related to that, the historical

data. And I guess some of the comments from Susan about crowdsourcing and how we need more data in areas.

Is this -- maybe it's more for Gerd, I think, but the question is, is this like sort of saying well, actually in a lot of places we have data. We just -- it's not enough data is getting to the chart.

So, how is that -- is that creating problems for you? That, you know, this is exposing a lot of data that okay, you've got to get through.

RADM GLANG: Gerd Glang. I'm not sure it's a problem, Lindsay. In fact what we're looking at doing is building another component to this that would be coupled with the crowdsource bathymetry database effort that we've got going on.

That would highlight areas where we would invite the crowd. You know, perhaps recreational boaters or somebody else to go and collected data.

So, we're thinking of using this as a way, this tool, to sort of show folks where we do have gaps or uncertainties. Or lots of hazard reports where they may want to provide data to help us understand the gap in the chart.

So, we're thinking of that. And I'm not sure, I know we've talked with Lisa about building that tool. So, it will probably be coming along. It's not the top priority for her.

Is that -- does that?

MEMBER GEE: No. I guess part of that was that in places that people think there's no data and the crowdsource. That there actually is data that's just not on the chart is the issue.

And I think dealing with that is kind of still an issue to have.

RADM GLANG: So, there's --

MEMBER GEE: There's -- we've had discussions about the concentrations being well, are the charts adequate? And it's like are they -- what does that mean, really to modern standards?

And that's kind of saying modern standards for navigation where it's critical for under keel clearance or critical for navigation. Whereas, there's that whole other area now of data that could be on the charts that's just not there.

And it's in those areas that aren't specifically.

RADM GLANG: Yes, so Lindsay, that's probably a longer conversation about how we -- what kinds of data we put on our chart. And what our policy will be going forward.

So, right now we view crowdsource bathymetry as a data source to help inform us about the adequacy of our charts. We're not looking to put crowdsource bathymetry on our charts right now.

That's a nut we don't want to crack right now. So, but we are using it to help crowdsource information like the Active Captain Hazards Report to help inform where we need to either focus attention or where our charts are

inadequate.

So, it's a little bit different. So, I don't see that there's an issue right now. But, we can talk more.

CHAIR PERKINS: Ashley, you mentioned that the national mapping strategy report has gone through the, you know, the review process at OMB. And that the aspirations have been removed or edited.

And that the report is coming out for public comment. So, you know, as a Panel I don't know whether our charter allows us to make a collective comment, you know, on it.

But individually, we certainly can make individual comments, you know, representing our own individual interests. But, that eight-year cycle of the topo bathymetric LIDAR of the nation's coast, can you add a little color on what is it that was objectionable?

And why has that been scrubbed from the strategy? And that might help those of us that are interested in making a public comment,

compose a more compelling rebuttal. If you're so inclined.

MS. CHAPPELL: Well -- this is Ashley Chappell. I mean, I think it's understandable that OMB in representing the administration doesn't want the public necessarily to make the assumption that if there's a conceptual idea for an eight-year topo-bathy LIDAR mapping cycle that the government can then pay for it.

Because we can't. And we do try in every meeting to say, you know, SeaSketch does not represent the fact that the government's going to come in and save the day and do all the mapping that everyone needs.

You know, we try to make that clear. We tried to make it clear in the plan. But, I think ultimately they felt that it would be too easy to have then thought that we could do it.

Even though, you know, the way that it was presented, I felt was that it would take a collaborative effort. It was something to aspire to.

But, that's generally not how OMB likes to frame things. So, they weren't opposed to the idea. It was more that it was in print I think.

CHAIR PERKINS: It seems like a great strategic initiative to have in a national mapping strategy.

MEMBER SAADE: Thanks Scott. And my apologies for arriving late. Hi Ashley, nice to see you.

As you know, you and I've talked a lot about this over the years in terms of -- this is Ed Saade. That we've talked a lot. It's really nice to see that there's such a huge amount of data moving back and forth.

I just wanted to comment on the aspect of the FEMA work. That we got tied up with in California, was the interest in calculating run-up, remodeling run-up. Storm surge or tsunami surge.

So, the offshore/near shore data was important in that respect in terms of aiding the

models. But as Admiral Glang pointed out yesterday, the data densities tend to be too dense for what the models are like.

But, all that data is definitely of interest to FEMA. Thanks.

MS. CHAPPELL: I think it is too. And I think having Juliana on the TMAC, the Technical Mapping Advisory Committee -- what? Council, sorry.

I think that's very important too. I think she's been a great advocate for that area.

CHAIR PERKINS: Very good. One other comment. The topo-bathy LIDAR, you know, there are inland customers and projects that are now acquiring that data.

So, I would encourage you to reach out to the Bureau of Reclamation and look at some of those more interior agencies. You know, because that data is now being collected in places, you know, far from the coast.

So, there may be other stakeholders there that you can bring into the mix and help

with that coordination effort. Because they do seem to operate in an isolated fashion sometimes.

MS. CHAPPELL: I'm glad you mentioned that Scott. Because, you know, while I won't say we've got all the problems solved or every, you know, every group connected in, one -- another success story we have is that Ocean and Coastal Mapping Interagency or Working Group, has paired up really strongly I think with the 3D Elevation Program Working Group.

Such even to the point where we now have kind of an overarching umbrella initiative called 3D Nation, named by Juliana. A 3D nation elevation, you know, from the heights of our mountains to the depths of our oceans.

A seamless elevation data set is the goal of that. And that's become an FGDC Subcommittee called 3D Nation. And it's chaired by myself and the 3D Elevation Program Chair, Diane Eldridge in an effort to really bring together the IWG-OCM and the 3D Elevation Program.

And the Bureau of Land Reclamation is part of that. The National Soil Conservation Service is part of that. And so, I think that's been also really strong.

And that's what brought them to use this as a national mapping coordination site. Is to put it all together.

CHAIR PERKINS: Great. That's very encouraging to hear that those folks are involved with the 3D Nation initiative.

So, you know, for a non-scheduled item on our agenda, I think you've made a very nice contribution to the HSRP meeting. And I appreciate you doing it on extremely short notice.

(Applause.)

MS. CHAPPELL: Thank you very much.

CHAIR PERKINS: Is the Panel ready to discuss nominations? Or would you like to think about that a little longer and push that back on the agenda?

All right. We'll give you a little

more time so you can do your back -- your back office arm wrestling.

MEMBER HALL: Are you looking for nominations? Chair, should we just start making nominations? And I think most of us are actually ready to do it, right?

CHAIR PERKINS: Yes. Absolutely we are.

MEMBER HALL: I'd -- we would like to -- I guess I would like to nominate Bill Hanson to be the next Chair of the HSRP.

MEMBER MAUNE: Second it.

CHAIR PERKINS: Okay. So, let the record show we've got a nomination for Mr. Hanson as the Chair and a second. Do we have nominations for Vice Chair?

MEMBER MAUNE: I would like to nominate -- this is Dave Maune. I would like to nominate Joyce Miller as Vice Chair.

MEMBER KELLY: Second.

CHAIR PERKINS: Okay. Let the minutes show that we had a nomination of Joyce Miller for

Vice Chair and a second. Do we have any other nominations?

MEMBER HALL: I'd like to nominate Ed Saade to be the Technology Working Group Chair.

CHAIR PERKINS: And do we have a second?

MEMBER KELLY: Second.

CHAIR PERKINS: Thank you. Let the record show we had a nomination of Mr. Saade for the Chair of the Technology Working Group, and a second.

We need a Co-Chair for that working group as well. Do we have a nomination for Co-Chair?

MEMBER MILLER: I nominate potentially Carol Lockhart.

(Laughter.)

MEMBER KELLY: And I second that.

CHAIR PERKINS: All right. Let the minutes show that we had a nomination of Carol Lockhart for the Co-Chair of the Technology Working Group, and a second.

Okay. Thank you Lynne. We understand that Carol is not able to be in attendance this morning. But, she has indicated that she would not accept that nomination.

Do we have a new nomination for Co-Chair?

MEMBER BRIGHAM: Yes. I nominate Lindsay for Co-Chair. If he's so inclined.

MEMBER GEE: If I was a member.

MEMBER BRIGHAM: Well, okay.

CHAIR PERKINS: I think that's a small procedural detail that we can overcome. So, we'll take a pending nomination for Lindsay Gee as the Co-Chair of the Technology Working Group. Subject to his final oath of office and full on boarding.

Do we have a second of that?

MEMBER MILLER: I second.

CHAIR PERKINS: Okay, great. So, let the record show that we have Lindsay Gee nominated as the Co-Chair of the Technology Working Group, with a second.

MEMBER SAADE: So that question came up of whether Larry Mayer could be nominated in that position?

CHAIR PERKINS: A non-voting member, I think, actually could be seated in that capacity.

MEMBER BRIGHAM: Just from the experience of the Arctic, we just had Andy be a member of the group. Plus Andy, it's a different situation between Andy and Larry.

CHAIR PERKINS: Yes, I mean, the working groups are assigned to, you know, a task. And they serve for a finite period of time until that task is completed.

They don't engage in deliberation. They engage in activity and recommendation. So, I don't think there's any problem at all with having our non-voting members, you know, serve in either the Chair or Co-Chair capacity of a working group.

Yes, Joyce?

MEMBER SAADE: I'm going to withdraw

that nomination.

MEMBER MILLER: Okay. I was going to say that Larry, in my five years on the Panel, has only been able to attend one meeting because he's so busy.

CHAIR PERKINS: I would encourage you to reach out to him for input and contribution as his time permits. Do we have any other nominations?

Okay. I would make a motion then that we do a vote on the slate in its entirety in one singular vote for the efficiency and simplicity. So, is there a second to doing a single vote for all of the candidates that have been nominated?

MEMBER MAUNE: I second.

CHAIR PERKINS: Okay. Can I have --

MEMBER MILLER: A procedural question. Should any of us that have been nominated not vote then? I don't know if -- I don't know the--

CHAIR PERKINS: I don't think it's necessary for anyone to abstain. You know, anyone -- and that's a good point. You are

welcome to self-nominate as well.

You know, so if you have an interest, you know, this would be the time to self-nominate, you know, as well it's not necessary that you have, you know.

So, with that, one more time, is there anyone that would be interested in self-nomination for any of the positions that we've discussed on the slate?

(No audible response.)

CHAIR PERKINS: Okay. Can we have a show of hands of those in favor of electing or appointing the Chairs and Vice Chair and working group leadership as presented? All in favor?

(Voting.)

CHAIR PERKINS: Great. And any opposed?

(Voting.)

CHAIR PERKINS: All right. Let the record show, we have unanimously elected new leadership to HSRP that will go into effect at the conclusion of this meeting.

So, thank you very much. You guys did that in a very efficient manner.

(Applause.)

VICE CHAIR HANSON: Scott, did we -- is there any need to codify the past Chairman's position? Or we're just going to have you available to us as we need you?

CHAIR PERKINS: Yes, I think that because of the Charter, you know, we will have to have the title of Past Chair as an informal, you know, position. Until such time that we can revisit the Charter and then consider establishing that in a more permanent manner.

VICE CHAIR HANSON: Well, I appreciate your leadership on this. And your willingness to think -- be forward thinking to make this transition, instead of having it just be dumped on the next Panel.

So, thank you, Scott.

CHAIR PERKINS: All right. You're welcome. Does anyone need a short break before we get into continuing our work on the working

groups and the issue papers?

(No audible response.)

CHAIR PERKINS: Okay. Great. So, we have our agendas in front of us. I think we'll -- are we going to start with taking one more look at the fleet recap? That's the first order.

MEMBER MILLER: We made some significant changes. Well, the intent is clearly still there. The sort of bulk of it.

But, we have tried to incorporate suggestions made during yesterday's. Lynne? Lynne, I just sent you -- did you see the revised copy?

And I passed this out last night to the people that had agreed to work with us. And I got comments back from Andy and Kim.

So, to distinguish what our draft was last night, with the changes I had made, anything that's new that Andy or Ann added, I have indicated in red. Just so you understand what's there.

I'm sorry. That was Kim. Kim made

the suggestions. Yes. So, Kim and Andy came up with a -- what's it called? The BLUF? Bottom line up front.

And so that's probably the most important part. Would somebody else like to speak? Because I'm not much in voice here.

MEMBER HALL: I can go over at least the bottom line up front. Because I think Andy and I were on the same page.

One of the key pieces I added in there, and the big question is, and it was kind of buried in the back in the current activities, was there's 80 million dollars up for grabs.

So, we think, or recommend, or whatever terminology we use as a Panel, that that appropriated funding go toward the hydrographic services -- survey vessel.

And so I just wanted to put that right up front so that when the Administrator sees this, she knows exactly what we're recommending.

MEMBER MAUNE: Okay. I'm not sure, you're wanting to go over just the items in red?

MEMBER MILLER: No. It's -- okay, take --

MEMBER HALL: Should I read it?

MEMBER MILLER: Yes. Let's go to the next two paragraphs. Because those are the ones that we significantly shortened.

Yes, it's tough with -- okay, so start with the next paragraph, the ships. Yes.

MEMBER HALL: I just had one quick question. I didn't see in the first paragraph, just a point of editing. We do in that next paragraph say the fleet also play.

But, I don't think we've ever mentioned in the top paragraph anything about the fleet in the first place. We do say that Office of Coast Survey provide hydrographic information.

And I don't know if it needs from surveys conducted by these ships. Or something to that effect. So, if you go up to the first paragraph, there's no mention I think there, unless it's changed significantly.

So, just -- because then the also as

you get to that paragraph we were just looking at doesn't make sense.

So it says the hydrographic information that is provided by survey was conducted by the vessels that we're pointing to, is my question Joyce.

MEMBER MAUNE: Are you talking about the second paragraph there?

MEMBER HALL: So, here we would need to add something about what the fleet does to give you that hydrographic information. Because as you get to the next paragraph, it says the ships and launches of NOAA's hydrographic fleet also play vital roles.

Either that or we get rid of also.

MEMBER MILLER: Oh, it says the Office of Coast Survey, not the fleet.

MEMBER HALL: Right. So, that's -- you're making the mention of the connection that the fleet is what helps provide this. I know there's other things, there's contract vessels. There's other types of sensors and things that

provide us that information.

But, key to the fleet if we're making --

MEMBER MILLER: So, we could put in there the Office of Coast Survey's fleet provides hydrographic --

MEMBER ARMSTRONG: Or maybe NOAA hydrographic fleet or something like that.

MEMBER MILLER: Right.

MEMBER HALL: Yes. Just connect it.

MEMBER MILLER: All right. So, let's change Office -- Lynne, can you make changes? Okay. Actually, let's take out Office of Coast Survey.

And I did put in there as mandated by Federal Statutes. Because that is often a driver of how the money gets advocate -- or gets allocated.

And so at the end I added references there actually directly from the Office of Coast Survey web page. Andy?

MEMBER ARMSTRONG: Just an

interruption. Were we going to get to the sort of the urgent letter issue following this?

MEMBER MILLER: Yes, I think we should. Yes.

MEMBER ARMSTRONG: Okay. Thanks.

MEMBER MILLER: Go ahead Kim.

MEMBER HALL: Yes, next paragraph, Lynne, if you can get down. Or do you --

MEMBER MILLER: I think the caption is okay. What I did was, there was some redundant information in the caption. And so I pretty much just left it in the caption and took it out elsewhere.

So, the next one.

MEMBER HALL: Okay. Would you like me to read that out loud? Or is that -- Joyce, I just want to make sure you want me to read that out loud?

MEMBER MILLER: Yes, go ahead.

MEMBER HALL: Okay. The ships and launches of NOAA's hydrographic fleet also play vital roles in research and maintenance of

expertise. Private government partnerships are used to develop new and innovative survey equipment and techniques, which are evaluated and placed in service on these vessels.

Almost 50 percent of NOAA junior officers are trained in hydrography and sonar technologies aboard the hydrographic ships and launches, as well as qualified as officers of the deck.

NOAA contracts with commercial vendors for approximately half of its hydrographic surveys. Although contracting for a portion of surveys is an important element of OCS's portfolio, NOAA must also maintain in-house survey capability and expertise to effectively manage hydrographic surveys and ensure navigation safety.

In offshore or remote areas such as the Arctic, Alaska, and the Pacific, it is impossible to perform critical surveys without dedicated ships.

MEMBER MILLER: Okay. And then this

next one, I'm hoping that OCS can help us. Even if it's only just the figures and we'll make a plot that shows survey years since multi-beam was installed on these ships.

Andy?

MEMBER ARMSTRONG: I think I may have access to a figure that may be over a shorter but more recent time span. I'm not sure we'll be able to right away, put together the full history.

So, we --

MEMBER MILLER: Yes.

MEMBER ARMSTRONG: I think we can come up quickly with something in the last few years that shows the loss of time.

MEMBER MILLER: But it would be -- since we're talking specifically about the Fairweather and the Rainier, it would be food if we could just -- if we could show those ships and what's happened. Not the entire fleet or something.

MEMBER ARMSTRONG: Right. It would be

just for those ships.

MEMBER MILLER: Okay.

MEMBER ARMSTRONG: But maybe a shorter period then their 55-year life.

MEMBER MILLER: Yes. Okay. All right, go ahead down to challenges. There.

Now, these are mostly the same as we had the other -- yesterday.

MEMBER HALL: My only question for the first one is, do we need to be using, and I know we're just -- we're a Panel, so I don't know if we need to be using the acquisition terminology.

But, I don't think it's operational life span. I think it's operational service life. Or those kind of things. And Lawson, you can correct me if I'm wrong.

But, I just don't know if we want to use the government's terminology there or just our own.

MEMBER MILLER: Well, operating past their operational life span is not good just from an editing. Does anybody have any --

MEMBER ARMSTRONG: Service life sounds good, yes.

MEMBER MILLER: Other service life. Okay, so Lynne, change original design life to service life. Nope, not there.

