

U.S. DEPARTMENT OF COMMERCE
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NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION (NOAA)
+ + + + +
HYDROGRAPHIC SERVICES REVIEW PANEL
PUBLIC MEETING

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THURSDAY
NOVEMBER 29, 2012
+ + + + +

The Panel met in Ballrooms 1 and 2
at the Astor Crowne Plaza Hotel, 739 Canal
Street, New Orleans, Louisiana, at 8:30 a.m.,
Matt Wellslager, Chair, presiding.

PRESENT:

MATT WELLSLAGER, Chair

SCOTT PERKINS, Vice Chair

REAR ADMIRAL KEN BARBOR

LAWSON BRIGHAM, Ph.D.

JEFFREY CAROTHERS

CAPT. DEBORAH DEMPSEY

REAR ADMIRAL EVELYN FIELDS

WILLIAM HANSON

DAVID JAY, Ph.D.

GARY JEFFRESS, Ph.D.

FRANK KUDRNA, Ph.D.

CAROL LOCKHART

JOYCE MILLER

SUSAN SHINGLEDECKER

NON-VOTING MEMBERS PRESENT:

ANDY ARMSTRONG, Center for Coastal and Ocean
Mapping, University of New Hampshire
JULIANA BLACKWELL, Director, National Geodetic
Survey
RICHARD EDWING, Director, Center for
Operational Oceanographic Products and
Services
DAVID KENNEDY, Assistant Administrator,
National Ocean Service

NOAA STAFF PRESENT:

REAR ADMIRAL GERD GLANG, HSRP Designated
Federal Official
TIM OSBORN, Navigation Manager, Gulf of Mexico
Region
MARGARET SPRING, Principal Deputy Under
Secretary
CAPT. JON SWALLOW, Chief, Navigation Services
Division, Office of Coast Survey
KATHY WATSON, HSRP Program Coordinator
CRAIG WOOLCOTT, NOAA/NOS/PPAD

ALSO PRESENT:

HENRI BOULET, Executive Director,
LA-1 Coalition

HONORA BURAS, CPRA
JON DASLER, David Evans & Associates
RALPH DIAZ, Boh Brothers Construction
COLONEL EDWARD R. FLEMING, U.S. Army Corps of
Engineers New Orleans District Commander
GARRETT GRAVES, Coastal Protection &
Restoration Authority of Louisiana

CAPT. SHERRI HICKMAN, Houston Pilots
TARA LEVY, C&C Associates
JAMES MURPHY, MARAD
MIKE NITSKA, The Hydrographic Society of
America, Louisiana Chapter
CAROL PARSONS RICHARDS, Coastal Protection &
Restoration Authority of Louisiana

GEORGE PETRAS, U.S. Coast Guard
ANCIL TAYLOR, C.F. BEAN

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

8:30 a.m.

CHAIR WELLSLAGER: Good morning.

Welcome to Day 3. Today is going to be where we will break out in the stakeholder breakout sessions. There will be three sessions. They will upstairs. Kathy could you please give us directions again.

MS. WATSON: You go out here to the elevators and just go up one floor to M2, mezzanine 2 and walk down the hallway, the same way as the room here. Hydrographic Surveying/Charting is Bourbon room, Geospatial is in the St. Ann room. Tides, Currents & Water Levels in the St. Louis. They are all in the same corridor here. There are split charts in there.

CHAIR WELLSLAGER: Thank you.

Yesterday we had stakeholder panel sessions and heard from people using the navigational services and the Geospatial and Water Levels stakeholders. These were to serve as the

1 ideas and the talking points for what we are
2 going to hopefully address more and break into
3 more specific conversations upstairs in these.
4 The sessions will begin at 9:15 and they will
5 last until 11:00. And again as just a
6 refresher I was requesting that Bill Hanson
7 would facilitate with Joyce, actually helping
8 take notes for the Hydrographic Surveying.
9 And Kathy, we know where these, each of these
10 breakouts, they will have the reference to the
11 breakout session each at each of the rooms?

12 MS. WATSON: Yes. You will see
13 it.

14 CHAIR WELLSLAGER: Okay. For the
15 Gary Jeffress with Carol taking the notes.
16 The Tides and Currents, Ken Barbor with Susan
17 the notes for the things that go on. And then
18 we had hoped to have Admiral Fields and Frank
19 addressing or staying in with the Hydrographic
20 Surveying, Lawson and Jeff Carothers in the
21 Geospatial and then David Jay and Deborah
22 Dempsey in the Tides and Currents. And the

1 idea is for the general public to please
2 attend your choice of one or several of these
3 while we have them ongoing because its going
4 to be interesting from what you provide to us
5 as input as to where we are going to take and
6 come up with some results from this or these
7 breakout sessions.

8 Afterwards we will from 11:00 to
9 11:30 put the notes together and come up with
10 some ideas for the recommendations, have
11 lunch, the keynote speaker and then do
12 debriefs in the afternoon.

13 We are fortunate today or very
14 fortunate today to have a representative from
15 the Corps of Engineers, the New England
16 District Commander, Col. Edward Fleming
17 available to address us on the Mississippi
18 River Levees issues with flooding, lessons
19 learned from Katrina and Isaac and e-
20 navigation or electronic charting for the
21 Mississippi River. That is a plethora of
22 interesting topics to talk about and I

1 couldn't think of anyone better than yourself
2 to do it. My request will be though since our
3 court reporter is taking notes to either to
4 wear electronic lesions, speak into a
5 microphone or stand behind the podium if you
6 would please.

7 COL. FLEMING: Yes sir. I'm
8 miked. Can everybody hear me okay? Okay.
9 Well good morning, ladies and gentlemen.
10 Thank you for inviting me here this morning.
11 I am Col. Ed Fleming. I command in the New
12 Orleans District. I think there was a
13 Freudian slip, we said the New England
14 District. Actually, being from a place called
15 Lowell, Massachusetts I wouldn't mind being
16 the commander of the New England District
17 because then I would be back in my old
18 stomping grounds in my hometown. My dad is 86
19 years old, a World War II vet and still lives
20 up in a place called Lowell, Massachusetts.
21 I'm the youngest of seven kids. So I have six
22 older brothers and sisters and of course

1 brothers-in-law and sisters-in-law and nieces
2 and nephews and most of them are all up in the
3 New England kind of area still. So, it was
4 nice that Matt referenced the New England
5 district. It kind of made my heart skip a
6 beat there a little bit.

7 CHAIR WELLSLAGER: We have a lot
8 of influence, but not that much.

9 COL. FLEMING: Right. However, I
10 am very happy to be in the New Orleans
11 District and be the New Orleans District
12 commander. It is a great challenge. I think
13 most of you know a little bit about the Corps
14 but we are an organization that's about 34,000
15 folks around the world. We are commanded by
16 a three star general, a guy named Lieutenant
17 General Tom Bostick. The majority of the Corp
18 of Engineers are civilians, Department of the
19 Army civilians. Of the 34,000 folks there's
20 probably only about 800 that are military.
21 The rest of them are civilians. From the
22 three star level we break down into divisions

1 around the nation, actually around the world.
2 A division is normally commanded by a one or
3 two star general. The division that we are in
4 right now is the Mississippi Valley division.
5 Some call it the long skinny division, runs
6 all the way from Minneapolis, St. Paul all the
7 way down to the Gulf of Mexico. So my boss is
8 a guy named Major General John Peabody. He is
9 dual-hatted as the president of the
10 Mississippi River Commission and the commander
11 of the Mississippi Valley Division of the Army
12 of Corp of Engineers. He sits in Vicksburg.
13 So its nice to be here in New Orleans and have
14 my boss up in Vicksburg. I don't have to
15 worry about. So there are nine divisions
16 around the country. There are 44 districts.
17 So there are 44 other colonels right me.
18 Again one is in the New England district and
19 of course we have one in New York City, the
20 New York district. A lot of folks have seen
21 that he has kind of suffered some impacts here
22 the past couple of weeks, 60 days or so with

1 Hurricane Sandy. So again that's kind of a
2 snapshot of the Corp of Engineers. My
3 district here in New Orleans, it actually goes
4 from the Pearl River in the East to the
5 Calcasieu River near the Texas boundary in the
6 West. From the Gulf in the South all the way
7 up to kind of about on a line with Angola
8 State Prison or kind of where the State of
9 Louisiana kind of takes a turn and the boot
10 comes out if you draw a straight line across
11 there. From their South is my district. The
12 Vicksburg District is to my North. I've got
13 Mobile on the East and then I have of course
14 Galveston on the West. So again that's kind
15 of situated where we are here.

16 I want to talk mainly about three
17 topics. I'm not going to get into a lot of
18 the electronic charting. In 20 or 30 minutes
19 I couldn't get a levees topic squeezed into a
20 short period of time. I know you are having
21 a lot of discussions about those things with
22 a lot of other folks. The first two topics

1 are kind of extremes. In the Spring of 2011
2 we had a record flood along the Mississippi
3 River. Now here we are in the Fall of 2012
4 and we are seeing unbelievable drought
5 conditions. So I wanted to share with you a
6 little bit of how those are impacting us here
7 in the small area of Southeast Louisiana and
8 then talk a little bit about Hurricane Isaac
9 that we saw this past Fall and how that
10 impacted us here in New Orleans kind of the
11 post Katrina world that we are in here in New
12 Orleans. So I will take some time and talk to
13 you about those couple of things. I think I
14 do have 30 minutes right? Until what time?
15 So I'm suppose to be done at 9:15 right?
16 Okay, very good.

17 I know a lot of you are familiar
18 with the geography so I won't bore you with
19 it. 41 percent of the nation drains into the
20 Mississippi River. It is the third largest
21 water shed in the world. And as I said there
22 are colonels all around the country. I have

1 a good friend here in Pittsburgh. He
2 continues to tell me when he flushes his
3 toilet two weeks later it goes straight pass
4 my office window. It is absolutely true,
5 absolutely true. But so does my friend in
6 Omaha, the exact thing happens with him as
7 well. And Mike Price who was actually a West
8 Point classmate of mine up in the St. Paul
9 district, the same thing happens with him as
10 well. So we are the funnel down here at the
11 bottom with which 41 percent of the nation
12 drains. So goes the nation, so goes New
13 Orleans and so goes southeast Louisiana. Many
14 of you are familiar with what happened in the
15 Spring of 2011, but I wanted to show you a
16 chart that this is a chart that we used in our
17 daily briefing updates. What this shows is
18 this shows the Mississippi River and the
19 Calcasieu River stages. This is a snapshot on
20 the 25th of May at 6:00 in the morning. These
21 gauges go from north to south, from Cairo,
22 Illinois down to New Orleans. The last three

1 are along the Atchafalaya River. So they are
2 not the Mississippi River. The Mississippi
3 River stops here at New Orleans. We will
4 brief this every day. We can predict what the
5 stages were or what the actual stages were as
6 we saw them coming down. So you can see the
7 numbers that are in red. Those are record
8 stages. Those are record stages. Now, we
9 used the stages you could use flow. You could
10 a lot of different things. For this
11 particular briefing it was a twice daily
12 update that we do with our staff. We use
13 stages. So you can see all the way from
14 Cairo, Illinois where of course the Ohio River
15 comes into the Mississippi at Cairo, Illinois.
16 Cairo is the southernmost point of the State
17 of Illinois and this is where the Ohio comes
18 in. The vast majority of the water in the
19 Mississippi River doesn't come out of the
20 Upper Miss. It comes out of the Ohio River,
21 probably up to 75 percent of the Lower
22 Mississippi comes out of the Ohio. A little

1 bit out of the Upper Miss and a little bit out
2 of Missouri. If any of you guys have ever
3 been up to the head waters of the Mississippi
4 River you can walk right across it as opposed
5 to here where you would have a tough time
6 walking. As a matter of fact, the Mississippi
7 River right out of the window here is probably
8 naturally about 220 feet deep, naturally. We
9 don't dredge this portion of the Mississippi
10 River. It is a naturally deep channel. So
11 anyway, you can see here and look most of the
12 se records were set in the 1927 flood. Of
13 course in 1927 there was a huge flood,
14 thousands of people died, hundreds of
15 thousands of people were displaced and next
16 year, the next year 1928 Congress said we are
17 never going to let that happen again. They
18 directed the Army Corp of Engineers to build
19 what's called the Mississippi River and
20 tribute Terry's program, which is still intact
21 today. That's what allowed us, that gave us
22 the authority to build the levees along the

1 Mississippi River again from Cairo, Illinois
2 all the way to the Gulf of Mexico. So we
3 started that in 1928. It is not just levees.
4 It is levees, its flood walls, its backwater
5 flooding areas, its flood ways and spillways,
6 its pump stations, its channel improvement.
7 If you haven't seen or haven't heard something
8 called the mat sinking unit, what we do is we
9 sink concrete articulated mats in certain
10 places along the side and along the bottom of
11 the Mississippi River. That obviously
12 decreases the dredging that we have to do and
13 it provides an efficient channel for
14 navigation. Now there are other impacts as
15 well. But the mat sinking unit and the
16 ability to do channel improvement also comes
17 from the 1928 Flood Control Act, again as a
18 result of the flood of 1927. So all of these
19 records that we set were all based on, many of
20 them based on 1927 flood. A lot of people ask
21 me in New Orleans we crested on the 14th of
22 May. But we didn't crest a river until the

1 17th, 18th, 19th of May. How can you crest down
2 river in New Orleans before you crest up
3 river? There is a simple answer. It's called
4 the Bonnet Carre Spillway. When we hit the
5 trigger to open the Bonnet Carre Spillway we
6 in essence set an artificial crested New
7 Orleans that which we were not going to go
8 higher than. Because the river levees again
9 right outside the window here, the levees
10 south of New Orleans downstream from New
11 Orleans are designed to have a flow of 1.25
12 million cubic feet per second. A foot by a
13 foot by a foot. 1.25 million cubic feet per
14 second. That is the flow that is designed
15 right outside the window here. Anything above
16 that we open up the Bonnet Carre Spillway and
17 we just take it off the top. We do the same
18 thing a little bit further upstream to a place
19 called Morganza. Okay, so Bonnet Carre
20 Spillway, the maximum is 250,000 CFS. So if
21 it says 1.25 million here plus 250 above
22 Bonnet Carre is 1.5. So along Baton Rouge is

1 1.5 million cubic feet per second. Anything
2 more than that, there's a spillway north of
3 there called the Morganza Floodway. We did in
4 fact have to open up the Morganza floodway.
5 We can take over 600,000 through Morganza. So
6 the levees above Morganza, over 2 million
7 cubic feet per second. So it's a very dynamic
8 system that was designed and constructed
9 starting in 1928 that works wonderfully. And
10 it's very simple. I'm going to show you a
11 couple of pictures about that.

12 We talked about the Bonnet Carre
13 Spillway. New Orleans is kind of down the map
14 here, downstream a little bit here. So we are
15 only about 15 miles upstream from the City of
16 New Orleans. The Bonnet Carre Spillway is
17 right here. It's right on the river. You
18 open up the spillway and the water comes off
19 the river and goes into Lake Pontchartrain.
20 You can see the in action here. Of course
21 this is the riverside. You can see we've got
22 the gates almost all these gates we opened in

1 the Spring of 2011. Right there you see two
2 little red cranes. Those are railroad tracks
3 and the trains go along the railroad tracks.
4 We've got an office building and a kind of
5 supply area up in here. What this is, this is
6 a series of railroad ties that are vertically
7 standing up. Now when the river gets to about
8 maybe plus 12 or plus 12-1/2 we start to get
9 a little bit of overtopping, over the weir,
10 over the low sill and that's okay because
11 there is kind of series of channels and
12 culverts that kind of let the water go through
13 the spillway area. We can still use this. If
14 you were to go out there right there you would
15 see people out there hunting and fishing. You
16 would see ATVs out there. You would see
17 families out there on bicycles. This is a
18 recreation area. This is a recreation area.
19 There are roads across there. You can see
20 railroad tracks. And of course there's no
21 water there. It's dry. If you were to go out
22 there right now, as a matter of fact if you

1 drive out of here on I-10, if you are leaving
2 here and you go up north on I-10 or west on I-
3 10 toward Baton Rouge, you will go across the
4 Bonnet Carre Spillway. You can look on either
5 side and see it dry and see people out there
6 having a great time with their ATVs, and their
7 four-wheelers and their remote control
8 airplanes. So there are railroad ties and
9 when we need to open it we lift up the
10 railroad tie and lay it down on top. Again,
11 this was designed in 1928. They constructed
12 it and it was opened, finished in 1931. It's
13 a very simple design and works
14 extraordinarily. It's been open about ten
15 times since it was first commissioned. My
16 predecessor was a guy named Al Lee, Colonel Al
17 Lee who is now SES in the Corp of Engineers.
18 He opened it up in 2008. Prior to that it had
19 been about every ten years. There were a
20 couple of times in the 1970s, but really it
21 had been about every ten years. So he said
22 don't worry about Bonnet Carre, you won't have

1 to open it. I did that. It won't be open for
2 another ten years. Of course here I am three
3 years later and not only did I open up Bonnet
4 Carre but we had to open up Morganza as well.
5 But, this is federal property back in here.
6 Okay. So this is in fact a spillway. And
7 nobody lives there. There's no structures,
8 there's no nothing. There's a couple of parish
9 roads. But it is recreation area. Its
10 federal property. There's no consequence to
11 any structures anything that.

