Summary Record
Hydrographic Services Review Panel (HSRP)
October 26-27, 2011
Norfolk, VA

Wednesday, October 26, 2011

On the call of the Designated Federal Official, Captain John Lowell, NOAA, the Hydrographic Services Review Panel (HSRP) meeting was convened on October 26, 2011 at the Half Moone Cruise and Celebration Center, One Waterside Drive, Norfolk, Virginia. The following report summarizes the deliberations of this meeting. Presentations and documents are available for public inspection online at http://www.nauticalcharts.noaa.gov/ocs/hsrp/meetings.htm**.** Copies can be requested by writing to the Director, Office of Coast Survey (OCS), 1315 East West Highway, SSMC3, N/CS, Silver Spring, Maryland, 20910. The Agenda is available online at http://www.nauticalcharts.noaa.gov/ocs/hsrp/archive/2011/October/Agenda-Norfolk_Public_Final.pdf.

Welcoming Remarks and Introductions
Ed Welch, HSRP Chair

The meeting was called to order at 8:36 a.m. Chair Ed Welch made opening remarks and invited all the members to introduce themselves.

Keynote Address
Captain Ashley D. Evans, Office of the Oceanographer of the Navy

Capt. Evans spoke on behalf of Rear Admiral Titley, the Oceanographer of the Navy, who is also the Navigator of the Navy. Rear Admiral Titley works on many oceanographic issues, such as climate change, sea level rise, Arctic policy, and maritime domain awareness.

Rear Admiral Titley's office is working on the transition from paper charts to electronic charts. However, the full transition will take some time, since older ships scheduled to be retired will not convert to electronic navigation (and those ships will not be retired until 2020 or later.)

The Navy is currently using DNCs (Digital Navigation Charts). NOAA ENCs (Electronic Navigation Charts) need to be converted to DNCs before they can be used by the Navy. However, by around 2016, NGA (the National Geospatial-Intelligence Agency) plans to move to a new standard for navigation charting, the S100 series. That standard is ENC-

based, so at that time, NGA and the Navy will begin reading ENCs and ultimately using ENCs only. Therefore, the agencies' electronic charts will all use the same specifications.

Capt. Evans outlined a number of areas in which NOAA and the Navy collaborate.

- Developing a U.S. consensus to present to the IHO (International Hydrographic Organization)
- National Ice Center
- Tsunami warning systems
- Response to Hurricane Irene
- Extended Continental Shelf bathymetric surveys

Capt. Evans stated that there are certain hydrographic surveys which the Navy will not share with NOAA for reasons of national security. However, there are circumstances in which a properly cleared person from NOAA might be able to see some working datasets for a specific research purpose. Also, if the Navy notices a potential danger to navigation in this imagery data, it will inform NOAA.

The Earth Systems Prediction Capability (ESPC) is viewed as the next generation of weather modeling. ESPC will allow seamless modeling from the bottom of the ocean out into space. Research into ESPC is being funded and carried out by NOAA/NWS and the Navy and Air Force.

Capt. Evans noted that some opportunities for coordination and collaboration are not being used. In the past, talks were held twice annually between OCS and the Naval Oceanographic Office (NAVOCEANO). That collaboration should be reinvigorated.

Capt. Evans concluded by asking the HSRP to think about NOAA's "branding problem", that is, the lack of public knowledge of what NOAA, especially OCS, does.

Questions from the HSRP

Chair Welch asked about NGA's charting of strategically important areas. NGA has processes in place to share some of this data with OCS so that non-naval maritime users can benefit from it. NOAA and Navy surveying now use very similar specifications so that data can be shared smoothly.

Joyce Miller commented that it is extremely helpful for constituents in the Pacific to be able to use NAVOCEANO data on tests of ships' sonar replacements. Capt. Evans said that the Navy does try to release as much data as possible to the public, in order to further our limited understanding of the ocean.

Dr. Brigham asked how much the Navy spends on surveying. Capt. Evans said that surveying forms by far the largest portion of the Navy's operations budget, and promised to provide a more specific answer later. The Navy has six survey ships, all fully deployed, as well as Fleet Survey Teams.

Scott Perkins asked for Capt. Evans suggestions for the 2012 Most Wanted list. Capt. Evans suggested updating surveys in crucial areas, especially along the coast of Alaska, since some Alaskan surveys date from the turn of the last century.

Chair Welch and Capt. Evans discussed the Navy response to climate change and sea level rise, which is set out in the Climate Change Roadmap.

NOAA's Navigation Response Capabilities--Hurricane Irene
Rich Edwing, Director, Center for Operational Oceanographic Products & Services (CO-OPS)
Mike Aslaksen, Chief, Remote Sensing Division, National Geodetic Survey (NGS)
Commander John Swallow, Chief, NOAA Navigation Services Division, Office of Coast Survey (OCS)

Rich Edwing discussed NOAA's navigation response capabilities, which begin years before a hurricane is expected.

- NOAA Navigation Services provide a foundational geospatial reference framework, as well as tools and data to help people prepare for hurricanes.

- CO-OPS tidal and geodetic datums, which can be integrated with VDatum, help with planning coastal projects at the appropriate elevation, flood plain mapping, and evacuation planning.

- NWS uses the SLOSH (Sea, Lake, and Overland Surges for Hurricanes) model to anticipate storm surge heights and winds for the use of emergency responders. This model relies on data from Navigation Services, and CO-OPS has recently done work to make that data easier to access.

- Hardened tide stations provide real-time storm tide data when it is most needed.

- NOAA also has online tools such as Tides Online and Storm QuickLook, which provides summary-level data to assist emergency managers to make critical decisions

- Operational Forecast Systems provide nowcasts and short-term forecasts of water levels, currents, water temperature and salinity, winds, and so forth.

Mr. Edwing noted that during August 26-29, 2011, the Hurricane Irene period, the NOAA website saw a huge surge in hits. That shows that the public does use and appreciate this information.

Mike Aslaksen of the NGS Remote Sensing Division (RSD) continued the presentation. RSD has two primary programs: the Aeronautical Survey Program and the Coastal Mapping Program.

Over the last several decades, NOAA has assisted with recovery from a variety of natural and human-induced disasters, including hurricanes, tornadoes, floods, earthquakes, tsunami, nor'easters, oil spills, and the 9/11 terrorist attacks.

NGS uses the Digital Sensor System and Riegl (laser measurements) LiDAR; its aircraft flies about 600 hours a year to support shoreline delineation for charting and for emergency response.

Mr. Aslaksen showed the panel some of the imagery collected for events such as Hurricane Irene and the Joplin, Missouri tornado. Georeference imagery can be delivered as quickly as four to six hours after an aircraft landing, although LiDAR takes 36 hours. The data is delivered in a format which is easy to download into a GIS (geographic information system), and which can be compared to other georeference data.

Commander Jon Swallow continued the presentation on behalf of OCS. NOAA's navigation managers, stationed regionally around the country, are a key part of the agency's customer service and branding. The navigation managers could also be a source of information on regional issues for the HSRP.