And take out -- I don't know, is original correct there? Original service life?

MEMBER HALL: I don't think you need original.

MEMBER MILLER: Okay.

MEMBER HALL: But we saw the life span up top. So, I just -- I don't know if we're repeating ourselves here.

MEMBER MILLER: And the new one is the fourth bullet. We talked about this yesterday.

I do want to check on that one. That 10 thousand square nautical miles is correct in terms of backlog.

CHAIR PERKINS: That is the number that was provided to me within the last ten days from Captain Berkowitz.

MS. MERSFELDER-LEWIS: We will make

sure all the facts get checked. And we will also do some editing. And so, I'll make up some things -- you know, something come out --

MEMBER MILLER: Okay.

MEMBER ARMSTRONG: Yes. I think we have some fact issues with that one.

MEMBER MILLER: Yes. That one definitely needs to be checked. You can star it or something and make sure that you.

Okay. Current activities is pretty much, I think, exactly the same as what we looked at yesterday. We could -- oh, except for the last sentence, which I requested that Andy check for political correctness.

And he changed it to -- the sentence in red. NOAA should use the available funds for replacement of Rainier and Fairweather.

MEMBER HALL: And I think it's good to reiterate that. So, we've got it in our bottom line up front. But, reiterate it at the end is always a great thing.

MEMBER ARMSTRONG: No, I agree.

MEMBER MILLER: And then Federal actions recommended. Those are largely the same. With one change from Andy. Continue to coordinate with other Federal agencies.

And then the last two partners we have, on a third page, because the paging is kind of wonky here. Go ahead down to the last bits.

Those are the references of -- to the Acts that are quoted on the Coast Survey page. There are additional Environmental Acts and so forth, but I thought we should just use the ones that directly affect it.

More suggestions or comments?

MEMBER MAUNE: I think this is looking good.

CHAIR PERKINS: Okay. I'll make a motion that we adopt the issue paper as presented in its present state. Subject to the edits and the validation of the numerical statistics within.

MEMBER MILLER: And possibly getting that figure in there if we can.

VICE CHAIR HANSON: I keep harping on the partners because that's the kind of questions you get asked. Who cares about this besides us?

If we could just go down to look at the partners list. So, we've got -- these are all people who are -- other than the State of Alaska, these are service providers I would say.

Folks that will still have a job regardless if this happens or not. The State of Alaska is in there as a -- as somebody with skin in the game.

I would actually propose in this case maybe eliminating the partners. Unless we can come up with a list of commercial folks with skin in the game or maybe even state folks.

Or folks who -- when we do this type of advocacy, you have to have people who have the passion that their jobs are going to be eliminated. Their businesses are -- they're going to go out of business.

Their lives are going to be impacted. And just having mostly other Federal agencies up

there is not that helpful, I don't think.

And I'll yield on this. But, I keep harping on it because in terms of making the pitch, you have to have others outside the choir who really care about this.

MEMBER MILLER: Go ahead Lawson.

MEMBER BRIGHAM: Lawson Brigham. I mean, yes, I mean, partners, I mean, what you're talking about is all the whole range of stakeholders and users.

And we either change the topic or eliminate it. I mean, you can change it to be broader and include -- in the Arctic one, I was more expansive.

I added some Red Dog Mine and commercial operators, fishing vessels, et cetera, who are not necessarily direct partners, but their stakeholders or actors in the process.

MEMBER MILLER: I mean, we could list all -- we could list the ports too. I mean, they are --

VICE CHAIR HANSON: I mean, obviously

this is big. I mean, this is the reason NOS exists, right?

And so, the conversation we've been having for several years is, you know, who cares if NOS is around? Who cares about the charts? Whose business is it?

It's a big group. And that's maybe why I'm saying it's -- rather than list a partial list that really doesn't give NOS due credit, maybe just eliminate that part of it this time.

CHAIR PERKINS: This is Chairman Perkins. I just did an informal query of two of the commercial stakeholders that are in attendance today.

And David Evans and Associates and Fugro are both willing to, you know, to go onto the bottom of the document as commercial partners. I know there are other stakeholders, you know, in the hydrographic survey business that could be.

You know, we perhaps can grow that list too beyond Fugro and David Evans.

MEMBER HALL: Couldn't that list then take up a whole page? So, can you just -- if you started to get very particular and very specific, you've kind of missed the mark as well.

Because obviously, the cruise industry would be interested. So, -- to some extent, because we're all around Alaska especially.

So, I just -- I just want to caution that we start listing every possible. I understand what Bill's saying as well.

There's kind of -- there's got to be a balance here. So, I don't know if we just add in there commercial entities, including survey companies and the users of the waterways. I'm sure rep boaters care.

And that kind of thing. So, we can include that it's more than just the government entities to get it a little bit more expansive. But maybe not get specific to companies willing to sign.

And one thing perhaps we can do is, on our own, I've done this before as CLIA. Send

letters in support of something like this as well from our own organizations to NOAA.

MEMBER MAUNE: This is Dave Maune. And I guess, really the entire maritime industry? And keep it short like that?

MEMBER KELLY: Yes, anybody that's operating commercially, recreationally, industrially. Anybody that's using the waterways relies on these surveys and the ability of NOAA to continue having the assets to do them productively and efficiently.

So, I'd just be afraid of turning this issue paper into a laundry list of trying to list all those port authorities and, you know, et cetera, et cetera.

VICE CHAIR HANSON: Well, if I can. So, what really caught my eye was State of Alaska. Okay, so you walk into another member's office, and well, where's the other 49 states?

Where's all the other coastal states? Why is Alaska listed as that.

MEMBER KELLY: I don't think you have

to limit it to Alaska.

VICE CHAIR HANSON: Oh.

MEMBER KELLY: I would say state and -- state, local, municipal users. Because, you know, all the states use it. Great Lakes, Gulf, I mean, all over the place.

VICE CHAIR HANSON: Right. Exactly.

MEMBER ARMSTRONG: Yes, so at least in my senses, we're making a distinction between stakeholders and partners. And we shouldn't probably include anybody on this list that's not -- doesn't know their name is on it and hasn't signed up for it.

So, I guess I'm inclined to agree with Bill that for this issue paper, maybe the partners section is -- can be left off.

You know, unless we want to have another kind of full page of stakeholders that, you know, we've staffed a little bit that it would include cruise ship operators, the states, the Corps of Engineers, USGS.

So, I agree, it is kind of an awkward

bit hanging on the end. But, on the other hand, I think we -- you've also advocated for showing that we're working with others sharing the sandbox.

So, I'd be okay if we dropped it off of this one.

MEMBER MILLER: And I agree. I would say given the sensitivities and also given the critical time frame that -- and we might make a revision of this later.

But, lest we offend anybody for not being on the list or being on the list, just remove that from it. That's fine with me.

Any other people?

MEMBER McINTYRE: I would agree. Anne McIntyre. That this is more of an ask then it is a proposal for a project moving forward or something that needs to be worked on.

It's not something that it's really be partnered with. I would just remove it.

CHAIR PERKINS: Okay. I'll modify the motion that we approve the issue paper with the

removal of the partners as presented. Subject to clarification of the statistical data and the interior of it that Andy has noted.

Do we have a second?

MEMBER MILLER: Second.

CHAIR PERKINS: Okay. We have a second from Miller. All in favor?

(Voting.)

CHAIR PERKINS: Great. Let the minutes show that we've approved the issue paper. Thank you.

(Applause.)

MEMBER ARMSTRONG: So Joyce, did you want to present -- did you want to present --

MEMBER MILLER: Why don't you, Andy. My voice is not here.

MEMBER ARMSTRONG: Okay. In the context of offering it for the Panel's consideration, as a non-voting member of. Do we have that draft letter Lynne?

So yesterday we talked about a separate letter from the Panel to the

Administrator on the specific issue of this year's money for fleet replacement in anticipation that the issue paper might be a little more involved and could take a little bit longer to get out with other issue papers and so on.

So, I took the liberty of drafting for the Panel's consideration a short letter. This is the text of the letter here.

And perhaps it might be modified in the same way that Kim added the extra sentence to the first paragraph of the other. So, I'll let you just look at that.

This is intended to be a letter with one specific topic. Please use this year's money for a hydrographic ship rather than whatever else you might have had in mind.

What was the second sentence in? Yes. All the way up at the very top.

MEMBER MILLER: No, the second sentence.

MEMBER ARMSTRONG: The second

sentence. So, I'm not suggesting you -- yes, just -- I'm suggesting that we take the second sentence of the first -- yes, delete that.

And I would delete the FY '16 funds. I think -- I guess I'm sort of moderating. So, Lawson?

MEMBER BRIGHAM: Anyway I just -- this is Lawson Brigham. This is my issue with this.

We don't know the pressing needs of the other dimensions. It might be that the Nation needs a fish boat number one. And we're saying in that sentence that we actually know all of this.

And that the most pressing need -- I mean, maybe I believe that. But, I can't put it in context of the other things.

So, I think that's a pretty strong statement that I don't know as if we're qualified to make. This is a statement of HSRP believes the most pressing NOAA fleet replacement need.

When you say NOAA fleet replacement, are you meaning the entire battle fleet? And I

just wonder whether we could massage that. Or maybe it isn't an issue to anyone else. But, that's --

MEMBER MILLER: Actually, if you know the history of what's been built, Fisheries has five new survey vessels all under, I think, five years old approximately.

And I believe one of their other vessels was due to be removed. Or, you know, due to be taken out of service.

So, I've worked in Fisheries for quite a while. And they, you know, they almost always win the arguments by quoting the Magnuson-Stevens Act as, you know, their mandate and so forth.

So, I think I can say I'm pretty certain that the most pressing need is a hydrographic survey ship.

MEMBER BRIGHAM: Okay. And it just would have been nice to have the fleet, all the dates of the fleet, the whole fleet on a picture. And then we could make that judgement.

But, it's a little late. But, I agree

that we probably know enough about it.

MEMBER ARMSTRONG: So, I offer this in the strongest possible context for the Panel to consider. And I certainly think Lawson makes a good point.

But, my thought was if the -- that the Panel would perhaps feel this way, you know, regardless of, you know, whatever else is going on in NOAA.

MEMBER HALL: Yes, let the Fisheries fight for their boats. And we'll fight for the hydrographic ones.

MEMBER SHINGLEDECKER: This is Susan Shingledecker. I would just say I -- in the pressing time need to get it out, I certainly understand that. And that has to be first and foremost.

If there is a way to have a quick chart with the data of the age of ships, if that clearly tells the picture and makes the case, I'd say you might be able to get it in an hour or so. And it might make a stronger point if you can get

the data included.

MEMBER BRIGHAM: Yes, Lawson Brigham. I mean, I'm aware of the whole fleet. And I think the hydrographic ships are the oldest fleets in the United States fleet, except for a couple of Coast Guard cutters.

So, I think they are the oldest ships beyond the service life of any other ships in the American fleet.

CHAIR PERKINS: Since I've been on this Panel, we've had presentations on the fleet capitalization, you know, planned. We've had presentations from OMAO.

So, I don't think we're over-stretching our statement. I appreciate your input and your perspective Lawson.

You know, time is of the essence. You know, delaying it to bring more statistical support, and I don't think you know, it is going to make our -- you know, we're saying, do this now.

I think we're well founded in doing

so. And I'm comfortable, you know, with it going forward with that statement in it.

MEMBER BRIGHAM: Yes, Lawson Brigham. Just a quick note. And putting the Arctic capable adds another dimension to it.

I mean it adds to the whole issue of the Arctic and its -- and surveying it.

CHAIR PERKINS: Yes. I think the additions of being Arctic capable and multiple launch carrying, are both necessary and beneficial additions. Admiral Glang?

RADM GLANG: Mr. Chair, just a point of information. Gerd Glang, Coast Survey. In fact the oldest fleet in the -- or the oldest ship in the NOAA fleet is the Oregon II, which is a Fisheries vessel.

Just for the record.

CHAIR PERKINS: Okay.

RADM GLANG: But the Rainier and Fairweather would be the next oldest. By a year. '67 versus '68.

CHAIR PERKINS: Yes. If you take out

the time in dry dock, maybe we could come up with a different number, right? That's good to know though.

MEMBER ARMSTRONG: Okay. So, could you scroll a little bit. Pick up the last. So, are there any other -- any other comments on this text?

MEMBER MILLER: I think the text is fine. My question is for the Panel. Do we want to go with this as a standalone letter? Or is this part of our letter?

CHAIR PERKINS: No, I think we'd be better served to do it as a standalone letter like -- you know, co-signatures by the Chair and the Co-Chair.

One thought, getting everyone -- I don't know if everyone has a digital signature that it can provide. Putting it up forward with 15 signatures from the voting members of the Panel is something I think that might have a little more impact.

I'm looking at the end of the table

for the Admiral for advice there.

RADM GLANG: Thank you, Mr. Chair. So, I think that's a great idea. It might be in practice a little bit hard to orchestrate.

Certainly your signature as the Chair of the Panel would be very effective as well. Unless we brought letterhead. Lynne, did we bring any letterhead?

MS. MERSFELDER-LEWIS: No, we didn't.

RADM GLANG: Do we have it digitally? Could we be creative here? I didn't hear you.

MS. MERSFELDER-LEWIS: Everybody's not installed as yet.

RADM GLANG: That's all right. They could sign as member designee. We would put member designee in their signature block. Yes, we could do that.

Why don't we -- so why don't we see what we can do. I'll press Lynne and see what she can create for us here by the end of the meeting.

MEMBER HALL: I think given the strong

language in the letter, I think it helps to reiterate how strongly I think that this Panel feels.

So, I think to have all of us sign is a great idea.

CHAIR PERKINS: Any other comments before we call for a motion?

MS. MERSFELDER-LEWIS: I would like to suggest a few more edits. I would like one or two people get together and edit it. And that should be it.

CHAIR PERKINS: All right. Do we have a motion to accept the letter as prepared, subject to edits for grammar and the addition of bulk signatures?

MEMBER MILLER: I so move.

MEMBER BRIGHAM: Second.

CHAIR PERKINS: Okay. We've got a motion and a second. All in favor?

(Voting.)

CHAIR PERKINS: Great. Let the minutes show that we have adopted the letter. The

intent is to have this distributed within 72 hours.

Next item on the agenda. Working Group Report on Coastal Intelligence.

MEMBER MILLER: Yes, it's going to take a while to get his up.

CHAIR PERKINS: All right. We'll take a ten minute recess. Thank you.

(Whereupon, the above-entitled matter went off the record at 9:33 a.m. and resumed at 9:52 a.m.)

CHAIR PERKINS: All right. If we can have the panelists back in their seats, we'll try to reconvene.

Dr. Atkinson, are you ready to go?

MEMBER ATKINSON: I'm ready if Lynne's ready.

Oh, I guess we're going to watch a video here. Cool.

(Whereupon, a video recording was played.)

MEMBER ATKINSON: Okay. So anyway, if

you all can agree that that general recommendation, those bold-faced things are acceptable, "many coastal regions are becoming susceptible to increased flooding" -- well, that's a no-brainer. "To accomplish this NOAA is encouraged to facilitate federal coordination and the Hampton Roads pilot project provides a model for these activities." From there on down it really hasn't changed. I'm just trying to scrunch everything into two pages.

So if you're okay with those and you'll accept that we're going to work, re-work -- it's just a description of the Hampton Roads pilot stuff, and I'm just trying to scrunch it down. And so it both describes the pilot and kind of is -- applies to other coastal urban areas. So if that makes sense and it's acceptable, if you'll approve that, then I can --

CHAIR PERKINS: I hate to engage in actual wordsmithing, but --

MEMBER ATKINSON: A little bit is okay.

CHAIR PERKINS: -- I'm going to ask, "becoming more susceptible to," can we --

MEMBER ATKINSON: Sure.

CHAIR PERKINS: -- change that to "experiencing?"

MEMBER ATKINSON: Yes. Yes.

CHAIR PERKINS: Can we say "many coastal regions are experiencing increased flooding?"

MEMBER ATKINSON: Yes. Yes, sure.

CHAIR PERKINS: I won't wordsmith anymore.

MEMBER ATKINSON: That's okay. Just trying to --

MEMBER HALL: The second -- now it completely looks like the first sentence in the issue paragraph.

MEMBER ATKINSON: Yes, I know. Let me --

MEMBER HALL: Yes, that's why she's trying to find a different way to say it up there.

MEMBER ATKINSON: Yes. Can you highlight that in the second one -- paragraph, and I'll work on it? I just started rearranging things, so there's some -- yes. But, no, if you see stuff. Thanks. I'll fix that. There's other things that need fixing down below. I can do that in the next day. And I don't know how we want to filter stuff through the group. I'm trying to get that figure of all the defense facilities up front and not take up the whole page. I think I'll get redraft of it that's better quality.

If you just scan down a little bit, Lynne. Keep going. Yes, that figure is going to be bigger and it shows all the federal -- the facilities. Need to get the NOAA facilities in there, too. They're not even there.

How do you want to proceed, Dave?

MEMBER MAUNE: How did your introductory sentence read? Did you change that any?

MEMBER ATKINSON: No, they were

looking at it.

MEMBER MAUNE: Because Kim volunteered and I challenged her to come up with a zinger of an opening sentence for --

MEMBER ATKINSON: Well, that general recommendation was meant to be -- to get your approval.

MEMBER MAUNE: I have a feeling she would.

MEMBER HALL: I don't have an issue. I think this is exactly what we needed to do. But I understand that Dave is challenging me to --

(Laughter.)

MEMBER MAUNE: Well, I'm challenging everybody. And Ed Kelly came forward this morning and he had rewrote his, and I liked it. And so, just the idea of doing it. I mean, once you read Ed's first sentence, you're going to read the rest of the paper. And that's what I really liked about what Ed gave me this morning. So I thought it was constructive that you

suggested that yesterday and that we're trying to get people's attention up front.