12 This is a little bit further
13 upstream. So you can see again in this little
14 inset map. New Orleans is down here. The
15 Bonnet Carre allows water to go into Lake
16 Pontchartrain. We are up here a little bit
17 further north. You can see, what happens here
18 is the Mississippi River and this area will
19 just naturally overflow with the banks into
20 this forebay area. There is a little potato
21 ridge levee kind of agricultural thing,
22 private thing. This usually gets over-tucked

1 every year or two and this gets wet. But
2 again this a natural process. The main line
3 river levee of course you can see this dark
4 black line, main line, river levee kind of
5 goes like that. But this gets over-tucked.
6 This is the Morganza structure right here.
7 This is LA Highway 1 and you can see it right
8 there, State Route 1. This is the forebay and
9 this is of course is where some of these gates
10 open here and some of these gates open here.
11 The water goes into the floodway. It is a
12 floodway. There are structures in the
13 floodway. We don't own the property but we
14 own an easement, a flowage easement on that
15 property. When we built that structure we
16 paid the property owners for that flowage
17 easement. Every year we send a letter to the
18 property owners and we tell them don't forget
19 we have a flowage easement over this property.
20 We reserve the right to put 25 feet of water
21 on this property. We send that letter out
22 every year. Now most of the people, there's

1 really very few people who live in the
2 floodway. There are lots of what do I call it
3 down here? Fish camps. Hunting camps or fish
4 camps. Normally I can do probably a double-
5 wide built up on stilts. That's kind of if
6 you would think of a fish camp, lots of those.
7 But there are some people that live in the
8 area and of course as you get further down in
9 this area along the Atchafalaya there are a
10 couple of towns down here. There are three in
11 particular. Two have ring levees, one
12 doesn't. There's a little community down here
13 called Butte La Rose. I went to a town hall
14 meeting. So not only did we send a single
15 letter that we are suppose to send in Spring
16 of 2011. We sent two letters. Because don't
17 forget. I can see it coming for weeks. I can
18 see the slug in the river coming for weeks.
19 We knew it was coming. So we went the second
20 letter. I said I'm really telling you don't
21 forget. I have the authority and we paid for
22 this easement to send this water across your

1 property. So we are probably going to have to
2 do it. So we went to a series of public
3 meetings, town hall meetings to inform folks.
4 We went to schools. We went to fire stations.
5 We went to church basements. Its hard to
6 stand up there and tell people that I'm going
7 to put 15 feet of water over your property and
8 that you better do something about it. I can
9 remember being in a fire station probably not
10 much bigger than this, a two bay fire station
11 down in this little place called Butte La
12 Rose, Louisiana. There were 350 people in
13 that fire station. You could hear the gasp in
14 the room when I told them that we were going
15 to open up a structure and put 15 feet of
16 water over their property. Now, fast forward
17 to the end of the story. When we opened up
18 the structure it was so ironic because of the,
19 of course, the Spring 2011 flood in the
20 Mississippi River was not caused by anything
21 in Louisiana. It was caused by six to eight
22 hundred percent of the normal rain in the Ohio

1 River Valley. We were in drought conditions
2 down here. So it was so ironic to go by
3 somebody's house where they would have
4 sandbags surrounding their house but they
5 would have a house with a sprinkler kind of
6 weaved through the sandbags because they
7 wanted to keep watering their lawn. It was
8 just an unbelievable sight to think of that we
9 were in such a drought condition but yet we
10 were preparing for this record flood. So we
11 didn't have 15 feet across a lot of these
12 properties. We had about 15 inches. The main
13 reason was the drought. So when we opened up
14 this spillway here and this is all a gated
15 structure. It's not railroad ties. It's more
16 gates. So when we opened up these gates,
17 again a crane like structure that comes across
18 and opens these things up. When we opened
19 these up through the floodway, the earth just
20 sucked up that water so fast because it was
21 just so parched and so dry. It just sucked it
22 up so fast. So there were two or three other

1 reasons why we didn't get the 15 feet that we
2 thought. The topography in the floodway has
3 changed. Of course this had only been opened
4 up one other time in 1973. So I only had one
5 data point to go back to. And think about
6 what our record keeping was like in 1973
7 versus what we've got now. So we were kind of
8 flying blind. But again a lot of the water
9 drained off to the east. There's a bayou that
10 comes down here, Bayou Sorrel. A lot of water
11 came into Bayou Sorrel. We did get water all
12 the way down and then of course once you get
13 down to this point it just mixes in with the
14 Atchafalaya River. Once you get down here it
15 mixes in with the Atchafalaya River and just
16 flows all the way down to the Gulf. So we
17 operated the Morganza structure for the second
18 time, the first since 1973. Okay, so when you
19 go through a record flood think of at least I
20 know when I was a kid, there were huge
21 heavyweight fights. You know, Tyson, not
22 Tyson, you know you had Muhammad Ali and you

1 had Joe Frazier and you had Foreman. They
2 would go 15 rounds and they were pounding each
3 other. They were all bloody and bruised.
4 That's what this system was like after this
5 flood. They were just bloody and bruised and
6 think of having the project flood of record on
7 these levees and structures for greater than
8 60 days. There were sand boils. There were
9 slides. There was damage to the structures.
10 When you operate the Morganza structure for
11 the first time since 1973 there's going to be
12 some challenges when you operate something
13 like that. Of course we do all the operations
14 and maintenance all the time. That is funny
15 because I was on the structure that day when
16 we opened it up. And Russell Beauvais who is
17 the supervisor out there said "okay Colonel,
18 get up on in that crane and open up that
19 gate." I said "Russell, I am not going to do
20 that." I said "you guys haven't opened these
21 gates for years with no water going through
22 them, just rehearsing and practicing and doing

1 maintenance on them and testing them and
2 lubing them and checking the seals. This is
3 your super bowl. I'm not going to come in
4 here and open up the gate. You get up there."
5 You should see the smile on his face. He was
6 live on CNN and he was so excited. He was
7 going to get a chance to go in the crane and
8 open up that gate because this was his super
9 bowl live on CNN. I wasn't going to do it.
10 So anyway, I know you can't read this, but we
11 had over 450 hot spots that we monitored on a
12 daily basis. We went out and inspected all
13 the levees and all the structures on a daily
14 basis. That 450 got whittled down to about
15 54. There were 54 items that we needed to
16 work on and there was a supplemental that was
17 passed. The Corp of Engineers around the
18 country got a couple of billion dollars. The
19 New Orleans District itself, we got 550
20 million to go back and do the maintenance and
21 do the repairs on the levee systems on the
22 structures. So we are doing it and do some

1 dredging as well. Because obviously the river
2 carried lots of sediment with it all the way
3 down. So anyway, just kind of a snapshot of
4 over 500 million dollars of work that we did.

5 Okay. So now 2012. We all know we
6 are in drought conditions all around the
7 country. We all know that 41 percent of the
8 nation funnels into the Mississippi River,
9 drains into the Mississippi River. If there
10 is nothing in that 41 percent then nothing
11 drains into the Mississippi River, okay. So
12 if you remember I had to open the Bonnet Carre
13 Spillway because we were above 1.25 million
14 cubic feet per second. I would say if you
15 were to go out there today you would probably
16 be in about the 150,000 to 200,000 cubic feet
17 per second. So we are in order of magnitude
18 less than what we were in the Spring of 2011.
19 That causes a problem. That causes a big
20 problem. Because as you get further down the
21 river, the salt water wants to start to creep
22 up the river. You don't have that flow coming

1 through and so now you are counter acted by
2 the Gulf of Mexico and the tide and the salt
3 water that wants to come up the river. In the
4 early 1990s the Corps of Engineers deepened
5 the Mississippi River channel. Because as I
6 said we don't dredge up here but we dredge
7 mainly down in the southwest area. That's way
8 down at the bottom of the bird's foot. We
9 deepened it from 40 to 45 feet. So we went
10 from 40 to 45 feet. Part of the deal was we
11 had to have some mitigation associated with
12 that. Because we knew that salt water was
13 going to come in more frequently. One of the
14 mitigation, one of the things we do is when we
15 are in a situation like this, we can barge
16 water to lower Plaquemines Parish. Look, when
17 you really get right down to it, the big deal
18 is the salt water can impact the domestic
19 water intakes. Once you get over 250 parts
20 per million salinity, that's where the
21 domestic water intake start to have concerns.
22 You won't allow them to take that water in and

1 treat it anymore. Of course we aren't
2 treating for salinity anyway, right? I mean
3 the domestic water intakes don't treat for
4 salinity. But even people who have other
5 physical ailments can't take salinity probably
6 100 or 150. So there are intakes way down the
7 Mississippi River from Plaquemines Parish that
8 are going to be impacted. We knew this was
9 happening. Of course we all know salt water
10 is more dense than fresh water. So the salt
11 water comes up the Mississippi River and it
12 comes up in kind of a wedge formation. So you
13 can see the wedge down here and you can see
14 the salt water that's below. Now we know, I
15 don't know how we know, I don't know why but
16 we know from the total to the location where
17 the 250 parts per million starts to impact the
18 domestic water intakes is about 15 miles. It
19 holds true. I don't know why, it just holds
20 true. I'm sure one of you guys, one of you
21 smart folks could tell me why. So we have a
22 trigger of when we have to build this sill.

1 Because we know how long it takes. We know
2 where to build it. We know where the intakes
3 are. It just becomes a pretty easy math
4 problem of okay, award the contract, build the
5 sill, don't impact the intakes.

6 So, okay, let me keep going.
7 That's what we did. What the sill is, is
8 basically a levee across the Mississippi River
9 on the bottom of the river. So that's what we
10 did. So we ordered the contract, Great Lakes
11 Dredging, was awarded the contract. That was
12 a good day for some of you guys. The borrowed
13 site was just north of the sill. We built
14 this at approximately mile 64. So just so you
15 know this is about river mile 90ish around the
16 city. So, about 35 miles downstream. That's
17 where we are building it. The borrowed site
18 was right here. We would take, borrow up the
19 bottom of the river, pump it and then put it
20 in place. That would of course stop the salt
21 water from coming upstream and that would
22 arrest the salt water intrusion further up.

1 And again, because of the drought conditions,
2 not necessarily here but we are still in a
3 drought condition. But around the rest of the
4 country, this is one of the impacts of
5 something like that. Of course Great Lakes
6 didn't pay me to say this but that's a pretty
7 damn good job. When you give somebody a
8 drawing like this and they end up like that
9 and like that, that's not bad. Dredging
10 companies are very use to dredging and they
11 are very use to depositing material maybe in
12 an upland or maybe in a confined disposal area
13 or maybe in a hopper. And then dumping it
14 somewhere. But now we are telling them to
15 dredge it, pump it and then have this kind of
16 hose looking thing go 90 feet below the water
17 and put it into a formation that looks like
18 that. So they did a pretty good job. You can
19 see here this is the left descending bank.
20 This is at river mile 63.8, left descending
21 bank, right descending bank. The first order
22 of business was to fill in this hole. There's

1 a 90 foot, well -90 a hole right here down to
2 -90 that they needed to fill in. And then
3 over here it's not as bad. So again why at
4 63.8? Because we know 15 miles away from
5 there is the intake at Pointe a la Hache. So
6 we can arrest the salt water right here. So
7 again, I never thought I was going to be
8 building a levee along the bottom of the
9 Mississippi River. I'm building levees all
10 over the place like crazy here but I never
11 thought I was going to building one in the
12 bottom of the Mississippi River and we did
13 that.

14 Okay. Briefly on Hurricane Isaac.
15 It is very obvious but it is one of those
16 things we have to continue to reinforce to
17 folks. Because everybody has a baseline.
18 They say I didn't flood during Betsy or I
19 didn't flood during Katrina or I didn't flood
20 during Rita or pick a storm, you know. How
21 can I flood during Isaac? I don't understand
22 it. Anybody who was inside the system "the

1 system", the post Katrina system didn't flood.
2 The system worked the way it was designed to
3 work. But there were three particular
4 locations outside that did flood. So the
5 first reaction is "oh it had to have been
6 because you built this big flood wall up here
7 that that water came into my neighborhood."
8 So we said okay we're going to go back and we
9 obviously have plenty of models, we are going
10 to take Hurricane Isaac and run it through the
11 model with the system in place as it stands
12 right now and it would take system to like it
13 was the day before Katrina. We are going to
14 run it through that. We are going to figure
15 out what were the impacts due to the system.
16 We already knew the answer because before we
17 even designed it, we had to run these models.
18 We can't build something that's going to
19 induce flooding somewhere else without taking
20 that into account in the construction. If we
21 are going to induce flooding somewhere else,
22 then we have to take over action to build

1 something or to stop that induced flooding in
2 that somewhere else. So we already knew what
3 the answers were going to be but we wanted to
4 confirm. Again, one of the things is every
5 hurricane is unique. It doesn't really
6 matter. So we looked at, we kind of and again
7 I don't preach to the choir but really three
8 main characteristics of a hurricane. The
9 track, the forward speed and the time that you
10 have the hurricane storm forced winds. Notice
11 they don't say anything about category.
12 Category for me anyway and for a lot of the
13 folks in the Greater New Orleans is
14 interesting but that's about it. It is just
15 interesting because it is all just based on
16 wind speed. It is all based on, I've had lots
17 of discussions with Rick Knabb. Dr. Knabb and
18 I are good friends. He is the director of the
19 hurricane center. I've told him how many
20 times that the Saffir-Simpson scale is not
21 useful for us anyway. It is useful for some
22 people. But we also did go down the road,

1 okay well how do you change it? How do you
2 adjust it? It's not an easy problem. So, I
3 do feel bad for him but we have had
4 discussions about that. But look, we all know
5 if you are on the east side of a hurricane
6 that's the bad side to be on, okay. That is
7 clearly the bad side to be on. And Hurricane
8 Isaac for the most part, the Greater
9 Metropolitan area was on the east side of
10 Hurricane Isaac. The second thing is the
11 forward motion. Hurricane Isaac came through
12 here at about six miles per hour, very, very
13 slow in terms of hurricane standards. There
14 was a time there where it actually stopped and
15 moved laterally. And then of course the wind
16 speed. We have trouble with storm forced
17 winds in this area for about 45 hours. That's
18 a long time that build up water and to just
19 stack that water up. So I think I have, okay.
20 So what we did was we said since kind of the
21 most recent faceline for folks is Katrina,
22 let's just do a quick snapshot of a couple of

1 things comparing Isaac to Katrina. Okay, so
2 this was the Katrina path. This was the Isaac
3 path. Here is New Orleans, Greater
4 Metropolitan area. So again, when your path
5 goes in this direction and you are on the
6 eastern side and the winds are blowing
7 counter-clockwise you are already going to
8 have a bad day. Secondly, again Katrina came
9 in, 17 miles per hour, pretty brisk for a
10 hurricane and Isaac 6. So again, so okay here
11 is, let's see here is midnight on the 29th of
12 August, 2005 and here is 8:00 a.m. in the
13 morning. So Katrina went from here to here in
14 eight hours. Here is noon time on the 28th and
15 here is 18:00 on the 29th. Now grant it, it is
16 not a straight line distance but you can see
17 obviously when a hurricane moves at a third of
18 the speed of the other one, there's going to
19 be a significant damage just due to the
20 hurricane itself. So, but folks don't really,
21 they want to, its hard to go to a place and
22 talk to a person who had water up to their

1 rafters and explain to them that it happened
2 because of the hurricane. They don't
3 understand that. They don't want to like
4 that. And I understand that. So again
5 another series of public meetings. I have
6 this, I get to go to all these public meetings
7 and tell folks bad news or things that they
8 don't want to hear. But it is an interesting
9 responsibility. Largely the system performed
10 as it was designed to perform. This is, this
11 green line around the perimeter is the post
12 Katrina Hurricane Storm Damage Risk Reduction
13 System. That's what we call the Hurricane
14 Storm Damage Risk Reduction System. Prior to
15 Katrina we use to call it the Hurricane
16 Protection System. A levee doesn't protect a
17 thing. A levee reduces your risk. That's all
18 it is. It is a risk reduction measure. There
19 are lots of other ways to reduce your risk due
20 to storm surge from a hurricane. Barrier
21 islands, coastal wetlands, have your house
22 built above the base flood elevation, have an

1 evacuation plan, listen to your local elected
2 officials, have a full tank of gas, a levee,
3 a flood wall, a pump station. Those are all
4 features to reduce your risk. We had some
5 students from Harvard who came down about two
6 or three weeks ago. Actually its been a
7 couple of months now. And they couldn't quite
8 grasp the risk reduction idea and said you
9 guys are staying here in the French quarter.
10 They said yeah. You going to go out tonight?
11 Yep. So this is kind of a risky place to go
12 out right? They said yeah a little bit. I
13 said how are you going to reduce your risk?
14 Well one of the ladies raised her hand and
15 said well I'm only going to take \$20 and I'm
16 going to leave the rest of my money in the
17 hotel room. That's perfect. I mean you might
18 not get a lot of drinks but that's way to
19 reduce your risk. One kid raised his and said
20 we are not going to drive but we have one
21 person who stays at least semi-sober so he can
22 kind of guide us all in the right direction so

1 we don't get into too much trouble. That's
2 great. That's another way to reduce your
3 risk. Of course one person raised their hand
4 and said well I'm going to bring a gun. I
5 said no, no, no, no. But again, its just all
6 about risk and its about reducing risk. So I
7 think folks had a false sense of security when
8 they said oh there's a levee there. I can
9 live right behind that levee. Sure you can if
10 you want. Absolutely you can. But that is
11 not going to protect you. That will reduce
12 your risk and you better have other ways to
13 also reduce your risks. Because at the end
14 there is going to be some residual risk and
15 you have to decide whether you want to accept
16 that residual risk or not.

