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

SEPTEMBER 18, 2014

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The Hydrographic Services Review Panel met in the Courtyard Marriott Grand Cypress Room, 125 Calhoun Street, Charleston, South Carolina, at 8:30 a.m., Scott Perkins, Chair, presiding.

PRESENT

SCOTT R. PERKINS, HSRP Chair

WILLIAM HANSON, Vice Chair

RDML KENNETH BARBOR

RDML EVELYN FIELDS

DR. DAVID A. JAY

DR. GARY JEFFRESS

ED J. KELLY

DR. FRANK KUDRNA

CAROL LOCKHART

JOYCE E. MILLER

SUSAN SHINGLEDECKER

MATTHEW WELLSLAGER

NON-VOTING MEMBERS PRESENT:

ANDY ARMSTRONG, Center for Coastal and Ocean

Mapping, University of New Hampshire

JULIANA BLACKWELL, Director, National

Geodetic Survey

RICHARD EDWING, Director, Center for

Operational Oceanographic Products and

Services

ALSO PRESENT

RDML GERD F. GLANG, HSRP Designated

Federal Official

MICHAEL ASLAKSEN, Chief, Remote Sensing

Division, National Geodetic Survey,

NOAA

PAUL BRADLEY, Policy Advisor, National Ocean

Service, NOAA

CAPTAIN (sel) RICK BRENNAN, Chief, Coast

Survey Development Laboratory, NOAA

RUSSELL CALLENDER, Ph.D., Deputy Assistant

Administrator, National Ocean

Service, NOAA

TIFFANY HOUSE, Project Analyst, Remote

Sensing Division, National Geodetic

Survey, NOAA

RACHEL MEDLEY, Chief, Customer Affairs

Branch, OCS, NOAA

LYNNE MERSFELDER-LEWIS, HSRP Coordinator

CAPTAIN (USCG ret) RUSS PROCTOR, Chief,

Navigation Services Division, OCS,

NOAA

KYLE WARD, Southeast Navigation Manager,

NOAA

KATHY WATSON, HSRP Coordinator

DARREN WRIGHT, Maritime Services Program

Manager, Center for the Operational

Oceanographic Products and Services

(CO-OPS)

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

8:32 a.m.

DAY 3 AGENDA AND RECAP OF DAY 2 PANEL DISCUSSION

CHAIR PERKINS: Good morning. Well, as we enter into the third day of the HSRP here in Charleston, Ill take a few minutes to recap on yesterdays presentations and our charge in front of us to work towards concluding with some solid draft recommendations.

Margarets remarks yesterday and her challenging us to think about shallow water and the national mapping strategy, Mike and I talked a little bit about that there is a plan for a coastal mapping strategy. So when Mike gets back in the room, I asked him. Hes got a few slides that I think will be informational for us on the framework for the coastal mapping strategy.

Lynne and Tiffany and Kathy are working to either send to us email or to have for us handouts encapsulating the output from the breakout sessions yesterday as well. Then well have that in front of us to work from and to consider in our deliberations.

Mike, are you plugged in? Almost? I gave him a few minutes. I requested it two minutes ago.

Does anyone have any initial comments they want to make regarding a recap of yesterday? Good, bad, ugly? All of the above?

Okay. I did get some email traffic last night from people that were listening as well. So its good to know that the webinar piece, that piece of technology, has been working and there have been people listening and paying attention. I thought that was encouraging.

MEMBER WELLSLAGER: Scott, while theyre doing that, what did some of the conversations in the email indicate? Were they happy with what was being done? Did they have any positive?

CHAIR PERKINS: Yes, positive. Nothing succinct that I can report in other than theyve been enjoying listening. It sounds like youre working hard which I think is true. We have been working hard.

MEMBER KELLY: Scott, just quick as were waiting for Mike.

CHAIR PERKINS: Yes please.

MEMBER KELLY: This is his first rodeo. I guess Im one and a half. So Im allowed to ask questions that might seem a little bit inappropriate or naive. As far as it goes with the public sessions is it primarily our objective for us to see them or for them to have a chance to see us or something in the middle?

Because frankly, part of yesterday there was a certain amount of duplicity that was going on that we saw from the Port Authority and from the Corps. We saw the very same slides from some other people. And Im wondering if maybe did we need to see that or was it a good idea to let those people see us at that level, not just say the Jim Newsome level or working level so that they could understand what we can do for them.

I felt some of that time for our purposes may have been better used either with internal discussion or perhaps reaching out to some other folks in the community. Im just throwing that out there. Just very frankly, it was good to hear the Salty guy. But if I ever in my life really know where the Ashepoo Cutoff is, Im going to shoot myself. I dont know if I needed to get that.

CHAIR PERKINS: We may still be on the public webinar.

MEMBER KELLY: Okay. Im just saying I dont know if -- Just as far as the meetings themselves and just to clarify perhaps for me coming relatively new, if its our intent to see or to be seen or some combination thereof.

CHAIR PERKINS: The intent is both bi-directional in that regard. Its to give the opportunity to observe and see how the panel is composed, what were charged with and then the complete visibility through the website and the reporting out for them to see what our work product is.

The action item in what we attempted to do and what Kathy and I tried to put in place was that request in what maybe should have been a hard requirement to get those presentations in our hands and in a Board book or to have the opportunity to preview them and then have editorial control or censorship and eliminate the duplication. With this many presentations, we recognize that there was a risk of having that crossover. And we did request that all of the presenters submit their materials in advance so that we could review them and try to avoid that if we put it out as a request and not a requirement. I think maybe theres an after-action or an item we can learn there. Lynne and I have already discussed that of trying to change that mechanism so that we can filter that and hopefully solve that duplication item.

The time allotted for the presentations I think is very valuable. But, yes, as long as the fidelity of the content isnt the same thing. Point well made.

VICE-CHAIR HANSON: And I would add if we could ask the presenters to include a slide particularly at the end explaining what their request of the HSRP is, in other words, why youre here and what can we do for you. That serves two purposes. One is it focuses their presentation and also it requires them to look up a little bit about how NOAA HSRP actually is and our mission and focusing the work of the presentation other than pulling something out of their back pocket that they give every day.

CHAIR PERKINS: Good point.

VICE-CHAIR HANSON: And by the way, Ed, when you probably make the cutoff, youll probably be in pretty good shape, hand behind your head, and just relax. So it might not be a bad thing.

(Laughter.)

CHAIR PERKINS: All right. The floor is yours, Mike. Thank you.

MR. ASLAKSEN: This was mentioned a couple of times yesterday. Of course, Im not Jennifer Wozencraft. But this is a presentation that was put together for the briefing to the IWG, Ocean and Coastal Mapping group. Next slide please.

And what this really is as what I mentioned yesterday to Margaret, the national coastal mapping strategy which has been worked on pretty heavily for the last year and a half and in fact unfortunately Dr. Chris Parrish has left NOAA and went to Oregon State. But this was most of his leadership to pull this together.

But why was the IWG going after a national coastal plan? One was basically because we were from a national mapping standpoint and are the best organized at that time. So we leveraged that. But we did have the legislative mandate under the Ocean Coastal Mapping Act in 2009.

There is clearly a growing need for coastal mapping which really was kick-started with Sandy and the realization that we dont have this data that supports a lot of modeling. If you look at our charts, one of the biggest areas where we dont have data are shallow areas.

And then it leverages a lot of federal resources. And there are three main entities within this. Its USGS, NOAA and Army Corps that have these coastal mapping programs, but again, the map used many times.

The approach, again built on our current mapping coordination activities and this is really through the JALBTCX. You heard that horrible acronym. But it is what it is and it works.

Im the lead for NOAA as far as that relationship with the Army Corps who is the chair of that group as well as the Navy and USGS. And our activities are very well coordinated in the data sharing. Much of the data the JALBTCX goes to the digital coast that you heard from Nicki yesterday. So theres some really good established relationships and procedures that are relayed that we take advantage of.

This is basically an aircraft that shows the acquisition type.

Again, run over the established relationship. We have very clear federal responsibilities. The Army Corps mission is more about sediment transport. NOAAs is navigation. The GS is research and the Navy is from a defense standpoint. But collectively weve worked out day-to-day data collection standards that we can try to use across those requirements. And then again theres a high priority data need. But pulling all the resources together, we do a pretty good job of trying to collect in this area.

Again, this speaks to why the IOCM folks really targeted this. Its all these players both private sector which is an important partner as well as the Federal capability. Weve not only collected the data ourselves as a Federal capability or DoD capability, but also we leverage contract capability and have encouraged and grown that capacity.

I would say that as much collection is done by the Federal partners as is done by our private sector partners. And in some cases, we have really good models of go-co where we have government owned sensors operated by contractors and visa versa.

This is the last slide. This is the four main components of this plan. This plan is out and Ill send it around to the membership for review to take a look at. But youve got the coordination activities. Theres a common specification matrix kind of broken down to virtual response, environmental mapping and then charting.

And it does have a whole life cycle approach. Under Ashley Chappells leadership with the IOCM within NOAA, shes really pushed, really pushed, on how often do we need to resurvey, what type of moneys would take to do surveys and what the target really is of resurveying at least the lower 48 on a five year cycle, but then also approaching using this to do places like Alaska and Hawaii that are mapped less frequently.

And then again continuing what weve always done at JALBTCX is look at whats around the corner, what are the technologies out there that we need to be evaluating and then investing in. Thats something that this group has done pretty well. In fact, its what led NOAA to actually getting and purchasing and flying and contracting topopathy LiDAR. I went a little fast, sir, but I think thats what you wanted.

CHAIR PERKINS: Yes. No, I just thought that might help fill in the gaps. We heard about the coastal mapping strategy and we didnt know what to do with that time slot on the agenda this morning.

Yes, Gary.

MEMBER JEFFRESS: One of the things that I failed to mention yesterday afternoon after my little presentation looking at the poor quality of the FEMA flight insurance rate maps. Why arent they using digital coast? Why isnt FEMA using digital coast to make those maps look at least like theyre accurate rather than the childish style that they use for the coast line?

It would appear to be an opportunity for the map used once many times. So to leverage that.

CHAIR PERKINS: Yes. And Im not prepared to answer for FEMA.

MEMBER JEFFRESS: Well, now that Juliana is a member of the TMAC. So theres an opportunity.

CHAIR PERKINS: In a macro level, I know theyre moving away from flood mapping to risk mapping. And in the process of moving to risk mapping from the flood mapping, the cartographic requirements for those maps have changed and in their approach to delineating risk. In my part of the country theres been a lot of push and pull about the removal of uncertified levees in flood or risk. Theyre not flood protection structures. Theyre risk reduction structures. At the removal of risk reduction structures from the maps.

So highway embankments and railroad grades and things that look and act like levees or risk reduction structures, if theyre not certified by a civil engineer, theyre off the map. And the new risk inundation contour, its just like the structures dont exist.

MEMBER JEFFRESS: Its just a topographic accuracy. Its just not there.

CHAIR PERKINS: Well, I think that in the new product it may be risk map. Do you know Juliana?

MEMBER BLACKWELL: Juliana Blackwell. This whole technical mapping advisory council is just getting underway. And it will be an opportunity to learn more about what FEMAs plans are and to make these recommendations to the FEMA administrator about the best way to establish mapping procedures and guidelines and how to improve the accuracy, the quality and the metrics for flood insurance rate maps as part of the charge to the Federal Advisory Committee to be able to do that and talk about things like map maintenance.

I think in the past from my experience with NGS and working with FEMA is that they were using whatever data was available. And what I have heard from them in managing the height modernization program and working with FEMA through their map modernization initiative was more of the its not their job to do that base mapping. Its their job to take whatever data is available and make it accessible to users so that they can use that information.

I think with the events that have occurred over the past several years the understanding is more of we really need to have these things updated. But how do we do that? How do we coordinate it if its not FEMA mission to do the base mapping per se? But how do we coordinate that so the new flood insurance rate maps and things that are produced are done in the most effective way and give you up-to-date heights rather than things that are just digitized, modernized and put out there even though the data itself is not accurate?

I think as we get into this Technical Mapping Advisory Council charge and look at these different components of it I think a lot of these different types of things are going to get discussed and hashed out. Then there will be the recommendations that come forth from the group from a private sector perspective as well as from the federal, state and local governments perspective.

The group is made of 20 different individuals, four Federal designees and then the other 16 members are either state, local and other Fed representatives. And then there are eight basically private sector folks. Maybe private sector is not exactly the right word, but outside of the government entity that will be coming together to help formulate these recommendations with FEMA.

Ill be happy to give you more of an update after we get more into the meat of it. But I think it certainly is great questions and things to continue to look at how its being done and what recommendations can we as a group or as NOAA put forward to FEMA to help make this a better program.

CHAIR PERKINS: Yes and maybe thats part of a national mapping strategy that Margaret mentioned to try and use the best data available for all applications. Okay.

MEMBER BARBOR: Juliana, do you have a time frame where you think youd like to bring that forward? Would the next meeting be too soon?

MEMBER BLACKWELL: The TMAC is meeting for its first in-person the end of September. So thats a pretty advanced timeline as far as they plan to meet six times in a year. There is a report, at least one report, due annually and there actually may be two reports that are due.

So I think its going to be very aggressive and a lot of work being done getting up to speed on a lot of the background that will be presented. I think by next meeting Ill certainly be inundated with information about TMAC and mapping. So Ill be happy to share that next time.

CHAIR PERKINS: Great. I think we look forward to that. Frank.

MEMBER KUDRNA: Mike, I guess when you listed the Federal agencies involved I recognized one you talked about were the ones that actually do the mapping. But I would imagine the EPA and Interior use an enormous amount of shoreline maps for their properties and regulatory functions or contractors. Is that the case or is there involvement from them?

MR. ASLAKSEN: Correct. Theyre primarily from the USGS and the coastal program within the USGS that centers itself out of St. Pete. They do a lot more with the contracting to collect those data for their purposes. They do have a research level system.

I think Interior is well represented from the standpoint. And of course all big users of our shoreline product as well. And theres been a lot more depth in interagency for using a consistent shoreline primarily to NOAA because lots of folks are doing different things.

But EPA, again we do reach out from the intercoastal mapping standpoint to other agencies as much as we can. But Ive not seen or really had table from the coastal mapping standpoint. Doesnt mean Im not using the data. But as far as requirements, I dont think we hear too much from them.

CHAIR PERKINS: All right. Paul, are you prepared to roll early?

DR. BRADLEY: Yes. Thank you.

CHAIR PERKINS: I see nothing wrong with getting ahead of the schedule.

NOAA/NOS CONGRESSIONAL AND BUDGET UPDATE

DR. BRADLEY: Good morning. Its been I guess about a year and a half since my last budget and congressional update. So Ive got a bit of talking to do. But Ill try to keep it to the highlights and leave time for questions.

We have two budget years to talk about and Fiscal Year 14 is about to come to a close. But I dont know that youve really seen a lot of the numbers that weve been looking at for what we actually received in 14. So well talk about that.

And then whats happening with FY 15 which as you know starts in a couple of weeks. And we get to have funding for that year.

And then theres been a lot of activity on the Hill despite inactivity in terms of an actual outcome. But weve been busy up on Capitol Hill. And theres a bit of legislation out there that you should be aware of. Ive talked about it last May, but Ill just do a little recap.

Then weve also been busy working with other Federal agencies in D.C. So you should be aware of some of those activities, too.

Here is the budget trend for the National Ocean Service between Fiscal Year 2010 and FY 2015. Everything except 2015 is what we actually received or what we provided for in our spend plan after we got an appropriation.

The orange bars represent our operations, research and facilities or ORF. And the blue is PAC which is procurement, acquisition and construction. Dont worry too much about the difference there between the two.

But the obvious trend here is life was pretty tough for NOS between 2010 and 2013. Its not atypical of the rest of the Federal Government. But its a 20 percent decrease in the NOS budget over those few years. Thats kind of a tough hit for the agency.

And then you see since 2013 which was the sequestration year weve started an upward trend again which obviously speaks to a recovering economy. The Federal budget is doing a little bit better than they were in that sequestration year.

But I think it also speaks to the messaging the NOS has been doing both within the agency, within the Administration and on the Hill. Were doing a good job telling the story and theyre recognizing the value of NOS.

I believe my boss, Glenn, briefed you on the new NOS budget structure in that May meeting. And if you dont recall, the National Ocean Service budget is broken into three subprograms.

The one that youre most interested in is the Navigation, Observations and Positioning which includes the three offices that you know of as Navigation Services. And it also includes the Integrated Ocean Observing System or IOOS. Theres also Coastal Science and Assessment which includes things like our National Centers for Coastal Ocean Science (NCCOS) and the Office of Response and Restoration which do oil spill response and other hazardous spill responses as well as things like marine debris.

And then Ocean and Coastal Management and Services, youre familiar with Coastal Services Center. Margaret spoke here yesterday. The Office of Ocean Coastal Resource Management, those are finally completing a merger and theyll now be called the Office of Coastal Management (OCM). And this also includes sanctuaries.

It looks like the right of this might get a little bit cut off. If you could move that over to the left side, we might be able to see those numbers a little bit better. These are three buckets broken out. Within that NOS budget restructuring, we used to have 20 individual budget lines or these white individual lines here. We used to have 20 of those in the NOS budget.

And we went through this budget restructuring so that we could provide a little more focus on the true priorities within NOS so that it didnt seem like we were just a collection of disparate parts. The goal is to reduce the size of our budget structure so that we could provide that focus. And then we also could provide some flexibility to the agency so that in tough budget years like 2013 we have a little bit more flexibility to make sure were meeting our highest priorities and goals.

A few things I want to point out here. The first column is 2014. I couldnt squeeze 2013 on here so you could see the change from the 13 sequestration to 14. But the difference was somewhere in the ball park of $20-$25 million for all of NOS that we got back in 2014.

Congress has supported the budget restructuring. From this point forward, this is the budget structure that youll see from the National Ocean Service.

In general, 2014 was a better year for NOS than 2013 because we didnt have sequestration to deal with. And Ill get into the one exception to that.

There was the budget deal in Congress. The Congress finally could come to some agreement in terms of how they wanted to set the overall funding cap for the Federal Government. And they agreed on a number for 2014 and 2015.

So that provided us the window of opportunity to actually get an appropriation in 14. And thats the still the magic number going forward for 2015. Well see how that plays out on the Hill.

Lets see. Ill move. Thats for all NOS. Im not going to get into all the numbers here because I just want to focus on the one program that youre most interested in, Nav, Obs, and Positioning, said program.

Youll recall that the former NOS budget had mapping and charting base. It had shoreline mapping. It had hydrographic research and technology. It had addressed survey backlog. All of those were the budget lines that more or less got wrapped up into this, geodetic services, tide and currents base. All of those are now kind of wrapped up into this Nav, Obs, and Positioning line.

The exception were things that go out the door. So this also includes the NOAA IOOS program budget. The money that goes out the door, big pots of money that go out the door, were identified separately. So Hydro Survey Priorities is our new name for Address Survey Backlog. And IOOS Regional Observations are the money that the IOOS program puts out the door to the 11 or 12 regional associations.

The one exception I talked about between the Fiscal Year 13 to Fiscal Year 14 is the Hydro Survey Priorities or Address Survey Backlog. In FY 13 with sequestration, that number was just a little over $25 million. And its the one budget line in all of NOS that actually saw a decrease from FY 13 to FY 14 instead of about a five to ten percent increase.

So I think thats notable even though we havent seen a rebound really since then. Its crept up a little bit, but for the most part that $25 million is now the new base number for Hydro Survey Priorities. In 2010, it was $31.2 million. So that line has gone down 20 percent since 2010.

I wanted to point out that take that as a contrast for this external funding for the IOOS Regional Program. In 2010, that line was at $14.5 million. So in the same amount of time that the Hydro Survey contracting line has gone down 20 percent, the IOOS Regional Observations funding has doubled. I have some thoughts on that, but I point it out more as an observation than anything else.

Lets look at 2015. The Presidents budget was held to -- Because of that budget deal, the President couldnt put forward to Congress some big fat budget after the Congress had just said, Okay. Heres the number that were working with for 2014-2015. So the President was working with a limited ceiling.

Thats why basically OMB funded us at roughly the same level that we got in 2014. There were a few increases and a notable one is a $4 million increase for Topopathy LiDAR and a $1 million increase for Marine Sensor Development under the IOOS Regional Observation slot.

There were some other NOS increases in the 2015 Presidents budget. One of them was resilience grants. There was another one that looked at extramural coastal research under the NCCOS program.

Looking at the House CJS, not bad really. I mean normally the Presidents budget goes to the Hill and the House says, Yeah, thats nice. And they drop it down $20 or so million.

This time they actually funded us -- at least for this line, for all of NOS, I think they were about $20 million under the Presidents budget. They didnt like things like the resilience grants that go out to the regions. And they werent crazy about the extramural research we wanted to put out to universities.

But they did like our Nav, Obs and Positioning programs. So you see that funding held pretty close to what we requested. And I dont know that the difference there is anything noteworthy.

This bill, the House Commerce, Justice, and Science Subcommittee, put it through the committee back in the spring. It passed the full committee. It passed the House in May. And then it just sat there because they couldnt work their way through all 12 Appropriations bills. So thats there.

I meant to say before getting into the budget this is a bit of historical fiction. So I give you all this stuff that actually did happen, but the outcome is that we dont really know if any of it will come true.

The Senate mark on the Commerce, Justice, and Science side of the Senate, they tend to really look favorably on NOS. Their budget tends to be higher than what the President requests or at least higher than what the House provides. And that held true, although its all really close which is a good thing for us.

They essentially met the Presidents budget with a few exceptions that I wanted to point out. Theres a perennial earmark and I know its not truly an earmark now that those dont exist anymore. But theres a $4 million regional geospatial modeling grant program that was added. And that for the most part comprises the difference you see there between the $192 million and the $196 million.