MEMBER ATKINSON: Well, I could reduce that all down to one sentence.

MEMBER SHINGLEDECKER: This is Susan. I think it's a great start at making it. I mean, I would -- I don't like wordsmithing in a group either. I'd take out "general recommendation" just because that's a soft start.

MEMBER ATKINSON: Okay. Yes.

MEMBER SHINGLEDECKER: I'd bring the NOAA part up to the beginning --

MEMBER ATKINSON: Okay.

MEMBER SHINGLEDECKER: -- and just say that we are looking for NOAA to continue to provide leadership in this area --

MEMBER ATKINSON: Okay.

MEMBER SHINGLEDECKER: -- building on the Hampton Roads pilot project.

MEMBER ATKINSON: Yes, got it.

MEMBER SHINGLEDECKER: Something like that that's just really --

MEMBER ATKINSON: Yes. Yes. Got it.

MEMBER SHINGLEDECKER: -- this is what we want.

MEMBER ATKINSON: Got that, Gary?

MEMBER MAUNE: Okay. Well, we can see what you come up with.

MEMBER ATKINSON: I'll redo while we're doing other stuff and I'll pop it back up.

MEMBER MAUNE: And we can also see what Kim comes up with.

MEMBER ATKINSON: Okay.

MEMBER MAUNE: Kim, both of you are going to see what you come up with to open this paper.

MEMBER HALL: Great.

MEMBER ATKINSON: Wait. Who's doing it? You or me? I'll do it.

MEMBER MAUNE: Both of you. Well, I want to see what both of you recommend --

MEMBER ATKINSON: Okay.

MEMBER MAUNE: -- and see if --

MEMBER HALL: Team effort.

MEMBER ATKINSON: Face off.

MEMBER MAUNE: -- you say what might be the best --

MEMBER ATKINSON: Okay.

MEMBER MAUNE: -- that way we get two ideas.

MEMBER ATKINSON: Okay.

MEMBER MAUNE: I think sometimes it helps to have somebody not involved with the paper --

MEMBER ATKINSON: Yes, no kidding.

MEMBER MAUNE: -- read it and see what grasps my attention or what doesn't grasp my attention and --

MEMBER HALL: I will say it's always easier to edit than it is to do the first --

(Simultaneous speaking.)

MEMBER MAUNE: -- it's helpful --

MEMBER ATKINSON: Oh, yes.

MEMBER MAUNE: -- for an outsider to take a look at it.

MEMBER ATKINSON: Lynne could send --

can you send Kim -- you want that? Just send Kim that copy.

Are we done? For now. We're going to bring it back up in an hour or so.

MEMBER MAUNE: Okay. Thank you, Larry. Any other comment on this paper?

(No audible response.)

MEMBER MAUNE: I had one other comment. Yesterday we were scheduled to have Anne McIntyre and Gary Thompson. We really only talked about Gary Thompson's part of it. Anne is going to be working with Rich Edwing offline here to address that issue and not have an issue paper on the subject that Anne originally proposed.

MEMBER McINTYRE: Yes, I think that's correct. After we did the megaship presentation I was going to talk a little bit about some slides in the video and then maybe just --

MEMBER MAUNE: Okay.

MEMBER McINTYRE: -- speak a little bit about the PORTS system.

MEMBER MAUNE: All right. Thank you.

Okay. What's next on the agenda then?

CHAIR PERKINS: Megaships.

MEMBER BRIGHAM: Yes, Lawson Brigham. Just a word about the Arctic Issue Paper. It's back in the hands of Dave, and I think Lynne has it and maybe Scott. And I'm presuming, Dave, you'll send it out to everyone.

I incorporated a fair number of the comments of -- and I tweaked the numbers in the technical issues, got a number from the admiral and his staff on 4.7 percent of U.S. maritime Arctic is charted to modern international standards. So I tweaked it all. I think it's ready to go. So I don't know what the process is for consensus on it. I mean, there's been consensus on almost all of the topics in the Arctic and the report. And I don't know, there was reasonable consensus yesterday, but not a vote. So we're okay I think on the Arctic paper, but pass it around. I wouldn't look for too much redo, but --

MEMBER MAUNE: I can send it out to

everybody, or Lynne can send them out to everybody for comment, if there's any final -- if it takes approval from everybody or give everybody the opportunity to comment on the final version of it. Would that make sense?

CHAIR PERKINS: Yes, that makes sense.

MEMBER BRIGHAM: It's not significantly different than it was. I mean, you'll see in red -- I left everything in red. I changed the name of it to Mapping the U.S. Maritime Arctic and then I tweaked from the comments. But I tweaked. I didn't rewrite whole sections.

CHAIRMAN MAUNE: Okay. Then we'll see if Kim has any comments on that.

(Laughter.)

MEMBER MAUNE: Did he you adequately grasp your attention to make you want to read the rest of it?

MEMBER BRIGHAM: Well, I actually tweaked in a couple of comments from Kim --

MEMBER MAUNE: Okay.

MEMBER BRIGHAM: -- at different places.

MEMBER MAUNE: Okay.

MEMBER BRIGHAM: So anyway, now to this issue which is not necessarily an issue paper. It's an issue -- it's related to the challenges of the larger ships of the planet operating in America's ports. That's the issue. It came about because at the last HSRP meeting we did have a few slides from Captain Rassello who gave us a few slides of that and showed the size of the ships. But then in December we had this largest ship ever to come to American port, larger than America's aircraft carriers, a huge ship, the Ben Franklin, with the curious name of Ben Franklin, which is one of the largest container -- ultra-container ships on the planet.

Sal mentioned this morning that his cruise ship is about 100,000 tons, I think, and this ship is 178,000 tons, 1,310 feet long, 177-foot beam, and carries 18,000 containers. Well, it came to -- and the height of the ship from the

water level to the top of the ship is 197 feet and it barely cleared the Gold Gate Bridge. The ship came to LA/Long Beach and also to Oakland in December. Got a lot of press.

I had a few friends talk -- call me who know I'm on HSRP and wondered what we're doing about it. And I said, well, not a lot yet, but I'll get it on the agenda. And so we did pass some information to Chair, Vice-Chair and to Admiral Glang.

And then in February, just to add some spice to this topic, two ultra-large container ships grounded in Europe. One in the River Elbe blocking Hamburg for six days. It's a -- the Indian Ocean. It's a China Shipping Company Hong Kong flag ship. It grounded at high tide. And this ship is only 150,000 tons. Carries 14,000 containers, 50-foot draft. They put six tugs on it. Didn't move. They put 12 tugs on it and didn't move. They had to dredge around the ship and also lighter off bunker fuel to get it moving. And it was deeply imbedded in the soft

mud of the River Elbe.

And then on the 14th of February another ultra-large container ship, the Vanda, grounded off of -- in the English Channel, but off of Southampton, in what I always find tremendously interesting terminology, a controlled grounding. Lost power, low steerage and they grounded with little damage. But again, 50-foot draft and lost power. And it just highlighted the issues of these megaships. And we include in this terminology, I think, the largest cruise ships that -- some of which Sal operates.

So what we had in mind was that Captain Rassello will -- maybe since we have these slides -- Anne, I don't know if you want to just use the slides and just tell us a little bit about -- give us some background.

MEMBER McINTYRE: Right. Yes, we can just go through these slides very quickly. I had contacted some of my colleagues at the San Francisco Pilots and told them that I was new to

the HSRP and was -- there was going to be a topic on megaships. And I had just asked them if you had any materials that you have been using in your presentations, would you mind just forwarding them along so that we could have a look.

And so there's just four slides here that demonstrate the size of the ships. And they really are --

MR. EDWING: If I could just --

MEMBER McINTYRE: Yes.

MR. EDWING: Rich Edwing. If I could just interrupt. I see there is a clearance needed of 197 feet. I'm looking at our air gap on the Oakland Bay Bridge, which shows 199.8 feet available right now, so if it really hurries, it can make it.

MEMBER McINTYRE: Exactly. And then in speaking to that, that speaks to the importance of the PORTS systems and the censors, which is what I will get back to. But that's exactly right. Those air gap gauges are super

important, again because I would say like the traditional information that's available to us as pilots, you know, where they say the vertical clearance is blah, but then you -- if you have traffic on the bridge, if it's an exceedingly hot day. For instance, the Golden Gate Bridge, the clearance on the Golden Gate Bridge can change up to two meters just basis traffic loads and heat. So real time information is critical in addressing the safety concerns of navigating these large ships.

And it's not different in my port where the ships are smaller, but the clearances are smaller. So the issues are still the same. There's just an added complexity in the handling of the ships due to the size and the mass.

So we can go to the next slide. So just another one enforcing the height of this. There's the Empire State Building and there's the ship. And, yes, they're really, really big.

And next slide. Just again some comparisons there. Look at the car. It's like

the blip of the engine on the Malaysia flight. You can barely, barely see it. And that also just gives you an idea of what the capacity and how much cargo these ships can carry.

And then next slide. Just one more example. They're just -- they're biggest thing on earth. They're huge.

And so, I have these slides. And then I just have a couple short videos. We can watch the first one and you can see if you then want to watch the next ones. These were put together by Captain Dave McCoy, who was the San Francisco bar pilot in charge of the project for the passage planning for bringing this ship into the Oakland Harbor the first time. So the time is speeded up and there's some funny music associated with it, but it's pretty impressive when you see the view from the bridge of the ship.

(Whereupon, a video recording was played.)

MEMBER McINTYRE: And if you want to see one more, there's one where they actually

turn the ship in Oakland Inner Harbor that's pretty impressive.

MEMBER BRIGHAM: When they went under the Golden Gate Bridge, they were smart to design the ship so you could retract some of the antenna. So they really had to get the height of the ship down.

MEMBER McINTYRE: Okay. It would be the next one. There's one more link. I think it says "Turning Away."

(Whereupon, a video recording was played.)

MEMBER McINTYRE: So this is inbound into Oakland Inner Harbor. Actually this is Oakland Outer Harbor.

MEMBER BRIGHAM: It's so easy. Why do we pay you people so much money?

(Laughter.)

MEMBER McINTYRE: Well, yes, that wasn't the one I wanted you to pull up actually. There's one where it's turned. In San Francisco when they started bringing in these large ships,

they actually established kind of a second position within the pilots that are boarding so they have a primary pilot assigned to the vessel. They also have what they call an ePilot.

And I think those that have been on the panel for a while, when you were doing the Precision Navigation stuff down in Long Beach, you were seeing the equipment that the Long Beach pilots were using. And so they're using the same equipment in San Francisco to do that. So they have one dedicated pilot in San Francisco who is solely monitoring the electrical equipment.

So there's on pilot that's kind of monitoring everything interfacing with the captain and the crew and the ePilot is just monitoring the position. Because when the vessels are turning you can't see over the bow or over the stern and the clearances are quite, quite narrow. I think it's less than 100 feet on each end when they're turned sideways in the estuary.

Did you find the last one? There were

three links on the email.

MEMBER BRIGHAM: Did you say the magic word, ePilot?

MEMBER McINTYRE: ePilot.

MEMBER BRIGHAM: ePilot.

(Whereupon, a video recording was played.)

MEMBER McINTYRE: Yes, that's not it.

RADM GLANG: So, Captain McIntyre, Gerd Glang. I have a question. So I've had the chance -- the opportunity to visit with the pilots in San Francisco and they don't -- as an organization they don't, to my knowledge, have a standard precise pilot unit, PPU. They do have a PPU set which they take specifically for turning vessels in that inner Oakland reach, in that turning basin. And it uses dual GPS antennas tightly coupled so they can get precise heading and also, their fore and aft motion, because like you said, when they're pivoting that vessel around in that basin, they have to do it very precisely.

MEMBER McINTYRE: Correct.

RADM GLANG: And I think the PPU they use is the Booz Allen product, formerly known as ARINC.

MEMBER McINTYRE: That is correct. They have I think two or three of the ARINC units which the ePilot brings on board with them. They don't -- the ePilot doesn't bring the ship in from sea. He boards off the city front, comes in, sets up that equipment. It would be too complex of a task to be piloting the vessel and trying to set all that stuff up at the same time.

They also -- I don't know if they're using the Raven units right now, but they also use a separate PPU for other ships. But for the very large ships they're bringing on this -- you know, the ARINC.

RADM GLANG: Yes, and some of the pilots bring their own kit with Rose Point software on it.

MEMBER McINTYRE: Right. Yes, some are using Rose Point, some are using Raven.

RADM GLANG: And then there were some old school that didn't use anything.

MEMBER McINTYRE: Yes, that's really being discouraged. I mean, those are kind of complex political issues with the state and the monitoring system as well as within the pilot groups. Within our group we have a PPU system that we use and it's a software that we developed in conjunction with the Volpe Center. It's an AIS-based system. We plug into the AIS. We get the AIS data from the ship.

And what's interesting about the system that we use is that it layers all types of information. And it goes back to a comment that Ed made when he was talking about future technology needs is that within our program we're able to layer products from all different types of agencies. So we have Army Corps of Engineers soundings available to us. We have ENC charts available to us. We have private terminal soundings available to us. And then we're also able to go in and very accurately put in docks to

the extent where we have -- we can put a fender. So we'd show like there's a dock line and then there's a fender that's maybe a meter wide. We can even draw those things in. And Jon Dasler has been very critical to us in helping us set up all that information.

But there's still a lot of inaccuracies, or I guess uncertainties when you're using the equipment. If the data that the ship's providing isn't correct, if they didn't correlate the parameters of the ship correctly into their AIS system, it may show an offset. Sometimes there's delay in signaling where a ship may be actually three ship lengths ahead of the vicinity being displayed. And there's still a lot of stuff to be worked out with the potential of that technology and putting together all the data that's available from the different agencies into one system. It's really pretty amazing.

RADM GLANG: Well, I think you've raised the point that I wanted to raise, which is you're bringing together lots of different

information. And in the TB32 system, for instance, my understanding is it's not necessarily an open standard, Jon? Or it may be an open standard, but it's not a standard standard in the maritime community.

MEMBER McINTYRE: Yes, it's been a lot of work getting the data into it and getting it all to integrate well and display correctly. And the other thing then is this is our system and it's not -- when you get into, okay, this is government-provided, this is regulated by IMO, all that kind of stuff, we wouldn't -- if we were kind of following those paths, we wouldn't be able to do what we're doing right now.

RADM GLANG: Right. No, I appreciate that. You're a new member. We've got several new members and I would offer you all the opportunity to receive our briefing on Precision Navigation and kind of the direction we see ourselves going in.

Which brings me back to this one pager. It would be really wonderful if the panel

could provide us their thoughts on this document. This really intended to focus on what kinds of services and products we envision specifically for megaships, right? So one of the principles in the back is data interoperability, that there is a standard for that.

My other question is -- and I'm taking up the panel's discussion time, but maybe stimulating more thought on megaships. How do ports decide, or is it the pilots that decide what the upper limit is? When do you decide a ship is too big to bring into a port? How does that happen?

MEMBER McINTYRE: When it's a new ship that's coming into the port, typically we'll hold pre-planning meetings with all the stakeholders that are involved in that. So that would involve the Coast Guard. It would involve the pilots, the vessel operator and the terminal. We take a look at all those factors and develop a plan. But in my port and in most ports around the United States the ultimate decision whether or

not to bring a ship in is up to the pilot organization unless there's an overriding safety concern with the Coast Guard. For instance, in the Columbia River the Coast Guard may close the bar or something like that. But the pilot organization makes the final decision, kind of within the parameters that are publicly published for that particular part.

RADM GLANG: So can you go into a little bit more detail what pilots look at for the upper limit? I mean, are there hard numbers for things like draft and beam and air draft and sail area and environmental limits for cross-current and winds and direction of winds and things like that in the --

MEMBER McINTYRE: The answer is yes and no. There's parameters, but then there's a lot of fluid situations that play into those. So for instance, on our pilotage ground we passage plan for a two-foot under-keel clearance. Air draft is the ship has to clear the bridge and we plan our passages like that.

As far as current, we have in place like different -- we call them vessel moving guidelines. We have parameters for -- certain size tugs would have to be used on certain size ships under certain current conditions. So there's guidelines out there, but there can always be with any particular ship an individual circumstance that might cause you to have to impose a more stringent requirement.

For instance, we have a lot of issues right now with the new low-sulfur fuel oil that ships are required to burn once they're inside the federal limits. And the ships aren't designed to operate on that fuel, most of the older ships, so we get limited power, limited starts with the engines. And so, we might in that particular case -- even though the dimensions of the ship fit the physical parameters of whatever the maneuver might be, we may have to bring in more tug resources, an additional pilot, those types of things.

MEMBER KELLY: Admiral, I would really

say that we're talking a lot of focus on megaships, but it's not the size of the peg, it's the size of the hole it's going into. The real constraint is the configuration of the port itself: the depths of the channels, the heights of the air gaps, the widths of the channels, how much of the bends are involved in the channels. Because we have the same thing. Every port has wind restrictions, certain classes of vessels have one-way traffic at -- no-meet, no-pass zones. So there's a lot of considerations.

But all of this really caters back to the size of the port itself. And that's why it's so important that we get precise information for these ports, because different size ships are problems in different ports. You came up and you saw us in New York. And we're going to -- you know, we're looking at the 13 to 14,000 T-class to max out once we take the Bayonne Bridge out, but with the reconstruction of the 50-foot channel, the Kill Van Kull hasn't gotten any wider.

So we're looking at different hydraulics. We're looking at different configurations. We're looking at a lot of issues that come up. Certainly squat comes into it. We have minimum configurations. Two foot above and two foot below is the current VTS, so we have restrictions there. We're going to look at simulations to take a look at what we can do as far as meeting and passing, because a lot of these much larger ships are just making the space more constrained than it was in the past and with the new configuration of the channel we have to understand the hydraulics that are going on so we can meet, pass, etcetera, with this new class of ships.

