

Minutes
Inland Waterways Users Board
Meeting No. 77
December 2, 2015
St. Charles Convention Center
1 Convention Center Plaza
St. Charles, Missouri 63303

[Note: The following minutes of the Inland Waterways Users Board meeting No. 77 were approved and adopted as final at Inland Waterways Users Board meeting No. 78 held on April 1, 2016 in Pittsburgh, Pennsylvania.]

The following proceedings are of the Inland Waterways Users Board meeting held on the 2th day of December 2015, commencing at 9:00 a.m., at the St. Charles Convention Center, 1 Convention Center Plaza, St. Charles, Missouri, Mr. Martin T. Hettel, Chairman of the Inland Waterways Users Board presiding. Inland Waterways Users Board (Board) members present:

CHAIRMAN MARTIN T. HETTEL, American Electric Power (AEP) River Operations, LLC;

MR. CHARLES A. HAUN, JR., Parker Towing Company, Inc.;

MR. ROBERT J. INNIS, LafargeHolcim, Inc.

MR. G. SCOTT LEININGER, CGB Enterprises, Inc.;

MR. ROBERT R. McCOY, Amherst Madison, Inc.;

MR. DANIEL P. MECKLENBORG, Ingram Barge Company;

MR. MICHAEL T. SOMALES, Murray American Transportation, Inc.; and,

Board members not attending the meeting were: MR. DAVID CHOATE, Bruce Oakley Inc.; MR. MARK K. KNOY, American Commercial Lines, Inc.; MR. BRUCE REED, Tidewater Barge Lines, Inc.; and MR. WILLIAM M. WOODRUFF, Kirby Corporation.

Also present at the meeting were the following Federal Observers, designated by their respective agencies, as representatives:

MR. LOWRY A. CROOK, Principal Deputy Assistant Secretary of the Army for Civil Works, Washington, D.C.;

MR. GARY MAGNUSON, Senior Policy Advisor, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, Silver Spring, MD.;

MR. WILLIAM K. PAAPE, Director, Office of Gateways, Maritime Administration (MARAD), U.S. Department of Transportation, Washington, D.C.;

MR. NICHOLAS MARATHON, Transportation Economist, Agricultural Marketing Service, U.S. Department of Agriculture (USDA), Washington, D.C.

Official representatives of the Federal government responsible for the conduct of the meeting and providing administrative support of the Inland Waterways Users Board from the U.S. Army Corps of Engineers (USACE) were as follows:

MAJOR GENERAL DONALD “ED” JACKSON, Executive Director, Inland Waterways Users Board and Deputy Commanding General for Civil and Emergency Operations (DCG-CEO), U.S. Army Corps of Engineers, Washington, D.C.;

MR. MARK R. POINTON, Executive Secretary and Designated Federal Officer, Inland Waterways Users Board;

MR. KENNETH E. LICHTMAN, Executive Assistant and Alternate Designated Federal Officer, Inland Waterways Users Board.

Program speakers in scheduled order of appearance were as follows:

COLONEL ANTHONY P. MITCHELL, Commander, St. Louis District, U.S. Army Corps of Engineers, St. Louis, Missouri;

MAJOR GENERAL DONALD “ED” JACKSON, Executive Director, Inland Waterways Users Board and Deputy Commanding General for Civil and Emergency Operations (DCG-CEO), U.S. Army Corps of Engineers, Washington, D.C.;

MR. MARTIN T. HETTEL, Chairman, Inland Waterways Users Board;

DR. MARK F. SUDOL, Institute for Water Resources, U.S. Army Corps of Engineers, Alexandria, Virginia;

MR. JEFFREY A. MCKEE, Chief, Navigation Branch, Operations and Regulatory Division, Headquarters, U.S. Army Corps of Engineers, Washington, D.C.;

MR. MICHAEL G. FELDMANN, Chief, Project Management Branch, St. Louis District, U.S. Army Corps of Engineers, St. Louis, Missouri.

MR. JOSEPH W. ALDRIDGE, Inland Waterways Trust Fund Account Manager, Programs Integration Division, Headquarters, U.S. Army Corps of Engineers, Washington, D.C.,

MR. EDWARD E. BELK, Chief, Operations and Regulatory Division, Headquarters, U.S. Army Corps of Engineers, Washington, D.C.;

MR. DAVID F. DALE, Director of Programs, Great Lakes and Ohio River Division, U.S. Army Corps

of Engineers, Cincinnati, Ohio;

MR. JEFFREY A. McKEE, Chief, Navigation Branch, Operations and Regulatory Division, Headquarters, U.S. Army Corps of Engineers, Washington, D.C.;

Other individuals who provided additional information in response to questions raised by Board members during the meeting included the following:

Ms. JEANINE HOEY, Chief, Engineering and Construction Division, U.S. Army Corps of Engineers, Pittsburgh District, Pittsburgh, Pennsylvania.

MR. MICHAEL E. BRADEN, Chief, Olmsted Division, Louisville District, U.S. Army Corps of Engineers, Louisville, Kentucky.

There were no individuals who spoke during the public comment portion of the meeting:

PROCEEDINGS

MR. MARK R. POINTON: All right, everybody. Good morning. I'd like to welcome you to the 77th meeting of the Inland Waterways Users Board. We're here in the St. Louis area, actually St. Charles. We met in this area fairly recently. We were here in August 2012, so that was only a few years ago, three years ago. We didn't have a tour at that time. The last time we took a tour like we had yesterday was when we stayed in Quincy and that was in November of 2007 [Inland Waterways Users Board Meeting number 56, held on November 2, 2007 in Quincy, Illinois]. I thought it was a fabulous tour yesterday. The weather was great. There was a lot of high water at LaGrange [LaGrange Lock and Dam located at Illinois River mile 80.2 from its junction with the Mississippi River], but there was fabulous support provided by the professional staff at the lock. I want to give a shout-out to the St. Louis and the Rock Island District office staffs both at the district offices and to their lockmasters and other personnel on-site [at both LaGrange Lock and Dam and at Mississippi River Lock and Dam Number 25 at Winfield, Missouri]. It was a fabulous tour yesterday. We really appreciate that.

I would like to thank our sponsor for last night also, the *Waterways Journal*. We appreciate that little social gathering that we had last night. My name is Mark Pointon. I am the current Designated Federal Officer [DFO] of the Inland Waterways Users Board.