That tends to be $4 million every year. $300,000 of that was set aside to establish a new ocean coastal mapping center. So there was some report language within the Senate CJS bill that says, NOAA shall use $300,000 to establish a new ocean coastal mapping center in another part of the country and it should be established at an institute of higher education.

Then I believe its Senator Murkowski that put that extra $250,000 very generously into the hydro survey priorities line. There is some report language in the CJS bill as well that calls for a report, NOAA to put together a report on its Arctic Hydrographic Surveying Program.

And weve briefed -- as Ill mentioned in a minute, we briefed Senator Murkowskis staff on the work that weve been doing up in Alaska and the Arctic. Too bad Lawson cant be here to tell us about how important that is.

The only other thing Ill mention from the Senate was there were PORTS language in there. So I know some external partners put a big push on the Senate side to try to get PORTS funding in there. The best they could really do was some language that said, Within these numbers the tides and currents program gets $5.5 million for PORTS, which is sort of what they spend on the in-kind services that 24/7 data management, quality assurance, product development, technology development, things like that.

The bill did recognize PORTS as an important program. We recognize that some funding is already provided. And the bottom line was we encourage the President to request funding for the full operational costs associated with PORTS in the future.

So the reality --- thats all the fiction, the reality is that the Congress although they have all this great work leading up to actual appropriation in the spring and summer they couldnt get any of it over the finish line. So theyre faced with having to do another continuing resolution that passed the House yesterday. They expect it to pass the Senate today. So it will be signed into law by the President probably by the end of this week.

Basically, we just get the same amount. If youre not familiar with budget-speak, continuing resolution just means you get what you got last year. They put in some anomalies, very few anomalies, to that.

For example, the satellite part of NOAA gets a free card to spend their money at their leisure as opposed to at a pre-determined rate. So we tend to not be able to spend as quickly as we want to. This continuing resolution will give the satellite program the flexibility they need to maintain their launch schedule. Thats an example of how they work some tweaks into it.

But well get what we got last year at least until December. The continuing resolution runs until December 11th. And then its anyones guess what theyll do from there.

One option is a full-year continuing resolution that will just keep us at what weve got until the end of 2015, next September. Another option is that they just kick the can down the road to the new Congress. Weve got a big election coming up. So who knows how the Congress will change in November. And the new people coming on might feel like, Well, Id kind of like to wait and have my crack at the budget. So lets push this continuing resolution until March and then we can think about how we want to fund the Federal Government in March.

Of course, another option is that they do an omnibus sometime in December. Thats been thrown out there as an option, that the Appropriations staff work hard over the next couple months.

Congress is on break at the end of this week by the way so they can focus on the election. So theyll be back sometime in the middle of November. And then they get a few short weeks before the holidays to figure out what they want to do for funding for the rest of 2015. So stay tuned. It should become interesting.

Then I dont have a good track record for how the other parts of NOAA do. And I know youre interested in that. Its something I can work on and get back to you. But I want to at least show you how NOS does within the NOAA pie and you see it pulled out there in blue.

The biggest chunk is obviously the satellite program. And then the weather service, OAR, the research component of NOAA, and then fisheries and then program support which are things like OMAO and the Headquarters operations.

So legislation --- how am I doing on time? I want to leave time for questions. I know I had 10 minutes extra. So thats good.

CHAIR PERKINS: Yes. No, youre great.

DR. BRADLEY: Okay. Good. So legislation, Ive mentioned these things before but Ill run through them quickly.

Hydrographic Services Improvement under the foundational authority for the programs that youre familiar with expired in 2013. What that means is that we still have the authority to do the work. It just means we dont have an authorization of appropriations.

I think the Coastal Zone Management Act authorization expired 20 years ago. So it doesnt mean a whole lot that your authorization lapses. Its fairly common. Its nice to have, though. So we continue to work with the Hill to pursue that and make sure theyre aware of the authority and make sure theyre aware of the importance of the program. We care more that they recognize the value of the programs than they focus on the legislation anyways.

Congressman Young from Alaska introduced a reauthorization bill for HSIA in the spring of 2013. Admiral Glang testified on that and IOOS reauthorization bill in June of 2013.

The bill is fairly simple. It has a couple of changes. So it reauthorizes the programs for four or five more years, puts some strict funding caps on that. It doesnt give us this great head room to get more appropriations, although that really doesnt mean much. Its kind of monopoly money when you talk about authorizations.

There were a couple of changes in there. They called for GAO to do a cost comparison study between NOAAs fleet, hydrographic surveying and the private sector. It set a limit of overhead on the hydrographic survey priorities or the address survey backlog line of five percent. So we cant spend more than that on any in-house needs we have in order to support contracting and apply data to charts and that sort of thing and then the reauthorization of appropriations.

Those were the three changes there we testified on and shared some of our concerns with those provisions. And it hasnt moved since then. They havent done a mark-up. It hasnt made it out of subcommittee. So there hasnt been a whole lot of momentum to push that or the IOOS Reauthorization Act over the finish line.

No activity in the Senate. Theyre kind of aware of it, but not really that motivated to take it up.

Ocean and Coastal Mapping Integration Act, Ill call it the IOCM Act. Its a little easier than the acronym. That authorization expires next year. So were starting to mention to the Hill that weve got this really good IOCM Act that expires next year. We look forward to working with you and would be happy to share some thoughts for what we see for that program going forward.

We had a good briefing with the House Natural Resources majority staff to make them more aware of some of the IOCMs success stories. This is what weve been working with in the interagency world. This is what weve been doing within NOAA. We think that weve got some really good progress to show.

I was there and they were concerned if were doing enough in terms of Federal coordination of geospatial activities. And our story was yes, especially considering the funding for IOCM program.

I think weve made some good progress. Its not a sprint. Its a marathon. And that was the message that we shared with them. But well continue to look at that for next year.

Digital Coast Act, you learned about Digital Coast yesterday. There is an act that received a lot of support from the external Digital Coast partners, the National Association of Counties, the Nature Conservancy and the other partners. The MAPPS group pushed it as well on the Hill. They were involved.

Theyve got a lot of folks aware and interested in Digital Coast which is great. It got a lot of support on the Hill. There was some interest in introducing legislation. Congressman Ruppersberger from Maryland introduced it in the House side. We had some concerns with that.

The Senate side took it up and Senator Baldwin is reported to be introducing it today in the Senate. And they made some good changes to it from the House side so that some of those concerns were relieved.

But I see it as a great integration into the IOCM Act. Its a good example of IOCM at work. You heard from Nicki. Its about taking data that are out there being collected for primary missions and building it into a repository or providing access so that those data are -- anyway you can find the data -- discoverable. Yes, it sounds so much better. And it provides some great integrated decision support tools.

So thats one where its a great example of IOCM at work. I think that we can work with the Congress next year to maybe integrate those two pieces of legislation so that were working in tandem. We dont have a Digital Coast Act telling us to do these sorts of things and then IOCM Act telling us to do the same sorts of things, but in a different way. Then its not really clear how the two work together. So thats been our focus. Lets make sure that were moving forward smartly on both of those efforts.

Then the last one Ill just mention briefly, Map It Once, Use It Many Times Act. This is something that MAPPS organization supports. It would call for wholesale reorganization of Federal geospatial activities. Much of NOAAs geospatial however you define those would move to a new agency in DOI, as would geospatial activities of USDA and USGS. They would move to this new entity within DOI.

So its a concern for us right off the bat. It has about four committees of jurisdiction. They did have a hearing in the House Natural Resources Subcommittee, not the one that has jurisdiction over NOAA, but a separate one.

But the folks in our subcommittee were kind of interested in our thoughts on it. I think they wanted to take a look at that versus IOCM Act and figure out how were doing it now and would this be better than what we have. And our sense was a resounding, "No, I think were making good progress." We havent seen any more activity on that since the House hearing.

Again, legislation is out there. Folks are interested in NOAAs programs. Theyre just not really pushing anything over the finish line.

Weve been up to the Hill a lot. Ive talked about the legislation. Weve done a number of briefings just to make folks on the Hill more aware of what NOS does and what the navigation programs in particular do. So just to run through some of those things in particular. Senator Murkowski recently after I mentioned the Appropriations Bill and the report language, his staff was really interested in getting a briefing on the hydrographic surveying that we do in Alaska and the Arctic in particular. Admiral Glang and Jeff Ferguson from Coast Survey went up there and gave her staff a really good briefing of these are all the activities which are actually pretty impressive considering the funding that we do have for those programs and diversity of priorities that we have to balance. Gave a briefing on all the work that we have up there and that we have planned for the next year or two.

And we gave a similar briefing to Senator Begich, the staff from Senator Cantwell, and staff from Senate Commerce Majority. I think they really appreciate that information and recognize that NOAA is doing the best it can in the Arctic with the resources we have.

Senate Commerce Minority, we sent them a press release on the awarding of contracts to the eight contract organizations for hydrographic surveying. This was the five year contract award that was notified some time in the summer. They are interested in learning a little bit more about the work that we do with hydrosurvey -- with private sector contractors, on hydrographic surveying.

So we went up there and talked to them a little bit about this is the process that we use in order to evaluate contractors who apply for those contracts. And this is how we award those contracts, how we work with them to award task orders and kind of that whole soup-to-nuts process.

We also provided some informational briefings to Senate Commerce Majority, House Natural Resources Majority, as I mentioned already, and Senator Baldwin on HSIA, the IOCM Act and Digital Coast Act. Just to talk a little bit more about what these authorities do, why theyre so important to NOAA. Digital Coast Act is kind of a newbie in there, so thinking a little bit about the things that I have already mentioned in terms of integrating those together. And then the House Natural Resources briefing that I mentioned already.

These are Holly and Russell briefings I want to talk about. All the other ones were me going up there with Admiral Glang or other staff from Coast Survey, for example. So these are some briefings that Holly and Russell have done. Theres a Senate Oceans Caucus that was really interested in our Ocean and Coastal Observing programs and where those are now and where we see them going in the future. Holly gave them a really good presentation to that Oceans Caucus staff on that issue.

And then my office has gotten Holly and Russell up to the Hill a few times over the year. We reserve a chunk of time on their calendars. Then we go through an effort to identify some of the members of Congress that we think we can really build a relationship with and can be champions for NOS. So weve made an effort to get up to the Hill and visit with some of these key members.

I threw some of those on there. I think there are more. But these are some of the big hitters. You can see them there. Theyre all coastal districts, coastal states. They tend to be key members because theyre either on our Authorization Committee or theyre an appropriater.

For all these briefings the format that we tend to go with, Holly and Russell wanted to go up there with their priorities. We have coastal intelligence, coastal resilience, place-based conservative and talk to them about these priorities and the work that NOAA does in support of those priorities. And thats the main focus.

But in doing so, they bring up a short list of activities in the district or the state that they want the member to be aware of that helps tell that story. Within my office, we really put a big effort into providing some of those stories.

With Congresswoman Bonamici from Oregon, for example, who is the Ranking Member of the House Science Subcommittee, we sent her up there with some information about the Columbia River PORTS system and how that system really works well with the local stakeholders to provide high efficiency of cargo loading. And the same for Senator Booker.

There is a recurring theme. A lot of these places tend to have a port. So we went through the effort to develop a one-pager thats kind of standard template on the front page. And on the back side we can customize it to show them the individual systems.

Its got a map of all the different stations and sensors. Its got some data plots to show you what you saw from Captain Cameron yesterday, what water levels are actually doing versus the predictions. And in instances where thats high, that means youve got more draft than you expected. So maybe you could load a little more cargo. When its low, youve got to be careful you dont hit the bottom.

Air gap data, the story there is obvious. So we try to bring some of that data up to the Hill to say, "This is whats actually existing in your state and your district and this is how your stakeholders are using it in order to support maritime commerce in the state and in the region." I think its a really powerful message.

Weve talked about chart updates, hydro surveys, shoreline mapping work, any of the activities that you can think within these programs. We go up there and try to tell those stories.

And then October 9th, Holly and the Director of the National Weather Service, Louis Uccellini, will be going up to meet with staff from the Congressional Ports Caucus and any other staff we can manage to round up to sit in on that briefing. I think PORTS stands for Ports Opportunities Renewing Trade and Security or something like that. They swiped the trademark from CO-OPS.

PARTICIPANT: We still have the trademark.

DR. BRADLEY: Stomping over the trademark. Yes, were going to sue him for it. Fund PORTS. So were meeting with those staff.

Its a great opportunity to reach out to a whole new crosscut of Congressional offices. There are a lot of members that are on that Congressional PORTS Caucus that I think they have about 80 members in total. And we havent had a chance to talk to them yet. Some of them might be the same as the ones you see here. But there are a lot of new faces there, too. So its a great opportunity. Theyre going to be talking very briefly about the programs products and services that NOS and The Weather Service provide in support of maritime commerce. A lot of the things you know about, the storm search work that were doing with Weather Service, the weather forecast. They provide things like that.

My ask to you guys is Id appreciate your thoughts on this. Were trying to find ways to make that presentation really engaging. You all know and are familiar with death by PowerPoint. Im subjecting you to it here.

Were thinking of ways of how can we get Holly and Louie to really make that an engaging and interesting presentation. Not a question for you right now, but think about it and get back to me on email over the next week or so and if you have any ideas of this is whats really exciting.

We love it when you can present this type of data in this format. So were thinking a little bit about do we bring in pilots. Do we present quotes from pilots about how they use NOAAs products and services? Do we do a little video blurbs or hands-on things? How can we make that more engaging for the staff?

Ill just run really quickly through these last couple of mentions. FEMA pre-scripted mission assignments, we talked about that. Back in the spring, we submitted a request for six or seven pre-scripted mission assignments to FEMA.

The initial response had a couple of those moving forward. The final response which came about a month ago denied five of those six pre-scripted requests. As Mike pointed out, the one exception to that was the coastal advisor, coastal advisor on response, coastal advisor on recovery. Thats different from a navigation manager. Thats more thinking about coastal resource management issues. Thats the one thats moving forward.

Were still working with them as Russell mentioned. Were still working with them to try to resolve this and have a discussion about this.

Within the Hydrographic Services Improvement Act theres authority for NOAA to do a lot of these response activities. But it also has authority in there for us to obtain mission assignments. So we want to have the lawyers talk about that and figure out what does the mean. Does that mean were still in the running for some of these mission assignments or not?

So thats still ongoing. Well see what happens. Their response as I mentioned was if you have the authority to do the work then you dont need a mission assignment. Were not going to issue a mission assignment. Its your responsibility to get out there and do the work. So that was the response. And well see how it plays out.

The Committee on Marine Transportation System, Holly is the Department of Commerce representative to its working body which is the Coordinating Board. It meets every three to four months. We get some things done, but theres a lot of room for bigger, higher priority discussion. We get some working staff level projects and interagency efforts in place that are good efforts, good government sort of things. But theres a lot of room for bigger picture discussion.

Were working to get the principles of that CMTS -- thats the Cabinet level body. Its the Secretary of Commerce, the Secretary of the Army, really big picture guys. The Secretary of Transportation is the chair.

Were trying to get that meeting set up for the middle of October. It will be the first time they meet in six years. Kind of a big deal.

And were trying to tee up some of those big picture issues. A lot of the big things you hear about here, port and harbor expansion, resilience, coastal resilience. Were pushing hard to make sure thats in there.

Department of Commerce obviously is big on the Natural Export Initiative. Thats another one were pushing. Infrastructure investment. So those are some of the big national issues that we want to try to get these Cabinet level officials in the same room to talk about. Its a big issue for us.

And then lastly were working with Army Corps and the National Academy of Science Marine Board to develop a resilience workshop thats going to help the Army Corps and NOAA really -- its something that weve been interested in doing -- to develop some resilience metrics. How do communities, port communities, yes, but adjacent coastal communities evaluate their resilience? How well are they doing? Not really a report card, but some kind of performance measure of resilience.

Were looking at doing a workshop with the Corps down in Mobile sometime early spring next year to bring in a lot of stakeholders and have a conversation about that and start to really put some ideas on the table with how that would actually work. And then bring it back to the Marine Board and get their input as to this is what we heard, this is what were thinking, what do you guys think and push that down the road a bit.

I think that was it. So my wifes been a trooper the last couple of days dealing with this hell-raiser. And so I conclude with that. I appreciate her holding out. Hopefully gave her a better night last night.

I dont know if I have time for questions, but Im happy to take them.

CHAIR PERKINS: Frank.

MEMBER KUDRNA: A comment and two questions. Over the years, we worked hard to have NOAA use the expression "Ocean and Great Lakes" because it implies -- ocean implies to a lot of people that the Great Lakes are included. And I encourage you to do that more and bring that back.

Its noticeable that you didnt have any Great Lakes representative on the list of contacts there. And Senator Kirk from Illinois is really an advocate for the Lakes and a Republican. And hed be a great party to add to your visits along the way. Youd better mention Great Lakes along the way to do that.

But the two questions. One, concerning reauthorization, we had the discussion of how the Sea Grant FACA Committee provides a report back to Congress. And the discussion was that would be a really good idea to include something like that for HSRP in a reauthorization to have such a vehicle. What would you suggest as a way of doing that? Would that be a logical recommendation for us to carry forward to the administrator to have NOAA include that in recommendations? Or what would you suggest?

DR. BRADLEY: I dont know. If I gave the impression that I thought it was a really great idea then I misspoke. I havent thought about it enough to have an opinion whether its a really good idea.

If it was my idea, then I think its fantastic. But I think its certainly something that the panel should consider. And I dont think that something like the most wanted report, just using an example thats already out there that this body has put together, would be the right approach.

As you all have pointed out, thats kind of a pie in the sky wish list. These are all the things that wed love to get funding for. It has to be something a little more realistic, a little bit more this is whats actually out there.

Id have to put some thought into what the content of that would look like. And obviously it cant be something thats terribly burdensome on the committee to put together. It would require significant effort on your part.

I know those most wanted reports took a lot of effort and batting around between folks and a lot of effort on the NOAA side, too. So it really has to be something thats going to serve the agency well in addition to informing Congress.

I think thats probably, like youve mentioned in other moments, Frank, that informing Congress really is kind of the goal. This is what the programs are doing.

We have a number of other reports out there like we have two IOCM reports that go to the Hill. So we have other ways that we do communicate Congress.

And the early returns on those is that no one on the Hill seems to pay a lot of attention to them unfortunately. Thats where Id want to be real careful with what are we providing and how are we going to make sure that they pay attention to it.

MEMBER KUDRNA: But I think Scott mentioned being on the Hill and concern expressed during our early session. I think that might be a way to respond.

My second question, your numbers were very interesting where you talked about the large bump in mapping funding. I think nine or ten that occurred. And that coincidentally is in the time range of that most wanted report.

Do you think theres a relationship between that report and I think on your early slide you talked about a fairly dramatic increase in the mapping element of the NOS funding?

DR. BRADLEY: I dont think there were -- Are you talking about the increase here between --

MEMBER KUDRNA: No, Im talking about in the particular line item for mapping revisions. And on this slide you didnt show the number. But you described how it took a 20 percent bump or something very significant in the nine or ten area.

CHAIR PERKINS: Yes, from the 2008 levels.

DR. BRADLEY: Right, so it decreased from 2010 to 2013, 2014, 2015. Its all kind of the same from there, 20 percent. So it went down 20 percent.

CHAIR PERKINS: Right. So I guess the question if I may, Frank, is can we draw a correlation that the most wanted report help drive that number up from 2000 to 2006?

DR. BRADLEY: Oh, I see what youre saying. I dont think it went up from 2000. It kind of stayed around the $31-$32 million mark up until 2010 where it started to drop off. I think looking back and I dont know how far back I could really think of the numbers, but I think it was mostly around the $31-$32. So Im not sure we ever had upward trend on that. Its mostly been kind of --

CHAIR PERKINS: I dont know if this is accurate, Frank, but I can draw the observation that about the time the Ferdinand Hassler got funded is about the time that the money for the hydro survey backlog changed. Are those two related or not in how Congress treated funding?

RDML GLANG: No, theyre not related.

CHAIR PERKINS: Thats not related?

RDML GLANG: No.

DR. BRADLEY: I dont think that Id agree. I think there were some tough years between 2010 and 2014 where either Congress or the Administration had to make some cuts. And maybe just being called address survey backlog, I recall a comment from then Lieutenant Governor Schatz in Hawaii and now Senator Schatz who said if Congress doesnt know what a line is, then theyre not going to support funding for it.

I think the name change from Address Survey Backlog to Hydro Survey Priorities was probably a smart one. And I dont know that that necessarily means that were going to have an increase. But at least it helps Congress identify that maybe the word priority is magic somehow in a budget. Who knows.

That will hopefully help avoid any similar instances where it takes a hit because its maybe seen as a pot of money that goes outside the organization and isnt critical to its fundamental authorities and missions which I would disagree with. Juliana.

MEMBER BLACKWELL: Paul, this is Juliana. Contrary to that, you did mention that the IOOS Regional Observations did get a plus up or an increase.

DR. BRADLEY: Yes.

MEMBER BLACKWELL: Can you share any of your thoughts as to what you think maybe made that possible?

DR. BRADLEY: Yes. The big difference there that I would note and I think this speaks a little bit to Scotts point is IOOS has a really strong external body, the IOOS Association which used to be called the National Federal of Regional Associations that advocates for IOOS regions. There are 11 of them. Theres another body called the Alliance for Coastal Technologies that does sensor testing and validation.

And so that body is really active on the Hill with OMB, with NOAA, with the Department. They put a big effort into making sure that people realize these regional associations are out there and the work that they do. To be honest with you, we dont have that for the Navigation Services part of this NOS budget.

CHAIR PERKINS: Joyce.

MEMBER MILLER: You talked about the IOCM Act and the Digital Coast Act possibly mergering which makes a lot of sense to me. But is there any chance on either of them? I mean is there any horizon of funding for either of them?