And we can't just -- even though our pilots that we've paid -- we sent them out to the West Coast and they've ridden along on some of these bigger ships. You don't know how it will behave in your particular port. And we can't take a chance of somebody saying, oh, crap, that didn't work. So we're doing all this simulation

work. As you know, we're modeling actual ship construction design plans, sending it down to MITAGS to model it, put it in the simulator with detailed plans of the harbor. So there's an awful lot of work on this, but the real constraint is the harbor and the port itself, not so much the ship.

MEMBER McINTYRE: Yes, I would absolutely agree with that. Every ship is being -- or every port is pushing the limits of what they can bring in and out of the -- and the megaships are sexy today, but I guarantee you that once we start -- the oil markets recover and we start exporting more crude oil and more LNG, everybody's going to be looking at that big LNG ship that's coming out of wherever they end up putting the terminals. So really it's a common problem everywhere. And there are some, I will say, ship handling challenges to the megaships, but Ed is absolutely correct. And I sure that Sal would agree that it's every ship you take --

MEMBER KELLY: Yes, I'm not quite the

old man of the sea, but I remember we brought Tobi Maru to the East Coast and it was a practical intake of 1,750 TEU, and everybody in the port turned out to see it because it was the biggest damn ship they'd ever seen and we had to rewrite all of our operating procedures. And then they -- everybody came to see the Verrazano Bridge at 2,000 TEU. Malcolm had 4,400 TEU in his econ class, and he had to lay them up because they were too big. He couldn't operate them.

So I would just venture to say that anybody who's shaking their head and says they can't get any bigger than they are right now is probably wrong. And there will be continued larger vessels in different configurations.

And we also have to look toward the not-too-distant future of unmanned vessels, at least for ocean open crossings, not so much here at coastal and harbor work, but the technology of the shipping business is nowhere near being finished and the technology that's out there I would beg to say that the maritime transportation

industry is a bit of a dinosaur. We're a little too tradition-bound and there's a lot of technology that's been employed in airlines, roads and other modes that we really need to catch up to. So it's going to -- the challenge of technology against physical constraints of ports, harbors and the people that operate them is going to continue even more.

MEMBER BRIGHAM: Yes, the ports in America, just to get back to the topic here at hand --

CHAIR PERKINS: Can you recognize Captain Rassello?

MEMBER BRIGHAM: Yes.

CHAIR PERKINS: Okay. Thank you.

MEMBER BRIGHAM: I know I'm running -- I'm trying to orchestrate this.

And my comment is, yes, I agree with everything that's been said, but I still believe that these ships have physical characteristics that are so unique and not seen before, and I think Captain Rassello will amplify that.

The ports that we have, Ed's port and others, will have to be one heck of a lot larger and deeper and broader if the ships get even -- well, I think the two groundings show you that we're at the max draft of these ships. When you can have a ship essentially blocking Hamburg Harbor for 6 days and 12 tugs and all of what they had to do, dredge to get around it, it was a good case study of what can happen if -- and that's normal grounding. It's not really emergency kind of grounding.

So anyway, to Captain Rassello to add the dimension of the large cruise ships and their physical characteristics. Sal?

MEMBER RASSELLO: Good morning. Sal Rassello. I have a question for Captain Anne. I understand that in the U.S. port the pilot association is the last word when it comes to these cases, marginal cases of taking the ship in under certain circumstances.

Do you think that this is the fair way to do it, or how the pilot can assess these limit

cases when they don't know the maneuverability of the ship?

MEMBER McINTYRE: My response to Admiral Gerd was basis the planning before a big ship like that is brought in. And I -- that was the answer in that question in the context of the first time it comes in, what kind of planning is done. Your question is more along the lines of with a particular ship that's coming in at some time. And I mean, those types of decisions are made in conjunction with the master of the ship and the conditions of that particular port arrival.

MEMBER RASSELLO: So you think it should be a decision made by the two entities instead of having one entity say, no, we're not going to make it?

MEMBER McINTYRE: Yes, I think it's a decision that needs to be made jointly between the master and the pilot.

MEMBER RASSELLO: Okay. Thank you. Can I do my humble presentation?

CHAIR PERKINS: Yes, please.

MEMBER RASSELLO: Thank you. Okay. That's me and that's what I do.

Next. Okay. My presentation will include the available depth and water dredging concern, vessel's dynamic draft, consider squat and heel angles. We will decide to have a better instrumented port to help us to define these -- when we have very minimal tolerances regarding the under-keel clearances. Pilot and ports. We decided to have better coordination. And all these entities should work on one common standard platform when it comes to the passage plan to the berth.

You can interrupt me any times or we can do the question later.

Okay. Don't mind the numbers. This is part of my daily routine when we assess a new port, or this is what the ship bridge team do every single time before they go into port regardless if they've been in that port the week before.

So to define what will be the safe on the clearance, we take in consideration various factors. And that you can see with a draft of 8.5 the ship may require 12 meters of depth.

Squat is the one that affects our ship the most. Squat in open waters is a bit different from the one when we are in the close water in waterways and channels. The block coefficient for a cruise ship is still 073 to 078 regarding the ship or the hull. And the squat effect very much, as I said, at the higher speed.

And now in the next slide you will realize what speed is a major -- one of the major factor in maneuvering in the restricted water.

This is same thing. Different channels. This is prismatic channels. Some channels, artificial channels are usually square. What is not defined in a nautical chart is the -- what's the depth on the side of the channel. So it's mostly they define that on the center of the channel. That's fine if the ship stays in the center, but if ship is forced to go on the side

of the channel, then there are unknown situation that may affect the safety of the navigation.

This is another factor we take in consideration. These are very tall ships. The sail areas are above 10,000 square feet. So even a blow wind of 15 knots can make the ship heel. The rate of turn, if it's too aggressive, can make the ship heel on one side of the other side. So the use of the route there is very, very important for -- from the operator, from the pilot.

So we always invite the pilots to use rate of turn when they need to change courses and not to give the numbers to the wellsmen. And angle over heel can reduce the draft of six feet, so if you calculate a clearance of 10 feet, you remove 6 feet, you have only 4 feet left, which is really not enough for navigate.

And now we going to the charting, the mapping. As you can see, there is a lot of area that is unsurveyed and this is a concern. We have a situation here in Galveston where we do

navigate on -- outside the channel in non-navigational water as it states on the chart, but pilot are comfortable to navigate with that depth, so we do navigate outside the channel.

And this is another factor that I take in consideration when I do my planning and what the office do when they do their planning before entering the port. Wind and currents. Wind is our enemy. Currents and well. Wind is the most affecting the ship safety when navigating in narrow channels. As you can see, the ship need to have sometimes with 20 knots, 25 knots wind to hold the heading. And it can go sideways grabbing -- with a grabbing angle and the swept area of 50 meters. Are ships are 320 meters long, so if you have just 10 degrees of drift angle, it will be 51 meters more you need in the channel.

This is a Carnival Cruise Line weather buoy. We have ports. We own ports and we -- not in the U.S. territory. Outside. Talking about the Caribbean. And we have purchase this weather

buoy to advise about weather condition in real time. And so, we connect in real time with these instruments and the captain can make a good assessment. In some port we don't have pilotage in the Caribbean, so it's all left on the captain skill. So we have three of these so far in three different ports.

Here is the projection of an approach, transit and final mooring of a large cruise ship. So as you can see we are very restricted in maneuvering and a good assessment need to be made prior commit to the maneuver.

So what we will like to ask NOAA is to consider to improve the resolution of charts in narrow channels and ports and create the kind of port ECDIS which reflect our passage plan which we make on the ECDIS supply of apart from the departure port.

Also I think topographic is something we need to include in the mapping because topography can change the environment in a port. If you have wind outside that comes a beam when

you are in port can be affected by the topography of the area and the wind will come from a different direction. So we need to know this before we approach. That's the -- to make a good assessment and to -- for larger vessel we don't have much of tolerances. Yes, Andy?

MR. ARMSTRONG: So instead of topography would a higher resolution wind model be more helpful?

MEMBER RASSELLO: Either way, yes, I think that will -- if it's less expensive to do that, just having wind -- to measure the wind. An example is in Miami. In Miami it's strong current outside. And then in addition to the current you have the wind is very challenging to make the entry in the channel. And then you need to slow down because the channel get very narrow and you really need to know what is the wind in that place. You don't need to know where is the wind outside, because outside you can manage with speed. But when you take the speed down to six knots, because that's what -- the channel allows

you to do it. Then you have an unknown. The question is do I make it or I do I don't make it? Then when you start sweating.

You've seen this already. This is what I think the future of navigation will go on Precise Navigation for Port ECDIS. All these elements are very important to make a risk assessment for a large vessel going into ports.

And what I see in the future, I see that, as I say, the port need to be Port ECDIS. The coordination between the ship's operator, the pilots and the VTS should be made on a common platform, should be presented before the ship arrived and not just discuss in the last minute on the bridge between the pilot and captain. Should be more harmonized coordination between the three entities.

I think that's all I have. Any question?

MR. ARMSTRONG: I have another question. You had a Zone of Confidence element on your clearance calculation. And I couldn't

see exactly what you had in there. Do you have a number, a plus/minus number that you use on Zone of Confidence, a standard number? And if so, how did you arrive at that number?

MEMBER RASSELLO: Yes, is a calculation we have made at the simulator. And if we can go back, I think there was a slide showing the way it's done. Practically the Zone of Confidence is the most important factor of the chart when you approach. And I have my parameters based on the experience. Sometimes the calculation doesn't give you the real result.

Just to give you an example, in the Mississippi, yes, we know the gulch, we know the current, we know the tides, but we don't know the silting on the bottom of the river. That's something that's unknown. So we came to experience some soft grounding where all the elements or the chart and the all the data we have in our instruments was not showing. So how can we determine that?

MEMBER BRIGHAM: Yes, thanks, Captain

Rassello.

Thanks, Captain McIntyre.

The idea of this topic was to have a discussion, get it into public record. There has been these issues in Europe and the Ben Franklin coming. So we've done that. Maybe some follow-on actions is to integrate the Precision Navigation into whatever issue papers we have. I think that was -- Ed's idea was to integrate these issues. But also to review, all of us to review, but maybe both our captains to review in depth the NOAA paper on Precision Navigation and see if we can come up with some more language and better attune to issues in that. So I think those are the two actions from this discussion that was really generated internally by HSRP.

So, Mr. Chairman, I think we're done with the session unless there's something else.

RADM GLANG: Captain Sal?

MEMBER RASSELLO: Yes?

RADM GLANG: Gerd Glang. In the case where you're bringing ships into federally

maintained channels where the Army Corps does the survey work, those survey standards were -- we use the Army Corps data and portray that on the chart generally as the quarter depths, right, center, left quarter, right quarter, center line, and the tabulations. And the standard for Army Corps surveys don't necessarily support some of the CATZOC definitions that you rely on. So how do you make your decision then?

MEMBER RASSELLO: That's a good question. And the decision is made mostly on -- I -- I take in consideration all the data, but at the end I don't trust any data. I take in account that there is -- the numbers are there and they have been verified, but then also I take a buffer on top of it. And that is made according to the environment of that day: winds, currents, size of the ship, maneuverability of the ship, power of the ship. That changes from a static condition of 10 percent to a dynamic condition 20, 25 percent.

So it's more -- it's not engraved in

the stone, the calculation. That's to be made according to experience. How those ships react with the environment. And that's why I ask that the data, the most realistic data. And in some areas such as say the Mississippi they should be more real time than past calculated.

VICE CHAIR HANSON: So just to clarify, the issue is not the accuracy of the Corps of -- we're talking about the Mississippi River, which is surveyed frequently, but it's just not enough? You need the real data?

MEMBER RASSELLO: Yes. No, the issue is not the numbers on the chart. The issue is that the ships are getting bigger and the buffer, the tolerances safe -- for safe navigation are getting very slim, so what we can do to make it -- the channel more useable, or the port more useable and the safe -- more safe to navigate? That's what we have in the limit of say -- really work on the very tiny tolerances and that's what we really need to be sure that study from the data and the study and the discussion with the

pilot become a little bit more effective --

VICE CHAIR HANSON: So --

MEMBER RASSELLO: -- to complete the --

VICE CHAIR HANSON: -- using the Mississippi River as an example, is that a seasonal issue when they're having floods or droughts, or is it --

MEMBER RASSELLO: That way --

VICE CHAIR HANSON: -- year 'round?

MEMBER RASSELLO: Yes, okay. Let's say the corporation here made the assessment a week ago.

VICE CHAIR HANSON: Yes.

MEMBER RASSELLO: And then NOAA replicate the numbers on the chart. So we are a fresh start. We get -- find everything correspond. But let's say after three weeks has been major hurricane. And then I found myself sitting on the bottom of the port. How can I manage that?

VICE CHAIR HANSON: But in a dynamic

situation like in the Mississippi River versus Miami, which is fairly static --

(Simultaneous speaking.)

MEMBER RASSELLO: Yes, it's not -- these are two different cases, but those two cases need to be analyzed every single time. So, yes, data are good, but then it comes also to what you do with the data. And I think the future will be to have real time data. How do we do that? I don't know there's technology, must be, that gives the operator a real time situation.

VICE CHAIR HANSON: Okay. Understood. Thank you.

MEMBER McINTYRE: Anne McIntyre. If I could just follow up on that a bit. I use the Army Corps of Engineers sounding data daily in my work, and I've found it to be very reliable and it -- the interface there where it becomes critical in the passage planning, as Captain Sal had said, we do have a safety factor. So you might have a two-foot under-keel clearance like

we have. Other ports might have 10 percent, a meter. There's different factors there.

But really what plays into it is having the real time information, like you said. And then again, particularly the water level information, because that over time is really -- the most continually dynamic input into the decision making is what is the river level or the tide at this particular place and this point of time?

And then we can take that information and apply it to the most accurate soundings that we have available, which is the -- for us is the Army Corps of Engineers sounding. And we meet with them monthly to review the soundings, to discuss where dredging should occur. And then in periods of low water we meet every two weeks to review those soundings.

And so, it would be great if we could see more integration of that again. I don't see the pilots giving up their PPUs any time soon. And it's for just that reason we can have that

information available to us. It's not available on an ENC. And it doesn't make sense to me for NOAA to try to replicate the data that the Army Corps of Engineers already has that is really quite effective. And I'm sure this varies from port to port in how that information is utilized. But I know for our region and I also know within San Francisco that that's the data they really look at.

MR. ARMSTRONG: I don't think there would be any intent for NOAA to replicate Army Corps of Engineers data, but I think our goal would be to serve it to the mariners in a way that say the -- that all the users would have access to it sort of all the time or as near real time as we could. I think that would be our goal.

MEMBER McINTYRE: Absolutely. I would agree with that. Just my point is --

(Off microphone comment.)

MEMBER McINTYRE: Yes.

MR. ARMSTRONG: And as the admiral

points out, delivery of that for navigation purposes is NOAA's mandate --

MEMBER McINTYRE: Right.

MR. ARMSTRONG: -- despite the fact that the Corps is the survey agency, the navigation product is --

MEMBER McINTYRE: Right, and my --

MR. ARMSTRONG: -- a NOAA mandate.

MEMBER McINTYRE: Yes. As they're completing the soundings. I mean, the soundings aren't intended for navigational use and, I mean, there's a disclaimer on every survey that they do that they're doing those surveys to calculate dredging volumes. But from a pilot's perspective, and I'm sure probably from a captain's perspective as well, that you want the best data. You're going to use the best data available regardless of what it's legal intent or it's practical intent was.

MEMBER GEE: So just a question. Lindsay Gee. So in regard to that, it's NOAA's mandate and I understand that, but it would seem

in ports that just isn't used that way. It is -- like you're saying, it's the Corps of Engineers' data because it's available and it's the best, even though it wasn't done for navigation. So how do you address that? And really, using the pull on the pottle, it's just something to solve the problem, you've to bring the ship in. And so you do it, right?

MEMBER McINTYRE: Yes.

MEMBER GEE: How does that relate into the requirements of the Precision Navigation for NOAA? Even though it's a mandate, it's currently not happening now and you're trying to push the limit to take things forward. So it's --

MEMBER McINTYRE: I think Jon Dasler may have a comment.

MR. ARMSTRONG: So I think as we've said many times NOAA and the Corps are partners in this process, and one of the things that I think you've heard mentioned is eHydro where we hope to get those Corps of Engineers surveys into a digital form and near real time from when they

get them. And I think that we recognize in the meantime that certainly the pilots would like and should have those Corps of Engineers surveys. So we would I think hope that down the line that something could be delivered in a unified navigation product from NOAA. And we certainly have a lot of people working on that. And that way we would like to be able to deliver the depths outside of a channel at that resolution as often as we can, too. So I think these are great issues for us to hear and to take as things to work on.

MEMBER GEE: Thanks, Andy. So I just happen to have -- you can go ahead and push play.

So this is a high-resolution multi-beam survey of the channel somewhere going into Charleston Harbor. And so what you would see on the chart is just the simple geometry of the channel and you would have a tabulation for the depths. And as you fly through this you can see sort of the left to right arc sweeps. Those are from the dredge characteristics. But you can see

that what -- and I don't know what the period of time was between when this was dredged and when it was --

PARTICIPANT: Like at the entrance or the inside?

MEMBER GEE: Yes, I'm not exactly sure where this is. I'd have to go back. But the point is that you can see these sand wave artifacts. You can see the edge of the channel starting to move in. So these are things that are invisible in sort of the normal engineering surveying paradigm that the Army Corps uses. These are details that you would only see in a high-resolution multi-beam survey. You build a grid from this data and that's what you need to support a ports scale ENC. So that's what I wanted to show here.

So while we put -- where's Jon?

MR. DASLER: Right here.

MEMBER GEE So there's a tremendous amount of information potential that could be communicated to the mariner, but we haven't built

the paradigm or the processes to do that.

