MEETING OF THE
NOAA HYDROGRAPHIC SERVICES REVIEW PANEL

Wednesday, March 21, 2007

ORIGINAL

J.W. Marriott Hotel
Salon 2
1331 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

PANEL MEMBERS:

J. Scott Rainey, Chair, Consultant
Tom Skinner, Vice Chair
Durant & Anastas Environmental Strategies, Inc.
Jonathan Dasler, David Evans and Associates, Inc.
Elaine Dickinson, Boat Owners Association of the U.S. (BoatU.S.)
William Gray, Gray Maritime Company, Maritime Advisor to INTERTANKO
Richard W. Harkins, Consultant
Captain Sherri Hickman, Houston Pilots Association
Dr. Lewis Lapine, South Carolina Geodetic Survey
Admiral Richard Larrabee, The Port Authority of New York and New Jersey
Adam McBride, Lake Charles and Terminal District
Captain Andrew McGovern, Sandy Hook Pilots Association
Captain Minas Myrtidis, Norwegian Cruise Line
John Oswald, John Oswald and Associations, LLC
Admiral Richard West, Consortium for Oceanographic Research and Education
Larry Whiting, TerraSond Ltd.

Reported by: Richard D. Baker, Jr.

INDEX PAGE

P R O C E E D I N G S

CAPT. BARNUM: Thank you, and welcome to the Hydrographic Services Review Panel meeting. It's a Federal Advisory Committee to advise the administration on hydrographic services. Before I turn it over to the chair, Scott Rainey, I would like to point out in the case of an emergency, a fire, that there are two exits located at the far end of this room that lead into the kitchen, about 15 feet there's another exit that leads to the street. There are some restrooms back out of this door behind the elevators. And I would like to ask for the public, there's a sign-in sheet on the table back here, to please sign in. Thank you. Scott.

CHAIRMAN RAINEY: Thanks, Steve. Good morning, welcome to Washington, D.C. It's my privilege to introduce Brigadier General Jack Kelly, U.S. Air Force retired. General Kelly serves as the Deputy Undersecretary for Oceans and Atmosphere, National Oceanic and Atmospheric

Administration. He's responsible for the day-to-day management of NOAA's domestic and international operations. In addition, General Kelly is the United States principal representative with the World Meteorology Organization and is responsible for U.S. interactions with the WMO.

General Kelly has 39 years of experience in all facets of the weather field, including 21 years at the senior executive level in both government and private industry. He has broad experience in leading science-based service organizations, introducing change, and using and implementing technology and science.

General Kelly served as senior advisor on weather services for the Department of Commerce and conducted a bottom-up review of the NOAA Weather Service operation, plus NOAA and NWS management, planning and budget policies and processes. He was NOAA's assistant administrator for the Weather Service from 1998 to January 2004.

General Kelly retired from the Air Force

in 1994 after a distinguished 31 years of service. His duties covered the entire spectrum of the weather field from operational forecaster to chief scientist to staff officer. He retired as the director of Weather Headquarters, U.S. Air Force.

With that, I would like to introduce General Kelly.

GENERAL KELLY: Thanks, Scott. The first thing I suggest is you all start a pool as to at what point in the next two days Steve loses his voice. He's got a cold and so you'll watch it degrade over time.

But thank you, Scott, for those words. A couple of things you should draw from those. Number one, I'm a meteorologist, not a hydrographer, and number two, I'm getting mighty long in tooth in terms of age, but it is my pleasure to welcome you. I have a difficult task. My boss is coming at noontime and you want to hear my boss, I don't want to steal any of his thunder so I'll keep my remarks very, very brief. It's a

great time to be in Washington, today is the first day of spring. The temperature may not seem that way, but tomorrow is supposed to be much nicer, so hopefully we can get done early and enjoy some of the warm weather in Washington.

Today is a special day for NOAA, it's NOAA day on the hill, and so we have a number of the NOAA organizational entities which have booths and information kiosks up on the hill and hopefully that will attract the staff and some of our elected representatives to learning a bit more about NOAA. And while it's a special day for NOAA, it's a special year for NOAA and it has a special tie to the purpose for this panel, that is it's our 200th anniversary where we trace our lineage to a survey of the coast started by Thomas Jefferson, and I know the admiral will talk a bit more about the various activities that are going on this year relative to the 200th anniversary.

Committees, boards like this are in fact important to NOAA. Sometimes the staff may not

actually get to believe that, but they in fact are because what they do is they bring together a diverse set of experts, objective experts in a given area who devote some time and intellectual capital to look at some issues that are impacting NOAA in the nation and provide us advice. We take the advice seriously. We may not always accept the advice, but if we don't accept the advice we owe it to you to explain to you why we didn't accept the advice. So the recommendations that you make later today will in fact be considered, debated, discussed, and frankly sometimes argued within NOAA, but we will look at the results of your work and we'll get back and explain to you what we did. So we do appreciate what you do. You make us better and by making us better you help make the nation better.

You have a busy schedule. I'm hoping there will be time for you to discuss. In my experience having sat on these boards, what the organizers do is fill up the agenda with briefings

so you won't actually have any time to talk among yourselves, and I will help move along the free time to discuss by closing my remarks and saying the next two briefings are particularly interesting. I've heard John, he tells me that he's updated just a bit. We brought it into the NOAA senior leadership board, NOAA executive council, to get them thinking about the way the marine transportation system is likely to evolve in the future and what some of the pressures and challenges are on it to help think about what we might do as we start putting together our end-of-year budgets. So it is an interesting talk. And then you'll hear talk about the economic utility and importance of what we do.

So with that I'll turn it back to Scott. Last point, be gentle with Lautenbacher when he comes. You'll get him right after two hours of testifying before the House Appropriations Subcommittee on NOAA and just before two hours of testifying in session tomorrow with the Health

Science Committee, where he will get to talk about such noncontroversial items as climate change and climate sensors on satellites. On top of that, he's got a cold, so my plea to you would be treat him with a little bit of care because he's going to be, A, tired, and B, not in the greatest of health. Back to you, Scott.

CHAIRMAN RAINEY: Okay. Thank you, General, very much.

Well, as the general said, the next speaker I'm very pleased to announce, and am glad he could join us today, Mr. John Vickerman. John is a founding principal of TranSystems Corporation, a transportation consulting firm specializing in the planning and design of port, intermodal and freight logistics facilities. TranSystems' maritime and intermodal practice has become internationally known to providing innovative solutions to the many operational, planning and design issues confronting the marine and intermodal transportation industry. Much of John's work

focuses on assisting ports and shipping companies to recognize and prepare for future market and technological changes. As a specialist in intermodal and maritime terminal design, John has led TranSystems' work on major port projects throughout the United States and the world for more than 26 years. Sixty-five of the 90 U.S. deep-water general cargo ports have benefited from TranSystems' strategic master planning. His international work includes work for the Ports of Rotterdam and Hong Kong, the intermodal freight analysis for Eurotunnel, the channel between England and France.

John is a both a licensed civil engineer and registered architect in 22 states and holds a master's degree in structural engineering from the University of California Berkeley. John, thank you very much for joining us.

MR. VICKERMAN: Good morning. It's a pleasure for me to be here. Can you all hear me adequately? Great. My task this morning is to

give you a briefing on the future trends and challenges for the MTS. For the last couple of months, I'll give you a side notice as I begin, the last couple months we've been working on the due diligence acquisition of a German bank to the largest terminal operator in New York. That's why Admiral Larrabee is not with us today. It was announced yesterday by Brian Marr that the Germans have purchased Marr Terminals, including their assets in Prince Rupert. Over the last couple of years we've had the Australian banks purchase HAL Terminal up in Canada, Ontario Teachers purchased assets, we've had the largest pension fund in the United States, CaliPers, California Personnel Pension Fund, purchased Center Point, an operating company, and tell them that they will develop ports and logistics facilities. So finally after years and years of freight doesn't vote, a lot of people are beginning to pay attention to the real value of the MTS. And if you haven't heard it, the latest acquisition is by the Germans of our largest

operator in New York.

Today I'm going to go through these topics with you. We're going to talk about the external industry pressures, we're going to see where the cargo demands and trends are occurring worldwide, we're going to try to relate them to North America. I want to talk particularly about the Asian import challenge. I call it a tsunami. It's at our feet. A lot of people don't recognize the dynamic of that trade. We'll talk a little bit about that.

We're then going to talk about our own North American forecast volumes from the global trade. We're going to use the best data in the world to project some of those forecasts. Then we're going to look at our capacity, we're going to look a little bit about productivity. Still the best North American terminal compared to the best international terminal fails by a factor of more than four to one. We'll talk about why is that, what's going on and why?

Then we're going to talk about vessel trends. I'm going to show you a picture of a vessel that is about six weeks old right now and it will amaze you in that process. Finally we're going to talk about some environmental concerns and vessel emissions. We have the president of the Port Commission in Los Angeles indicating that we are killing 3,000 people a year. That's quite something for a president of a port commission to admit. We'll talk about why and what those impacts are related to the MTS.

So let's go through the external industry pressures. Here I'm going to take a global view and we're going to delve into that, I'm an architect and an engineer. This is a hurricane that a vessel is headed towards. I use it as a backdrop to really ask the question are we going in the right direction. Should we-- maybe we should divert our course here before we continue in that process. Clearly North American ports and North American gateways to trade have huge challenges in

front of them, cargo demands, capacity issues. We've got the ever -- we have declining productivity in some sectors of our MTS, and environmental concerns, and all of these are pretty daunting challenges. Are we headed in the right direction, do we need to change course? It is my hope in this presentation to point out some of those key milestones that might be important for us to achieve.

As an architect and an engineer I'm tasked with designing facilities that have the durability of 40 or 50 years. If I go back to 1950, I'm an architect in 1950 and I'm designing Adam McBride's new port facility in 1950 and I use this technology as my future projection, then by the time 50 years rolls around the technology has changed dramatically. So embedding flexibility into our planning to respond to future change is paramount. Now I'm an architect in the year 2007 and I'm tasked again by coming back 50 years later and he says do me another port. If I use this

technology to go the 40 or 50 years out, have I done the right thing? Should I be doing something else? Now, I'm a retired navy captain. I don't know what that is. This is a graphic of a new fast frigate. I don't know, is that an airplane? It doesn't really matter what it is, but what we do know, what we know today will surely, surely be different tomorrow. And the way we accept and the philosophy of how we embrace change, technological change, operating change, has and will create the future for us. So our ability to deal with and incorporate dramatic change is part of our strength.

Today a marine terminal only exists if it can reduce through-put costs. If it can accelerate the in-transit philosophy of the product that it is moving and it has to do it securely and it must be a steward of the environment. Clearly Adam McBride doesn't say to Lake Charles come to Lake Charles, we're slower, we're more costly, our service ain't so good. He doesn't use ain't, but

that's not the way it is. Adding value, reducing cost, increasing transit, speed is what it's all about.

I will talk today about the entire marine industry globally. It can be divided into two major areas; general cargo, which has three components, break-bulk, neo-bulk and container, and I've tried to give you some examples of the kinds of freight for each of those; and also bulk cargo, which is both liquid and dry. Some of these are privatized, some are public. A lot of what I'll talk about today is containers. We have dramatic growth in containers worldwide, we have dramatic growth in the vessels that carry the containers, and we'll talk about that dynamic. However, the same principles we talk about with containers are applicable to break-bulk or neo-bulk or any one of the other vessel modes of transport.

Today the objective is a worldwide objective to seamlessly move freight through the logistics chain, and a port authority is just one

link of many, many constituents in that chain, from nonvessel operating common carriers to pilots, to third-party logistics providers. We call them 3POs, we now have 4POs. Until everybody in that logistics chain derives a value, we don't have the ability to change dramatically the system. So it has to be and it has to embrace the holistic entire logistics chain.

The container industry is dramatically consolidated. What you see before you now in a graph, the blue bar are what we call slots. A slot is the capacity to move a container on a ship, so it's a global position if you will for all capability on all ships worldwide. You can see that the slots are increasing because we're increasing the number of vessels. I want you to focus on the yellow. The yellow is the slots controlled by the top 20 carriers. And if we look at that, in 1995 we're about 44 percent of all the slots were controlled by the top 20 carriers. In 2000 59, in 2005 70 percent; more and more

capability in fewer and fewer ends. Also shown here in red is the slots controlled by four global alliances. The world is so big that one carrier cannot control the logistics supply chain around the globe and they unite and they link together a consortium and alliances. They fix rates and generally practice as a consortium or an alliance worldwide. In the foreground is pier 300, in the horizon is pier -- 300 in the foreground, 400 in the background in Los Angeles.

We have a paradox today. It is the best of times, cargo volume is up. It is the worst of times for resources, capability is declining. And the paradox is how do we balance that increase demand against our organic resources?

This is opening day, pier 300, Port of Los Angeles. Oops. Lots of volume. At the current growth levels today by the year 2020 North American ports will be, guaranteed, severely congested. You can bet on it. And we can no longer use congestion as an excuse. When the

system is congested we cannot tolerate that issue. If we don't act in a holistic systemic approach, we will embrace what this future tells us as unabashed gridlock in many of our key gateways.

Several years ago there was a survey at the top 1,000 blue chip shippers. A shipper, sometimes called a beneficial cargo owner, are the people who own the freight in the container that's on the ship. And they were surveyed, the top 1,000. By the way, the top 1,000 are those who spend more than one billion US every year on transport services. And they were asked what is the most important criteria that you the beneficial cargo owner has in moving your freight, and their first criteria is, by 43 percent, reliable, dependable service, repeatable, on time every time all the time. Don't give me anything that cannot be repeated and I can't rely on. Number one criteria.

Second criteria is freight rate. Now, when I deal with the shippers they always want the

rates down. But we'll give them the benefit of the doubt, so between these two factors, plus the third most frequently referenced issue is transit speed, those three factors rule in terms of selection of carrier, logistics, distribution, supply chain management decisions, and quite frankly, a big marine carrier like NYK, 400 vessels, 600 vessels worldwide, really when they come to a port they don't really care about that, just get my asset in and out of that port and deliver the product by this criteria.

This is the one I like, though. The logistics truth. The customer wants more and is always, always, always willing to pay less for it. Do you disagree? My wife does not disagree. And I don't disagree. When I go to shop at Wal-Mart -- here's what I'd like you to do, when you shop at Wal-Mart or wherever you shop and you come up to the cash register at the end of the transaction and you put it down and start paying for it, ask the lady behind the cash register where did this come

from, how did it get here, what port did it come through, what trucker brought it to me. What are you talking about? It's the perception of quality, the availability of product and price and availability. I used to get mad at my daughter when we would send her down to the grocery store for milk and she couldn't find the right 1 percent colored milk top or whatever and she would come home and say I can't get it, it's frustrating. And she's completely divorced the cow from the logistics chain. For her it's the supermarket. It's not there and the supermarket's at fault or somebody's at fault because I don't get the right milk. So the consumer is in fact the one who drives most of the product worldwide.

This chart shows you how important the marine transport element is, but it is also building on that since about, oh, 1983, a key element, not the majority, but a key element is starting to move by rail. What we call intermodal in the system, going from one mode of transport,

vessel, to another mode of transport, rail. And another thing to realize is back in 1968 it took us about 60 days to get from Hong Kong to New York. Today that's dropped 43 days, for about a 72 percent decline in transit time. Pretty amazing.

Do we use all the capability of the modes? We talk about the intermodal system and yet we don't have a system. What we have is an amalgamation, an assembly, an aggregation of public and private interest who do not fully collaborate. The 3PO does not talk to the ports. The truckers do not fully talk to the railroads. It is not a collaborative partnership. Is there benefits by cutting across those stovepipes of mobile resistance or systemic value in the whole chain? And I would propose to you that there is and that the MTS in many, many instances is the glue, the resource between those mobile stovepipes.

Another systemic issue is security, and I'm going to talk a little bit about that. I was just yesterday in Fort Lauderdale talking to the

Maritime Security Council. We're going to talk about some of my pet peeves in security. This is the Port of Miami, known before 9-11 for its drug interdiction capability, and you'd think of all the ports that one would know best about how to deal with security. Yet their budget has been impacted by more than a 600 percent increase since 9-11, a huge impact.

This is an exercise, a tabletop exercise done by Booz Allen Hamilton that has the following scenario: On day one the Port of Los Angeles and Savannah are shut down for a, not a false positive, a confirmed positive nuclear dirty threat. We cannot find it. Customs closes all ports, Customs and Border Patrol day four. We can't find it, we reopen the ports on day 12 and day 20 a railcar explodes with the threat, and the ups and downs of the issue are not what I'm getting at. What I really want to get at is the loss was $50 billion. The amount of time to clear the vessels from the MTS was 60 days. The elasticity in the supply

chain globally has declined over decades and is now averaging somewhere between seven and ten days of total elastic capability. 60 days is unheard of, 60 days threatens the viability of individual private sector players in that supply chain. It is a huge effect.

Our ability to use and understand what's in a container is important. The typical -- sorry, we'll go back. The typical mechanism is going through a radiological portal monitor, an RPM, past an OCR reader or radio frequency tag identifier, and then through a VACIS, which is really an X-ray issue. We have radiological portal monitors. Our first generation are plastic scintillators. A radiological portal monitor is just a detection device that passively looks at and triggers alerts to radiation detection. Our first generation I refer to as kitty litter detectors. Kitty litter or Mexican tile, creates a false positive immediately. You could have a barrel of kitty litter and inside it a pretty ugly thing, but you

wouldn't be able to detect using a first generation RPM, you couldn't detect if that's just kitty litter. So we stop it, we take the container off of the issue, we deband it and it actually slows down the logistics chain. Today what we need is what we call spectrum graphic SPMs that detect a spectrum of radiation and can tell us whether it's kitty litter or Mexican tile versus something really bad. Unfortunately we have a variety of first generation and second generation RPMs and the system isn't fully integrated.

You're aware of the president's signature last year in October of the Security and Accountability for Every Port Act. The SAFE Port Act. You realize and understand that that act requires the top 22 ports to be 100 percent radiologically protected by the end of this year and the rest by the end of 2008. It also has the TWX implemented and that will occur this year. And then it has something down here, the codification of the automatic targeting system through the

container security initiative through C-T PAT and something called Greenlane. Greenlane isn't an environmental issue, it's how you can speed cargo inspection by fully understanding the in-transit visibility of that cargo. We have no Greenlanes that exist today. The legislation permits it. We don't have any of it. We'll talk a little bit about that in a minute.

So what is our line of defense? We have something called the second line of defense, I think it's misnamed. We call our first line of defense the ports in North America and the gateways, and the second line of defense overseas. I kind of see it opposite; you know, first line of defense is overseas and then maybe second line of defense is -- but that doesn't matter. I don't come up with these things. We have the second line of defense, which is the radiologic portal monitor deployment system, is managed through the National Nuclear Security Administration. It has three major programs. One is the global threat

reduction, another is this $700 million to put in RPMs overseas. We prebought 600 phase one generation RPMs and we're going to deploy them overseas. We're going do it at 50 megaports, 200 border crossings, and the real issue here is we're spending this kind of resource but we do not link it to the first line of defense, our organic ports in North America. If we could share the information across those lines of defense, it comes down to this: Port security and port productivity are two sides of the same coin. If we have the information overseas and we can use it to operate the ports better, we can be more productive. Why don't we? Why shouldn't we? Port security is a big deal and getting bigger.

So another I'll share with you, this is my opinion so, another kind of ugly truth is once we detect it and it's not a false positive, what the heck do we do with it? Now I don't want it. So we now have a confirmed dirty nuke and it's in a container. Now, they don't glow like that, that

would be really neat if they could. This is it, I'm here. What do we do with it? Well, in Los Angeles right now we drag it over two bridges, past one residential community, past a power plant. That doesn't make a lot of sense, does it? How do we do it?