DR. BRADLEY: The funding aspect is an interesting one for Digital Coast. The MAPPS involvement in Digital Coast Act was a bit of a sticky point for the Hill because in the House version of that bill it included an authorization of appropriations of $80 million to collect data because thats a component of Digital Coast Act is that it identifies that a set of coastal data that are priority for the program. So it authorizes $80 million to go out and collect those data.

Theres no chance they would ever see, NOAA would ever see 80 million new dollars to do data collection. And that was a problem for the Senate. So the external partners have to back away from that issue and be willing to come take that off the table.

Is there a chance that we could see funding for that or for IOCM? Im sure theres always a chance. Digital Coast Act did get a pretty -- weve got a lot of interest. When it comes to actually writing a bill and introducing a bill, Senator Baldwin took the pen and ran with it, from Wisconsin. And there are other members, too, and committee staff that were interested in that. So if you get a certain amount of political will, then anything is a possibility.

But I have a hard time seeing any new money for those activities. I think its going to continue to be out of hide thing. I mean we have money for Digital Coast, but in terms of new dollars for that or IOCM, its going to be an uphill battle because its got to come from somewhere.

I mean obviously the bottom line is not increasing by a whole lot. So its got to come from somewhere. And NOAA wants to be very careful that were not robbing Peter to pay Paul.

CHAIR PERKINS: Great. Last question.

MEMBER SHINGLEDECKER: This one may be specific and maybe we need to move it to our later discussion. And from New York when we made the recommendation about going after pre-scripted mission assignments, I believe the intent with that recommendation was to improve the efficiency through which NOAA resources could be accessed in an emergency situation through the ICS structure.

It seems like that has kind of by FEMA been put aside. From NOAAs perspective, do you guys still feel strongly that thats something thats needed? I mean theyre saying youre already authorized to do that work. Go do it.

But I believe we made the recommendation because we felt that maybe it could be done more efficiently if you had that prescriptive mission assignment. Do we need to keep pushing on that or do we just say "FEMA, okay. Well wait"?

RDML GLANG: I think its clear that NOS is going to keep pushing on this. I think thats what Paul described yesterday.

MEMBER SHINGLEDECKER: Do you want us to keep pushing on it?

CHAIR PERKINS: Would it be beneficial for us to speak to that topic again to the administrator?

DR. BRADLEY: I think Dr. Sullivan is aware of the issue. When we got the notice from FEMA on August 22nd or so, Holly sent a heads-up to Dr. Sullivan because she was meeting with the FEMA administrator either that week or the week after. Shes aware of the issue.

I think shes aware that NOS is continuing to push it at a high level. Holly has met with the No. 2 from FEMA and has expressed to him this disappointment that not just the response itself but that we didnt have an opportunity to really have a dialogue between the legal counsel into whether we think the mission assignment is warranted or not.

There is definitely some continuing efforts at a high level. And I think mentioning that in a letter will recognize that the HSRP is keeping an eye on this and is interested in the outcome. But we cant do any more than what were already doing.

RDML GLANG: Let me just add this to answer your question, Susan. I think that if NOAA having prescripted mission assignments with FEMA helps add flexibility so that we can bring resources to bear for national response effort, then thats a useful thing.

DR. BRADLEY: I started ten minutes early and Im ending ten minutes late. Thats good efficiency.

(Laughter.)

Thank you very much.

CHAIR PERKINS: Thank you, Paul.

(Applause.)

CHAIR PERKINS: Next on the agenda is our briefings from the triservice offices. How is everyone doing? Do we need a short break? Everybody is okay.

MEMBER ARMSTRONG: If I can just make one comment to the Chairman. We do have to check out by 12:30 p.m. Some of us may want to somewhere in the schedule between now and 12:30 p.m. want to have a chance to run up to our rooms and grab our bags.

CHAIR PERKINS: Okay. How about if we do that at the conclusion of the triservice office updates? Well take an unscheduled break for the hotel logistics.

MEMBER ARMSTRONG: Thank you.

CHAIR PERKINS: Is that okay with everybody? Great. Triservice Office updates and, Admiral, youre first because youre the most important.

NOAA NAVIGATION SERVICES OFFICE UPDATES

RDML GLANG: All right. Good morning. Im Gary Glang. Im the Director of Coast Survey and the Designated Federal Official for this panel.

The panel asked us to report out on them. They provided some guiding questions. They wanted to hear how the -- Im paraphrasing here. I dont have the words in front of me. They wanted to hear from the programs who we do our outreach with, how we reach our stakeholders and our users.

What Ive constructed is a presentation to describe to you what I view as my priorities and how weve changed our thinking and how weve made progress in our roadmap that weve developed internally. In how we changed our thinking, I sort of sliced into our different sectors to describe to you who were listening to and what were hearing and seeing from those folks.

Last year, I asked our folks to --weve been doing these strategic retreats for several years now and weve come up with very big and complicated strategic plans. Last year, I basically said, "Look. Ive got four priorities for Coast Survey for our organization."

And the first is we must transform our charting. And the second is we need to innovate how we collect our data, where it comes from and what those sources are. The third is were going to change navigation. Were going to change the experience that users have of how they use our charts and how they navigate. And the fourth is we have a unique value proposition in Coast Survey and that is our expertise. There is no other national program that does what we do from end to end.

So transform charting is about improving our internal processes and our infrastructure and our organizational structure so we get our charts out more timely and with a better quality on them. And were also working very hard to provide our product in multiple convenient formats. Thats what transform charting is all about. Its been probably the most significant amount of effort thats gone into that priority right there.

The second one has to do with innovating hydrography. We talked yesterday about different technologies that can be brought to bear. We talked about crowd sourcing. We also looked at satellite bathymetry. We also have some advanced research projects underway that look at x-band, marine band radar for extracting bathymetry.

All these other sources dont necessarily lead you to get data that can be put on the chart. But they certainly do help inform where your chart needs more work or where there are certain hazards that could be brought through.

Changing navigation, this is about us leading the future of navigation and changing the experience. And we do that both here at home, and Ill have some examples of that here in the United States, but also internationally.

A significant part of my personal portfolio is I serve as the U.S. National Hydrographer. And I interact with the International Hydrographic Office through the several bodies underneath that. Theres a long list of working groups that our program supports. And many of those are involved in developing new standards for electronic charting systems in particular.

And the fourth I mentioned is our expertise. So our hydrographers and our cartographers are a unique workforce. They have a unique skill set. Its acquired in a unique way. And youd be very hard pressed to reproduce that elsewhere and still have a skill set that can build charts from end to end.

In the international definition, hydrography really is the whole thing. Its everything from collecting the data all the way through building the products and delivering them.

The leading question from the panel was that they wanted to understand how we interact with our stakeholders. Weve been doing for the last several years a deliberate effort to go and reach our customers and understand how they use our products, what kinds of decisions do they need to make and do they have the right tools, the right NOAA navigation products, to do that.

Actually, Ive been on the road quite a bit. Ive been to San Diego. Ive been to Seattle, Tacoma. I was in New Orleans. So Im certainly making an effort to get out and go meet with locals. And well have some more discussions on that.

What I wanted to describe to you was how do we view our customers, our stakeholders, our users. And we broadly bin them into six categories. We have the traditional, SOLAS class. These are the big deep draft guys who have to comply with the International Maritime Organization. They have to have a certain kind of navigation system on the bridge of their ship.

These are the guys where ECDIS, the Electronic Chart Display Information System, started to come into force. So they have to go electronic here and transition in the next several years.

We separate out the pilots who although they operate on solar ships. The pilots really use our navigation information in a different way. Frankly, they only use our paper chart for reference.

Theyre not walking up or climbing up the Jacobs ladder with a chart rolled up under their arm. Theyve got some kind of an electronic device or you still see several pilot organizations where the pilots rely on the more traditional.

Theyve been in and out of that waterway. Theyve passed their license. They know that body of water by memory. And they dont use any kind of additional tool.

And then we separate out government and military because they are a different creature and we serve them in different ways. And it did take some focused effort to make sure that were delivering what they think they need.

We separate out the recreational users. The commercial I include in that the fishing vessels and the tug and towing industry. They have some different requirements.

And then certainly in the last ten years weve recognized that there is a very heavy demand for aeronautical charting information by non-navigation users in the GIS context. So weve also worked hard to address their needs and make sure our products deliver them.

What this slide shows, I call it the Cloud Slide. Its really our value chain. Im going from the top down. Traditionally, we dont interact with those end users. And thats what you all have done here by going over to the port.

But our charts, our navigation information, is not being used by those end users in paper form. Theyre actually using a product that gets our charts to them in a different way.

And thats all in our value chain. So youve got the Furunos with their chart systems, the electronic chart systems, the ECDIS. And then theres a whole variety of other users who use our chart information in different ways to provide end users a different experience for them to make decisions.

Increasingly, we recognize that thats where we need to be going to talk. But thats a huge ecosystem out there of many, many different companies and software developers that operate in different ways. So I have some examples on that.

At the bottom, that square box, thats really where we sit. So weve envisioned that our data, pulled out of a database, has to be formatted and distributed in particular ways. And Im showing five of those here.

RNCs are the traditional Raster Nautical Charts that are available for free download. Then weve got the Electronic Navigation Charts, the ENCs, that fuel the ECDIS. Thats the vector-based product.

So the Raster and the vector-based product are two different things and will give you two different experiences. But they both can serve the same purpose.

We have our print on demand product which weve significantly changed. Weve got the PDF portable document format charts that are available for free and come in a couple of flavors. Then more and more were putting our data through web services so that other users, both in the navigation and non-navigation communities, can grab that data.

Ive broken the next few slides to show you in those different sectors, those different market sectors, to give you some examples of how we interact with those folks. The SOLAS guys, the deep draft vessels who typically have to sail with ECDIS systems, weve brought in professional mariners, sat them down in front of ECDIS system and said, "Okay. Take us through the process of when you make arrive into, in this case, Port of Los Angeles and Long Beach." We had them take us into Cherry Point and we went into San Francisco.

We just sat there and watched what they experienced with our ENCs. And we had a group of our cartographers on our side and they got to interact with professional mariners. And this was the captain and the first mate in the one case from Alaska Tanker Company.

They bring in a 1,200 foot crew carrier from Alaska into Long Beach. They had some real experience in using our charts. And there are a lot of things that mariners dont know about our charts that are frankly stupid.

So our conclusion, our takeaway, was that in a lot of case our ENCs are really not that well suited for ECDIS. But our ENCs are fully encoded to meet standards. They are correct. But its the information content. And it turns out that the way people use our chart has really changed. And the information content that they need to make decisions isnt rich enough.

Yesterday we had some great presentations and the day before about the size of the ships. And Ill get into that a little bit more. But what were envisioning is sort of a focused effort to improve the content of the ENCs in ports and harbors. Theres an ENC 2.0 were calling it. But the ENC 1.5 version if you will is really about looking at our ENC suite in a holistic sense. As you travel from cell to cell, ENCs are divided into cells and not individual charts, to really improve the quality of those transitions.

We know we need additional depth areas. We hear that firsthand. I was in Ft. Lauderdale last year with the visiting cruise line companies. And they were complaining that our charts were broken when they came in. They couldnt get the 10 meter contour to turn on.

The ENC was built from the paper nautical chart. The U.S. paper nautical chart when you come into Ft. Lauderdale does not have a 10 meter contour. So heres an understanding that the mariner has that isnt quite right. And yet clearly they have a requirement.

Those cruise ships draw 9.3 meters I think when they come in. And they want the 10 meter safety contour. We should be able to offer them that.

The way the ENCs are encoded, a lot of dangers show up in this really large red X. And its a symbology that meets the standard, but we can probably improve that because its not constructed to keeping situational awareness on the chart.

We had a problem for a while where in our production system where we essentially had four different production systems, production lines, in parallel to produce our charts; the Raster and the vector product were not synchronized closely enough. So we worked very hard in the last two years to fix that. And it is fixed now.

And then we also hear from the cruise line industry that they have trouble getting NGA charts at certain ports of call. And so we worked hard through our colleagues at NGA and with the international community to try and resolve that. Thats very slow going. In most cases, that involves actually getting the country that has the charting authority to build new ENCs. Weve got a couple of small cases of success. But we know there are quite a few ports that arent adequately charted for the cruise industry to meet the ECDIS mandate.

Pilots. I mentioned this was a special case. They really dont use our paper nautical charts. We interact with them through our navigation managers at the Regional Harbor Safety Committee meetings or the Area Maritime Safety Committee or theyve got different acronyms but essentially serve similar purposes.

Our navigation response teams when theyre in a region will work with the pilots on emergent survey issues. And we certainly visit with the pilots. As Ive mentioned, Ive gone to different ports and I always visit the pilots and spend time with them.

We have made a deliberate effort to interact more with the pilots through the different American Pilots Association venues and have established a good relationship there. I think NOAA signed an MOA with the APA two years ago, three years ago, Rachel.

MS. MEDLEY: Two years ago.

RDML GLANG: So what are we hearing and also seeing from the pilots? I mentioned this once and weve talked about it yesterday. There is clearly a difference between the precise navigation that they have to do when theyre coming into ports where meters and feet count versus coastal navigation where miles are really sort of the envelope that youre operating in.

So the ships are getting larger and essentially the sea rim is getting smaller in ports. They really need better decision support tools.

What is it that they use? These portable pilot units in many cases that they do use whether theyre Pilot Mate, whether theyre Raven Software, several other firms out there in commercial software that they use.

Those software packages dont use the full range of NOAA data. And we have examples where pilot organization are already starting to develop improvements to those through those software vendors to bring in, for instance, PORTS data through AIS and similar things.

We want to make a more deliberate effort to get into that ecosystem and understand all the vendors and build a relationship with them so that we can offer them awareness and improvements in the product that they deliver to help support the pilots decision making.

And then the other thing that we learned and its not just the pilots who tell us this is that lots of NOAA data is out on different websites. But its not necessarily available or put together in a context where its useful for their particular kind of a decision.

Government and military sector. We interact with these folks a lot more than I can ever remember. The picture on the right is our new Chief of the Marine Chart Division, John Nyberg. On the left is Captain Mark Eckert; hes the Deputy Hydrographer for the Navy.

We have a monthly phone call, a monthly teleconference, that lasts about two and a half to three hours with NGA and Navy and NOAA. Were reviewing our international issues as well as coordinating on interagency issues.

And these are monthly meetings. We rarely miss one. And we spend a lot of time and energy in these relationships.

Our managers are also involved with through NGA the Allied Maritime Subgroup which is component under the Five Eyes, the five allied nations. Were also supporting NGA. Theyve set an advisory group that was an outcome of their assessment of the circumstances that led to grounding of the USS Guardian. And this advisory group is going to help transition the military to all electronic navigation.

And, of course, you know that our navigation managers are involved with the Coast Guard on different levels, but in particular at their Maritime Transportation System Response Units and their Incident Command Centers when weve got circumstances there.

Military transition away from paper charts is years. Its going to be a long time coming. And this is why we treat them in a special category.

Hopefully, you all recall that we ended production of paper lithographic charts. The military was our largest consumer. So they chose to solve their problem by going to DLA. So weve been engaged at the technical level extensively with NGA and DLA to make sure that we deliver a product that DLA can then reproduce.

And many of the NGA charts of foreign waters are being withdrawn. And this has to do with NGAs bilateral agreements with those other countries. And then those that are available are not being updated.

This matters because its our print on demand chart printing agents that are also wanting to provide NGA charts. So were in that relationship for better or for worse. So were finding we have to manage the expectations more and more because NGA does not spend a lot of time interfacing with the public.

Recreational boaters. So this is another sector that we spend a whole lot more time on in the last year and a half certainly. And we reach them and we reach all our customers to the extent they participate through a once-every-two-years customer satisfaction survey. And weve got that scheduled for a separate information briefing in the near future.

We got to the Boat Shows. We go to the Recreational Association meetings. We interact with the power squadrons and the Coast Guard Auxiliary. We just signed new agreements with the power squadrons and the auxiliary. The power squadrons weve had a relationship with for over 50 years now.

I mentioned that were now also listening through an arrangement with ActiveCaptain. Were paying attention to their navigation hazard reports and we use that as information source for improving our charts.

And then last year we went through two separate Federal Register Notice processes to get comments from the public. The one topic had to do with the Magenta Line. And the other one had to do with transitioning away from litho charts.

The takeaway here is that we hear and what we see, of course. There are more and more folks using apps and weve certainly heard that and seen that from the pilots whether theyre on their tablets or their smartphones.

Last year we did have a beta version of an app which was really to understand if people would be interested in using a digital coast pilot. But the programmer who built it did a tremendous job of linking the coast pilot with the chart. You could jump back and forth and look at the coast pilot in context. It was really a good app as far as navigation apps go.

However, I dont want to be in the app business. Theres that whole cloud ecosystem out there. So we ended that, collected some information. And thats informed how were going to move ahead on this.

Boaters are looking for more tide and current info. They dont like vector charts generally as a rule. They want the Raster charts which if you think about our product evolution were still going to have to maintain a Raster product line because its still being used. Its a preferred product for many of these customers in the electronic environment and it also still fuels a paper product.

Boaters who use charts are often buying the third party chart kits. And if you think about that, those chart kits can run around $126, those big spiral bound. Its a beautiful format. But theyre only good for the moment that they buy them maybe or maybe theyre already outdated when you buy them.

Our objective is to make sure recreational boaters have access to the latest and most correct navigation information. So a lot of our effort, especially to the app building and the industry outreach were doing, is to focus on that opportunity. And Ill talk some more about that.

On-screen charts for planning and reference. And then, of course, their response with the Federal Register Notice process on the Magenta Line was overwhelming keep it. And we will be rescheming that directional guidance for the AIWW on our charts.

Light commercial vessels, the towing industry, we havent spent a whole lot of time on these folks. Were painfully aware that theyre caught between the old and the new. By regulation, they have to maintain paper charts and paper publications.

Yet most of them are savvy on the electronics. We visited Harley Marine in Seattle. A fantastic outfit. They have several companies around the country. But in this case the focus of their business out of Seattle were really talking about their service up to Alaska and what their experiences were.

But theyre using Rose Point software. Its an excellent software package. And it works really well for them. And yet they still have to maintain paper. We cant help with that; thats a Coast Guard rulemaking issue. But were looking forward to that being resolved for them.

So the six of that final market sector is the non-navigation. And we spend an awful lot of time thinking about this because in the GIS enterprise that were building it plugs in directly to the rest of the world. So our GIS enterprise and our information infrastructure, the databases that were building, are all geared around modern GIS technology. And those are also in the commercial world or in the private sector. Most of the users are grabbing our information through, for instance, web mapping services which is really the way you share information in a GIS enterprise.

Theyre interested in and they understand our observations and our modeling capabilities and especially the Reinsurance Association of America. Its a much different group of users. But they are interested in our data and our products to help them in their work.

Ive just recently started a contact with the American Institute of Marine Underwriters to see if they care about navigation charts and about navigation information. So well see where that conversation leads to.

In the picture is Shepp meeting with Jack Dangermond, the President of Esri, and we have a really good relationship with Esri in particular. And we interact with them at a whole range of levels, at the technical level. I was at a senior executive conference a few months ago.

So were learning a lot from them. And what were learning from them is how we can better serve up our data to make our business more efficient, not just to the non-nav communities, but also to the navigation communities.

A couple of points I wanted to make about inside that cloud of ecosystems in our value chain and how were addressing those. So one thing thats coming up very quick is an Industry Day on October 10th. Weve invited the industry, app developers, software developers who serve and also the folks who make the systems like Farinos and the Garmins that boaters use to a one-day seminar where weve invited from NOAA speakers to come and talk about the whole range of NOAA products and services.

Well have the Weather Service there. Weve got IOOS coming. Weve CO-OPS coming, Im pretty sure weve got NGS coming. I cant even think. Theres the satellite folks will be there. And theyre all going to talk about their products and services. The Weather Service I mentioned. And were going to try and see if we cant get the industry excited, these app developers, about being more innovative and delivering better data to help make better decision support tools for the whole range of end users and in this case in particular the recreational boater.

How am I doing on time? Im almost done. Okay. You guys have to hold up a time sheet.

All right. So we mentioned some of our new traditional products that these are a direct result of what we hear from our users. We have the New Charleston chart which weve talked about quite a bit. But we also produced a new chart for the St. Marys River up in the Great Lakes. Great Lakes shout-out, Frank.

(Laughter.)

And then we also received very extensive short line updates from RSD, which was applied to the chart -- the Great Lakes charts -- in the last year. And those were pretty significant. Those had to do with a lot of datum shifts which was the main reason our shore line was off.

So if you go back into the history of -- I may as well go over time in a big way. If you go back in the history, there used to be Great Lakes Charting Service, Andy. The Great Lakes. It was a different organization.

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MEMBER ARMSTRONG: Lake Survey Center.

RDML GLANG: The Lake Survey Center, right. And their charts were on a datum as I understand it. I think we finally --

MEMBER ARMSTRONG: 1912.

RDML GLANG: Yes, finally after many decades, I think weve gotten all that straightened out. This is important because the mariners and the shippers are operating up there with GPS. So if our charts are on a different datum, thats not going to do you any good. So you can see in the red in the picture down here the red line. That was the old shore line or the new shore line. I cant remember which, but substantial shift.

And then were also recapitalizing our boats. Its a very slow process, but were looking at contractor work any day now to start with the first two boats.

New format. So I mentioned we went through this period when we ended litho we said how can we make sure were better serving especially the low end customer, the recreational boater, the kayakers. How can we make sure they get the latest chart in their hand? How can we serve folks dont need a PDF chart for the purpose of bridge navigation but need access to a paper chart?

So we made the PDF charts available on a trial basis. And then based on the responses, the PDF really is the backbone format for all of our paper products. Its just that we have to create different overlays for those for each of whether its POD or the DoD version and so on.

We also have the handy BookletChart which that product came out several years ago. But what weve done now is we formally incorporated that product into our Format and Distribution Branch which is a new branch that was an outcome our reorg.