CHAIR PERKINS: Okay. We do need to make sure we allow time here before 1100 for the public comment period. Lawson?

MEMBER BRIGHAM: Yes, I just wanted to finish up this discussion. I thought the most relevant and most important thing that was said this morning was Captain Rassello's comment about harmonizing the information. And what we need is also transparency. Unified information to all of the players. And he suggested of course the ship owners and the operators, the pilots, the VTS. They're all sharing the same information. Some of that information, or maybe all of it, comes from the Federal Government, but this harmonization related to the human dimension is hugely important. So I think we had good discussion on this topic for the HSRP.

CHAIR PERKINS: Okay. We did have two comments submitted in in the public comment period electronically, one from our first day of session on March 15th and one from today. For

the sake of time we'll read those into the record when we reconvene this afternoon. So I'd like to public comment period now for anyone in the room that's so desiring to make a public comment.

MR. DASLER: I think it's just important to note -- you talk about the Corps of Engineers' accuracy. I mean, I don't think it's really accuracy. What you're talking about is the timeliness of the data, right? So this is all temporal changes, when we see on the Columbia River sand waves moving at a meter per day, right ? So it's getting updated information on that shoaling. And that has always been the problem of -- NOAA's mission is object detection. The Corps of Engineers' is dredging the channels, right? And that can be a problem in the channels, right, and updating that data.

So it's pretty nice the way that the pilots have it set up right now on the Columbia River. The Corps posts their data to the web site. When they turn on their PPUs, that data gets downloaded off the web site, goes to the web

site, gets the most recent surveys. Those overlays are there.

Gerd's right, those are single-beam lines. It doesn't necessarily represent all the shoals. Getting high-resolution multi-beam is really going to be a better product. And then just getting a higher resolution data set rather than single-beam out of that multi-beam data that can more accurately show where all the shoaling is is definitely the way to go.

So is there a way that as NOAA updates charts? I know that the tables get updated as some of that goes through, but how do you better represent that to the pilots? Because I think Anne would say that having that sounding set on an overlay -- I mean, they can still bring in raster charts or other things on there, but they can overlay that updated sounding set that shows what's currently going on in the dynamic situation of the rivers. I mean, that's I think what Precision Navigation is all about. So having not only full coverage optic detection,

but actually capturing that temporal change is key, I think, to Precision Navigation.

MR. ARMSTRONG: I couldn't agree more and I would say that there's probably different requirements in every area. In some cases the multi-beam detail is necessary. In some cases the timeliness is much more important. So I think it's great for us to hear both from my perspective on the research on development end and I think for our colleagues on the production end to kind of hear what we ought to be aiming at. I think this is really valuable to me.

MEMBER McINTYRE: Just a quick comment because I know we're time-pressed, but with what I find professionally and how I've -- evaluating the soundings is it's a pilot. Your expertise is local knowledge. And so you're every day out there on the same route. And so I can see a little bleep on a survey from the Army Corps of Engineers and I know in that particular area if I see this, this indicates this is what the bottom condition is here. And that's something that

from a piloting perspective and local knowledge that's something we know, but that isn't something that an outside mariner or a recreational user or anything like that would know. We are able because of the time that we spend on the route to interpret the data as we have it now pretty well.

MR. DASLER: Just a follow-on. I think also the critical part and to address the comment of frequency of the surveys and how often that would be done. So what they do in the Columbia a lot of times is -- especially at the ports is they'll do the surveys after the spring freshet. So the run-off from the mountains and the spring freshet not only brings a lot of sediment; it brings a lot of debris.

And so we've seen in many cases there are logs and snags and things actually in the channel that get missed by single-beam surveys. Recently in a shipyard a 4-foot diameter coming 15 feet off the sea floor, significant obstruction that can get missed by single-beam

surveys. And how do you capture all of that with these updated surveys?

So I guess just looking at the nature of a harbor, when is the time to -- like I said, they do surveys after the spring freshet. Then they plan their dredging operations. So when low water hits in the fall, they've got channels cleared. And usually there's not that much sediment movement over the summer months.

MEMBER SAADE: So there's a fear factor that you've all put into me of if we're talking two feet of clearance on some of these ships, I can't imaging not surveying every single day, because you don't --

(Laughter.)

MEMBER SAADE: -- know if a piece of pipe fell off of somebody's boat and it's sticking up. You don't even know if you have the bottom in soft sediments like this. How many times are these two feet of clearance actually dragging through the mud and nobody even knows it?

MEMBER McINTYRE: Right. On the Columbia River it's not like a smooth bottom. There will be sand waves, there will be areas where it's deeper. And so, two foot under-keel clearances, it's not something that we're driving the ship 85 miles with two foot of under-keel clearance. So it's areas where we pass through shoaling where it's two foot of under-keel clearance.

And we're moving ships every day all the time. And when you handle a ship, when you get into shallow water, you -- the ship behaves differently and you can feel it a bit. You slow the ship down. And so there may have been a pilot that went down the river the day before you. He experienced some shoaling there. And so, we pass that information along. And then we might change our passage planning the next day to allow more water to go through there.

Then we call the Army Corps of Engineers. We say, hey, we're feeling a little bit right here. We need you guys to get out

there, give us a survey. And so, that's how it works in practice. But again, I'll just go back to my point, having the river level information allows us to be able to make those decisions. And then you have your safety factor.

But, yes, when you think about two-foot of under-keel clearance, you could be laying on your back and you could touch the bottom of the ship. And, I mean, that's how we operate now. That's what we need to do as a nation, the ports, in order to be competitive. So, it's just again the best information that we can have in order to make safe decisions.

MEMBER GEE: Sorry. I know time is pressing, but one of the questions -- I agree with Jon on this, the repeat surveys to give pilots better information, it's not -- by doing those repeat surveys you're also modeling and seeing any changes. And I think that's kind of important.

The other thing is there was a mention of -- I'm not sure who it was, in going to

Hamburg to visit to see what's done over there. Well, some of the European ports that are critical like Rotterdam -- I've had some involvement over there, and that's an everyday survey operation. And not only is it an everyday survey operation. They actually -- updating of the charts over there are not done by a benevolent topographic service. It's being handed over to the port and the pilots look after another organization. The bathymetry is ripped out and the local port produces it, and it's an update overnight.

So the requirement on the -- the survey gets done and all of the charts, the chartlets they have and the high-resolution ones in the Port of Rotterdam have to be updated overnight. So they have a process in place. The technology is there. It's just a matter of trying to close that out. And that's a specific port, so I think that's kind of something that -- I mean, it's hard to solve for every port in the U.S. because they're all different, but I think

there's models of how this can be done.

MEMBER McINTYRE: Absolutely. I mean, I think it's just a matter of resources and funding, really. But the ports and the conditions in the ports vary so widely, I think it's very difficult to find a one-size-fits-all solution. And then again just the way different ports structures operate. I mean, Rotterdam is a very, very centralized port. Our port is made up of -- our system is made up of five different ports. They're all regulated over two states and we don't have a lot of major lines calling, so we have a lot of tramp shipping. And there isn't like much of a consolidated stakeholder base to put those kind of programs together. So Rotterdam style -- type system wouldn't work for us.

MEMBER KELLY: Ed Kelly. Lindsay, that's correct. In fact, I've been in the international business a long time. One of the recommendations could be for NOAA to look at comparable models in other industrialized and

international deep water ports. They do it very differently in Singapore than they do it here and they do it in other places. There are other models. Fortunately for them, not so fortunately for us, a lot of their national interests recognize the importance of coastal traffic and their budgets reflect that.

So some of the things that they are doing, as in example, in Rotterdam, are done with public money and it's done the right way.

MEMBER GEE: And I wasn't -- Lindsay Gee. I wasn't suggesting to take that and just kind of stamp it out everywhere. I think it's just there's technology and approaches that you can adapt and you can just pick the nuggets out that are suitable for the U.S. system.

VICE CHAIR HANSON: If I could, I mean, bring us back to the U.S. example again, because I think what we're saying, the Columbia River, the Mississippi River, surveys are getting done. Not getting done by -- maybe not by NOAA and they're not getting on the NOAA charts.

They're being done by the Corps and they're very responsible. They do them overnight in the Mississippi River. Particularly right now when you have the flood season and the high shoaling. They're all over that. I mean, they've got certain areas out there every day.

So the question becomes, as we've talked, is how do we get those into the NOAA mandate, which is -- that's the part that's missing. I think the work's actually getting done. We always push the Corps for more surveys for our business as well, so, yes, you could do more. Real time would be ideal. Maybe that's Nirvana for us in the future, but right now just how do you get the data that exists?

And you talked about this last couple days, Lindsay. There's data out there. How do we get it into the NOAA system since NOAA -- this is NOAA's job.

MEMBER KELLY: Ed Kelly. I think one of the key things that we're discussing here as the Hydrographic Services Review Panel is that we

have put out on the table the fact that the ports are in crisis, the ships are bigger, there is more congestion. Safety of human life, cargo, the ecology are all increasingly becoming at risk. And to continue a safe operation in these restricted capacities, it's essential that NOAA continue to evolve more responsive products to address this.

And whether we call -- I'm not sure. Is the correct word now "Precision Navigation" or "NextGen Navigation," or -- but we need to aggressively pursue ways of getting more real time data and useable coordinated formats that are available to be put forward so that the people that are responsible for navigating these vessels in these ports, whether they be megaships or small recreational boats, have got access to the most accurate and timely information to be safe, secure and efficient. And I think that's really what we have to say.

Do we have the exact answers? No. NOAA has a lot of the technological capability

and the resource capability. Perhaps our Technology Committee can help to steer some of that thinking, but I think our statement is not to decide what that system should be or who should put it together, but that it needs to be crafted, evolved and put in place on an operational basis. And we need it yesterday, not a year from now.

So I think the statement from our group needs to be to impel NOAA to move as aggressively as possible in that direction. I don't know if we need to put all the detail of how to do it, but we need to say that this nation is in desperate need to continue to be involved in international trade, commerce and to protect human life and property and the ecology that we need to evolve more interactive real time and more highly detailed services. Technology is out there that can help us to achieve this and we need to get this done.

CHAIR PERKINS: I'd like to recognize Captain Brennan.

CAPT. BRENNAN: So we do get those surveys. I think frequently what happens is depending on the port -- and it's on a port-by-port basis and user-group-by-user-group basis. What gets charted is typically just the channel framework. And so, unless the survey shows that there's a depth that's shoaler than that channel framework that's specified in the Code of Federal Regulations, we don't show that because it's all deeper than project depth.

And so, I think what's happening now is that there's a change. and I think certainly that can be completely driven by the customer base. So the requirements for how that gets charted can be changed. In the past we just showed the channel framework and that area was white inside that with no soundings.

And so, if the intent is -- the mariners I think feel as if they're -- that putting soundings in the channel is critical; and I would also add having it at a higher chart scale, or a lower chart scale, higher resolution,

then that kind of a recommendation would be helpful. But right now typically we're guided by what's in the Code of Federal Regulations and how those get calculated. And I think that CFR is in dire need of being updated.

MR. DASLER: Jon Dasler. I think also just -- it's not just in the channel either. So in the case of the Columbia, right, we have 100-mile transit, so anchorages are at a premium. And so, we've taken NOAA data and re-sorted it to where they could look at where can we squeeze in a ship? Where can we get another anchorage? And that's where I think NOAA could really assist on that effort. They have the data, so providing sounding sets at different resolutions -- you know, a one meter grid is pretty hard to load on a portable pilot unit, but having data sets that are at a different resolution where you can assess where can I squeeze a ship in if I have to go to anchor?

And maybe Anne can speak to that a little bit, but I know that's been critical to

them and when they have to get into the anchorages -- I mean, the Corps isn't typically surveying the anchorages. I mean, again, that's going to be NOAA coverage of those areas. So often that data exists and it's just how can you get that into a format that can be loaded into a portable pilot unit readily?

MEMBER McINTYRE: Yes, I would agree with that 100 percent. And then I'll speak just a little bit to kind of the general mariner. When we anchor in very narrow anchorage areas and using either an ENC or a paper chart, whether it's a NOAA chart or a BA chart, it's impossible for the ship's crew to accurately monitor their position on a chart. I mean, literally it's like -- I don't -- like 10 millimeters would be like the size of the ship on the chart. The scales aren't appropriate. And then when you do zoom in on the ENC, you lose the information.

So much of the -- in those particular cases the master of the vessel is taking our word for it that this is an appropriate place to

anchor the ship. They don't have a method of I would say I guess independently verifying the information that we're giving them.

CHAIR PERKINS: Okay. I want to give you an update on schedule. Our scheduled departure of course has been delayed due to the atmospheric conditions and the weather and the fog in the Port of Galveston.

The pilot is on board the vessel, so we're looking at approximately a 1:30 departure as our best estimate to depart here, walk over to the ship. We can do a late lunch on the ship. So we have the luxury of being able to stay in session and continue our work until that time. We're going to try and get some light refreshments: fruit, snacks or something in here to tide people over in that time frame.

So just wanted to give you the update on that.

I'd like to take the opportunity to read into the record the two public comments that we received since we have a little room in the

schedule.

So the first from March 15th was from Chris Freeman of Geodynamics, and his comments are, "Great update, Rear Admiral Glang. To expand on the bathy radar system, although not chart quality, as you mentioned, we are looking at one among many very important navigation elements in measuring rapid shoaling, change due to storms or long-term shoaling trends.

"At Beaufort Inlet and other natural inlets that serve as smaller ports, a low-cost system such as an X Band radar can reduce the maintenance costs by increasing the knowledge of trends so that management can be more efficient. These data can also alert the NRTs, Corps or contractors that a survey needs to be completed all to help reduce the trend of emergency dredging and chart updates by be able to look forward to using the data.

"Arete and Geodynamics have a white paper that was produced for Jack and others to potentially keep the experiment going a bit

longer at Beaufort. If all of this is of any interest, I can forward via email. Thanks for looking forward and looking forward to learning more this week."

So thank you, Mr. Freeman, for that comment. Pretty timely based on our conversation we had this morning. So I don't know how he was quite so clairvoyant.

We have a comment this morning from Mr. Todd Mitchell of Fugro, March 17th, 2016, regarding Ashley's briefing. "Ashley's work with SeaSketch has been great at providing both interagency cooperation and transparency. I will say however that the breadth of communication remains largely limited to the federal level.

"As an example, in recent meetings with a few regional examples in Southern California the PORTS. most county and inter-city coalitions for mapping, even as recently as a year-and-a-half ago the Army Corps of Engineers, were largely unaware of the National Coastal Mapping Program and the work that is being done

by the semi-formal federal coalition. Thus, there are these local level agencies collecting data such as topographic LIDAR and oblique imagery in the case of Los Angeles' LAR-IAC Program.

"Although it's a large undertaking, I strongly encourage getting in the message, and involvement of local agencies can bring more resources to the program, as well as ensure more use and value is derived from the work that is being done."

And we want to thank Mr. Mitchell for taking the time and providing that input as well.

We have an order of business regarding our working groups, and we have an order of business regarding the date of our next meeting. So I think we can get to the working group consolidation fairly painlessly. So I'd like to do that, and then move onto the discussion on the meeting date and location. So, is that agreeable?

(No audible response.)

CHAIR PERKINS: Okay. So we have four existing working groups. So yesterday we started discussion on the blending on discontinuing of some of them. So that's where I'd like to pick up the conversation. So Coastal Intelligence Working Group. I don't want to say on the chopping block, but --

MEMBER BRIGHAM: Lawson Brigham. Yes, I think both Carol and -- Larry isn't here right now. He's still with us I think here. But they were the advocates that perhaps we might not need this or want this particular -- be available to address yet what this working group is about. I think there's still some question. But Larry's not here to give his pitch. He's probably close by, but --

CHAIR PERKINS: Okay. So let's set Coastal Intelligence aside until Dr. Atkinson is back in the room and change our focus to Working Groups No. 1 and No. 2, Legislative Policy and Planning and Engagement. For the sake of efficiency can those two working groups be

combined?

MEMBER MILLER: In the legislative and policy is -- it's a sporadic need. I think we could probably -- there's nothing that's terribly compelling right now, but in a year we will need to once again review the charter and make suggestions or changes, which last year we reviewed it, made suggestions for two changes, which I think subsequently were not implemented for various reasons.

So I don't see that as a significant amount of work. So I would say I can stay on that -- I mean, we could either combine them or just put the legislative one on sort of the back burner again and --

CHAIR PERKINS: You know, prior to 15 minutes ago I would have been 100 percent on board with that, but based on the comment that we just received from Captain Brennan regarding the topic of possibly making a recommendation regarding updating the CFR and how the channel is handled on a chart, I'm not sure that -- I think

maybe we have something that that group should be putting eyes on and putting interest, or considering.

MEMBER MILLER: I certainly would need other people to serve on the committee if that were the case.

RADM GLANG: Scott, can I make an observation? Gerd Glang. So I think what we need to do at Coast Survey, and we've talked about this, is first -- and we have been working on our relationship with Army Corps and through their eHydro project trying to engage them on revising what data products we would prefer to receive from them. And I think that's where the big chunk of work is.

I think updating the CFR is a bit of a bureaucratic follow up that probably will happen. We can make that happen sort of -- I mean, there's a process for that. I think the key is that we actually get the substance of the relationship sort of steered towards where we needed to go. And that's -- there's some

technical challenge there and there's a lot of relationship building and awareness building. So I really think getting the CFR changed is kind of -- that will happen in due course. So that's just my observation.

MEMBER SHINGLEDECKER: Gerd, in that -- Susan Shingledecker. In that effort with Army Corps is there any -- are there any barriers that you're facing? Is there anything that we can do to help facilitate that faster, or is it moving on its own and there's not much we can do to push it along?

RADM GLANG: Thank you, Susan. Gerd Glang. So I appreciate the offer. I think the challenge is just we're doing a lot of things Coast Survey and we only have so many experts who can speak the right talk and who can focus on all these different things. So for us it's a challenge of keeping this as a priority.