Well, through a grant, through TSA and DHS, there's a model program underway being designed by The Washington Group that looks at containment of a dirty nuclear device. It's also a facility that would detect chemical and biological issues and containment. This gateway model will be proliferated throughout all of the our gateways once it is perfected in LA and Long Beach. So this is the future of security coming to each of your gateways, once we understand and get the first line of defense communicating with the second line of defense and we can somehow use that to improve our productivity.

Okay. Enough aside on security. It's a big issue today and we need to deal with it.

Let's look at the international cargo demands. The World Bank after 9-11 revalidated that every ten years the world output grows 10 trillion US dollars. Whoa. News flash, the population of the world is increasing, sophistication of trading partners is increasing, barriers to trade are coming down. $10 trillion every ten years. If we look at container growth against gross domestic product, the green line is container growth, this is compound annual growth rates, and the blue is GEP. You can see the containers are about twice GEP and will continue to be at that growth rate for a long time. So we're going to have containerization out here for a long long, long period of time.

Let's look at this. This is using the latest and greatest data from global insight to project conservatively the container forecast to the year 2024. Today we're at about 85 million containers. By the year 2024 we will be at 243 million. Oh, man, that is a lot. That growth is

about 5 to 6 percent compound annually. Historically it's been at 8, so the slope of that line is declining but is still really horrendous.

Here I've taken -- it's hard to get this data, I've combined ports. Typically the Port of LA and Long Beach, which I combined here, doesn't show up on the top six or seven because individually they're not, but when I combined them they're the third largest port complex in the world. By the way, this thing, number 4, is about to be number 1, and I'll tell you why in a minute. Let's look today for 2004, this is a couple year old data because the data is hard to come by, Hong Kong at that point in time was 20 million containers, they're going to 31 million. At that point Hong Kong alone would be greater than the top 15 U.S. container ports combined. Just Hong Kong, one port, bigger than top New York, New Jersey, LA, Long Beach, everybody. Pretty big.

But this is what I'm most fearful of and I think what the global industry is responding to.

This looks very complex, but bear with me for a minute. This is GDP rankings using global insight data across these planning horizons. The U.S. according to global insight declines. No longer the world economic engine. That decline is 2040. Some econometric forecasters believe it's as early as 2030. Now, I'll be retired by then but it doesn't bode well for my grandson.

Let's look at who is ascending. This is China. We'll talk about that in a minute. This is India. And after a brief respite this is Brazil. Let's look at all the rest. Japan down, Germany down, UK down, France down, Italy down. What is the new world econometric? It's Asia and the Indian, China and the Indian subcontinent. If you don't get that by now, prepare to be a, not developing economy, but one that does not rule in terms of global power and projection.

So let's talk about this Asian import volume. For many years -- this is a graph of product sourcing or outsourcing if you will to the

globe. The focus on Asia has been with us for years and years and years. This is millions of TEUs, 20-foot equivalents, 20-foot boxes. So this is not a new phenomenon. Asia and the Indian subcontinent have been there for a long time in terms of attracting sourcing and manufacturing. Today in North America, China itself is 41 percent of all trade, 41 percent. In the U.S. alone in the last five years China represented 95 percent of all growth. Here it is, last five years, China accounted for 95 percent. The trade growth in the U.S. is compounding at about 12 percent annually.

I was over in Shanghai last year, we have a contract with the Chinese central government to do a planning for a new port south of Shanghai, and I came back disbelieving what I saw. Let me share with you what I saw. This is the outline of China on the U.S. map. We know that their populations are different, but I want you to look at those faces, and I came across or came back with a fact and that fact is that the number of Chinese

elementary school children, every one high school and below, that number is larger than the population of the United States, every man, woman and child. More than 300 million. This is the upward mobile society for China. This is why China is driving an engine at top speed.

Let's look at the growth of Chinese ports. Remember our growth is growing at about 6 to 7 percent. Here's mainland China growth, it's averaging 27 percent a year. Who would like their CDs to grow at 27 percent? I would, that would be great. Doubling every three years, wow.

So how bad is this? Well, the Chinese Ministry of Rail went to the second largest railroad in North America, signed a five-year agreement to build a new double-stacked train system down the Yangtze River. The Yangtze River today, 400 of the Fortune 500 manufacturers are already in the Yangtze manufacturing. Well, that's pretty big. The Chinese Ministry of Railroads will spend 242 billion on a double-stacked train system

up the Yangtze. That's like spending the entire SAFETEA-LU Transportation Bill on one mode, one technology in one location. Do you think Matt Rose, the president of BNSF, could do something with $242 billion in a trade lane? I think he could.

So let's look at that. This is a rendering of the old Shanghai. The clouds back here are the old city of Shanghai and they said they're desperate, they've gotta build more ports. They looked 20 miles to sea and they saw some islands and they said let's cut off the top of the islands and fill in between and we'll create 54 new berths, a thousand feet long each one. And then in three years they built a 20-mile, 32-kilometer bridge, in three years. Fully environmentally documented, permitted, designed and constructed. I walked on it.

They're building a new city for the new port workers and they're building a new logistics park. Prologis, the largest developer of logistics

parks in the world, has the contract, I'm actually doing some design for Prologis, and through-put of that park right there is twice the through-put of the total Port of New York and New Jersey just in the logistics part.

What are we doing about it? On the west coast of the United States Mexico is contemplating three new corridors. This is Punta Colonet, just south of the border at San Diego. They will dredge a new channel into the desert, create a new port, they will build a rail line across the desert to the Yula Port Authority to avoid LA Long Beach. Wow. And then if you go around the horn to the Gulf of California, from Guaymus to Tucson is another corridor. And then you have Lalo Cardinez with the KCS Railroad going into Laredo. Now, not all three of these will be developed but it's about 4 million TEUs, so not a whole lot of capability.

Canada, the Canadian Manufacturers and Exporters Association came to us and said we want to build a new port north of Vancouver and we want

it to have the same through-put as LA Long Beach, and I said what? 13 million containers. And we basically said, we did the marketing forecast for that, we basically said no, Prince Rupert can only do about two. This is the CN system by the way. It goes coast to coast and since the acquisition of the IC Railroad it goes down into New Orleans. And they are the closest to China. The vessels coming to the Panama Canal, which are limited to 5,000 TEUs now, will go into that system. Thus there's an emerging transcontinental intermodal system by CN that goes from Prince Rupert in the north-- by the way, the announcement yesterday with Marr also included the acquisition of Prince Rupert because Marr was the operator of Prince Rupert by the Germans.

We're doing a terminal -- I'll go back. Up here just north of Halifax we're doing a new intermodal terminal.

So if I look at this whole system typically from the centroid of manufacturing, the

Japans and the Koreas, typically when it crossed the Pacific, since the standards have deregulated, the shippers went to the largest urban production zone in North America; New York-New Jersey. News flash, New York-New Jersey is not going to Halifax. New York-New Jersey is not moving to Baltimore. The mandate is get the stuff to the consumption zone as quickly and as cheaply as you can. The second consumption zone is LA Long Beach; we're a bipolar. So as the centroid manufacturing moved to Asia, Singapore, Hong Kong, a couple years ago a shipping line said I coulda had a V8, I'll go backwards. And it went backwards to the Suez, through the Suez, through the Red Sea, past the Straits of Gibraltar and on sprint service got to New York a day faster. And today the backwards flow through the Suez is greater in containers than it has ever been in the history of the Suez Canal. Although small, if we can't accommodate the Asian import volume here, it will flow backwards, because we're not going to stop consuming. Or maybe we

are. Maybe two years, a year from now all of you will stop buying and start saving. I don't think so.

This not how to run a port. But can we handle these volumes in North America? Well, the forecasted volumes for North America and particularly for U.S. range from 6 to 7 percent compound annually. If I freeze the market share we've got to grow three times. How many in this room believe we'll have three times the number of ports by the year 2020? I would love it. How about two times? How about no times? The California Coastal Commission has said thou shalt not. Here's the latest and greatest from the Secretary of Transportation. The yellow bar is the forecasted demand for containers, this is LA Long Beach, in 2020, and the blue is 2004 through-put. Everybody believes that there is a ceiling that we're going to bump up against. And this is the top ten ports. That differential has to be accepted by all of these other ports if we assume

that our consumption continues. We have a problem. It's a tsunami. It is facing LA Long Beach right now.

Capacity. Two years ago we did a study for the U.S. Chamber of Commerce to look at the top 75 ports and basically said that, the black is the overcapacity, and it basically said we're in trouble by 2010. This is 2007, right? Boy, 2010 by my watch, my watch goes in years, is pretty close.

Another graph just to show you, this is from Drewry Consultants, the red is the demand for North America marine terminal capacity, the blue is the supply, and once we get to about 75 percent or above we are in trouble. We need to do planning for new capabilities now, and as this graph shows us, by 2011 we're busted.

LA Long Beach alone is growing to 35 million containers in 2020, 45 million containers in 2030. This capacity versus demand is a public and private issue. If we don't get it right it's

going to affect our economics, our environment, and our quality of life.

I've already told you that the best terminal in North America compared to the best terminal globally fails by a factor of more than four to one. Let me give you a little exercise. In 1999, this is a productivity graph by containers per acre per year, and as you can see, the U.S. average is about 3,000 in '99, on the West Coast because we have intermodal, but what do you think European ports were, better than we were in '99? Yeah, a little bit, pretty good. What do you think the Asian ports were in '99? Better? Yeah. Pretty good. Well, realizing that, clearly in five years we will make dramatic changes to improve our system, is that true? Huh-uh. Let's look at what happens. Hey, pretty good, U.S., we're up. You think Europe is up? Yeah, pretty good. Where's Asia? Holy schmoly, this in green is the productivity and compound annual growth rate. We ain't doing a good job.

Vessel trends. This is Malcolm McLean. 50 years ago he sold his trucking company for 42 million. Malcolm is the father of containerization and we miss him dearly. His ideal X was about 1700 20-foot equivalent units and up until a couple of months ago this was the biggest vessel afloat, 8600 20-foot equivalent units. Panmax, maximum in the Panama Canal. Let's see if we have any changes. By the way, the current Panama Canal, the maximum we can get through is about 5,000. This is a picture of a 4,000 TEU. We now hang the containers over the gunnels to try to get more stuff through but we can only get about 5,000. They just passed a referendum to improve in both Balboa and Cristobal a new third lock. In 2015 when the lock is finished this capacity of 5,000 goes up to 10,500.

These vessels are really big vessels. They're really long, these vessels are really wide. A famous naval architect by the name of Archimedes said that the draft of a container ship is not

proportional to the TEU capacity, it is proportional to the amount of displaced water volume. Thus I could take this vessel, melt it down over 20 acres and have a draft of a half meter. Pretty good, Archimedes; the wider we get, the longer we get, the less pressure on draft. Don't go through all the numbers, but I want to show you that for vessels over 7,000 the current vessel fleet is about 2.3 million slots, on order is 2.3. A doubling of the global fleet. Last year Zim and Costal ordered four, each of them, four 10,000-TEU vessels. How is that? Even in 2015 the maximum through the Panama is 10,000. They're ordering them today? What's going on here? They're really big. I won't go into specifics. This is the thing that bothered me most. This is a picture about six months old. This is the largest vessel in the MAERSK fleet called the Sovereign class at 6800 TEU. Out of the Odense Shipyard four months ago came the EMMA. Holy schmoly. This is the EMMA, she's really big. This is the EMMA a

month ago. Serviced by ten cranes. Maximum that we have in the U.S. is five against the ship. Whoa. This is the EMMA. There are four of them now. This is the EMMA. Focus if you will right back here at the stern. She is really, really big.

We now have hatchless ships. We now have proposals for external propulsion electric drive that take the power train out of the ship and put more containers in. They're really, really big. 15,000-TEU ship, plan view. This is the Panama Canal dimensions. This ship is really difficult to get through the Panama Canal. 13 across the Panama Canal, this is 28 wide. How do you unload her? Is there a bigger ship out there? The Germans have one. So really what we have today is really big mother ships coming to a logistics hub and moving in a new frontier to a transshipment site that's governed by what which call Short Sea.

Short Sea can take freight off of our congested roads but it has to be linked to economic viability through the mother ship deployment.

Emerging container on barge, emerging high speed low weight custom vehicles that are already prestacked with double-stacked trailers.

I'm a little over time here but I want to end with environmental issues and they're pretty important. This is the global trend of energy use. I sound like the former vice president, don't I? Forgive me here. This is the energy use and you can see the green is water, the blue is truck, I don't know why they use those colors, but you can see it's increasing. Complicated graphs, but I want to point out NOx and PM10 are particulate matter, which are emissions from diesel, are unregulated for our vessels but are regulated on land. If we continue the decline of diesel emissions by regulation it looks like this. If we do not regulate it, those emissions actually incline. How bad is it? This is NOx emissions in tons per day. This is the Port of LA. This is a half million cars. Lots of tons out there. This is PM10 particulate matter. This is the Port of

LA. This is a half million cars. The progress has stalled on diesel emissions. We are in fact, according to some to the leaders out in the port industry in southern California, we are killing people.

The group opposing that calls this the diesel PM death zone and it is right there. There is the cancer risk per million. Environmental constraints are growing. This is the typical I-710. They want to double-deck this into downtown LA. This is coming from the ports. The LA Long Beach have had 40 major projects held up for several years. Each port has their own technical expert group. I'm on the Long Beach side and they're redoing the environmental documentation.

We have ways of improving by using natural gas, trucks. The cost is absolutely horrendous. Ports and intermodal linkages must change the cost of value relationship. They have to be value added multipliers. Force projection capability platforms as the military would say. In

order to do that, successful ports must invest in a leverage technology. They have to improve productivity and they must do it securely and as environmental stewards. Thank you very much.

Couple of questions? We have a little bit of time. I know I'm beyond, Steve, from what you wanted, but --

CHAIRMAN RAINEY: Are there a couple questions? Anyone of the panel?

MR. DUNNIGAN: Thanks, John. Interesting as always and I appreciate the changes you've made since the last time we saw this and really updating it.

A couple of things. You talked about environmental costs. The environmental costs in Asia are enormous. I don't feel like I can go there unless I bring my own oxygen, Beijing, Shanghai, wherever you want to talk about. How are they going to be able to continue this kind of growth in light of that cost? And my second question would be, you know, as Americans we're

pretty self-centered sometimes, we figure well, we're the money and all the trade's gotta come to us. And as I begin to learn a little more about Asia, it's looking more and more like that's the consumer society in the future and the trade isn't going to have to come to us. In fact we're going have to fight I think 50 years out for the exports that we want to come to our country. The economic engines in Asia are just unbelievable. So is that likely?

MR. VICKERMAN: I would tend to concur with both your observations, having worked over there.

MR. DUNNIGAN: I don't know how you got those pictures of clean air in China. I never saw it when I was there.

MR. VICKERMAN: Right now within two hours of Shanghai there is 100 container berths being built in three ports. Within five or ten years we're going have 100 new ports, terminals, berths in and around Shanghai. And the biggest

project we've ever done is seven berths at LA for MAERSK. And in that the regulation on environmental, although there is some, I have to agree with you that there's some, there is less constraints on it. There's a growing concern for it. But right now that population that I showed you, the elementary school children, the value is in the economic engine for that. I believe China will eventually wake up and believe that they have to be more proactive environmentally. But as far as I can see right now, their interests lie in the economics of their society. So I believe that there will eventually be better controls environmentally over there, but for now I think the emphasis is on economics. What was the second question you had? Sorry.

MR. DUNNIGAN: I think we make a mistake in assuming we're going to be the consumer center for the world.

MR. VICKERMAN: Yes. I tried to show you with the GDP that that declined. I really

believe somewhere around 2030 to 2040 we will no longer be the economic engine of the world and it will be tougher for us to get the product. However, consumption is everything. So right now we are the consuming, mega consumers of the globe and that will continue. I guess my argument would be while we still have clout shouldn't we be doing the right thing for the whole system? I think we should, because in 20 years, which isn't so far out, we're going to have real problems and the cost of our goods to us are going to decline dramatically and we won't have the full influence. Clearly being number two or three or four if we decline to that is not so bad, but we won't have that real dominance and there will be other things in the logistics chain done to us. I believe we need to start valuing what we have.

I told you when I started this conversation about all the foreign investors, the announcement yesterday that the biggest terminal operator in New York was bought by the Germans

through their U.S. subsidiary. I think we need to wake up and understand how valuable the MTS is, what a resource it is, plan for the future. We're so stochastic that we never really give very much value to the system view and a plan and I think we ought to do more.

RADM WEST: John, great presentation. Quick question, who has the authority, the hammer, to set emission standards for shipping, IMO?

MR. VICKERMAN: Who has the authority? The IMO is the International Maritime Organization, clearly. Do they really have the hammer to change some things? Maybe. The International Standards Organization is another who has capability to do that, such as radio frequency compliance and the like. Do they have a hammer? Not necessarily. Are they the organization to start that process in, yes.

RADM WEST: My concern is we can say that you can't come to our ports unless you meet certain criteria, carbon emissions and sound

induced to the hull and all that stuff, but we don't have that hammer because we need them to come in. There's no way you're going to be able to force them to do it. I'm just curious how we're going to control that.

MR. VICKERMAN: I agree with you, we don't have any control over it. I guess my argument is that we're not fully engaged overseas. Not we have to kowtow to anybody, but are we participatory globally, are we really there talking? We tend to be isolated. We tend to we're the biggest power around and we'll be that way forever. No way. We need to be more engaged, we need to be more proactive. If we're not at the table making those kind of decisions about ballast water, about frequency identification standards, about container sizes-- they want to do a 57-foot European pallet module container. The biggest container we have right now is 53 that goes domestically, it can't be put on a ship, and they want to do a 57. Our maximum design length for

trucks in the U.S. by state standards is 60 feet. That only leaves three feet for the engine. That's not very good.

We need to participate. If we don't participate we're not going to further our own endeavor. We don't have to kowtow to anybody, we just need to be part of the process and recognize that everything you wear, eat, consume, drive, is sourced overseas, a lot of it. And we're dependent on that. A famous lady once said it takes a village. In that regard, I think she's right. We are globally sourced, we need to be globally responsive.

I thank you for your time and attention, it's my pleasure this morning.

CHAIRMAN RAINEY: We have a small token of our appreciation for you coming and speaking and addressing the group today.

MR. VICKERMAN: Thank you very much.

CHAIRMAN RAINEY: Thank you.

MR. VICKERMAN: Barbara, I appreciate

all your help, you were great, thank you.

CHAIRMAN RAINEY: I'll use this microphone here and introduce our next speaker. We asked John to come to give us an overview of all the challenges and trends facing the transportation system and it was an excellent presentation and there are some daunting challenges and food for thought. Our next speaker, Dr. Hauke Kite-Powell, is going to address some of the economic and social benefits that the hydrographic services bring to bear on this, on these challenges. John's earlier slides talked about the efficiency, the safety and the environmental friendly need for reliable transportation services and this next presentation will go into some of those benefits that NOAA brings to the table in our approach to these challenges.

Dr. Kite-Powell is a research specialist at the Marine Policy Center of the Woods Hole Oceanographic Institution and a lecturer in the Ocean Engineering/Ocean Systems Management Program

in the mechanical engineering department of the Massachusetts Institute of Technology. He holds degrees in naval architecture, technology and policy, and ocean systems management from MIT.

Dr. Kite-Powell's research focuses on public and private sector management issues for marine resources and the economic activities that depend on them.