And then weve almost made significant improvements to our website. Its not the big overhaul of our website that we really want to do. It was kind of a light touch. But we really by going and listening to our users and by thinking this through we tried to implement three clicks; it should be three clicks to get at any of our products. And I think weve been more or less successful.

Weve asked the Coast Guard to approve the use of a digital version of the Coast Pilot to meet carriage requirements so that mariners dont have to carry a paper copy of the Coast Pilot. This will have to go through a rulemaking process. I think its out there right now.

Theres kind of this broad Federal Register Notice where the Coast Guard is collecting comments on all kinds of digital navigation products. But buried in there really is also the outcome for the Coast Pilot.

The notion of having an eReader or a tablet in the wheel house of the ship so that you can refer to the Coast Pilot and easily update it, thats kind of a pretty powerful modern idea. Thats what we were pushing here.

What you dont know in the background maybe is that weve completely revamped the Coast Pilot. It lives in a database. We can update it and its available in at least three different electronic formats.

And then I mentioned our transition from litho printing to an all print on demand environment. And in less than a year we went from two to 15 print on demand partners. And the exciting thing is that these print on demand partners have all to meet our standards as far as producing a paper product. And we certify the product that they give us for an inspection. Well certify that youre a certified NOS chart producer.

And theyve come up and been very creative and offer a variety of paper formats and also have made the prices really competitive. So you can go out and find a nautical chart for $15 where under the litho environment it might have been $21 or $26 depending on the chart.

That has been a good thing. And weve enabled business. We like to hold that up when Secretary Pritzker talks about open for business.

Theres my salute photo to lithographic printing. Thats a stone plate there actually that theyre rolling ink on. Those guys are all retired now.

(Laughter.)

Those are the stone tablets that came down with Moses, yeah.

The big changes though are some really big changes that are not readily apparent to the outside world. Ill mention a few. But its really been this ENC First. And I mentioned that essentially four parallel production lines depending on whether the charts were in Raster or vector format or whether they were in continual maintenance or in the new addition maintenance.

Weve scaled that down to two production lines and were working hard to go to one production line and thats all hinged on building and populating our database, which is going to be our priority here for the next three years. And that will be one of our major priorities in the coming roadmap that were going to be developing for the next two years.

New products, ENC Viewer. This is a big deal because when you download it in ENC, a TripleZero file, there was no way to open it. You could go and grab a proprietary viewer. It was really clunky. But one of the most common email complaints we got was "I downloaded this TripleZero file and I cant look at it."

So now you can go to our website and you can actually look at the ENCs. You dont download them from there. But you can browse all of our ENCs, zoom in, see all the features, all the codes.

I mentioned the quicker updates. There are some real good statistics there where weve reduced the latency. Because we got out of the paper business, the notion of a new addition of a chart went away. So well still produce new additions of the charts, but we can now put a broader range of new information on the charts and push those out on a weekly basis.

In process, getting our datasets compatible with web services. And one example is we have our new REX database online. Its not a full realization of what you could do with that, but I think it meets what we heard from our customers on getting access to our REX database.

Future products. Well be talking about some more of the high resolution overlay for LA Long Beach, the Raster Chart Tile Service which goes directly to the industry on making our charts more easily available for app developers. And then working with the pilot unit manufacturers to improve mariners experience.

We also have a socio-economic study that just got awarded and that will get underway here in the next year. So hopefully next year we can brief that out. And the contracts were already mentioned. June 26th we awarded the new five year contracts.

The whole thing has a $250 million ceiling. I dont know if you saw the press release from Litos, but they claim that they were awarded a $250 million contract.

Not quite right. Its a ceiling. If you do the math, $25 million times five years doesnt get you to $250 million. What weve done is added in -- and weve done this before -- head room into our contract to allow for supplementals to be executed through the contract. Based on past experience, it would appear its likely we get a supplemental in the future for particular disaster.

But this new batch of contracts builds on already a program with 15 years of experience. And weve awarded over $400 million in contracts. Thats a lot of money going out to the private sector.

(Applause.)

And at this time there are eight private survey firms. Weve gone up by one. Four happen to be large business and four are small business. So thats the end of that. Got any questions? Ill take them now or later.

Oh, key concerns. The last thing the panel asked us to offer and Ive been thinking about what would be a key concern that I have. So I put it through the What Keeps Me Up At Night filter and there are probably a couple of those things.

But the one that I think the panel should be aware of and the public is that NOAA has two vessels that are devoted to mapping in the Arctic and in Alaska, the Rainier and the Fairweather. And those ships are 46 years old.

They are the most productive and effective hydrographic survey platforms in the world. No question about it. When everything works on them and theyre fully staffed and we have a full field season, there is nobody public or private that can beat the productivity of those vessels.

But those ships will be retired probably in the next 10 to 12 years, depending on how well we can take care of, how well were funded to do the maintenance and the O&M on those.

It takes 10 years to build a new ship. By the mid '20s, NOAA will have no capability for surveying in the Arctic. If you read -- and we went through this and we could go through it -- weve got half a million square nautical miles of US EEZ in the Arctic. And about 40,000 square nautical miles of that are critical or are navigationally significant for the purpose of the marine transportation system and coastal routes in and out of ports in Alaska to support fisheries and other resource extraction, to support navigation through the Beaufort Sea and up into the Chukchi and in the Arctic Ocean.

That capability is going to go away about the same time that more and more of the Arctic will be open. I would view that as a problem. Theres nobody in the private sector thats building vessels to go do hydrographic surveying up there because theyre $25 million a year spread across eight contractors. Frankly, the cost value of the proposition is no good.

So NOAA operates ships for a reason. We do that because you have to go to sea to get the science done, whether its hydrography or fishery science or whatever the science. Thats a policy decision. As a federal agency, as an ocean agency, thats our mission to go to sea and do that.

So that would concern me that we would lose that capability in 10 to 12 years. And I think that should concern you all as well. Thats one of the things that keeps me up at night. Thanks.

MEMBER JEFFRESS: I have a question. Has Google approached you about adding all of your charts into Google Ocean?

RDML GLANG: Yes.

MEMBER JEFFRESS: And what happened?

RDML GLANG: Im not sure exactly if anyone is actually implemented that. But theyre available. Id have to follow up exactly. I know we had Google come and weve talked with them. They were more interested in the REX database.

Certainly, Esri makes all of our charts available. In fact Esri is the one that really took a stab at that ENC Viewer to make that available. And all our charts are available as base layers through the Esri product line.

But I dont know if anyone has actually implemented our charts in Google. Im sure someone has. We have the Raster chart tile service or the Raster chart server, which makes all our Raster charts available. And then tile service is being developed in an open source format which would fit readily into a Google map I would think. Its essentially the same kind of tile format Google uses.

Joyce.

MEMBER MILLER: Whats the operational schedule on hydro ships this year? I mean are the ships out and how many operational days do they have?

RDML GLANG: The sea day allocation was very good for FY 14, somewhere in the order of 180-190 days at sea for each of the ships. However, the fleet -- and just to be clear to everybody, I dont manage the hydrographic ships. I am the program.

The ships are owned and operated and managed by the Office of Marine and Aviation Operations. Its a separate budget. They do all the allocation planning. They control the maintenance. They control the staffing.

But Im a user of them. They do my science and I get it.

The challenge for the fleet this year has been its a three-legged stool. Its either sea day allocation, which weve had some very tight years and you saw the dip in NOS funding and that was similarly reflected in their budget lines. This year we did well on sea days.

The second leg in the stool is maintenance. Is the ship in good repair? The Fairweather was off line last year or the year before for an extended period to have its damage replaced. So we essentially were not getting any data from the Fairweather for about a year -- the Rainier the year before that because of the major overhaul period.

And then the third leg is staffing. And it turns out that a very critical staffing on the ships are licensed engineers. And if youre short one licensed engineer, the ship doesnt sail. And thats been our Achilles heel this year. We have not had enough licensed engineers to staff the ships so that they could operate.

So the ships have been in different ports for extended periods of time. Theyve made up for some work with just operating with launches while the ship didnt get underway. But frankly we lost a lot of time because we did not have licensed engineers.

Theres a reason for that. Thats because of the oil business in the Gulf is extremely well paying and lucrative. And in the demographics of licensed engineers, it is the new third assistant engineers, who are coming out of the Academies, who dont want to sail on NOAA ships because we make them share a room. They dont have single bunks because NOAA is not good enough at the basics of meeting the administration nuances of making sure theyre paid at the appropriate level, that they get travel reimbursements. We sort of screwed up at the basics. And theyre getting paid way more money for working much less time in the private sector like the oil business.

This year has been tremendously harmful to our productivity because weve been short on people. Its a consistent struggle between those three legs of the stool. And this year that one leg was whacked pretty hard.

And now were at a situation where both the Rainier and the Fairweather have developed age-related problems that have to be addressed. So theyre both needing to undergo repairs. So theyre not productive.

The Thomas Jefferson had challenges as well early in the year with repairs and with engineers and with a launch being done. I think right now theyre all back up and operating and in order.

And the Hassler was scheduled for some modifications that were -- without those she is really limited in her operating range. So Im not sure. She had some dockside work scheduled which hasnt happened yet. Weve been waiting for that contract award.

But activity-wise it has been a good year for us. But the issues are really related to staffing and to repairs. They are symptoms of an aging fleet.

MEMBER BARBOR: Truly appreciate the brief. I thought it was very good. Some apparently very honest comments. Obviously, I would be concerned about the military government side. But Ill brush that one aside and Ill say the SOLAS slide really concerns me. It does not sound good.

RDML GLANG: In what way?

MEMBER BARBOR: If your ENCs are not fit for purpose, that sounds like a problem. Go back to that.

RDML GLANG: Were interpreting here. Yes, I know what youre saying. I thought twice about that and I said we know we can do better. We know the information content. When the cruise line says were trying to turn on 10 meter contour in our ECDIS, we go back and say it doesnt exist.

Why doesnt it exist? Well, the chart, the ENC was built from the paper chart. Theres a change in use going on here. As weve transitioned into the electronic world and people are having to relearn how to use these electronic systems, ships have gotten bigger and bigger. Now we have new demands, a requirement for new information.

Our big push to get all of our charts fully populated into our database, if we can get that done here in the next few years, then we can start improving the information content.

The Charleston charts actually is an example where we did go to the users and ask them, "What contours do you need?" So we actually put that in up front.

But if you remember the build out of ECDIS by the whole world it was a long and painful process. And different countries took different approaches. The purest approach is collect all new digital data, build high resolution surfaces, cut contours at every meter and the mariner can turn on and off whatever they need.

But thats sort of the nirvana. The reality is we have to crank out and produce ENCs. What were finding now is its really not the right information for the purpose of this chart.

Well get these issues resolved here in the next few years in the key places I think. But the only way we know if we go and ask these people. Right. Thats key.

MEMBER BARBOR: Like I said, I think the brief was great and apparently very honest. But that does concern me and I think obviously it concerns you. Im not belittling. But its the sort of thing I think we would wish to address and ensure that there is a work line there that is meeting those issues.

RDML GLANG: Ive probably taken twice my time, right.

VICE-CHAIR HANSON: Sir, you can have as much time as you want, cant you?

(Laughter.)

I want to ask a couple of questions as much for you as for Paul. But what would a fully funded NOS budget look like?

RDML GLANG: NOS budget? Its a 100 percent requirement question. Rich knows this one.

MEMBER EDWING: Its been awhile.

VICE-CHAIR HANSON: Okay. Theres a purpose for the question and the reason is on the infrastructure side, weve got the term shovel-ready. And that came about and the most efficient agencies have a list of projects, a capability list. This is what they can perform in a given year.

This is what they can ramp up to given how they can accomplish the goal. In this case when we started talking about this, this was to maintain every port in the country to its authorized dimensions.

And the Corps actually developed a plan that we could do that and get there in five years with full funding. And there were numbers attached to it. And then, of course, after you fully and efficiently maintain a system, the annual cost actually decreases because youre not playing catch-up all the time. Thats anecdotal but intuitive.

And weve done the same thing with the research side trying to chime in some of our academic friends. If you want us to get some money for you for research, where is your research ready list? Dont just ask us to go get money for you. And then youll figure out where its going to go later. That doesnt help. But to have a true list.

Survey ready becomes the next question. And were looking at your most wanted list again.

RDML GLANG: So different ways to answer this question. But theres not a single place I think that you could put a large amount of money and make progress on. There are pieces that NGS has to accomplish. There are pieces that CO-OPS has to accomplish for us in order for us to execute a successful survey, whether its us or a contractor.

And then theres that other piece, the tail here, is actually taking that information and building a chart or creating another product. And more and more we realizing that our models have value to the navigation community as well as to the resilience community. Theres also this modeling demand thats coming on us which we didnt even talk about here today on both the development side and on the operational side of the model.

I think 100 percent today looks a little bit different maybe than it did ten years ago when we were doing PPBES. But we could certainly crank out a whole lot more surveys if we just poured more money into that address survey backlog. But its like the snake swallowing the pig. That thing is going to work itself down and eventually I have to deal with that lump of data. Whether its the air surveys, the shoreline surveys that RSD was flying, they had to deal with that.

And then that data came to us and the initial assessment was, "Oh, it will take us seven years to put all that data on the lake charts." It didnt because we told them they cant have many years.

MR. ASLAKSEN: And by the way youve got 11,000 miles to show on this year.

RDML GLANG: Im not turning the money down though.

VICE-CHAIR HANSON: But youre not going to get it if you dont have a plan. And youve got to have numbers to toss around. In fact, looking at the most wanted list again, we continue to fail to meet our goals.

If somebody said how much money do you need, what would be your answer?

DR. BRADLEY: The Presidents budget.

(Laughter.)

VICE-CHAIR HANSON: Okay. So thats a plan. That gives you something to work with. If you dont have a plan, youre just -- excuse me because we get accused of this all the time. Contractor are just lying. And Ill tell you how we plan to fix it. Weve got nothing to talk about really. We continue to put out products. I suspect OMB would let you put a number on the most wanted list because that would be another place for it.

But Id like to see a five or ten year plan. And I think from that you build your new vessel. You take this anemic $25 million budget and you turn into something and you can actually accomplish something. You get contractors willing to invest in equipment and innovation. And the whole industry grows together.

I think thats how you have to approach that. And Id like to see a little more discussion. Maybe some of the numbers are available. Maybe there are some things you cant talk about because youre not allowed to. But certainly were not meeting the goal and Id hate to walk out of another meeting without a forward direction.

DR. BRADLEY: Maybe you can forward the HSRP report to Congress.

VICE-CHAIR HANSON: Im sorry.

DR. BRADLEY: Maybe you just send the HSRP report to Congress.

VICE-CHAIR HANSON: And then report to the Administrator and we can deliver it to Congress.

DR. BRADLEY: Ill just briefly point out a couple of things, but I think its a really good question and a really good point. And obviously, were somewhat limited in public meeting with respect to how we can answer that question.

But to look at a couple of examples of where weve looked to do more for NOS, the 2014 Presidents budget had some more funding in it for some of the priority efforts, GRAVD, our water level network, the topobathy LiDAR. So there are a few examples in there where we really tried to put a little more skin in the game for NOS. And it didnt work out in the Hill.

So theres that and then theres the Sandy Supplemental, where we did a lot of funding for mapping and charting for marine to marine mapping, for different components within NOS. And it gives you kind of a flavor for how NOS would go about it. If we were to have more money, what are some of the things that wed do with it?

So those are a couple of things you could take a look at. Im happy to share any details from those if you would like me to.

MEMBER EDWING: And to Bill's point, Ill just point out the IOOS Association has their plan. Theyve got a big number of $528 million or $700. Its a big number that they put together and that may be a partial explanation as to why the numbers got. The whole Association put that together for them.

And its really about the Association. Its not so much about the federal side. It appears to have been an effective tool for them.

MR. ASLAKSEN: I think weve been good about components. Its 100 percent requirement. We need an additional $10 million to do the shoreline every five years. But Ive never seen or can think of a metric of what it would take to do the charts, have update to charts, revisit every two years or what that conglomeration of all the support data to build a most accurate chart would be. That takes all the components and builds it into one number. But I dont think Ive ever seen that. What would it take to keep charts updated near real time or current or what that would be?

MEMBER KUDRNA: Bills quite absolutely on target. And when you go to OMB, they want to know what youre going to do for the money. What exactly is going to get accomplished? And thats really an important question. They use as the poster child The Weather Service. They say The Weather Service as you throw much more money. Were going to give you so much more alert time and its going to save so many lives. They want to know the benefits that are going to occur from the expanded funding.

And I think this shipbuilding is a really legitimate topic. If youre going to have to take ships out of service or reduce time and activity and youve got a lead time of ten years, thats something you really ought to be talking about now. And we probably should be talking about it and elevating that topic in terms of comments and recommendations going forward.

The disaster for a long time was replacing satellites for NOAA because its such a big enchilada that it takes out of the budget. NOAA should probably be talking about a capital investment plan for the rest of NOAA which includes ships associated with your activities plus the rest of NOAA that would continue major funding after the satellite piece takes place instead of just falling off the table.

I think thats a prime target. And it meets that requirement that OMB looks for. If you dont do this, what are the consequences? And theyre major.

CHAIR PERKINS: Rich, I apologize. I know youre ready to go. But I think it would be --

MEMBER EDWING: I think that was the clue --

(Laughter.)

CHAIR PERKINS: Its been requested and I think its a good idea that we insert a short break here for those of you that are traveling this afternoon have an opportunity to complete your checkout process and get things in order. If we can take no more than 15 minutes right now to allow those who have to travel this evening to get that accomplished. Please be back in less than 15 minutes and well get rolling again.

(Whereupon, the above-entitled matter went off the record at 10:37 a.m. and resumed at 11:08 a.m.)

CHAIR PERKINS: Well continue the briefings from the Triservices.

MEMBER EDWING: Good morning, everyone. Rich Edwing, Director of CO-OPS. I certainly cant get us back on schedule, but Ill help minimize us falling further behind schedule. And Ill really address the question that the HRSP panel put to us, which is how do we do outreach to the local maritime communities.

Just starting off with this slide, turning operational oceanographic data into meaningful information for the nation, thats been our catch phrase on our website for longer than I can remember. In one way, its another way of saying providing coastal intelligence, I think.

But really the main point is in order to know were providing meaningful information we have to be interacting with our users in the community to make sure theyre finding it meaningful and useful. We serve a number of sectors besides the maritime communication-maritime transportation system.

A little over five years ago we restructured ourselves into a bit of matrix match organization where we have four programs and four program managers. And really, theyre the tips of the spear, in terms of its really their responsibility to be the main points of contact for interacting with different groups of stakeholders, making sure that they understand their needs or requirements, and getting feedback on how well were doing, and making sure those communities are well serviced.

We call one of these the Mapping and Charting Service. Laura Rear McLaughlin is our program manager. And this is really the foundational level of services we provide, mainly the title datums of things that are served up through the water level observation network. This is really more of an internal, customer focused area because its how were servicing the needs of Coast Survey and, you know, the hydrographic surveys and NGS for shoreline mapping. But theyre also working closely with other Federal partners, like Corps of Engineers when they need help on datums and those sorts of issues.

And down right here is our Maritime Services Program Manager and this is the externally focused aspect of our Maritime Transportation Services. This is where were working along side Coast Survey and NGS to deliver that suite of products and services needed for safe and efficient maritime commerce, our real time data, primarily through the PORTS program, tides and currents predictions through our current observation program and other ways, and also the models. Gerd had mentioned those in his presentation. Coast Survey develops and we operate the forecast models that provide oceanographic information.

And then we have our resilience program. Actually up until recently, this was called the coastal program. This is non-navigation, you know, how do we service the non-navigation community. But we recently brought in a new program manager. And she said, when I look at this suite of things this says resilience to me.

And we said, youre right. So we changed the name to resilience. But its really about coastal hazards. We provide a lot of services that help with storm surge warnings and tsunami warnings and those sorts of things, climate, the long-term sea level trends weve heard mentioned over the last couple of days, and also ecosystem habitat management restoration and those sorts of things.

Those were the three original programs. But we recently established a fourth program manager for ecological forecasting. And this is really in support of the cross NOAA effort thats going on for ecological forecasting. And Allison Allen, who was our Coastal Program manager moved over to manage this piece.

Weve been doing the harmful algal bloom forecasting for quite some time. But the ecological forecasting roadmap has brought in looking at doing forecasts of hypoxia and pathogens and those sorts of things. Its not maybe as relevant to the maritime group as maybe these other three. But thats how were dealing with -- thats how we identify our groups of stakeholders and internally try to handle that.

Everybody needs some infrastructure to do that. Gerd talked about his four priorities. We have our four priorities captured in our -- coincidentally, we have four priorities identified through our strategic plan. And the very first one is to recognize that we need to be doing good. We need to provide good customer service. In order to do that, we need to be out there doing outreach, and education, and so forth with the communities.

The personnel we have, like the program managers, again, are the tip of the spear and have the ultimate responsibility for the sorts of interactions. Anybody in your organization can bring in a requirement or something. But it all has to be funneled back to these guys until their heads explode.

We also have a communications specialist who helps with some of those aspects, project leads, field crews or other people who were out there typically interacting with the communities and can bring back requirements or feedback or those sorts of things.

And, of course, we dont just rely on ourselves to go out there and do these things. Navigation managers, and I probably should have bolded that or maybe listed that three times, because navigation managers are our main eyes and ears out there for us and work very well with us.

But then there is a long list of other people who to some extent we work with to try to get requirements or get our messages out. Im not going to certainly read through that. And again down here what are some of the tools we use. Certainly, our website, the website is our main window to the world, in terms of product delivery. We have to make sure thats really meeting the needs of the customers and do things to make sure thats working as well.

So, at one level, were really doing those kind of routine things every year. Theres a whole suite of conferences that the program managers are going to. I really just listed the MTS oriented ones here. There are more for some of the other programs as well.