Jon Nyberg, the chief of the Marine Chart Division just -- he's already departed, but I know he's committed to making this one of his

priorities. But as you saw from my program update, I've given him a lot of other priorities, like get the database loaded, get the templates built so we can fully transition to single production.

So the Army Corps relationship is really important to us. We have to focus on it. That's got to be one of our top priorities because that source data takes so much of our effort. So at this point we meet regularly now with Army Corps leadership, headquarters leadership. They're aware of what we want to do, or starting to become aware. And then building the relationships with the individual districts. That's just a process that's going take focused attention and continued engagement.

So unless I'm missing something, Rick?

CHAIR PERKINS: I'll add a couple comments that maybe might help move that ball down the court.

After we got the first briefing on eHydro, I had the opportunity to travel to

Portland, Oregon and visited the Portland Army Corps District where the coding and the development of the eHydro tool set was being produced. Army Corps gave me a half a day. I met with the developers and with the section chief in charge of that.

As we heard, eHydro has moved from a concept to a mandate within the Army Corps for the districts that are involved with the inland navigation chart development with their ENCs. eHydro has a monthly users webinar that's being hosted by the Army Corps for stakeholders. So I think what we should do is we should -- and I don't think it needs to be in a recommendation letter, but I think we should communicate back to Mr. Nyberg that there's an opportunity there for better -- for access to the eHydro.

So whoever the user is going to be on the marine charting side for NOAA should get involved with those monthly meetings and become part of that community of practice inside and interface with the Army Corps. We have some

panel members that have geographic proximity as well to the Portland District.

I would encourage you, if you can fit it into your schedule, anyone that's on this panel and is in the Portland area, take the Army Corps up on that offer to go in and visit the Portland District and see what they're doing there with the eHydro tool. I found it a very beneficial use of time when I was able to fit it into my schedule.

MEMBER McINTYRE: Right, I work with those -- Anne McIntyre. I work with those people weekly. They do a fantastic job with what they're doing and they really are approachable and willing to share information. They've helped us out a lot again in trying to make sure that we can get the soundings downloaded into our PPUs and they really do a great job. I can't say anything bad at all about the Portland District for the Army Corps of Engineers. They're one of our most valued partners.

CHAIR PERKINS: Yes, they're

developing that tool I will say with a myopic vision. It's being developed to meet their needs and what they need, not to meet the greater charting need of NOAA. So there may be some room there.

But circling back to our working group, are we in agreement then that we don't need to continue the Legislative Policy Working Group?

MEMBER MILLER: I'm assuming with what Admiral Glang said that we don't need to work on the CRF -- or CFR. Sorry. So that would be fine. And since I worked on the charter with my committee, when it comes up again perhaps one or more of the group could work with me looking forward to -- it's a three-year cycle. And so, we need to look forward to people understanding it, because I just came in kind of cold on it, and understanding what needs to be done.

So that's what I would propose for the -- you know, it doesn't necessarily need to be a working group, but one of the less-senior, shall

we say, panel members should be involved in the next update basically. That would be my suggestion. So we can do it outside of a formal committee.

CHAIR PERKINS: So I think we need a motion to discontinue the Legislative and Policy Initiatives Working Group.

PARTICIPANT: I so move.

CHAIR PERKINS: And we need a second.

MEMBER BRIGHAM: Second.

CHAIR PERKINS: Okay. Any further discussion?

(No audible response.)

CHAIR PERKINS: All in favor --

(Off microphone comment.)

MEMBER MILLER: So it's coming up again. Yes, and I would say that I will volunteer to be on the group that Dave is head of. And we talked about co-chair. It doesn't make any difference to me. I'll just stay involved with your group, if that's okay.

VICE CHAIR HANSON: Can I just make

one following comment, because I want to follow up what Susan said about the cooperation and collaboration. I think one of the things we can do through our individual groups right now is to say thank you and encourage continued cooperation, because it's already generating some benefits. And it's kind of easy to criticize and whine, but when they work on the right path, I think it's a good thing to say thank you.

CHAIR PERKINS: Okay. So working group No. 1, we've closed the action on that. Okay.

Planning and Engagement Working Group continues on. Emerging Arctic and Priorities Working Group continues on. So that puts us back to Working Group No. 4, Coastal Intelligence and Resilience.

MEMBER ATKINSON: We really wanted it to be killed off.

(Laughter.)

RADM GLANG: Gerd Glang, Coast Survey. So for those who were there, you'll recall a year

ago when we introduced the six questions from Dr. Callender, out of that the panel chose to establish the Coastal Resilience -- Coastal Intelligence and Resilience Working Group to help address those six questions. I think the panel should congratulate themselves because you have in fact pulled together, especially through Joyce's effort, some I think pretty useful responses to those six questions.

And I would suggest maybe the panel use that document. And it doesn't need to be made too much prettier, although just be aware we will have to share it on the web. But to use that in your response, in a response to Dr. Callender and say so we've considered your six questions, we've answered them in a variety of ways, as a way of sort of closing that out.

So I think that was the initial task that spawned the creation of that working group. So I would just offer that observation and thank you for your hard work on -- especially Joyce on pulling those responses together. That was very

useful.

MEMBER ATKINSON: Yes, that sounds great and I think you've got all the -- or Lynne has all the revisions now, I believe.

MEMBER MILLER: Yes, and I think we should review it once more. I'll be happy to take another look at it, but to make sure that corrections were made correctly, yes. Not right now. I think Dave and Carol and I should just look it over one final time.

MEMBER BRIGHAM: Lawson Brigham. Yes, even today I was unclear at what terms of reference are and how the questions were being answered. I know Joyce was working on it. So I think that's good indication that if we don't have clear direction in terms of reference like we're going to talk about with technology, at least I'm unclear what that working group was about. And if that working group was about answering the questions, I might have participated more. But I actually thought that Larry was off doing something different with the

team. So again, the terms of reference and how -- right from the beginning so we all know what the heck the working group is about would be useful.

CHAIR PERKINS: That will be a challenge for the new chair.

MEMBER ATKINSON: Yes, this is Larry. I think we can all mark this down as lessons learned and don't have us start up a new working group.

CHAIR PERKINS: All right. Can we proceed forward to the date of the next meeting?

PARTICIPANT: Do we have a term of reference for the Technology Group?

PARTICIPANT: Speaking of terms of reference --

MEMBER HALL: Lynne, did you have that?

(No audible response.)

MEMBER HALL: Okay.

MEMBER MILLER: One question. Should we use NOS or Navigation Services or -- because

NOS is much broader than what this panel has.

MEMBER BRIGHAM: Lawson Brigham. Not only does it enhance sufficiency. We should roll the word "safety" in there somewhere, that it -- enhancing safety if navigation and -- right? All -- some of these technological tools are -- so maybe squeeze in the word "safety." I didn't see it there. Maybe missing it somewhere.

MEMBER MILLER: You could add in right after "efficiency," "and enhance safety across Navigation Services activities." Take out the "NOS?"

MEMBER BRIGHAM: Yes. Yes, take out NOS.

MEMBER MILLER: Yes.

CHAIR PERKINS: So the other piece of this is what is the expected outcome and a date for that?

MEMBER MILLER: I think that's very much an ongoing issue as new technologies evolve and get put into use, but perhaps initially just one of the one-pagers to provide a summary.

MEMBER SAADE: I would say not worrying so much about a date is putting something on the order of 5 years or 10 years projection into the future. But Joyce is right, we put a date on it and then next some new technology comes out and you missed it.

CHAIR PERKINS: Yes. No, I'm sorry. Maybe I didn't communicate that clearly. Are we going to see a report at the next meeting from this group?

MEMBER SAADE: Yes.

CHAIR PERKINS: Or is this group going to endeavor to put together a panel that's going to present to us that -- what outcome and what timeline for the next -- what are we going to see next?

MEMBER SAADE: We're going to produce a report for the next meeting.

CHAIR PERKINS: Okay. And how about a New Technology Stakeholder Panel?

MEMBER SAADE: To hold it at the next meeting?

CHAIR PERKINS: Bring in --

MEMBER SAADE: Let's figure that out before the next meeting.

CHAIR PERKINS: Okay. All right. Fair enough.

MEMBER HALL: Or do we want to see the paper and then decide what we want to see at the --

MEMBER SAADE: Next, yes.

MEMBER HALL: -- 2017 meeting?

CHAIR PERKINS: I want to push it to do something with bells and whistles and lights on it at the next meeting.

MEMBER GEE: Yes, I think there's a lot of -- there may be I think a report and that may be the -- part of that will be a recommendation for a stakeholder panel. And then maybe to highlight areas where -- I think and that's part of the discussion with NOAA about where the technology is required. There's lots of technology we see everywhere, but where is those low-hanging fruit and the particular

technology that might really assist in the tasks that NOAA had? And I think that then defines potentially the stakeholders then. So I think it's a review initially that would --

CHAIR PERKINS: All right. A boring report it is.

(Laughter.)

MEMBER SAADE: No, it won't be boring. That's for sure.

MEMBER MAUNE: Scott, there are a lot of navigation services other than Marine Navigation. I mean, we've got aviation, land transportation navigation. Shouldn't we put marine in there somewhere on the navigation?

MEMBER SAADE: I don't think -- I think it's pretty certain that what this panel's for.

MEMBER MAUNE: Well, it is to us. But if nobody else sees a problem, I guess I'll withdraw my objection. But I thought we should add marine navigation. See, they also get involved -- NOAA also gets involved with aviation

safety. You do on air fields and things.

MEMBER BRIGHAM: Yes, it's a systems approach to -- Lawson Brigham. It's a systems approach to integrating the geodetic observations, the oceanographic observations and the marine operations. And so I think we speak systems and wherever the technologies can cross all these and assist the system. So even I think marine is a bit too narrow. I don't know. But I think you'll take that view, won't you, in the technology group?

MEMBER MILLER: I think it would be good if we got the report a little before the meeting. But also we should plan at least a presentation on what you guys would like us -- just a PowerPoint slide or something, not -- something like that, if that's acceptable.

MEMBER GEE: Are you saying before the meeting, Joyce, or somewhere during that interim up until the next meeting to have a presentation about -- once there's some sort of general feel of what we're going to --

(Simultaneous speaking.)

MEMBER MILLER: I think at the meeting would be excellent so the public can listen, too.

CHAIR PERKINS: I'll say that in the development of the meeting agenda, right, there will have to be some discussion on what the report out is going to look like. So there should be an opportunity for -- those of you that are paying attention to the development of the meeting agenda will be able to get a feel for what that's going to look like and the time slot allotted for it. Okay. Good.

Mr. Brigham?

MEMBER BRIGHAM: Lawson Brigham. And dependent upon these reports, whatever they are, maybe this one, maybe not, but we should always think about if we gain consensus in the group, that we liked to report, answered a lot of questions, then we append it to our letter to the administrator. And it gets in the public record. And then we put it on the web site. And again, the administrator doesn't have to answer any

questions or recommendations on that, but I think maybe getting the work of the working groups up the chain is very useful. Depending how the robust the report is and where it's at. It's a timing thing.

CHAIR PERKINS: Very good. Yes, Joyce?

MEMBER MILLER: I just had a -- I was looking for days at sea, so I had -- and I found an OMAO report that I'll have Lynne send out to everybody the link. I think we should be careful to say -- in looking at it the age of the ships, it's very complicated. There are ships that are now operating past their design life, but have not been upgraded. The Rainier and the Fairweather are both considered ships that are operating past their design life, but have been upgraded.

And I'm sure it's -- but we should just be careful when we do the edit. And I wanted to let -- I need to let Andy know that we say "two of the oldest ships" rather than "the

two oldest ships in the: -- thank you, Lawson, for suggesting that. But I just think we need to be careful that we're accurate there, that it's very difficult to say really what is the oldest ship, relatively? So --

CHAIR PERKINS: Can we just call them antiques?

(Laughter.)

MEMBER MILLER: Yes.

CHAIR PERKINS: Yes, we should have a motion and just do the formal -- for the mission objective statement for the Technology Working Group. So do we have a motion?

MEMBER KELLY: So moved.

CHAIR PERKINS: Okay. Do we have a second?

MEMBER BRIGHAM: Second.

CHAIR PERKINS: Great. Any comment?

(No audible response.)

CHAIR PERKINS: All in favor?

(Voting.)

CHAIR PERKINS: Let the record show

we've adopted the Technology Working Group objective statement as presented.

Next meeting date. Did you take a look at your calendars? And I'm going to tell you that you need to acquiesce to the dates of August 29th, 30 and 31st. Lots of reasons. Staying ahead of the end of the FY is one driving factor that gets us before the back to school, Labor Day holiday.

PARTICIPANT: And Congress is out of session.

CHAIR PERKINS: Yes, and the other -- thank you. Congress is out of session, so that should give us better access to the legislative representatives for the Congressional and Senate districts that will be in as well.

(Off microphone comment.)

CHAIR PERKINS: August 29, 30, 31. So the intent would be to convene on the morning of Monday the 29th, morning meaning at some point before noon.

Yes, Juliana?

MS. BLACKWELL: I'd just like to have a discussion on that, because I find that it would be much better and more family-friendly if we could have the travel on a Monday, on a regular work day, and if need be shorten the meeting to a two full-day meeting, or two-and-a-half and give people an opportunity to meet Tuesday, Wednesday and fly out Thursday afternoon rather than require people to travel on a Sunday.

MEMBER SHINGLEDECKER: This is Susan Shingledecker. I mean, I'm in agreement with that. Monday for me, I can travel Monday, but I can't -- that week I cannot be there on Monday first thing.

MEMBER MAUNE: I think Lynne arranged that schedule at my request because I'm not available on Thursday, but I could perhaps attend the first two days or something like that.

MS. BLACKWELL: So if I may speak again, so I know that we've done three-day meetings in the most recent past, but if you look back four or five years ago a lot of times the

meetings were held to two days. And I realize that we have new panel members and that's going to be the case for the future also, but it may be something for the panel to consider whether or not we have a visit or field trip event at each and every session. And if not, then we can consolidate the meeting time to two full days. Just to let those of you who weren't here before that three-day meeting started to occur and continued that it is an option to have a shorter meeting.

MEMBER ATKINSON: This is Larry.

MEMBER SAADE: I support two-day meetings.

MEMBER ATKINSON: Yes, I do, too.

CHAIR PERKINS: Okay. We could look at Monday the 29th as a travel day, Tuesday the 30th, Wednesday the 31st as the meeting days. That would give people the option perhaps of a late flight out on Wednesday the 31st or on the morning of Thursday, September 1st. And keep in mind we have a holiday weekend that's

approaching, so I know we're all going to want to be back with family and friends. At least I will.

We have choice of Cleveland or Chicago. We want to be in the greater Great Lakes system. Chicago I think we all know will have many options for flights and arrivals and departures. We may have fewer in Cleveland, but we have the Rock and Roll Hall of Fame in Cleveland.

(Laughter.)

PARTICIPANT: I vote Chicago.

CHAIR PERKINS: So I'm going to open the floor for discussion on Cleveland or Chicago. I'm going to say let's do a quick run around the table. If you feel strong about one or the other, make your peace.

MEMBER KELLY: Ed Kelly. Is there a preference as far as our local audience? Where would we have a better participation with local public people?

VICE CHAIR HANSON: As a company based

on Chicago, if you want to hear about Asian carp, we can go to Chicago. If you want to talk about navigation issues on the Great Lakes, Cleveland. You got Interlake Shipping. You got Jim Weakley's group, Lake Carriers Association. The Great Lakes Governors Association is based there. They're available to speak as well. St. Lawrence Seaway.

MEMBER KELLY: Well, then this is supposed to -- one of our main focuses is to have a public meeting and to interface with the interested public. I would say; I can't believe I'm saying this, I'll go to Cleveland.

(Laughter.)

PARTICIPANT: For the record.

PARTICIPANT: Yes, for the record.

MEMBER KELLY: I spent a week in Cleveland one day.

(Laughter.)

CHAIR PERKINS: You know, we've got an Army Corps' district office in Chicago. The closest Army Corps district office to Cleveland

would be Detroit or Huntington, West Virginia, which are both reasonable distances for Army Corps participation.

VICE CHAIR HANSON: And Detroit handles the navigation for the Corps on the Great Lakes, so -- Detroit and Buffalo.

MR. EDWING: And the Coast Guard's district is headquartered in Cleveland.

VICE CHAIR HANSON: And you get General Kaiser from LRD to come as well. He's taken a lot of interest in navigation issues since Cleveland is actually kind of a hot button issue for the Corps these days related to in-lake disposal versus upland.

MEMBER MILLER: Can I make one comment about the two day? The three-day meetings are two-and-a-half-day meetings have really enabled us to make progress on the letters and so forth, you know, to get done what we need to get done.

I would advocate that if it's going to be a two-day meeting, we cannot fill up everything with panels and -- or breakout

sessions, or whatever, that there is certain work that needs to be done, which we weren't getting done. I mean, you said it took 120 days to get out a letter. That was one of the reasons is we just didn't have time in the meetings.

I just think if we're going to schedule a two-day meeting we have to kind of minimize. Maybe make day one the public, the really engaged public part of it and make day two sort of what the panel needs to get done. That's just my two cents.

MEMBER BRIGHAM: Yes, Lawson Brigham. But I do believe it's hugely valuable to go out like on the boat ride we had and see this place and understand -- and like we had, right, from Hawaii, we went on a container ship and now we'll go on a cruise ship. And then we went to Maryland in the training center. I don't think we should dismiss those. And if something is in Cleveland that's easy to do, whatever it might be -- the Coast Guard might have something, bring a buoy tender or something, we should do it if we

can squeeze it into a tight schedule.