17 Anyway, post Katrina system, 14.6
18 billion dollars was authorized and
19 appropriated and fully funded up front. Lots
20 of discussions about what's going to happen
21 with Sandy and what are we going to do as a
22 nation in the kind of post-Sandy world in the

1 Greater New York City area. I will tell you
2 one of the ways that we were able to -- look
3 this flood wall right here, this was the first
4 part of this system that was authorized to be
5 studied in 1955. Authorized to be studied in
6 1955 and authorized for construction in 1968.
7 This was the first part of the system right
8 here. Then there was a few more after that.
9 A little more after that. Some more after
10 that. When we get to the point on August 29,
11 2005 where Katrina hit, we were about 60
12 percent complete over here and about 40
13 percent complete over here. How do you go
14 from the 50s/60s to August 29, 2005 and only
15 be halfway done? There are a multitude of
16 reasons but I tell you one of the biggest
17 reasons is incremental funding. We nearly get
18 a million this year and two million next year
19 and maybe get nothing the year after that
20 because its not a project that's a priority
21 either of a particular administration or a
22 particular Congress or we were sued by a lot

1 of different folks over these, a lot of these
2 levees and structures. So when you get sued
3 and you get enjoined and you sit around and
4 twiddle your thumbs for a few years. So
5 again, there's a multitude of reasons why but
6 it's a fact. This system was about 50 percent
7 plus or minus complete when Katrina hit. Now
8 from August 30, 2005 until last summer 2011,
9 we got it complete. How was that? Again we
10 have 14.6 billion dollars up front fully
11 funded, get to work. That's one reason. The
12 second reason and I'm already five minutes
13 over. The second reason is we had alternate
14 NEPA arrangements. CEQ authorized us to use
15 what's called an IER or and individual
16 environmental report as opposed to an EIS. So
17 we are still going through the NEPA process.
18 We are still holding our public meetings. We
19 are still disclosing all our impacts. We are
20 still mitigating for all our impacts. But we
21 don't have to wait for a rod before we go into
22 construction. So, if we had to go through an

1 EIS, there's about 400 contracts, 400
2 different projects in this systems. We would
3 have had to have done probably 400 different
4 EISs. What we end up doing again, so you can
5 take a reach like this and instead of doing a
6 couple of half dozen EISs here, we did one
7 IER. Disclose the impacts not only to the
8 environment but to the public nature. The
9 streets, the traffic, hauling debris, the
10 noise, etc. etc. like you normally would but
11 instead of doing it in an EIS we did it in an
12 IER. Anyway, Isaac performed the design and
13 the perimeter system is largely complete.
14 There are two or three small areas I'm still
15 working on. You know one model left for the
16 contractor to come in and place this concrete
17 wall. He's got to get in because that's his
18 only access. Otherwise, he's got to go ten
19 miles down through the gate and ten miles
20 back. So there's a couple of areas. But we've
21 got even HESCOs. I know you can't see this
22 very well, but just one example. This is

1 Nancy Allen. Nancy stands 5'1". This was the
2 old wall. This is the new wall. So we had a
3 unit of measure was one Nancy. This flood
4 wall was almost one Nancy and this flood wall
5 was about three Nancys. So, I mean I can
6 spend more time just talking about the
7 comparison and the differences pre-Katrina and
8 post-Katrina. It is an unfair comparison.
9 You really can't even compare the two systems.

10 Okay, so I didn't talk about
11 charting. I didn't talk in depth about a lot
12 of things and I probably left some things out.
13 But in the essence of time I think I will just
14 ask if you have any questions and if not, you
15 know how to get a hold of me. I'm more than
16 happy to come back or meet you at some other
17 place. A couple of New Orleans folks or at
18 least some folks around Louisiana area who now
19 how to get a hold of me.

20 CHAIR WELLSLAGER: Any questions
21 for Col. Fleming? Well thank you.

22 MEMBER MILLER: Yes. When do you

1 take the sill down?

2 COL. FLEMING: We do not deconstruct
3 the sill. We let mother nature do that. It's
4 had to, it was built twice before. It usually
5 takes about a year for mother nature to do her
6 business and take it down. But you know if
7 you look at the forecast that we are seeing
8 around the country for what this winter and
9 next spring are going to look like, it's not
10 promising for any drought relief. So, we are,
11 we stand ready to rebuild it if it needs to be
12 rebuilt or let mother nature do its thing.
13 But again we were on a daily basis going out
14 and taking salinity level checks. We are not
15 doing that anymore. We are only out there
16 probably about once a week. And again, the
17 local parishes are all checking their salinity
18 levels. But about a year is what it takes to
19 get back to normal. There's one in the back
20 over there.

21 MR. BOULET: Yes, there's --

22 COURT REPORTER: Could you use a

1 microphone please?

2 MR. BOULET: Yes, there' a lot of
3 concern with folks in the Mississippi coast
4 that the levee system going around New
5 Orleans, we put them at greater risk,
6 especially with the folks in Hancock County.
7 What is your thoughts on that?

8 COL. FLEMING: Again, going back
9 to the modeling that we did not only pre-
10 Katrina but post-Isaac. What the question is
11 about is behind this picture as you go out of
12 Orleans East, Hancock County is probably not
13 more than 30 miles probably away from this
14 part of New Orleans. And what impact does
15 this system, does this flood wall levee system
16 have on that area? And again when did the
17 studies, it was on the order of an inch or
18 two, a couple of inches. So what we did is we
19 ran, just like with Hurricane Isaac, we ran
20 Isaac through without the system and then
21 Isaac with the system. When you compare what
22 you saw that gives on the order of an inch or

1 two. Folks will say that's not even within
2 the margin of error of your model. But when
3 you compare one model to another model, you
4 can get, model versus model, you can get
5 pretty good results. If you are going to
6 compare a model to a real world kind of
7 situation, yeah you can't get down to the
8 inches. But the impact on Hancock County, as
9 well as the impact on folks down here who are
10 on the east bank, outside the system, and
11 again this area is Braithwaite. This is the
12 area that had some pretty severe flooding at
13 Hurricane Isaac. These were people who had
14 top of the rafters up to their second floor.
15 One guy said it wasn't too bad. I only had
16 water up to the kitchen counter. He said, but
17 my kitchen is on the second floor. He lived
18 down here in Braithwaite. The worst, the
19 highest difference was down in this area.
20 This is the West Closure Complex. You can see
21 a very small picture over here. This is the
22 largest drainage pump station in the world

1 right there. We put out about 19,000 CFS.
2 That will fill an Olympic-size swimming pool
3 in three second. This is the largest gate in
4 the nation. So you've got the combination of
5 the largest gate in the nation with the
6 largest pump station in the world right here.
7 So clearly you are going to see some localized
8 impacts because that didn't use to be here.
9 Now, I will tell you that all this water that
10 we pump out here, was already coming out here
11 anyway. There are pump stations along the
12 Harvey and Algiers Canals, okay. That water
13 was being pumped into the Harvey and Algiers
14 Canals and into the Intercoastal Waterway and
15 all we did was put a gate there and then pump
16 it over the gate. It is still the same amount
17 of water that's coming down those two canals.
18 It is just we are transferring it. Once we
19 close the gate to stop the storm surge, we are
20 also stopping the rainwater from coming out.
21 So we've got to pump it over the top of the
22 gate. But clearly when you are on the flood

1 side of the largest drainage pump station in
2 the world, you are going to see some localized
3 impacts of maybe a foot but that's a non-
4 community, non-residential area. It is kind
5 of out in the bayou and it spreads out when
6 you get out to some of the other places.

7 CHAIR WELLSLAGER: Ken?

8 MEMBER BARBOR: I realize you didn't
9 touch on any of this, but do you have a very
10 short snippet on IENC, ENC issues or comments?

11 COL. FLEMING: I guess what I would
12 say we were talking outside earlier is don't
13 do enough of it. Don't have it in the right
14 format. Everybody wants it in a different
15 format. Have made lots of great strides.
16 Still a lot more progress to be made. Funding
17 is not an issue. Lots of stakeholders
18 involved. The feedback I get of whether it's
19 the pilots, Capt. Mike Lorino, I think he came
20 in and talked to you guys yesterday or some of
21 the other industry folks, Sean Duffy or even
22 the dredging industry. Its usable and it

1 works but we probably need to put some more
2 effort into it. I know that was broad
3 general.

4 CHAIR WELLSLAGER: Okay. Well
5 thank you very much.

6 COL. FLEMING: Thanks.

7 CHAIR WELLSLAGER: And its that
8 time. If we would please collect your
9 thoughts and let's go upstairs. For those who
10 have -- hi Sherri. It's good to see you. For
11 those of the public that have just joined us
12 this morning, there is a sign up sheet in the
13 back. We have one of three sessions that will
14 be taking place upstairs on 2M. Correct? If
15 you take the elevator. And they are
16 Hydrographic Surveying, Geospatial and Tides
17 and Currents. If you would please sign in and
18 then join in one of these three breakout
19 sessions. It would be greatly appreciated.
20 And let's go.

21 (Whereupon the foregoing matter
22 went off the record at 9:27 a.m. and went back

1 on the record at 12:07 p.m.)

2 CHAIR WELLSLAGER: The way I kind
3 of botched the first introduction instead of
4 New Orleans saying New England, I think I'm
5 going to pass the torch to Tim Osborn and ask
6 for him to do the introductions for us
7 instead. So, Mr. Osborn, if you would.

8 MR. OSBORN: No, we very much
9 appreciate and hope that this third day has
10 been productive. I would like to turn this
11 over immediately to Garrett Graves. Garrett
12 is the governor's appointee in charge of its
13 coastal protection and restoration activities.
14 He was also very pivotal and very involved
15 with Deep Water Horizon and has really been at
16 the forefront in terms of establishing
17 adhesive master plan in terms of looking
18 forward in the state's efforts in terms of
19 preservation and restoration of its coastal
20 resources. Garrett is a native. In fact his
21 father actually is an engineer and actually
22 has a firm right there in Baton Rouge. So he

1 knows very well issues that we have talked
2 about as well, elevation, water levels. He's
3 also at the forefront in terms of dealing with
4 hurricanes like we just saw with Hurricane
5 Isaac. So I would like to thank and I would
6 like to introduce him. I would ask Garrett to
7 come and address the panel right now and
8 Garrett thank you very much.

9 MR. GRAVES: Thank you. All right.
10 Thanks for the opportunity to be here today.
11 On the way over here I had a bunch of great
12 ideas. The whole ride over here I started
13 changing the PowerPoint. Here we go. So
14 thanks again. So, I think it is a pretty neat
15 picture because it shows just how incredible
16 the water is in Louisiana. It literally just
17 comes out what appears to be pores all over
18 Louisiana. This is a really cool slide deck
19 that I stole from NOAA earth systems research
20 laboratory in Boulder. This shows you what
21 North America, what the North America
22 continent looked like about 60 million years

1 ago. You can see the bottom of the
2 Mississippi River system is somewhere perhaps
3 near present day Missouri. If you watch as a
4 roll forward in about five million year
5 increments, this is ten, so you can go 60
6 million years ago, 50 million years ago. So
7 you can see how it just filled in that whole
8 area. 40 million years ago, 30, 20, 10 and
9 today. So the point here is that the
10 Mississippi River literally created the State
11 of Louisiana. It created Mississippi. It
12 created much of the southeastern portion of
13 the United States. So we are literally a
14 deltaic plain. We are a product of the river
15 here. So looking today at the Gulf Coast.
16 The Gulf Coast collectively has a gross
17 domestic product of about 2.4 trillion
18 dollars, which is just an extraordinary amount
19 of money. It is about 30 percent of the
20 nation's GDP and perhaps it has something to
21 do with all of these secession petitions that
22 you are seeing out there now. But what is

1 really amazing is when you look at this on a
2 global scale, collectively the five Gulf
3 states are about the seventh largest economy
4 in the world. 8.3 million jobs in the Gulf
5 Coast region. And showing you what's
6 happening with the population trends while the
7 nation's population has increased about 52
8 percent since about 1970. The Gulf Coast
9 population has actually increased
10 approximately double that number. So pivoting
11 back over to the deltaic plain. This is the
12 bottom of what is known as the Atchafalaya
13 River which is the other portion of the
14 Mississippi River system over to the west of
15 where we are today. As you can see, this is
16 actually an uninterrupted delta. This process
17 is continuing largely. So we continue to have
18 land building in the Atchafalaya delta today.
19 This amazing water shed encompasses about 31
20 states and two Canadian provinces that all
21 come down and funnel down through Louisiana
22 through the lower Mississippi River system and

1 the Atchafalaya River system. So as this
2 delta processes are occurring or the land is
3 building, we are actually part of sediments
4 from 31 states and two Canadian provinces.
5 Zooming in a little bit more on just the
6 Louisiana facts. In Louisiana today, we have
7 about five of the top 15 PORTS in the nation
8 and our waterways, facilitate about 20 percent
9 of all maritime commerce in this country
10 through the Mississippi, the Atchafalaya and
11 the Gulf and Coastal Waterway. On the fishery
12 side, when we get into these things a little
13 bit more, but top producer of commercial
14 seafood in the continental United States of
15 course behind Alaska but I think they weight
16 their crabs to beat us. Migratory flyway,
17 this is the largest wintering habitat for
18 migratory birds in the United States. Similar
19 to that map showing the water shed, that's the
20 same trends that the birds take as they come
21 down. The Gulf of Mexico collectively
22 produces about 54 percent of the nation's

1 domestic oil and 52 percent of the natural
2 gas. Of that somewhere in the neighborhood of
3 about 75 to 80 percent is produced offshore,
4 our coast and on the tourism side. I've got
5 a slide on that which I will show in a minute
6 of about 10 billion dollars in tourism
7 activities. But five of the top 15 ports in
8 the nation. As I noted accommodating about 20
9 percent of the nation's maritime commerce and
10 included the number one tonnage port in the
11 western hemisphere which is the Port of South
12 Louisiana. So, here's a slide that shows the
13 volume of domestic water born commerce in the
14 United States. This shows you that the thinner
15 the lines, the lower the volume of traffic.
16 You have these puny lines out here in
17 California and on the East Coast. Then look
18 at this massive line coming up the Mississippi
19 River system, Missouri and the Ohio just
20 showing you how incredibly reliant upon the
21 maritime transportation that our nation is and
22 these extraordinary volumes that comparatively

1 around the country.

2 A few things here are pretty
3 amazing. So historically Thomas Jefferson as
4 many of you know, 200 years ago, told Monroe
5 and Livingston, go acquire New Orleans. At
6 the time our young nation consisted largely of
7 only this area, excluding the Florida area.
8 So he said go buy New Orleans. And Thomas
9 Jefferson 200 years ago realized that 3/8s of
10 the produce that must pass the market had to
11 come through that gateway or this gateway of
12 New Orleans in order to access the market. So
13 he understood at the time strategically that
14 our young nation had to have New Orleans for
15 its future growth and its sustainability. So
16 the rest of the story is, is that ultimately
17 Money and Livingston were authorized and as
18 dollars appropriated to go acquire New Orleans
19 and the Floridas and that was it. The New
20 Orleans and the Floridas. New Orleans was
21 really the goal but the Floridas were thrown
22 in and so they were suppose to buy this and

1 this. And as a result, you guys know the rest
2 of that story. 200 years ago, the entire
3 Louisiana purchase was acquired.

4 Interestingly folks think that Louisiana has
5 ethics problems that it is our fault. I just
6 want to make note that these guys didn't have
7 the authority or the money to do it and they
8 did it. So Louisiana's ethical problems are
9 based upon some inherited issues. But pretty
10 amazing Thomas Jefferson, 200 years ago, was
11 exactly right. 31 states we can access the
12 maritime commerce. The Mississippi River is
13 the least expensive, the most efficient means
14 of transportation in the United States and it
15 allows us to compete globally with some of our
16 products that we otherwise would not be able
17 to compete. Because of lower transportation
18 cost we can now compete.

19 This shows you truck traffic. So
20 kind of the intermodal aspects of this as
21 well. This is truck traffic from PORTS of New
22 York, New Jersey. Once again the thicker the

1 red lines, the higher the volume of traffic.
2 Here's the PORTS of Long Beach. Here is
3 Houston. You can see pretty good coverage
4 across all 48 states in the lower U.S. and
5 there's New Orleans. So you can see very
6 disburse coverage across the United States.
7 Then here's all the ports in Louisiana. And
8 so you know once again, just going five of the
9 top 15 ports of the country, 20 percent of the
10 nation's maritime commerce. This place is
11 amazing in regard to trade and intermobile
12 transportation systems. A lot of people look
13 at us and say, wow, you guys are geniuses
14 listening to those statistics. But the
15 reality is we have an incredible strategic
16 events that even we can't screw up.

17 So going over to the fisheries
18 side. Going over to the fisheries side. I
19 noted earlier the top producer of continental,
20 excuse me, of commercial seafood in the
21 continental U.S. and that's about 26 percent.
22 We produce more shrimp, oysters, crawfish and

1 blue crabs than anywhere else. I have to get
2 quick notation because you guys know and you
3 are going to catch me. On oysters we are
4 actually number two behind Washington State
5 right now because of the oil spill. But I do
6 feel confident that we will be back to number
7 one in a few years hopefully.

8 I talked about the Mississippi
9 River flyway and similar to the way that
10 watershed shaped you can see how this is it.
11 The largest wintering habitat for migratory
12 waterfowl right there in Coastal Louisiana. So
13 pretty amazing.

14 And then on the energy side. Just
15 to give you a picture of what it looks like.
16 This is the pipeline system in the Gulf of
17 Mexico. I don't know the current statistic.
18 I know as of about ten years ago, three-
19 fourths of the offshore energy platforms in
20 the world were in the Gulf of Mexico. So,
21 showing you just an amazing energy
22 infrastructure in the Gulf of Mexico. If you

1 lay those pipelines end on end they would
2 circle the equator. Number one producer of
3 domestic oil. Number two of natural gas.
4 Number two producer refining capacity behind
5 the State of Texas. The only place in the
6 United States where you can offload a
7 supertanker is offshore Louisiana, the
8 Louisiana Offshore Oil Port, or LOOP. That's
9 it right there. The only place in the nation
10 you can do it. Here's another statistic
11 that's pretty interesting. Many of you may
12 know that in accordance with the Mineral
13 Leasing Act, Mineral Lands Leasing Act, state
14 share and approximately 50 percent of the
15 revenue generated from onshore energy
16 production on federal lands. And then an
17 additional 40 percent goes into the
18 reclamation fund as you may know that is for
19 water projects largely in those same states.
20 Once you get offshore, which in the case of
21 Louisiana and Mississippi is three miles
22 offshore our coast it becomes federal waters

1 where 100 percent of the money goes to the
2 U.S. Treasury. In Louisiana, we estimate that
3 is about five billion dollars annually that
4 goes to the U.S. Treasury. The State of
5 Louisiana, just to be fair, under the Gulf of
6 Mexico Energy Security Act did receive a check
7 for \$24,000 last year. So, we get virtually
8 nothing. But the disparity is pretty amazing.
9 For onshore federal lands versus offshore, the
10 states of Wyoming and New Mexico are two of
11 the top recipients. I believe it was New
12 Mexico that's receiving close to about a
13 billion dollars a year from that. In the
14 State of Louisiana I think it is important to
15 note that we passed the constitutional
16 amendment that passed the state with the
17 highest margin of any constitutional amendment
18 in our state's history that dedicates any
19 revenues received by the state from offshore
20 energy production to our costal restoration
21 and coastal community resilience efforts in
22 the state. I am going to show a master plan

1 in a few minutes.