NOAA has six small navigation response teams made up of hydrographic experts stationed around the country. Multiple NOAA ships, aircraft, and contract assets are also available when needed.

The Mobile Integrated Survey Team (MIST) consists of a mobile side scan sonar with a vertical beam echo sounder, which can be used in any port. The Autonomous Underwater Vehicle also uses side scan sonar and is mobile.

OCS develops coastal circulation and inundation models which provide important guidance to forecasters during severe weather events.

Commander Swallow listed some of OCS's important functions:

- Helping coastal authorities plan for storm surge
- Responding to a release of hazardous materials, such as Deepwater Horizon oil spill
- Locating missing vehicles
- Responding to vessel groundings & vessel sinkings
- Speeding re-opening of ports after hurricanes and other natural disasters
- Responding to tsunami
- Responding in the Hampton Roads port after Hurricane Irene
- Preventing adverse economic impacts of port closure and draft restrictions

Questions from the HSRP

Chair Welch and Commander Swallow briefly discussed the Cobscook Bay, Maine problem. This was a situation in which lives were lost because of inadequate charting, but when the situation was brought to the attention of the HSRP, the HSRP passed information on to the Administrator of NOAA, and OCS swiftly responded by doing much-needed survey work. Commander Swallow mentioned that, while full-bottom-coverage surveys are available for almost all commercial corridors, less active areas may have only single beam or lead line surveys.

Dr. Jeffress asked about the source of funding for emergency response efforts. Ms. Blackwell responded that emergency response is built into NGS's budget. However, NGS does seek out opportunities for reimbursement. Supplemental funding may come from other agencies or from a Congressional supplemental appropriations bill.

Dr. Brigham noted that NOAA's emerging role as an emergency response organization might be an issue for the HSRP. Mr. Perkins asked Mr. Aslaksen about the number of hours his planes spend on emergency response; the answer was that 50-100 out of 300-350 hours are spent on emergency response in a typical year.

Use of and Why NOAA's Navigation Data, Products, and Service Is Important: Hurricane Irene
Capt. Mark S. Ogle, U.S. Coast Guard Captain of the Port Hampton Roads

Capt. Ogle outlined some examples of the partnership between NOAA and the Coast Guard at the Port of Hampton Roads. Severe Weather Plans, pre- and post-storm surveys, NOAA buoy data, and OPSAIL are examples.

Capt. Ogle wears five hats as Hampton Roads Sector Commander: Federal On-Scene Coordinator, Search & Rescue Mission Coordinator, Captain of the Port, Federal Maritime Security Coordinator, and Officer in Charge of Marine Inspections. The Port of

Hampton Roads hosts the largest naval base in the world with $112 million a day in commercial cargo and many of the more than 250,000 recreation vessels registered in Virginia.

Capt. Ogle described the Port's response to Hurricane Irene, in which NOAA played a critical role by helping to decide when the Port can be reopened safely.

Some of the Coast Guard's current projects are the Border Security team, a partnership with DHS, preparing for the 2014 Panama Canal Expansion, and Marine Environmental Response.

Lack of money for dredging, especially in smaller ports, presents problems. The Coast Guard may have to pull out some boats for lack of water. Speaking with one voice from a waterways perspective might help address this problem.

Capt. Ogle discussed a mining exercise the Navy did recently in the Hampton Roads area. State transportation needs and their economic importance should be taken into account in this context.

The Coast Guard has established a web-based IOC (Interagency Operations Center) in order to coordinate maritime security operations among agency partners such as the Coast Guard, Customs and Border Protection, and Immigration & Customs Enforcement.

Plans are underway for construction of wind farms 12 miles off Virginia Beach, and the Coast Guard is working on ways to ensure safe navigation around the future wind farms.

Questions from the HSRP

Chair Welch asked about Coast Guard vessels and electronic charts. Capt. Ogle answered that Coast Guard vessels use electronic charts and carry paper ones as a backup. Recreational boaters often use electronic charts because they are cheaper and easier to use, but may not have a backup. Dr. Brigham commented that the Coast Guard had the first ships in the world which used electronic navigation systems.

Chair Welch added that the Coast Guard will soon out come out with a rulemaking which will require more domestic commercial vessels to carry AIS (Automatic Identification Systems) units, and shortly after that, anyone who is mandated to have AIS will also be mandated to have electronic charts.

NOAA FY12 Budget and Beyond: Trends and Projections
Paul Bradley, NOS, Policy, Planning & Analysis Division

Paul Bradley explained the lengthy and complex budget process. Constituent support is critical during this process. In fiscal year (FY) 2011, NOAA was successful in obligating money to be spent before the end of the fiscal year, despite having little time to spend money after its spending plan was approved. Now, in FY 2012, the government is operating under a continuing resolution which expires November 18th. NOAA's FY 2013 budget request has been presented to the Office of Management and Budget (OMB). The next step is that NOAA will respond to OMB questions, and in late November OMB will pass back its judgment to NOAA. Then, the President's Budget Request to Congress will be presented in February 2012, after which Congressional approval is needed.

Mr. Bradley went on to review other relevant legislative issues. House Resolution 295 would amend HSIA (the Hydrographic Services Improvement Act) to authorize funds to acquire hydrographic data and provide services specific to the Arctic, as well as authorizing funds for delineating the Extended Continental Shelf. This bill has passed the House, but has no counterpart in the Senate and is not expected to become law. However, Mr. Bradley stated it has been useful in drawing Congressional and public attention to the need for marine infrastructure in the Arctic.

NOAA has also weighed in on pertinent hearings before several House and Senate Committees. An issue of particular importance to the HSRP is the Hydrographic Services Improvement Act of 1998. The HSIA gives NOAA broad authority to acquire hydrographic data and provide hydrographic services through OCS, NGS, and CO-OPS. The HSIA also established the HSRP in 2002. This act was reauthorized and amended in 2002 and 2008, and will expire at the end of FY 2012 if not reauthorized. Mr. Bradley asked for the HSRP's opinion on any new legislative needs which the updated HSIA could fulfill.

Mr. Bradley presented trends in the appropriated budget for NOAA over the past few decades. The FY 2012 House mark (or the target set by the Appropriations Committee) proposed a decrease of $404 million (13%) in NOAA's budget compared to FY 2011. For NOS, a reduction of $148 million (27%) and $5.9 million (4%) for Navigation Services. The Senate mark proposed an increase of $434.2 million over FY 2011 for NOAA, a decrease of $42.7 million (8%) for NOS, and a $1.4 million (less than 1%) increase for Navigation Services.

NOAA's budget, which is part of the Commerce, Justice, and Science Appropriations Bill "minibus", is expected to go to a vote in the Senate next week. Some members of Congress have proposed amendments which could block funding for the National Ocean

Policy or for coastal and marine spatial planning. NOS is continuing work with the CMTS (Committee on the Marine Transportation System) and work on implementing the National Ocean Policy. Outreach to Congress is another important goal.