I believe my time on the HSRP that the working groups have now spun up and they're more engaged. We want to report out. Takes time and it takes time a little bit away from the public part. I mean, we're in the public, but it's us talking. So I think still a lot of things to squeeze into two days, not that I'm advocating being three-days in Cleveland, but there may be something.

Maybe the Coast Guard could one day -- I don't know if we've gone on a Coast Guard cutter. A buoy tender would be important to see and see the navigation systems they have on the modern buoy tender and how they relate to our work. So maybe we can orchestrate that.

CHAIR PERKINS: I think I'm hearing that we are having a consensus on Cleveland. Okay.

MEMBER KELLY: Do we have a consensus on two or three days at this point, because I kind of feel if I'm in for two, I might as well

be in for three. And there is some value in local interface. And I don't know if we can fit all of that in in two days. We're having a hard time covering everything we're supposed to in three.

CHAIR PERKINS: Yes, maybe there's --

(Simultaneous speaking.)

CHAIR PERKINS: Right. Your new chairman is very diplomatic. He said maybe there's a compromise position here at two-and-a-half and that trailing half day could be our site visit or the leading half day could be the site visit, and it may not be necessary for everyone to attend the site visit. So I think we can maybe hit the best of both recommendations, or we'll sure try like heck to do that.

If it's a challenge for Lynne -- and Lynne does a great job at this, but -- so if we have a -- if we can do site visit on a Monday afternoon, convene on Tuesday, Wednesday, I think that might be --

RADM GLANG: The site visit could be optional, but I really think if you're going to go to Cleveland, it's worth going to see a locker. I just think that's what makes the experience. Every port is unique. I just think that -- that's my personal opinion.

CHAIR PERKINS: Yes, I've had the privilege of being in Cleveland and seeing the water infrastructure there from the harbor, the locks, the working drawbridges. There is a great educational value there if you haven't had an opportunity to see that infrastructure before.

PARTICIPANT: Then make it optional.

CHAIR PERKINS: Yes, but we can certainly make that piece optional. I agree.

So we'll agree. We'll have a motion for Cleveland and a two-day official public meeting. Do we have a second?

MEMBER MILLER: Second.

CHAIR PERKINS: Okay. Great. Any further discussion?

(No audible response.)

CHAIR PERKINS: Hearing none, a show of hands?

(Voting.)

CHAIR PERKINS: Let the minutes record that we're going to Cleveland for a two-day public meeting with optional site visits to be scheduled, to be determined, August 30th, 31st, 2016. Great.

Shall we take just a brief bio break before we get into our work on the recommendation letter?

(Whereupon, the above-entitled matter went off the record at 11:53 a.m. and resumed at 12:31 p.m.)

CHAIR PERKINS: It's right at 12:30. We have a scheduled 1:30 departure, so we have one hour, 59 minutes actually here to get into the hard work of formulating our recommendation letter.

What we have on the screen is from Panel Member Carol Lockhart. So Carol has provided us some input for topics for the

recommendation letter, and I think we can use that as a starting point. So if you can put your eyes on that and then think about what other significant thing do you feel should be in the recommendation letter beyond that, and we'll do a quick around-the-table and then try to get into the wordsmithing of it.

So I think Carol made a good point about addressing the importance that the next DFO of the Hydrographic Services Review Panel, you know, and that will have the experience and training in hydrography. And I think Carol also made a good point regarding the comments that we've heard this week regarding the challenges that NOS has regarding workforce and the staffing of the NRTs and even the delays in getting our panel members fully processed.

So that's our starting point. Susan; I'd like to just go around the horn, is there anything additional, significant that you would like to add or if you have -- if you feel neither of those and comments from Carol are

inappropriate, let's just kind of hash it out.

MEMBER SHINGLEDECKER: Sure. Susan Shingledecker. I agree with a lot of what Carol has started us off with. I think we didn't really explore it, but I did hear in other conversations that the workforce needs I think really are something that needs to be brought up. It seems that that is a problem across many areas of the offices that should be included, so I'm glad Carol mentioned that. But it's definitely more broad than just our panel itself.

The other -- this is more a question to the group. Usually when we're drafting these recommendation letters we tease out anything from the local area that we heard from our local stakeholders. As I'm recalling the discussions from the panel members, I didn't really hear a big local critical need that we've seen in this area that we haven't necessarily seen otherwhere, but I thought I'd maybe throw it out to everybody to think was there anything locally specific to this area that we need to consider.

CHAIR PERKINS: Okay. Good comments. Dave, you're next.

MEMBER MAUNE: I really don't have anything to add. I agree with both of them. I just had a question. Are you getting signatures from everybody for that letter? You're taking care of that separately?

MS. MERSFELDER-LEWIS: Everybody be sure to come seem me before you leave.

MEMBER MAUNE: Okay.

MS. MERSFELDER-LEWIS: Before we leave.

MEMBER MAUNE: That's really all -- I have nothing else to add. Thank you.

CHAIR PERKINS: Thank you, Dave. Larry?

(Off microphone comment.)

CHAIR PERKINS: Okay. Rich, you're a non-voting member, but we'd welcome your input or comments.

MR. EDWING: So Rich Edwing with CO-OPS. So I would just recommend -- you know, and

again once again we've heard how much people value the PORTS systems here. We seem to hear that at every meeting. And not get into the funding issue, but just reflect that it seems to be an essential service in the ports that we've been hearing from the stakeholders on.

CHAIR PERKINS: Lindsay?

MEMBER KELLY: Scott, if I could just build on Rich's comment. You know, I'm Mr. PORTS. I love that. I think it's true that we have heard once again the value and the efficiency of PORTS and the broad gamut of users, but we also heard the continued frustration regarding the funding issue. And I think we just should keep that on the table. I think it's important that we say what positive results we're hearing about PORTS, but I think we also need to have in this official letter that we're also hearing the frustration on the funding.

CHAIR PERKINS: Okay. We're going to try and do this in order and work our way around, so you've got a window of opportunity to light up

your keyboard and compose a few words.

Okay. So and if you can do that and then email them to Lynne, we might be able to get those -- actually get a draft of the letter rolling here pretty quickly.

So, Mr. Gee?

MEMBER GEE: Yes, I don't think I have anything to add right now to the --

CHAIR PERKINS: Mr. Saade?

MEMBER SAADE: The topic is this or things in general? The letter specifically?

CHAIR PERKINS: The letter specifically.

MEMBER SAADE; I think the letter specifically should stick to one topic.

CHAIR PERKINS: And what would that one topic be?

MEMBER SAADE: I mean, this letter that we're talking about relative to the replacement of the ships, correct?

CHAIR PERKINS: No. No. No, we've completed that letter.

MEMBER SAADE: Okay.

CHAIR PERKINS: This is our formal recommendation letter that we do at the conclusion of each of our meetings.

MEMBER SAADE: Oh, I didn't know that we did that. Sorry.

CHAIR PERKINS: Yes. No, that's --

MEMBER SAADE: Okay.

CHAIR PERKINS: Yes, so what we do at the conclusion of each public -- two days of -- or whatever the duration of the public meeting is is the panel collectively composes a recommendation letter to the administrator of NOAA with what our current input is for their consideration. So this is more than just that one topic.

MEMBER SAADE: Caught me off guard. I wasn't even prepared to do anything like this, so I'll just skip it rather than wing it.

CHAIR PERKINS: Okay. One thing that may be useful, there are -- on the web site are the prior recommendation letters and then the --

NOAA's administrator responses to them. So they're not great reading, but it's probably worth the time just you can maybe get a feel for what the panel has done in the way of recommendations in the past and what the administrator's response is.

PARTICIPANT: There's one --

PARTICIPANT: Oh, are they? Okay.

CHAIR PERKINS: Yes, they're in your packet as well. Great.

Mr. Armstrong?

MR. ARMSTRONG: Thank you, Mr. Chairman. I was struck at least in one set of panel presentations about the importance in this area of sea level rise, tracking sea level rise and nuisance and serious flooding. And so, I'm not quite sure I have the words together here, but I think it's probably important to call out the need for continued monitoring of sea level rise and efforts towards predicting and disseminating information on inundation.

CHAIR PERKINS: Thank you. Admiral

Glang?

RADM GLANG: Thank you, Mr. Chair. Gerd Glang. Are we capturing these for sort of real time display or -- the bullets that are coming up, or how are we capturing what's coming from -- there's some pearls of wisdom coming off the panel members. I want to make sure we capture those. You got it.

MR. HALL: The court reporter has them.

RADM GLANG: Okay. You got them? Okay. So I'm looking through my notes, which are far from complete. I think we heard about the value of the NRTs. That was stressed by several speakers. The four corners of maritime governance and that NOAA is one of those four corners. We heard on that. Andy's already mentioned the sea level rise and the importance of that for coastal resilience and planning. So I think I'll stop there and let the ball keep rolling.

CHAIR PERKINS: Vice-Chair Hanson?

VICE CHAIR HANSON: Thanks, Scott. Yes, I think probably something I'd like to see at least a couple lines on is thanking the Corps and the NOAA for their collaboration and push towards getting more data into the stakeholders' hands and encouraging additional attention and support of those efforts.

CHAIR PERKINS: Very good. Thank you. Captain McIntyre?

MEMBER McINTYRE: I would just like to build on Bill's suggestion where as far as partnering in the data exchange. I think maybe the USGS could be included with that as well. And then also building on Rich's suggestion, I do think that the PORTS should be included and I do think that there should be some mention of funding as well as the utility of the system.

MEMBER THOMPSON: Same area. I heard during the meeting the need for efficient access to data and without having to go to multiple locations to get it.

MEMBER HALL: Gary stole my thunder,

so I will leave it Juliana.

MS. BLACKWELL: Juliana Blackwell. Maybe again just focusing on that collectively this is about Navigation Services, and although many of the discussions and topics are focused on the marine transportation side of things, it has -- as I talk about when I get up there and talk about NGS and talk about the Coastal Mapping Program, there are other transportation navigation things that we support as part of the National Spatial Reference System.

It doesn't necessarily have to be in the letter to point that out, but just in reference to navigation if we can make sure that it doesn't just focus on just marine navigation and marine transportation, that there is an intermodal appreciation and support for the issues that we're dealing with and the projects that we have underway for modernizing the whole framework of knowing where things are and knowing them accurately to support the future.

So again, just for the panel to keep

that in mind as they finalize the paper. Thank you.

CHAIR PERKINS: Dr. Brigham?

MEMBER BRIGHAM: Lawson Brigham. Thanks, Mr. Chairman. I think we should say something about the new working group on technology and kind of why we did it, and we have core capacity in the panel, just to say a few words just to get it in the letter as a little sea change in our group.

I do believe we should say something about the Arctic, and I'm not sure if we're going to attach some of the issues papers to this. Are we?

CHAIR PERKINS: Yes, that would be the intent, that we identify the issue papers that were developed, that we have developed and that we're developing and then attach the ones that are completed and ready at the time that the letter goes.

MEMBER BRIGHAM: Well, hopefully the Arctic will be one. And we should reiterate our

concern about Arctic hydrography and geoid measurements, oceanographic measurements. And maybe we could recommend again and reference our issue paper and our study that we highly recommend a line item in the budget for those efforts: Arctic hydrography charting and geodetic and oceanographic measurements, however we want to say it. I think we should say it. Whether there's agreement with NOAA or not, I'm not concerned. I think it's a message for the Hill.

MEMBER MILLER: I had noted in one of the early discussions, if I can find the right file, that we had the -- Captain Penoyer of the Coast Guard mentioned that the maritime -- this -- and this goes right into the data issue that other people have -- maritime industries in transition with voluminous data and information. I think we could organize several of these. One of the things for the new members, usually what we try to do is have one or two main recommendations.

Now, in that we've already decided to

send a separate letter as quickly as possible, we should mention that, but there recommendation goes in the other letter, or we reiterate it in very short form. I think we should rank what we think are the most critical suggestions. And I would agree with Carol that mentioning that the hydrographer of -- NOAA's hydrographer must be a hydrographer. I think to me that's the second most important issue.

And one question. Are we planning to attach the paper that we worked on this morning to Andy's letter or to this letter?

CHAIR PERKINS: The fleet recapitalization letter?

MEMBER MILLER: Yes.

CHAIR PERKINS: It will go separately. And we can attach an additional copy here, but it will be received by the administrator before this letter.

PARTICIPANT: I think the question is the issue sheet.

CHAIR PERKINS: Oh, the issue sheet?

Yes. Yes, the issue sheet. The longer issue sheet on fleet recap will be attached.

MEMBER MILLER: To this letter?

CHAIR PERKINS: Right. We're going to identify yourself the issue --

MEMBER MILLER: So that will just reiterate that we -- we'll mention that it's attached and that we sent a previous letter and then we'll -- and so, I think that besides -- I mean, this is only my people. Besides the hydrographer of the Navy, I think we can --

PARTICIPANT: NOAA. Not the Navy.

(Laughter.)

MEMBER MILLER: Or of the -- I'm sorry. Not the -- the hydrographer for the nation, or whatever it is, can be -- and we should -- we can combine a lot of the comments into -- you know, it was mentioned that PORTS and the NRTs are very valuable to many of the stakeholders that attended and -- but in terms of solid recommendations, we do try to hold them down to two or three, generally.

CHAIR PERKINS: That's correct. This is the gathering process and we will filter it down and make the letter clearer, shorter and succinct and keep it in our prior -- similar to our last two letters try to keep it to the top three.

Okay. Mr. Kelly?

MEMBER KELLY: Well, in the sense of keeping it short, I've got six topics.

(Laughter.)

MEMBER KELLY: So some of them we've heard, and I just want to chime in in supporting them. We definitely need the hydrographic vessel. As we said, we do need a hydrographer in chief, particularly with Admiral Glang stepping out on us. I think we need to point out that our ports are in crisis. There is a looming problematic crisis with the ports of the United States with the introduction of the megaships, the increased congestion, the increased strictures regarding security, etcetera, etcetera. We're running onto all of that. I

think that's an important item for us to present that. And that's the ground work and the case for the necessity of proceeding as rapidly as possible for the production, refinement and Precision Navigation or we call it -- whatever name we're giving it these days.

I would like to make a comment about PORTS, how we continue to hear that and how important it is, especially in light of these congested harbors. I did pop something over to Lynne; and you can whack that up, but it's just a ground or base for what that might say.

And I think we have to mention here locally the biggest local issue I was hearing was inundation and surge. Certainly they have a history of the Great Storm. And from what we're hearing and whatever, there's really not a whole of solutions to that and they need accurate data and forecasting to help preclude. There will be another storm. It may or may not be as great or greater than the one they had before, but we need as NOAA to help to do something here in this

local area. That's it.

CHAIR PERKINS: Captain Rassello?

MEMBER KELLY: He wants less fog.

(Laughter.)

MEMBER RASSELLO: Yes, Lawson?

MEMBER BRIGHAM: Yes, I see more energy on the HSRP and a lot more ideas than I did five years ago. I don't think we should be constrained by three major points. I'll tell you one of my concerns. The Arctic's going to be squeezed off the paper because it's sight-unseen without BP and everybody offshore. The time now is -- we're talking about the Arctic, which is -- you never hear about is to just keep it on the list.

But beyond Arctic we have five or six ports. I mean, I don't feel -- nobody's told us we have to have three. I understand that the administrator is deluged by all kinds of stuff. Maybe the points have to be just a sentence or a point rather than some description. I don't know, but I don't feel we should be constrained.

CHAIR PERKINS: Okay. Go ahead.

MEMBER SAADE: I'll be really brief because it's my favorite mantra and we didn't even mention it I don't think once, but map once, us many times. We can't say it enough. We can't do it enough.

CHAIR PERKINS: I do like that catch phrase of map it once, use it many.

Maybe we might keep in mind that we're looking at two things that will happen between now and the next meeting. Well, I guess it won't happen between now and the next meeting. I was going to say we could have a shorter letter to the administrator and then the longer list that goes to the transition team. But we will meet again before change of administration, so -- okay.

And a long letter isn't necessarily the problem. What we're trying to do is make sure that we don't make our letter into a summary of the minutes of the meeting.

MEMBER GEE: So Lindsay Gee. I just

had a question -- I guess it's Gerd, or those that know, who is recommending, and I would agree that we need a hydrographer, but what is the alternative? What are we recommending against? Like is it nobody, or there's a temporary position, or there's a non-hydrographer admiral, or what's the alternative? What's the bad news potentially?

MEMBER BRIGHAM: I can comment from the Coast Guard experience that we would put a general line officer, a lawyer, a civil engineer, maybe not a mariner, ship driver, in a position like this. And my concern is -- personal concern is on the international level in particular, IHO and in all the regional commissions in the international level that we need a really a hydrographer, because most, if not all -- there are a few general officers, but most if not all of the international folks are hydrographers. Not all, but ours should be.

RADM GLANG: Gerd Glang. Just to respond to Lindsay's question, the alternative to

having a hydrographer as the director of Coast Survey is a non-hydrographer.

(Laughter.)

RADM GLANG: That's sort of the short answer. In all seriousness.

PARTICIPANT: They wouldn't gap it?

RADM GLANG: They wouldn't gap it.

PARTICIPANT: Or a temporary position of someone that's a non-flagman.

RADM GLANG: Unlikely. The process is in motion. Someone will be picked.

CHAIR PERKINS: So can we pass control of the screen back over to Lynne, please, Kelvin? Thank you.

MEMBER McINTYRE: Anne McIntyre. Can I ask one question just real quickly? Just so I understand the format of everything being is -- we've got the one funding letter essentially going out for the vessels and then we send a larger report letter of this meeting and the issues that we've seen to the administrator? And then issue papers are going to be attached to

this longer letter. That's correct?

CHAIR PERKINS: We've done a really good job of explaining it. You've got it.

MEMBER McINTYRE: Okay. And so my question is the issues that we raise that don't have issue papers attached at this time, will they be treated of lesser value, that type of thing?