He has done many research projects and I just list a few: Cost and benefits from improved ocean observing activities, economics of nautical charting, economics and development of the liquified natural gas shipping market and many others. With that Dr. Kite-Powell.

DR. KITE-POWELL: Thank you for that introduction and for the opportunity to speak here briefly today. Can you hear me okay? This way? Good. I'll try to go through this quickly and leave time for questions and discussions afterwards.

What I'd like to do is bring the focus

from the very good presentation we just had on the big picture, the global changes in the maritime transportation business and the things that drive those changes, down to the U.S. maritime transportation system very specifically and within that the contribution that NOAA's navigation services or hydrographic services make to that system. And within that topic I want to focus on three things. One is the problems that come up when you try to measure value of a contribution like this. There are many different ways to quantify the economic significance of something and you have to be careful about how you do that so that you don't misinterpret the results that you get. The second thing I want to touch on is the way economists think of the value of a product like this where that product is information. And there's a special way, a particular way to think about the value of information. And then finally I want to actually show you some numbers that put into context the economic significance of these

particular services within the MTS.

So to start with I want to emphasize the point that the services that NOAA provides for navigation and through hydrography are really information that supports decisions, operational decisions and planning decisions by people who use the national waterways. And that includes not just the maritime industry, although that's very much the focus of the discussions here today, but also other users, including recreation, marine resource management broadly, weather forecasting and others.

You'll see many numbers put on the economic significance of the maritime transportation system for the United States, and they're all right and they're all different and the difference arises from what's being measured. In fact, one way to measure it is the value of the cargo that the system moves each year. And if you look at that, you get a number somewhere in the range of $800 billion, which is something like 30 to 40 percent of the value of all trade that takes

place in and out of the United States.

You can also measure the gross output or sales of the waterborne cargo industry in the United States, and if you do that you get a number that's on the order of $35 billion, or you can measure the value added by this business, the contribution that it makes in the national system of accounts that measure gross domestic product. And if you do that, if you look that up you get a number on the order of $10 billion. These are all accurate reflections of value generated and the question is what question are you trying to answer, and that determines which of these numbers you should be looking at.

From an economist's point of view the best measure of value generated by an activity or product or service is value added, is the contribution to overall economic welfare, and one of the best measures of that is GEP. So my inclination is to look at that kind of number. I know it's not the biggest of the numbers but it's

the most meaningful in many ways. And I'll come back to this distinction again in a little bit.

So within that marine transportation system, NOAA's hydrographic and navigational services generate value by providing information about the environment in which the ships operate, and that information takes a variety of forms. Two that I'm going to talk about here today are information about the topography, of the hydrography of the sea floor that comes through chart data, and the more dynamic information about water levels and currents that overlay this. There are other sources of information that come from NOAA to this industry as well, including marine weather forecasts and so on. And this information has value or generates value because it's used in decisions that people make in the real world about how to operate ships, how to load ships, how to move ships, and when those decisions can be improved because of information that NOAA provides, that translates into a better economic outcome and

that's the value generated by the information.

So I want to show you an example, this is not a real example, it's just a way to illustrate this idea that you can measure the value of information in a particular way. And this example consists of a hypothetical fishing fleet that decides whether to go out and fish or not based on a storm forecast. So if a storm is going to hit them while they're out, that's a bad thing, they want to avoid that. On the other hand, they want to go fishing as much as they can in order to maximize their productivity. And the question in this case is if we have a way to improve the information to this fleet by improving the accuracy of the storm forecast from 80 percent, which is where it is today, the base case, to 95 percent, how does that translate into value, into economic value? You can see that this is a simplistic example but it's a question that faces an organization that provides navigational information. You can see how it applies.

So the first thing you have to know when you're trying to understand the value of information about a particular phenomenon, whether it's a storm or water levels or currents or anything else, is what the actual distribution of physical events is, how often does this happen, how often is this a significant factor? In this case storms happen 5 percent of the time. And as I said, in the base case which is illustrated here, the forecast is correct 80 percent of the time.

What happens then is the fishing fleet in this case makes decisions about whether to go to sea or not based on the forecast. But they don't follow the forecast blindly because they know that it's not correct all the time, and so you have to also understand in estimating the value how the users of the information actually make decisions given the information that you provide to them.

Then you have an outcome, a result of each for each of these scenarios that depends on what actually happens after people make the

decisions, and finally some economic consequences with each of those. And if you multiply through this event tree with all the probabilities and the outcomes, you can determine the number at the bottom here as the expected outcome, expected value of the outcome over time.

So what happens if we improve the accuracy of a forecast like this, if we improve the information, the numbers change in that second column, the forecast accuracy. Once the users understand that you've improved the information they will change their behavior in some way and the expected value of the outcomes changes in some ways corresponding to those adjustments. And the difference in the expected value or payoff at the bottom right corner of these two slides is related to the economic value of that improved information.

So this is a simple, admittedly very simplistic example that shows how one can estimate the value of improving information to people who make decisions of uncertainty.

Here's a table that shows some real numbers found for two ports in which NOAA provides information to maritime users and others as output from the port system, the physical oceanographic realtime system that provides realtime information about water levels, currents and other parameters. There are also some forecasts made. So this is information to users about factors that affect operations in the maritime industry and elsewhere and reduces the uncertainty, in this case with ship operators, pilots and others, about what's really going on in the environment and allows them to make better decisions.

We've estimated the annual value, this is shown here in millions of dollars per year, of the way operational decisions change, improve because of the availability of this information, over what would be available if this system didn't exist. So it's the same sort of exercise that I just showed you.

And the aggregate value, annual value of

these two ports to the maritime industry ranges from somewhere between five to between 10 and 15 million dollars a year. And you can see that the places where that comes from change from one port to another. The reason for that is that the use of the information is specific to the particular circumstances and trades in each port. So in some places most of the value comes from improved safety, the top line, avoided collisions or groundings. In other places there's a significant contribution as in Tampa from the improved efficiency in situations where, because of the nature of the trades in the port, the shipping companies can make use of better information about water levels to load ships more than they would otherwise. That can be significant. Improved spill response is significant in ports where there's hazardous cargo, particularly petroleum products that move, and spill response can be dramatically improved with better information about currents.

In addition to the benefits to the maritime industry down at the bottom I've just listed some examples of other user sectors that also benefit from the availability of this information. It's used in weather forecasts, not just marine weather forecasts but general weather forecasts, and used extensively by recreational boating and fishing interests. That's not the focus of what we're talking about here today, but it's economically very significant.

Just as a quick example of what's behind some of these numbers, in Houston the PORTS system was introduced in the late 1990s and it is, it was associated, that introduction was associated with a significant reduction by about 50 percent or so in the risk of certain kinds of accidents here. This figure shows groundings, as a rate of grounding incidents per thousand transits in the Houston-Galveston area for ships in blue and for tugs, tug tows in red. You can see there have been several reductions historically from higher rates to lower

rates over time. The one associated with the PORTS system was a reduction of about 50 to 60 percent in the grounding risk, and based on discussions with pilots and operators in the port, they feel that much of that reduction is due to the availability of this realtime information. So that's an example of what's behind those numbers.

Let me talk a little just quickly about charts and chart data. We've done some work to estimate the consumer surplus, which is the economic term for the kind of value added economic benefit information that I mentioned at the outset for charts, and suggest that we're looking at something like 30 billion a year in that economic value generated by that in the commercial shipping business and another 10 to 20 million for recreational users.

There are also, we've done studies that show that in particular the availability of digital chart data has significant safety benefits, and digital chart systems now are in use on most of the

commercial vessels in U.S. waters. Even if it's not as the primary navigational tool, they are on board and the potential safety benefits from that kind of chart data are 100 million a year for U.S. waters.

I just want to use these numbers here to illustrate again the difference between different ways of estimating economic value. So if I'm saying that the economic value surplus or value added of chart data provided by NOAA is on the order of a few tens of millions per year, and yet this digital chart data in particular contributes to a larger amount of economic value in terms of water accidents at the bottom, the distinction is sort of analogous to the value of the lightbulbs in the headlights of my car. I drive my car to work. It's critical for that, I need it for that. And the fact that I have lightbulbs in the headlights of the car makes that car much more valuable to me than it would be if I didn't have those. Without those lightbulbs I would be severely constrained in

how I operate my car, but I don't think anyone would suggest that the economic value of those lightbulbs is anything close to the real value of half the utility of the car for example. And this is the distinction that you have to keep in mind when you think about these different measures.

So the real value, the economic value of those lightbulbs is what I have to pay for them or maybe a little bit more, what I'd be willing to pay for them. It's not the full utility of the vehicle. In the same way, even though, let's say a container ship using a U.S. port might be severely constrained in its operations if it didn't have nautical charts available from NOAA, you cannot jump from that to say that the value of those charts, the true value of those charts is in fact the whole value of that ship or the contribution that that ship makes to the maritime transportation system. There's a distinction, a definitional distinction that you have to make and that's what's reflected in these numbers here.

The first set of numbers is one that you can add up and arrive at by adding all the contributions of different components of the ship, you can add up and get a realistic reflection of the total value of the ship. That second number down at the bottom is not one of those numbers that you can add up in that way, and I'm happy to talk more about that if you have questions.

These estimates of value that I've shown here are all lower bound estimates because they don't capture every use of the information either of charts or of realtime current and water level information, so they should be considered lower bound estimates.

And so to wrap up, I think it's clear that moving goods by water is critical to our economy the way it works. And it's always going to be primarily a matter of a lot of steel and concrete and dredging waterways, building terminal facilities, and of course the people involved in those transportation systems. The contribution

that NOAA's navigational services make to that process is in dollar terms probably on the order of one percent. That doesn't seem like much but it is, like the lightbulbs in my car, a very critical one percent and one that we can't neglect. I think John mentioned several times in his presentation the growing importance of environmental considerations of efficiency. Those are exactly the kinds of things that we can address very effectively with the kinds of data that NOAA navigational services provide. And I think that the importance of that is only going to increase in the years ahead.

So I want to wrap up with some questions to you as a beginning point for a discussion of this. I personally think that the kind of information about the economic value of particular products is useful in understanding where priorities should be for funding this kind of work, but it would be interesting to hear your perspective on this and how you think these kinds

of studies could be improved or expanded in the future and what kinds of information you're aware of that could help us to do a better job in explaining and quantifying the value generated by these activities. With that I turn it over to you for discussion I think.

RADM WEST: Thank you, Doctor. Are there any questions?

MR. DASLER: Thank you. Jon Dasler. I enjoyed your presentation. I guess one thing that seems that it's overlooked is the impact of rocks, wrecks and obstructions that are being detected and the threats of those in the event, in the case of ATHOS I as an example in that grounding that was over 165 million in environmental damage. It seems like that should be something that's being considered, the efforts in detecting a lot of these hazards that lie in wait that are undetected; updating, you know, pretty ancient survey data that predates World War II partial coverage that's composed of the charts, if that's being considered

at all.

DR. KITE-POWELL: I think that's a good point. It's my understanding that there has been discussion in the coast survey of doing this kind of analysis, what is the value of updating the underlying surveys for a given square mile of ocean from what exists today to modern multibeam full coverage. I'm not sure that's exactly been done, that that analysis has exactly been done yet, but it's a good point.

CHAIRMAN RAINEY: Any other questions? One of the things I guess that always strikes me is the actual measurable observation of a 50 percent reduction in groundings after the installation of the PORTS systems in Houston and Tampa, and as Dr. Kite-Powell points out, one of the themes I think we've tried to stress in the years that we've been set up as a committee is that the value of these NOAA hydrographic services, the program, the amount of money that the public invests in these programs is a very, extremely good value for the country

based on not just the contributions to the MTS challenges that John mentioned, but even with these lower bound economic analysis and the difficulty in accounting for that, it's very clear that the amount of money, the return greatly, by magnitudes exceeds, the return exceeds the amount of public dollars invested. So that's one of our major themes and I really appreciate Dr. Kite-Powell's presentation, and also we have a gift.

At this point we do have a little bit of a change in our agenda, we're going to have one of our NOAA program office come up, but what I'd like to suggest we do is go ahead and take our break now. Let's take a ten-minute break and then we'll come back and Dave Zilkoski will be addressing us on NGS's ten-year plan and to share that with us. So let's ahead and break now for ten minutes.

(Recess from 10:15 to 10:35 a.m.)

CHAIRMAN RAINEY: If I could just make a couple of administrative announcements. I wanted to thank the public. I kicked things off and the

general had some things, I wanted to get right into in our program, but I wanted to acknowledge the public's attendance and interest in this and to specifically recognize John Rayfield and Bonnie Bruce from Capitol Hill, who've had a continuing interest and much support for the panel. I really appreciate your coming today.

For the panel members only, I have a quick announcement on the transportation over to the Reserve Officers Association. It's going to pick us up at the hotel's Pennsylvania Avenue entrance at 5 p.m., and then it will return at least to the hotel at 7:30 p.m., but I also have been asked to ask the members, putting together a dinner following that reception, just folks who would like to do that, have a show of hands and we can take down a number. Folks who'd like to go to dinner with the group, could you just give a show of hands and get a quick count?

(Pause in the proceedings.)

CHAIRMAN RAINEY: Okay. All right.

Thanks very much. As I mentioned before the break, Dave Zilkoski is going to be our next speaker. Dave's one of our regular members participating with us and heads up National Geodetic Services. Dave, thanks for much for coming.

MR. ZILKOSKI: Sure. Thanks, I appreciate the opportunity. The last two speakers emphasized the importance of having information to support decisions in development and you saw some interesting slides dealing with what's happening in the rest of the world, which it's all going to influence us. This group here has got the job of looking at all three of our data services, the coast survey for the charts, which you're very well familiar with, and CO-OPS for water level, and our geodesy program, which really deals with positioning. I think a lot of times it kind of like goes unnoticed. We provide the framework. And our shoreline component of that is pretty obvious to most, and I think when people talk about topo and the interface they start to get a little

feel for it, but there's a lot of things that NGS does that's probably not recognized and mentioned, like dealing with these storms that was mentioned, the economic value of knowing storms, where they are, where they're going to be and how long they last in intensity. A lot of people don't realize NGS with its satellite system and GPS is used in helping to monitor storms, giving them the leave times, as well as hurricane intensity, modeling the track and so forth. So some of our models and tools are part of that process.

What I would like to do today, and our ten-year plan is out there for comment, I would like to get the group thinking a little bit more about the NGS program and reading our ten-year plan and providing comments from your own perspective. We have a whole variety of people in the room that deal from their own perspective in what it means for their ports and coasts and so forth, but I'd like to emphasize the interior of the United States. John sees coast to coast. John mentioned

in his presentation you got intermodal. You may go into the ports and start there, but you don't end there, you gotta go into the center of the country. So there's a lot of issues that we are involved with that deal with the center part of the country, so we need to think a little bit different, although I understand that in the coastal communities this is where most of the people live and activity and economy, but I'd like to stretch a little bit to think just a little bit different about that.

So what's NGS's vision? It really deals with position. We call it the National Spatial Reference System. We provide that foundation for everybody to be able to know where they are and where they're going and how to get there, to improve their maps and their products and services. That's something that we do with some of our limited resources. We have about 225 individuals in NGS but we have to service the entire country. We're looking at decreasing our infrastructure by

using new technology, satellite GPS in particular, but there's other satellites in the world called relays to Global Navigation Satellite System, GNSS, Galileo is coming up there. And you've got the Russian satellites. U.S. wants to be competitive. Our job at the National Geodetic Survey is to ensure that we provide that infrastructure so that we are, and we're doing it, and people know that by CORS, Continuing Operating Reference Stations. And some of our questions that we had, how many do we need in the nation? We have over a thousand CORS now. Can I get away with just 200 CORS, 500? This is part of our ten-year plan, what we're trying to look at.

The other aspect that we are trying to do is standards and guidelines procedures. We believe that's our role. Our role is to provide that foundation, that framework for people to be able to say I know where I am in terms of our data and then I have some models and tools to be able to go out and do something myself, but it's consistent

so that when one port does it, say you're in LA and doing something with positioning that when you go to Long Beach you actually are connected and tied together. If you're relating the water level in one place to another you'd be able to transfer from one data to the other, commonly looked at as what's called VData, our vertical data transportation transformation tool. So what kind of standards are we talking about, what kind of procedures? These are all the aspects that we're looking at in our program.

We put out an annual guidance manual this year and in the past we've been doing something similar to this. We're trying to change the way, what we're doing. We're looking out ten years. John put out there some things looking out to 2040 and so forth, and what we're looking at is the same thing, trying to say where do we want to be in ten years. I think we can kind of figure what kind of size we're going to be and what kind of efficiency. We don't know exactly what we're

going to look at, but we know that if we're saying today where we want to be in five years it probably will change, it is a dynamic document, but we have to think that way to be ready to be moving forward to get there. I have a lot of people right now that do adjustments, that do field work, that go out and actually install dimeters. That's changing, we're building a local capacity out there so that individuals can go out and do it themselves. So I'm decreasing my infrastructure and I want to get it done in ten years so I have a very limited amount that I actually have to operate and maintain myself. But I have to build the right models and tools if that's going happen. If I don't do it, I will need more of that infrastructure. So my goal is to decrease infrastructure by building better models and tools, and then how I really get the work done, that means I'll have to get out there and build the local capacity. We do a lot of training, a lot of activities that deal with here's the standards that

you say you need, here's the procedures you need to do it, here's how you do them and the training. So we're changing our direction.

One of the biggest efforts I have to do is retrain and retool my workforce because my workforce has been doing the work for years. As John said, it was the one of the major foundations that was established by Jefferson Davis to say we need to know where we're going, need to start positioning ourselves, so it's been around for a long time and we didn't do much development. Now with modern technology that we helped develop we have allowed people to go out and do some of the things that 20 years ago they could not do, the federal government had to do it. So we developed the tools such that they are able to do it working with the satellite community. So my own individuals are used to doing this. I have to retrain and retool those people because they are the best ones to go out and teach, although sometimes people that actually do the work and can

do it better than anybody else are not the best teachers of that technology. So I have to bring on new people, but I have to retrain and make sure that I maintain the core competency.

Improving communications with my stakeholders. There have been many times, I've worked for the federal government going on 33 years this June and I've been involved with a lot of aspects of my stakeholders, but I've also been through a lot of individuals that I've worked for throughout there and a lot of my own employees today that keep telling me I know what they need, I know what they want, I'll build it. I keep saying well, where is the information you're getting from those stakeholders that tells me what they need? Because every time I go out and talk to somebody they're telling me a little bit different. So I'm trying to improve my ability to work with my stakeholders. I just got back from St. Louis, the American Congress of Surveying and Mapping, one of my business constituents, and we talked about our

ten-year plan, and they're actually providing it in writing just like I'm asking you to provide in writing, what do you want. This is where we say we'll be in ten years, what do you really want us to look like, how do you want us to operate, what's my role, your role, what's the role of the government, how do I partner with everybody to accomplish what we need to do, how am I going to get to where I think I want to be in ten years? So I'm working with my stakeholders on that.

Collaboration, cooperation and coordination. Anybody that knows me, I've been very big in that and I've been working that for a long time, and previous to, the last time you saw me it was Integrated Ocean Observing System, I was the IOOS project manager for almost two years. You're going to hear from Zdenka Willis tomorrow. She's the full time director of that. That was something over the last year we've been building a case for that it needs to be a full-time person with some support help, and we were successful. I

consider myself very successful because I took that hat off and now I can be full time with my NGS director job. But part of that is collaboration, working with others, getting the job done by looking at where are you, what's the vision, where do we all want to be. If we can agree on what we want to be, that's what this ten-year plan is about, here's where I want to be. I've first got to get everybody to agree with me that that's where we want to be and we shape it together where we want to be. If we can agree on that, then we shake out whose role and whose responsibility, how do we get there. We start developing some implementation. We need to collaborate to do this because I can't do it alone. There is a role for each and every person involved in this. I just need to know right now what's that role going to be, but really are we going to go in the same direction? That's what we first gotta know.