2 But I talked about tourism. This
3 was prior to Hurricane Katrina. One of the
4 top, New Orleans is one of the top
5 destinations in the country. About 9.3
6 billion dollars to the economy in 2010. We
7 are as I recall the fourth top recreational
8 fishing destination in the United States and
9 I talked about the commercial seafood earlier.

10 So wow, this place is amazing. The
11 energy, the seafood, the tourism, the
12 transportation is pretty amazing. But at the
13 same time look at what is happening to this
14 same area that has all this incredible
15 productivity. Whether it is ecological or it
16 is economic productivity, look at what is
17 happening. This red area represents the land
18 loss. You guys are right around here. I
19 guess I am too. So this red area represents
20 the land loss we have experienced in
21 Louisiana. That is about 1,900 square miles.
22 1,900 square miles is larger than the State of

1 Rhode Island. It encompasses all of the land
2 in the State of Delaware. So you can imagine
3 how those guys would feel if they were wiped
4 off the map. Well our state is slowly being
5 wiped off the map. We have experienced land
6 loss rates anywhere from about 11 square miles
7 per year up to and in excess of about 200
8 square miles per year since the 1930s. What
9 happened? Well, I have a slide a little bit
10 later in the deck showing but prior to the
11 1930s, the Mississippi River and the
12 Atchafalaya River would go through what is
13 known as a delta switching about 1,200 years
14 on average. The river would find a shorter
15 course to the Gulf of Mexico about every 1,200
16 years and it would build a delta in the areas
17 where the river's alignment was. So it built
18 all this area that would sway back and it
19 would just go back and forth and find a
20 shorter route to the Gulf. In the Spring when
21 you would have higher flows on the banks and
22 just continue to build this delta. Well in

1 1927 we had the largest flood in our nation's
2 history. So in 1928 Congress came in and
3 responded and authorized what is known as
4 Mississippi River Tributaries Program. One of
5 the most successful public works projects in
6 our nation's history from two perspectives.
7 Number one, that project has successfully
8 maintained a deep draft navigation channel in
9 between those two levies. Very important.
10 You no longer have both captains driving up
11 looking for the river here and delta switch to
12 here and say these guys are wondering what to
13 do. Its between the levees. Number two is we
14 have not had additional riverine flooding in
15 this state since those levees were built. So
16 very, very successful from this perspectives.
17 At the same time it had caused the greatest
18 wetlands loss in the nation and caused
19 extraordinary environmental and ecological
20 consequences to our state as I noted with the
21 1,900 square miles of land loss. What does
22 that look like? This is an area to the

1 southwest of where we are today. A lot of
2 people look at it and say oh look, birds and
3 fish. People live here. Thousands of people
4 live here. Cocodrie, Dulac, Montegut,
5 Chauvin, Pointe-aux-Chenes. People live in
6 this area. Watch what happens over a 17-year
7 period? By the way these are roads. These
8 are bayous but they are roads. They go here
9 and here into these areas as well. 17 years
10 watch what happens. Just giving you an idea,
11 giving you an idea of what that looks like on
12 a little bit more micro scale. So I talked
13 about the 1,900 square miles of land loss
14 we've experienced over the last 80 years. If
15 you look prospectively we could lose up to
16 1,750 square miles over the next 50 years or
17 for those of you math whizzes, just realize
18 that this is a greater rate of land loss than
19 we historically experienced. All of these
20 areas would be lost in the red over the next
21 50 years without aggressive action. This
22 shows that you today we are experiencing

1 somewhere in the range of about 16 square
2 miles of land loss per year on average. This
3 shows you that in the 2042 time frame that
4 would drop down to about 51 square miles of
5 land per year. And I believe that, Henri
6 Boulet spoke to you guys earlier about some of
7 the economic consequences of that. This
8 translates some of that land loss into a
9 little bit more realistic situation. This
10 area right here which is again, you guys are
11 here. This is over to the east of where we
12 are now. This would be about 20 to 25 feet of
13 water above ground level in a 100 year
14 hurricane. 20 to 25 feet. This would be
15 about 12 to 20 feet of water above ground
16 level in a 100-year hurricane. This would be
17 five to ten feet of water above ground in this
18 area here. So giving you an idea of what this
19 looks like and how that additional loss
20 translates into very, very powerful
21 statistics. 23.4 billion dollars in annual
22 flood losses, again without aggressive action.

1 So I showed you 50 years land loss. This was
2 an LSU study done by Blum and Roberts in 2009
3 as I recall. This shows about 100 years what
4 happens with Louisiana with sea-level rise
5 subsidence and some additional erosion
6 challenges. New Orleans would roughly be an
7 island or part of a peninsula perhaps on the
8 Mississippi River levees as opposed to what we
9 largely look like today. So this trajectory
10 that we are on is obviously, poses some
11 challenges for our state to say the least.

12 What we did this year and we
13 started this about two years prior is we
14 released our Coastal Master Plan. This is the
15 second plan that's ever been done for the
16 State of Louisiana. The first one was in
17 2007. This plan took realistic objectives,
18 flood control ecosystem sustainability,
19 cultural sustainability, recognizing that we
20 have a working coast in Louisiana and industry
21 sustainability. It took all of those
22 objectives that looked at realistic resource

1 constraints. How much fresh water do we
2 actually have in order to nourish or sustain
3 the right salinity levels in Coastal
4 Louisiana?

5 How much sediment is now coming
6 down the Mississippi River system? Keep in
7 mind with all the locks and dams that were
8 built up in the upper system, the Missouri,
9 the Ohio River. And what's a realistic dollar
10 figure? If I had to put a dollar figure on a
11 2007 plan, I would say its probably around 300
12 billion dollars, which I don't think is
13 realistic, though I do believe our folks
14 deserve it. So we put constraints in there.
15 We believe that we have somewhere around
16 perhaps 40 to 50 percent of the sediment
17 coming down the river today as we did
18 historically. We recognize that the level of
19 water, the volumes of water that are needed to
20 continue to sustain deep draft navigation. So
21 any diversions we would do would be in excess
22 of that amount. And then lastly, after going

1 through extraordinary calculations, we set
2 upon a rather round dollar figure, as it came
3 out. Fifty billion dollars over a 50 year
4 period is our financial constraint.

5 So here is the plan. This plan is
6 comprised of structural protection: levees,
7 flood walls, flood gates. And everything you
8 see here going to sediment diversion and marsh
9 creation. So it's structural, it's non-
10 structural. It includes things like
11 relocating communities. It includes things
12 like elevating homes, because we recognize, as
13 hard as it is for us to say this, we can't
14 even -- we are not going to get ourselves back
15 to 1930s footprint. But we can't even sustain
16 what we have today. So we literally have to
17 draw a line in the sand. And we have to have
18 people below that line and go to those
19 communities and tell them that we can't save
20 you, as much as you deserve it and as much as
21 we would like to.

22 And so this plan was submitted to

1 Louisiana legislature and it passed
2 unanimately, believe it or not, after much
3 dialogue, through four legislative committees
4 and the full House and the full Senate. What
5 we did to develop this plan ultimately is we
6 went in, we broke it out into five basins. We
7 went in to each basin. We said, okay, look.
8 We want to do hurricane protection. We want
9 to do coastal restoration or ecosystem
10 restoration. But we also understand that you
11 can have adverse consequences from those
12 objectives, like the objective to prevent
13 river flooding and have a stable navigation
14 channel. We trashed the environment. So we
15 don't want to have those adverse consequences.

16 So we went into all of these
17 communities and we began working on
18 identifying the priorities for them. We are
19 a shrimping community. We are an oyster
20 community. We like bird watching. We have
21 oil and gas production. What are your
22 objectives? And we worked with them to

1 develop the best projects or portfolio
2 projects that most efficiently met those
3 objectives.

4 This shows you all the work we have
5 done historically and all the work we are
6 going to do prospectively. It shows you that
7 the plan calls for levees. The plan calls for
8 restoring historic ridges or cheniers as they
9 are called in southwest Louisiana. Marsh
10 creation, reconnecting the Mississippi River
11 to its adjacent and historic wetlands and
12 plains.

13 For the first time ever we took
14 seven different modeling, seven different
15 models and integrated them into one system to
16 where you didn't just look at a project and
17 determine what does this do in regard to
18 wetland morphology. We were able to take
19 projects and project portfolios and determine
20 what it did in regard to wetland morphology
21 but also how that impacted risk assessment or
22 protection.

1 And so were able to take these
2 objectives that the communities identified in
3 each one of the basins and sort of fine tune
4 it as we ran the different projects or project
5 portfolios through these models.

6 Here is one of the objectives.
7 This is when the Bonnet Carre Spillway was
8 opened, sending about 300,000 cubic feet of
9 water per second from the Mississippi River
10 into Lake Pontchartrain. You can see all the
11 sediment that's wasted. And this is all the
12 sediment that is coming out of the Mississippi
13 River. All of this being entrained within the
14 levee systems and going into the deep waters
15 and not allowing that delta process to
16 continue.

17 This shows you all of the historic
18 distributaries of the Mississippi River and
19 showing you how by putting those levees and
20 sequestering all of the sediment in the two
21 systems you have prevented the sediments from
22 getting to all of these areas. What our plan

1 calls for, recognizing that you have two
2 million people that live in south Louisiana.
3 You can't just open up all those historic
4 distributaries. We have targeted diversions
5 that would be run in concert depending upon
6 the excess fresh water you add and where your
7 salinity levels, based upon our extensive
8 monitoring system, shows we need the
9 additional fresh water.

10 Pivoting over into some of the
11 other challenges or issues that I think are
12 very live for your group and what you guys are
13 working on with regard to hydrographic
14 surveys. Some of the key things that we've
15 got to do, is we have to figure out where can
16 we establish borrow sites in the Mississippi
17 River. Where are the sites that have access
18 borrow? Where are the sites that are
19 refilling? What are the trends that we are
20 seeing in the Mississippi River system?
21 Geotechnical investigation and exploration of
22 sand resources in the lower Mississippi River.

1 We are trying to develop a network or a
2 pipeline system coming off the Mississippi
3 River whereby when the Corp of Engineers
4 spends 100 million dollars annually between
5 Baton Rouge and the Gulf dredging the river,
6 they can plug into this pipeline system and
7 pump the sediment out into areas where we have
8 sediment-starved areas.

9 We are currently doing that right
10 now with Lake Hermitage which is down lower
11 river on the west side below where we are.
12 This was a great project we did with NOAA/EPA.
13 We were able to commingle about four different
14 funding sources from state, federal, including
15 stimulus dollars. We have created about 760
16 acres mining sediment in the Mississippi
17 River. Think about this. We are taking
18 sediment out of the river that the navigation
19 industry needs removed from the river.

20 I'll move on. So just to give you
21 an example of what this looks like. We have
22 had areas that historically have been borrow

1 areas that have just historically replenished.
2 As a result of the changes in the Mississippi
3 River, the growing point bar and in other
4 situations, we found in some cases that these
5 areas that historically replenished are
6 changing and they are not replenishing as
7 rapid of a rate, or in other cases you are
8 getting additional over burden in areas that
9 historically didn't experience it.

10 So in going through our projects,
11 you can see as we look at the different
12 borrowed sources in the river, the importance
13 of surveys and data coming from NOAA to make
14 us aware of the trends that are occurring in
15 the Mississippi River. I want to make note
16 here that -- and I intended to do this
17 earlier, I apologize. I talked about the
18 importance of our river system and maritime
19 commerce for the entire nation. When you look
20 at what happened in Hurricane Isaac, we had
21 this amazing maritime transportation system
22 that was impeded or at least in question. You

1 had areas like Port Fourchon, which is a top
2 energy port in the nation that was literally
3 frozen and NOAA came in within about five
4 days, did all the surveys of the critical
5 navigation channels that we needed and allowed
6 us to be able to get these port systems and
7 this navigation system back online, which
8 allowed us to again service 31 states with
9 maritime commerce, allowed Port Fourchon,
10 which services approximately 90 percent of the
11 offshore platforms in the Gulf of Mexico, to
12 get back online as well.

13 So I will jump over to the oil
14 spill. So the Deepwater Horizon oil spill.
15 The last thing I wanted to talk about for a
16 few minutes. This is a Coast Guard data set
17 that the Congressional Research Service put
18 together that shows you since 1973, so maybe
19 the last 40 years, shows you the cumulative
20 volumes of oil that were spilled each year.
21 This is just an amazing perspective of the
22 Deepwater Horizon. This shows you that you

1 had somewhere around 20 million gallons of oil
2 spilled, cumulatively, every spill that
3 happened since 1975, every spill that
4 happened. There is the Valdez bump right
5 there. So this shows you the trend, this red
6 line shows you the trend and the number of
7 spills that were happening each year. So
8 clearly you see a downward trend in volume.
9 You see a downward trend in actual spill
10 events. This was Hurricane Katrina which was
11 another, obviously, anomaly like Valdez and
12 others, but I just wanted to point out that
13 statistic.

14 Deepwater Horizon released in
15 excess of 200 million gallons of oil, or ten
16 times the highest spill that's occurred in
17 coastal waters over the last 40 years. A lot
18 of folks talked about NRDA, and I've read --
19 I'm one of the trustees for Louisiana but I've
20 read all these articles in the paper about how
21 they want to settle for 15 billion dollars
22 which at the time which was going to be global

1 coverage for criminal, for civil, under Clean
2 Water Act and for NRDA. Not suggesting that
3 this is an accurate translation but I just
4 think looking at a blunt instrument is sort of
5 where your brackets may be in a spill. If you
6 took the barrels of oil that were spilled, and
7 for example Exxon Valdez, you look at the note
8 payment that occurred and you adjust it for
9 inflation, you get about \$5,800 a barrel in
10 regard to ecological restoration of the Valdez
11 spill. If you translated that to the numbers
12 in Deepwater Horizon, just for the natural
13 resource damage costs you would be looking at
14 28 billion dollars.

15 One of the more recent spills, the
16 Cosco Busan in California, Oakland Bay, which
17 call me biased but I'm going to argue that the
18 Gulf of Mexico is more ecologically productive
19 than Oakland Bay. Sorry, guys, the truth
20 hurts sometimes. One hundred and thirty
21 billion dollars in NRDA payments. So you can
22 see why I think there probably were some

1 challenges, as Attorney General Holder noted
2 at a recent press conference in regard to
3 reaching global peace here.

4 This is the Clean Water Act on the
5 civil side, which is an entirely separate
6 packet that would be added to the NRDA, and
7 you can see some of the ranges doing the same
8 calculation as was done in the previous.

9 Here's another thing, just a pretty
10 amazing statistic just to put things in
11 perspective in the case of Louisiana. If you
12 measure our shoreline smoothly from Texas to
13 Mississippi we have about 400 miles of
14 shoreline. According to NOAA, if you measure
15 the tidal shoreline, here you about 7,700
16 miles of tidal shoreline. So if you look at
17 the difference in the Gulf states it's really
18 amazing, which is really complicated our
19 ability to respond to the spill. Can you
20 imagine trying to lay out 40 million feet of
21 boom in an oil spill? The total boom that was
22 put out in the Gulf of Mexico in the probably

1 first month after the spill, I'm going to take
2 a wild guess and say it was somewhere probably
3 near one to two million feet of boom. So
4 clearly extraordinary challenges.

5 In addition to the natural resource
6 damages, which are clearly a liability that
7 are outstanding, and civil penalties
8 associated with the Clean Water Act. Congress
9 passed the RESTORE Act in late June,
10 President signed it in early July, that
11 allocates the funds to the states. There was
12 the recent announcement by the attorney
13 general of criminal settlement, 2.4 billion
14 dollars was set aside for restoration
15 activities in the Gulf states. Of that 1.2
16 billion was to come to the State of Louisiana
17 for barrier islands and river diversions which
18 explicitly mentions our state master plan for
19 investment of those dollars.

20 So, we are going to be making
21 investments. All of the investigations we
22 will be making through the criminal

1 settlement, the civil penalties, the NRDA and
2 Natural Resource Damage Process, all of these
3 will be filtered through our master plan
4 process in Louisiana. And of course abiding
5 by the regulatory requirements of NRDA and
6 those under the RESTORE Act.

7 One other note is that our state
8 legislature did pass a law last year which
9 directs all of our RESTORE Act dollars to our
10 master plan, as well, for coastal
11 sustainability in the state of Louisiana.

12 This shows you the volumes of oil
13 that were experienced along the shorelines
14 from Deepwater Horizon and our state. What
15 we've done in trying to figure out how we are
16 going to take these criminal dollars, these
17 NRDA dollars, these Clean Water Act, the
18 RESTORE funds. We've gone across each of the
19 basins -- or actually in this one is broken
20 down into three. We've developed, begun
21 developing preliminary plans for restoration
22 associated with the spills. You can see the

1 projects we have on the bottom left here that
2 we are trying to begin looking at feasibility
3 on these projects. And importantly I want to
4 note, because you guys are NOAA, that you may
5 remember that slide I did earlier showing you
6 all the historic distributaries, look edlike
7 a spider web coming out of the Mississippi
8 River. We are looking at a number of
9 diversions. Because you guys are NOAA I just
10 wanted to note that NOAA has expressed some
11 concern about us reconnecting the Mississippi
12 River because you are going to impact
13 fisheries, which I'm not going to argue with.
14 The fisheries will be pushed out. Because we
15 are experiencing land loss, there is increased
16 fish habitat, which is a fascinating concept
17 and we certainly support fish habitat but we
18 also like people habitat and that's land.

19 So we have got to re-establish a
20 sustainable system. Think about the nap I
21 showed you from 2100 that shows all of this
22 being under water. Our studies have shown

1 that when you do connect the Mississippi River
2 to these adjacent historic distributaries, you
3 absolutely freshen these areas. Closer to how
4 they were freshened historically. The fish
5 don't die. The fish relocate. And this is a
6 critical part of our overall plan.

7 To give you a quick example. Under
8 our master plan it is 50 billion dollars.
9 About 20 billion dollars of that is dedicated
10 to marsh creation. Taking sediment and pumping
11 marsh. With that 20 billion dollars, we are
12 going to build about 250 square miles of
13 marsh. With these diversions we are going to
14 spend just over 4 billion dollars and we are
15 going to create about 360 square miles of land
16 for a much more efficient investment for
17 restoration activities.