But I go to a number of these as well as the program managers and interact at that level. Some cases were doing exhibits or presenting or just mainly their network. Then were doing a lot of more local level check-ins. Local harbor safety committee meetings are a good way to do that. I go up to the Great Lakes Waterways Conference and the Lake Captains Meeting every year. Its a banner day for you, Frank. Heres two Great Lake shout-outs on the slide.

(Laughter.)

MEMBER KUDRNA: Great. Great progress.

MEMBER EDWING: And then we also sometimes make some regional swings through the area. Those are always done in conjunction with the navigation managers. But this year we did Northern Gulf of Mexico, made a swing through and met with the stakeholders, Congressional staff and those sorts of things. Tim Osborn really helped us with that down there. Thats kind of the meeting sort of level.

We also do a lot of project-oriented interactions with the communities. Any time we dedicate a new PORTS or deliver a new PORTS. I should say any time were establishing a new PORTS the very first thing we do is call a requirements meeting there. Its not just with the partners who have signed up to support the PORTS, but were calling any Coast Guard and the Corps of Engineers and the Weather Forecast Office and anybody else that the local navigation manager and others can help us identify. Because, when were identifying where stuff is needed, where sensors are needed, that input is very valuable.

Ill use Jacksonville as an example where we relocated one of the tide gauges at the port to a location that was very helpful to the Weather Service. That particular location was a confluence of three different storm search regimes. They were telling me when I was down there for the dedication that they were doing a bad job of being able to predict storm search because they didnt have some observations.

But having that station at that location was going to be a tremendous help to them. Of course, having a storm search forecast is a help to the local maritime community. Plus we hardened that station. Typically, port stations arent hardened because the money isnt there. But that station got hardened to survive the storms. Thats kind of win-win for everybody.

And when we do an upcoming tidal currents survey we go out and we put out notices and stuff and again work through that list of partners in that previous slide. They get work out that were coming here. Were going to be doing a survey.

We have our existing past locations. Which one of those may be off? Are there other locations you might want us to establish a prediction in? Sometimes thats looking for help from people in terms of vessels and things.

But there is a lot of outreach done in advance of those surveys to make sure were meeting it. Were spending a lot of money to go out there and take those measurements. So lets try to nail down everything we need to do.

And then with the model forecast development, not so much before, but when were getting ready to deploy the model, we need to pick points in that water body where you can click and get information. Its usually the pilots that have the greatest say in where those points are selected. But we get other input as well.

Just some examples of how as were doing projects were interacting with the communities to get their input. And part of the program managers job is to swing back as weve done these jobs if its meeting their needs and give us feedback on how well were doing.

And then there are event-driven sorts of things. Very recently, weve had some historical low waters up in the Great Lakes. So we partnered with GLERL to go up there and do a lot of media outreach, you know, mail, through media, but through events like Engineers Day just again to educate people. They know whats going on, but theres different services that both we and GLERL provide that can maybe help get some information out about that. That was kind of a nice effort.

Again, we use the PORTS dedications to reach out to the local community. Most ports have some level of a dedication event. Again, the Jacksonville one was a big one. We got Dr. Sullivan down there.

This last year we had a number of new products that were being rolled out in the San Francisco Bay area. We had a new operational forecast model rolled out. We just completed a couple of years of tidal currents surveys. And were putting out the new predictions for that. Were there other things, Darren?

(Off microphone comment.)

Thats right. We collaborated with the IOOS Regional Association. Were using data from their HFR system to put in a new product targeted for the maritime community. We went out there and had a day where we had a lot of meetings, just did a lot of education and training and those sorts of things.

And sometimes with NWLON stations this goes back a number of years, but our San Francisco station celebrated its 150 years of continuous measurements. Then we established the 200th NWLON stations down in Mobile Bay, Alabama, that coincided with the 200th anniversary of NOAA. We made a big deal about that. Just some examples of event driven opportunities.

I mentioned earlier our website. Obviously, important in terms of being able to deliver information. We try to measure how well were doing in a number of ways. Just this last year we contracted with this company that puts these surveys up in the websites. And its just these ForeSee companies. I get dinged for surveys from banks and other places. I go on the web. I know NGS has been using it for a number of years. I know a lot of other parts of NOAA are using it.

But theyre very helpful in terms of trying to get people to take the survey. What are the right questions to ask? Then how do you use that information to improve your website? We just completed our first year of data collection. So were starting to get that now.

Theres just monthly log files from NOS which really tell you things like how many hits youre getting, what website are they going to most often, what kinds of things are they downloading. Our website tends to be one of the ones most hit within NOS. I think Coast Survey has the record for the most data downloaded. Theyve got those big ENC files. It depends on how you look at things, but just provides valuable information as well.

And then also recently I think weve got the ability to use some Google analytics to look at data as well. I think I have a backup slide that gives some of the results from some of these things. But given the time, I wont go through that.

This is just a graphic of showing what shows up on the website. And I think what it says is one of five people who go to the website get the opportunity to provide feedback. Ive resisted the urge to give feedback when I go on there.

So, whats our greatest outreach need? Well, Id say its really just our lack of physical presence around the nation. I think the Corps, and USGS, and Coast Guard, and even the Weather Service they have a very substantial regional presence. We do not. Again, we work through the navigation managers to attack that problem a little bit. But there is only a few of those guys. There is only so much they can do.

Heres where I have people. Most of us are in Silver Spring. We have our field office in Chesapeake, and Seattle, and recently established some people at the Disaster Response Center. I know we have one person down in Mobile. But thats very limited.

So thats my biggest challenge is -- because you really need people where the action is, so to speak, to be able to really do a good job of getting those requirements and those feedbacks. You asked us to answer this question and I guess Id be interested in your perspectives and from your experiences how can we enhance -- given those limitations, how can we enhance the effectiveness of our outreach? Thats where Im going to stop. Any questions or comments?

VICE-CHAIR HANSON: Ill go ahead and comment.

MEMBER EDWING: Sure.

VICE-CHAIR HANSON: First off, congratulations on the PORTS introduction at Jacksonville. It got a lot of good play and I notice you have a lot of slides here as well. And I know the PORTS folks very well and theyve looked at it as them hitting the big time. Theyre looking at the next round. And theyve got a long way to go. And they were very proud to be able to introduce that system and show that theyre coming into the big leagues. I encourage you to do more of that. Certainly, having Dr. Sullivan doesnt hurt.

MEMBER EDWING: Yes. We almost had the Secretary of Commerce. She had to divert to a trade mission just two weeks before. But she had committed.

VICE-CHAIR HANSON: And the higher level you bring, the higher level they bring.

MEMBER EDWING: Right.

VICE-CHAIR HANSON: And thats the visibility. I would encourage you as often as you can schedule her which makes travel a port executive director. It would have been great to have a picture of Mr. Nusome being presented the new chart, or something along those lines. And you could still post the rain stats, or something like that, or with the pilots to do something like to advocate for NOAA as well. Its all good stuff to show youre part of the system.

MEMBER EDWING: I agree. Okay. Thank you.

CHAIR PERKINS: Thank you, Rich.

(Applause.)

MEMBER BLACKWELL: Okay. Good morning. I think its still morning. A few slides here just to give you some high level information about some of the accomplishments and activities that weve done mostly in this past year addressing some of the HSRP recommendations along the way. Ive got about nine slides here to go through.

But just to set the stage a little bit, a lot of the activities that Ill be talking about, in addition being supportive of coastal intelligence and the NOS priorities, fall directly under the NGS ten year strategic plan, which Ive mentioned to this group and is available.

But just a refresher on things in our ten year plan, we have five big goals, one of them being to support the users of the National Spatial Reference System. The second major goal under our strategic plan is to improve and modernize the NSRS, and thats where a lot of our developments regarding the new datums and new ways of doing business for the geodesy side fall under that.

Our third big goal includes expanding our stakeholder base through education and partnerships and outreach. So those are the three functional areas. The rest of it is more administrative and internal to NGS. Without further ado, well move on.

The first thing I want to highlight is the fact that the National Geodetic Survey collected more than 2600-2700 square miles of data, topo-bathy LiDAR data, in order to improve our coastal mapping as a result of super storm Sandy that went through. This is part of the supplemental that we received.

The images here show what a topo-bathy LiDAR unit looks like. And the image on the right shows the shoreline, the coastal areas, where new data was collected as a result of the supplemental funding. It was not only collected from NOAA, but we also had collaborated with Army Corps, with USGS. Youve heard us talk about this before from a Federal perspective. I think it was definitely a well done much better collaboration that weve done ever before with being able to map the coast. Certainly we were able to use Federal assets as well as third party contractors to be able to collect this data.

Being able to develop a system and be able to test run it and come up with standards and specifications that we can then use for additional contract work is also something that I think we were very happy to see happen as a result of the effort here.

In addition to the LiDAR work, we also received some funds to accelerate the collection of airborne gravity as part of the GRAV-D initiative under NGS, to collect the blocks that I have here numbered one, two, three, four and numbered in red. So that helped us complete our regional area including the Great Lakes. Frank, Great Lakes. See, I mentioned it, too.

(Laughter.)

We had an entire area done that we could then use that information, get it sewn together and be able into use it for experimental geoid models which Ill mention here in a minute. But these four boxes of collection are completed. The fourth block there thats in blue for Sandy is in the process of being cleaned up, the data. And that will be available on our website as well for others to be able to use and do research and develop on as well.

I want to mention here in the bigger GRAV-D perspective that -- I think Paul alluded to this earlier -- in 2014 in the Presidents budget there was briefly a $3 million opportunity to accelerate the GRAV-D collection and program to help expedite the development of new vertical, or horizontal, or geometric, and geopotential datums. That did not happen in our appropriated budget.

But we were successful in getting a small increase through the Navigations, Observations and Positioning amount that we got for FY 2014 that allowed $250,000 to come into NGS this year to help improve our collection rate for GRAV-D. Hopefully, that will continue to be something that we have in outyear budgets as well.

Looking at the big picture here, the green area again being the box where the collection is done. The data has been processed. Its available. Were at over 38 percent of our total area being surveyed as of the beginning of August. So were meeting our metrics on that.

And 77 percent of that amount of data is now publicly available. Theres not a whole lot you can do with it unless youre in the geoid modeling-airborne gravity research. And some of that is happening, especially through some of the universities. But we are using this data to further develop the models that we have for the geoid. So while this is very boring to many people who are not geodesists, the importance of this is that this is going to become the very basic starting point of the basic model for our new vertical datum -- which as you heard yesterday, with Garys presentation -- the vertical datum, that checkbox on elevation flood certificates whether its NGVD 29, or NAVD 88, or other at some point there is going to be a new national datum for elevations in the year approximately 2020, '22.

Hopefully this will be one widely adopted, vertical datum thats much more accurate than any that weve ever had before and that GPS and GNSS data can be directly applied to this model to give heights accurate to a local ring seal level.

So it will be a great improvement in being consistent with our elevation information of having up-to-date data which will feed into flood plain maps, into surveys, into development of anything and everything. This is the basis for this.

This year we were able to take the areas that are outlined in these broad white regions, take that GRAV-D data that weve already collected, and put it into an experimental geoid model. Its not for production use. But it will start to give people an idea of what the magnitude of change is going to be once there is a new geoid and then a new vertical datum.

Every year from now on, we will be able to develop a new experimental geoid model which will hopefully introduce the changes, or the amount of change that people can expect to see in the future when there is a newly adopted datum. Its a start. Its maybe a small start right now. But certainly we will continue to be able to let our stakeholders know more and more about the magnitude of change is.

This is just a highlight of some of the work that we have done thats not necessarily applicable to anything specific to HSRP. But it is something, a demonstration of the work that we are capable of doing, the core competencies we have as surveyors and as geodesists within the National Geodetic Survey.

We dont talk about that a lot, but this was an opportunity to work with the National Park Service to get up and actually survey the outside tip of the Washington Monument, something that hasnt been done in a number of years and has never been done to the level of accuracy that we were able to do this year.

It was quite an opportunity to be able to get up in that scaffolding and be able to do line of sight measurements, as well as GPS to help establish whether or not that the height has changed, that there was an impact from the earthquake that happened in 2011, I believe. It seems like so long ago.

And to be able to get our folks out there to dust the cobwebs off of being able to actually do this type of work, triangulation and things like that. Its probably been awhile. This was just a cool picture that I wanted to show.

MEMBER WELLSLAGER: Did you get a chance to go up and touch the top of the Monument?

MEMBER BLACKWELL: I did. Im so excited about that. I did not put pictures of myself in here. But, yes, that was amazing. It really was. And there is more on our webpage about that, if you want to go look.

Moving on to just an update on some of the products and services that I wanted to point out that weve updates in the past year. Again, this is geodesy focus in a sense, but its important from a translation perspective. We talk about V datum, we talk about all the different datums and confusions with that.

Being able to have tools and create new tools where people can take information from one datum and transform it to another datum so its more useful to them, back and forth, whether its geodetic datum to title datum.

We were able to create a new tool this year called GEOCON, and another version called GEOCON 11, which allows surveyors and anybody using our GIS users that want to be able to transform between different versions of NAD 83, so that they can get things on the same epic, make their comparisons better.

I wont go into a lot of details with that. But that is something that is available now on our website. Were doing improvements in that software so that its more user-friendly, and takes in different types of free format information in the next version.

OPUS-Projects, we talked about OPUS a little bit yesterday. OPUS-Projects is the next development in our OPUS suite which basically allows folks to take multiple observations on multiple stations, or survey marks, and use our software to be able to come up with positions on their stations. And then they have to be trained in being able to use the software. But they can then go through the next hoops to get that data submitted to NGS so that it can become part of the National Spatial Reference System.

This is something that a number of folks have been asking for and waiting for for a number of years. Army Corps of Engineers and CO-OPS also were folks that were very interested in being able to have an easy way of collecting their data, sending it to us and having it become part of the geodetic database.

We still have a ways to go to make it as user-friendly as possible. But it certainly is a big advancement to have OPUS-Projects available to the public through trained users. In order to get people up to speed on that, we conducted 61 different training workshops across the country, a lot of them virtual, some of them in person.

We were able to train 984 people on the use of this software. Even if a third of them use that in the next year I think that will be a huge success. Ill hopefully have more numbers next time to see how much use weve gotten out of OPUS-Projects from third-party users.

Ill just spend a few minutes talking about some of the recommendations and activities that weve taken, actions that weve taken, in the past year or so regarding workforce. One of the items that came out of our recent meeting was asking the administration to lift the hiring freeze and enable us to hire between 10 and 20 geodesists.

Well, were happy to say the hiring freeze has ended, although there still is a process in place for getting approval to have positions recruited. And thats not really something unusual. Thats been in place for a while.

But weve had success in recruiting a number of positions in NGS. We had certainly a number to make up for. So were still behind. But in the past year we were able to fill five positions in the geodesy series. We had one physical scientist which is very close to geodesy and then four IT specialists which is another area that we definitely needed to rebuild our workforce.

Still a long way to go. We were able to advertise for two regional advisor positions. One of them was for the region of Alaska. And one was for the California-Nevada region. At this point in time, it looks like were going to have to readvertise for the Alaska regional advisor. But were primed to do that as soon as were able to.

And then hopefully a selection will be announced soon for the California-Nevada position. But thats really all I can say about that one at this point.

Well go a long way in our stakeholder outreach to be able to have individuals in all of the regions that weve identified for NGS. Much like Rich was talking about, its really important to have people in the area that are addressing the concerns of that region and able to be the first line of information feedback to Headquarters.

While we do have state advisors currently in a number of states, a lot of them -- not every state is served by a state advisor. Thats why were moving to a regional approach. Weve got a few regional advisors currently out there. But we want to continue to make this a more viable program and to reach more stakeholders through our efforts.

We also were able to reassign a couple of individuals to fill another geodesist position and another physical scientist position. And then we have a number of other recruitment actions that are pending. Some of them that have been advertised and were waiting the selections to be completed and others that we have in the pipeline.

Weve had great success, I would say, considering where we were two years ago. But we still have a long way to go realizing that people continue to retire or in some cases move on to other opportunities. Its going to be a constant effort to try to get new blood and more individuals in NGS.

Just quickly want to highlight some of the outreach efforts that we probably have not mentioned, so it's more focused on the geodesy side. Weve talked often about MAPPS, the connections that we have with Army Corps, USGS, other federal agencies including FEMA through the TMAC.

But some of maybe the less well-known items in outreach that we perform within NGS involve the bullets that Ive listed here. First of all, I just want to highlight that weve made great strides this past year of working and collaborating with the National Society of Professional Surveyors. So anybody who has a surveying background and was a part of ACSM in the past, ACSM is no longer. Thats the American Congress on Surveying and Mapping. Those efforts are primarily under the National Society of Professional Surveyors right now.

There was a time where things were in flux. But NGS has regular meetings with NSPS leadership at least on a quarterly basis. We have plans to work with them to put on a geospatial summit in 2015 to talk more broadly and to a wider audience about our modern datums that will be rolled out in 2022.

We have efforts under way every year to ask the surveying community to take GPS measurements on benchmarks to help us improve our geoid modeling in areas where we have not enough data or questionable data. Theyve been extremely helpful in building support for those efforts. We also are being able to provide them with stories and updates on things that were doing and get feedback from the surveying community through our affiliations with NSPS.

NGS 101 webinar was also conducted this year. This was an opportunity to reach more of Id say the remote sensing community and give them an overview on NGS and what we do as an organization.

We also focused on a user community of real time network operators and administrators to help them understand more about our CORS program and our role in managing CORS and how we can help the real time network community tie into the National Spatial Reference System and be able to ensure that the data and the positions that they are putting out are in line with the NSRS.

The fourth bullet here, we released a series of new YouTube videos on datums. So if you want to learn more about datums, I definitely encourage you to take a look at all four of them.

Theres something a little bit different about each one of them. One is explaining datums in general, about why were going to new datums. Theyre animated. They are done in conjunction with COMET and UCAR out in Colorado. So we have some help in producing those and were happy to be able to use videos to hopefully explain better some of the complicated things related to datums.

We continue to support our height modernization partners, although earmarks have more or less have gone away. There is still a lot of height modernization activities that are happening across the country. We have a number of partners who meet on a monthly basis to talk about height mod activities and needs and get our stakeholder feedback through them as well as try to convene a national partner meeting each year. And this was held down in Mobile, Alabama at the Disaster Response Center this past year.

And then just a whole variety of other outreach opportunities where we give updates as well as gather feedback from user communities, anywhere from our GIS community at Esri through the Federal Geodetic Control Subcommittee where we get feedback from other federal agencies and a number of international organizations which I didnt put out because then Id have to spell them all out and that would take more slides.

In addition to, again, the work that we do through a lot of our shoreline, coastal mapping, IOCM efforts, these are just things that we continue to reach out and get feedback from our groups.

Also as Rich had mentioned, NGS also participates in this ForeSee customer satisfaction survey that comes up when you go online to our website. And weve been doing that for a number of years. We can certainly see where people are having the best success or think where we should improve our products and services and our web searches for finding information. Thats something that we use on an annual basis to make sure that we look at ways to improve the way we deliver our information. Thats been extremely helpful.

I think thats it.

CHAIR PERKINS: Great.

MEMBER BLACKWELL: Almost right on time. That was my little alarm that went off. Any questions? Frank?

MEMBER KUDRNA: Juliana, registered land surveyors and professional engineers and virtually all the states have mandatory two-year continuing education requirements, generally 20 hours. Have you incorporated your upgrades in any of those third-party vendor education elements? That seems to me that it might be useful.

MEMBER BLACKWELL: We have done workshops in the past where weve been invited to speak and theyve gotten professional development or education hours at workshops that are sponsored by state surveying societies and things like that. So we do have participants that go and conduct workshops on whether its a new way of leveling or new standards and specifications or datums.

I dont have information that I can share at this moment about anything that happened recently with professional development hours. But if thats what youre asking, we do have examples of how weve done that.

MEMBER KUDRNA: Most parties do it online these days. They have course units that are developed. So you may want to talk to some of those vendors about developing.

MEMBER BLACKWELL: Doing an online.

MEMBER KUDRNA: Yes.

MEMBER BLACKWELL: Thank you. Thats a great suggestion.

CHAIR PERKINS: I meant to ask this of Rich but I forgot. But I want to ask you the same question, Juliana. Following the Admirals statement, what is it that keeps you up at night and what is your biggest concern that youd like the panel to know about?

MEMBER BLACKWELL: We dont have any ships. We have an -- besides procurement, I would say -- and we talked about this before -- its the loss of expertise. So in addressing the need to fill positions on the geodesy cartographer positions, that is something that has definitely been a stress, especially when we hit the hiring freeze and sequestration and everything else. It was just not cool to be a fed. Im still not sure its cool to be a fed.

I was called a geek I think yesterday by Margaret.

(Laughter.)

Shes a fed, too, but shes not a geek. But being a scientist. I think weve made some progress on that. But there has still been a drain on the workforce as well as increased demands on them.

Other than if you have individuals, maybe we can send you recruitment notices and you can share those with your communities. We do that through NSPS and we can certainly encourage further dissemination of our recruitment activities. But thats kind of low-level. But I think workforce is primarily the key thing that worries me.

MEMBER SHINGLEDECKER: Just to clarify on that, is it that there arent people coming out that are trained with the skills that you need or is it that the federal government is having a hard time attracting those individuals?

MEMBER BLACKWELL: Its both. I mean there really arent the Ohio State, you know, get a degree in geodesy anymore. I mean the programs basically dont exist as they had 20 years ago. So its more of a broader GIS/geospatial, maybe not as much focused on the surveying side of things.

But geodesy is not something that you necessarily go to school for anymore. Its you learn a lot about it and then you get the experience or you look for an opportunity to develop more of the expertise on geodesy and take specific classes. Its not quite the regimented educational degree as it has been before.