Now, I'm proposing models and tools for heights. This is something I've stated over and

over again and I think this is something that most people in the room will appreciate. The height component is now really being better understood. People are understanding the height modernization program and heights are important no matter where you are. You talk about photometry, it's still a height, a depth down to the bottom. You can talk about the topography and that interface between the bottom of that channel going into the topography for coastal inundation. More and more individuals are understanding, clearly along the coast, the importance of heights, the digital elevation models. A lot of individuals don't realize though that the center part of our country around some of our major rivers have a height problem. There's a coastal inundation problem there where river flooding occurs. Much of that is farmland and they figure that's not that important, so you got cows, pigs and other animals. It's economy so it's important from that standpoint, but probably more important is a lot of that pollution, a lot of

pesticides come down the Mississippi River, Missouri, end up in the Gulf and end up having an effect on the fishing industry there, the water, drinking water, all of these aspects of the thing is part of the height modernization understanding. That's why it's more than just the coast, it's inland too.

The development of the coast I mentioned several times, you've got to be able to develop. There's always this issue between need to develop because I need the economy, need to build it up. But you've got the environment so if you develop you're going to destroy this or you're having so much pollution you can't do it. There's always a trade-off. We in NGS provide the models and tools for making that little better evaluation of what you can do and how. We don't make a decision about what you should do, but we provide the tools and infrastructure, and that's primarily through this modernization of our, what we call CORS, Continuing Operating Reference Stations. Part of that

modernization is linking the tools that you're able to do better infrastructure mapping to be able to monitor the ground around what you're doing, understand positioning of ships down to where the bottom of the keel is, where it is going to be relative to the bottom of that channel. Using GPS on tide gauges so you can look at sea level rises, to get water level information where you really need the water level information in real time, all of those aspects are what we do in our ten-year plan. So emphasis that we're putting in 2007 which supports the ten-year plan, we're trying to evaluate so we know what we have to do.

The integrated ocean and coastal mapping. NOAA is trying to take a lead on this and work with NGS, who has one of the most stringent requirements for shoreline, you got coast survey for the charts, we're trying to take a lead role working with other agencies to be able to get their information so that we can incorporate it into ours and work to get our information into theirs. NOS

is working very hard with the Corps of Engineers, Jack Dunnigan has been working with General Riley. We get teams together to actually look at this and say what are some of the things we can show today and work together, work these guidelines, procedures and standards to be able to share data first and actually collect some information for this. Some of my contractors that are doing some of my information as well as ourselves will be able to give to the Corps of Engineers, and vice versa, the Corps's got some of their data they're collecting that they can actually give us. That's a very important aspect of what we're trying to work with today, because we truly believe that it's collaboration and cooperation between each other.

We all have our mission, though. You can't sell that short, we have a mission that we have to meet. So we can't, you know, go too far off our mission and not be able to do it. Same thing with the Corps of Engineers, but we truly believe that we can do this by working together as

long as we understand what our mission is, as long as we understand what our requirements are, and we agree upon how we're going to work together in doing so.

Streaming GPS data through the web searches. This is not just GPS data but it's a lot of our other data. New technology, people want it on the fly, pick up their phone and get that information for positioning. If you're going to do realtime positioning you need this information, and we're balancing what we should be doing and working with industry, private industry, and saying what's our role. They want us to stream this data so they can pick it up. They don't want us to actually do positioning corrections for their customer.

Standards and guidelines, we're behind the curve on some of our guidelines for doing this positioning. We're really stepping up to the plate and saying we need to focus on getting some of our old ones that are out there, like we have guidelines out ten years old dealing with GPS which

are just so outdated we aren't using them, we have standard operating procedures that supersede those, we're going to try to make that more out there and get it working with industry to make sure we're on track the way we think we should be.

Data processing tools, we're the experts on how to process the data, how it fits into our data. We are not the experts or shouldn't be the experts on getting those tools and integrating them into user friendly formats. We actually do a terrible job making something user friendly. Our employees find the tools we develop are useful for them and they know how to do it, we've been doing it for years, it's our system. But on the outside to make it really user friendly for someone who doesn't understand the system, that's where value added comes in, working with industry to take our tools that we do understand and do have quality assurance, we have control over what goes in, to take that same information and create something better.

So real briefly, going through the main how we're going to achieve this vision, but modernize with CORS, what does that mean? It's transforming these into foundation CORS. There's a thousand CORS, I can't maintain them all. Actually NOAA, out of these thousand CORS NOAA actually owns and operates less than something like 7 or 8 percent. We have very few. NGS in particular only has a handful that we actually own and operate. We're changing some of that, we're selecting where we think we need to have them and we're co-locating as many as we can, or we're trying to do this so that we can have this global sea level rise aspect of what we're trying to monitor. But most of these CORS is a cooperative program, we're collaborating with all of our users. They put up the GPS receiver, they maintain it, they own it, they operate it and give us the data. We store the data, we put it into our system and give it back to them. But they do all the work.

Now, there's some logistics there. When

the system goes down many times they're really not looking to know it's down. We know it's down before they do because we get the data. We have to improve that process if we're really going to maintain our expertise with the limited resources we have. So we're working with them to take on a little bit more of the ownership that when the system is down so they can be notified to fix it. When they change something on the system, they go change an antenna, people don't realize that when you change an antenna, you change the position. That can be up to ten centimeters. They don't realize the importance of it changing. We see it, we can see the changes down below the centimeter level so we know what they've done. We know sometimes with the system something's happening, it's actually leaning, we see changes of a few centimeters. But we're trying to get them in a partnership saying if you're going to be part of this program, we need you to do a little bit more. We do want to own and operate a little bit more,

and maybe own is not the right word, we want to be able to have more control over some of these where when they do change antennas that we're doing it. There is a handful that we do. We still want to have a partnership because once again it's a cost that they're willing to do because it's important to them. But they just aren't treating them as much as we would and we need to have this foundation.

We're looking at trying to make these CORS sites more modernized through the whole, what I call the GNSS. You have GLONASS which is now starting to be supported. Russia is actually doing some more support and they are putting out and talking about trying to make it -- how it fits and it's free to help other economies inside Russia. They're talking to their own people about mapping, how we can help them, talking to the shipping industry, how GLONASS like our GPS can help. Japan, or India is working with NOAA trying to support it because they can see the importance of

it. So you're talking about the shipping industry, international, they're really into the global positioning system, they have a huge international involvement that NGS plays a role in and that's keeping GPS competitive with the other sellers. Because we don't want them driving the trade, we want to be part of that process. We want to be the leaders in there and so far we are. We want to build the best models and tools we can. At the same time we want to incorporate their signals, so we need to be able to look at how GLONASS fits into the signals. The more satellite signals you have the faster you can compute something and more accurately compute it to get something in a few seconds where it can take you an hour.

So that's part of what we're trying to modernize. Field diversion theory, GO modeling, it is truly something that many people do not understand, really don't get the importance and it's very expensive to do. To get an accurate GO model that people can use satellite information and

get a height to a few centimeters is very, very expensive. We have new technology now that we believe we can get to it, but it's going to take some resources, so we're looking for feedback on how to accomplish this. This is going to be once again a collaboration of a partnership. Maybe we'll have to do it by regions. Clearly the Gulf coast and southeast U.S. has a big need for more accurate height models. And you can't do it by discrete point, you have to find something more accurate. Maybe that's this new technology dealing with blind arm information from satellites or aircraft or helicopters. You still need information about that GO to be able to make that useful. A gravity field model is something that we're focusing on that's truly going to move height modernization.

So we need some input and some priority setting, and we're going to really move in our ten-year plan to put a little bit more resources in here, which means some things aren't going to --

we'll have to stop some things. We're looking at this over ten years where we want to be and also looking at how we're going to partner to get that done. We have the expertise, we don't have all the resources, but a lot of the universities out there do.

The coastal mapping program, trying to move that more toward Integrated Ocean and Coastal Mapping, I mentioned earlier about the Corps of Engineers, how are we going to do that? It's going with greater automation. New sensors, we really need to get something more to an active from a passive sensor integration and you can have all of the activities into one, fusing different aspects. We integrated the positioning aspect of GPS with all of the satellites or all of the remote sensor activities. That was when the first activities of getting more accurate location where you're in space with your own, over time we took a major leap in making that happen with airborne GPS.

The next item, how do you integrate that

with different sensors, how do you brake, take a digital camera with the wider, with other remote sensors and integrate them into one. You get a better product that meets more individual's needs. But not forgetting about that, you can't, you can actually develop a system that will meet everybody's needs, but is it the most cost effective system to do? You have to look at that also and how you get there. Can't do this overnight. That's part of what we're trying to look at.

Improve and actually maintain local capability. I started off by saying I have individuals that were doers. I'm trying to turn them into trainers, building the local capacity. But you can't train someone to do something unless you understand it yourself and know how to do it. There is a balancing act, I have to be able to keep doing some stuff, figure out how to maintain the core capability, how do I transition. I need people to understand, you're going to develop a

next generation of something better, you still need that, but we do do a lot, we use all of the satellite technology and we understand that. But I have a lot of people that are what I call buttonologists. They know how to push buttons, they push the buttons and out comes a value. You've got to have those individuals that know what, when I push that button what's really happening. The person that's out in the field doing it and pushing the button and bringing it back and putting it all together is an important aspect of it, but you need someone in front of that, someone in the back end of that making it happen so you can build the next generation and understand the process, so you can build and work with industry to try to build that. I need industry involved in that process. So we are working on that.

Global leadership strategy. We have been heavily involved in the international community and national community both ever since we

started 20 years ago, but we really, in the last 20 years we got less and less because of shrinking budgets, shrinking number of resources, things shifting around, responsibilities. We did less and less nationally. We're pretty well recognized for our position aspect of it, internationally we lost a little ground. We're getting back into that and clearly, once again, from the satellite international world as well as with remote sensing, dealing with just only instrumentation, we need to be part of that world leadership, we need to be engaged in that. We want to be at the table setting policy. We want to be at the table helping them to build the strategy for implementing that policy. You can't do that unless you're engaged. So we are doing a more active role now.

We actually, for the satellite information, we have been asked to be one of the primary data assembly centers for doing the international reference. Let's do it for the world. This is the center. We have been asked to

be part of that process and maybe lead the team. We also produced orbits for our satellites. We are the number one agency now for doing orbits with the others. This is around the world. There are eight entities, we are number one, we have been for the last four weeks, our orbits are better than the rest of the nation. Ours have been the best over this last four-week period.

We are getting in the front and doing the leadership. We were, two or three years ago I guess, we were number six and seven of that. We took an active role. If we are going to be in the driver's seat we better get our act together, and we have done that. More of the leadership role.

So how can you help? This is where I need -- part of it, I think there are some people on the committee that understand what we're about. I think there are some that are getting a better understanding and others that maybe will get some more, but I would like you to, if you would, take a look at it and think how can we better integrate

some of the capabilities into NOAA's activities. You know what you need from some of your activities, you know what you're dealing with. What's the positional element that is missing out of the ten-year plan? How can we improve our capabilities and be a part of the MTS system? I think that we are -- once again I think it's understood that we're going to always be there. You have positioning that needs to be developed. I don't think we thought about that, saying that I need information. I'm going to put some new water level gauges in, bigger ships. What is the positioning requirements for that, what's the need for positioning a ship, the keel of a ship? Is it there, is it necessary, what's it going to be in 2040, is it going to be critical to you? If it is you ought to figure out how that leads to what I'm trying to do and how we make that fit together.

Positioning information for the environmental needs. You're going to need in these ports, if you're going to be competitive with the

rest of the world, you're going to need some positional information dealing with these ports and you have to meet some tough environmental issues. I would like you to think about that. Just the ports, I would like you to think about this is going to come across the rails, it's going to come across the roads and is going across Canada. You're coming down from the center part of our country into New Orleans. What's the positioning requirement? Are you going to be competitive inside the organizations? What do I need to do to make it competitive?

National height modernization, I think we are making some strides where people are saying I need it for my state, I need it for my area. The me me me type thing, they're starting to get organized and understand we, you know, we have common needs, we can collaborate and do something as a whole. I saw this in the IOOS. IOOS, I would like to believe I was part of one of the main things of getting people talking to each other,

because most at the time that's all it takes, once they start understanding their roles and responsibilities, they start working together. They have a common interest, common vision. Maybe I need it here, maybe local. I was just in the Gulf Coast in Alabama, I had a meeting, I had Alabama, Mississippi, Louisiana, Texas all in the same room all talking about can we do this for our region. They stopped talking about I. We talked about Louisiana said I can work with LSU, work with Mississippi State and I'll do this part, you do this part. Texas A&M said I can work on this, how it fits Alabama, starting talking about their level. They mapped out their own rules refocused on region. But it's still part of national height, here's what my region is interested in. People have information, everybody has that. But how do you build this collaboration, get people to say I can help you out when something is not working over here, I got the expertise, I can help you, and that's creating the common vision theme and

planning out roles and responses.

So I think you might be able to help me, looking at am I missing something in there or can I do something slightly different. I think that's a real need and issue inside my agency, budget ups and downs and how we're trying to change from being the doers to the trainers via a different set of expertise, and via less employees today than I had a decade ago. I had 277 employees ten years ago. I got 225 today. It was planned. We developed an outsourcing plan in the year 2000 saying we need to get competitive to be able to do our mission, we need to be competitive inside what we do, what we do best, what can private industry do better than us and we worked with them so that they understood what we could do and what we do best, so we worked at that. We knew we were going to decrease. I actually have and do more work today than I did ten years ago. If you count all of the contractors, I have more bodies doing things than I did ten years ago. Different roles and responsibilities. But I

think it's individually that you have in your mind the same issues. How do you maintain that? That's what I'm trying to say, that you might be able to provide to me from your own perspective here is what I think you should do, you should be thinking about this or here is the strategy to be able to do that. I think you might be able to help me out in that respect and so you're looking at that, I would appreciate that. We put this out for public comment and appreciate if you would spread the word and get people to put into it.

I have been telling this everywhere I go, I have been to several stakeholder meetings and getting a lot of informational feedback. I believe in your package though there's a specific request so that the committee can address some of those questions I just laid out in that by the next committee meeting, that you come with some kind of summary to me that I can include in modifying my ten-year plan and then go out in terms of a publication. We will be updating it after we get

to the end of all these comments and get information from the stakeholders by the end of April, an updated version of it. The comments are not all huge changes, more the comments are about the implementation of it rather than the actual strategic plan, which is reasonable and understandable. Most people think that's a good way to go, how are you going to really get there, what's your implementation plan? We are working on that but until we get this really mapped out, this ten-year plan has some, the first year, two milestones we think we need to do, and now it's a ten-year, we tried to keep it a, more of a high level document and say if we all agree we want to go there, we develop that level of implementation and I use this document every year to develop my execution plan for the year, it has to fit this document. So I'll go out with the Federal Register after I get all of the comments through the system and then that will happen later on probably. After I get your comments I'll go to the Federal Register

and next year we'll probably finalize it. I'm thinking there's a lot of different times to really put comments in here. I'm really interested in making sure if we're talking about a true ten-year plan I got all of the individuals' comments so that I can really move this forward in that direction and use it for the next ten years. Although realizing as my environment changes, will change, so we will be revising it. Part of my process is to look at this every year. I don't suspect we'll change the ten-year plan after every year. Once I develop an implementation plan, that will change, but the ten-year plan should not change every year. If we do it right it should last ten years before we have to change it. But so that's what I think, it's in your books like I said. That's all I have to say.

CHAIRMAN RAINEY: Thanks very much. I wanted to make a couple observations. As you know, you and your office has briefed us on a number of the programs, very important programs out of NGS.

As you mentioned in your presentation, we had a meeting in the Gulf area after Katrina and Rita and had an opportunity to highlight, you know, from among the navigational services the critical important work that you do with the quick aerial photometry and how important that is and much of that is incorporated in our report. And I wanted to comment on the second to last or third slide that you have there, that's a great start to help us. It's clear and I always have been impressed with NGS, the hydro service programs that we deal with. As I mentioned just a little bit at the past presentation, one of the things we see over and over are these really fundamental framework data sets. I'm hoping as we look at the materials and plans we have time tomorrow to do that, but if you can help us, you've got a multi-headed monster there and if we can kind of look at the capabilities, we do have expertise on the panel in this area and what we can do with you to kind of frame the issues so that we can give you the

deliverance that we're able to do and help you in focusing your plan. I'm particularly interested in working with you and here tomorrow as well, how NGS and all the hydro services play as we move forward with the IOOS we've been talking about, but now also the Integrated Ocean and Coastal Mapping and how the interplay will be among our programming offices. That's sort of cross-cutting initiatives and that's within our federal government, also internationally. I think your hands or fingers are in a lot of pots and I look forward to working with you to tailor some bite-sized chunks we can handle and help you with. I don't know if there's any other questions for Dave on that.

DR. LAPINE: The maritime industry really hasn't capitalized on what you do in South Carolina. Southern Railroad can double the tonnage on their existing rails if they only knew where the trains were more accurately and how fast they were going. They're going to use a CORS network to begin loading the rails with more tonnage. They

actually turn away tonnage right now. I think that the railroads are struggling for business and they actually turn away business because they can't put enough trains on the existing track and they can't build any more tracks alongside the ones they already have. South Carolina Department of Transit has given me over a million dollars to amplify your CORS network at a density of 70 kilometers spacing. They're going to build roads with machine control, two GPS antennas, one on either side of the blades coupled to an autocad system that has the design of the road. The earthmover will move down the corridor and the blade will be adjusted and considered according to the input on the GPS receivers. Within a year South Carolina will have one-centimeter positional accuracy in real time, two centimeters in the vertical. If you put that on a ship you have a moving tide gauge, you have a moving current meter on the location of the ship itself. You put one on the bow and one on the stern. If you did that years ago you'd basically

have an inertia system that acts like exactly the direction and at what speed the ship is moving, you can put that ship alongside a pier in more adverse conditions, you can bring it in with less underkeel clearance because you know exactly how far the keel is off the bottom or exactly how far the highest antenna is from the bridge it's got to go under. I think it needs to be exploited if the technology is existing. It's just a matter of coupling it with us to understand how it can be applied more towards the maritime industry.

CHAIRMAN RAINEY: Helen Brohl.

MS. BROHL: Dave, how are you engaged with the Interagency Committee on GPS?

MR. ZILKOSKI: We provide reviews and input to everything that the PNT puts out. It's part of NOAA, that's the NOAA rep to it. Anything they put out we review through it and vice versa. And then just recently, because we started asking some of the input of what do we need for GPS to be competitive, we're providing input from that

standpoint. I'm not sure in terms of specifically what you mean, but we do provide input. NGS itself is not the lead on that, someone else is.

MS. BROHL: The reason I ask, I presume you probably had some impact in just learning about the committee and the types of things they do. But yesterday in a meeting we learned that -- one of their representatives was at one of our meetings and said admittedly they're very much engaged with the nautical aspects of GPS and that the marine components really haven't arisen yet. We appreciate the fact they came to us and want to participate in what we're doing, I think to the extent that I'm somewhat ignorant that perhaps we can talk a little bit about ways to make those connect. It sounds like it's your office with NOAA that has made the most of that group.

MR. ZILKOSKI: Yes, we're the ones.