Questions from the HSRP

Bill Hanson asked about which programs the Senate and House marks cut. Mr. Bradley replied that Navigation Services has done relatively well, because those programs are seen as protecting life and property. In some cases, programs may be cut simply because members of Congress don't know the value of what they do.

Mr. Hanson asked whether services related to environmental conservation are targeted for cuts. Mr. Bradley answered yes, but this is not much of an issue for NOS since NOS does not have a large regulatory function.

In response to Ms. Miller's question, Mr. Bradley stated that the appropriated budget has historically been closer to the Senate mark than to the House mark.

Chair Welch added that, in the appropriations process, new initiatives are most vulnerable, as are programs in which the federal government makes grants to states or state organizations.

Chair Welch suggested that NOAA's FY 2013 budget recommendation might prioritize different NOS programs, rather than leaving prioritization up to Congress.

Dr. Jeffress inquired about earmarks. Mr. Bradley responded that earmarks are less common so far.

Dr. Dionne asked whether NOAA can draw attention to climate change-related issues. Margaret Spring responded that NOAA has a proposal before Congress to create a new Climate Services line office. This proposal has not yet passed because of House opposition, but NOAA is still able to pursue climate adaptation efforts. Margaret Davidson of the Coastal Science Center is working on this.

Luncheon Keynote Speech
Margaret Spring, Chief of Staff, NOAA

Ms. Spring emphasized the economic importance of the U.S. marine transportation system. No other transportation system comes close to moving as much cargo or generating as much economic benefit as America's ports and waterways, with a

significantly reduced carbon footprint. However, the importance of the marine transportation system is often overlooked.

Ms. Spring serves as the Chair of the Coordinating Board of the Committee on the Marine Transportation System (CMTS). The CMTS is a Cabinet-level committee chaired by the Secretary of Transportation and including representatives from about 25 other federal agencies, and the Coordinating Board is the CMTS's policy-making body. The four agencies who rotate as Chair of the Coordinating Board are NOAA, the Maritime Administration (MARAD), the Coast Guard, and the U.S. Army Corps of Engineers.

The Obama administration is investing in transportation infrastructure improvements through such programs as DOT's TIGER (Transportation Investment Generating Economic Recovery) grants. The American Jobs Act, if passed by Congress, would also provide investment opportunities for marine transportation system projects.

The CMTS is looking at ways to use current infrastructure maintenance and improvement funds as efficiently as possible. These efforts will help meet the President's National Export Initiative goal of doubling U.S. exports by 2015.

CMTS has formed an Interagency Arctic Working Group to coordinate the development of domestic transportation policies to ensure safe and secure maritime shipping in the U.S. Arctic. The working group is co-led by NOAA, the Coast Guard and MARAD. A draft policy paper is being prepared, and Ms. Spring urged the HSRP to contribute any information which may help.

Also in the area of Arctic policy, NOAA released its Arctic Vision and Strategy in February 2011. This document provides six strategic goals to address stakeholder needs in the Arctic. An Arctic Action Plan is also in development, and Ms. Spring welcomed HSRP input on this plan once it is released. Principal Deputy Undersecretary Monica Medina is leading Arctic work.

Ms. Spring also discussed e-navigation, or the need to integrate disparate navigational technologies. Leaving mariners to integrate different types of information on their own makes challenging navigational decisions more difficult. A worldwide effort is underway under the auspices of the International Maritime Organization to implement integrated e-navigation. The CMTS will develop a national Strategic Action Plan to complement the international effect

NOAA is working to implement the President's National Ocean Policy by developing integrated data management and decision support tools for the sustainable management of U.S. oceans, coasts, and Great Lakes.

The National Ocean Policy emphasizes the need to increase collaboration between federal agencies and their regional, state, local, and tribal partners. NOAA needs to think beyond its traditional partners. For instance, NOAA recently signed an agreement with Shell, ConocoPhillips and Statoil to collaborate in data acquisition and data sharing in the Arctic.

Budget constraints will continue to be a challenge, but the creativity characteristic of NOAA's workforce can help find innovative new approaches to doing business more efficiently.

Ms. Spring concluded by asking the HSRP to keep administration priorities in mind, and to consider these questions: How can we advance efforts within NOAA programs and connect them to broader initiatives like those within the National Ocean Policy or the CMTS? What new partnerships can we explore? Are there ways in which we can better engage Congress?

Questions from the HSRP

Vice Chair Wellslager asked whether money is being preserved for emergency response situations. Ms. Spring responded that, in the budget process, core missions such as emergency response tend to be given priority. Sometimes reimbursement for emergency response is available, but this depends on the circumstances.

Dr. Jay inquired as to whether sea level rise is high on the priority list. Ms. Spring responded that climate services, including sea level rise, is one of the top priorities, but resolution of models is a challenge. Framing the climate change issue in a way that is relevant to business and acceptable to members of Congress is important.

Ms. Miller brought up the issue of lack of ship time. How can we make use of NOAA's fleet instead of having it sit idle more than half the time? Ms. Spring responded that, unfortunately, expense is a problem. The possibility exists that the FY 2011 budget may be the high water mark for NOAA. It is important to articulate the need for NOAA services, because just keeping government running for the sake of running it will not be convincing. Holly Bamford added that vessels are becoming more specialized, with fewer multi-use vessels. NOAA is trying to stretch days at sea and get more out of limited dollars.

Dr. Jeffress asked about the COSCO Busan incident, in which the shipping company was given a $47 million federal fine. Can NOAA recover any cost from that fine? Ms. Spring responded that NOAA does get some of the settlement money for reimbursement of

response costs and, as a natural resource trustee, money for projects that will be funded to compensate for injury to the environment.

The Deepwater Horizon incident is different in significant ways. Chair Welch stated that a case could be made that, after Deepwater Horizon, not just cost reimbursement but money for preventive measures such as new charts or new capital investments might be allocated from whatever fine is assessed.

Susan Shingledecker expressed her concern and the concern of other members about the possible impact of LightSquared technology on NOAA Navigation Services. Ms. Spring replied that this issue is getting a lot of high-level scrutiny from NOAA and other groups.

Mid-Atlantic Navigation Services Stakeholder Panel

Expanded Requirements for Navigation Data in Virginia
Art W. Moye, Jr. President, Virginia Maritime Association

Mr. Moye spoke on behalf of the Virginia Maritime Association, which promotes, protects, and encourages waterborne commerce in the Port of Hampton Roads, with over 450 member companies. The Port of Hampton Roads has some of the best terminal facilities in the country, but safe and efficient access to these facilities is necessary for the future success of the Port. Since the Port is so large and active, perhaps more NOAA assets should be home-based there.