And if you have those skills of science, technical, engineering, math skills there are probably other opportunities that are a little sexier right now to go towards rather than the federal government. But Id say that we are getting some candidates that are not currently federal employees who are applying to these positions. I think that helps me sleep a little bit at night knowing that there are people interested in applying for these jobs.

MEMBER SHINGLEDECKER: To what extent is that related to foreign nationals and basically U.S. citizens who have those skills?

MEMBER BLACKWELL: Oh, there are definitely a lot of folks that are going to school in those areas that we would be able to bring them on board if they were U.S. citizens. But because they are not, we arent able to hire them as federal employees.

I would say some of our contracting workforce is able to make use of folks who are not citizens, but in not the capacity necessarily that we would like to be able to grow and mature our workforce. Yes, its a challenge.

We have visited universities. I think this past year weve had nine different events where weve gone to universities and helped to try to persuade or encourage or do outreach, whatever the right word is, for individuals interested in working with NGS and on different areas of opportunity.

Were also going to be looking more at co-operative institutes, opportunities where there will be projects in research things that we can partner with universities to do and hopefully get more excitement from students completing those things as well as coming to work for us in the future. We do have some other activities in play right now where we hope that well continue to get more enthusiasm for coming to NGS.

Other questions? Gary.

MEMBER JEFFRESS: Juliana, I noticed the list that Mike Aslaksen referred to on Tuesday I think it was of the federal governments rating of observational systems and GPS was number one. I would think OPUS would be part of that system now because of the use of the surveying profession and people who want to have precise positioning obviously use OPUS quite a bit.

I was wondering. Do you do Google Analytics to keep track of the amount of use that it does?

MEMBER BLACKWELL: Yes. We have. We have statistics on the number of downloads of course data as well as the number of users on our CORS, I mean OPUS Solutions. And actually I wrote a note to myself that maybe the next time I can incorporate some of those usage statistics. Youll see we have quite a number of individuals who are using our data.

OPUS is a tool. So its not really an observation system. But certainly the CORS network is an observation system that counts as an observation system and some of the different no-observation things that we report up to and provide. But I can make those statistics available, too. But its definitely in high use.

MEMBER JEFFRESS: Its a tool that has made surveyors a lot more efficient. Theres a huge amount of economic value there.

MEMBER BLACKWELL: And if you said that each OPUS solution is worth $600 or whatever we estimated a few years ago. I mean its in millions of dollars of return on investment for what it costs to run that tool.

MEMBER JEFFRESS: I did see one metric in The Institution of Surveyors New South Wales Division publication last year that when the government shutdown happened their users went up by 5,000 in the AUSPOS software which does the same thing.

MEMBER MILLER: Do you have the resources, planes and sensors and so forth that you need to do the surveys that you need to do?

MEMBER BLACKWELL: We have some.

(Laughter.)

Mike, do you want to stick your neck out on that one?

MR. ASLAKSEN: I would say the answer to that is yes as long as we can keep the technology up to date. There are capacities in the private sector again that think we need to have tens of their planes or aircraft. As long as the private sector keeps up with the technology, I think thats where we leverage our capacity.

MEMBER BLACKWELL: And Ill just add to that. Besides the coastal mapping, the shoreline work, from the GRAV-D perspective we do not have a designated NOAA aircraft for the airborne gravity collection.

We do partner and continue to partner with a number of federal agencies, BLM, NGA, Navy, to pay for but use their aircraft for different projects. And we have been very successful in contracting out. And the data that was collected for SANDI was contracted out to Fugro.

We were able to utilize a number of different of platforms. It may not be the most efficient, but we certainly have worked hard to try to build the level of support from federal and private sector as well as NOAA aircraft to help us accomplish the airborne gravity collection. So were going to continue to work that route. Thank you.

(Applause.)

CHAIR PERKINS: Rich, do you want to provide us a nightmare?

MEMBER EDWING: Yes. So I havent gotten sleep in about 15 years I think because Ive been working on the PORTS funding issue.

(Laughter.)

And its my career goal to get that to a sustainable business model. We were at the brink I think this last year. There were three ports that were I think in financial distress. One was New York/New Jersey. Delaware Bay another very large port didnt have the funding. And then a smaller one in New Haven was in the same situation.

Those all fortunately got resolved. But thats not going to keep happening that way.

I think everybody agrees that it provides a valuable service to the nation. I think last time I looked there is some irony in that. Actually, over 60 percent of the dollars used to establish these systems were federal dollars either through earmarks or supplemental appropriations. Or now most people are going out and getting grants to establish these. Jacksonville was established with a FEMA grant, Port Security grant. And thats about the third or fourth one.

Theres been a lot of investment made. We need to get that investment into a sustainable place. Thats my nightmare.

CHAIR PERKINS: Not an unexpected answer.

MEMBER EDWING: Yes.

CHAIR PERKINS: But thank you. Wed like to ask that we shortened lunch to 30 minutes and do it as a working lunch so that we can maximize our time together.

(Off record comments.)

PARTICIPANT: So do you want to allow for a 30-minute break or go straight into lunch?

CHAIR PERKINS: Go straight into lunch and try to get into the heavy part of deliberations in 30 to 45 minutes from now.

Yes, and we have a couple of presentations that we need to make. So we have two concurrent milestones staring us in the face. One is the retirement of Kathy Watson from her service at NOAA and the other is Mr. Wellslager leaving after two full terms on the panel.

RDML GLANG: We want to recognize Matt Wellslager. Matt, come on up.

(Applause.)

You guys may not know it, but as members of a federal advisory committee, youre taking part in our very tortured democratic process. And thats important because its not just going to the voting poll once every two or four years. Its also taking part in the community level.

In this case, the thing about a FACA is youre taking part in the democratic process that helps inform our federal government. Matt, I want to thank you and I have a short letter I want to read.

Thank you for your leadership and dedication to the National Oceanic and Atmospheric Administrations Hydrographic Services Review Panel. Your seven and a half years of service to the panel are a noteworthy achievement. And your leadership roles during that time as both chair and vice chair are very much appreciated.

The federal advisory committee process which guides our panel is just one mechanism through which citizens who also happen to be technical experts such as you can engage in our nations democratic processes. Your willingness to engage and take an active role in our democracy to make our nations government more effective is an outstanding example of your citizenship.

I wish you well in your future endeavors and hope you continue to advocate for NOAAs mission to support safe navigation, the Marine Transportation System, national security, the economy and the environment.

You can frame that or you could put it under your coffee cup. Thank you, Matt.

(Applause.)

Because as you know we cant re-up Matt. This is it.

MEMBER WELLSLAGER: Im done.

RDML GLANG: With that statute, he has served his term. Thank you very much, Matt.

MEMBER WELLSLAGER: Thank you. I appreciate it.

RDML GLANG: I hope everyone takes a moment to thank Matt. Hopefully, well hear you on some of our upcoming calls. Hopefully, youll be able to join us.

CHAIR PERKINS: Join the groupies.

(Off microphone comments.)

RDML GLANG: I have one more quick presentation before I turn it over to our Chair, Mr. Perkins. In the government, we give out service awards for years of service that federal employees work for us. And I think its five-year increments.

This recognizes -- youre going to love this. This is the alpha and the omega -- 35 years of service in the Government of the United States, Kathy Watson.

(Applause.)

And thats September 3rd. Thank you.

MS. WATSON: Thank you very much.

RDML GLANG: Kathy, this is the panels opportunity to recognize your dedication and your perseverance to keeping me on task and focused and getting ready for these many, many meetings and for working with quite a few panel chairs over the last eight years. Its been eight years, right?

MS. WATSON: Yes, eight and a half.

RDML GLANG: Eight and a half. And I apologize for all the times that you came to me and stuck your head in and said, Admiral, I need to talk to you. And me rolling my eyes at you.

MS. WATSON: Yes.

RDML GLANG: But certainly without your energy and your dedication and enthusiasm, this panel would not be what it is.

MS. WATSON: Thank you.

RDML GLANG: I thank you and I hope all the panel members.

(Applause.)

CHAIR PERKINS: Off the record.

(Whereupon, the above-entitled matter went off the record at 12:08 p.m. and resumed at 12:38 p.m.)

CHAIR PERKINS: All right. We have the results of the travel logistics lunch time exercise. Mr. Kelly and I have got travel at 1700. The rest of you are 1900 or later. So with that, Ed and I will be the first ones to turn our backs and walk out the door.

(Laugher.)

And that will happen because Tiffany tells me if I make her change my flight plans one more time shes going to fire me.

HSRP COMMITTEE DISCUSSIONS AND DELIBERATIONS

CHAIR PERKINS: Weve got really hard work in front of us and a finite amount of time to try and at least get to a point that we can move forward from when were not all sitting here together.

And I also want to be respectful of that fact that 22.5 percent of our panel arent present and able to participate in these deliberations with Lawson and Deborah and David and Carol. With that, I just want to make sure that were clear and transparent. We wont reach a final conclusion today because we want to have the input from the panel members that arent here as well. But I want to have us close to hitting that target as we can and hopefully have some consensus.

Lynne is going to help us get some information on the screen to hopefully keep us focused and thought-provoking. When you have motel disease, you lose your sleep at night over the fleet modernization plan. That was a very clear and understandable message. And thank you for bringing it back to our attention.

RDML GLANG: Just to clarify, I was specifically concerned about our capacity for going to sea up in the Arctic and Alaska. Thats solely dependent on those two ships right now. Maybe better not to bring in the whole fleet modernization.

CHAIR PERKINS: No, I would just guess just referencing the briefing we had from Admiral Glang with the fleet modernization plan.

RDML GLANG: All right.

CHAIR PERKINS: It has been a little while since we talked about that. And Lawson would be glad that we have not gone through three days without talking about the Arctic.

MEMBER KUDRNA: The Great Lakes replacement discussion.

(Laughter.)

CHAIR PERKINS: Who would like to lead the discussion?

MEMBER BARBOR: Not to lead, but maybe set the expectations. How many recommendations would you think you would wish as a panel?

CHAIR PERKINS: Thats great. I think the messaging that weve heard and I think what we have some consensus on is that our list has maybe been too long and not at the right frequency or fidelity. If we came away with three recommendations, if we set a goal of having and trying to keep our priority list that goes forward from this meeting to the three most important items, I think thats good. Im open to a little wiggle room there.

Yes, Ed.

MEMBER KELLY: I think you can always successful if you aim low enough. And I dont know if we want to lock ourselves in before we even start to only three.

So I would say, just my approach and thats me and Im easily overruled, is to throw some of the things on the wall. Then we can see what sticks and what we need to let fall off. Then we can boil it down.

And maybe the answer is one very cogent thing or maybe its five or six. I just feel very uncomfortable saying we have three good ideas. I dont know. We might have fewer. We might have more.

I dont want to open the gate with saying were going to limit ourselves to somewhere between two and five or two and four or something. And thats it.

I think from my perspective I heard a lot of things. And I think we need to maybe get some of the issues on the table -- and again this is just my suggestion -- and then try to refine into either some strategic or tactical approaches as to what we might think. Then we can see what we have and decide where our focus should be for the recommendation itself to ferret out those recommendations from either strategic or tactical points that we can put up on the wall there.

CHAIR PERKINS: Okay. Yes, Joyce.

MEMBER MILLER: And I think we should also take a look at -- Susan did this wonderful chart about whats been talked about previously. And weve heard that theres been a lot of action on some things, good action.

But if they were once again brought up here at this panel like the ENC first and eHydro we might just want to not make that one of our strong recommendations, but just mention those things that were once again brought to our attention as being important in this area.

CHAIR PERKINS: Yes. As a point of clarification I guess I see that were going to produce two different things from this meeting. Were going to produce some clear recommendations and then we will produce a report of the meeting that speaks to that longer list of what we talked about, what we heard. Two different things. There will be a place for everything somewhere.

MEMBER SHINGLEDECKER: I would suggest as were going through this discussion of recommendations to also keep in the back of your mind one other level of engagement and that would be issues that might be worthy of further exploration through working group, things that are clear cut that are recommendations. But then are there other issues that we need to dig deeper on with close consultation with the office directors so that we know that were digging in the areas you would like us to and that would be productive.

MEMBER KELLY: And I would also add that I think its incumbent upon us to produce something that is going to be resident both for the Administrator and to potentially the Congressional people that view this. Id like to make sure that we get something thats going to resonate and have some importance to them as well.

CHAIR PERKINS: Which do we first? Items for working group assignment and consideration first?

MEMBER SHINGLEDECKER: I would just throw the ideas out there and we can keep the brainstorming open and flowing. Then we can prioritize and move around.

CHAIR PERKINS: We have a flip chart and we have a pen and we will have people help write those down. Round robin. Somebody goes first.

MEMBER JEFFRESS: Id like to start off with a suggestion that we really charge NOAA to replace the assets, the fleet assets, that are going to service the Arctic in 10 or 20 years time.

MEMBER MILLER: And I think along with that I would make a broader category of the ill-ability of ships and include what we learned about the difficulties that are happening this year and I know from the past have happened for whatever reasons that ships right now arent available to do surveying because of whatever.

I mean the overall availability of ships has been -- Ive worked on NOAA ships for the past many years. And it has been a continuing issue over many, many years.

And its not something that because OMAO is in charge of it. Its not something that Coast Survey has much control over really. Its a much higher issue within NOAA.

So I think its not just theres not going to be a ship in ten years. There are three ships this year and it sounds like theyve had almost no sea days. That really hurts the productivity. I would make it a broader category to the availability of ships overall including replacement of ships, but also efficient operation of what theyve currently got.

CHAIR PERKINS: I think theyre two completely different items. But its certainly an important item, the number of days at sea. The long-term capital investment plan for new ships and then the short-term operational efficiency and full utilization.

MEMBER SHINGLEDECKER: I dont know if this is within fleet or if this is different but the discussion about the use. This probably isnt the right words, but improving the process for use of UAVs or surface AVs. I dont know if that goes in with technology or if that goes into assets for RN data.

CHAIR PERKINS: Non-traditional platforms. Does that put a wrapper around it?

MEMBER JEFFRESS: We could qualify it.

MEMBER KELLY: In fact as far as the fleet assets go and I did hear the Admirals thing we have a unique and specific requirement for those two vessels up in the Arctic. I think we might want to frame so that we get the most response to this.

There are a couple of sexy items out there. The Arctic is certainly one of them. There is a virtually unlimited economic potential up there. Theres a distinct need. So theres a lot. The Arctic is a hot button. What I think we need to do is maybe couch and break some of these asset requirements into several pieces in order to support and further the economic and national security interests of the Arctic region. NOAA is a key element bump, bump, bump. And we need to ensure that the proper floating assets will be in place to continue the work that has been initiated and will be required in the future.

And that takes care of those two ships up in the Arctic with a hot button, economic and relevant national security relevance to the importance of the data we can develop with those vessels. Thats what people will hear.

If we say we want to buy some more boats, theyre going to hear these guys want some more boats. That doesnt motivate people very well.

I think some of it might be the way we couch and write some of this. What we want to do with those vessels is to ensure that we have the proper floating assets to gather the data necessary to protect and enhance our economic opportunities up there that NOAA is so necessary and crucial to obtaining and developing.

I would kind of write it that way because thats what people are going to be listening to. And it supports that Arctic mission.

The other piece as far as data collection, we might want a group. We could bergadot one or two of those to say that we need to evaluate existing and future potential data collection assets such as -- and then drop it down to the fleet itself, to the boats, the launches, etc., to evaluate the proper ratio of what needs to be internally owned and operated, as to what might be contracted.

The other piece could be as we continue down for shared partnership opportunities and then new and relevant I think such as you said the UAVs or whatever. Id like to break the shallow water thing, shallow water and coastal into a separate piece. That speaks coastal capabilities and it talks to resilience. Again, its a hot button word that people want to hear that somebody is doing.

People are wanting to throw money at the Arctic and theyre willing to throw money at resilience, coastal resilience. And if we can couch and point out how effective and necessary and the professional capabilities of NOAA can be brought, can be best brought, to bear in these areas, that opens the door to preserving, protecting and enhancing that NOAA capability.

I think we can try to break several strategic things like the Arctic and shallow water and coastal data development and then possibly also bring in a couple of tactical things.

Im talking too much for the new guy on the block. Somebodys got to start throwing things at the wall. There are a couple of them that are out there. And I think some of the detailed things that we get to might not be well received is all Im saying. Any time somebody says give me more money. I want to buy more toys, people say ah-ah. And they push that away.

But if you can tie that into economic development or national resiliency or national security issues up in the Arctic area, theyre very responsive articles. I think people will respond to that and say "Yes, we want to do that stuff. Now tell me again. What is it that you need?"

MEMBER MILLER: I would just like to suggest that we keep this in mind as were doing this. This was Dr. Callenders. I dont know if we want to put it up on the screen or something. But we need to focus on that.

The other thing, just in response to Ed, the availability of ships is -- if Im not incorrect -- those are both Arctic ships or those are both Alaska survey ships that you were talking about.

RDML GLANG: Yes, they are. Ice-strength.

MEMBER MILLER: So the two ships that didnt get many sea days this year are Arctic assets.

VICE-CHAIR HANSON: If I could on the planning piece there, I want to -- I wouldnt make the changes. I just want to throw this out here and see what other people think.

I really think preparing that list of survey ready projects and capability or whatever you want to call it needs to go first before you start talking about any assets. The question you would get asked and as Ed was alluding to is why do you need any ships. What are we doing this for?

We have a good answer I think. But you have to go through the progression if youre going to develop the plan, a strategic plan. And I think as part of that discussion also you need to mention the word private or industry capability as well. Whether you truly understand current industry capability or how youre going to attract private industry investment to get the assets youre going to need to accomplish the goals of the most wanted plan.

Were behind in terms of the acquisition. Youre going to catch up. Part of that is with no assets. A lot of that is going to have to be non no assets. So how are you going to track that investment?

Youve got to have work for people to do. Youve got to have something thats consistent. And thats part of good management of trying to accomplish those survey-ready projects. I think the word industry or private is going to need to be part of that discussion as well to be an honest evaluation.

CHAIR PERKINS: Yes Lynne.

MS. MERSFELDER-LEWIS: Where would you put that?

VICE-CHAIR HANSON: My thought is just to put the planning cycle. Im sorry. Go down farther. You have the survey ready. I would put that part first. Prepared server ready or survey ready project lists. And it sounds daunting. I will tell you when we did the Corps with it six years ago it took them almost eight months to develop a list. And the reason it took them so long to develop a list of what they would do if they had all the money and they needed to do what theyd been asked to do is the response that we got. And its true.

But theres a whole generation of people in the Corps of Engineers that have never been asked that question. They were used to earmarks. They were used to getting 20 percent of what they asked for or half of what they got. Theyd never been asked if you get all the money what are you going to do with it.

Dont look at that as an impediment. It can take some time. But it becomes the basis for every appropriation request you get in the future.

MEMBER KUDRNA: I may not have the right words for this, but let me give you the concept. Ken, Ed and I all have a little discussion of this. It seems out of this meeting there was a message regarding the PORTS and their ability to fund their expansion regarding the Corps of Engineers lack of budget to do dredging activities. The issue of U.S. infrastructure investment is a major issue and encompasses both of those topics and other topics and has relationships obviously to NOAA because NOAA would be providing the support for much of that.

I look at the recommendations as what would we really like the Secretary to do. And one thing might be to engage in a dialogue with the Secretary of Commerce about a U.S. infrastructure investment program. Thats something that I think would relate to those issues that were expressed by this and other PORT districts and the Corps of Engineers in terms of their drinking activity and the support associated with it. I think that would be -- I dont have the exact words crafted -- a topic that would be a logical thing to physically ask the Secretary to deal with.

VICE-CHAIR HANSON: I dont think that would be anything new to her. At the same time, I think she needs to hear what it means to us. And you start off with thank you for all youve done to advocate. We know youre going to continue to do this in the future. As a result, youre going to see our nation be better prepared to grow the National Export Initiative, Coastal Resilience and all those issues. It could be a fairly short conversation and be also very powerful.

DR. BRADLEY: Ill throw out there for awareness. Its a really big issue, Frank. Within the CMTS, there is a working group called Infrastructure Investment Integrated Action Team. So they are talking about some of these issues. Its part of the mid-level staff to really get into the meat of it especially with the funding situation that were in. I think thats part of the goal for that principals meeting that I talked about for next month is to try to tee up some of those issues at a high level so that within us middle-of-the-road folks can figure how exactly we can help with some of these things.

MEMBER KUDRNA: But I think if you support the independent Federal Advisory Committee its probably the same thing. Theres a need for something like that.

DR. BRADLEY: Yes.

MEMBER WELLSLAGER: Scott, Id like to build on what Frank was just saying especially about the Corps of Engineers. It might be good in a recommendation that the NOAA leadership, albeit Dr. Sullivan or higher up, reinforce to the Corps of Engineers leadership the critical importance of the hydro project.

Theres a lot of work thats being done now and that could be brought in to the NOAA charting. And it would really benefit us with what needs to be done. And it could continue the development of that eHydro.

I think we should really think about doing something like that. And it follows along the same path of what you all were talking about before. Its a thought.

MEMBER MILLER: One of the items from this list or two of the items, what opportunities might exist for a new business model, e.g. PORTS? Are there opportunities for partnerships? In terms of eHydro is one of them, Army Corps.

Im just wondering at what level we want to do that. The partnership thing, eHydro PORTS, there was a recommendation from Alaska about better partnering and so forth. Do we want to include some element of that partnering new business models in that that was a list?

MEMBER WELLSLAGER: Are we talking about service level agreements or memorandum of understanding?

MEMBER MILLER: We also heard today about the prescribed mission assignments not happening. Its not just eHydro. Its a broad issue. There are many items with Army Corps in particular. But I think its a broad issue of effectuating. Wasnt that it?

(Laughter.)

But making the partnerships. He was talking about new partnerships. But making the partnerships that exist in fact in some way more functional and sort of facilitating partnership on NOAA wide level as opposed to every little project having them. Im just trying to put in some of what we were asked to answer.