MS. BROHL: If you're going to make policy for GPS for this country --

MR. ZILKOSKI: You're absolutely

correct, every chance we get we try to make the sea side as well as the land side into the arena. The air is the driving force when you talk to them. It seems like there's -- you go to the Transportation Research Board, which is another one that is supposed to be transportation that should be air, land and sea, when you go there you don't hear anything about sea at all but it's all about land. I'm on several of those committees and all three hats keep popping up. I keep saying you need to get more involved. That's another group that really does not think about this. That's intermodal. They start talking about their trainings and so forth, but they will not touch base with the -- I don't know what the issue is with that. But that's another one we're trying to do. You might be able to help in that respect too.

CHAIRMAN RAINEY: Thanks very much. Our next presentation is on the Committee of the Marine Transportation System and briefing and discussions, and our next speaker needs no introduction with

this group, but I'm going to ask you to bear with me here. I wanted to talk about Helen's new positions. We are really delighted she joined us today. In July 2006 the Secretary of Transportation announced the appointment of Helen A. Brohl as the first executive director of the Executive Secretariat to the Committee on Marine Transportation Systems. In this capacity, Ms. Brohl reports directly to the Undersecretary of Transportation for Policy as directed by the CMTS charter. The Executive Secretariat serves as a technical advisory body to the CMTS Coordinating Board. The director keeps the Coordinating Board informed of all the developments, including matters to be brought before the committee, necessary for the Coordinating Board to fulfill its responsibilities. The ES Director is the Executive Secretary to the Coordinating Board. The Committee on the Marine Transportation System was established by the president's Ocean Action Plan to create a partnership of federal agencies with responsibility

for the Marine Transportation System ù waterways, ports and their intermodal connections ù to ensure the development and implementation of national MTS policies consistent with national needs and report to the president its views and recommendations for improving the MTS. The CMTS is chaired by the Secretary of the Department of Transportation, Mary Peters, and is comprised of 14 cabinet level departments and several independent federal agencies.

For the previous ten years Ms. Brohl was the Executive Director of the U.S. Great Lakes Shipping Association, an organization established in 1956 to represent U.S. vessel agents in the Great Lakes. She recently served for six years as the president of the National Association of Maritime Organizations. Helen served the past four years as the national coordinator for the Marine Navigation Safety Coalition. Ms. Brohl was a member of two federal advisory committees, the Great Lakes Pilotage Advisory Committee under the

U.S. Coast Guard and was Deputy Chair of the Hydrographic Services Review Panel under NOAA. We all know what elevated Helen to her current position as Deputy Committee Chair of the Hydrographic Services Review Panel, so Helen, welcome back.

MS. BROHL: I'm going try to move. Well, you know how antsy I am.

I think the only reason I got the job is because I was on the Hydrographic Services Review Panel. Let's make that very clear.

I can tell you there is no group I would like to be with more than you guys because I think this was truly a privilege to be on the Hydrographic Services Review Panel and it was truly a privilege to work with everyone. I also know that this might be one of the toughest audiences you could have. But that's okay. I'm looking for feedback. We believe in the value of federal advisory committees and we'll talk about that in a little bit about in terms of what you're doing.

I'm hoping we will take some time today and try to be back tomorrow and talk a little bit more. I really want to hear from you guys.

I'm sorry Bill Gray is not here. Bill Gray, as you know, I think you told us a number of times in this group that he did the INTERTANKO report, I-N-T-E-R-T-A-N-K-O. In many respects he is the father of MTS, the Marine Transportation System, in his assessment of the U.S. Marine Transportation System in the 1996 report, which Congress picked up, and then that led to a provision in a Coast Guard authorization bill, which led to the creation of the MTS initiative and a report back to Congress. But I was wishing that Bill would be here because he's one of the toughest critics. He doesn't mince words, he tells you what he thinks and I was hoping he would be here because to me it was an ability to kind of bring things full circle for Bill. There were a number of things over the couple of years that we met under the HSRP and he kept trying to bring us back to the

navigation technology things and navigation safety. And there are agencies talking amongst themselves in the federal government in support of navigation safety, a number of issues which we talked about here. So I'm sorry that he's not here, but at some point we'll try to get with him and talk with him.

I'm going to go through some historical stuff because I think it's good to have point of context. A number of you know this background, a number of you were engaged in the concept of marine transportation ten years ago. I do want to kind to go through this because I think chronology makes it more important now. The 1999 report to Congress talked about the enormity of the recent transition and certainly talked about how important it was to the economy and welfare of our nation. But it didn't necessarily have a strategic plan in there. And it was my experience being in the private sector that when the federal team would go and brief the Hill or be at meetings and talk about the MTS and how wonderful it is, that people would

often raise their hands and say well, okay, but what does that mean to me, what does it mean to a line item, to a task, what does it mean to actually doing something with this. And mostly what people said is it's going to cost billions and billions of dollars to fix the MTS, which caused people's eyes to glass over and say okay, I got other things to do on my plate, so in that respect the clarity wasn't there. But the need, the value of the MTS was apparent.

Out of that, though, came the creation of the Committee on Marine Transportation System and the Marine Transportation National Advisory Council. MTSNAC still exists today. The International Committee on MTS was a mid-level policy-making committee to talk about ways to actually take the 1999 report and do something with it.

They had dialogue sessions around the country, there was a real considered outreach effort, there were things produced like this. We

have one in our office, one of the original ones NOAA produced that talks about the value of the MTS. There was outreach, they were getting a lot of feedback from federal agency people engaged in this ten years ago, there were a lot of committees and meetings. Yet there was constant frustration on how do you take these great ideas and make them go farther. When you combined that with 9-11, which changed a lot of dynamics and emphasis on marine transportation system, diverted a lot of interested resources, in the end it somewhat, people just got a little exhausted. Also, one of the most important points when people say that it never went anywhere or did anything or that it was a failure. And clearly a whole list of things you don't want to do to make things work, one of them is when you tell people who are very busy that, by the way, in addition to what you're doing today and what you get paid for, you're going to spend a lot of time on this whole new other thing called the CMTS and in your spare time you're going to try to

save more time with transportation in the country. Not real functional, with all due respect. At some point you go back and get a whole list of e-mails and a whole list of things on your plate, so it's not a fair thing to ask people to do. But a lot of things did come out of it, a lot of effort came out of it.

Time line here. The CMTS really still existed up until December 2004 when the president responded to the OCR, the Ocean Commission Report. Actually I think this is one group that knows the Ocean Commission Report. A lot of groups, especially in maritime, have not, weren't really tagged into it, didn't really notice there was a whole session in Congress on transportation. The president was required by Congress to respond to that and he did, by agreeing with the Ocean Commission that you should take the old ICMTS and turn to the cabinet level for policy-making, give it something with some legs and with policy-making capabilities. So in December 2004 CMTS was

created. By December, excuse me, by July 2005 a charter was created and approved by the cabinet. Essentially this is what the new CMTS is supposed to do, create a partnership to talk about the waterways and supports, supports and integral connections. Every time when we get together and talk, you talk about those connections, that you can't just always think the ship getting to the pier, the container getting to the dock, you have to think about what's beyond there and those connections. I think Mr. Vickerman made that clear to you today. I apologize, I wasn't here for your presentation, but I actually have your presentation on my laptop and in my spare time I will review it to make sure I'm up to snuff on what's going on. I think you all agree, and you've heard this before, you like policies that are consistent; that there one vision for Marine Transportation System that we all understand, that is the Marine Transportation System and the left and right hands of the government are talking to one another, that one

agency doesn't put a policy out or by proposed rule it just is in conflict with another proposed rule. And so we all know there's a need.

I put this up here because it looks really cool, it looks like I really have an important job and I get to hang out with really important people. You know, it is cool in many respects because you've got a lot of departments engaged, a lot of agencies engaged, a lot of offices engaged, but in reality let me just say -- off on a tangent already. I can see I'm going to go all over the place. Anyway, I already said the charter was signed and there have been three meetings of the CMTS, but with all due respect, those meetings more entailed talking, there wasn't any policy that came out that in turn was passed, it was just to talk about what's in the charter. You'll like this one, there's the -- it's the MTS National Advisory Council that is supposed to have, at some point, some kind of interaction with Congress and the public at large.

This is what I started to say. While it's really cool that I can go around saying at a cabinet level committee what I think really is great is the fact there's a coordinating board. This coordinating board is an agency head and that's higher than the old ICMT is, this is a group that sits down and talks about some issues that are important, how are we going to tackle some of these things, what are the hot stuff we need to do to improve the Marine Transportation System. It just so happens that in 2007 the chairman of the coordinating board is Admiral Lautenbacher, and I can't say enough about the enthusiastic support that NOAA provided to this and the interest they have. I'm not just saying this because Jack Dunnigan is in the room, but the fact is they are on board a hundred percent, as are the other agencies, which includes the, when you're sitting at the table of 22 people, you have Admiral Lautenbacher from the office of the Secretary of Transportation, the head of MARAD, Admiral Allen,

he's a celebrity, but we get Admiral Greg Bowen, and when I think around the table, FMC and Energy and the White House offices. Just about everybody that you can imagine should have some interest in the Marine Transportation System, and that's incredible and that is not what happened before.

What else is new? This time there is a staff office. Gary Magnusson, who some of you may know, he works with NOAA, Gary is detailed to our office from NOAA, and he reminds me often about two things. When I get frustrated he'll say, Helen, you had to spend ten years on the ICMTS to know how much you're doing and should feel really good about it, because I did a lot but never had full-time staff like it has now. So in July I was brought on as a director. So there really was nobody to do the follow-up. Because we all know whether you're selling something or whether you're doing business, its 5 percent sales and 95 percent follow-up, just about everything we do in life, and the follow-up is what makes or sets us apart from, you know, the

people who just can't get to the follow-up. So fortunately there's an executive directorate, that's really just a fancy term for the staff office. We support the functions of the CMTS, the coordinating board, and we're the facilitators to help the interagency tasking teams to try to address the issues that are real important.

One of the mechanisms to address issues are integrated action teams, they're tasking teams, project teams. They were meant to be led by an agency, so the Executive Secretary is really more in a facilitation mode and not to be the R&D people, the writers of the big white papers, that's not really our job. It was intended our integrated action teams were just a mechanism to get an agency to take the lead, and again, they're not the sole creator of whatever comes out of it, just that somebody has to take on the lead, has to be the champion, and so the integrated action teams are one way that we make that happen. When I came on board in July I inherited integrated action teams.

The first was a national strategy, which was no surprise because they attempted to do national strategy the first time around. And just like Dave talked about his ten-year strategy, you really do have to kind of lay out the goal of the national strategy, which was actually to be more defined, have some real defined tasks. That would help set you on the course to improving the Marine Transportation System. It's not a Coast Guard led task. Let me emphasize again, it's not a Coast Guard task, it's an interagency task. This integrated action team effort is kind of on I would say -- fast wouldn't say it, but it's got legs. The process with that was that the Coast Guard held a workshop in July, it was not publicly, they had individuals just from industry, it was not catch as catch can, really it did cover just about every subject that could be covered and they took comments. The comments they heard from industry are the comments we all know, there were no surprises at all. And the national strategy, then

the Coast Guard took those comments, developed a draft, ran it through their interagency group, their task team and sent it back out to the people who attended the workshop. They took those comments in, and I do believe that Bill Gray got to comment on it. I wanted him to comment on it in particular because I felt that he had vested interest in it. And he said exactly what I thought he would say, and he was out there advocating like you would have expected him to. That team meets weekly and they have gone farther, as I mentioned, with having a broad brush strategy, trying to come up with some action items to move forward. That strategy, though, we are hoping that can be presented to our coordinating board in July of this year. And at that point then the coordinating boards would approve, send back, decide to send it to the public. I can't presume what they would or would not want to do. I think that it's a pretty solid strategic plan. But we have a better feel for that in that I think they would say a month and

a half for the second integrated action team.

I inherited when I came on board, was doing a MTS assessment and it was always thought of if we don't know what you need, then you do an inventory, and an inventory of the Marine Transportation System is an enormous task itself, bogs you down. You don't get the stuff that needs to be dealt with immediately. I think that industry kept saying at the workshop we don't want you doing a study and white papers, don't want another 199 assessments, we know those issues. We want to get in there and take some of those issues -- the MTS assessment like of the Corps of Engineers has been modified. The Corps of Engineers has been doing, I think this is White House initiative, JFW probably understands it better, but there's an asset management program, look at your assets and how you manage them, and when the Corps looks at their assets, which are often real assets like locks and dams and dredges and equipment and things like that, they can

analyze, they have a model by which they can analyze the risk assessment of level of investment to maintain that improvement, but it turns out that model can be applied to known real assets, can be applied to services, services NOAA might provide in support of navigation or that the Coast Guard might provide. And so the goal now is to determine your priority are,s, where are your interests, where are the priority interests in this effort and apply them across the board. So instead of somebody looking at it and saying there's lots of things that need to be done, you can actually say this needs to be done, this is the current investment, this is the risk in graph form. If you don't invest a certain amount or invest this amount, it will be here, if you invest this amount it will be here. So that's what our goal is.

I have to be honest, I will say after a year, because there's no money, it's in the beginning stages. However, it appears that the Corps of Engineers has been able to work out a way

to perhaps begin the literature search for the basic work, but the modeling capability has already been assessed out of the Vicksburg office, and now again this is Corps of Engineers' lead, but the model will apply to all MTS assets, both real and in other forms. For maritime data collections the Maritime Administration is leading this interagency effort. The Maritime Administration along with many others check maritime data. Now MARAD tends to clarify or check data and use it for economic development purposes, so it tends to be static data, but it was clear there were a lot of people checking maritime data around the federal government. In fact, an inventory was completed on data collection and it turns out that about 135 to 140 offices in 12 different departments or agencies check some type of maritime data. Just that alone is really kind of interesting to see. And it's not just for economic purposes. That doesn't include projects or other aspects going on related to that, but just pure inventory, who is collecting data.

Now it's the goal of this group to assess the gaps, where there's needs, but in the long term. In the long term. We hope to decide shortly over how the information could be provided in a form that's both, doesn't disadvantage security in any way, but anyone can go in and take a look at it and see how you get it. The fact is if you were going to, if you wanted to know how you got data, if you weren't in this business and wanted to know who collected water level data, you may not know, and you might search around the federal government, you might find it real easily, but if you wanted to know who did charts on the Illinois water system you might find it easily, you might not. But there's all kinds of data that economists use you might not think of every day and it's a little more secure and little harder to find. Our goal is to, through the CMTS websites, to find portals. There's already 13, 14 maritime related portals in the federal government believe it or not. That will at least make it easy links

to other locations.

Now, we have to address whether that makes a security risk because it's so easy to find all the data. I think we can work through that one, but in the short term we would like to make maritime data more easily accessible to other people. And the tougher issue down the line is standardization on terminology, but we can talk about that in a little bit.

The fourth one I inherited is maritime recovery, this is really a post hurricane issue, what is the state of the maritime domain and how do you know the status of the maritime domain. The department of Transportation Secretary's office was very frustrated, they couldn't get a clearance on the status of the maritime domain. I think this task will be recommended by the Coast Guard to take because the Coast Guard is very engaged on the maritime time recovery.

Now, this is one I want to talk about with you guys, that's the navigation technology

integration and coordination integrated actions team. And it's led by NOAA. I love this concept and this idea and I was very pleased that NOAA proposed to lead a team to talk about navigation technology. It was approved at the coordinating board's meeting in October. It is David McFarland, who many of you know was engaged with HSRP, Head of Coast Survey and now works with Mike Szabados under CO-OPS, he is the lead for this. And we're really pleased because he obviously has the background, the capabilities and he is, brings a very positive weightiness. I think that's always difficult, because cooperation and integration sounds really nice but it's not always easy to do. So let me see what this next one is.

Okay. I'll do this and want to get back to that. I want to let you know that we have a number of tasks out there that are not big tasks. We have some short-term turnaround times to deal with, how to deal with infrastructure, try to set policies up. We have a CMTS meeting proposed for

May, a full committee meeting the Secretary of Transportation will be chairing, that it's our goal today. They don't really want talking heads. You don't get all of the secretaries at the White House and have them listen to someone talk for an hour. They are just not interested. So we've got a number of things that are really important we're trying to pull through. MTS, they address some of the innate issues of trying to run a committee on the Marine Transportation System without authority, just operating efficiency issues. And I really hope that you invite me back another time because I really would be able to tell you how this went forward.

We have interagency teams meeting this week frankly to work on those, so I can't tell you how they're going to turn out. I just want you to know that I want to emphasize that the coordinating board on every level understands the importance of doing this and doing it now. I think a lot of the stars are aligning in a lot of areas. The

administrator, the new administrator, McNaughton, has been right out front seeing to address of lot of these. The administrator has -- as you know, Admiral Lautenbacher, who is our chair, has been straight up front about saying as long as I'm chair in 2007 we really want to make a difference this year. What can we do now to make a difference in one year, what policies can the committee change which lead us on the path of trying to make a difference. This is our contact info. I would like to talk more about our interagency team on navigation technology. We just met yesterday for the first time. And it's interesting because actually I go into this not understanding what everybody does today, but listening to these guys talk about their outreach, we talked about a working group that NOAA has with the Corps of Engineers to really talk about meaningful ways to make sure they are aligned on the next guy, there's a comparable one between the Coast Guard and the Corps of Engineers. Something I don't think -- I

didn't think about this because I think of it as deep draft, those in-house may not agree, but what kind of navigation technology you might have on the bridge. But I didn't know that the tug operators on the waterway system don't have any of that. Can't understand why they should put any kind of charting in your pilothouse, and the Corps of Engineers, who generally plans and monitors it, is the one trying to deal with that issue. They came into the picture saying let's design a system that does this and does that, and at some point, I can't say how it happened, the Coast Guard said you may want to look at what's done already. Now, the good news is they say I come look at AIS, I think I know what AIS is telling us. They're doing current modeling, the Corps of Engineers. Coast Guard does current modeling. The need for current modeling, you're talking locks and dams, and they have a lot of barges and tugs running into barges, into locks and dams and they don't like that. It costs a lot of money. This equipment that's already under

siege for lack of financial investment, and you can only put so much wire and tape onto your locks and dams, the Corps of Engineers, and as I said, you know, we've got to stop having tugs and barges running into locks and dams, period, if we can all be on the same page right up front. Technology develops, technology that all fits together, why not do that?

So this team sent down yesterday with David McFarland, and the Coast Guard was there, and a lot of people, a lot of new faces in the room, that's a success. And they started talking about how do you scope this, what are our interests, talk about the marine navigation safety and how do you scope these so you don't go crazy, but it was clear taking the inventory that exists that the integration action team did and adding what other initiatives are going on, what other working groups are doing, there are forums, because there, I believe there's an AIS standardization committee that the Coast Guard runs and they're going to get

that back going. Talk about all the different people that meet for all different reasons, I didn't even know there was a GPS committee. Kind of like the CMTS but all that's about is they define policy for GPS for this country. I didn't know that, but they showed up yesterday, one of the reps came and said we don't have a lot of marine components in what we're talking about. Let's connect those dots.

I am thrilled, I personally think the navigation technology team efforts could be one of the most important things with development, and Bill Gray, the whole thing that Bill started was about we need a safer system. Does every agency need their own buoys, does every agency need to do their own thing, do we need rules for them, rules for them? I mean that's the vision. And what I said to everybody yesterday, you have to think about a vision, what is your vision for the safest transportation system in the country. And don't get worried about this is my job and that's your

job. There's so much to do. This isn't about trying to take work from anybody and give it to somebody else or talk about undercutting people's budget line items. This is about talking to one another. The good news, I found people. We just need to think even bigger. And at that level the experts are extraordinary and really do want to make a difference, so I'm very excited about that one and really hoping I can come back and talk about that some more.