The data provided by PORTS (Physical Oceanographic Real-Time System) is critical to safe and efficient navigation and should be enhanced wherever possible. In the last 50 years, maritime commerce has tripled. Ships are getting larger and many hazardous commodities are being shipped; the margin of error is getting thinner. To accommodate larger vessels, channels need to be wider, deeper, and safer. This cannot be accomplished without reliable, accurate navigational data. ENC (Electronic Navigational Charts) should be used, and we should encourage the development of technology that will allow mariners to know detailed real-time water level data along their vessel's entire route.

Five specific projects are vital to protecting the Port of Hampton Roads:
- Maintaining Norfolk Harbor Channel and Craney Island
- Craney Island Eastern Expansion Project
- Constructing 45-foot and 40-foot Channel Projects
- South Atlantic Channel Improvements
- Constructing the 55-foot Project

Another invaluable service provided by NOAA was AIS data and chart overlays, which were used to identify potential conflicts between commercial navigation and offshore wind energy development. Increased and better defined anchorage areas are needed. Smartphone apps may also be used to provide navigation data.

Port of Virginia Response to Panama Canal Expansion
Heather L. Wood, Director of Environmental Affairs, Virginia Port Authority
Heather Wood spoke on behalf of the Port of Virginia, which is the seventh-largest U.S. port and the third-largest East Coast port, with a 5% market share nationwide. The Port also reaches beyond Virginia, using rail to move cargo into Midwest markets.

In the future, shifting trade patterns are expected to put more pressure on East Coast capacity. Virginia is strategically located within one day's travel of 50% of the U.S. population; it hosts many distribution facilities as well as the Port.

The Panama Canal expansion began in 2002 and is expected to be finished in early 2014. The new locks will accommodate vessels of up to 12,600 TEUs, on par with the Suez Canal. This will allow vessel traffic through the Panama Canal which carries almost three times the amount of volume compared to today.

The Panama Canal is expected to provide a channel from Asia to Atlantic ports which is slightly shorter than the Suez Canal route (measured from Hong Kong to Virginia). The Port of Virginia is the only East Coast port with channels deep enough for the biggest ships while fully loaded. The Port also has no air restrictions and cranes able to handle the biggest ships.

Virginia has also worked on the land side to accommodate the expected increase in large vessel traffic. Several regional transportation projects are ongoing, such as Patriot's Crossing, the I-564 Connector, and the Commonwealth Railway Safety Mainline Relocation. The Port is also home to several marine terminals with more planned.

Ms. Wood concluded by asking the HSRP and NOAA to help maintain unobstructed deep water channels and approaches, ensure safe and efficient passage in all but extreme weather conditions, and continue to collect and disseminate needed navigational data.

Atlantic Coast Port Access Route Study/Port of Hampton Roads Shipping Routes & Offshore Renewable Energy Uses
George H. Detweiler, Office of Navigation Systems, U.S. Coast Guard

Mr. Detweiler discussed the Atlantic Coast Port Access Route Study (ACPARS). This study is intended to ensure that all vessels, whatever their size, can navigate safely.

Alternative energy is creating a paradigm shift for mariners which may necessitate routing measures. Wind farms could be sited much further out than currently. The Coast Guard has legislative authority for two types of routing measures: traffic separation schemes and fairways.

In order to implement a routing measure, a PARS should be done. A PARS considers historic studies and tries to predict the future, as well as looking at current traffic density. Next, the PARS will determine whether existing or new measures are needed, and if so, what type. A PARS is always announced in the Federal Register, and public comment is requested. The Coast Guard is required to consult with various federal and state agencies. Public outreach meetings and outreach to stakeholder organizations will be done.

After the PARS is done, its results will be published in the Federal Register. Federal rulemakings may be done, while other routing measures require IMO approval. This is a lengthy process.

Routing measures are so far not mandatory in the U.S., but their use is strongly encouraged.

The ACPARS covers the whole East Coast from Maine to Florida. The Coast Guard is working with the Bureau of Ocean Energy Management (BOEM) to do risk analysis and modeling in the area of maritime traffic.

NOAA charts and chartlets have been helpful in presenting ideas.

Mr. Detweiler presented preliminary recommendations from the Virginia Port Authority and from NOAA as to how traffic should be routed around the proposed Virginia wind farm site.

Mr. Detweiler urged the HSRP to submit comments during this process.

Virginia Offshore Wind Energy Development--Challenges and Conflicts
George M. Hagerman, Jr., Virginia Coastal Energy Research Consortium (VCERC)

George Hagerman reviewed the development of the Virginia Wind Energy Area. Virginia, as well as nearby states, has an Intergovernmental Renewable Energy Task Force, which coordinates government outreach to industry.

The Department of Defense was first given a chance to specify where wind turbines might be acceptable. The need to refrain from disturbing economic activities and habitat

conservation efforts also played into the siting of the turbines. These potential conflicts need to be addressed in detail, with the input of local barge captains and port captains, to be fully understood.

The next steps are the publication of the Virginia Call for Information and Nominations in the Federal Register. Public comment is invited.

Questions from the HSRP

Ms. Shingledecker and Mr. Hagerman discussed the underwater cables which would bring power from the wind turbines to shore. The cables will be buried at least one or two meters below the existing seabed.

Dr. Brigham asked whether fisheries stakeholders have been consulted, and Mr. Hagerman replied that there is little potential conflict with fisheries, but discussion is ongoing. Recreational fishers may be able to fish in the area, but liability is a concern.

Dr. Dionne inquired about the economic impact of moving cable further offshore. Mr. Hagerman responded that there is a cost, but it is negligible. The energy loss due to resistance is also minor.

Ms. Miller asked about the cost to shippers of going around the area. Mr. Hagerman responded that a cost/benefit analysis is done as part of the rulemaking, if one is done. For ships making longer journeys, a few miles further might not make much difference. Ms. Wood and Mr. Moye concurred that shippers have not so far expressed much concern about this.

Mr. Hanson asked about potential impact on sand and gravel resources. Mr. Detweiler responded that the issue has not yet come up.

Mr. Hanson asked Ms. Wood whether the Virginia Port Authority has considered doing dredging at its own expense. Ms. Wood replied that the VPA will probably use the traditional Army Corps of Engineers process; the Port of Virginia is less expensive to dredge than most other East Coast ports.

Mr. Armstrong asked whether sediment or geophysical characteristic studies have been done to clarify that the area in question is suitable for offshore energy. Mr. Hagerman said that the USGS Surface Sediment Graphs seem to show that the area is suitable.

Mr. Detweiler added that the developer is required to do an environmental impact statement, which will examine some of these issues. Mr. Hagerman said that the whole

process will take time; the first large projects will probably not be commissioned until 2020.

Dr. Jeffress asked whether there is any national organization which works to convince NOAA to fully fund all the nation's PORTS for the greater good of the nation. Mr. Moye and Ms. Wood stated that they do not know of any organization which has taken a position on the subject.