Before we start the meeting, I am obligated to read for the record that the Inland Waterways Users Board was created pursuant to Section 302 of the Water Resources Development Act of 1986. The Board provides the Secretary of the Army and the Congress with recommendations on funding levels and priorities for modernization of the inland waterways system. The Board is subject to the rules and regulations of the Federal Advisory Committee Act of 1972, as amended. This is a "Government in the Sunshine Act" meeting, and as such is open to the public.

The U.S. Army Corps of Engineers is the sponsor of the Board and provides for the Executive Director, the Executive Secretary, the DFO and all normal activities.

Currently no one has indicated that they wish to make a public comment. We will have a public

comment period at the end of the meeting. Anyone wishing to make a public comment, please see me during the break or when you get a free moment, come up and let me know.

The Pacific Northwest Waterways Association has provided a written statement for the record that has been provided to the Board members. There are some limited copies on the registration desk outside of the room and it was handed out around the table to the folks that are sitting at the table.

These proceedings are being recorded and a transcript will be made available shortly after the meeting.

I would now like to call on Major General Ed Jackson now. He is the Corps of Engineers' Deputy Commanding General for Civil and Emergency Operations. He joined us in Nashville [Inland Waterways Users Board Meeting number 76, held in Nashville, Tennessee on August 12, 2015] more as an observer. That was General Peabody's [Major General John W. Peabody (Ret.) former Deputy Commanding General for Civil and Emergency Operations, USACE] last function as the Deputy Commanding General and now General Jackson is here as the Deputy Commanding General.

So we welcome him to his first Users Board meeting. Thank you, sir, as the Executive Director. I would also call on General Jackson now to give the oath of office to Mr. Robert J. Innis, who is one of our new members of the Board.

MAJOR GENERAL DONALD E. JACKSON: Rob, will you join me, please. Raise your right hand. I, state your name, do solemnly swear that I will support and defend the Constitution of the United States against all enemies, foreign and domestic, that I will bear true faith and allegiance to the same, and that I take this obligation freely, without any mental reservation or purpose of evasion, so help me God.

MR. ROBERT J. INNIS: I do.

MAJOR GENERAL JACKSON: Congratulations.

MR. POINTON: Next on the program I'd like to call on Colonel Anthony Mitchell, who is the District Commander of the St. Louis District to provide a brief overview of the St. Louis District and we appreciate all of his staff and support setting this meeting up today. Thank you.

COLONEL ANTHONY P. MITCHELL: Good morning. Welcome to St. Louis and the 2015 Inland Waterways Users Board's meeting. I am Colonel Mitchell. I am the 51st Commander of the St. Louis District, United States Army Corps of Engineers, and I'm proud to be here this morning.

I'd like to first begin by recognizing a few people this morning. Mr. Marty Hettel, Chairman of the Inland Waterways Users Board. Good morning sir. Mr. Lowry A. Crook, Principal Deputy Assistant Secretary of the Army for Civil Works. Good morning sir. Major General Jackson, DCG for Civil Works and Emergency Operations and Executive Director of the Users Board. Good morning sir. Mr. Steve Stockton, USACE Director of Civil Works. Good morning sir. And Mr. Eddie Belk, Chief, Operations and Regulatory Division, USACE, Headquarters. Good morning sir.

I also understand that Ms. Jaci Winship from the Office of Representative Ann Wagner

[Congresswoman Ann Wagner, MO-2nd District] is here as well. Good morning.

Well, let me first take you back and recap yesterday's activities. We had a great site visit out at Mississippi River Lock and Dam 25 where we had a great opportunity to see infrastructure at work. And yes, we did stage that tow and barge, that vessel there at that ideal time to see it in great works. Unfortunately, LaGrange -- we went out to LaGrange Lock and Dam. We didn't have an opportunity to have someone stage a tow and barge there, but we will do a better job of coordinating next time.

I want to recognize also Colonel Craig Baumgartner, the Rock Island District Commander as well. What I gained from yesterday's site visits is we found it to be very, very positive, informational, and educational for all.

There is great value when you can remove folks from a venue such as this and put them out in the structure where you can actually feel and touch, see and embrace what we come here today for. So we're excited that you chose St. Louis as this meeting site.

It is a tremendous opportunity to participate in this meeting and contribute to the strategic discussion that will effectively shape the future vision on the maritime industry on the inland waterways. Before I get started with the discussion, I'd like to mention the many benefits to having this meeting in St. Louis.

We are strategically located at the crossroads of three major river systems. That is the Illinois, the Mississippi, and the Missouri at the heart of the Mississippi Valley Division of the Corps of Engineers. On the Mississippi River navigation system we are at the demarcation line between the pools and locks system of the Upper Mississippi River and the open river to the south making St. Louis Harbor a major fleeting area of great strategic importance to the entire system.

The St. Louis District is responsible for 28,000 square miles equally divided between Illinois and Missouri. The St. Louis District serves as the stewards of 300 miles on the Mississippi River, the lower 80 miles of the Illinois River and the entire Kaskaskia River basin, and provide engineering and water resources solutions to improve safety, energize the economy, sustain the environment, and enhance the quality of life of those that we serve.

Simply put, I say we protect people from water, we protect water from people, and we make water useful. Our District missions are diverse and we meet the engineering and water resources management requirements within the Mississippi River watershed.

The District works together with our partners and stakeholders to provide reliable navigation, manage the risks associated with flooding, restore and preserve our environment and provide recreational opportunities. Having said all that, we are challenged by declining investments in our infrastructure and limited financial flexibility in maintaining an aging and degrading infrastructure portfolio.

These challenges offer opportunities for us to refocus our priorities, collaborate and determine sound investment strategies to address in the nation's infrastructure to what we call innovation creativity. And we must continue to communicate our relevance associated with the importance of water infrastructure to this region and the Nation. So I am honored to share in this endeavor with you

and I want to thank you and I look forward to the continued activities of the day.

Thank you. Welcome to St. Louis.

MR. POINTON: Thank you, sir. I would now like to call on General Jackson now to provide his opening comments. Sir.

MAJOR GENERAL JACKSON: Yes, thanks. And hello, everybody. Welcome to St. Louis. Just to echo what Colonel Mitchell said, home of the St. Louis Cardinals, Anheuser-Busch and my wife Lynn and not necessarily in that order.

I also want to thank the Rock Island District and St. Louis District for the tours we went on yesterday. It always amazes me to see what the people that work at the locks and dams can actually do with what little we give them. It's absolutely amazing to be able to see what they are able to put together with their ingenuity, hard work, passion and dedication and my hat always goes off to those folks who are working in the trenches for us in the Army Corps of Engineers.