CHAIR PERKINS: These feel to me like they are elements of a strategy and not a strategy onto itself and if we can focus on that larger. Weve been told a couple of times we dont need to tell them how to do it. We need to help advise them on what to do. And were a very technical and analytical group here. But I think if we can try to -- I dont think weve got to get so deep into some of this in order to focus on the bigger message.

MEMBER SHINGLEDECKER: I could see a broad level recommendation on looking to make partnerships more effective and then providing a couple examples of in our discussions we heard two examples in partnering with FEMA. The prescriptive mission assignment and helping to make that happen is one example of how that partnership between the agencies might be made more effective and then with Army Corps and eHydro. So its still high level recommendation with a couple of examples how we came to that.

MEMBER WELLSLAGER: But its also high level enough that youre not telling them what to do. Its just prescribing this is a possibility for consideration. These are legacy things that were looking at trying to create now.

CHAIR PERKINS: Partnerships beyond government to government I think are important.

MEMBER SHINGLEDECKER: If you want to look at partnerships, looking at my list of things, I have explore ways to facilitate data transfer for broader use. And I wont tell anybody how to do anything more than that. But the data from industry, I thought that the comments that Jason made at the end of yesterday were great comments of looking at the wind industry and their data and a number of different data sources and just finding a way to use that data whether its an authoritative dataset. Great. Sounds like we know what to do with that. If its a non-authoritative or a subpar dataset finding another way to use that whether its like active captain or something else.

RDML GLANG: Can I just offer an observation, Scott?

CHAIR PERKINS: You absolutely can offer.

RDML GLANG: We were talking about the interagency partnerships and how the panel might support that. I think in the case of the FEMA PSMAs, what we described to you whats going on there, and in the case of the Army Corps partnership, certainly the Army Corps partnership works at the working level and were making progress.

But if we turn it around and we say what are the impediments to these to fully actualizing these partnerships in the FEMA case were sort of wrapped up in interpretative legalese. In the Army Corps case at the high level, one of the impediments is the ability for NOAA to receive funds from the Army Corps. And this comes up again and again. But my personal sense is that NOS doesnt have the stamina to engage alone on this.

While we hear you about engaging in partnerships, both interagency and external, we do run into these impediments, these roadblocks, along the way. And Im not sure those necessarily reach the ears of the Administrator. Should they?

It would be nice to get a little sympathy from up there something. These partnerships arent that straightforward. Just an observation. Turn it around a little bit.

MEMBER MILLER: And PORTS is another partnership, defining partnerships, and making them work and making money flow back and forth in terms of how to fund those. Its a very similar thing.

I mean the PORTS thing, there are partnerships all over the place with PORTS and universities and so forth. But whats the problem with it? Its funding. Its getting funding to support that.

MEMBER KUDRNA: Not always. You made a very good point, Admiral. In terms of partnerships, if you guys could do it, you would do it if its within your level of relationship.

But there are cases as the two you just cited that would need to be worked out at a higher level. And that may be something we need to make a recommendation on because thats something if wed elevate an issue to Secretary level, the Secretary could pick up a phone and talk to the Corps and talk to HUD. And we could give a couple of examples of items and might be able to resolve that partnership issue that is a good idea.

RDML GLANG: The ability to take Army Corps money is at the Commerce level because thats where our legal support comes from. But if the Administrator of NOAA were to say make it so, they would figure out how to make it so.

MEMBER KUDRNA: Yes. Right. And thats what Im suggesting. Maybe our recommendation is an action by the Administrator and to cite a couple examples of where that would be helpful in terms of partnerships, the HUD and the Corps.

MEMBER MILLER: I think its almost any other Federal agency that NOAA is not able to take money from. And theres very little cross funding in NOAA. I mean they had trouble taking the money from DoD. I think its a very high level issue, the difficulty of getting funding in those partnerships.

MS. MERSFELDER-LEWIS: DOI can readily and easily give NOAA money. Its Army Corps of Engineers and DoD combined mechanism.

CHAIR PERKINS: FEMA falls under DHS. Are we saying our problem lies with DHS and DoD?

DR. BRADLEY: Scott, can I promise you to get you guys a written summary of the funding agreement struggles I guess with Army Corps in particular because I think that has been a challenge? Thats been an issue that Ive been made aware of in the past. And my understanding is that we can establish funding agreements with Army Corps.

But it takes a long time to go through. It might take nine months to get it through. By then, its too late to do the work. Or its just not time effective and its not a NOAA problem as far as I know. Its a Department of Commerce problem, something about the legal review.

But I dont know enough about it. But I know just that little bit. Im happy to look into it and provide some more information. Im not familiar with how we do other agreements with other agencies either. So I can do a little bit of research into that as well if you guys want to learn more before you put anything in the letter.

MEMBER MILLER: We could craft a statement. You could get us information and we could decide whether that made sense or not.

DR. BRADLEY: Sure.

MEMBER JEFFRESS: Arent there examples where NOAA does accept funds from other agencies like the FAA for airport mapping?

MEMBER BLACKWELL: Yes.

MR. ASLAKSEN: Painfully so.

MEMBER BLACKWELL: There are positive examples of how it does work. I mean we again for GRAV-D weve got agreements where there is transfer of funds even with USGS, BLM. Again, those are Interior. But Naval Research Labs, thats a little bit different.

Each one of them is unique though. I think weve done it with Army Corps. But I think weve had some success, but I dont know if its recent success.

MR. ASLAKSEN: Before we had contracts with the Corps contracting for some the mapping we did at NGS. I mean it can be done. It just takes time. You have to put effort to it.

Point of example, Coastal Services Center here in Charleston takes a lot of money from the states to do mapping. But they have a whole team that works on those agreements and keeps them alive and works with the attorneys in order to care and feed them. And when theyre due to expire, they work on that a year after to renew that agreement to keep it going.

It take resources. Unfortunately, we all have lots of jobs we do. But that one could take awhile.

MEMBER BLACKWELL: Yes, and with FAA and our state partnerships for the cost share for state advisory program, I mean we have a number of agreements with funds associated with them. And, as Mike said, you just have to plan for it take a long time.

CHAIR PERKINS: I guess Ill try to circle that back. Again, wouldnt this be an element of a national mapping strategy that one piece of our national mapping strategy would be to have the appropriate agency to agency data share, cost share agreements fully in place to facilitate a better use of the limited available funds? Lynne, if you could put that as a bullet point under our national mapping strategy that were working to crack.

MEMBER SHINGLEDECKER: This is just a question of clarification for Mike. On the strategy, it sounded to me like the strategy is completed and Margaret was saying that we didnt have a national mapping program.

MEMBER ARMSTRONG: Yes, thats what I heard, too.

MR. ASLAKSEN: Well, its getting to this whole issue of money and sharing. And that is an example in my mind where we have overlapping areas of interest between agencies, maybe different requirements from a mapping standpoint. But the approach has been to come in with common standards and fund those agencies to complete those missions separately with the same kind of requirements of collection of the data so we can have multi-use of that data.

That will work for the strategy that I pointed to that Margaret didnt see that exists is that weve agreed on data standards to collect that data. It might be more time, more processing, whatever. But at the end of the day we have multi opportunities that youre feeding other agencys requirements.

Whether theyre funded to do it or not, thats another issue, too. Its that when we go out and collect data were collecting to make sure we know the Corps standards and visa versa.

But then there are other users out there like Im looking at the Florida Keys right now, the Fish and Wild Service has not put a dime into this collection. But theyre going to get use of this data.

I dont know if this answered your question. But I was just thinking about it as well. Even that approach with National Elevation Program and some of the things were talking about there, were talking about joint list with the GS and NOAA and other individuals. Its more of an agreement that this is the standard. Well collect according to those standards and lets coordinate and well reply.

Ashley Traver was working on that and has been working on a joint budget initiative for both Interior and Corps. Hell probably talk about the OMB looks at that. He had an opportunity at OMB to find it even though were not in the same place as Margaret said as the rest of the science agencies. Hes talking about the GS and NOAA. His request.

CHAIR PERKINS: Yes, Andy.

MEMBER ARMSTRONG: What Ed resonated with me and I think were starting to wander away from that again, too. I liked his idea of picking the key overarching themes. I think one he said was the Arctic and the other was sort of shallow water and connection with resilience and then putting some for instances under that, but focusing on a major piece. For the Arctic, a major piece would be the Arctic ships.

And for resilience the major piece would be the shallow water bathymetry. And under shallow water bathymetry, you might start ticking off look at crowd sourcing, look at new technology, look at industry partnerships, look at state partnerships. And have maybe three of those key themes.

Another one might be the need to deliver services for a modern marine industry, for example, to solving the Admirals problem of giving our ENCs perfected for the ECDIS system. I think theres a vision for that. But theres still a lot of work to do for those things, for example. I would just like to bring us back to that.

CHAIR PERKINS: Any thoughts?

MEMBER MILLER: Where would you put PORTS under those, Andy?

MEMBER BARBOR: At the top.

(Laughter.)

MEMBER ARMSTRONG: Well, I would put PORTS and services and products for a modern marine industry, for example.

MEMBER SHINGLEDECKER: I was looking at my notes and I mirror what you were saying. Attention to Arctic fleet capabilities, shallow water data resilience category. Then I had a U.S. infrastructure investment category which we talked about earlier. PORTS would definitely fall under that. And then some of the support for the higher level partnerships and overcoming some of those barriers there.

I have it down to four. Then we can build under each of those four to get some of the more specific examples in.

MEMBER KUDRNA: I would add. This letter is going to the Secretary. One of the questions might be with the recommendation whats a reasonable expectation of what youd want the Secretary to do with that item. It might be contact the Secretary of Commerce or make this call to this agency or consider increasing budget priority for XYZ.

And there are some topics that were talking about that we all agree with that are within the domain of the Admiral and the staff to consider and look into. There might be some elements that are included in recommendations with the kinds of actions youd expect from the Secretary and some others that might be internally within the staff of the Admiral and your domain.

MEMBER BLACKWELL: Question. Do you mean the Administrator and not the Secretary?

MEMBER KUDRNA: I mean the Administrator, yes.

CHAIR PERKINS: Im looking to the left side of the room. You guys have an opportunity and a role to help with this process. Were all in this room together, right, with a common mission.

But if we said we were going to try to identify the major themes, were in agreement that the Arctic is a major theme, right?

Because weve got to move the ball down the field a little ways today.

MEMBER ARMSTRONG: I think the recommendation for the Arctic, there is maybe not so many under that one. Its just make sure that the floating assets are there.

CHAIR PERKINS: Yes. And maybe its as simple as saying capability of the survey.

MEMBER ARMSTRONG: Im not a real stranger to the Hill. I find that words -- You get a very limited amount of time and you have to have a real focus. I think the Arctic and the shallow water on coastal are very thematic that have economic relevance to the nation and security issues. You also bring in the fact in both of those areas the research that NOAA is most capable of doing is going to generate protection of lives and the generation of dollars. People like to hear those.

But its true. In this case, its true. So we should say that. People listen to that. They respond to that. And I think in our proposals or our recommendations weve got to stress why we want to do this.

I think again partnerships are going to be necessary. And I think we broad-brush that that there are partnerships that need to be developed and perhaps later down bring in that we need to have a Naval fund transfers with the partnerships. So there are things like that.

CHAIR PERKINS: Right. I think weve got to get to what youre speaking to, Ed. But I think weve got to get the themes first. And then we build the case and the support and that detail comes second.

MEMBER FIELDS: But between the two topics that Andy just spoke of and the four --

MEMBER SHINGLEDECKER: Two of them overlap.

MEMBER FIELDS: Okay. Then why wouldnt those four be the major areas that we fill in under?

CHAIR PERKINS: I think thats great. Can we get those four things up on the screen to make sure were clear and then we start building on them?

MEMBER SHINGLEDECKER: I had Arctic however you want to call that. I had shallow water data or resilience, some combination of those two.

MEMBER MILLER: Can we get a new page maybe? Then we can transfer stuff over.

CHAIR PERKINS: It may be easier just to do it on the flip chart, Mike. I think youre headed in the right direction.

MEMBER SHINGLEDECKER: The third one I had was kind of a high level U.S. infrastructure investment. And that might include port deepening, PORTS maintenance, Corps dredging, although I dont know how we -- Im sure the NOAA Administrator agrees thats somebody elses money, not mine. And coastal resilience also falls under that, too, to some extent.

And then the fourth one I had was about partnerships. I have here higher level action to facilitate interagency partnerships, especially the transfer of funds.

Three was --

CHAIR PERKINS: Infrastructure.

MEMBER SHINGLEDECKER: U.S. infrastructure investment.

MEMBER ARMSTRONG: But I do think we need to get fairly quickly to some specific asks, right.

CHAIR PERKINS: Yes, I agree.

MEMBER ARMSTRONG: U.S. infrastructure development is one of these things that can go on and on and on, right.

MEMBER MILLER: We need to narrow it down to just what it is were --

MEMBER ARMSTRONG: Right. Thats the wrapper word.

MEMBER MILLER: Yes.

CHAIR PERKINS: Is four -- I mean four is a long enough list in my mind. But is everybody in agreement that this?

MEMBER WELLSLAGER: Four is money.

MEMBER SHINGLEDECKER: Were actually going to get more specific underneath there.

CHAIR PERKINS: If I were the auctioneer I heard five. Going once, going once, going once. Great.

MEMBER WELLSLAGER: Sold on four.

CHAIR PERKINS: Can we break into four groups and each of us come up with 25 words? Im just throwing it out as a concept. But three of you take item number one and three of you take item number two. And lets try to come up with a short 25 word statement what that means. And then 15 minutes from now well have 100 words. And well be making progress.

MEMBER JEFFRESS: What if we get Ed to write the initial paragraph?

CHAIR PERKINS: On each one.

MEMBER JEFFRESS: No. The very first paragraph.

MEMBER KELLY: I thought what Ed said was brilliant.

MEMBER JEFFRESS: Yes, I did too. But I didnt catch it all.

MEMBER KELLY: I just talked. I dont know what I said.

(Laughter.)

Maybe somebody else wrote it down.

CHAIR PERKINS: Yes, run the replay button.

Maybe the court reporter can read it back.

MEMBER KELLY: We can get the opening paragraph. I dont know. We can sit down and write something out very quickly.

CHAIR PERKINS: So maybe 25 words.

MEMBER KELLY: NOAA is capable of producing data and their excellence of service that can result in the economic development on national security and the promotion of safety of life and increase in economic activity and key areas of that would be applied to -- drop down -- the Arctic to support that, for the shallow water and certainly coastal and we had the infrastructure development and investment which I think is very, very broad and you have to be careful with that being trampling into highways and bridges and tunnels, etc.

But I think we can certainly make some introductory thing that will pull us into that area where we can then set up each of those.

CHAIR PERKINS: I have no doubt we can write the appropriate introduction to it. Its making sure we have agreement of what the bullet points under these headings need to be.

MEMBER MILLER: Actually, on one of the things I just realized is that we havent acknowledged what Bill has been advocating about shovel-ready projects. And I feel thats more pertinent. It may go under U.S. infrastructure. It may go under shallow water bathy.

But I think Bills point was an important one about a plan for shovel-ready projects.

MEMBER KELLY: I agree with that and I think perhaps we can make it broadest based by making a point at the bottom that it's incumbent, we believe it's incumbent upon NOS to develop shovel-ready. Although when were dealing with water, I hate to try to do it with a shovel. Develop shovel-ready projects.

(Simultaneous speaking.)

Whatever. Or action-ready or actionable projects to support and develop each of the aforementioned initiatives. Then that covers everything, whether thats Arctic or this or that.

MEMBER KUDRNA: We have four topics. Why dont four people volunteer to be lead drafters? Other people can provide some input into them. Well do this. Since we have 45 minutes left before were supposed to start wrapping up we could talk about some of these other topics, too and get that input into you for a draft.

CHAIR PERKINS: In to Lynne to circulate back.

MEMBER KUDRNA: That would be fine.

CHAIR PERKINS: I dont want to be the weak link in the chain.

MS. MERSFELDER-LEWIS: As youre discussing, is this something that we can either put it in the bin to forward to the working groups to discuss or put it in the bin to ask it for a topic for the next meeting or ask it to HSRP to organize a webinar or whatever you want to forward that to? Sorry.

MEMBER KUDRNA: Ill volunteer for the U.S. infrastructure.

CHAIR PERKINS: Okay. Anybody else? Thank you, Frank.

MEMBER SHINGLEDECKER: Ill do shallow water.

CHAIR PERKINS: Thank you, Susan.

MEMBER SHINGLEDECKER: Because thats where my boats are.

(Laughter.)

(Simultaneous speaking.)

MEMBER MILLER: Ill do Arctic.

CHAIR PERKINS: Great.

MEMBER MILLER: Frank is doing U.S. infrastructure.

CHAIR PERKINS: Yes. Theres a blank sheet of paper on the wall that will be appropriately titled with each of those four.

MEMBER SHINGLEDECKER: I think Franks suggestion was that we volunteer to take that on. Well take that home with us.

MEMBER KUDRNA: And then well deliver.

MEMBER SHINGLEDECKER: Then we can move on and discuss some of the other things on the agenda.

CHAIR PERKINS: Now I have clarity where were going with this.

MEMBER KELLY: Mr. Chairman, if we have agreement on a topic, the verbiage should just be pretty easy to follow. Its a matter of word-crafting. I dont think wed spend a lot of time on that. And if we each agree to be the tip of the spear or the initial author of some comments on each of these we can circulate it to the rest of the committee to meat it up a little bit and then bring it back for consensus.

CHAIR PERKINS: Okay.

MEMBER KELLY: I know you and I are out of here. Im not changing my flight.

(Laughter.)

Come 2:30 p.m. my glass slippers fall off and Im on the way home.

CHAIR PERKINS: Go ahead.

MEMBER FIELDS: When the letter goes forward, I realize that this is going to be done offline. But when the letter goes forward, one of the other things that I heard very clearly from the one panel, the gentleman about the right whales. I think thats something that we should put into our letter not for them to take care of as far as this panel is concerned. But the panel has heard this. Theyve done enough research on it and so forth. That is an issue that needs to be looked at. I think that gentleman deserves to have some response back from NOAA.

CHAIR PERKINS: We need to pass that baton up to the Administrator to deal with.

MEMBER ARMSTRONG: Pass without comments.

MEMBER FIELDS: I think that needs to be in the letter that we send off.

CHAIR PERKINS: Yes. I agree. Thank you for letting us not forget that. Great. So weve got themes. Weve got leaders for the themes. So we can take that offline. We have location. We had a discussion on location at our next meeting on this list.

Frank, what else did you want to make sure we talk about? And we have working groups.

MEMBER KUDRNA: Susan and I were talking about the discussion was partnering with another organization as the IOOS FACA or the IOOS Association. I have a call in and theyve scheduled a conference call with Admiral Lautenbacher who is the new chair of IOOS for next week. Well see if their dates for -- Were talking about a February-ish or one similar to this time next year. If one of those match with one of those organizations, then we would report that back to you from our planning committee. But were waiting for that answer in that regard to feed back to you.

CHAIR PERKINS: Okay. Great.

MEMBER KUDRNA: I do have a suggestion concerning working groups and Ill put this on the table for a thought. I think we should initiate working groups. Its a chance to work on topics and bring them forward to the full board.

My suggestion is that working groups consist of three panel members and three outside members. And that group would communicate by conference calls and emails and develop a response within a year and then give a subsequent report at the intermediate meeting.

There are three topics I would put on the table. We already have a working group for reauthorization. I think that should be warmed up and brought forward. We discussed the topic of whether we want to suggest a report in the future or something like that. Let this group talk about that.

I think we should have a working group for the topic of engagement. And engagement I would suggest to you that committee take a look at the science advisory boards, report on engagement and also look at the previous ten most wanted list and see what kind of recommendations concerning engagement theyd want to bring forward to the group as a whole.

And the third working group Id suggest would be capital replacement that would deal with looking further into the ship and other equipment replacement needed and alternate technologies as a possibility on the capital side.

I would put those on the table. Certainly there are more. But those would be activities that could engage part of the panel offline with some outside folks to move some topics forward.

MS. WATSON: Scott.

CHAIR PERKINS: Yes.

MS. WATSON: Excuse me. One question. Theres a memo. I need to go back next week and dig it out for you regarding outside experts serving on the working groups. There was a direction that came from general counsel on that. So I do need to check on that for you.

CHAIR PERKINS: All right.

MEMBER SHINGLEDECKER: I would just add on the topic of working groups that having been on the HSIA reauthorization working group, Im not signing up for that one next time. Ill just put it that way.

I think Joyce and I did a fair amount of work on it and listening to Pauls presentation that things stay unauthorized for a long time and when something is coming up and its about to expire, it looks like some work goes in to try and to show something is happening. But once its been expired for a while, it doesnt seem to be that urgent.

Id rather personally we spend our time doing things that are really going to have movement and that the Tri-Office Directors feel this is filling a gap or this is helping you somehow.

I certainly heard your third recommendation. Someone mentioned earlier to look at the resources for data acquisition. The fleet, the new technology and then the issue of capabilities in the private sector versus the public sector and what capabilities are out there. I think that would be a sizable amount of work for someone to do.

I think one of our original working groups that hasnt fully realized its value I think it was called program improvements, but PORTS fell under that. I think PORTS could be a whole working group. Maybe Darren already has it, but all the PORTS systems that are out there, the different funding models and maybe starting to delve more into that and what possible areas for innovation and funding and creativity there could happen.

Those are the two that stand out to me. But Im sure theres another one. But on policy, I dont know.

CHAIR PERKINS: I dont think calling it reauthorization is the best heading for it. What we heard in the briefing was the massive potential change that could happen to this organization that we serve if the Map It Once Use It Many legislation were to get legs and move forward.