Chair Welch asked how wide the fairways being considered are. The answer was three-quarters of a mile in each lane. Chair Welch wondered who will take responsibility if too many vessels want to traverse those lanes at the same time. Mr. Detweiler answered that the risk of collision is being measured using risk modeling techniques. If the risk is too high, steps will be taken to reduce it.

Chair Welch observed that current legal policy tends to favor the site applicant, even given the consulting process which is done.

Capt. Lowell and Chair Welch discussed the expense NOAA will incur because of the need for new charts the wind farm project will create. Chair Welch stated that the developer should be obligated to reimburse the costs its project causes the federal government and the taxpayer to incur.

Chair Welch said that the Virginia Wind Energy Area process is a great example of what coastal and marine spatial planning should be: that is, various users trying to figure out how to sort out potentially conflicting uses. Chair Welch also reminded the members of the stakeholder panel that NOAA is soliciting new applicants for the next HSRP.

Mid-Atlantic Navigation Services Stakeholder Panel (continued)

Planning for Sea Level Rise in Hampton Roads
Skip Stiles, Executive Director, Wetlands Watch, Virginia Conservation Network

Skip Stiles spoke on behalf of Wetlands Watch, a nonprofit group working to influence local governments to adapt to sea level rise.

In 2008, the Virginia Climate Commission estimated between two and five feet of sea level rise in Virginia over the next hundred years (the current best guess is about a meter.) Mr. Stiles outlined historical scenarios of sea level rise and fall. Virginia holds the tenth most valuable set of assets at risk from sea level rise in the world. Virginia also has the highest rate of sea level rise measured anywhere on the East Coast. The Hampton

Roads area hosts the largest population at risk from sea level rise in the U.S., except for New Orleans.

With two feet of sea level rise, Virginia could lose 50 to 80% of its tidal wetlands and coastal habitat on the primary dunes system. Besides the danger to wetlands, shoreline loss will occur at the rate of 100-180 feet of shoreline loss for every foot of sea level rise. Sea level rise also affects Virginia Superfund sites, which could increase the risk of water contamination.

Precise data and modeling is needed to deal with these phenomena on a timely basis. Otherwise, expensive decisions will have to be made without good information.

Wetlands Watch uses historic tide gauge data from NOAA to find potential increased storm surge figures, which help explain sea level rise to the public.

Benchmarking mean sea level in a consistent way has not yet been done. The quality of data varies from place to place and the resolution of datasets is variable.
Mr. Stiles endorsed recommendations 2 and 3 from the 2010 Most Wanted Hydrographic Services report.

Clay Bernick, Administrator of the City of Virginia Beach, Environmental & Sustainability Office

Clay Bernick discussed the City of Virginia Beach's policy concerning sea level rise. Virginia Beach has a comprehensive plan detailing policies and standards for use of land.

The comprehensive plan has a number of recommendations relevant to sea level rise:
- Prohibit construction in floodplains without acceptable mitigation
- Build on high ground
- Identify high ground shelters
- Retrofit existing storm drains
- Increase efforts to clean up contaminated sites
- Strategically replace dunes and grasses
- Investigate techniques to mitigate storm surge and tidal inundation
- Evaluate and develop measures to increase reasonable structural setbacks

Sea level poses a number of environmental, economic, social, physical, and fiscal issues to the city. Virginia Beach is addressing these issues through listening sessions, research, the development of a Sustainability Plan by summer 2012, and working with other communities to develop shared approaches.

The city conducted listening sessions in March 2011, with over 200 participants. Many retirees participated, but young people, working class people, and members of racial/ethnic minority groups were less likely to be participate.

Those who attended listening sessions thought that sea level rise should be a priority issue for the City of Virginia Beach. Sea level rise should be included in decisions regarding flood and hazard mitigation, infrastructure, land use planning and permitting, and budgets. Sea level rise intersects with many local issues: not just land use, but fiscal policy, tax structure, and so forth.

Citizens have experienced flooded roadways, storm impacts, and environmental changes. Some have seen their home insurance refused or dropped, or have had to pay more for insurance.

Those who attended listening sessions wanted more local leadership and information on sea level rise. Citizens should be involved in planning and land use decisions, and local government should not allow redevelopment in flooded areas, participants said.

Virginia Beach may expand listening sessions to include more demographic groups who did not at first participate. A team approach will be taken with state and federal partners.

Benjamin McFarlane, Regional Planner for Hampton Roads Planning District Commission

The Hampton Roads Planning District Commission (HRPDC) is one of 21 Virginia state-enabled but locally-created regional planning agencies. It provides leadership, research and analysis, and support to local and regional endeavors by either government agencies or NGOs. Management of coastal resources is a major part of the HRPDC's planning efforts.

Recently, the HRPDC received a focal area grant in the area of climate change adaptation. HRPDC worked to identify the impacts of climate change on Hampton Roads and develop policy recommendations. HRPDC's efforts have been coordinated with other organizations, such as Wetlands Watch and Old Dominion University.

HRPDC has produced a study of the natural resource impact of climate change and a study of the current expected impact of storm surge.

Instead of using inconsistent mean sea level data, HRPDC used datasets from several sources to estimate regional and local vulnerability to storm surge flooding and sea level

rise. It was found that the region is at risk: during a Category 4 storm, about a million people could be affected.

Data from NGS, CO-OPS and the Coastal Services Center are very useful in this work. Showing the public and elected officials historic sea level has helped gain support for the idea that sea level rise is a real and concrete problem. The five NOAA tide gauges which each show a long-term trend of sea level rise also help to document the problem. NOAA tools show that about 50% of observed sea level rise is due to local subsidence.

Continuation and enhancement of the Tides and Currents data service is essential in planning for Hampton Roads sea level rise. Integrating datasets and services between different federal agencies would also help, and common standards for LiDAR and sea level benchmarks are needed.

Questions from the HSRP

Chair Welch suggested that stakeholders might want to write to their congressional representatives to describe how useful NOAA's products and services are to them. Mr. Stiles noted that how the issue is phrased is important; some people are much more willing to talk about sea level rise than about climate change.

Ms. Shingledecker pointed out that the funding coming from the Virginia Coastal Zone Management Program might be at risk because of NOAA budget cuts.

Mr. Moye mentioned that a tool called B-DATA could make merging different datasets together easier. Mr. Stiles said that VGIN (Virginia Geographic Information Network), the state mapping agency, has done quality control with much of the LiDAR data. However, publicly available data that is too accurate presents political issues. Solutions must be presented along with problems.

Dr. Dionne asked about the source of land subsidence data. Mr. McFarlane replied that a best guess estimate came from comparing global sea level rise rates to rates observed at Chesapeake Bay tide stations. Very precise measurement of subsidence has not yet been done. Dr. Dionne pointed out that planning based on very sparse data about subsidence is problematic.

HSRP Member Presentation: Coastal & Marine Spatial Planning--the Disconnect Between the Federal Government and the Ocean Shipping Industry and Other Traditional Maritime Users

Stephen M. Carmel, Senior Vice President, Maersk Line, Ltd., Norfolk, Virginia

Mr. Carmel thanked the panel for being willing to entertain his divergent personal opinions about coastal and marine spatial planning (CMSP). Mr. Carmel said that Maersk Line, Ltd. does not have an official position on CMSP.