They are our bread and butter. They are the tip of the spear and I am very proud to be a part of their team. Again, thanks to the *Waterways Journal* for last night, great social event. A great opportunity for me as the new guy to get the opportunity to talk with each of you, the members of the Board and other folks who are participating here to help me understand more of the things that are on your mind and to help me be a more effective member of this Board in my capacity here on the Board and also in the Army Corps of Engineers.

I was privileged and I appreciate General Peabody allowing me to do so, participate in the Board meeting this past August. It gave me a glimpse into how things proceed, a little bit about what the Board is all about, and it really kind of set the bar pretty high for me in terms of what my role will be here on the Inland Waterways Users Board. But it is one that I relish, one that I look forward to participating in and I look forward to being a part of your team.

I have been a part of the navigation team for many years. For those of you who don't know I commanded the Little Rock District from 2007 to 2010. So I first fell in love with the navigation mission as a Colonel back as a District Commander and it's been a huge part of my interest and professional development ever since, and I look forward to continuing that with each of you at a much, much higher level.

I've been in the job now at Headquarters of USACE for about four or five months. There are a lot of challenges out there, but I think there are also a lot of opportunities. I am the eternal optimist so I see lots of possibilities. I see lots of opportunities.

But I know one thing, and that is if we don't work together across the Board, that we cannot get anything done. I believe you know that. And the different folks who are here representing different parts and different places within the industry, I know you realize that as well.

I am committed to doing my part and that is the message I have for you today on that. I think we have a great agenda today. There will be updates on many familiar topics, but as always, we welcome the questions, the challenges.

We only get better when we ask each other the questions and make sure that we understand what we are really up against and have good, candid dialogue to help us move forward on the many issues that are in front of us today.

So again, I thank you for the opportunity to be here. I thank you for the opportunity to be in St. Louis. Anthony, thank you for being a great host for us. At this point in time I would like to call on our Federal observers to make their opening comments and I will start with Mr. Nick Marathon from the U.S. Department of Agriculture. Nick.

MR. NICHOLAS MARATHON: Thank you, General. I appreciate the opportunity to go on the tour yesterday and attend today's meeting. Today I am representing Mr. Arthur Neal. He is the Deputy Administrator of the Transportation and Marketing Program of the Agricultural Marketing Service at the U.S. Department of Agriculture.

We are currently working on provisions of the current farm bill that directs the USDA to conduct a general study of the transportation issues of agricultural products [Section 6206 entitled "Study of Rural Transportation Issues" of the Agricultural Act of 2014, Public Law 113-79, enacted February 7, 2014].

While this is a long-term project, we are preparing a separate project that will look at how increased investments in waterway improvements can benefit U.S. agriculture. We are finishing the data collection stage of this effort and expect this report out in early 2016. And again, I thank the Board for the opportunity to be here today and look forward to today's meeting. Thank you.

MAJOR GENERAL JACKSON: Thank you, Mr. Marathon. And now, Mr. Bill Paape from MARAD.

MR. WILLIAM K. PAAPE: Good morning General and members of the Users Board. On behalf of the Maritime Administrator Mr. Paul "Chip" Jaenichen and the Associate Administrator for Intermodal Systems Development, Ms. Lauren K. Brand, it's my pleasure to represent the agency today as a Federal observer. I look forward to today's meeting and welcome meeting several of you during the break. Thank you.

MAJOR GENERAL JACKSON: Thank you, Mr. Paape. Now over to Mr. Gary Magnuson from NOAA.

MR. GARY MAGNUSON: Thank you General, members of the Board, Mark, it's great to be here. This is my second Users Board meeting. I'm here representing NOAA and Rear Admiral Gerd Glang, Director of the Office of Coast Survey. He sends his regards. This is -- like I said, this is my second meeting. I'm here to listen and learn.

And General, I could not agree with you more as far as in order to get something done we need to work together. And some of you know me as being senior staff to the Committee on the Marine Transportation System which I serve on with many of you.

NOAA has as an interesting part of their mission as far as it concerns the Office of Coast

Survey. We are looking at combining our charting and hydrographic services with real time observations and forecasts. We refer to this as the “Next Generation Navigation” effort. And I would be glad to talk to any of you about our specific navigation efforts as well. We have had some pilot projects in Long Beach and Los Angeles and it has great promise. Once again thank you for the opportunity to attend today’s meeting and I am glad to be with all of you this morning and I wish you all well.

MAJOR GENERAL JACKSON: Thank you, Mr. Magnuson. And now it's my pleasure to introduce Mr. Lowry Crook from the Office of the Assistant Secretary of the Army for Civil Works. Mr. Crook.

MR. LOWRY A. CROOK: Thank you, General Jackson. As the even newer guy, this is my first Users Board meeting. It's an honor to be here and I just appreciate the hospitality that everybody has shown me and the opportunity to get a firsthand look at some of the locks and dams in the area.

Some folks may not have known this, but I spent a few years at the Federal Maritime Commission before joining the Army and so I know firsthand the importance of waterborne commerce to the nation and the importance of both intermodal and ocean commerce as a system to support exporters and American businesses and consumers.

So I look forward to learning how I can better support the Board and also make sure that we are able to communicate your priorities and concerns across the Administration.

MAJOR GENERAL JACKSON: Thank you, sir. I appreciate that. Mr. Pointon, back over to you, please.

MR. POINTON: All right. Thank you, sir. I appreciate all the Federal observers for being at today’s meeting. You are an important piece of what we try to accomplish here. I would now like to call on Chairman Marty Hettel now for his remarks. Sir.

CHAIRMAN MARTIN T. HETTEL: Thank you, Mark, and welcome all to our Inland Waterways Users Board meeting number 77 here in St. Charles, Missouri. First to start off, the Board members certainly would like to thank the St. Louis District for their hosting our meeting today along with the Rock Island District for our tours yesterday.

We appreciate all the work that goes into hosting these types of meetings, along with all the logistical planning for the site visits to Lock and Dam 25 and to LaGrange Lock and Dam yesterday. Nicely done.

The Board would also like to thank the *Waterways Journal* for hosting the social event last night. It's always good to get some face time together with everybody. And also a thanks to the Illinois River Carriers Association who is sponsoring the coffee service today.

We have some new faces here on the Board. Rob, welcome for your first official meeting. General Jackson, on the Federal side, as he stated was in attendance at our Nashville meeting and this is the General's first meeting presiding as the Executive Director of the Inland Waterways Users Board.

General, we look forward to the continued collaboration between the Army Corps of Engineers and the Inland Waterways Users Board. Welcome.