Now lastly, and David said how can we hear from you, one of the things that we did in the beginning was the coordinating board approved some type of outreach to federal advisory committees. And in fact, we did an inventory in-house that there is a thousand federal advisory committees, you can go online to see them. I had a wonderful 18-year-old summer intern as our secretary and she sat, with her headphones on by the way, and went through every single -- I gave her ideas on how would you know it matters. You can't say boat or

ship or maritime, it might be related to trade, might be related to environment, the oceans. She came in with 70 different, about a hundred actually federal advisory committees she thought could have impact on the MTS. We thought there was about 70 that are direct or indirect. Granted, the International Trade Administration makes policies that could impact the Maritime Transportation System they have. And so those are more indirect, but you cull that further and there's about 20 that probably we would like to know more about. I mean here is when you talk about stakeholder outreach, but you guys were all selected for your expertise to talk about something in particular, why not take advantage of it. So the coordinating board, which was at the time led by General Riley, Corps of Engineers, wrote letters to the sponsors of every factor we thought was important, about 20, and NOAA had three or four. And the goal of that was to introduce the CMTS to the committees to say if there's an opportunity that we could explain what

the CMTS is, we would like to do that. But try to go to those committees and say what is your vision for what you do.

Do you know that there is, under Coast Guard there is a committee called the Navigation Safety National Advisory Committee, NSNAC? Do you know they talk about electronic charting? You guys talked about electronic charting I think, right? And do you ever wonder what they're talking about? A lot of times they're talking about a specific issue and a specific part, but I spoke to them briefly, you guys got to start thinking big, what's your vision for the safest system in the country. There are some restrictions and you need to be clear, you need to work with the specialist in the agency, but to the extent that you have an interest and NOAA can work with you to facilitate it, we might want to reach out. And to the extent that under the tenets that you have of advising Admiral Lautenbacher, the administrator of NOAA, on issues, they could coordinate, and I can't presume what's

appropriate or not appropriate, to the extent NOAA recognizes that maybe some of those issues are interagency. I'm just saying don't limit yourself, but I guess just to say to you guys I think from what I can tell you guys, my personal feeling is HSRP has thought big from the beginning. So I hope that this didn't come off like another person comes in with the federal government, I'm here to help you. I always felt frustrated in the audience. What's the new thing here is the MTS and it's wonderful. It's all about what does it mean to you and can I follow up and, you know, there a lot of dynamics, I won't kid you, of trying to pull lots of different agencies with lots of different personalities together. I think the stars are aligning and we are making hay right now. We've got, you know, really 18 months until the end of administration and at least I can tell you not just the career people that participate in this, but the appointed people have been so enthusiastic and so supportive, I want to take advantage of that right

now and we are working awfully hard.

We are not going to answer every single issue but we're going to try to target a couple we hope that will give us the momentum to be here for the long run and try to make a difference, because it's nice to have one job all day long and make sure people talk to one another, make sure people who know educate and inform. And it's a big job. I can only say that we are -- there's just a lot of support, and so I hope you guys will keep thinking big and I hope we can keep working with you and I will be happy to take any questions or we can talk later.

MR. DUNNIGAN: As you said, the admiral is the chair of the coordinating board this year. I'm his backup, looks like I'm going to spend a lot of time riding the bench because he has grabbed this responsibility and is very interested and enthusiastic about this level of collaboration that needs to occur among the federal agencies. NOAA has a piece of this action but the fact we don't

control the whole thing doesn't mean we can't take the big view. That's really the orientation that NOAA is bringing to its leadership of the CMTS and encouraging the other federal agencies to do the same thing. I think a comment we continually ask ourselves is whether this business model is going to work. As Helen said, the last one didn't. A lot of us lived through that and we need to know that the White House continues to focus on this part of the Ocean Action Plan. And the question is do we need to integrate this in a different way beyond the committee that oversees the whole thing. So we're going to keep working on that.

It's been great having Helen. We know the enthusiasm she brings to everything she does and she did that with the CMTS and the coordinating board. We've learned better ways of talking to our colleagues in the other federal agencies, and Dave, you mentioned the collaboration that the NOS has been working on with the Army Corps of Engineers to try to identify six major areas where we have

programs that can be coordinated in common and each of those to be able perform missions better and the coordinating board is also thinking of broad issues like maintenance trust funds industry is paying to support, that if we actually get the returns back to the industry for the amount of funding being made available, what can we as federal agencies do to try to provide more value to the system from that resource. Also talking about just basic authority, CMTS is established now by executive order, what more do we need to do beyond that. Everybody in Washington now is becoming ever more aware of the significance to the orientation of all of the current members and the coordinating board to make sure we're laying a foundation and groundwork that alludes to the critical significance of these issues to be recognized as agencies of the government and move forward. The proof of this is going to be what happens over the next year and a half. I hope the committee will keep our feet to the fire and ask questions about

what's going on and making sure that information is coming to light. So thank you, Helen, very much. We might have some time to have some discussion. Any questions?

MS. BROHL: I thought you guys would ask the tough ones. Talking about feet to the fire, I thought for sure you would. Well, I'm going to get here, so.

CHAIRMAN RAINEY: I'm going to try to join you up there. Maybe I'll throw a question down. I assume then that from your vantage point that the proper way to suggest issues that the coordinating board would look at would be from us through NOAA and then you've got the special opportunity with Vice Admiral Lautenbacher chairing the coordinating committee, to go through regular channels here and NOAA can decide whether they want to bring forward those issues.

MS. BROHL: It has to be brought through your coordinating board member, as compared to the full CMTS. The big advantage you have of course is

that Admiral Lautenbacher is super engaged. Happens to be the chairman right now and would probably ensure that it was put on the agenda. We had, the MTSNAC has made a couple of recommendations to the CMTS. Some were very outdated by the time I arrived and really didn't need a response, but they did. I don't know if you know this, but they made a recommendation to the Secretary of Transportation supporting NOAA's navigation service programs asking for more money, and that, I guess it went to the secretary's office and what they did was pass it to MARAD, who passed it to us. But by the time, frankly, it got to us it was past the OA budget site. However, in response to that we responded back to MTSNAC basically saying we have the navigation technology actions item and really want to integrate that. So those are important programs, but there's a lot of important programs and I think we need to make sure we're all on the same page, that we're pursuing that vision. So there is a mechanism. We have

received one from a federal advisory committee and responded and I assume they will see that response at their meeting in May in Chicago.

MR. SKINNER: Thanks, Helen. Sounds like you've got a lot of lot on your plate. One of the questions I had was you mentioned a briefing with our congressionals. Is the effort that you're doing to integrate a lot of what the different agencies are doing, does that translate into a better understanding at the congressional level of sort of the bigger picture? Now in even just sorting through what you're going through, there are many, many different components and you're finding out new stuff about it. Is it too soon or do you think there's some payoffs down the road for really sort of being able to present something to Congress where people will say I get it?

MS. BROHL: Well, there are three ways to answer that. One is the national strategy we hope would be approved by the secretaries and the White House and then that will be for

dissemination. And those are not just a broad strategic plan but are clearly defined action items. Those action items lead to specific tasks which lead to, which could lead to things that would be of interest to Congress. There's that component, so there maybe things we're working on that could lead their way to Congress. Secondly, the -- it really jumped right out of my head, I'm sorry. I must have nothing in there or too much in there. I'm sorry, I'm just like tripping over myself here. It will come to me.

MR. SKINNER: There will be some incidental benefits just in terms of explaining to congressional staff what linkages they're making between the agencies and then, oh, I didn't know those two agencies worked in that way or something like that.

MS. BROHL: Thank you for talking because now I remember.

MR. SKINNER: That's my role.

MS. BROHL: Thank you. Sometimes as

we -- how to express this right? If the national strategy comes with a long plan, that's one way to look at it, and then -- I guess there are two. One is the national strategy, which is the broad big picture; secondly individual tasks. Jack alluded to the fact that we're looking at some infrastructure issues related to the maintenance trust fund. It's under review right now. If that makes its way to the committee and to the White House, perhaps that will make its way in some form that has not been decided, whether that will be looking for some changes to authorization regarding that or recommendations in the budget, I can't even tell you how that would play at all. We're literally in the middle of it and it's on the table there but I can't tell you where that will go. That could happen. They would see a specific issue.

If -- what was the third one? You must be making me nervous. I'm sorry, guys.

MR. SKINNER: Thank you.

MR. VICKERMAN: I just wanted to tell you I'm excited about what you're doing, having lived through the Warrington creation and trying to contribute to it, I think it's great. Let me just -- I realize I'm just a guest here. I will be very succinct. I'm seeing Canada do some absolutely amazing things bringing Canadian national policy together. The former prime minister, Mr. Martin, created a $600 million Pacific Gateway strategy for Vancouver. I'm involved in a business plan analysis for the Eastern Gateway for Nova Scotia and Halifax and a port north of that. Canada seems to be able to link gateway strategies together in a much more coherent way. Perhaps I'm being too critical. They even have Saskatchewan now wants to stop CN trains westbound with empty containers and put high value ag product and create the first transcontinental land bridge seamlessly connected to gateways. It seems to me that we can and need a much more holistic gateway unification east to west

which involves different unions, different technologies, integration of modes. You related to that. I guess just an observation, I would like to see more of that kind of gateway linkages come together. Do you see that kind of thing evolving from what you're doing?

MS. BROHL: It's not currently on our plates in that holistic manner, because we decided to go up front on some hot issues to have some short-term successes because we have a very short time to prove some success to provide a foundation for the future which Jack alluded to. And I hesitate to speak for the Secretary of Transportation, but I do know and many of you may know that also in the Ocean Action Plan there was a recommendation by the president to create a freight framework, which was supposed to look at the bigger picture, and it's now called the freight action framework or whatever. I think you can get this online at the DOT website. That is a plan that addresses a number of different issues of concern,

but the way they're looking at gateways is more relative to the term congestion, where is the congestion regionally and how do we fix this. And they have a number of ways in which you go about it and a number of the points they make frankly we're addressing and I actually did a matrix for them on the tenth floor at the DOT secretary's office. I'm starting to become one of those people who says S1, that means the Secretary of Transportation. It's really corny. But I made a matrix that had a list of all the freight action framework stuff and where MTS is addressing it and how does it address some of those issues.

I cannot tell you whether the corridor, the corridor issue is being looked at more holistically except to say I know they've tasked certain agencies at the Department of Transportation, since you're truly getting into intermodal, you've got to go to other modes other than just maritime components, to address it. We can talk about it a little bit off line and I

really would recommend you to Tina Cathcar, who you probably know, at DOT to talk about that, but one thing I think is clear, DOT is not forcing the market, you can't tell people to market. In Canada, having worked in the Great Lakes, they can tell people they bring stuff out on the seaway instead of the west coast because those folks dealing with international trade in the Great Lakes say well, wait a minute, you're not saying you're going to the west coast when in fact it used to come through Thunder Bay, so what's going on? That's a very different way of looking at things and my experience through the federal process here in listening to industry talk, whether it's about where do you move if you have an incident in one port, something that shuts down one port area, a longshoremen's strike at Long Beach, where is everybody going to go, and the Coast Guard says we want to know where everybody will go and we're going to tell you, and industry says whoa, whoa, whoa, don't get into my logistics contingency

planning, that's none of your business, we're going to go where we need to go. Now, the feds say well, we don't need to shut another port down because everybody heads to Seattle or something like that. I appreciate those logistic concerns they have, but industry has said don't tell us where to go, the marketplace will tell us where to go.

I appreciate the big picture and Europe has a plan for their transportation sector and when you talk about short sea shipping, not just because there's harbor maintenance trust fund and stuff and the country may or may not work, look at the Rhine and the container system on the Rhine. Well, there has been concerted planning efforts and investment in areas to make that happen. And I do respect that and your point's well taken, but I can only respond -- that doesn't mean it's --

MR. VICKERMAN: I just think it's a platform for you. I sit on that freight advisory round table and in fact we created the freight analysis framework that Tina and Larrabee and the

13 of us on the round table are doing. But I see that as the private sector's framing of the freight analysis policy issues. I see that as a platform for you I guess from a private sector, one that would allow you to take a much broader systemic view in that. I think there's a real opportunity there. It was published, you can go to the Secretary of Transportation website and get the freight analysis framework policy agenda and even the new secretary has said that she wants to continue that process. I just wanted to plant the seed that I think that's a springboard for you.

MS. BROHL: Well, let me reassure everybody here, including you, John, that we're trying our best to make sure that we're not doing anything in a vacuum. And I try to get with the policy people at DOT who are looking at the intermodal, the bigger picture on transportation sectors and those points of congestion to say well, are we in the ballpark here. We don't want to reinvent. I just really felt pleased when we did a

matrix for the policy shop, which they didn't ask for, I thought they ought to see that some of the things we're working on fits very nicely into addressing some of those concerns. Because Tina said well, we have this really great plan, how does it go forward, and I said don't be discouraged, we're dealing with some of these things and that should be looked at as success.

Dave McFarland did a really great thing when he set up the navigation technology meeting. He called the Coast Guard and said read me the parts that you have in the national strategy that have to do with navigation technology and navigation safety, for two reasons. One, we want to make sure it feels comfortable with how we're proceeding, and two, if it's really great we want to make sure we're aligned. So we're trying to cover a lot of different bases. There's just so many bases to cover, but, you know, I don't -- was it a quick round table, do you guys --

MR. VICKERMAN: It was extended for a

year, it has a three-year commission. It is a target rich environment for you that I think that will help in what you're doing.

MS. BROHL: Well, thanks. I'd rather in a couple years have people say bravo, because right now it just takes a lot of energy. But you couldn't do it without the support of the agencies and you guys know it's awesome, corny term, but there's a lot of support. I'd be happy to speak some more about it. Well, at some point I'll remember the follow-up to John.

CHAIRMAN RAINEY: Thanks very much. I can tell you I know that we've envisioned an opportunity here. We'll keep trying to look at the bigger picture and do our part in a way to help NOAA in their leadership role. So thanks again for coming. Welcome back and thank you very much.

At the time I came up here we're having a little technical difficulty with our satellite down on Wallops Island and the tracking device we have on Vice Admiral Lautenbacher. What we're

going to plan now is our next session. He will be joining us as soon as he's able, as we've known from the outset. He's over at a convention this morning at the appropriations hearing, so we'd like to go ahead and break. We have a working lunch, which was our plan. It's now set up for us, and what I'd like to do is ask members to go ahead, if they need to come up to periscope depth to get a cell phone call or something, if they could return to the room momentarily. Take a break, but let's go ahead and -- sir.

MR. DUNNIGAN: It's always good to have congressional staff come listen to us, and John Rayfield and Bonnie Bruce were here this morning and had to leave. I want to make sure everybody is aware that Jim Sartuche is in the room. Jim works for Senator Lott. So take the opportunity to say hello to him too. We appreciate his coming and being with us.

CHAIRMAN RAINEY: What I'm asking for is if you have to leave just momentarily, come on

back. As soon as the Vice Admiral gets here we'll roll into our presentation on our special report and then we'll have some remarks and I'll go through the highlights and Don will help and we'll go around the room for folks to, for members to address that a little bit briefly.

(Luncheon recess.)

CHAIRMAN RAINEY: We'll go ahead and resume our session here. It's my distinct pleasure to introduce our next speaker, Vice Admiral Conrad Lautenbacher. Admiral Lautenbacher is serving as the Undersecretary of Commerce for Oceans and Atmosphere and he has the added distinction of serving as the eighth administrator of the National Oceanic and Atmospheric Administration. Admiral Lautenbacher holds an M.S. and Ph.D. from Harvard University in applied mathematics. Admiral Lautenbacher oversees the day-to-day functions of NOAA as well as laying out a strategic and operational future. He's directed an extensive review and reorganization of the NOAA corporate

structure to meet the environmental challenges of the 21st century. As the NOAA administrator, Admiral Lautenbacher spearheaded the first ever Earth Observation Summit, which hosted ministerial-level representation from several dozen of the world's nations in Washington, July 2003. Through subsequent international summits and working groups, he worked to encourage world scientific and policy leaders to work toward a common goal of building a sustained Global Earth Observation System that would collect and disseminate data, information and models to stakeholders and decision-makers for the benefit of all nations individually and the world community collectively.

Admiral Lautenbacher joined us at our second meeting up in New York and I've had the pleasure of briefing him on our activities the three years that we've been ongoing and I'm very pleased that he's able to join us today to personally receive our special report on our most

wanted hydrographic service improvement. So I'd like to go ahead and turn the floor over to NOAA administrator Vice Admiral Lautenbacher.

VADM LAUTENBACHER: Thanks very much, Scott. First of all let me apologize for being late. I was at a hearing this morning of the House Appropriations Subcommittee on our budget. I'm still having trouble with my throat, I have a cold.

So I don't want to take too much time because I really want to hear the report and hear from you in the time I have with you. And I'm pleased that General Kelly was over here. Hopefully he got you warmed up a little bit.

There's just a few things that I want to mention that I thought are important. This is the 20th anniversary of the establishment of the Survey of the Coast, and that's the reason we're all here together today, because we still do these things and they're still very important, and I want to make sure that you know that this was part of my testimony, both my written statement and my oral

statement talking about the importance of getting commerce safely in and out of our country and the need to have the kind of services that are provided here to do that. I mentioned that several times, so I was at least doing something useful while I wasn't here listening to you.

But I encourage you to think about this 200th anniversary. We are using it kind of as a platform to talk about the importance of ocean activities, the kinds of things that NOAA does, the science, the service, and in particular the foundation that we have for commerce in the country from Thomas Jefferson until today, this is the founding part of NOAA. So it's vitally important to use that as we look for ways to improve the funding and support for this. I want to thank John Vickerman this morning, I understand he told a very compelling story and I appreciate the fact that we need to worry about the whole marine transportation system. I also appreciate Dr. Kite-Powell's studies on the economic benefits of using PORTS.

PORTS is real important to me, we would love to have more funding for PORTS and keep working on it and talk about the value of Tampa Bay and Houston. Studies like this that can help us provide the economic benefits in some very tangible way are really important and I appreciate your support of that kind of activity.

This is a very important federal advisory committee for NOAA, we appreciate your service. This is extra. I realize you all have day jobs and there's other things you need to do to keep yourselves moving, but the panel contributes to us. We need that connection with the customers and the people who value and benefit from the kinds of things NOAA does and vice versa. So we rely on your collective expertise and knowledge and we thank you for the service.

Particularly some of the things I think we want to mention is working with us to identify survey priorities. That's very important. Looking at developing improved contracting policies, we

want to try to keep everybody happy and make sure we're doing it efficiently and satisfy the federal regulations and congressional interests. We appreciate the work being done to contribute to our IOOS, Integrated Ocean Observing System, development plan and find a role for the NOAA hydrographic services in IOOS as a basis for the whole system.

We also appreciate the consultation on drafting of the Hydrographic Services Improvement Act Reauthorization, which is one of the administrations priorities for this year, and without this group and the push that we've got it wouldn't be in the position it is, so we appreciate that. And your concerned recommendations for emergency response capabilities during the 2005 hurricane season was very important to us.

So we look forward to the recommendations from you on several issues such as our fleet recapitalization plan, our geodetic survey ten-year plan, and I also note that I carry

your advice and policy recommendations forward to the Interagency Committee on Marine Transportation, CMTS. I see Helen is down here to make sure I give an advertisement for that. Thank you.