Maersk and other industry stakeholders have participated in public meetings. However, substantive participation in the design and execution of the CMSP process has not been allowed. Considering that significant new regulatory development with an enforcement mechanism is intended, industry should be represented in regional planning bodies, but it has not been.

Multiple industry representatives should be included in the Ocean Research and Resources Advisory Panel. Moreover, that Panel has only a tenuous relationship to decision makers such as the National Ocean Council.

Mr. Carmel noted that the 2010 Marine Spatial Planning Stakeholder Analysis report, created by a research group hired by NOAA, included only environmental stakeholders, with no one from industry. The process itself appears to be biased against giving economic factors equal weight with environmental ones.

Methodologically sound quantitative studies on the economic impact of CMSP are hard to find. Instead, evidence of economic benefit rests on subjective qualitative assumptions made by organizations with a possible vested interest.

A science-based approach may not accommodate the need to make some decisions with incomplete information. For instance, lack of action on Arctic drilling may lead to shutting down the Trans-Alaska Pipeline.

Mr. Carmel also expressed concerns that CMSP programs can create a large and confusing regulatory burden, as with the right whale protection program. Also, because the CMSP process is set up through an Executive Order without appropriations, it is possible that industry will be asked to fund it. And CMSP could make problems worse by systemizing a regional approach, rather than a consistent national set of rules.

Mr. Carmel concluded that mistrust and opposition on the part of industry can only be expected to grow.

Questions from the HSRP

Mr. Carothers stated that he was in full agreement with Mr. Carmel's views.

Chair Welch commented that, perhaps because the CMSP process originated with the Council on Environmental Quality, there has been a lack of attention given to existing ocean users.

Ms. Miller noted that the National Ocean Council will include only one representative for all the Pacific islands, which leaves many feeling unrepresented.

Capt. Hickman agreed with Mr. Carmel that the right whale protection program is not being followed up on, and fines are not being collected. Capt. Lowell stated that right whale protection zone notification can be included seasonally on electronic charts.

Dr. Jay offered a long-term perspective. Over the last century, economic development has been very successful. However, there has been major deterioration in the marine and coastal environment.

The HSRP discussed why industry representatives are not included in meetings. Smaller owners and users may not have time or resources to attend. Dr. Brigham commented that the number one priority for ocean policy should be freedom of navigation, not environmental considerations.

Public Comment Period

There was no public comment at this time.

Adjournment

The meeting was adjourned at 5:35 p.m.

Thursday, October 27, 2011

Welcoming Remarks and Recap of Day 1 Discussions
Ed Welch, HSRP Chair

The meeting was called to order at 8:37 a.m. Chair Ed Welch welcomed everyone to the second day and gave a review of the first day's events.

The panel listed some of the themes resulting from the previous day's discussion, i.e.:

- The importance of branding NOAA
- Small harbors
- Blended information products
- Regionalization of communications
- Regional partnerships
- Role of NOAA in dealing with sea level rise
- Building awareness of OCS's role in storm surge modeling
- Exploring ways for NOAA to get recognition or potentially payment for its services
- Finding a stable national source of funding for the PORTS program
- Hydrographic Services Improvement Act (HSIA) reauthorization
- Cost recovery for emergency services
- Get information on Navy spending on hydrosurveying from Capt. Evans

NOS Leadership Vision for HSRP
Dr. Holly A. Bamford, Deputy Assistant Administrator for Ocean Services and Coastal Zone Management

Holly Bamford discussed some of the budget challenges facing NOS. Because of these pressures, NOS must work harder to advertise itself. Dr. Bamford asked for the HSRP's support in getting the message out for an agency which often appears only in the background. Maybe staff from the Office of Coast Survey could give guest lectures at the U.S. Naval Academy.

Dr. Bamford expressed her appreciation for the broader perspective the HSRP can contribute to government. She suggested that the HSRP might reach out to other NOAA Advisory Committees, such as the Science Advisory Board or IOOS's new FACA Committee. Forming subcommittees to study specific topics in more depth is another idea.

We should continue to spread the word about the importance of navigation services. Dr. Bamford asked for the advice of the HSRP on how to manage emergency response activities. In regards to the PORTS partnership, how can operational and maintenance costs be met? Fleet modernization in times of limited budgets is another challenge.

Dr. Bamford went on to discuss how navigation services can be aligned with NOAA's broad administrative priorities. How does navigation services contribute to the process of CMSP and support National Ocean Policy priorities?

NOS can play a pivotal role in some of NOAA's broad administrative priorities, e.g., CMSP, the National Ocean Policy, and Arctic policy.

NOS can help promote coastal resiliency by working on data integration and building data into inundation models. Perhaps Margaret Davidson of the NOAA Coastal Science Center can talk to the HSRP about the climate-related aspects of NOS work.

Dr. Bamford asked about what products the members would like to see NOS produce in the area of integrated ocean and coastal mapping (IOCM). Capt. Lowell said that NOAA is looking for a new IOCM coordinator. IOCM can create a broader consumer base for the information NOAA produces. Joyce Miller requested that the HSRP receive regular updates on the progress of IOCM.

Questions from the HSRP

Michele Dionne proposed a membership attendance exchange, whereby members from other relevant FACA Committee would attend HSRP meetings and provide updates on their work, and vice versa. She added that the Coastal Services Center might help publicize navigation services work.

Ms. Miller said that routine, important but non-emergency work should be publicized more. Gary Jeffress proposed that the HSRP create a Facebook page.

Dr. Dionne suggested that HSRP would benefit from having an economist on the panel to draw attention to the economic impact of NOAA. Dr. Bamford added that NOAA should bring attention to the services it provides which benefit even people in land-locked states.

Lawson Brigham stated that marine transportation should have more visibility in NOAA's Strategic Plan. Perhaps a formal presentation on this topic could be given to the HSRP in the future.

In response to a question from Chair Welch, Dr. Bamford said that NOAA is not prioritizing HSIA reauthorization. Chair Welch urged that this opportunity be taken advantage of.

Chair Welch also suggested that an updated Ten Most Wanted report at the beginning of the next presidential term would be appropriate.

HSRP Facilitated Strategic Planning Session
Gary Magnuson, Facilitator, NOAA CMTS

Warm-Up Discussion

Gary Magnuson began by setting out ground rules for the discussion. The objective was to come up with a short, actionable list of work elements to be accomplished by the HSRP between now and 2014.