We also have a new Principal Deputy Assistant Secretary of the Army for Civil Works, Mr. Lowry Crook here today. It was nice to chat with you for a while last night and welcome aboard.

Today's meeting culminates on our two-year goal of holding Inland Waterways Users Board meetings throughout the entire inland waterways system. Since this Board was established in 2013, we have held our meetings in Louisville, Kentucky representing the Ohio River basin [Users Board meeting number 69, August 13, 2013]; New Orleans, Louisiana representing the Lower Mississippi River [Users Board meeting number 70, January 14, 2014]; Little Rock, Arkansas representing the McClellan-Kerr Arkansas River Navigation System [Users Board meeting number 71, May 1, 2014].

We were in Walla Walla, Washington representing the Columbia-Snake River System [Users Board meeting number 72, August 18, 2014]. We were in Birmingham, Alabama representing the Black Warrior and Tombigbee Rivers [Users Board meeting 74, February 25, 2015]. We were in Galveston, Texas representing the Gulf Intracoastal Waterway [Users Board meeting 75, May 14, 2015], and our last meeting in Nashville covering the Tennessee and Cumberland Rivers [Users Board meeting 76, August 12, 2015], and then today of course our meeting in St. Charles, Missouri which covers the Upper Mississippi and the Illinois River.

Looking into 2016 with our new members of the Board, a new Executive Director, a new Principal Deputy, and a new MARAD representative, Bill, welcome. We're glad you're here today also.

Coupled with the fact that the Board has not been to three of our four top priority projects in over three years, I am looking to schedule our 2016 meetings at the following locations.

We are looking at meeting in early March in Paducah with site visits to Kentucky Locks and Dam [located at Tennessee River mile 22.4] and Olmsted Locks and Dam [located at Ohio River mile 964.4]. We'll look at a late May meeting in Pittsburgh with site visits to the Lower Monongahela Locks and Dams 2, 3, and 4 project [located at Monongahela River mile 11.2, 23.8, and 41.5 respectively], and possibly the Emsworth, Dashields, and Montgomery project [located at Ohio River mile 6.2, 13.3, and 31.7 respectively].

We'll for our August meeting in either Huntington or Charleston, West Virginia with a site visit to Greenup Locks and Dam [located at Ohio River mile 341.1] as the Greenup lock will be in the stages of new miter gate installation and hopefully have some information on the problems we have at the middle wall at Greenup.

Our November meeting, I would really like to get down to Vicksburg, Mississippi and see the ERDC center [the USACE Engineer Research and Development Center], but that's only my choice.

Maybe we can hold the November meeting up in Rock Island and encompass some of the NESP projects [the Upper Mississippi River – Illinois Waterway Navigation and Ecosystem Sustainability Program]. Again, I'll look for the Board's direction on our fourth meeting.

If you remember during my opening statement at our Nashville meeting, I referenced an article

in the Society of American Military Engineers magazine that stated the following: “According to the Corps’ Institute for Water Resources, from 2010 to 2012 the Civil Works program of the Army Corps of Engineers provided an annual estimated National Economic Development net benefit of \$87.1 billion and stimulated \$27.3 billion in returns to the U.S. Treasury.”

With a program spending somewhat above \$5 billion a year, that equates to a sixteen-to-one return in terms of economic benefits and a five-to-one return in the revenue to the Treasury. Thanks to a presentation that retired General Peabody gave in March of this year to the Society of American Military Engineers, those numbers are broken down in each one of the Corps' program areas.

The Institute for Water Resources states that the inland navigation program returned \$8.1 billion on average of economic net benefits between 2010 and 2012. It also returned \$2.07 billion in revenues to the U.S. Treasury. Thanks to Mr. McKee, during that time period there was an average of \$1.207 billion allocated funds for the inland navigation program.

That equates to a 6.75-to-1 return on National Economic Development benefits and a 1.75- to-1 return to the General Treasury. Those are pretty darn good numbers. I wish I could get that in my bank account. It just goes to show the value of the Corps' work on the inland navigation system to the country.

Within the “Maximized Inland Waterways Trust Fund” scenario, as we heard yesterday, LaGrange Lock is up for a major rehabilitation project. And I want to make one statement here. I have heard from several Users Board members, it's almost embarrassing to see a project like LaGrange in the shape it's in.

The “Maximized Inland Waterways Trust Fund” scenario of the Capital Investment Strategy has scheduled in it \$63 million for major rehabilitation at LaGrange, which could be performed in 2017 and 2018. Plus within the “Maximized Inland Waterways Trust Fund” scenario, the available funds to start construction of a 1200-foot chamber at LaGrange in 2016 and construction of a 1200-foot chamber at Lock 25 in 2028.

By improving our inland waterway system, we also improve the already safest mode of transporting bulk commodities within our country. Improving the inland waterway system would also improve the already most fuel efficient mode of transporting bulk commodities within our country. Improving the inland waterway system will also improve upon the already most environmentally friendly means of transporting bulk commodities in our country. And improving our inland waterway system would also improve on the already most cost-effective mode of transporting bulk commodities within our country.

We just find it difficult to understand delaying these projects as they will cost more to build as we delay and we aren't putting people to work. We are not reducing emissions, we are not reducing injuries, we are not reducing higher costs, and we are not reducing fuel consumption by delaying these projects.

In closing, while all of today's presentations are important, the Board is specifically looking forward to the presentation of the improvements to the LPMS system [the USACE Lock Performance Monitoring System], the status of the Capital Investment Strategy, and efficient and what I will call

capability funding for the top four priority projects on the inland waterways system [Olmsted Locks and Dam; Lower Monongahela River Locks and Dams 2, 3, and 4; Kentucky Locks and Dam; and Chickamauga Lock and Dam], along with an explanation of the BCR [benefit-to-cost ratio] process. So this will conclude my remarks and I'll turn the meeting back over to Mr. Pointon.

MR. POINTON: Thank you, Marty. I appreciate it. Next on the agenda we have the approval of the minutes from the last meeting, meeting number 76 in Nashville. Those minutes along with the presentations that were provided at that meeting are in Tab two of the notebooks that were provided to the Board members and the Federal observers. Can I ask the Board to make a motion to approve those minutes?

MR. DANIEL P. MECKLENBORG: I so move.

MR. POINTON: Mr. Mecklenborg offers a motion. Do we have a second, please?

MR. MICHAEL T. SOMALES: Second.

MR. POINTON: Seconded by Mr. Somales. Motion. All in favor?