This is important because we have, NOAA has chair of the coordinating board this year and that gives us an opportunity to talk about why we are important to CMTS and me a platform to talk about the whole thing, which I've always been interested in throughout my whole career. I think as we sit there at that round table, the administration is interested in looking at the marine transportation system and I want to make sure that NOAA is a player at the table. So that's important to us.

This is perfect timing given all the things that are going on for your special report and the list of hydrographic services improvements. I want to assure you that as the chair of the coordinating committee I will make sure that this gets the attention of the whole committee and is

brought forward to the maritime CMTS itself.

Navigation services are important to NOAA. They are the core mission of the agency. Without the navigation services that we have we would not be able to do much of the research and forecasting that becomes a regulatory management that becomes the essence of many of our customer needs. So we have a budget for navigation services of 144 million, which is 4 million above the 2007 request. That's good because any kind of increase in the climate we're in today is very, very hard to get. So the fact that we can grow it, I realize not much, but growing is better than declining, which is what they asked me to do when we put our budget together. So we need to look at growth as being important to us and I appreciate your support of our budget.

We have a couple of things that are -- I've already mentioned the 200th anniversary. We're going to have a few events that I think will be interesting and which will feature some of the

navigation service programs as we talk about the 200th anniversary. There will be a wreath laying at the Jefferson Memorial April 13th and Secretary Gutierrez is supposed to be part of that. We have him as the keynote speaker for the International Association of Ports and Harbors at the annual meeting in Houston on May 1st and he will be discussing free trade agreements, he's obviously a huge fan of free trade and I understand it's a role maritime marine services play, and also our Hydrographic Services Improvement Act. I mentioned we pushed that as a priority for NOAA and for Commerce, we have interest from the secretary, we hope it's going to be cleared very shortly and will be transmitted to the hill this spring in another month, and we hope for consideration by Congress.

Those are the things I wanted to make sure I hit that are on my notes. But again, I don't want to take away from the time for you to talk to me and see where we're going with this report, but again, I appreciate your service. It's

important to us. The foundation navigation service and what we do to bring ships in and out of the ports is a fundamental requirement of our country and our economy and you help us do that. So thank you very much, I appreciate it and I'll turn it back to Scott.

CHAIRMAN RAINEY: Pardon my walk here.

(Pause in the proceedings.)

MR. SKINNER: Our intent was for Scott to go through the highlights of the report and then spend a little bit of time with each member adding a little bit of meat to the bones so to speak afterwards. It probably shouldn't take more than 20 minutes.

CHAIRMAN RAINEY: Thank you, Admiral, for your introductory comments.

It's my privilege to present to you the HSRP special report. This briefing highlights the panel's primary recommendations regarding the near-term priorities and direction for NOAA's hydrographic services. We have named these five

priorities, the HSRP Most Wanted Hydrographic Services Improvement List.

NOAA is unable to meet the nation's need for updated marine navigation information, primarily because NOAA resources to deliver navigation services have not kept pace with MTS growth. There is a critical national need for NOAA hydrographic service. The Department of Transportation's 1999 report to Congress, An Assessment of the U.S. Marine Transportation System, noted the greatest safety concern voiced by MTS stakeholders related to the availability of timely, accurate and reliable navigation information.

U.S. coastal waters have never been completely surveyed. For those areas that have been surveyed, nearly 50 percent of the depths shown on NOAA charts are pre-1940 data, collected by leadline soundings and wire drags. Ironically, in stark contrast to the increasing critical need, NOAA's in-house hydrographic services capacity

decreased 64 percent in the 1990s, from a high-water mark of 11 NOAA hydrographic ships to today's complement of four ships, three of which are approaching 40 years of age.

NOAA is currently accomplishing about 3,000 square nautical miles of surveying per year using in-house vessels and contract support. This equates to less than 1 percent of the navigationally significant area within NOAA's responsibility. At this rate it will take NOAA and its contractors 166 years to survey just this high priority subarea of its overall responsibility. Similarly, NOAA is currently only able to map 3 percent of the highest priority port-area shoreline. Some you U.S. shoreline, primarily in Alaska has never been mapped to official modern standards.

The HSRP recommends that NOAA aggressively survey and map the 500,000 square nautical miles of navigationally significant areas and 95,000 miles of shoreline by expanding NOAA's

in-house and contract survey capabilities to acquire and process more hydrographic and shoreline mapping data. The HSRP strongly supports NOAA's program goal to increase capacity to survey 10,000 square nautical miles annually. This increase in capacity will enable NOAA to resurvey navigationally significant areas on a 50-year cycle.

NOAA's future success in nautical charting depends on its ability to both collect and rapidly process more data. NOAA must expand its data flow pipeline to get information charted and disseminated in a timely manner. The HSRP supports NOAA's efforts to increase partnerships with academia and the private sector on technology research and development to achieve its goals.

NOAA is the United States' hydrographic office. Surveying, mapping and charting are fundamental core missions of NOAA. It is imperative for NOAA to maintain its core capability of hydrographic expertise. In the HSRP's view,

this core capability necessarily includes a fleet of modern hydrographic survey vessels. Within the next 15 years three of the four NOAA hydrographic ships will reach the end of their useful service lives without designated or funded replacements. The HSRP recommends that NOAA conduct a fleet recapitalization study to chart the course for a sustainable solution to NOAA's hydrographic survey fleet requirements.

At the same time, the HSRP sees a continuing need to increase the level of contracting for hydrographic services. The HSRP has reviewed and supports NOAA's contracting policy. The HSRP commends NOAA's significant increase in contracting, which since 1994 has risen from zero to $30 million per year, roughly half of NOAA's budget for hydrographic surveying. However, because of the magnitude of the area and the urgent need for updated surveys, NOAA needs to expand its capacity to expeditiously contract for hydrographic services.

Numerous federal and state agencies collect similar or related datasets to perform their own mission-critical functions. The lack of data integration, inconsistent standards and the use of different vertical datums causes confusion among users. Federal agencies must accelerate efforts to integrate in order to conserve resources, minimize data duplication and inconsistency, and maximize taxpayer investments.

The HSRP recommends that NOAA take a larger role in improving partnerships with other federal and state agencies and other nongovernmental entities to integrate coastal mapping efforts with coordinated mapping plans and tools such as VDatum. The HSRP urges NOAA to increase its efforts with other agencies to leverage federal resources to collect and integrate data of a predetermined standard so that everyone, federal, state, academia and private sector, can use the same data seamlessly. A comprehensive integrated ocean and coastal mapping standard

should be developed. A joint National Survey Plan for shoreline mapping, akin to the NOAA Hydrographic Surveys Priorities document, should be developed and implemented.

The HSRP is gravely concerned that the federal government is not using the most effective technology to detect the presence of submerged objects in federally maintained channels. The U.S. Army Corps of Engineers, the federal agency responsible for maintaining, dredging and surveying inside the federally maintained channels, approaches and anchorages, does not use the same technology and standards as the NOAA surveys outside the channel.

NOAA has utilized multibeam and side-scan sonar technologies to conduct hydrographic surveys to achieve full bottom coverage for depths and objects since 1985. Using these survey technologies, NOAA is finding new hazardous obstructions at the rate of about one and a half per day. Ironically, current practices

provide less accurate detection of submerged objects in those waterways where commercial deep draft vessels are required to transit with the least underkeel clearance.

Undetected submerged objects located in our federally maintained waterways present a significant and real hazard. In 2004 the tanker ATHOS I spilled approximately 265,000 gallons of oil when it struck three large submerged objects in the federally maintained channel and anchorage in the Delaware River. We've got this picture, this is an anchor that they found and I believe this was a pipe or a pump housing, and there was also a large block of concrete.

The HSRP strongly recommends NOAA be authorized and funded to survey all federally maintained channels on a routine basis, or both NOAA and the Corps of Engineers should use the best available technology and a single full bottom coverage standard for the survey data to detect submerged objects. The HSRP recommends that NOAA

pursue this issue within the cabinet level Committee on Marine Transportation System.

NOAA's navigation services are a critical component of the federal effort to build an integrated Ocean Observing System or IOOS. The HSRP believes a comprehensive expansion of the maritime components and the building on existing capabilities to link users to useful and timely data should be the top priority for IOOS and for NOAA.

The HSRP recommends that NOAA expand and fund realtime water level and current observations such as NOAA's PORTS program nationwide.

The HSRP also supports NOAA's management of the National Spatial Reference System and its height modernization effort as a primary element of the IOOS infrastructure.

NOAA's navigation services support emergency response to incidents such as hurricanes and oil spills and are important contributors to Homeland Security and Maritime Domain Awareness.

NOAA's role is crucial but under-resourced. Our nation's economy and security depends on an immediate and effective emergency response and recovery from any significant marine transportation incident, natural or manmade. Even a brief disruption in a major port can cause a significant economic loss. NOAA has unique capabilities within the federal emergency response recovery responsibilities. NOAA's navigation services programs have important roles that need to be recognized as essential support functions in the National Response Plan.

NOAA's unique emergency response capabilities need to be funded and staffed to meet the nation's foreseeable and critical need for these services. The HSRP recommends that NOAA's complement of Navigation Response Teams, NRTs, be increased from six to ten fully funded and staffed teams staged regionally around the country. Half of NOAA's rapid response hydrographic survey capability was engaged in the response to

Hurricanes Katrina and Rita. This level of effort required the redeployment of NRTs from the West Coast and the Great Lakes.

Similarly, NOAA's capacity to respond to oil and chemical spills is stretched thin. Since 2004 the program's base budget has decreased by 18 percent. The HSRP believes it is critical to restore the budget for NOAA's emergency response programs.

The more timely and widespread NOAA's navigation data delivery, the more benefit it can provide to safe navigation and other uses. The HSRP recommends that NOAA expand efforts to deliver its navigation products and services more quickly. NOAA has made tremendous strides in reducing the time from "ping to chart" as the agency continues to transition from paper to a digital nautical database. However, there's need for continued improvement. Currently NOAA obtains survey data faster than it can process and map it.

The HSRP is particularly concerned with

the current status of NOAA's Electronic Navigational Chart, ENC, production. Current budget and resource constraints have frozen the ENC product at the halfway mark. Congress has passed a law requiring the U.S. Coast Guard to promulgate mandatory carriage requirements for electronic charting systems by 2007. It is anticipated that these systems will use NOAA's ENCs. NOAA continues to operate two separate and distinct nautical charting productions lines, raster and ENC, and these need to be integrated into a single production process.

The HSRP recommends that NOAA increase outreach to make navigation and nonnavigation users more aware of the NOAA mapping and data resource available to them. In addition to navigation, these same data and services provide bases for inundation modeling, marine habitat mapping, coastal resource and emergency response management, engineering projects, long-term sea level trends, climate change and more. The HSRP encourages NOAA

to continue to continue to partner with academia and the private sector for research and development of new applications and formats to expand the public's benefit from NOAA's hydrographic data.

In summary, the HSRP's most wanted hydrographic services improvements are for NOAA to:

Aggressively map the nation's shorelines and navigationally significant waters;

To integrate coastal mapping efforts and ensure federally maintained channels, approaches and anchorages are surveyed to the highest standard;

Modernize heights and implement realtime water level and current observing systems at major commercial ports;

Strengthen NOAA's navigational services emergency response and recovery capabilities;

And to disseminate NOAA's hydrographic services data and products to achieve the greatest benefit.

That is the highlights of our report and

I'd like to yield back the floor to Tom Skinner. Thank you very much.

MR. SKINNER: Thanks, Scott. The final recommendations represent a combination of both the inputs from the 15 members of the HSRP, public comments received, and a tremendous amount of work done by the NOAA agencies and staff to provide us relevant information. Right now we want to go around with the HSRP members. If you could identify yourself and your affiliation and why the report and the recommendations are so important, that would be great, and maybe we can start with Captain McGovern.

CAPT. MCGOVERN: Thank you. Andrew McGovern, Sandy Hook Pilots, Port of New York-New Jersey. I would just like to commend everyone for putting this report together and I support it fully. I believe these are the most important issues and my only wish is that NOAA take this and run with it and use it as best you can and try to get as much out of this report as possible. Thank

you.

MR. SKINNER: Thanks. It's sad, I now have to put on my glasses to see who's next. Helen, you didn't tell me that your vision needs to be improved when you become deputy chair here.

John.

MR. OSWALD: John Oswald from Anchorage. I'd just like to say thanks for coming and paying attention to this committee, something that has been lacking maybe in the previous 15 years.

These are important services. The report reflects quite a bit of vetting by this committee. If you get a chance to look at it, there's one graphic in here on page 8 of an island that Lula Pine over here surveyed a few years ago out in the Pacific that, the case in point, this summer some of this shoreline is so out of position in the United States. An Alaskan example, this year, the prime contractor is here from Mississippi doing this bathymetric lighter, the lighter that penetrates the water, and we plot our lines in

advance, they fly over the shoreline, look down, it's nothing but water, the islands are out of position. And it's not due to errors, it's due to the technology from the 1974 astronomic position much like this graphic here. It's not everyplace but there's free products on the Internet that are positioned correctly. So it's quite a big technology jump as you see. I thought I'd throw that out, and appreciate your being here.

MR. DUNNIGAN: Admiral.

RADM WEST: I'm sure Connie's heard enough from me, I think they sent him a little note last night about another issue, but much related to this ocean observing. We've got a great opportunity and thanks to Connie's leadership to have NOAA step up to the plate and lead our set of values. The important part of it's been hydrographic services that's kind of actually been under the radar if you want to look at it, but it's an essential part of it. So that's good it's one of our high recommendations. We had a Friends of

NOAA lunch on the hill last week and I brought up and I relayed when our panel met in Houston if you all remember about a year ago, we heard how well NOAA's team did in the recovery of that maritime industry down there and the fact that there was a report being presented. They recorded this and put it out to the public, but I have to say I have not seen it. So I guess my appeal to you, Connie, is you got a lot of great things to say about NOAA, but it's really not getting out past Congress to the public to let them know how important you are. I wanted to emphasize that. I know it's going to be easy for all of us to support the missions.

DR. LAPINE: Admiral, thank you for coming. I know you have a very busy schedule and we really appreciate you being here. I'm Lewis Lapine, I'm a former NOAA Corps officer, former director of National Geodetic Survey, now I'm the state surveyor for the state of South Carolina. We've got a couple of big harbors in our area, Savannah, Charleston, soon to have a new harbor

located in the mouth of the Savannah River, so I really appreciate being on this committee and being able to help, but my real interest is geodesy. When I think of hydrographic services I think of charts and tides. But the National Spatial Reference System is extremely important because it's the foundation for all that we do. People assume that these latitude and longitude lines magically appear on charts, that GPS magically gives them coordinates, but it's all based on CORS and national height model. And as a result of those two processes, South Carolina is soon to open up a virtual reference station, a CORS network that's much denser and will be able to do centimeter level realtime positioning anywhere in the state. And that gets us into machinery control. Highway departments will construct roads where the bulldozers are driven by dual GPS antennas on the blade. Precision agriculture. I envision ships operating under a machine controlled environment. I believe we can control ships,

better control ships with similar technology and the National Geodetic Survey will help bring this together, and a lot of the success in South Carolina, I must add, is due to the grants of the National Geodetic Survey has given our state in the past ten years. We appreciate that. Thank you.

MR. SKINNER: Jon.

MR. DASLER: Thank you for joining us. I'm Jon Dasler, director of marine services at Dave Evans and Associates. I wanted to draw attention to page 13 in the report, and Scott touched on this a little bit, on what we can't see does hurt us and the issue of a lot of the obstructions that are in the federal channels. In Table 1 it even highlights 800 dangers to navigation in the 2006 field team that were detected by NOAA in-house surveys and private contractors. And just that, as Scott pointed out, this expertise is not being fully extended to monitor federal channels at this time. Obstructions are appearing in federal channels at a larger rate than methods being used

to detect them, either wrecks or storm debris or activities from construction. Up on the screen is a case where there's a -- Burlington Northern bridge removed a swing stand bridge and you can see the remnants of where that swing span used to be, removed the center turntable and put in a lift span, and a couple of large block foundations from the, shown in the hill shade image there, remained and were missed by Corps channels surveys. The condition surveys were single-beam surveys, the light line is the channel center line, one line was run halfway to the channel edge and then along the edge on either side, so they missed the obstruction over years of condition surveys. The HEIJING grounded on these pinnacles and there was an incident there. There was another one on Coos Bay where a ship grounded on a rock pinnacle in a federal channel missed by condition surveys. Recently a ship was steaming up the Columbia River, headed up the river towards the anchorage, they were unchocking the anchor on the deck that let go

and the ship was doing 10 knots and it shot the chain string out before it snapped free of the ship. That one eventually we recovered but there's five anchors that we know of laying in the Columbia River that are still out there. So there's a number of reasons why these obstructions are appearing in this channel and it appears nobody is at the helm to really do full coverage obstruction surveys and I encourage I guess NOAA especially being in the position that you're in, you might be able to influence NOAA being involved in the full coverage surveys on more of a regular basis and extent that technology to the Corps of Engineers.

MR. DUNNIGAN: Emily.

MS. DICKINSON: Thank you, Admiral, we're honored to have you here and glad we could have a chance to talk to you about some of our issues. I would only add that you keep the recreational boater in mind as you deliberate over all the choices that you have to make. Boating is part of the marine transportation system. There's

70 million people who participate and 17 million registered boaters in this country, most of which do depend on charts, and hopefully -- they believe they're accurate charts, but we know that that's not always true. Our other concern is that some of the biggest recreational boating areas and harbors are probably going to stay so far down your list of hydrographic survey priorities it's going to get worse over time. For instance, Annapolis Harbor or Newport, Rhode Island, some of the smaller areas carry a tremendous amount of recreational boating traffic. And I don't know what the answer is since you have a priorities list that, you know, have waters that still are not getting resurveyed which are critical for shipping. So I'm a little concerned that the recreational waterways are never going to get resurveyed.

People also nowadays, boaters can spend a couple hundred bucks and get a very nice GPS plotter, I'm sure Jack has one on his boat, and they think that when they look at the screen this

is exact, and we know that it's not. But the marine electronics is becoming so popular with boaters, everybody with a small boat could have a whole array of stuff and they're thinking hey, this came from the government, this has gotta be right.

The other, my last point, is that there's also a cost to boating for inaccuracy. We talked about the ATHOS oil spill, which I think was $160 million in damages, there's four times that in losses in the boat insurance industry from claims every single year of boats running aground and hitting submerged objects. It's about $450 million a year just from about 100 claims. So boaters are out there, they're hitting things under the water and anything you can do to help us would be great.

MR. DUNNIGAN: Larry.

MR. WHITING: Larry Whiting. Thanks for coming, Admiral. First thing, I'm a retired Hydrographic surveyor for Terra Surveys. I would like to thank you guys from NOAA for the policy of using qualified contractors for this work and I'd

like to see the QBS system, the Qualified Base Selection system, continue. Thank you.

CAPT. HICKMAN: Thank you for being here. I'm Sherri Hickman with the Houston Pilots, and until we can get Lou's electronically-driven ship going, it's still in my hands, Lou. The PORTS program, the Physical Oceanographic Real-Time System is very near and dear to me as it is to Andrew. The problem I see with that is that we always seem to be on edge of not having it and then there's ports that want it that don't have it and can't afford it. It shouldn't be a matter of can they afford it or not, it should be there for them. We use that system daily, not just once every 24 hours, but every minute of the day. And I can't stress enough how important that is to us. From the report that's coming out, the 18 million it generates or saves the port is nothing compared to what it would be saving in the event of a collision.

CAPT. MYRTIDIS: Good afternoon.