In the preliminary discussion, each member threw out suggestions.
- Strategy on HSIA reauthorization
- Should the name of the HSRP be changed, perhaps to add a reference to navigation services, coasts, or commerce?
- Different lists of priorities should be coordinated and organized
- Focus on what can be done with the current budget &potentially declining future budgets
- Aligning the HSRP's activities with political priorities
- Height modernization in the Arctic
- Identifying critical areas where updating charts and other navigation services will have the most impact
- Branding: need to provide clear, visible leadership which will get community recognition
- Prioritizing some elements of NOAA's broad range of services
- Possibility that NOAA could get a revenue stream from industry users
- Industry might be willing to contribute in ways that would save NOAA money
- Identifying top administration priorities; the HSRP must maintain its independence while presenting priorities in a way that is political astute
- Consider how to pitch ideas to different audiences

Ideas from Brainstorming Session

- Explore partnership and funding models to build and sustain a robust PORTS system
- Explore NOAA/NOS role in coastal water levels and inundation
- Leverage other government capacities to build Arctic marine infrastructure

- Prioritize NOAA programs in relation to expected budget shortfalls
- Work with the three partner agencies to develop better models of ship/resource utilization and fleet modernization
- Conduct fleet evaluations for future vessel strategy
- Given various budget scenarios, what specific NOAA missions won't get done? What risks is the public being exposed to because of budget reductions?
- Research and develop a cost-effective method of collecting third-party hydrographic data (for instance, taking advantage of data available free from industry)
- Encourage the administration to provide technical drafting assistance to Congress in order to reauthorize HSIA; NOAA should plan what it wants in such a bill in order to be ready to respond when Congress decides to take action
- Work with NOAA to develop a seamless upland and submerged spatial reference system for coastal and estuarine inundation and circulation models at key locations
- Prepare a report card on existing navigation services
- Develop a recommendation for shared services between different groups (such as the Navy) for hydrographic surveys or services
- Create an updated Most Wanted Report for delivery in 2013
- Explore innovative means of obtaining useful information for hydrographic products and services from non-traditional sources
- Develop the economic case for shallow-water mapping and observations
- Develop the value of the NOAA brand
- Explore/review current and future NOAA/NOS emergency response roles
- Investigate ways to fund NOAA products through users
- Work with other committees on topics of mutual concern
- Explore role of regional navigation managers and other regional personnel
- Identify what NOAA navigation services work is being done in parallel by the private sector. What are the human and economic risks and benefits of this? Which functions can NOAA shed if necessary? Which functions are necessarily governmental?
- Develop innovative products for distribution via social media
- Inventory other government and commercial users and uses of navigation services or hydrographic services data and services
- Engage non-navigational constituents using social media
- Develop recommendations for the character of future NOAA navigation products and tools
- Encourage the development of uniform standards to allow for better integration of data sets and more uniform products
- Argue the critical importance of dredging for enhancing access to America's ports and harbors
- Prepare a White Paper on a geospatial sales tax to generate funding for navigation services

Luncheon Presentation--NOAA GPS Receiver Impacts Near LightSquared Transmission Towers & Follow-On Testing

Knute Berstis, Senior Advisor, National Coordination Office (NCO)/National Geodetic Survey (NGS)

LightSquared is a new telecommunications company which intends to create a nationwide 4G LTE (long-term evolution) open wireless broadband network. The very high power level in the MSS band, with emissions of up to 15 kilowatts, creates the potential of interference with GPS.

In January 2011, the FCC granted LightSquared a waiver to establish a high-density terrestrial network in the MSS band adjacent to the GPS L1 band, and required that LightSquared establish a Technical Working Group to evaluate potential interference with GPS. Other working groups are also looking at this issue.

The Technical Working Group, co-chaired by LightSquared and by the GPS Industry Council and including federal representatives, filed its final report in July 2011. Several Congressional hearings were held and more hearings are likely.

NOAA's testimony on LightSquared's original spectrum plan was that NOAA has numerous systems which depend on using GPS without interference or impingement, such as:

- Ground systems which control GOES and POES spacecraft
- SARSAT, the satellite-based search and rescue system
- Future satellites, including NPOESS Preparatory Project and GOES-R
- Over 23,000 environmental sensor platforms which depend on GPS for accurate geo-referencing and time stamping of data
- NEXRAD weather radars
- Sea surface radar altimeters
- NOAA fleet
- Geodetic receivers
- Radiosondes and dropsondes

The upper and lower 5 MHz Live Sky Tests done by NOAA/NGS found that tracking loss, or loss of all GPS data, occurred near the LightSquared transmission site for a distance of 2012 - 3995 meters. This could be a serious problem.

As a result, LightSquared filed a Modified Spectrum Plan which proposes a voluntary power limit of 1500 watts and postponement of the upper 10 megahertz channel bordering the GPS signal. A lower 10 MHz test was conducted showing that most

receivers still suffered tracking loss and degradation in signal/noise ratio, although some caveats apply to this test.

There are five major NOAA systems which require wideband GPS equipment:
- Six-satellite COSMIC system that observes Earth's atmosphere
- Monitoring of sea level trends
- GPS-MET project, which measures atmospheric moisture
- US-TEC (Total Electron Content) product to inform users about space weather conditions
- Maintenance of National Spatial Reference System

LightSquared will operate only in the lower 10 MHz, and will coordinate and share the cost of working with GPS manufacturers to fix problems with high-precision receivers. LightSquared has offered to upgrade all federal systems at no cost, but this would not include local or private industry systems.

LightSquared and Java, a GPS manufacturer, are developing a filter solution for high-precision receivers. The filter will likely be able to handle problems with the lower 10 MHz, but not with the upper 10, and will work only with Java systems. This filter will go through NGS interim tests this year, and will cost $300-800. Existing systems can be retrofitted to use the filter.

More tests of high-precision and timing receivers will be done in early 2012 by several groups within NOAA and other agencies. FCC will most likely wait to make a decision until that testing is completed.

Questions from the HSRP
Chair Welch asked why LightSquared's technology is considered desirable. Mr. Berstis answered that the new system will provide more extensive coverage at higher speed.

In response to a question from Dr. Jeffress, Mr. Berstis said that LightSquared is planning to operate in Europe as well, but has not done so yet.

Several members, including Susan Shingledecker, Steve Carmel, and Bill Hanson expressed concern about the impact of LightSquared on a wide range of GPS users. Mr. Carmel said that automation systems on ships are controlled with a timing signal using GPS; without that signal, engines will stop working.

Ms. Shingledecker noted that it is necessary to communicate the impact of this issue to the public and to decision makers who may not have the technical background to understand what interference with GPS means.

Chair Welch pointed out that the way spectrum was allocated to LightSquared was done with a waiver granted by FCC staff, not through a vote of the Commissioners, which is unusual. LightSquared seems not to have anticipated the types of problems which have arisen. The current proposal has the potential to interfere with many GPS-based NOAA programs.

LightSquared plans to build 40,000 towers in the U.S., which would mean most GPS users would be close enough to a tower to be affected. Day-to-day receivers will probably be less affected than high-precision receivers by transmissions in the lower 10 MHz.

Juliana Blackwell discussed the work NOAA is doing to determine how its programs will be affected and to provide comments up the chain to NTIA (the National Telecommunications and Information Administration).