BOARD MEMBERS: Aye (unanimous).

MR. POINTON: Any nays? Hearing none, the motion to approve the minutes from Meeting number 76 passes unanimously. Thank you. I'd like to call on Dr. Mark Sudol now. He's next on the program to give us the update on the LPMS. That's the Lock Performance Monitoring System data collection issues that we've been having, kind of an enduring issue here that we hope to get that settled in the very near future. Dr. Sudol.

DR. MARK F. SUDOL: Good morning. Thank you. General Jackson, Chairman Hettel, Board members and Corps senior leaders, thank you. I'd like to go through an update of where we are on LPMS and where we're going hopefully in the future. Next slide.

There were really two major issues that were brought up previously. The first issue was a delay time dealing with arrival time, but also helper boat status at Bayou Sorrel [Bayou Sorrel Lock, located at mile 26.9 of the Port Allen Route to Morgan City, LA]. In addition to that is where do we start the delay time, and I'm going to get into further delay versus processing time at the last slide, but this is just a review of where we were.

These slides actually are of Bayou Sorrel. One of the questions was when the helper boat connects to the tow and when we start delay time, so we've gone through a number of issues with that. Next slide.

What we proposed was a data time entry, we wanted to start with just take the helper boat out of the equation. When you get to the arrival point, that's when we start the delay time. I'm going to get into that a little more because we wrote the guidance of which we got comments from Chairman Hettel and other folks about that.

We want to add some flexibility of when we actually start the delay time and I'll get to that in a

second. But the bottom line is the helper boat is no longer a factor. So at Bayou Sorrel if there are three or four tows waiting to be locked, technically they are all under delay now and that is going to be sent out nationally.

The arrival time will be set by the lock operator. We have done some initial IWR [USACE, Institute for Water Resources] review for nav consistency with Mr. Pointon and I and other folks. We have got that done. We sent it over to HQ for review. We have got comments from Mr. Pointon and other Headquarters folks.

We sent it out to Chairman Hettel and the Board members. We have received his comments. We have incorporated those comments and we sent the final version to Mr. McKee his final review. We are waiting on, just to let you know, that we have made all these changes, we got it ready to go, and we are going to establish these starting 1 January 2016.

I want to be clear on one thing, though. I am relatively new to my job as the Director of the Navigation and Civil Works Decision Support Center at the Institute for Water Resources. This is just the start of some of the things we would like to do with LPMS. We want to really improve how we are collecting data both in LPMS and at the Waterborne Commerce Statistics Center which I also oversee.

So we are going to try to make some big changes this year in both those programs to make data more available quicker and have more trends to the users both within the Corps and outside the Corps. Any questions before we go any further on the policy?

MAJOR GENERAL JACKSON: Yeah. Hey, Mark, this is General Jackson. We had a great discussion on the bus yesterday about the difference between LPMS and the Waterborne Commerce Statistics Center and how the numbers and data that is collected are actually used in decision-making. Can you take a moment to highlight that for those who were not part of that discussion yesterday?

DR. SUDOL: Yes, sir. One of the comments that came up on the bus was are we using LPMS data, primarily the tonnage that goes through the locks as part of our decision process in the Corps. The answer is actually no and this is where we will get to P.J. [Mr. Patrick J. Donovan, Chief, Planning Center of Expertise for Inland Navigation and Risk Informed Economics, USACE, Huntington, WV] in a little bit about how we use the data to make decisions on Corps procedures.

When the tows go through the locks, the information the lock operators get from the towboat operators on tonnage may or may not be correct. Many times the towboat operators don't know the exact tonnage. In some cases they just estimate it.

If the towboat operators don't know, our lock operators estimate it. So that is only an estimate that we use to estimate how much is going through the lock. We check that against the Waterborne Commerce Statistics Center data, which we get data from all the locations where the tows drop off cargo and we get accurate tonnages from those data.

That is what we use to actually set how much is transported through the lock and how much goes from point A to point B and how much commerce is actually moving on the entire system.

We check the tonnage going through the locks with the LPMS, but it is really only a check on

the actual true data which is Waterborne Commerce Statistics Center data and that is the actual true data.

One of the questions that always comes up is in the past some of our data from Waterborne Commerce has been delayed almost a year and a half because a lot of our data in many cases, it is still sending via fax.

We have got to go back to the towboat operators and check how much tonnage was actually done, get the data, check it, and get it approved. One of the initiatives Mark and I are doing this year is to try to get that data turned around in nine to ten months.

Hopefully next year we will see 2015 data by the end of September rather than April or May of 2017. We are going to try to get that data out sooner. One of the things we are also talking about doing is giving three- or four-month projections.

It is not going to be completely a hundred percent, but we will start showing trends. We are going to try to do that at three-month intervals. Understand that the data that we get at the Waterborne Commerce Center is delayed up to 30 days.

The towboat operators have 30 days to submit the data to the Corps. There is going to be a little bit of a delay, but we want to start showing some of the trends, both seasonal and by waterway. We will be getting back with you, with the towboat operators and the users to see what data you want.

Before we start putting these trends out, obviously we go through Headquarters first, Mr. McKee and his folks, but the other thing we want to do is get to you and to the public some of these trends and see the seasonal or regional trend and get that out sooner.

Again, it's going to be a snapshot and it won't be exactly correct, but at least you will see some of the trends that I think were brought up on the bus yesterday.

MAJOR GENERAL JACKSON: And Mark, if I can ask one more question, I promise not to hog the mic today. As it pertains to delay times, as a tow comes up and it has to break in order to get the cycle through, the delay time shot clock starts when that boat arrives in total and doesn't clock out per se until it gets everything through and moves on its way, right?

DR. SUDOL: Yes, sir, and that's my next slide. Go to the next slide.

MAJOR GENERAL JACKSON: All right. I knew I'd tee that up for you.

DR. SUDOL: Sorry. Go ahead, sir.

CHAIRMAN HETTEL: General, I'll promise not to be a mic hog too. Maybe between the two of us we can share it 50/50. Dr. Sudol, just let me verify. So when you're doing a BCR on a project, you're using Waterborne Commerce Statistics, not LPMS statistics on commodity tonnage passing through?

DR. SUDOL: That is correct sir.

CHAIRMAN HETTEL: And is there any emphasis given to the empty barges that transit the lock?

DR. SUDOL: Well, that's -- we'll get with P.J. later. He's the one.

CHAIRMAN HETTEL: Okay.