Captain Minas Myrtidis, I'm vice president of regulatory and environmental compliance for Norwegian Cruise Line and Sail America and Orient Lines. It has been a pleasure serving as a member of this panel. I believe I represent a significant segment of the marine transportation system, talking about the cruise industry, as we carry millions of passengers every year. So I'd like to say that I fully agree and support the recommendations that they have included in our special report and specifically I wish to focus on the number five recommendation. The cruise industry is steeped in passenger vessels which could effectively carry five to six thousand persons and safety of navigation is a primary concern to us. It seems like you could say that the waterways and ports have become smaller as the ship size increases. I would like to reiterate the fact that the need of a complete set of accurate detailed electronic navigational charts is more important than ever and right now I believe there's

about a thousand paper charts that need to be covered by ENCs. And I also think that NOAA is falling short in the responsibility to provide the ENCs, which is coincident with the U.S. Coast Guard homeland security requirements. So we're going to be very, very happy and we'll also be relieved to see NOAA getting more aggressive with the production of ENCs. Thank you. Pleasure having you.

MR. DUNNIGAN: Adam.

MR. McBRIDE: Good afternoon, Admiral. My name is Adam McBride, I'm the Port Director of the Port of Lake Charles in Louisiana. Lake Charles is the 12th largest port in nationwide volume and handles over 4 percent of the nation's oil supplies on a daily basis as well as 10 percent of the nation's natural gas consumption on a daily basis. So it's an integral part of the energy, supplier of the energy needs of our country.

Before I make my staff comments I do want to express my appreciation of Jack Dunnigan

attending our meetings regularly and sharing with us his thoughts and activities as he works with NOAA, and I find that very helpful and a demonstration of the commitment of NOAA to work with our committee also. Also Captain Steve has been working with us and in particular I wanted to mention two individuals within the NOAA group, Mike Szabados from CO-OPS, who works on the PORTS systems, which is a vital concern, not only to Sherri and Andy and those ports who already have them, but some ports don't yet have PORTS systems, and I'm going to come back to that. I also want to extend my appreciation for the work of the NRT system that responds to vessels, which Hurricane Rita struck the Port of Lake Charles just over a year ago. They were absolutely instrumental in getting back within about six days from onslaught. We reported more fully on that as a port to the HSRP meeting some months ago in Houston. But we were able to reopen our channel within six days because of the work of the NRTs, even though -- the

NRTs and NOAA, even though the NRTs were initially sent off to Houston, which didn't actually happen. They were directed to Houston and eventually found their way to Lake Charles. We got back up within about six days, restoring that oil and natural gas deliveries to our nation, it was very important.

We have, on the subject of the PORTS system, we have for some years been seeking the installation of a full PORTS system along the 30-mile inland channel at the Port of Lake Charles. We have identified in consultation with NOAA officials where the various meters and sensors need to be located but have not been able to acquire the funding either locally or through the budgetary system and it's a continuing source of frustration to us that something as important as the safety of navigation in this energy waterway is a function of the ability of the local port that may not have any revenues from those energy users to pay for it versus the needs of the nation and the payoffs, the consequences of an incident.

In June of 2006 a major oil spill, a hundred thousand barrels from the Citgo refinery entered the waters of the channel and the Coast Guard quickly shut down the channel. It was eventually shut completely to all traffic, including recreational, for about nine days. After the first day or two as that spill moved southward in the channel it began to move into some of the lakes and tributaries of the main channel, areas where had we deployed our booms and resources better we might have limited the movement of that oil spill into recreational and cloistered areas. Had we placed the sensor where we had already established they should have been we might have had a historical record of how those currents moved in those areas with those kinds of volumes of water. And so one of the consequences of not having it was the closure of that channel for as long a period as it was. Our estimation, not counting over $100 million in cleanup costs, the nation incurred additional energy costs over that nine-day period

in excess of $1 billion in gasoline and natural gas supplies which were cut off doing that time.

MR. SKINNER: Could I just interrupt for a second? I think in a couple minutes the Vice Admiral will be dragged away against his will to next appointment. We didn't tell you what his time frame was. I want to make sure you have time to make all your points.

MR. McBRIDE: I just wanted to reemphasize the needs and the importance of these modest investments in safe navigational and the consequences they help us avoid for the nation as a whole.

MR. SKINNER: I wasn't expecting you to end that quickly. I think that I also just want to recognize the significant contributions of two past members, Helen Brohl and Captain Parsons, as well as the other federal members, and just to point out the current operating draft we have is a preliminary final. I think the panel wants to move directly past the interim final and the grand

supplemental final to have the final final on your desk in the next four to six weeks. Thank you.

CHAIRMAN RAINEY: Thanks for those acknowledgments. That is very much true. The NOAA staff and leadership has been tremendous and enabled us to produce this report and carry it through. And I think it's at least certainly our hope it will be received as it was intended and will do some good for these programs that we feel are so critical to the nation. I just wanted to echo that again. Thank you so much for joining us today.

VADM LAUTENBACHER: I didn't know whether I was supposed to talk or leave. I see this is addressed to me. I think we ought to -- why don't you make up a cover letter and send it to the Secretary too? I think it would be important for you to report your findings to the Secretary of Commerce. Maybe even the Secretary of Transportation. We shouldn't hide this. I don't mean sending it to me is hiding it, but you put a

lot of work into this and it's a valuable piece, I commend that to the committee.

CHAIRMAN RAINEY: We'll certainly consult our FAC expertise and we wanted to deliver it to you absolutely in the first instance and work with you and your staff to carry it as far as we can, sir.

VADM LAUTENBACHER: This is a very nice summary of the status of where we are and what needs to be done from the experts who use and rely on the system, so I don't see any reason why we shouldn't give this as much exposure as we can. I'm all for that. And I appreciate the comments. I certainly agree with everything that has been stated around the table from the folks who have talked in addition to what you said in summarizing the report. I just am thinking about -- Sam Farr came to the committee hearing this morning, he's a member of the Appropriations Committee but he's not a member of the subcommittee, and he started pointing out all the things that NOAA does and the

importance of the ocean, which this is a big piece of it, and said why does such an important agency have such a little budget? Which I turned that question back to him. Anyway -- I didn't obviously, I was being somewhat facetious. I sat there and listened politely, which I tended to agree with him. I think the reason is, which I've stated many times, we haven't made a big enough case to a big enough audience as to why these things are important. Maybe you've heard me say this before so I don't want to sound too much like a broken record, but educating the public and those that are in the leadership roles is an important way forward. Why aren't we higher on the priority list, well, I don't think there's enough understanding of why this is important. People just accept the weather report in the morning, it's just something that's given to me, and they don't understand what it takes to get it, don't understand what it takes to get their new car into the port, all the reliance that we rely on to bring

the transportation system, what it takes to get things in and out of our ports. So the more we can do to help advertise that to a broader range of audience the better off we are.

I was pleased this morning that a lot of people showed up, more people showed up at our subcommittee hearing than in the previous five years. We had a pretty good -- almost all, the people filled up all the cars in the subcommittee, that normally doesn't happen. As I said, I was there for two and a quarter hours, so the time is right I think to make a case. And you've got a good document here, you put a lot of effort into it, it takes work to put this together. So I'd like to see it and I'll certainly do what I can to help advertise it and push it to places where people ought to see this as a statement of what the community thinks is right for the country.

CHAIRMAN RAINEY: Thank you, sir. That will be delivered. We will have another day tomorrow to work with Jack and the program offices

to try to figure out how we can come forward and continue our effort. I'm very pleased you think it's useful, thanks so much again.

VADM LAUTENBACHER: I'd like to sit here longer, I really would prefer to sit through some of the work that goes on, it's just unfortunate that this week there's two hearings and everything in the world seems to be going on at the same time. It's been unfortunate that -- I'd certainly like to spend a lot more time with you and listen to your views and your expertise on some of these things, but I do value what goes on and I hope that the rest of the meeting will be successful and I look forward to hearing from you collectively and individually on what we ought to be doing. Okay. Do I still have a couple minutes? Anybody want to ask some questions? What's your plan? Am I breaking into the next deal here?

MR. SKINNER: I think we have a public session that starts when this ends. Adam, if you have anything to add, I feel badly for cutting you

off.

MR. McBRIDE: Since you asked.

CAPT. MCGOVERN: Andrew McGovern from New York. Again I'd like to reiterate some of the things you said, Admiral, the importance of the marine transportation system that has to get done before we're going to get the adequate amount of funding. I was just thinking as you were saying it, I've always said this, if you shut down the air transportation system it inconveniences a lot of people, vacationers, business travelers, but that's about it. If you shut down the marine transportation system, within about three days people are going to be cold and hungry. And maybe one of the ways to highlight this is to do an economic study, that if we shut down each mode of transportation for X amount of days what's the impact. I think that will show very clearly that the biggest impact is going to be to the marine transportation system and maybe that will elevate it a little higher. It's a vitally important part

of the country and nobody seems to know about it except for the people in this room unfortunately.

VADM LAUTENBACHER: I agree with that, I think the more we can provide economic facts and figures that really reach people's pocketbooks the better off we are. I'm all for helping support economic impact studies any way we can. I'll be happy to support the review panel in sponsoring that work if you'd like to do it. I certainly -- we don't have a lot of economists, I have trouble getting money for economists because they're not considered part of our scientific stock of people and expertise, but it's a critical part of what we do, is the economic impact, so I agree and do think it's very important to do that.

MR. SKINNER: Any other comments? I knew if I waited long enough Helen would have her hand up.

MS. BROHL: I'll just say thank you to Admiral Lautenbacher for acknowledging the CMTS and we'll certainly talk to the admiral and Jack about

the ways in which we can take this and either apply it to our existing integrated action team on navigation technology or take something out of it as a single action item to run with on early on or whatever seems appropriate. And one thing to add to, when you talk about ways to value add this recommendation, again, think about whether other federal advisory committees would benefit from this. I do think you guys are way up front in terms of looking at the big picture compared to some federal advisory committees and I think it's a great example that they could learn from and be inspired by. So when you go to reach out and pass along you may wish to send it to other advisory committee-sponsored organizations as well, but we'll be sure to work with Jack Dunnigan to facilitate this in a manner that is appropriate.

MR. SKINNER: Thanks, Helen.

MS. DICKINSON: You mentioned at your hearing this morning that there was more interest than you had seen in some time. I'm very curious

if you attribute that to any one thing. We'd all like to think it's due to our great lobbying efforts, but do you think it's because of the focus on the ocean or Homeland Security? What's your thought on that?

VADM LAUTENBACHER: I think it's because collectively we are getting more effective in the ocean community in getting the message out, of which you are a part of this, so yeah, I think it's made a difference. The House Ocean Caucus after a few years has become I think more energized and more interested in doing things because they've been approached by more people, more constituents have come in and talked to them. And so I think you've got the Joint Oceans Commission working continuously instead of just issuing reports, two separate reports. There's more collective interest in ocean issues. I think that's made the difference. It certainly made a difference, we had 123 million, 143 from the administration for ocean issues this year, which is good. I mean it's taken

a while, but it's like trying to move big boulders, you don't move them very fast, you try to get enough force on them to move them a bit and eventually they get rolling. I contribute it to the efforts of organizing panels and constituents and creating a larger voice. I think we can do more too with that. So I thank you. I think this is, this panel is part of it, it's been energized and gotten more actively involved in the last four or five years and done better. With that I think I better go unless there's something else.

MR. SKINNER: I think that's it. Thank you very much, Vice Admiral.

VADM LAUTENBACHER: Thank you very much, appreciate it.

MR. SKINNER: I'll start right with the public comment session. There is a sign-in sheet.

MR. CHANCE: Thank you very much. My name is Thomas Chance, I'm president and chief executive officer of C&C Technologies, a hydrographic surveying company, for those of you

who haven't heard of C&C, headquartered in Lafayette, Louisiana. We have almost 400 people and we operate internationally and domestically. About 95 percent of our work is with the oil industry offshore, about 5 percent of our work is subcontracted to NOAA Coast Survey.

Basically I wanted to say two things. One thing is I wanted to reemphasize that hydrographic surveys, we hope the review panel seriously takes into consideration other than just cargo. We heard a lot about cargo and I know we've got a lot of cargo and freight and this kind of stuff and clearly that is very, very important. We heard briefly about the recreational boaters. Down on the Gulf Coast I can say we have thousands and thousands of vessels supporting the oil industry. The charts are very outdated. It's almost embarrassing. I mean if your, whatever the recent survey was, when the charts are updated it's great, but outside of that it's a mess, and that's just Louisiana and Texas and Alabama, and we've heard

also in Alaska. So I would ask that you also consider that there's thousands and thousands and thousands of commercial fishermen all around the country and the oil industry of course off the Gulf Coast. They're not always in the channels, they're not always in the fairways. In fact most of the time they're outside of them, they're going into waters 12 feet deep and they've got 10 foot of draft. So the only time they know how deep the water really is is when they're there, when the water is under them. They can't tell 10 feet. So I ask that you keep that in mind.

But the main thing I wanted to say is that I've been following NOAA and the Coast Survey and I guess what used to be Coastal Geodetic Survey the mid-'80s when Admiral Hull was in charge. There has been tremendous and dramatic change in that organization over the years and certainly change for the better. I would say it was, there was a lot of animosity between the potential contractors who back 20 years ago according to NOAA

were completely not able to do any of this work; it was just impossible for anybody but NOAA to do hydrographic surveys. And I was working for a company that had 16 surveys vessels at the time, I couldn't understand it. But today I would say there's a very positive relationship between NOAA and the subcontract force. In fact I would go as far as saying it's a model example of how government and the private sector can work together to leverage up on the assets of the private sector to get stuff done and get stuff done efficiently and effectively.

Some people are concerned about the Brooks Act. I can tell you the margins on coast survey work are about the same as we're seeing on our other customers. And at the same time that model allows Coast Survey to chose qualified subcontractors and do it right. And if you're going to spend the money you might as well do it right because if you have some questions in it you have to throw all the data away. You don't know

what's right or wrong.

That's really all I have to say, just again commend NOAA and particularly Coast Survey for their leadership in really moving forward in a very positive way with the subcontractors. Thank you.

CHAIRMAN RAINEY: Are there any other comments? Any other business from the panel members? That completes our schedule for today. Unless anybody has other business.

DR. KITE-POWELL: Just one thing. A number of people have broached some of the reports, we can make the Tampa Bay report available. I think everybody on the panel has received that but I'll make that available to anybody again. Anybody in the crowd can also get one. The lady in the back, just leave your business card and name and number and we'll mail it to you. The new report will be coming out shortly and given to all the members.

DR. LAPINE: Could we go over some of

the schedule on the report? Just even today briefly looking through it, I have a couple of questions on where we go for the next iteration.

CHAIRMAN RAINEY: Okay. Thanks for that question. Let me take a stab at it right now. Lou's absolutely correct. When we got the report back there's a couple -- I think an opportunity in fact that the process here is a preliminary final in that it will give us a chance to review this. We got this back from our contract writer and we do have some changes that have been identified, so the members were able to get them in. I did want to allow the chance to go through and for us to fine-tune this. We have some photos we'd like to swap and there are some minor edits I think. But we've had the opportunity to review the context of this. The timetable is I would like for us to -- we'll adjourn early each day here and we have a significant amount of time tomorrow as we had one presentation moved to today, we'll have some working time to take a look at this. I would

really urge the panel members, it's such a rare opportunity that we do actually physically meet, I'd like to get your comments if possible and let's pick up as much as we can while we're together and we'll extend the time for maybe a week, but what I'd like to shoot for is a fairly quick turnaround. We are very, very close I believe on finalizing this and I would like to have it done and published in final format so that, if it's going to be possible, so that it will be available for Admiral Lautenbacher to take to the next meeting. We'll get the exact date, but that would be sort of, not a definitive thing, and we can talk about it more tomorrow, but I'm hoping we can turn it around round quite rapidly within the next week and then it's just a matter of printing it.

MS. BROHL: If I can talk about the time line, if you have any interest in some form, if you just want to present it, it could be distributed outside of the normal meeting process by the admiral to the board members. The next meeting

though is April 20th, that's 30 days away. And so what I would like to be able to talk to Jack about after this is if you could advise him today or tomorrow, would be what form this will be in in 30 days for presentation. If it's not completely printed and published and ready for public dissemination in the larger form because these are federal people, it might not have any impact but -- or if there's portions of it that you think are the most important, I know you can't rank them one through five as to what's the more important, but let's say you couldn't -- if there was any one thing that you felt was hugely important, I heard about the obstructions and collisions, collisions interests me because I could quantify things, the improvements by saying that collisions have been reduced, there's different types of accidents, groundings, obstructions, there's actual collisions, but the accidents, you could actually see a reduction in what it would take to do that. So I like that portion, but in lieu of let's say

you guys start to go around and it takes a while to get it through everybody to comment, the next meeting would be -- what next step would you want, the next meeting after that would be July. So think about those two dates.

CHAIRMAN RAINEY: Thank you. Admiral West.

RADM WEST: If we have some time I suggest we have a working session. We heard some briefings this morning. If you want this to be timely, you just heard about the transition of the administration, you've got a very short window to have this thing go public. I think all the staff folks have left, but we should not mess around, we should finish tomorrow what we want to do and get the thing out there so they can use it. We got very good suggestions from the admiral today, that's great, let's get it out and around. As I said earlier, and as he said himself, we've always been suffered with people not knowing what the hell NOAA does, so here's an opportunity to do it and

let's get it out there right away. I'd like to spend a little time tomorrow talking about what we heard today, what does that mean to us, what do we do with it. I've got some questions especially for Helen and a few other folks, what's our next challenge. If we can set some time tomorrow to work on this stuff in the morning and decide and get this thing out, I don't know why we can't have it done tomorrow.

CHAIRMAN RAINEY: I think we should shoot for that. That's the plan with Dave's presentation moving to today, we had two hours and we just gained another one, and Helen, I can't give you an exact answer but my proposal to NOAA would be that we would do whatever we can with the available resources they have to have that for that first meeting. Then if it means before we have a wider larger printing if you will through the GPO, that can happen subsequently, but it would be finalized, we would be done with it and that would be more of a matter of presentation. So I think

that would be what we should try to do, is wrap up the loose ends and deliver it quickly.

MS. BROHL: I'll look for guidance from Jack. I'll be here from 11 o'clock on tomorrow. I'm afraid I can't be here before 11 but I'd be happy to participate however you like.

CHAIRMAN RAINEY: All right then. I'd like to just reiterate the transportation to this event this evening, and just so everybody understands, it's going to be over at the Reserve Officers Association. You should have an invitation card that should have been distributed with the details. The important thing I just wanted to reiterate here is at 5 p.m. to meet the bus at the hotel's Pennsylvania Avenue entrance. Please try to be prompt. Probably, I don't know -- we won't know if you're not coming or you're just late. So we can take a head count here but I'm aware things happen and people's plans can change. So try to make that 5 o'clock departure time if you're coming over to the reception. And then

we'll go from there to the -- folks have indicated we'll go from there to the panel dinner this evening.

I wanted to again thank the panel sincerely for their efforts on this. I really think it went well and I appreciate everybody's comments and good presentations all around this morning. As Admiral West suggested, tomorrow we'll finish this project and work on a couple of other very important presentations tomorrow to follow on. So thanks very much for the efforts leading up to today and can I have a motion to adjourn?

(Proceedings adjourned.)

*****

STATE OF MARYLAND

COUNTY OF BALTIMORE

I, Richard D. Baker, Jr., a Notary Public in and for the State of Maryland, County of Baltimore, do hereby certify that the aforegoing is a true and accurate transcript of the proceedings indicated.

Richard D Baker Jr. am

Richard D. Baker, Jr., Notary Public

D

H

T