18 Over in southeast Louisiana you can
19 see once again the connection of the river to
20 the adjacent areas. Additional planning and
21 investments we will making or hope to make
22 through oil spill dollars include a number of

1 other uses, including human use, which is
2 required under the Natural Resources Damage
3 Assessment process and many other important
4 investments.

5 And last slide here, just making
6 note that this map on the left here is an
7 older map from the 1800s of our state and then
8 you can see 2100 where we potentially go
9 without aggressive action. So two futures
10 here. There you go.

11 (Applause.)

12 CHAIR WELLSLAGER: Fascinating. A
13 lot going on and I'm sure you could have
14 easily talked for another two or three hours.
15 That is a lot of information that was coming
16 to us incredibly quick. Would we be able to
17 get a copy of that PowerPoint presentation
18 that we would like to put on to our HSRP
19 website for this meeting?

20 MR. GRAVES: Absolutely, sure.

21 CHAIR WELLSLAGER: It'd be very
22 nice to have. Thank you. Are there any

1 questions that we would like to ask? Phil?

2 MEMBER HANSON: Garrett, you guys
3 really been a lead on this and having a master
4 plan of course is essential and really puts
5 you guys in a position to be shovel-ready for
6 the projects as they come out and the funding
7 becomes available. For this group, which is
8 more the mapping, hydrographic side, we are
9 also looking at research and being able to map
10 accurately so you guys can make projections
11 what's it going to really be like in 2100 as
12 the work takes place. You mentioned science
13 and research as potential uses. Is there --
14 how realistic is that? Is there a big push
15 within the state to do that? And is that
16 something we can help?

17 MR. GRAVES: There is. As a matter
18 of fact, we recently stood up the Water
19 Institute of the Gulf, which is a independent,
20 not for profit entity. The president and CEO
21 is Chip Groat who was a USGS director under
22 President Clinton and President Bush. We

1 initially in Louisiana had developed our own
2 internal science capability. And the more we
3 worked on it, we realized that we didn't want
4 to have science in-house because folks were
5 going to be pressured, or potentially get into
6 political pressure, for providing the answers
7 that were most politically palatable rather
8 than those that were accurate. So we put it
9 all external. And then we have sort of like
10 a national labs with the Department of Defense
11 relationship where we sign a 10-year contract
12 to x dollars over x years. Here are the tasks
13 we would like you to fulfill whether it is
14 horizon science, applied science, emergency
15 science, data monitoring. We have made a
16 long-term financial commitment. Looking
17 historically over our projects, we spend
18 somewhere around 11 percent of our project
19 budgets on science-related issues, addressing
20 uncertainties. So, as we move forward with --
21 and should these larger dollars come in
22 through RESTORE Act, NRDA, our intent is to

1 take programmatically 11 percent or some other
2 number and put that, dedicate that to research
3 science and technology so we can ensure as we
4 are re-plumbing south Louisiana we do it in a
5 manner that's going to meet the objectives
6 that we have. So short answer, yes.

7 CHAIR WELLSLAGER: I've got a
8 question for you. In a way I'm kind of
9 confused, which isn't anything new, but with
10 what you've got with the master plan, will it
11 in any way affect what's being done with the
12 levee systems in and around the New Orleans
13 area, and specifically the Bonnet Carre
14 Spillway and how that's used at the time when
15 the critical flow of the Mississippi exceeds
16 some staggering number. But to do what it
17 sounds like you are doing right now, or with
18 the master plan that you are planning to do,
19 you are trying to let the Mississippi go back
20 to what its natural courses were. Am I
21 mistaken?

22 MR. GRAVES: Absolutely. And so

1 this is an existing diversion but it's in
2 place solely for flood protection. The
3 capacity of the Mississippi River above New
4 Orleans is greater than it is through New
5 Orleans. So this is sort of a pressure relief
6 valve to send the water out through Lake
7 Pontchartrain, Lake Borgne and the Gulf.

8 And so, since this diversion
9 structure actually exists today, and since you
10 are having extraordinary land loss or
11 ecological loss and productivity drop in this
12 LaBranche Wetlands, a rich cypress-tupelo
13 swamp in this area. But one of the projects
14 that we are looking at doing is basically
15 cutting a hole in the dike in the Bonnet
16 Carre Spillway to allow water and sediment to
17 divert out into these swamp areas that have
18 saltwater intrusion from Lake Pontchartrain.

19 In regard to the New Orleans area levees, what
20 our master plan calls for is largely not to do
21 anything in regard to poking holes or
22 obstructing or modifying those levees in any

1 way, except that the current level of
2 protection that the levees in New Orleans
3 provide is about 100 year protection. Under
4 our master plan, we would increase that to
5 about 500 year level protection.

6 CHAIR WELLSLAGER: Anybody else?
7 Okay. Well thank you once again. Very, very
8 informative. You have quite a bit going on
9 and I wish you the best of luck.

10 MR. GRAVES: Thank you very much and
11 I appreciate the opportunity to be here.

12 CHAIR WELLSLAGER: Okay. Next on
13 our agenda is one o'clock. We are going to
14 start to have the stakeholder debriefs. So we
15 have about ten to 15 minutes for that. So why
16 don't we get up, stretch around, get the blood
17 flowing and then we will meet back here at one
18 o'clock so we can start discussing the
19 debriefs with the breakout sessions.

20 (Whereupon the foregoing matter
21 went off the record at 12:47 p.m. and went
22 back on the record at 1:04 p.m.)

1 CHAIR WELLSLAGER: Okay. It is
2 now time, drum roll please, for the
3 stakeholder debriefs to the HSRP and
4 discussions. Before we get into that, I was
5 quite pleased when I started walking around
6 and looking in each of the different breakout
7 sessions because I was terribly concerned last
8 night, not thinking we were going to really
9 have a public input to the sessions, and I
10 when I walked around it seemed like there was
11 active conversation going on in each of the
12 three sessions. And that was pleasing for me
13 to see. But I'm going to throw a question out
14 and I'm curious now. As a panel, did you see
15 these breakout sessions as a productive way of
16 getting information and simulating different
17 things?

18 And if so this will be something we
19 can continue to do. But if not, then we will
20 need to look at trying to come up with other
21 ways that we can arrive at talking points or
22 specific points and then we can address to the

1 NOAA administration. Again, was this, in your
2 opinion, something productive and should we
3 continue to do it? Kenneth.

4 MEMBER BARBOR: Yes, I found it
5 most productive. Again, we had a reasonably
6 diverse group that I think the one thing that
7 these breakout sessions do are clearly enables
8 the less bold or outspoken people to get their
9 points across. Which we rarely do have people
10 come to the mic in the open public sessions
11 unless they have a very big agenda to carry.
12 I thought it was good from that standpoint.

13 CHAIR WELLSLAGER: Gary.

14 MEMBER JEFFRESS: Yes, Matt. I
15 thought it was extremely useful and it allows
16 us to focus in on the particular topic and get
17 to the meat of it and say how do we build a
18 recommendation out of what we are talking
19 about. It was very helpful. And having local
20 input was extremely valuable as well.

21 MEMBER DEMPSEY: I think if we
22 provide multiple formats for delivering the

1 message, I think the more useful it is and you
2 are going to get that feedback.

3 CHAIR WELLSLAGER: The thought had
4 been put in to having the sign-up sheets, not
5 necessarily the sign-up sheets but each of the
6 breakout sessions being specifically outlined
7 on one and then having points that the panel
8 members could, when they get in, have written
9 out to try to drive the conversations. Were
10 any of those filled out and did you have
11 anything like that to actually use for input?
12 Or was it kind of just a get in and start
13 talking and things fed off on those on
14 themselves? It was a thought and I thought it
15 was a good idea at the time. It still might
16 be something that we can try to do later
17 because it does define what we've got going in
18 the breakout sessions and we just thought it
19 might be an idea where the users might come up
20 with some thoughts and ideas learned.

21 All right. So the first I guess we
22 could look at would be the debriefing from the

1 hydrographic surveying. Bill, would you mind?
2 The Bourbon room, yes.

3 MEMBER HANSON: With help and
4 assistance from Joyce we'll make it through
5 this. We had several points that came up in
6 different ways but the themes were there. One
7 of the things that really came up is
8 particularly here at Louisiana but also in
9 other parts of the Gulf is the need for
10 shallow water data. The focus has been on
11 deep water and with the oil patch work and the
12 fisheries and including the coastal
13 restoration work it's not quite sure the data
14 they are using or how they get it and how
15 decisions are being made.

16 So, it appears to be a lot of
17 commercial work being done, third party at the
18 state level, DNR level. We note the oil patch
19 does a lot of their own work. And if there is
20 someday we can tap into and accumulate that
21 data, in addition to making it somewhat of a
22 priority with NOAA. Maybe we can get some of

1 that data provided.

2 That data is important also for
3 storm surge models and very critical for the
4 impacts on the things that Garrett showed in
5 the inundation models and also some of the
6 projects we build. When we build the barrier
7 islands or the marsh restorations they try to
8 stabilize it with vegetation that's sensitive
9 to a couple of tenths of water elevations.
10 And in area like this, in the subsiding it
11 seems a lot of decisions are being off of some
12 pretty raw assumptions.

13 We talked a lot about subsidence
14 maps, the maps being charting land that is now
15 under water. I think that is probably a
16 common thing to hear about. And in sediment
17 movement, Garrett talked on that as well.
18 Colonel Fleming didn't talk about that as much
19 this morning but one of the big issues facing
20 the Mississippi River is going ahead and
21 taking that sand that we typically dump at sea
22 in deep water and using it to build marsh and

1 wetlands protection.

2 But you have to be able to track
3 that because there is competing uses. The
4 water sill where we borrow the material for
5 that water sill is also the site the state
6 wants to use for some of their restoration
7 work. So there are competing uses there.

8 Data sharing, and this kind of
9 comes a little bit under the discussion of
10 with a budget or no budget and how are you
11 going to handle things doing more with less,
12 less with less. Or if you want to be
13 optimistic, like I prefer to be, more with
14 more. And so if you start off looking at
15 where we stand right now, which is limited
16 budget and NOAA is not the only one in that
17 boat. You know that. State agencies are the
18 same way as well as the Corps. Is how do you
19 share the data? How do you compile all the
20 information that's being done from all the
21 sources non-NOAA? And how do you get that
22 information to NOAA in some type of a usable

1 form? There's no well-known central data
2 organization or repository. We had a thought
3 that if we are going to kind of combine some
4 of these surveys and maybe use them, wouldn't
5 it be nice if there was some pre-planning as
6 we -- it might be a little optimistic but if
7 you have a state going out and hiring a
8 contractor, survey contractor, wouldn't it be
9 nice if NOAA knew about it or the Corps knew
10 about it or if NMFS knew about it and they
11 wanted to take some extra measurements to
12 hitchhike on the boat and make sure of that.

13 IOCM becomes a concept, an idea.
14 Use of Corps of Engineers surveys. Obviously
15 we do surveys on all deep water channel
16 projects that we do. We also do it on coastal
17 restoration projects in the borrow areas. Our
18 data goes right to the Corps and I understand
19 some of it is usable for NOAA and some of it
20 is not. Maybe there is an opportunity on a
21 national basis. I know you guys try this and
22 obviously every district is different. Nobody

1 knows that better than we do, because we have
2 to contract with them as well. But we do know
3 that its not an insurmountable issue. You can
4 get there if you are patient and consistent
5 yourself in order to get the Corps to play
6 ball.

7 As far as the state or other
8 entities, perhaps some type of guidelines from
9 NOAA, some outreach, to let them know just
10 exactly what is it you are looking for instead
11 of getting the data after the fact and then
12 that's not what we need. Let's provide
13 something up front. Maybe that's where the
14 pre-planning comes into play.

15 Something we talked about in Alaska
16 as well is the crowd sourcing, using vessels
17 of opportunity. And then perhaps taking
18 another look at the standards. Obviously
19 that's got legal and political implications as
20 well. But at the end of the day, having data,
21 particularly where there is no data, is
22 important. And if it is just a matter of

1 getting some standards out there, maybe
2 improve the lessor standards and maybe just
3 take a look at some of the critical standards
4 that NOAA has and see just how important they
5 are.

6 And then it seemed like it was
7 important to our group that there be some type
8 of a regional meeting, perhaps using somebody
9 like a Tim Osborn to get with the stakeholders
10 in the area, all the folks who might be doing
11 surveys, and just put them in a room and see
12 what everybody is doing, what their thoughts
13 are, how much flexibility they have to improve
14 their standards, improve their work, and then
15 how much they have an opportunity to piggyback
16 on what each others needs are. It would be
17 more appropriate we thought for that meeting
18 to be led by NOAA.

19 Let's see. One of the thoughts
20 that came up in comments was Alaska obviously
21 is kind of the bright, shining star.
22 Everybody wants to talk about the Alaska

1 initiative in terms of charting. I want to be
2 careful that we don't forget the grunt work or
3 the high profile, the necessary work that is
4 being done, like in the Gulf. Whether it is
5 shallow water, deep water, borrow sources,
6 working with other agencies.

7 And doing that, again, you start
8 talking about the funding issues. Obviously in
9 a budget limited situation like you are in
10 now, you've got to look at collaboration.
11 You've got to look at doing more with less or
12 less with less. But what we really want to
13 think about is being, as we use the word
14 shovel-ready when it comes to construction.
15 When it comes to research, maybe be study
16 ready. Maybe have your list of projects that
17 you want to do, and I think you've probably
18 got that. You've got a long list of projects
19 you would like to do once you got some
20 funding. But also survey ready. What
21 projects, for instance, if the State of
22 Louisiana comes up with 15 billion, 80 percent

1 of 15 billion dollars from their coastal
2 program. They can't spend that money on
3 projects, dredging projects right away,
4 unfortunately. But they are looking long-
5 term. They are looking at sustainable. They
6 are talking about a water institute to make
7 this sustainable long-term initiative. And if
8 NOAA had their list of projects and their list
9 of capabilities and things that they could do
10 to help Louisiana, Mississippi, Alabama,
11 Florida and Texas out in terms of their data
12 and their engineering needs, their mapping
13 needs, then perhaps a million dollars here and
14 a million dollars really gets lost in the
15 shuffle. Yet the products you provide through
16 NOAA are critical to everything they are
17 trying to do.

18 Then we had some -- gotten some
19 good discussions about NOAA products and
20 making them usable. It wasn't exactly the
21 hydrographic survey part but I think it does
22 apply to a lot of what we talk about here over

1 the last couple of days, is the NOAA brand.
2 And how do we help be your ambassadors -- and
3 you do put out good products. You've got a
4 great reputation here, as you saw. You've got
5 some fans, folks willing to be your advocates
6 as well and a lot of it has to do because you
7 listen to them. And we need to continue to do
8 that and continue to showcase the products
9 that NOAA provides.

10 Joyce, any other panel members have
11 anything you want to add? What did I miss?

12 MEMBER MILLER: Just clarifying --

13 COURT REPORTER: Could you turn on
14 the microphone please?

15 MEMBER MILLER: Clarifying the
16 regional meeting. When we talked about it
17 was, the nav managers do a great job and often
18 serve as data centralization but you might
19 consider something similar for a NOAA data
20 coordinator in a region or something. A lot
21 of the discussion some of the state
22 representatives had was the difficulty in

1 finding out what data is there, where to get
2 it. Not just hydrographic data but all kinds
3 of it.

4 MEMBER HANSON: There's a lot of
5 stakeholders and we tend to talk about NOAA
6 and the Corp, NOAA and another federal agency.
7 But in the modern era, there are a lot more
8 stakeholders out there than just the federal
9 agencies. The more we can do to reach out to
10 them as your users, I think we will have a
11 better idea of what products to provide.

12 CHAIR WELLSLAGER: Frank.

13 MEMBER KUDRNA: I would just add
14 that I thought it was, in answer to your
15 question, Matt, I think it was good and useful
16 and it allowed us to after getting briefed on
17 a subject to delve into some recommendations
18 afterwards. I thought they were useful and
19 they are productive, certainly this one was.

20 CHAIR WELLSLAGER: Well, I guess
21 I have a question for Admiral Glang. Alaska
22 seems to be, as it has been stated, the last

1 frontier. With the deepening of the Panama
2 Canal and the Panama ships coming in, there
3 will be obviously needs to update approaches,
4 harbor entrances, general areas that are
5 somehow going to need to be prioritized. If
6 we have as NOAA our facilities in Alaska, is
7 there a mechanism where we might be able to
8 re-divert something from either the Atlantic
9 Marine Center or what steps could be taken to
10 start looking at ways that we could do
11 hydrographic surveys in areas of the United
12 States other than Alaska?

13 ADMIRAL GLANG: I guess I am not
14 totally clear on the question. A significant
15 portion of our dress survey backlog effort,
16 our contract survey effort takes place here in
17 the Gulf. The focus has been on the critical
18 navigation areas. If you look through that
19 activities report I think we try to in a very
20 general way show you how much work we've
21 gotten done here and the primary focus has
22 been for the deeper draft vessels. When to

1 re-survey an area would be driven by a change
2 in usage and by how rapidly that area change
3 is naturally occurring or man made change
4 might occur. So what you are suggesting look
5 at re-survey requirement for the Panamax, for
6 the post-Panamax-class ships. That's
7 something we probably have to look at. I
8 think we are just now starting to see some of
9 these studies point to where those, where that
10 kind of ship traffic might go. So that is
11 certainly something to take note of. So
12 getting back to your premise which was should
13 we look at re-allocating where our survey
14 assets are working. That's a dynamic thing
15 anyways. We re-evaluate that. But again we
16 kind of have a balance now that tries to
17 address our current hydro priorities. Just
18 because you don't see a NOAA ship down here
19 doesn't mean we don't have a lot of survey
20 work going on. This is where most of our
21 contract effort is expended. Did I answer
22 that okay?

1 CHAIR WELLSLAGER: That's perfect,
2 actually. Frank.

3 MEMBER KUDRNA: We discussed that in
4 our group. We understand the priorities are
5 the primary navigation channels where the
6 vessels are coming in are the first priority.
7 But one of the issues was in our previous
8 reports, we talked about 100 year backlog at
9 10,000 square miles I believe a year. It is
10 really 3,500 square miles in recent times.
11 The simple math is we've got a 285 year
12 backlog instead of a 100 year backlog. That
13 really doesn't do anything less than four
14 meters of depth. One of the things that was
15 pointed out here in the Gulf is that with
16 subsidence taking place, you have pipelines
17 that are exposed in these shallow waters and
18 you have a lot of the oil service vessels
19 traveling in these service vessels, traveling
20 in these shallow areas. So there are some
21 potentials for significant problems we think
22 existing in these shallow areas where you have

1 subsidence and exposure so some of these
2 pipelines along the way. So it's a -- and we
3 understand the priority for the main shipping
4 canals but there are issues that could result
5 in problems or disasters in other areas.