CHAIR PERKINS: That's really what we need to deliberate on and come to conclusion on literally in the next 30 minutes so that we have time to prepare a draft letter. So the issue papers are the issue papers. We will identify them, right, that they're -- that some are done, some are working. That's clear. What do we want in the letter to the administrator beyond that is really the matter at hand.

MEMBER McINTYRE: Okay.

RADM GLANG: Mr. Chair, could I make another suggestion for the panel to consider, which had to do with the reauthorization on the Ocean and Coastal Mapping Integration Act, if the

panel were interested in articulating a position on that, they saw value in that or not.

CHAIR PERKINS: Thank you. That's very good input.

So just so everyone understands, we don't have to wordsmith the letter right now, right? Our standard operating procedures are that we allow ourselves a two-week window to -- between the Chair and the Vice Chair to prepare a draft and put it back out. But what we want to do here is identify the items that you want included in that letter. So we don't have to worry about the grammar and that piece of it. We just want to make sure that these are the -- think of them as the bullet items that we're going to put in there.

So we want to get clarity on the bullet items and then talk about perhaps the order in which to present them in the letter. And I think that will be really good if we can get through that here.

Susan?

MEMBER SHINGLEDECKER: I was just going to kind of summarize a little bit what I had from my notes. I think an important thing with the recommendations we make is you have to think about what is the ask? What are you looking for them to do as a result? I mean, there's many topics you can mention.

So certainly fleet allocation would be on there. And that would be mentioned briefly because per our separate communication.

I agree with the mention of Garrett's replacement. I wonder if that could -- while you don't want to water that down, is there some benefit to expanding that a little bit to include broader secession and leadership building and workforce issues within the offices as well?

I think Ed's phrasing of ports in crisis and combining that with Precision Navigation and the PORTS systems -- but we need to figure out what the ask is there.

Then I heard something -- what we heard here locally on sea level rise and

inundation challenges and then the issue of, I think as Anne said, getting the data into the hands of users in the most efficient way.

So I kind of saw that as five recommendations, although the fleet allocation one would probably be very short. And then the bottom of the letter could be slightly more administrative noting the standing up of the Technology Working Group and then noting the one-pagers that are attached on additional topics. So there might not be a specific recommendation -- and I don't mean to cut Arctic out. I think these are the topics we've been working on for a much longer standing time and have a more robust offering to say. That would be my thought.

MEMBER BRIGHAM: Yes, I agree with Mr. Kelly here about the crisis, but crisis is a Washington Monument term, that you get -- everything's in crisis. The country's in crisis. All the politicals tell us we're all in crisis. And is there another -- could we adjust the word, or are you really -- I mean, I'm just looking for

a way to -- "challenge" isn't good enough and strong enough, but are we in crisis? Maybe we are, but I see trade and I see -- we're the trading nation of the world with China, so stuff still comes in.

So I don't know if there's an easier way to say that, Ed.

MEMBER RASSELLO: Port demands?

MR. ARMSTRONG: Maybe ports under stress.

VICE CHAIR HANSON: I can circulate a paper that the -- you know the FACA I'm on, Supply Chain Competitive advisory Committee, Department of Commerce that just put a paper out on port congestion that actually does talk about every port in the country being congested and needing attention. It goes back to the West Coast port and the attention that that brought to the supply chain system. And it was a big cry focused on the West Coast ports.

Turns out it was actually a little misplaced, but it allowed us to focus attention

on every port in the country, as the story goes, except one, and that's Savannah. But that's a different story. But the bottom line is even as Ed's articulated, it has congestion issues that are not the same as the West Coast, but they are congestion issues that need to be addressed and dealt with. So I'll circulate that paper.

MEMBER GEE: Lindsay Gee. Just related to Susan's comment about the number of -- we're not -- we need to ask for something, from the previous, the experience of the HSRP and sending those recommendations and previous letters, have they seen any results in response to the actual stuff getting done?

CHAIR PERKINS: You have both the recommendation letters and the NOAA administrator responses at your fingertips to read and draw your own conclusion.

I will give you one example; and I'll ask for Juliana's input on this, I mean, two years ago we heard about the struggle that NGS was having with getting approval for the hiring

of the geodetic advisors. Juliana made a very clear need and -- she explained the need for it, the importance of it, how those positions were going to be essential as we go into GRAV-D in the coming datum transformation to 2022 that you've heard about. We put pen in hand and addressed that issue in a recommendation letter and we have geodetic advisors in place in the U.S., one of which was in attendance here at this meeting.

So I think this may be the most demonstrable evidence I have since I've been on the panel of where we've made a clear recommendation about a very specific topic that was very actionable on the part of the NOAA administrator. And I think that if we can build on that, if we can make our recommendations clear and specific with a real requested action, it is probably easier to get something demonstrable. When we throw a big problem out there and say this is a big problem without a clear recommendation, right, it's a recommendation letter. So it's kind of a long-winded answer,

but I feel very --

MEMBER GEE: No, I think it was more --

(Simultaneous speaking.)

CHAIR PERKINS: -- happy with the results on the geodetic advisor.

MEMBER GEE: Thinking out loud, I think to say, okay, well, what are those recommendations that have had success before and should we tailor out?

MR. ARMSTRONG: Just looking over the list of input we had here, it seems to me in this letter we might have -- we have two or potentially three kind of challenge questions or points to the administrator, and that would be the ship replacement, the admiral succession and potentially the Arctic line item, if the panel were to ask for those three things. And the others appear to me to be things that we're reminding the administrator that -- or pointing out to the administrator that we feel important.

And they kind of give her the

opportunity to say thanks for keeping these things on the table and we agree and we're working hard on all of them. So they're not really challenge questions. We have -- I think we have kind of -- and that's good I think to have some of those things where we're -- so, it looks like we're only coming up with a limited number of whammos and then the rest of them are things that she can say, gee, thanks, we'll do this or we'll continue to pay attention to it or something like that.

MEMBER MILLER: We can phrase -- a lot of times we have sort of a section discussing what we heard from the stakeholders, and we could put NRTs in ports are important and appreciated by the users. In this level sea level rise, inundation, storms are very important. Also very important is getting data into the hands of users, and we could include the Army Corps issues there. And then we often discuss -- and so, HSRP took action on these things. We can talk about we're forming a Technology Work Group.

And these aren't in any order. It's just how I threw them together. We have attached issue papers that we've been working on, including fleet, Arctic and Hampton Roads. Ports are in crisis due to megaships and infrastructure and so forth. And again, I don't know if we want to mention data again here again, but that PORTS and Precision Navigation are critical to the needs of the users. And that may go up to the user. And then the same major recommendations that Andy suggested: ships, hydrographer and something about Arctic funding, direct Arctic funding.

Does that -- I just want to -- I started typing after people gave their -- or sort of somewhere in there. And so, I was trying to remember are there things I missed there?

CHAIR PERKINS: Well, I think we have captured everybody's comments on the screen --

MEMBER MILLER: Oh, okay.

CHAIR PERKINS: -- or pretty close to

it. So if -- I think Lynne can email that to you, Joyce, and then you can maybe assimilate it into the draft that you've started.

MEMBER MILLER: Yes, I can work on that.

CHAIR PERKINS: Okay. Yes, we've got --

MEMBER MILLER: Probably later this afternoon I can work on it. And I can -- if anybody's -- whoever is still around, we could get a draft, too. I'd offer to skip the cruise ship, but I don't want to.

(Laughter.)

CHAIR PERKINS: No, not asking that, but we do have 15 minutes right now.

MEMBER MILLER: Yes.

CHAIR PERKINS: Can you light up a keyboard.

MEMBER MILLER: I write fast, but --

(Laughter.)

CHAIR PERKINS: Okay.

MR. ARMSTRONG: Mr. Chairman, I wonder

if we might also in the letter indicate some things that the panel is planning to take up. For example, we're going to take up some more in-depth look at the ports congestion and stress situation and we're going to take up the technology for data sharing and dissemination. And so, kind of report to her some of the things that we think are important and that we're going to take on as action for a more in-depth look down the road further.

MEMBER MILLER: So something like currently discussing now and in future. Okay.

MEMBER SHINGLEDECKER: That could be put in context of attached are the one-pager, or whatever we call those documents, on these topics, and then these are ones that are currently in progress and that you can expect to see in the future.

MEMBER MILLER: Yes. We might ask just if they have any preference of things that we tackle first, if there's -- but so, I may have missed one. Ports are in crisis due to

megaships. We've got a Technology Working Group. Okay. Let me clarify. We're going to hand in the fleet paper, the Arctic paper and the Hampton Roads paper this time. Are there any others that we think will be ready?

PARTICIPANT: That's as close -- but he said several weeks away.

MEMBER McINTYRE: What's the deadline on the letter? When does that want to -- when do you want to send that?

CHAIR PERKINS: We have the standard operating procedures outline that should be in your materials. So two weeks. It gets written and circulated within two weeks for panel comment and then -- I'm doing this -- I apologize, I'm doing this from memory.

MEMBER MILLER: And it's -- comments are expected, I believe, in four weeks and a week after that the -- after it passes through the Office of Coast Survey for finalization, you know, for just final agreement or --

CHAIR PERKINS: Yes.

MEMBER MILLER: Then, so I believe it's five weeks it goes to the administrator.

CHAIR PERKINS: Yes.

MEMBER MILLER: We of course have the other letter that's going first.

CHAIR PERKINS: Correct. The other letter will go first. But so, and we don't have to take all five weeks, but the commitment that we put in the standard operating procedures is that a draft will go out to the panel within two weeks. We will wait no longer than two weeks to hear back from the panel. And then it goes in. There's a process inside of NOAA of where the letter goes and how it gets routed.

MEMBER THOMPSON: Gary Thompson. Mine should be -- I'll provide that to you next Monday.

MEMBER MAUNE: Okay. I'm concerned on how much time it might take for us to coordinate these. Even though Ed gets me something in a week or two, and Gary in a week or two, sometimes it takes weeks for us to scrub those things and

reach agreement that this is ready to go. So I'm not particularly encouraging rushing them through. I'd rather get them done right and we all agree to than to try to rush it out along with this letter to the administrator.

MEMBER MILLER: I think it might weaken it if we send in too many at once. It also -- we need to have continuing product.

MEMBER MAUNE: That's right.

MEMBER MILLER: So I think the ones that are ready: Hampton Roads, Arctic and fleet, should go in with this letter. And we don't have to wait until the next meeting to put them on the web site once they're done. But it also -- there's a lot of stuff that Lynne and her staff are going to have to get through for us: the first letter, the second letter, and finalize the three issue papers.

MEMBER MAUNE: I think we learned something yesterday in that when we coordinate -- between meetings these things often go out and we don't get any feedback, but yet yesterday we had

all kinds of feedback on Joyce's paper. And so I'm a little concerned about the process we might go through between the meetings to try to get these things out with this letter when actually it seems to me as though this kind of meeting is when we all get together, we wordsmith the actual wording and we reach consensus that this paper is really ready to go.

So I'm not adverse to us formulizing Amy to get three new issue papers every meeting or something like that. But I don't see the need to rush Ed's paper and Gary's paper out.

MEMBER MILLER: So the future papers would be ports and harbors, technology. Is integration of data -- since we -- several people mentioned data. Is that something that --

(Off microphone comment.)

MEMBER MILLER: Okay. Datums and reference frames. Okay.

MEMBER McINTYRE: Anne McIntyre. I wouldn't mind taking a shot at a position paper on the PORTS system if we're not under a huge

deadline on those types of things. I see it as kind of a separate issue to the PORTS issue and the Precision Navigation issue because it's an existing system that we can really take advantage of now in a lot of different areas and a lot of different users as opposed to something that we are looking forward towards using and developing for the future.

MEMBER MILLER: I'd add Precision Navigation to that, too, given the development that's going on.

MEMBER McINTYRE: Okay.

MEMBER MILLER: Okay. So discussing now and in future papers, ports and harbors, technology, datums and reference frames, integration of data. We don't have that underway, but it could be a future paper. I think we probably need to --

MEMBER MAUNE: I don't know if anybody's volunteered to prepare a paper on that.

MEMBER MILLER: I think it's an -- well, at least --

MR. ARMSTRONG: Maybe the Technology Committee could kind of take up that integration of data challenge.

MEMBER MILLER: Okay. I'll take a cut at it after we get back from the cruise ships.

Lynne, should we leave our stuff here or should we -- are we coming back here?

MS. MERSFELDER-LEWIS: So that's up to the Chair.

CHAIR PERKINS: Yes, we will officially end the public meeting, so this room -- I don't know how long it's available. So in a formal fashion we will not be coming back here and reconvening.

MS. MERSFELDER-LEWIS: If you have papers you want to leave, no problem. But do not leave any electronic ever, ever, ever in any conference room ever.

MEMBER HALL: Quick question. As a new panel member how do we go about joining a working group? Seemed to be a fairly formal list in there, and a lot of the old folks -- and I

don't mean by age, I'm sorry.

(Laughter.)

MEMBER HALL: I mean, the people who have recently left the panel --

(Laughter.)

MEMBER HALL: -- for the record. A lot of those working groups seem to be covered. There's one that's -- I mean, I think Joyce's, I know that's gone, but it was completely -- just down to her. So I just want to make sure that we understand as the new members how we go ahead and -- I know Lindsay's already a co-chair, so good for Lindsay. But I just wanted to understand how we would do that.

VICE CHAIR HANSON: I think she needs to leave the room so we can nominate her for something.

(Laughter.)

MEMBER HALL: Not a chance.

MEMBER MILLER: You go like this. That's all you do.

MEMBER HALL: Just talk to the co-

chair? I mean, I wasn't sure if there was a -- we didn't do a meeting.

MEMBER MILLER: You can do it now. If you want to be on a committee, volunteer.

RADM GLANG: Gerd Glang. So as the DFO I would suggest maybe Lynne will send out the revised list of working groups based on today's outcomes. And the memberships as we understand them, we'll remove the names of those folks who are no longer on the panel. And then we would circulate that and whoever wants to volunteer is more than welcome to -- there's no restriction.

I mean, even if you don't formally belong to one working group but you're interested in the other group -- and we haven't even talked about the use of outside experts. That is allowed. We just can't call them members. So if we need to consult someone, that's not an issue.

I guess the only point on working groups is what working groups develop; for Kim's sake and the new members, needs to come back to the full panel for consideration. That's the

whole point under the FACA rules, right? The working groups by themselves can't make a recommendation on behalf of the HSRP. The HSRP as a group makes the recommendations to NOAA.

CHAIR PERKINS: All right. Well, I'm going to thank Joyce in advance for preparing the first draft of the recommendation letter from the input that we've gathered here this afternoon.

We've got 12 minutes to our scheduled departure for our visit to Carnival Cruise Line. I know some of you are going to want to go and store your electronics, so I think we're at a good official stopping point for the meeting. So without any objection I would make --

MS. MERSFELDER-LEWIS: We are going to all walk together to the pier. Like you cannot go on your own. You have to go with our group so that we can get you through. And there's going to be some thousands of people, so we got to --

PARTICIPANT: Hold hands?

(Laughter.)

(Simultaneous speaking.)

RADM GLANG: Go ahead, Sal.

MEMBER RASSELLO: Yes, we have been cleared to board about 1:45. Don't know yet is going to be one gangway or the other, depending what the flow of the people coming out of the ship. So I will say that once we get there, we get a clear number of people that get on, same number need to get off.

(Laughter.)

MEMBER MILLER: And we do need IDs?

MEMBER RASSELLO: I think it's better to have your ID. If you have your COC, or CAC, or the other one, the TWIC. But we are already cleared, so there is somebody there that will escort us on board. But just in case come the policeman, he wants to see -- yes.

MEMBER MILLER: I don't have a TWIC or a CAC.

MEMBER RASSELLO: Yes. No, that's just an ID with you will be fine, because practically what we do -- most probably we're going to leave the ID at the gangway and they

give you a visitor tag. And then on the way back -- same we did in Washington.

CHAIR PERKINS: If you can please remain in position, we have not officially adjourned yet.

MEMBER RASSELLO: Thank you.

MEMBER HALL: Since we're still on the public record, I'd like to note that you do need your photo ID. And they should check it as the security protocol on board ship, so just expect to be needing your ID. Just on the record.

MEMBER RASSELLO: I made some arrangement.

(Simultaneous speaking.)

CHAIR PERKINS: Vice-Chair Hanson?

VICE CHAIR HANSON: Okay. Just two quick things. First off, I wanted to congratulate again Admiral Glang since it's going to be our last time formally together. Great career. Someone who deals with other federal agencies.

I know how respected you are and how

well you've represented NOAA. I want to congratulate you for that as well. A few words came to mind when I was trying to think of how people perceive you, and I think probably the biggest word is loyal. And you're loyal to your people, you're loyal to your agency and you're loyal to your cause. So I think that's an honorable word and I congratulate on a great career. Look forward to your future endeavors.

RADM GLANG: Thank you.

VICE CHAIR HANSON: Also want to say thanks to Scott Perkins. It's been six years we've been on the panel, right? And we've all talked, those of us who've been on it for a while, about the growth and maturing of the old people on the committee.

(Laughter.)

MEMBER HALL: New versus old, not --

VICE CHAIR HANSON: There you go. But the key part is is that we've all learned how to work together, and that's an important part of the discussions and that we have -- we've very

comfortable speaking now freely. We're very comfortable pursuing our issues, which is really what an advisory committee is all about. The folks at NOAA know us, we're meant to be here to help us with some of their issues, but mostly it's up to us to drive it.

You've struggled with this, you've wrestled with it, you've succeeded. You've actually changed it for the better. You made a difference. And I know that's all you wanted to do here. So appreciate your leadership and I look forward to counting on you much, much more in the future.

(Applause.)

(Whereupon, the above-entitled matter went off the record at 1:22 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

In the matter of: Hydropgraphic Services Review Panel

Before: DOC/NOOA

Date: 03-17-16

Place: Galveston, TX

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neal R Gross

Court Reporter