DR. SUDOL: We collect the data, so we try to make sure the data is correct before we send it over to the folks doing the analysis. That's how we kind of broke this out. So my job is to make sure the best data gets to the Corps' analysis folks, which is P.J. and some of his folks, so when they do their analysis they can make those determinations.

CHAIRMAN HETTEL: Because a lot of times if we can't move the empty barges through the lock northbound we can't move the tonnage through southbound.

DR. SUDOL: Exactly. Yep.

CHAIRMAN HETTEL: All right. On the LPMS data at Bayou Sorrel, I think you're saying you're going to start this on January 1st, 2016 --

DR. SUDOL: January 1st, sure.

CHAIRMAN HETTEL: -- because they just went through a closure at Bayou Sorrel and I've been kind of looking at spot checking the times and they're falling back into the same scenario of changing the arrival time when the tug arrives.

DR. SUDOL: Okay. We can fix that. We've already talked to them about that.

CHAIRMAN HETTEL: Good. And the second point is we talked about reviewing the previous LPMS data at Bayou Sorrel so we can get an actual delay cost to shippers and carriers. Do you know where we are at with that? Is that moving forward?

DR. SUDOL: We don't have the funds to do that right now, but what will happen if we get to a point we are going to do any kind of work at Bayou Sorrel, they will go back and do that analysis and check it.

CHAIRMAN HETTEL: We are kind of in a catch-22 then because if we can't figure out what the actual shipper/carrier cost is, how can we reexamine the BCR at Bayou Sorrel? So --

DR. SUDOL: I'll tell you what, I'll talk to P.J. and we will come up with something. So before the next meeting which P.J. will be at, he will be able to answer that.

CHAIRMAN HETTEL: So you're going to delegate that to Patrick?

DR. SUDOL: Exactly, sir.

CHAIRMAN HETTEL: Okay. That will finish my questions.

DR. SUDOL: One of the things we want to do, sir, is have better coordination. So when we provide the data to the folks and P.J. and his folks, we want to make sure that's connected.

CHAIRMAN HETTEL: Well, and it's important at Bayou Sorrel. When that lock was down, I think the delays down at Algiers [Algiers Lock, located at mile 0.5 of the Gulf Intracoastal Waterway West of the Mississippi River] ran the industry about an additional \$6 million due to the closure of Bayou Sorrel. So it's an important lock.

We need to really look and see if that lock can get in, established for a replacement, but there's no sense in even looking at the financial aspects of the BCR until we have accurate data.

DR. SUDOL: Well, we can do a quick estimate with P.J., the estimate on the delay, how much the delay really costs, the number of tows and things like that.

CHAIRMAN HETTEL: I would just caution that estimates sometimes get us in trouble. We probably need factual data.

DR. SUDOL: Oh, we will, but in terms of whether we're going to see it really change, we'll do a quick estimate first and see how we're going.

CHAIRMAN HETTEL: Thank you.

DR. SUDOL: Getting back to the General's slide, next slide, please.

MAJOR GENERAL JACKSON: The General's slide?

DR. SUDOL: My slide to answer the General's question. And we got this from the folks in P.J.'s shop, actually, Mr. Donovan to get at the issue that Chairman Hettel brought up. This is the second issue that came up on the bus yesterday.

I think there was a concern that we weren't collecting all the time. So this is what we put together. This is not my slide, but this is a slide I got from the folks doing the analysis.

What this slide shows is you have the arrival time, which begins the first delay. That delay stops at the start of the lockage which then starts what we call processing time or transit time. That includes everything from approaching to bow over sill to the entry of the first cut. Getting back to Chairman Hettel's question is do we correct if you have multiple cuts because you're in a 600-foot chamber, shall we say, and we could make that comparison versus what would be needed for a 1,200-foot chamber, and the answer is we can.

Because as you see, the chambering does not stop until the last cut exits. So depending on where you are and how many cuts you have to make to get through one of the locks, it will include all of that.

Finally, once you get the last cut out, you put the tow back together and you exit, that's when the

final time closes. So we do account for all of that. It's just from our point of view we have delay time and processing time, which for you in the private sector, you probably call it all delay time, but we break it out, but we do count it all and we do cover all those pieces through LPMS. Sir.

CHAIRMAN HETTEL: Thank you, Dr. Sudol. So why does the LPMS system show two different cuts then? Why doesn't the LPMS system show arrival, start of lockage, completion of lockage?

DR. SUDOL: Because we want to keep track of how long each cut takes.

CHAIRMAN HETTEL: Well, I don't think it matters how long each cut it is, what matters is the entire tow processing time.

DR. SUDOL: Correct. And that is included in the number of cuts.

CHAIRMAN HETTEL: So can we get that to reflect in LPMS the same way?

DR. SUDOL: We should.

CHAIRMAN HETTEL: Because right now it's considered two different lockages as I explained and it shows two different times and the average -- and I'm going to give you some examples here. So the average lockage times in LPMS is not reflective of what actually takes place. I reference Bayou Sorrel. When you look at what LPMS data stated versus what we looked at, arrival to departure, it is \$2.7 million of delay that's not captured.

Look at Lock 53 this year [Lock 53 located at mile point 962.6 of the Ohio River below Pittsburgh, PA]. From LPMS to what actually takes place is \$3.3 million that is not being captured.

DR. SUDOL: Okay.

CHAIRMAN HETTEL: Lock 52 [Lock 52 located at mile point 938.9 of the Ohio River below Pittsburgh, PA], and you saw my e-mails on those, a total of \$21 million compared to what LPMS says the average delay is and what we actually experienced. So this is a total of over \$27 million of shipper-carrier costs that I don't believe is being captured in the LPMS system unless it's being captured on the back side. And if it is being captured on the back side, why don't we show that on the front side so we can see it?

DR. SUDOL: Right. And that's what I think -- I think it is being captured. What I'm hearing from my operators -- that's why I go talk to the operators in the field. I don't just believe the folks at Headquarters and my office that's saying it's in there.

I go actually talk to the lock operators. One of the things I've found is that they do have trouble with the multiple cuts. It's hard to do sometimes, but they all get it in there because that's one of the big issues. They want to know how long it takes to get the whole tow through the lock.

They do capture all that time. I think sometimes it's not showing up as easily as it should within LPMS and that's one of the other issues. We have a new project manager overseeing LPMS because of

some of the changes that we are going to have to do to make the system both -- and getting back to your question, sir, easier to use for the operators and provide data better to you so you can see more data that's important to you.