6 CHAIR WELLSLAGER: Joyce.

7 MEMBER MILLER: Follow up on that.
8 I guess one question I had given that pretty
9 much what everyone was talking about was the
10 criticality of the shallow waters is how do --
11 I mean perhaps its not the topic for HSRP or
12 navigation services although as Frank said
13 that there are certainly navigation issues,
14 commercial and so forth, in those areas. But
15 how do we get to incorporating this need for
16 shallow services, and we saw it in Alaska too,
17 into sort of the priorities for Coast Survey?
18 Just sort of a general question.

19 CAPT. SWALLOW: We brought it up a
20 few times in there. The IOCM is an
21 opportunity for that. Map one is used many
22 times. Talk about needing storm surge

1 modeling, we need trajectory modeling. We
2 also need the shallow area surveyed for
3 navigation. So to me that could be, that's
4 like an opportunity for the panel. We've got
5 the authorization. The IOCM bill, there
6 hasn't been any funding behind it. So that
7 could be one avenue to get that recognized.
8 That's kind of what I was feeling.

9 MEMBER HANSON: Perhaps the
10 opportunity there is I mentioned the shallow
11 water areas is being critical to this region.
12 But in the future for our industry is where we
13 take most of the material to deep water and
14 discharge it there. Most of our projects
15 nowadays have some level of beneficial use.
16 And a lot of that is shallow water disposal.
17 So you see more and more of that in areas in
18 New York and California, Florida. That's not
19 just a Gulf Coast issue. So its probably
20 something we need to address more nationally
21 than just a regional.

22 CHAIR WELLSLAGER: Okay, thank

1 you, Bill. That was very good. Interesting.
2 Our next would be the Geospatial. So Gary,
3 would you mind?

4 MEMBER JEFFRESS: Good afternoon.
5 We had a very lively group. We were focused
6 on geospatial positioning. So naturally our
7 thoughts went straight to the National Spatial
8 Reference System which NGS hosts. And of
9 course there's really no problem with
10 horizontal positioning. The GPS and the
11 Corps' network have that down pat. So the
12 problem really is elevation. How do we
13 extract good elevation from a National Spatial
14 Reference System which is now totally focused
15 on the Corps' network and GPS observations.
16 Terrestrial leveling is far too expensive now
17 to carry elevations across the countryside.
18 So now surveyors and engineers, they are
19 heavily using GPS to transfer elevations. To
20 do that effectively relative to sea level,
21 which approximates the geoid, we need to know
22 where the geoid is. So NGS is addressing this

1 with the GRAV-D program. But unfortunately
2 the GRAV-D program under the current funding
3 levels is stretched out to 2022 before we see
4 any substantial results. So what do we do in
5 the meantime? This problem is highlighted
6 here in Louisiana, where the majority of
7 benchmarks, historical benchmarks were put in
8 using traditional terrestrial leveling many
9 years ago which was very precise at the time,
10 has been pretty much decimated by subsidence
11 and fairly radical subsidence rates. We see
12 here in New Orleans around about ten
13 centimeters a year, which is really -- renders
14 a benchmark pretty useless pretty quickly.
15 So, Louisiana has set up its own cause network
16 which is part of the national cause system and
17 we saw presentations from Cliff and Josh --
18 well, Cliff is off-site and also Josh, these
19 guys from LSU, just to remind you, attended
20 this session and they further told us of
21 stories of how local surveyors are having a
22 hard time using GPS to establish elevations

1 particularly when the geoid model changes from
2 time to time. So we discussed the differences
3 between the geoid 09 model and the geoid 2012
4 model. And in some places they reported there
5 is up to one or two feet differences, which is
6 somewhat confusing for surveyors when the
7 models change and their elevations change.
8 But that's just an artifact of the fact of the
9 historic data and GRAV-D is going to improve
10 all of this but that's going to take some
11 time. We also discussed NGS' use of the
12 airborne gravity data that has already been
13 observed particularly along the coast here in
14 the Gulf. They can and do produce beta
15 versions for regional use. We encourage NGS
16 to continue to do that to make these regional
17 beta versions of updated geoid models for
18 folks like Cliff and Josh at LSU to use and to
19 test. The main problem is the fact that the
20 GRAV-D program is such a long time line. Ways
21 to reduce that time line harks back again to
22 funding and funding levels. We also

1 identified that there are a lot of users of
2 GPS, particularly surveyors and mappers and
3 engineers, that are not fully versed in how
4 GRAV-D is going to help them do their jobs.
5 We particularly mentioned ASPRS, the MAPS
6 organization and the National Society of
7 Professional Surveyors do not use their
8 influence on Congress to improve NGS funding
9 and GRAV-D funding. The problem there is that
10 a lot of those folks aren't educated enough in
11 geodesy to fully understand the importance of
12 GRAV-D and how it directly relates to their
13 own workplace. So we would like to encourage
14 a little bit more education and outreach to
15 not just the public but also professionals to
16 assist us in educating Congress of the value
17 that we will get out of the GRAV-D program.
18 We actually, Carol was nice enough to type up
19 actual recommendations that we could use for
20 the HSRP. And I will read the first one here.
21 HSRP recognizes the importance and critical
22 nature of the GRAV-D program and recommends an

1 accelerated completion of this program. This
2 project affects accurate elevation
3 measurements which in turn effect innundation
4 models, storm impact and emergency response.
5 This issue is seen as a high priority and
6 should be reviewed in collaboration with
7 SeaGrant and the IOOS FACA and potentially the
8 new NGAC FACA which is National Geospatial
9 Advisory Committee, which comes under the
10 purview of the Department of Interior. We
11 know some folks on that FACA. Gary Thompson
12 who is the chief geodetic surveyor for North
13 Carolina. Jack Dangermond who is the owner of
14 Esri. We decided it would be a good idea for
15 our FACA to communicate with these other FACAs
16 and suggest that they get behind their height
17 mod, GRAV-D and the height mod programs as
18 added support. So we also recommend that HSRP
19 letters be copied to the chair of each of
20 these FACAs, if you don't mind Matt. And
21 actually also send them electronic versions so
22 they can e-mail out to their members.

1 And we also saw the need to try to
2 get the public involved in GRAV-D but that's
3 a little bit of a stretch. If professionals
4 don't get it, how can the public get it?

5 But there is obviously a connection
6 between the public's now realizing through the
7 various Gulf hurricanes and the big Hurricane
8 Sandy in New York City and the relationship
9 with sea level rise. We've seen several
10 articles in the press just the last couple of
11 weeks on sea level rise. And how do we get
12 the connection between sea level rise and
13 using GPS to get accurate elevations of the
14 topography along the coast so that those who
15 live along the coast can get a better idea of
16 what their risks are in terms of the sea level
17 rise and the impact of storm surges. So we
18 don't know how to do that but that's what we
19 would like to do.

20 Greater public campaign to increase
21 Congress' awareness of importance of high
22 accuracy and the GRAV-D program as a

1 foundation for this. In addition, outreach to
2 flood plain managers and reinsurance companies
3 that they understand the risk of inaccuracies
4 in zero height measurements. That is height
5 measurements from zero. Zero being mean sea
6 level. And also to maintain outreach to the
7 survey community to increase awareness and
8 confidence in the geoid models and NGS
9 products. I know NGS tries to do as much as
10 they can to do that. I know they visit each
11 state society's annual conventions. Many, many
12 times I've seen NGS employees at surveying
13 professional meetings. They do as much as
14 they can. But I think its up to the surveying
15 and mapping professions to educate themselves
16 better on how geodesy directly affects what
17 they do on a day-to-day basis. So that pretty
18 much sums up what we talked about. Did I miss
19 anything? Carol? Scott? Jeff?

20 MEMBER CAROTHERS: The only thing I
21 would like to say from the stakeholders,
22 that's when they were in the room, they were

1 concerned with the different geoid 12 model,
2 12 A or B or whatever. I got the impression
3 they may not themselves, two guys are with us,
4 believe there are errors in the model but that
5 the perception of the community of surveyors
6 may have thought there were errors in the
7 model. I don't believe there are errors in
8 the model. That is a perception I think that
9 came out of that meeting.

10 MEMBER JEFFRESS: Yes, just to
11 highlight that. They gave the impression that
12 surveyors treat GPS as a black box and if one
13 geoid model gives a different result from
14 another geoid model it must be an NGS's fault,
15 which is not true, which just demonstrates
16 their lack of understanding. It is comparing
17 apples and oranges based on the quality of the
18 data that goes into one model and the other
19 model. They just don't get it.

20 CHAIR WELLSLAGER: Carol?

21 MEMBER LOCKHART: Carol Lockhart.

22 I guess the other thing that's clear. I mean

1 our job is made very easy because their
2 stakeholders had a very clear message both
3 yesterday in the panel and today again in the
4 breakout session. But what was also clear in
5 this process is that NGS has a very good
6 handle on its priorities and what is required.
7 The obvious issue that underlies all of this
8 is still funding. I think in the stakeholder
9 breakout session it was often referred that
10 NGS was the red-headed stepchild and that more
11 funding needed to be put towards NGS's part of
12 NOAA and that's not something we specifically
13 wrote down here because I think NGS
14 understands its priorities very well. All we
15 can really do is encourage this program and
16 the use of GRAV-D.

17 CHAIR WELLSLAGER: Some of the
18 things that I can say in support for NGS.
19 They have a very active height modernization
20 group that has monthly conference call
21 meetings that usually about two to two and a
22 half hours in length, where we discuss

1 specific things going on within the National
2 Geodetic Survey and the states who are all
3 attending the meeting explain things that are
4 going on with them in their meetings as well.
5 And its been informative because a lot seems
6 to be going on and we've addressed issues with
7 the new geoid model. I think one of the
8 things and this is actually in support of your
9 recommendations with education, more times
10 often than not this little black box as you
11 indicated gives you elevations. And its like
12 a computer and the computer gives you some
13 kind of a readout and by God its right, you
14 know. There's no questions asked. I saw it on
15 TV. If I saw it on TV you know its got to be
16 the gospel truth, right? And one of the
17 things that my office has done in support of
18 our realtime network is develop a very good
19 spatial network or, I'm sorry, passive network
20 in the state where we can as we are going out
21 and collecting data, tie into some local
22 control. We can see yes in fact geoid does

1 agree because our readings that we've
2 collected on unknown sites are thus but the
3 readings we've collect on known sites are this
4 and they agree within the published parameters
5 to within what we expect to be acceptable
6 tolerances of say two centimeters. And I got
7 the impression from the meeting yesterday that
8 while these individuals are going out and they
9 are doing work, they are collecting data and
10 they might see a change in elevations, there's
11 really never been any work done to quality
12 assess the information that they are
13 collecting in the field as to is it good by
14 occupying known reference sites. So the need
15 for passive networks is there. I think public
16 outreach is one of the definite needs for this
17 group because while NGS is doing a lot and the
18 ACSM has been doing a lot with their meetings,
19 it's still something that you constantly have
20 to teach people how to work with things.
21 Because unfortunately that black box has made
22 everybody a geodesist whether they know its

1 happening or not. And that's probably the
2 farthest thing from the truth. And there is
3 a lot of money tied up with the numbers that
4 come out of that thing because elevations are
5 so critical. And I really think that for
6 whatever it's worth the education part as well
7 as the beta copies of the geoid are crucial
8 for something like this for the
9 recommendations. Do you want to add anything
10 to that? No. Okay, well Gary, thank you.
11 Thank you very much. And Mr. Barbor.

12 MEMBER BARBOR: Our group, I think
13 I'm hearing a lot of the similar sorts of
14 things coming out of the other stakeholders'
15 groups. We did have a very energetic group
16 with plenty of input. Again much of that
17 input does come down in the more, better,
18 faster category which I think we did some
19 little outreach education on. Again, we are
20 working within constraints and missions and
21 authorities that may not necessarily get them
22 exactly what they want, more better and

1 faster. But within that one of the aspects
2 was PORTS, which clearly falls within our
3 tides, water levels and currents range. And
4 what was a very broad discussion, we pulled
5 one very actionable aspect of it out and that
6 is to, in terms of accessibility of the
7 existing port system, we heard that yesterday
8 and it was amplified in our breakout group.
9 If that datastream can be accessed via AIS it
10 would be of big importance to the pilots
11 coming in. They could look at one box and
12 left to the software manufacturers of the
13 Raven or whatever other thing to integrate
14 that into that software. But it is a Coast
15 Guard responsibility to implement that AIS
16 feed and about the only thing we came up with
17 was if we could use the influence through the
18 CMTS and the e-nav initiatives to say this is
19 something that Coast Guard needs up in their
20 priority list. And in particular would be a
21 reasonably lo-hanging fruit anywhere there is
22 a VTS that is available which happens to be

1 here in a very few other PORTS. But at least
2 from a New Orleans standpoint it would be a
3 quick implementation.

4 Further into PORTS a little more of
5 an education sort of thing and perhaps Rich
6 has taken this way. When you talk PORTS at
7 any place they say well gee it would be really
8 nice if we had. There is no limit to what,
9 one, what they want, but there is also no
10 limit to what they have, could have if they
11 were willing to fund and integrate it and co-
12 ops being reasonably available and anxious to
13 ensure a proper integration and implementation
14 of current sensors, visibility sensors, air
15 gaps or other meteorological or oceanographic
16 sensing things. It really does, the impetus
17 lies on the local activity to make that
18 request an effort of co-ops and the local
19 activity to find out what is really needed and
20 how to get it implemented and local activity's
21 responsibility to figure out how to pay for it
22 and maintain it. But I think from an outreach

1 and education standpoint continuing to make
2 sure that it a very clear business model and
3 users know how it works. Also from the more,
4 better, faster much like the hydrographic
5 section our group says we really do need
6 shallow water bathymetry to support better
7 modeling, to help science understand what's
8 going on in these high-subsidence areas and of
9 course we need the modeling to provide
10 improved current and inundation and the
11 models that these folks down here are very,
12 very interested in having the data and
13 understanding the impact on their area. And
14 like the hydrographic section there is the
15 opportunity with RESTORE funds that working
16 together with the state and federal experts
17 and stakeholders to ensure that there is a
18 coordinated, appropriately resourced and
19 appropriately focused and directed actions to
20 get those data available to the models and to
21 the people. A very low hanging fruit and easy
22 one but there is a request for more training

1 in respect to how Co-ops wishes tide data to
2 be obtained and the suggestion was they do
3 internal training and open that internal
4 training up to other interested parties within
5 the resources available, i.e. classrooms and
6 the like. Again when they are doing their
7 internal training to people within Co-ops to
8 make that publically known so other people
9 that have responsibilities for putting in tide
10 gauges associated with hydrographic surveys
11 could come in and avail themselves of that
12 training.

13 And then finally with Henri and our
14 group we had this impassioned plea again.
15 Outside the remit of our group in particular
16 but again this goes to the administrator so it
17 does have authority over the National Marine
18 Fisheries Service and again what we heard from
19 Gary. This desire to try to reclaim and
20 restore some of the wetlands is being hindered
21 by the concern over the destruction of current
22 fish habitat and the need for overabundance of

1 studies to show the impact when in reality it
2 is just making different fish habitats and
3 moving the current ones out. That evaluation
4 to the impediments there needs to be dealt
5 with and dealt with quickly so that these
6 shovel-ready projects can move forward and
7 restore the lands of coastal Louisiana. That
8 was our group. Thank you.

9 CHAIR WELLSLAGER: That's
10 interesting, especially that last topic. It's
11 one that I have a feeling is going to be
12 addressed at other locations as well. Maybe
13 not to the extent that you are going to see
14 here. And it is a good recommendation to have
15 but within the bylaws or call it what you want
16 for the HSRP. Is something like this a
17 recommendation that we could make to NOAA
18 administration since it is addressing the
19 National Marine Fisheries? And I'm just
20 throwing that out to any of the federal types
21 because I don't know.

22 ADMIRAL GLANG: So in the process

1 of developing your letter to the
2 administrator, what you found the last time
3 was to try and boil your points to the
4 administration down so they are, I don't want
5 to say minimum but so that they are easily
6 absorbed. So there's going to be an iteration
7 here when you develop the letter and how much
8 do you want to be telling the administration,
9 number one. Number two, if there is room for
10 this, you could certainly talk about what you
11 heard at the meeting. So this kind of thing
12 would be relevant to describe to the
13 administrator here are the kinds of issues we
14 heard about. So I wouldn't discourage you
15 from mentioning it but I would ask that you
16 kind of look overall, how much are we telling
17 the administration. If you feel this is
18 important then you make room for it. But be
19 sure to describe the issue as fully as you
20 can. That may require going back to the
21 notes. That would be my suggestion is you
22 could certainly talk about the kinds of things

1 you heard. There were lots of things we've
2 heard that are sort of outside the domain of
3 hydrography, charting and geodesy but
4 nevertheless important to the region.

5 MEMBER HANSON: I was just going
6 to follow up on that because it is exactly,
7 that's why we need that shallow water data.
8 Decisions are being made on a lot of issues
9 besides just depth and transit. It's the
10 coastal restoration, whether its NMFS or Fish
11 and Wildlife or state-level organizations.
12 They are all making big decisions on
13 questionable data.

14 MEMBER FIELDS: Matt, I think that
15 what Bill just said could be a way of
16 incorporating that into the letter as things
17 that we heard to support the shallow-water
18 concerns.

19 MEMBER HANSON: That's another
20 question. The letter that we write,
21 recommendations, is that or can that go to the
22 state as well? The reason I say that is

1 because the state is going to be a major
2 stakeholder when the funding comes. That's
3 going to be perhaps a customer or partner in
4 a lot of these issues.

5 CHAIR WELLSLAGER: I was looking at
6 my general counsel down there and to be honest
7 with you I don't see any reason why that
8 really couldn't be. I could cc this letter
9 while its going to NOAA administration and
10 specific addressees there. As a matter of
11 fact I think I did send a letter of
12 recommendation to a couple of individuals with
13 the State of Alaska with the last one. So,
14 coming to Louisiana shouldn't be a problem.