HSRP Facilitated Strategic Planning Session (continued)
Gary Magnuson, Facilitator, NOAA CMTS

Mr. Magnuson presented the ideas of the brainstorming session, which he had organized into four buckets with the help of Ms. Miller and Dr. Jay. The four buckets were:

- Outreach
- Program improvement
- Budget
- Emerging issues

One or two ideas within each bucket, which are time-sensitive or particularly important issues, could be prioritized.

Dr. Brigham and other members said that Arctic policy is a long-term issue which needs attention. Marine infrastructure and emergency response in the Arctic need work. An Arctic working group could examine how to efficiently survey the Arctic, perhaps with help from the Navy. Another question is whether NOAA can propose that oil and gas leaseholders reimburse the agency for the cost of charting in their leaseholds.

There was discussion about whether the report card or review should work more to support NOAA's core programs and help them get funding, or to grade programs as good or bad.

The Ten Most Wanted Report could be connected with the need for HSIA reauthorization. This report should focus on the potential for job creation and economic benefit, and should have a one-page executive summary.

The HSRP decided to form three working groups.

- First, a working group on HSIA Reauthorization. Ms. Shingledecker will chair this group, along with Mr. Carothers, Vice Chair Wellslager, and Mr. Perkins.

- Second, a working group on Program Improvement, emphasizing work on the PORTS program, sea level rise, and outreach via social media. Dr. Jay will chair this group, joined by Ms. Miller, Dr. Jeffress, Mr. Hanson, Dr. Dionne, and Ms. Shingledecker

- Third, a working group on Arctic issues with a focus on marine infrastructure/navigation services and observing. Dr. Brigham will chair this group, along with Mr. Carmel and Mr. Armstrong.

Pursuant to Chair Welch's suggestion, the working groups will develop a scope of work and share it with the Panel as a whole by the end of the first week of December.

HSRP Administration
Ed Welch, HSRP Chair

Capt. Lowell announced that a new charter has been signed for the HSRP; the charter will be valid for two years and has a few minor changes from the previous charter. It is available online.

The next meeting of the HSRP is planned for the spring of 2012 in Anchorage, Alaska. Members discussed ways of publicizing the meeting so that members of the public and other interested parties, perhaps members of Congress, can attend. Ms. Miller suggested that a report-out from the three working groups should be on the agenda of this meeting.

There was no decision on the location of the fall 2012 meeting, but Washington, D.C., and somewhere on the Gulf of Mexico were suggested.

Dr. Brigham nominated Vice Chair Wellslager as the new HSRP Chair, Ms. Miller seconding. There were no other nominations. The Panel voted unanimously to elect Vice Chair Wellslager.

Ms. Shingledecker nominated Mr. Perkins as the new Vice Chair, Dr. Jeffress seconding. There were no other nominations. The Panel voted unanimously to elect Mr. Perkins.

Kathy Watson asked for suggestions about which stakeholders should be asked to present at the Alaska meeting. Dr. Brigham offered to help by sharing his knowledge of the Arctic navigation community.

Public Comment Period

There were no public comments at this time.

Adjournment

The meeting was adjourned at 3:37 p.m.

HSRP VOTING MEMBERS IN ATTENDANCE:

Edmund B. Welch, HSRP Chair	Passenger Vessel Association
Matthew Wellslager, HSRP Vice Chair	South Carolina Geodetic Survey
Lawson W. Brigham, Ph.D.	Distinguished Professor of Geography and Arctic Policy, University of Alaska Fairbanks & Senior Fellow, Institute of the North
Stephen M. Carmel	Maersk Line, Limited
Jeffery J. Carothers	Fugro Consultants, Inc.
Michele Dionne, Ph.D.	Wells National Estuarine Research Reserve
William Hanson	Great Lakes Dredge & Dock Company
Captain Sherri Hickman	Houston Pilots Association
David A. Jay, Ph.D.	Professor, Portland State University
Gary Jeffress, Ph.D.	Professor of Geographic Information Science, Texas A&M University, Corpus Christi
Joyce E. Miller	Joint Institute for Marine and Atmospheric Research, Research Corporation, University of Hawaii
Scott R. Perkins	Wilson & Company, Inc.
Susan Shingledecker	BoatU.S. Foundation for Boating Safety and Clean Water

HSRP VOTING MEMBERS "NOT" IN ATTENDANCE:

Captain Thomas A. Jacobsen	Jacobsen Pilot Services, Inc./Long Beach Pilots
Captain Ramon Torres Morales	Port of Las Americas Authority

HSRP "NON-VOTING" MEMBERS IN ATTENDANCE:

Andy Armstrong	Co-Director, Joint Hydrographic Center, University of New Hampshire
Juliana Blackwell	Director, National Geodetic Survey, NOAA
Richard Edwing	Director, Center for Operational Oceanographic Products and Services, NOAA

HSRP DESIGNATED FEDERAL OFFICIAL (DFO):

Captain John E. Lowell, Jr.	Director, Office of Coast Survey, NOAA

MID-ATLANTIC NAVIGATION SERVICES STAKEHOLDER PANEL:

Clay Bernick	Administrator, City of Virginia Beach Environmental and Sustainability Office
George H. Detweiler	U.S. Coast Guard, Office of Navigation Systems
Benjamin J. McFarlane	Regional Planner, Hampton Roads Planning Commission
Art W. Moye, Jr.	President, Virginia Maritime Association
Heather L. Wood	Director of Environmental Affairs, Virginia Port Authority
George M. Hagerman, Jr.,	Virginia Coastal Energy Research Consortium
Skip Stiles	Executive Director, Wetlands Watch, Virginia Conservation Network

NOAA STAFF PRESENT:

Mike Aslaksen	NGS/RSD, Chief
Holly A. Bamford	NOAA/NOS
Knute Berstis	NGS/NCO Senior Advisor
Paul Bradley	NOAA/NOS/PPAD
Commander Rick Brennan	NOAA Mid-Atlantic Navigation Manager
LTJG Matt Forney	NOAA, Alaska Navigation Manager
Captain Gerd Glang	NOAA/NOS
Krista Johnson	NOAA/NOS
Garret Lang	NOAA/NOS
Gary Magnuson	NOAA/CMTS
Morgan McHugh	NOAA/CO-OPS
Scott Sherman	NOAA/NSD
Commander John Swallow	NOAA/NSD/OCS, Chief
Margaret Spring	NOAA Chief of Staff
Kathy Watson	NOAA/HSRP Program Coordinator

OTHER SPEAKERS AND ATTENDEES:

Jason Creech	Hydrographer, David Evans & Associates
Captain Ashley D. Evans D. D. (Keynote Speaker)	Office of the Oceanographer of the United States Navy
Brian Fitzgibbon	Maersk Line, Limited
Capt. Mark S. Ogle	U.S. Coast Guard, Captain of the Port Hampton Roads