CHAIRMAN HETTEL: As an example, when I'm on the LPMS site and you click on the statement that says average delays calculated every four hours, you get a statement posted saying if a single delay time exceeds four hours, then this delay may not reflect that delay in calculating the hours. So the LPMS system is telling us it's not calculating the hours.

DR. SUDOL: Right. Now, remember --

CHAIRMAN HETTEL: But that's our view. So if it's on the back side, I just want to make sure we're capturing it.

DR. SUDOL: We are capturing it. One of the things just to understand is LPMS is only an estimate that we clean up the data and submit it. So in many cases what's shown on the LPMS website isn't exactly completely true data yet. We've got to go in and make some changes.

And that's why when you go into LPMS you see there's a statement in there that says the raw LPMS data shouldn't be used for decision-making. It's only raw LPMS data. Now, we've got to do a better job, getting back to your answer, of giving you the final data. That's one of things on our side is we've got to get the better data to you so you can see it quicker.

CHAIRMAN HETTEL: Well, and the importance of that, is, sir, at Bayou Sorrel. At Bayou Sorrel and Port Allen [Port Allen Lock, located at located at mile point 0.4 from the Mississippi River on the Port Allen to Morgan City Route to Morgan City, LA], it's amazing, you tell us that the data is inaccurate, because we cannot make decisions whether we want to run up to Port Allen, Bayou Sorrel, or upriver based on the data from the LPMS system if it's not accurate.

DR. SUDOL: Sir, I'm not saying it's not accurate. What I'm saying is the raw data that we put out in many cases is not accurate. We have to go in -- that's why we have to check that. I'm agreeing with you.

We've got to do a better job of fixing the system to do two things. Make it easier for operators to enter the data, and make better data available to you all. And that's one of my jobs this year, sir.

CHAIRMAN HETTEL: I think I made my point. Thank you.

DR. SUDOL: Yes, sir.

MR. POINTON: Dare I ask if anyone else has questions for Dr. Sudol? All right. Thank you, Mark. Anything else you have, Mark?

DR. SUDOL: Last slide just says my telephone number up there. And that's actually my dog. I have a real dog. But if anybody needs to reach me, that's my direct line. I don't have a secretary. You can reach me right there. Thank you.

MAJOR GENERAL JACKSON: Mr. Chairman and Mr. Secretary, if you would allow me, I'm going to do a quick room rearrangement and have that podium moved up here so I can save my discs in my back. Let's see if we can do this really quickly. So if we could do that.

(Break in meeting while rearrangement of microphone podium.)

MR. POINTON: I'd like to point out that all the presentations that you're going to see today are in tab four of the information notebooks. The presentations might be slightly modified, but they're probably about 99.5 percent what was provided in the information notebooks. All the substance is the same. So you can follow along in your notebooks if you'd like.

While everybody is getting a cup of coffee and some water perhaps, Mr. Jeff McKee is next on the agenda to talk about the "Notices to Navigation Interests" and he has a verbal presentation, so I'd like to ask Jeff to go ahead and talk about the "Notices to Navigation Interests". Jeff.

MR. JEFFREY A. MCKEE: Thank you, Mark. Mr. Chairman, General Jackson. I would like to provide a brief update on the "Notices to Navigation Interests" website. This is a website that we fielded about a year and a half ago. It is sort of a one-stop shop to find all the navigation notices for the Corps of Engineers.

In response, Chairman Hettel, to your request, we've got some folks at IWR looking into trying to make that system a little bit easier to use and search and trying to find a way to list those things that are going to impact navigation specifically as opposed to just every single notice to navigation out there.

We are working to improve the search capability and functionality of the website. We've got some folks down at the Institute for Water Resources under the direction of Dr. Mark Sudol who are looking into that, and hopefully in the next few months we'll get some changes fielded to that system.

The second thing I want to briefly update you on is we talked about getting a new policy out to the field in terms of coordinating scheduled as well as unscheduled closures. I've got a draft of that policy sitting on my desk and I plan to get it out to the Board as well as to the MSCs [Major Subordinate Commands], the Corps offices, Division offices for review next week as to how we can better coordinate with industry the timing of future closures. Subject to your questions, that concludes my update.

CHAIRMAN HETTEL: So Jeff, so I make sure I'm understanding right, in Nashville [Users Board meeting number 76, held August 12, 2015] you included in your presentation entitled "Standardizing the Lock/River Outage Process" a sentence that "Continued improvements to the process would include proactive involvement with industry stakeholders well in advance of scheduling closure dates and durations."

MR. MCKEE: That is correct, sir.

CHAIRMAN HETTEL: That's what you're putting together?

MR. MCKEE: Sir that is the policy that will go out under Mr. Belk's [Mr. Edward E. Belk, Chief, Operations and Regulatory Division, USACE, Headquarters] signature. But before we send that

out, I want to send it out to you and the Board members as well as our folks in the field to get some review and comments.

I think one of the biggest disconnects that we have in terms of coordination is coordination within the local navigation stakeholder community as opposed to the more national navigation stakeholder community.

We have seen a number of cases where the Corps District offices are coordinating with the local navigation interests in that area of where we would have a closure, say whether it's Greenup [Greenup Lock located at mile point 341.1 of the Ohio River below Pittsburgh] or Bayou Sorrel or Columbia [Columbia Lock located at mile point 150.9 of the Ouachita River in Columbia, LA]. But that word is not necessarily getting out to everybody else without having to go through and look at the Notices to Navigation Interests.

We're looking at doing the coordination up front before we even issue the "Notice to Navigation Interests" so that when that notice goes out, that closure has been coordinated with the navigation industry as well as the appropriate Corps, Coast Guard and other industry stakeholders.

CHAIRMAN HETTEL: Okay. So when you're finished with the policy and it goes through the approval process, what is that time frame before it gets actually -- would it be then -- two things, number one, let me know -- understand what that time frame is, and number two, then does it go out to the Division office and the Division office sends it out to Districts or how does that process work going into effect?

MR. MCKEE: The draft should go out next week for comments. I think this is something that can be commented on fairly quickly and I would expect probably in the January time frame we would have a memo, a final memo for Mr. Belk's signature. That would go out to industry representatives, but it is specifically directed to the MSCs as well as the District offices as to how to do business with coordinating with the various stakeholder interests.

CHAIRMAN HETTEL: Okay. Well, and as we talked last night, there were a couple examples that you and I discussed. I don't want to necessarily bring them up here at the Users Board meeting, but to get industry on the front side of the planning at least when we're at the table, we feel like we're partners rather than being on the back side of it and saying here's what we're going to do.

MR. MCKEE: Exactly.