15 VICE CHAIR PERKINS: By definition,
16 the letter's a matter of public record and it
17 gets posted on the HSRB website so further
18 distribution of it shouldn't be an issue.

19 CHAIR WELLSLAGER: Right. Good
20 suggestion. Thank you, Ken. Well, okay. So
21 we've had three different reports and I think
22 all three reports in a way reiterate many

1 things that we've had in the past but still
2 need to be addressed. And I will throw the
3 ball out to the committee now. What should we
4 as a group, now that we've heard
5 recommendations from the three different
6 breakout committees, what as a group do we
7 feel as -- what do we as a group feel are
8 important points that need to be brought to
9 the attention of the administrator? And I'll
10 start with Admiral Barbor.

11 MEMBER BARBOR: I think -- again,
12 picking up on what I've heard in at least two
13 if not all three groups is this IOCM issue.
14 It is broader than navigation hydrography. It
15 is integrated ocean and coastal mapping. It
16 impacts these shallow areas and it is, does
17 fall within our remit I believe and if that
18 needs to be a vibrant vital aspect of this
19 branch of NOAA and plays an important role as
20 RESTORE Act money starts coming in hopefully
21 to observe, monitor and map the near-shore
22 environment. I think IOCM could be a very

1 pivotal connecting thing between all three of
2 our groups.

3 MEMBER MILLER: It could be part of
4 IOCM. I totally second that. I think IOCM
5 has been a little bit less active than might
6 have been hoped but if we can get behind
7 saying we think it is important, particularly
8 for the shallow water issue because its clear
9 that it's never going to be on coast survey's
10 ten most wanted list. I mean its not in the
11 priority list at this point. But I think a
12 second issue that's very related is just like
13 we heard in Alaska and every place else is
14 data centralization. You know, having the
15 ability to know who's collecting data, find
16 the data and get it out. Perhaps we want to
17 make a recommendation that NOAA consider
18 regional data managers or that it really, from
19 my experience at Hawaii, data management
20 really is on a regional basis almost. And not
21 that the role of NGDC or any of the other
22 elements but having someone in a region that

1 knows all those databases, knows how to use
2 them, knows how we get to the data that you
3 need, is really important. So, I would say
4 sort of data centralization or integration,
5 whatever you want to call it.

6 CHAIR WELLSLAGER: We were
7 involved with that conversation. I know of at
8 least one, possibly two coastal service
9 centers. Is there a coastal service center in
10 the Gulf area? Do you know? The Charleston
11 one is five states and I don't think it is
12 involved in any part. Gary, do you know if
13 there is anything like a coastal service
14 center, a data warehousing or clearinghouse?

15 MEMBER JEFFRESS: Our organization
16 is a member of the Gulf Coast Ocean Observing
17 System's Regional Association which is set up
18 under IU. We've gone through a big exercise
19 in data warehousing physical parameters
20 associated with ocean observing systems around
21 the Gulf. They are just starting into water
22 quality. But that's an initiative under IU

1 and not coastal services.

2 CHAIR WELLSLAGER: Right. Go on,
3 Jon, for the record.

4 MR. DASLER: I just wanted to point
5 out Todd Davison from Coastal Services Center
6 is at Stennis. It is more of an outreach but
7 there's no data repository there. It is more
8 of an outreach effort.

9 CHAIR WELLSLAGER: Are there plans,
10 do you know, at the Stennis location for
11 something like that? Kim?

12 MEMBER BARBOR: They've got the
13 national coastal data. NCDDC, yes. So data
14 development center, which is meant to be not
15 necessarily repository but a funnel to the
16 appropriate repositories and data analysis and
17 data formatting sort of thing. So, that is
18 available and it's national, not regional, but
19 clearly it has a regional flavor to it. I
20 think those sorts of issues -- you've got to
21 have some sort of meta-data, easy
22 accessibility to what's available.

1 CHAIR WELLSLAGER: So we have IOCM
2 and shallow water mapping issues which yes, I
3 agree, is very important data centralization.
4 With geospatial I think we can collectively
5 agree that elevations are important and a
6 geoid model as created by GRAV-D will be good,
7 but in the interim creating data copies that
8 would be available for the users to work with
9 would be one. And general continued education
10 and outreach through the national Geodetic
11 surveys, height modernization program and any
12 other professional organization that would be
13 holding conferences would be something else.
14 Am I right?

15 ADMIRAL GLANG: I want to be a
16 little bit more provocative and got back to
17 the IOCM issue because IOCM is really a term
18 to describe a way of thinking. It is about
19 integrating efforts across multiple agencies,
20 multiple mapping entities in our case, in
21 particular, so that you can leverage
22 partnerships in each other's mapping efforts.

1 So you are going to have to be a little bit
2 more specific about how you see IOCM applying
3 here. I think it's fair for the panel to turn
4 around and ask questions of NOAA in order to
5 better understand how IOCM may or may not work
6 or be applicable here. So that's something
7 else to think about. You could do that in a
8 separate letter. Certainly the other FACAs
9 have done that. We have an IOCM program
10 coordinator. We have an IOCM effort. It's
11 not funded. We take it out of our base. It
12 is essentially a massive communications effort
13 that's leading towards developing a lot of
14 interagency relationships. They have produced
15 an IOCM mapping standard that does exist, sort
16 of the next piece of that may be to socialize
17 that better. Most of the IOCM efforts has
18 been directed at the federal partners because
19 I think that's the way the legislation reads.
20 The opportunity to engage with state partners
21 on mapping issues. In particular, sea floor
22 mapping like what you are talking about here.

1 We have a few really good examples. The most
2 recent one is the Long Island Sound project
3 that's been underway with the states of
4 Connecticut and New York. So that's a really
5 interesting project that we could provide you
6 some background on. Not so recent now was the
7 successful project with the State of
8 California that resulted in a lot of mapping
9 work getting done in the state waters of
10 California through Fugro. So I think we need
11 to nail, we need to sharpen our focus a little
12 bit on what we mean by IOCM and how that might
13 apply. We don't have the ability to flex in
14 a massive way and engage states broadly. So
15 we probably need to think about it a little
16 bit more and it's fair to form that in a
17 series, as a series of questions if you will,
18 so we can better refine what it is we are
19 talking about here. That is my observation.

20 MEMBER BARBOR: Well, let me try to
21 focus. Assuming, and I think it's a fair
22 assumption, that RESTORE does come to fruition

1 and somewhere in the ten to 20 billion dollar
2 range. Each of these five Gulf coastal states
3 will have some, two to five million dollars a
4 year for observing, monitoring and mapping
5 their coastal environment. That sounds like
6 a IOCM should be focused and ready to respond
7 to or engage in that group of desperate
8 entities that are going to go out and try to
9 do something with that sort of money.

10 ADMIRAL GLANG: Do you seek,
11 Admiral Barbor, an effort where the five
12 states perhaps would coordinate on their state
13 mapping needs? Will it be state by state?
14 For us, it's important to understand what is
15 the requirement and how do our resources apply
16 to those requirements? I mean our primary
17 focus is safety of navigation, and we don't
18 have enough beams to paint outside those
19 lines. So that's a real challenge for us.
20 What we are in a position to do, like we did
21 with California and Long Island Sound, is
22 facilitate partnerships where you can leverage

1 each other's dollars and the different
2 partners work to achieve what they do either
3 by mandate or what they can do, what they need
4 to do to achieve their science. It is a big
5 collaboration, if you will. So, who takes the
6 lead in organizing something like that?

7 MEMBER BARBOR: And maybe, she is
8 busy writing. I think the key here and again,
9 it comes into IOCM framework, there are going
10 to be people out there that are going to say
11 the most important thing I can do is go out
12 and map the oyster reefs. Someone else is
13 going to go out and say the most important
14 thing I need is to get some level of
15 bathymetry so I can do boundary conditions for
16 an inundation model. So you are going to have
17 a number of different approaches that will
18 involve this observing, monitoring, and
19 mapping this environment down here and it is
20 going to be different by state. It will be,
21 they've got a master plan that they are
22 working to. They may be able to talk very

1 specifically on how that first two million
2 dollars they get is going to be spent on
3 whatever level. But I think it's the sort of
4 thing that if only in terms of an outreach,
5 that there is that presence there, so those
6 data that are collected are collected in the
7 best manner and in the most readily useful way
8 to a number of projects, be it the safety of
9 navigation or modeling or habitat. This is
10 going to happen, it's probably potentially
11 going to happen sooner rather than later, and
12 I think it has the real potential for going in
13 all directions unless there is a fair amount
14 of engagement.

15 MS. PARSONS RICHARD: My name is
16 Carol Parsons Richards. I am with Coastal
17 Protection and Restoration Authority. You met
18 my boss. Garrett's my boss. I just wanted to
19 mention I agree with you. The states are
20 going to have different needs and different
21 priorities. But I think that there is a
22 really good coordinating mechanism through the

1 Gulf of Mexico Alliance that NOAA is involved
2 in. The states are really involved in that.
3 It's been an absolutely essential tool for the
4 five Gulf states to communicate with each
5 other. I think the primary, I've been
6 involved in it for about three years and I
7 think the biggest positive that I see out of
8 that organization is that it has really
9 allowed the different states to reduce
10 duplication and leverage on things. The
11 leveraging and the reduction of duplication
12 has been amazing. And as a state personnel
13 you don't often get paid to learn about other
14 states and who your counterparts are in other
15 states. That organization has allowed us to
16 do that. So, that might just be one
17 mechanism. I know with a lot of the other oil
18 spill funds, the Gulf of Mexico Alliance has
19 planned on being heavily involved. So that
20 might just be some organization we could tap
21 into that I think would help.

22 CHAIR WELLSLAGER: Don't go away.

1 MS. PARSONS RICHARDS: Okay.

2 CHAIR WELLSLAGER: Do you see NOAA
3 was involved with that and if so who with NOAA
4 or what part of NOAA? Do you know?

5 MS. PARSONS RICHARDS: Yes, I'm
6 sure Tim could answer that.

7 MR. OSBORN: I apologize. A lot of
8 it is OCRM, coastal zone management. Some is
9 actually NOAA headquarters and the GOMA, G-O-
10 M-A. I can get you the roster of the NOAA
11 attendees. I think, to verify or to confirm,
12 its really been one of the few planning
13 entities where Gulf states from Florida to
14 Texas actually have in an organized way met
15 and actually talked about similar issues, plus
16 also issues that are particular to their
17 state, to make decisions on broad policy
18 issues. I think this is obviously going to an
19 operational thing which will be new ground but
20 at least it has got the people at the table.

21 CHAIR WELLSLAGER: Go.

22 ADMIRAL GLANG: I think there's a

1 really good recommendation being formed here
2 that the panel could make to NOAA. It is just
3 a matter of crafting the language. When the
4 panel makes recommendations to NOAA what I
5 like to know is, how can I respond to this
6 recommendation and how can I, for those that
7 I'm responsible for, how can I show progress?
8 How can I prove to the panel that we've made
9 progress on it? So, if the panel's
10 recommendation were for instance to be that
11 NOAA's IOCM program work with the Gulf of
12 Mexico Alliance, and I'm just making this up
13 off the top of my head, to understand regional
14 shallow water mapping requirements. Then
15 somebody wordsmith that a little bit further.
16 That's an actionable recommendation that we
17 would be happy to work on.

18 MEMBER MILLER: Associated with
19 that could it be, I mean that's very specific
20 and I think excellent. But you were talking
21 about IOCM being on a federal or a national
22 level. Does IOCM need to consider having

1 perhaps regional bodies like the California,
2 Oregon, Washington Alliance, like the Long
3 Island Sound Alliance etc. or the Gulf of
4 Mexico? Some component of IOCM focus on a
5 regional level? I don't know.

6 ADMIRAL GLANG: At Coast Survey, we
7 have two and a half people devoted to IOCM.
8 So I would be happy to have an IOCM
9 presentation for you all for the next meeting
10 so you get a feel for the range of issues and
11 the size of the tasks they have before them.
12 There is an awful lot of interagency stuff.
13 There's a heavy emphasis on the variety of
14 arctic focus activities where IOCM
15 participates. They've just got a lot going
16 on. I think that's worth communicating to the
17 panel and kind of take it from there.

18 CHAIR WELLSLAGER: Okay. What
19 we've got now and I think with what we can put
20 together as the panel for writing this after
21 the fact, wordsmithing can be done and we'll
22 have I think a good letter of recommendation

1 to be going out. Let's see, what else.

2 David, please.

3 MEMBER JAY: One issue that came up
4 during our session that hasn't appeared yet
5 here. The gentleman from the VTS system
6 mentioned that they would like to go from the
7 traditional way the river was run in terms of
8 elevations, this many feet at the Carrollton
9 gauge we've got to do this, to, the current is
10 thus and so here. That means we need to
11 change our operation, making the significant
12 point that the currents really matter to the
13 vessel operators and the inference from the
14 elevation is sort of an indirect one. The air
15 gap data helped. They would like more
16 sensors, which is an issue that we've
17 discussed. But the other piece of that he was
18 saying was, well, you know, we don't
19 understand quite how the Doppler profiler data
20 that we get here relates to the currents out
21 in the channel or a mile downstream or
22 wherever. This of course is a modeling issue.

1 We can't really tell people that well, those
2 people need to talk to each other more. It
3 does seem to be that it is often a problem
4 that IOS will eventually get to modeling some
5 areas that PORTS won't. PORTS and IOS can
6 work together. It seems like PORTS and IOS
7 cooperation is a national issue. We've got
8 this particular flavor of it today. I'm not
9 quite sure what the actionable item is here,
10 but it seems like a lot of places disconnect
11 here. I know Rich is working hard to address
12 this but it's not simple. It does seem
13 important.

14 CHAIR WELLSLAGER: And I understand
15 that. I also think when we are talking about
16 PORTS yesterday. In the planning stages for
17 that specific things are addressed as far as
18 the PORTS needs. Correct, Rich? And what
19 people are interested in at that location.
20 Would something like a fog sensor or -- and
21 you may have said this yesterday. If you did,
22 I apologize, but you will be saying it again.

1 Can something like an air gap sensor be tied
2 in to a PORTS system?

3 MR. EDWING: Right now when we add
4 an air gap sensor it is part of PORTS. That's
5 the only way we do them now.

6 CHAIR WELLSLAGER: With respect to
7 the fog and visibility, that was another
8 request that was made.

9 MR. EDWING: Right, same thing. So
10 I mean we heard a lot of request for
11 additional sensors in the breakout session
12 today as well as the last couple of days.
13 It's easy to do. There just needs to be the
14 funding there to do that. PORTS is a menu-
15 driven system. There's a suite of sensors you
16 can choose from to meet your local needs but
17 there has to be the funding to establish them
18 and maintain them.

19 CHAIR WELLSLAGER: So I guess
20 David, in answer to your statement, that's
21 pretty much something that's already
22 available. So I don't know if it would

1 actually be something we would want to put
2 into the letter of recommendation since --

3 MEMBER JAY: David Jay. This is
4 not about, just about sensors. It is about
5 sensors and models. Both on the level that
6 the users need to understand how they work
7 together but also they can't understand that
8 if there isn't a model in place at the
9 particular location. That gets to IOS and
10 PORTS coordination because PORTS isn't going
11 to provide all the models.

12 CHAIR WELLSLAGER: Right. So I
13 guess I'm having a hard time getting around
14 what it was that you were saying. Was the
15 recommendation that models be created based on
16 data that then could be used for ship port
17 navigation?

18 MEMBER JAY: Well, the PORTS and
19 IOS need to coordinate better to meet the
20 needs of all of the users, navigation being
21 one of them. It's not a one-way problem. IOS
22 is not all that organized in a lot of places

1 and is underfunded as it PORTS. Everybody is
2 underfunded here. There doesn't appear to be
3 a lot of communication either.

4 ADMIRAL GLANG: Mr. Chair, I had
5 another thought on the modeling piece because
6 one of the things that struck me, and I've had
7 this idea in the past. I really don't
8 understand well enough all the different
9 models and how they are used and where people
10 fit in. But I do know that coast survey does
11 have a significant modeling effort. We
12 operationalize the northern Gulf of Mexico,
13 the operational forecast system is one
14 example. I know that within NOAA there is,
15 there are a variety of modeling efforts that
16 are coordinated through I think it's called
17 the coastal storm surge modeling effort. But
18 I would propose that we provide the panel with
19 some material on that as a starting point.

20 CHAIR WELLSLAGER: Should that be
21 addressed in a letter to you for distribution
22 coming from the panel so that we could have

1 that information distributed? Me writing a
2 letter to you saying, would you please send
3 out?

4 MEMBER JAY: If we are in DC, we
5 could perhaps have a presentation from the
6 people at the lab that do the modeling.

7 ADMIRAL GLANG: I think the most
8 constructive, the best idea would be perhaps
9 to have a briefing in DC at the next meeting
10 because I could bring in the subject matter
11 experts. I could get you some background
12 material in the meantime. I'm just not sure
13 how well that would work as a stand-alone
14 product. I'm pretty sure we could get a
15 really good briefing from our modeling folks
16 because they do coordinate with coops and
17 especially with the Weather Service as well as
18 with the Navy in some of their modeling
19 effort.

20 CHAIR WELLSLAGER: Okay. Scott?

21 VICE CHAIR PERKINS: Admiral, would
22 it be possible to do a webinar or a WebEx in

1 advance of the briefing so that we can maybe
2 climb a portion of the learning curve? We
3 might be able to be a bit more interactive and
4 ask better questions and get more from the
5 live briefing if we have a primer.

6 ADMIRAL GLANG: I agree, Scott. I
7 think that's a great idea. That's a thought
8 I had last night as well. We ought to be
9 looking at improving our intercessional
10 communications and a webinar maybe a way to do
11 that. There is a process we have to go
12 through, of course, but if we convene the full
13 panel we have to go through an FRN but it
14 certainly would be a cheap way to get a
15 technical brief to the panel, it would be a
16 one hour thing.