The concept of these services being moved over to Department of Interior and administered under different budget line items, I dont think that we want to turn a blind eye to that and do an ostrich effect on it. So reauthorizations I think whatever we called it before might be better.

I think theres a place if the panel agrees for us to speak to the Administrator that were aware of that legislation and we have an opinion on it. Were the smart people that advise her. If we think that looks like good government we should speak. And if we think that doesnt look like good government and the right thing to do, that should be our message.

But thats a threat to what we have known as hydrographic services. I shouldnt say a threat. Thats definitely a change.

MEMBER SHINGLEDECKER: I guess I think its a good topic and a topic we should be engaged on. But under the definition of working group, what work would need to be done to further advance that topic by us? Thats not clear to me.

MEMBER MILLER: I mean one of the things we did think of in that the bill is already in was what changes would we recommend to the HSIA? And we had done a certain amount of work, you know, studying the legislation and studying associated acts.

But basically Pauls advice of its not there, dont bother with it, maybe we shouldnt have taken it. I dont know.

CHAIR PERKINS: I think its always good to be prepared to have that type of advice ready to provide in the event that a piece of legislation like that goes forward. So as an advisory panel if we had recommendations that we think would be beneficial in the event that HSIA were to move forward, they may sit on the shelf for a long time. But they dont have an expiration date on them.

I mean if our recommendation is HSIA is to have some wording in there that solves the PORTS problem and have it ready to go and have a panel endorsement behind it, thats a beneficial thing to have in our back pocket and be ready when the time comes. Its a very long-term objective.

MEMBER JEFFRESS: Scott, remind me if NGA was included in that. Was it? Was it also an intention of that act to include NGA in that group of agencies?

CHAIR PERKINS: I havent, and unfortunately Paul left, looked at any of the current wording for the Map It Once Use It Many. I had awareness when I had a role in it in a different association. And I havent had a dog in the fight for a couple years on that.

There are good intentions. Right. Theres very good intentions.

MEMBER MILLER: I would think since NGA is I believe a DoD group.

MEMBER JEFFRESS: Definitely.

MEMBER MILLER: I would be very, very doubtful. You have much more experience at that than I do. But I would say I dont think theres a snowballs chance in hell that it would be NGA.

CHAIR PERKINS: Well, DoD is a big animal. I mean thats Navy, thats Marine Corps, thats Army Corps.

MEMBER MILLER: But NGA is the agency that handles the data of NAVOCEANO for instance.

MR. ASLAKSEN: The bulk of NGA is intelligence. The bulk of the money 70 percent of it is IC money. The rest of it is DoD money.

MEMBER MILLER: I was on that committee. I would take it on to review the acts that Paul talked about. I think we should all know what those acts are for sure.

CHAIR PERKINS: Yes, I dont think we want to disband that working group is really.

MEMBER MILLER: Ill stay with it. I was on it and I will go back into the acts he talked about and just become familiar with them. Whether theres anything we have to do, I mean it may just be an awareness function.

Or if I see something that carries a big flag, Ill report out. Im one of the ones that my term ends.

CHAIR PERKINS: Id really like the suggestion of three plus three for the working groups to have a mechanism. There are a lot of people that have applied for seats on this panel that havent been selected that have a sincere interest in what we do here. If we can get an answer on can we reach outside soon and if we can execute some outreach to the people that have expressed prior interest in the HSRP in serving in this capacity, I think that should be our first round of recruits for seats on our working groups.

MEMBER KUDRNA: Scott, what I suggest here is I mean we're not going to meet for another six months. So if we like a working group whether it's an existing or a new one, I think we ought to indicate that now and maybe get some volunteers from the panel, charge you and with consultation with the Admiral and consistent with the policy of outside participants to be able to name some outside folks to fill out the group and get them rolling before the next meeting.

MEMBER MILLER: So are the working groups going to stay the same pretty much?

CHAIR PERKINS: We have three working groups approved. Right, Kathy?

MS. WATSON: I'm sorry.

CHAIR PERKINS: We have three working groups approved.

MS. WATSON: Yes.

CHAIR PERKINS: So we need to stay within that initial framework or our task needs to be establish a new working group. That is the process.

MEMBER MILLER: There would be a reauthorization group under policy. That would be broader than just the HSIA.

MS. WATSON: The outside experts still have specific issues.

MEMBER SHINGLEDECKER: I think the topic names of the three were policy, program improvement and Arctic. So the only one that seems ‑‑ I'm not saying that Arctic should go away because Lawson is not here. But it seemed the other topic that wouldn't really fall under any of those would be looking at the broader resources, the fleet, new technology and contract internal and external resources. I don't know where that one would fit.

MEMBER MILLER: Well, maybe program improvement would work.

MEMBER SHINGLEDECKER: Maybe program improvement has two subcommittees. Maybe can it have two subgroups instead of a new group, one to look at PORTS and one to look at resources?

CHAIR PERKINS: And the titles we can work within this framework. The titles of the three approved working groups are legislative and the policy initiatives, strategic mission centered effectiveness and emerging Arctic priorities.

MEMBER MILLER: But I mean could some of the new members join those committees. For instance, I suspect someone walking in the room right now might be interested in the PORTS committee.

MEMBER KELLY: It's fully funded now, right?

(Laughter.)

MS. MERSFELDER‑LEWIS: Scott, could you repeat that? I want to capture those three that you said.

MEMBER KUDRNA: I would offer the difference between some of the other FACA working committees is some of those others were really long‑term and had face‑to‑face meetings and everything on it.

What we're contemplating here is kind of on the cheap. It's going to be a few phone calls and I assume someone would be assigned from the staff as being the liaison of the working committee.

And you would have a half a dozen people who would have some discussions and dialogues and a few emails and come back to us with some action. So it would be relatively non‑burdensome to the agency.

RDML GLANG: That would be great. We can support that.

MEMBER KUDRNA: Let me say. I feel pretty strongly. I'd like to see a new one for engagement that would talk about how we communicate the message, how we communicate a need, that would look at products or things like that. I think there's a real need for that. I'd suggest a new working committee for that topic.

MEMBER SHINGLEDECKER: I would agree with that. I don't know what the hoops are to establish another one.

CHAIR PERKINS: We put in a request and it took 60 days to go through the cycle. We had approval on the three working groups relatively quickly when we went through this before. So I think that's okay.

Anyone in opposition? Anyone feel that that's a bad idea?

(No verbal response.)

Okay. Great. So we'll get that. That can be a separate letter from our report, correct, procedurally?

RDML GLANG: Yes. That's right.

CHAIR PERKINS: So we can fast‑track that.

RDML GLANG: We can fast‑track it. It will get sent up to Dr. Sullivan.

CHAIR PERKINS: Yes. We don't have to wait for our wordsmithing and everything else to get it.

RDML GLANG: That's correct. I would ask though that we put together maybe a short paragraph on what the scope of the working group is if they have a particular thing they want to focus on to help ourselves. I think that would be helpful so we remember what that was about.

MS. WATSON: Scott, I'm presuming you'd want an outreach working group. Is that kind of what you want?

RDML GLANG: I think engagement was the word that was used.

MEMBER SHINGLEDECKER: Yes, engagement would cover outreach.

MS. WATSON: Okay.

CHAIR PERKINS: Do we need to talk about the members of these working groups while we're here and try to get some names associated with those?

MEMBER SHINGLEDECKER: I volunteer for engagement outreach.

CHAIR PERKINS: Okay. Thank you.

MEMBER MILLER: I'll stay with the policy.

MEMBER FIELDS: I'll work with Joyce on the legislative.

MEMBER MILLER: Legislative and policy. That would be great, Eveline.

MEMBER KELLY: Darren and I doing work on PORTS.

RDML GLANG: Kyle, could you just take a blank piece of paper and just jot down by hand those working groups and then we'll just pass that note around. We can really quickly capture those. Because our scribe is parallel processing.

MEMBER MILLER: Lynne, I was on legislative and policy initiative with Eveline.

MEMBER FIELDS: Don't worry about it, Lynne. We'll get in and send it around. It will come around to you in a few minutes.

MEMBER SHINGLEDECKER: I just have to ask. We were just discussing over here. So the concept of the group to look at resources for data acquisition, fleet, new technology, where does that fall?

MEMBER BARBOR: Strategic mission center of effectiveness.

MEMBER SHINGLEDECKER: So that group is looking at that and PORTS.

MEMBER BARBOR: If PORTS is strategic.

MEMBER SHINGLEDECKER: Oh, they just got a big mission. They might need a couple of extra people.

MEMBER KELLY: They need somebody that understands the science.

MEMBER SHINGLEDECKER: That's a broad mission.

MEMBER KELLY: My degree was in maritime transportation and nautical. I need some scientists if that's going to lump together with PORTS.

MEMBER BARBOR: I'll do the strategic mission.

MEMBER KELLY: Lawson will be the lone on Arctic.

CHAIR PERKINS: I will work with Lawson on Arctic. I've given him my commitment that we would not go through this meeting without discussing it and giving it some attention. I'm the guy for the cold water up north.

MEMBER MILLER: There's also four other committee members that aren't here. So we should send an email out to them and say, "Okay. We've established a new working group. These are the working groups that currently exist. Which one would you like to serve on?" And not "Would you like to serve on?"

CHAIR PERKINS: Next meeting. So we have some time left. And unless there is something else the panel would rather discuss realizing this time to build consensus towards next meeting.

MEMBER MILLER: One thing, I mean I'm pretty much ‑‑ I would be happy to go either way. But one thing I did think of was in light of emerging technologies and being aware of state of the art things being able to attend the hydro meeting would be valuable for people that would understand.

That's really where a lot of the new technologies are discussed I believe. At least, I haven't been to a hydro meeting in a while. But that's what I recall.

Andy, would you agree? Is a lot of the ‑‑

MEMBER ARMSTRONG: I would, although there are certainly logistical challenges to scheduling us along and around the hydro conference. It's a long time if you do both or a short time if you just put a day on it. That's my only comment on that.

MEMBER BARBOR: And the way it is Friday is the only open day. Monday is a kind of spin‑up day I think. Friday is ‑‑ It closes Thursday.

MEMBER MILLER: Not everybody would have to attend the hydro conference. But those who were interested might.

MEMBER BARBOR: I would imagine the panel isn't paying for attendance to the hydro. Under professional.

MEMBER MILLER: Yes, under professional.

MEMBER KELLY: Just in the interest of looking backwards, I'm seeing historically where we have been. We've been in New York in the northeast region. We've been down in the southeast region I see before that. We've been in New Orleans. We've been in Anchorage.

I hate to say it personally because I've been in Long Beach way too many times in my life. But a west coast exposure might be helpful and if we are looking at partnerships and science, they've done some pretty exciting things down there. The Port of Long Beach is actually giving grant for property to develop oceanic research areas. And there are some great schools out there. It would be beneficial for us to meet with the IOOS RA out there.

CHAIR PERKINS: You bet. I think we fully vetted it as a viable venue. And we had it down our short list of two. So I don't think anything there has changed in that regard.

MEMBER KELLY: I personally detest Long Beach.

(Laughter.)

It's like a dead zone.

(Simultaneous speaking)

MEMBER ARMSTRONG: I spent some time in my career in Long Beach as well back when there was a Naval station there.

MEMBER KELLY: Well, at least something was going on then. Now you get there after 6:00 p.m. and there are tumbleweeds blowing down the street. It's terrible.

But anyway it's a dynamic place. LA Long Beach is by far the largest maritime commerce area in terms of containerization. They are very active in petroleum products and whatnot. And California has some very unique environmental requirements.

They do have their own whales out there. They've got their own whales that they're dealing with in the approach to Long Beach. So it's a fairly dynamic area. They've got a very active maritime community and as I said also Port of Long Beach has taken some extraordinary action in donating land.

And they've found a grant to set up this entire research facility that I think we could certainly arrange to go take a look at and do some things there.

So there's no shortage of things to do in Los Angeles‑Long Beach area there. Just throwing that out and noting that the group hasn't been in the west coast because Alaska doesn't count as west coast and neither does Hawaii. They're kind of distinct. West Coast might be a good spot.

I prefer going to San Francisco. I like San Francisco. But if you're going to do the Pacific Coast, I hate to say it but you've got to go to LA‑Long Beach.

CHAIR PERKINS: For clarity for Lynne, we need to identify who the chairs are of the working groups. So Frank is the chair.

MEMBER KELLY: I'll take the chair and we'll kind of co‑chair. We'll split it into two pieces.

CHAIR PERKINS: Okay. So we've got Frank, Susan, Joyce and Ken co‑chairing. Oh, you're on the same one. That's why we need clarity.

MS. MERSFELDER‑LEWIS: Maybe you can be on more than one. Who do you report to? Do you report to Scott or Bill?

CHAIR PERKINS: Yes. I think it's a good suggestion to have the working groups report to Bill just so that we have ‑‑

(Laughter.)

MEMBER ARMSTRONG: I think we can put Lawson on the Arctic priority.

CHAIR PERKINS: Lawson will be the chair of the Arctic.

MEMBER KUDRNA: Can I suggest one other thing? Can we get a liaison from the staff for each of these?

RDML GLANG: Yes. We'll do that. Do I need to do that right now?

MEMBER KUDRNA: No. Just so we get one.

RDML GLANG: I'm pretty sure Russ will be one of them and I'm pretty sure I'll be looking at Ric to be another one.

CHAIR PERKINS: And then the chair can work with the liaison to identify what the outcomes should be for each working group and set a schedule with the goal of having some report out or something from the working groups in advance of the next meeting at the location that we've got to make a decision on.

Do we have an odd number or an even number if we do the vote? Matt still gets to vote. Nine and I can recuse myself.

MEMBER SHINGLEDECKER: I know Frank was going to try and talk with some IOOS folks to see more of what opportunities would be for having a meeting at the same time. I'd like to flesh out those.

RDML GLANG: And where geographically?

CHAIR PERKINS: Don't know. We haven't connected with them. They're setting up a call. It takes a long time to go through the process of getting a venue and the procurements and that. If we want to take that, I want you to have a response back in less than 30 days.

RDML GLANG: Kathy, we haven't heard where the next IOOS FACA meeting is at?

MS. WATSON: I'm sorry. I didn't hear you.

RDML GLANG: We haven't heard where the next IOOS FACA meeting is, have we?

MS. WATSON: No, but we can go online and check that.

CHAIR PERKINS: All right. So we'll defer decision on next meeting location until we hear back from the IOOS FACA meeting proposal.

MEMBER FIELDS: You're saying that the possibilities are where IOOS folks are meeting, the hydro conference and Long Beach. Are those kind of the three in the running from what I was listening to?

CHAIR PERKINS: Yes.

MEMBER FIELDS: Okay.

CHAIR PERKINS: I've had conversations with the Director of the Port of Long Beach and the Director of the Port of LA. They would love to have us there.

MEMBER FIELDS: I'm just trying to get an idea of what we are looking at.

CHAIR PERKINS: So we have LA‑Long Beach, D.C. and some location to be determined.

MEMBER FIELDS: To be determined, okay.

MEMBER MILLER: In the time frame of March‑April. Is that sort of the general time frame we're talking?

CHAIR PERKINS: We said we couldn't do it any earlier than late February due to the time line for getting the new panel members seated. So I think the answer is yes. That puts us in the March.

RDML GLANG: I think March. April starts running into a problem for your DFO. If you really want to do it, then that's fine. I have a capable alternate DFO.

MS. MEDLEY: Just wanted to clarify when the next IOOS FACA meeting is. It's October 2‑3, 2014. So it's in just a couple of weeks, in Duluth, Minnesota.

CHAIR PERKINS: Great Lakes.

MEMBER KUDRNA: It may be really timely because they haven't set their next location. So we could discuss about a common location or see if they're willing to do it in Long Beach.

I guess what I'd suggest and would really like to happen is we came in Monday and we had some joint exposure, but it wasn't enormous. And I'd like if we could work out with the other FACA to have a half a day common meeting. So we meet on one side and they meet on one side. Then maybe we'd sit down with their FACA and our FACA have some common topics or discussions for a piece of our meeting. It would be full engagement between the two.

I don't know what your thoughts are on that, but I think that would be a good thing.

MS. MEDLEY: Sorry. Just one more new bit of information. They have a second FACA in D.C. April 15‑16.

MEMBER MILLER: 2015?

MS. MEDLEY: 2015. No. Sorry. It happened already. I guess they haven't posted their 2015 schedule. Sorry. Sorry to get everybody so upset.

RDML GLANG: We can talk with IOOS and find out a little bit more. I think Frank's idea is intriguing. We've talked about this before. But if we get in front of it soon enough, maybe we can actually pull off a bit of an overlap.

But it's all still a public meeting process. Right. So you have to decide if you want a half day or a full day. And then we need to think about what you want to hear on to maximize the use of that time.

MEMBER BARBOR: It's a public meeting. So you have a public comment session. Is anybody publicly here?

RDML GLANG: Do we have anybody on line, Tiffany?

(No verbal response.)

So no public comments. Does anyone have comments to offer at this time from our web listeners?

(No verbal response.)

MEMBER SHINGLEDECKER: Did we answer the comment from yesterday that came?

RDML GLANG: The day before from Mr. Freeman. No. I think we've got to get back to him. It was a good question and we'll share that with everybody.

MEMBER SHINGLEDECKER: Great.

RDML GLANG: There were several questions in there.

MS. MERSFELDER‑LEWIS: I have a question.

RDML GLANG: For which? For membership or for ‑‑

MS. MERSFELDER‑LEWIS: No, for chairs or co‑chairs. We have two people. Do I have that correct that Eveline and Susan or Eveline and Joyce are the co‑chairs?

MEMBER ARMSTRONG: Mr. Chairman. The non‑voting members would probably be willing to serve on some of those working groups as well. I don't think anything came to us, but you could get us signed up.

CHAIR PERKINS: That's a great idea.

MS. MERSFELDER‑LEWIS: Is there a chair or co‑chair for the legislative and policy?

MEMBER FIELDS: Yes, Joyce.

MEMBER MILLER: I'll take chair so long as I'm on the committee.

MEMBER ARMSTRONG: Lynne.

MS. MERSFELDER‑LEWIS: Yes.

MEMBER ARMSTRONG: Would you add me under strategic and Arctic?

MEMBER KELLY: And Arctic and engagement. Not co‑chair but just on that.

CHAIR PERKINS: Tiffany, can you read that question again please.

MS. HOUSE: Chris Freeman, he's on line and he wants you to explain Susan's working group in more detail.

MEMBER SHINGLEDECKER: Can you ask him which one is mine? I was just going to say engagement. Engagement actually, Frank is the chair. I'm just solely a member.

(Laughter.)

But Frank can explain it.

MEMBER KUDRNA: The engagement committee, my suggestion was that the committee would begin with the Science Advisory Board's report to NOAA on engagement and also take the previous ten most wanted list and explore the options of engaging the broad constituencies in an effective way and coming back with suggestions in that regard.

MEMBER SHINGLEDECKER: I also sort of understood it as the outreach and communications side of the mission of these offices.

MEMBER KUDRNA: Yes. Good point.

RDML GLANG: I would like as we're identifying chairs and co‑chairs and participants in these working groups that I just want to reiterate that I'm preparing a short paragraph to help define what the working group will be about and perhaps if you already know specific things you want to work at.

Frank, you had a pretty specific idea there. That's great. And then we can share that broadly.

MEMBER KUDRNA: And I've agreed to be the chairman of the working committee and Susan would be the vice chair, the recording secretary and the treasurer.

(Laughter.)

MEMBER SHINGLEDECKER: Just because he's a BoatUS member, he thinks he can boss me around.

VICE‑CHAIR HANSON: Are his dues paid?

MEMBER SHINGLEDECKER: They are. I checked.

MEMBER ARMSTRONG: Lynne, put Arctic for me also.

MEMBER MILLER: Lynne, on legislative, I'm the chair. Eveline is a member.

MEMBER BARBOR: You can stick me on legislative.

MEMBER FIELDS: Thank you, Joyce.

MEMBER MILLER: You're welcome.

MS. MERSFELDER‑LEWIS: And who would be your co‑chair?

MEMBER MILLER: I don't have to have a co‑chair. Not to worry. Who would like to be liaison?

MEMBER ARMSTRONG: Lynne, you should be listed as liaison or staff rather than member in engagement.

MS. WATSON: Scott, what were you doing up here?

CHAIR PERKINS: We've decided that that will be a take home for each of those chairs.

MS. WATSON: Okay.

MEMBER MILLER: And we'll get that to you.

CHAIR PERKINS: Within?

MEMBER MILLER: A week at most. Will you then circulate those to ‑‑

CHAIR PERKINS: The whole membership.

MEMBER MILLER: The whole membership.

CHAIR PERKINS: Yes. And then please try to be as concise with those as you can. I'd really like this letter to be no more than two pages in total.

MEMBER MILLER: We should also pull things from the discussions that we think might fit under this and they might be under more than one topic. And they could be put where most appropriate I would think.

CHAIR PERKINS: Yes, we'll have to have a review session to make sure that's in harmony.

MEMBER KELLY: Use a very small font.

(Laughter.)

CHAIR PERKINS: I'm sure there's a standard form dash something that we should use. Right.

MEMBER KUDRNA: Going back to the working committee for a second, did we agree that we have the ability to ask the Admiral and Scott collectively to appoint up to three outside folks to sit on these working committees?

MS. MERSFELDER‑LEWIS: I don't think you can because Kathy ‑‑

MS. WATSON: We have to send that to DOC Ethics.

MEMBER KUDRNA: Subject to consistency with the Ethics requirement, yes.

CHAIR PERKINS: We think we can do that in our sidebar.

Okay. Do we have other business?

(No verbal response.)

All right. 2:09, 1409 Eastern Time. Hearing no other business, I want to thank everyone for your contributions. Three days is a long time to do this. I look forward to our next meeting wherever that shall be.

(Whereupon, at 2:10 p.m., the above‑entitled matter was concluded.)