17 CHAIR WELLSLAGER: Kathy.

18 MS. WATSON: Admiral, as long it's
19 considered administrative which is discussing
20 like topical agenda issues, things like that,
21 where you are not seeking public comment then
22 you do not have to do it FRN. So we can do a

1 WebEx meeting.

2 ADMIRAL GLANG: Okay. So let's do
3 that. Let's take that for an action.

4 CHAIR WELLSLAGER: Sounds like a
5 good idea.

6 ADMIRAL GLANG: You want to restate
7 the action?

8 CHAIR WELLSLAGER: Scott, why don't
9 you restate the action.

10 VICE CHAIR PERKINS: This is Scott.
11 The action will be to conduct a WebEx type
12 seminar to help the panel understand the storm
13 surge model in advance of the live briefing at
14 our next regular scheduled meeting.

15 ADMIRAL GLANG: Okay, we can do
16 that.

17 MS. WATSON: Got it.

18 CHAIR WELLSLAGER: Anything else?
19 Tim, are you getting ready to make a
20 presentation?

21 MR. OSBORN: No, I was actually
22 doing as I was told by Kathy and saving

1 everything to a flash drive.

2 CHAIR WELLSLAGER: Ah, very good.

3 Well, it was brought to my attention that
4 since we don't have a public discussion period
5 that as things get wrapped up we might
6 actually be able to close early. So I'm
7 sorely tempted to say if we want to skip our
8 break right now and we are running very much
9 ahead of schedule, we could do that and the
10 idea would be to discuss what we've got for --
11 I guess we do have a public comment period.

12 I missed that. My bad. I misunderstood you.

13 MS. WATSON: You do have to offer
14 a public comment period, but you can move the
15 time up for that and ask anyone now, 15
16 minutes.

17 CHAIR WELLSLAGER: Okay. So, I
18 need to make, in 15 minutes we would have
19 something like that. Is that what you are
20 saying?

21 MS. WATSON: No. All you have to
22 do is just ask if you want to do it now,

1 public comment period, there's 15 minutes
2 available.

3 CHAIR WELLSLAGER: With our public
4 available right now, would anyone like to
5 address the panel and discuss anything? No,
6 very good. Okay.

7 MS. WATSON: You can close it.

8 CHAIR WELLSLAGER: The ad hoc
9 committee for the last couple of days we have
10 not actually met about what was going to be
11 discussed from this meeting. This was going
12 to be something that was going to be done
13 after we discussed from the breakout sessions
14 what was done. So there really hasn't been a
15 chance to put together any thoughts for paper
16 yet. But thank you for bringing that up. But
17 that does bring up another session. There was
18 a meeting that was held this morning and
19 Frank, would you be kind enough to enlighten
20 us on some of the thoughts that came up for
21 what we are going to discuss with our spring
22 meeting?

1 MEMBER KUDRNA: Yes. For the
2 spring meeting, we are talking about
3 Washington. We are talking about inviting the
4 House PORTS Committee, we are talking about
5 possibly connecting that to some meetings
6 maybe the following day with the chairman and
7 vice-chairman with OMB and any other locations
8 that are appropriate. We bring folks in and
9 focus on the Washington scene during that
10 meeting. In preparation for that, we talked
11 about a position paper of our recommendations
12 and even though I don't remember exactly what
13 I said yesterday, but the theme was to focus
14 on jobs, the economy, post-Panamax, vessels
15 and northwest passage and the kinds of needs
16 that are going to occur. Then tying that to
17 our recent top list of items and restructuring
18 that in a kind of simple clear-cut form. We
19 had a brief discussion on that this morning.
20 I am going to take a first cut at that and
21 route it back to our committee and then to the
22 chairman for the full panel shortly.

1 Hopefully by e-mails we will be able to clean
2 that up to something we'll have available for
3 that meeting. Scott, do you want to add
4 anything regarding the meeting to your
5 discussions?

6 VICE CHAIR PERKINS: No, just
7 coincidentally while you were reporting I did
8 get communication from the NGAC on their
9 meeting date. So they have meeting dates in
10 March and in May. So they plan to put their
11 calendar out so that the concept of trying to
12 coordinate our next meeting with someone
13 else's meeting. We are gathering input on
14 that in the last 24 hours. So, we'll
15 distribute something back out after we get
16 those target dates and then try to identify
17 which makes the most sense.

18 CHAIR WELLSLAGER: And help me out
19 for a little bit. There was talk as I
20 remember about having two different locations
21 for the meetings. We were going to have it at
22 one location on day one, was it say the

1 Commerce Building?

2 VICE CHAIR PERKINS: Thank you for
3 the reminder on that. We discussed a two day
4 meeting. Day one being at NOAA, at Commerce,
5 14th and Constitution. And then day two being
6 in the Rayburn Building in one of the public
7 meeting rooms available in Rayburn. That way
8 depending on who we get identified as speakers
9 and topics. So using IOCM for example, if we
10 have an IOCM briefing then it may make sense
11 to have that on day two at Rayburn where we
12 can invite the appropriate staffers to sit in.

13 CHAIR WELLSLAGER: There was also
14 discussion about the timing of the meeting.
15 I remember when we first started talking about
16 this we were looking at the first week in
17 March. And one point was brought to note that
18 needs to be addressed by this full panel, and
19 that was in the timing of this as is stated in
20 the bylaws for the HSRP, you can have two
21 meetings. Well, for the 2013 fiscal year this
22 is our first meeting. If we had our next one

1 in March, say the first week in March, that's
2 four months away. That would be very early on
3 and we would not be able to have our next
4 meeting until the start of the next fiscal
5 year which would be 2014 which would be after
6 October 1 and with the start of the year it's
7 not going to happen until probably the first,
8 at the earliest to my estimation the first
9 week in November. So if we go March, April,
10 May, June, July, August, September, October,
11 November, we are talking eight months between
12 the first and the second meeting. That's
13 actually quite a bit of time space. I think
14 momentum would be lost. We are slowly
15 building ad hoc committees, program
16 committees, executive committees. I don't
17 really think that would be something we should
18 do. Because of that, my thoughts were to look
19 at trying to schedule this a little bit later
20 either in the month of March or preferably
21 some time in April. It would be interesting,
22 no, not interesting, it would be relevant and

1 required that Congress still be in session but
2 -- Scott, was it not something that you
3 mentioned, that there is going to be a certain
4 period of time when everybody is up there at
5 budget time?

6 VICE CHAIR PERKINS: March is
7 typically the busiest month for visits to the
8 Hill. So going back beyond March may be
9 beneficial just so that we don't lost in the
10 noise of 20 plus visitors a day into each
11 congressional office. The NGAC, so the
12 National Geospatial Advisory Committee is
13 targeted May 29 and 30 for their meeting
14 dates. That's right after the holiday. So
15 that would put us pretty close on that six
16 month schedule. Yes, Jeff.

17 MEMBER CAROTHERS: I seem to
18 remember we talked about maybe meeting when
19 Congress is not in session so we would have
20 more access to the staffers, they would have
21 more time to meet with us.

22 VICE CHAIR PERKINS: Admiral Fields

1 did put that on the table. There's a pro and
2 con to that. I would say meeting concurrently
3 with another relevant FACA maybe is more
4 important than the congressional schedule.
5 Because staffers will be available whether the
6 Congress is back in the district or not. Take
7 that as given. May 29 to 30, though, that's
8 right after the Memorial Day holiday so you
9 can pretty reasonably predict Congress will
10 not be in session and will be back in home
11 districts that week.

12 CHAIR WELLSLAGER: In addition to
13 that we have in the past discussed locations
14 for the meetings that would be following the
15 Spring meeting and it would be thought
16 provoking to hear from the panel where they
17 collectively should think or would think would
18 be a good possible location. Unfortunately I
19 don't have a digital copy of this so that we
20 could put it up onto the screen. But going
21 backwards from May of 2012, Anchorage was our
22 last meeting. Norfolk, Virginia, Hawaii,

1 Portland, Oregon, Providence, Rhode Island.
2 So we are back at May around 2010 in
3 Providence, Rhode Island. We had the meeting
4 in Duluth, Great Lakes, September, Baltimore,
5 which was April of 2009, Tampa, which was a
6 Gulf Coast meeting which we are now having
7 here. So we've covered the Gulf Coast I think
8 quite effectively. The West Coast and San
9 Francisco we had a July 2008 meeting. Miami
10 2008 in March. DC was in 2007. Alaska was
11 back in 2006 and I'm not sure where it was in
12 Alaska, probably Anchorage again. Durham, New
13 Hampshire, San Diego was April 2005. Norfolk
14 was November 2004. We've had one in Norfolk
15 since. New York Harbor and Washington DC. It
16 would be I think very interesting, possibly
17 even enlightening, to have something up in the
18 New York Harbor area with the effects of Sandy
19 as it has come through. It wouldn't
20 necessarily have to be in New York. It could
21 be at Sandy Hook or some of the other areas,
22 if they had the facilities there to be able to

1 do something. New York Harbor would be the
2 next possible location. It is a shame the
3 Coast Guard shut down the facilities at
4 Governor's Island because that would have been
5 the perfect spot to have something, the
6 sanctuary outside of the city that never
7 sleeps. That was one thought that came to
8 mind. In reviewing this another thought that
9 I had is I don't see anything in the Southeast
10 United States. Charleston, Savannah, those
11 areas. It's been a while since going south of
12 Norfolk, Virginia. And then Miami down in the
13 far south which was in 2008. I don't think
14 we've had anything.

15 MS. WATSON: Excuse me, Chair.

16 CHAIR WELLSLAGER: There we go,
17 thank you. There's our list of the meeting
18 locations. So one possibility I think would
19 be something like the New York City area. But
20 I will open the floor up to other locations
21 that the panel thinks would be a good place to
22 consider for the Fall meeting.

1 MEMBER CAROTHERS: Jeff Carothers.
2 I think New York would be a great place after
3 Sandy. That would give enough time to kind of
4 rebuild and stuff and see what products, you
5 know, if NOAA was up there, Johnny on the spot
6 to see if that information was useful a year
7 later.

8 CHAIR WELLSLAGER: Carol.

9 MEMBER LOCKHART: I just wanted to
10 second that opinion. I agree that New York
11 would be an appropriate place.

12 CHAIR WELLSLAGER: Bill.

13 MEMBER HANSON: If I could throw an
14 alternate in. Next Fall there will be a major
15 deepening project underway in Miami if you
16 want to talk about Panama Canal impacts.

17 CHAIR WELLSLAGER: Talk about what?

18 MEMBER HANSON: Panama Canal
19 impacts, Charleston, Jacksonville, Savannah
20 are all looking at deepening as well. So if
21 you thought about the southeast. New York is
22 also a wonderful place because they have

1 deepened, completed with their deepening
2 project and perhaps in the throes of raising
3 their bridge, the Bayonne Bridge, to actually
4 be able to use the draft.

5 CHAIR WELLSLAGER: And Frank, I'm
6 not discounting the idea of The Great Lakes
7 either. If you were going to be able to look
8 into something like that, that would still be
9 good information to have.

10 MEMBER KUDRNA: It may be different
11 for this year because generally those are
12 summer cruises. So if we are talking about a
13 Fall meeting that probably is not a good one
14 for the next round.

15 CHAIR WELLSLAGER: Okay. And
16 Admiral Glang was actually talking about us
17 going to Quebec, wasn't he?

18 ADMIRAL GLANG: I don't think so.

19 CHAIR WELLSLAGER: Not seriously.
20 I did want to point out that timing wise, the
21 second meeting for fiscal year 2013 will be in
22 -- that's our DC area meeting. So this next

1 meeting that you are talking about, the Fall
2 meeting, will actually fall or be scheduled
3 for October/November time frame. So keep that
4 in mind. We are only able to finance two of
5 these panel meetings per year.

6 MEMBER JAY: David Jay. It doesn't
7 look like we've been to LA/Santa Monica and
8 that's certainly a major commercial harbor.
9 Also probably effected by Panamax traffic,
10 post-Panamax traffic.

11 CHAIR WELLSLAGER: You're saying
12 they don't want to see the Panamax.

13 MEMBER HANSON: They want to talk
14 about rail and land sites.

15 CHAIR WELLSLAGER: Oh yes, New
16 Orleans, thank you.

17 ADMIRAL GLANG: Mr. Chair, I would
18 propose that panel members agree to sort of
19 evaluate and brainstorm the Fall meeting
20 location by correspondence, take that on as an
21 action. Pick a date by when we need to have
22 an answer. Kathy, when do you usually start

1 your planning, how far in advance?

2 MS. WATSON: Well, it's best to
3 have these every six months apart for the
4 acquisition process and the timing for the
5 funding, it is also best to do it in late
6 April/May or any time after mid-October to
7 November.

8 CHAIR WELLSLAGER: Okay, so if I
9 just heard you correctly and if this is
10 November now then if we do late April/early
11 May that would probably be the best time for
12 getting things together for our Spring meeting
13 on the hill?

14 MS. WATSON: Correct, but I need
15 planning information months in advance. I
16 need decisions of location, where you are
17 going to be, kind of what you are going to do.
18 I have to submit all this acquisition
19 information at least 60 days, sometimes 90
20 days in advance. So that's three months for
21 an acquisition to get approved.

22 VICE CHAIR PERKINS: This is Scott.

1 I just got another e-mail. The IOOS Advisory
2 Committee is planning to hold a Summer 2013
3 meeting in the Great Lakes Region. They
4 haven't set a date yet. So, we are already
5 looking beyond that into 2014, but I'll share
6 that information when I get the dates because
7 maybe Frank and I can go on a Great Lakes
8 cruise with them.

9 ADMIRAL GLANG: Mr. Chair.

10 VICE CHAIR PERKINS: With fishing
11 poles.

12 ADMIRAL GLANG: Let me point out if
13 we wanted to interact with the IOOS FACA, it
14 doesn't necessarily need to be the full FACA
15 perhaps. There are some FACA members who are
16 in the DC area. You may want to consider
17 extending an invitation to whoever is
18 available from that FACA for the Spring
19 meeting. Just an idea.

20 VICE CHAIR PERKINS: Jessica, their
21 assistant DFO, has communicated they are
22 definitely interested in coordinating with us

1 and not stepping on top of toes for booking
2 over top of each other. I think we have a
3 line of communication open there now.

4 MEMBER KUDRNA: I was going to
5 suggest Rick Spinrad as the chair of it. I
6 think he is the guy you would like to have
7 there and even if he had to plug in by phone
8 or some other sort of connection method. I
9 think he would be a really good one. Mr.
10 Chairman, can I make a motion. I think we
11 should get a, we've selected Washington. We
12 are going to let Kathy and Scott identify some
13 optional dates, do a Doodle poll, lock up
14 dates and do the same for a Fall meeting and
15 then do collectively with that a survey for a
16 location for the Fall meeting also. So,
17 information and we lock dates and lock a
18 second location pretty quickly.

19 CHAIR WELLSLAGER: I think that's
20 a very good idea. Kathy, do you like that?

21 MS. WATSON: Yes.

22 CHAIR WELLSLAGER: Say it again.

1 ADMIRAL GLANG: A doodle poll.

2 Kathy have you used a doodle poll?

3 MS. WATSON: I'm sorry?

4 ADMIRAL GLANG: Have you used a
5 doodle poll feature in Google?

6 MS. WATSON: No.

7 MEMBER KUDRNA: It's about 12 foot
8 high and it measures water elevations.

9 [Laughter]

10 MS. WATSON: You can direct that
11 Rich Edwing, water levels.

12 CHAIR WELLSLAGER: Okay. That's
13 been - Jon.

14 CAPT. SWALLOW: I was just going to
15 say, on the nav manager's side, we've kicked
16 around like where HSRPs would be. So if it
17 comes down to like a couple of places, I can
18 have them come up with a list of like issues
19 and stuff. Like Savannah came up from one of
20 our guys thought it would be good because the
21 Panamax ship is coming in there. Some PORTS
22 issues in Georgia, close to Charleston because

1 of CFC. I can have the guys gather some of
2 that information for a couple of PORTS if you
3 like and send it around to help the decision
4 making. If a couple of people are thinking
5 about it rather than holding it down to that.

6 CHAIR WELLSLAGER: Okay. Yes, that
7 would be good. I think two sides, I would say
8 Savannah and New York Harbor but I feel pretty
9 sure that New York is going to be the location
10 based on what we have seen happen and nav
11 response team is going up and doing the work
12 and what we've got. But that would be very
13 helpful to look at. Thank you.

14 Are there any other topics, issues,
15 thoughts that we would like to address or you
16 would like to address at this time? Mr. DFO?
17 Rich? Juliana? All right then. I thank you
18 very much for a very productive meeting. This
19 has been interesting and we've got further
20 ideas that we can work on and direction that
21 we've got. It is beneficial. I will await to
22 see some things from Kathy about the dates,

1 putting together the survey to what the dates
2 we can meet at and locations and forward
3 information from you, Scott, about the FACAs
4 and the dates. If that's fine, then, I would
5 offer the motion that we adjourn, but I will
6 need a second.

7 MEMBER CAROTHERS: One quick
8 question before we adjourn. Frank, you are
9 going to put together something for the next
10 meeting and then we will pass it around?

11 MEMBER KUDRNA: Yes.

12 MEMBER CAROTHERS: Between our
13 group this morning?

14 MEMBER KUDRNA: That's going to go
15 back to the committee. We will do an edit and
16 get it to the full panel.

17 MEMBER CAROTHERS: Okay. Do we
18 need to do that quickly so that Kathy can
19 start making arrangements?

20 MEMBER KUDRNA: I will.

21 MEMBER CAROTHERS: Okay.

22 CHAIR WELLSLAGER: Okay, very good.

1 Thank you very much. I will say - Kathy.

2 MS. WATSON: Chair, I'd like to
3 come back and let you know. What I will do
4 when I get back to Coast Survey with our IT
5 for your working groups and your committees to
6 get a specific like group listserv so that all
7 of you can use that instead of sending
8 separate e-mails. Would that make it easier?

9 CHAIR WELLSLAGER: Yes.

10 MS. WATSON: Okay.

11 CHAIR WELLSLAGER: Thank you.

12 Meeting adjourned.

13 (Whereupon the above-entitled
14 meeting was adjourned at 2:44 p.m.)
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C E R T I F I C A T E

This is to certify that the foregoing transcript


In the matter of: Hydrographic Services
Review Panel

Before: DOC/NOAA

Date: 11-29-12

Place: New Orleans, LA

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