CHAIRMAN HETTEL: We don't feel like we're collaborating at all, and in trying to adjust the schedule that the Corps has already planned out is I imagine difficult for you guys and doesn't seem like we're in that partnership position that we should be in.

Even if we say, hey, this doesn't work for this lock at this time period, at least you're hearing our concerns and we're understanding why you have to do it at that time. And we both may agree to disagree, but we understand each other's positions.

MR. MCKEE: Absolutely.

CHAIRMAN HETTEL: I think that would go a long way in our industry, especially as far out as we plan. There are times when we're planning out three, four, five weeks on where we're going with our freight and knowing ahead of time when these closures are going to take effect will help us help our customers get their products delivered in the time frame they need them. Thank you.

MR. MCKEE: I agree with that, sir. Thank you for the comments. Again, I think the biggest issue that we really need to address is the coordination with the larger industry groups as opposed to just the regional groups who are frequently in the know about what is happening, but that's one of the challenges that we're trying to overcome.

CHAIRMAN HETTEL: I certainly agree and I think the first step is getting the policy out so that we understand what the policy and procedures are and then we as an industry can take that policy and distribute it and say, look, we've got to get everybody involved when these types of instances come up because here's what USACE Headquarters is wanting to do to collaborate with the industry. So once we get the policy out, we'll work on our end to clear up that notification process for you. Thank you.

MR. MCKEE: Thank you, sir. Any other questions for me?

MR. SOMALES: Excuse me, Mike Somales. I don't want to digress or go back in the program, but I was trying to sort this delay thing out just for clarity. At the arrival point are we beginning the delay at the geographical arrival point or at the point where the vessel calls in to get its turn to lock?

DR. SUDOL: On the delay question, one of the concerns was what the previous policy said the delay didn't start until the tow reached the approach point or the arrival point. It was a point in space.

Now, in talking with the lock operators, what they do is if you have a large queue, four or five tows that are waiting to lock, one of the questions was, "Can they start the delay time above the arrival point?", and they actually do.

So the way we wrote the policy it's not a physical point. In most cases it will be. If there's a single tow coming down to enter a lock, when the tow gets to or near the arrival point, they call in to the lock operator. That starts the delay or transit time to get to the lock.

If there are a number of tows waiting to go through, for example, at Bayou Sorrel with the helper boat, we then allow the lockmaster or the lock operator to call and talk to the towboat operators.

They can actually start the delay well above the arrival point in some cases because that makes sense for the towboat operator. He or she will be able to tie off and wait up there until the queue goes down.

They'll transit down to the lock and enter the queue there. The idea is if they enter the queue, they won't be usurped by another tow coming around, going faster or going down and getting in the queue ahead of them.

So it allows the towboat operators and the lock operators to organize the queue to make sure there is a line and the next one gets in line directly. It gives a degree of flexibility to the lock operator to work with the towboat operators to in some cases where there's a lot of traffic to set the queue.

MR. SOMALES: Okay. The queue typically manages itself once the call is in. Everybody knows what their turn is in the queue as the vessels leave what is typically the arrival point or the arrival cell above or below the lock and the rest of the queue moves forward to get in place.

I guess the second piece of that question is that policy subjective or objective? Does the operator of the lock -- is this a subjective idea or are you in a fixed policy objectively?

DR. SUDOL: We tried to keep it a combination because if we go too objective on one hand where everybody has to hit the arrival point, then we don't get the flexibility.

MR. SOMALES: Well, I didn't mean hit the arrival point.

DR. SUDOL: Right.

MR. SOMALES: I think that's been the sticking point of this whole deal is we name --

DR. SUDOL: Correct.

MR. SOMALES: And as an operator, a towboat operator in my career, there's a big sign on the board, on the top of the mooring cell that says arrival point and that's a geographic place rather than a place in time.

DR. SUDOL: Correct.

MR. SOMALES: I could be ten miles away -- does the 40th boat at the red light or car at the stoplight have a delay or do we have to wait until we're the first car at the arrival point? So I just want to make sure that when you call in that the clock begins.

DR. SUDOL: Correct. And when -- it depends on where you are, though. If you call in twenty miles up river --

MR. SOMALES: We're going back to that geography again. It depends where you are.

DR. SUDOL: Well, yes and no. Hang on. Hang on. It also depends on how many are in the queue. If there's nobody in the queue and you call in twenty miles above the arrival point, they're going to say you're not at the arrival point.

MR. SOMALES: That's pretty much common sense.

DR. SUDOL: Exactly. That's what I'm trying to give you. We're trying to give the flexibility to towboat operators working with the lock operators to do what you just said, sir, set the queue and set it up so that if it makes sense to allow somebody ten miles above the arrival point, they've already arrived and the delay starts then.

MR. SOMALES: Yeah, we have beat this issue a long, long, long time and I think what started the whole thing was that we weren't getting recognition for all the delays that the industry was suffering

at these locks and when we get to the area like our meetings here where we're trying to get funds and get things built and get things done and you say well, there's only an average of eighteen hours of delay when actually the industry is suffering three days of delay, it wasn't reported correctly.

DR. SUDOL: Exactly.

MR. SOMALES: So we as towboat operators factually know that when we get in line -- like I've run boats when I've called a lock when there's no one around, the guy says "Where are you?" and I'll say "I'm at mile "A"" and he'll say, "Well, you're not at the arrival point yet."

DR. SUDOL: Right.

MR. SOMALES: So they would, give me that little jab. You'd get down another half mile down and call back in, you're in the queue, boom. But when we have these large outages like we're suffering at different locks where we are three days delayed --

DR. SUDOL: Right. We would be counting the delay from now on. You have that flexibility to make sure we count it that way and that is what the guidance says. That is what they are supposed to be doing.

MR. SOMALES: I just don't want to make it more difficult than it actually is.

DR. SUDOL: Exactly.

MR. SOMALES: Thank you.

DR. SUDOL: Common sense prevails, sir.

CHAIRMAN HETTEL: Dr. Sudol, one more comment. You were at LaGrange yesterday, correct?

DR. SUDOL: Yes, sir.

CHAIRMAN HETTEL: And I'm sorry, I meant to bring this up when you were up at the podium. We heard that the average delay at LaGrange is 3.75 hours. Does that include the time when we have an open pass?

DR. SUDOL: Again, I don't know that. Let me check the data before I respond to your question because again, there's raw data and then there's final data, so I need to check that, sir, before we get you a final answer.

CHAIRMAN HETTEL: Okay. Could you confirm that with us? Because we're looking at spending \$72 million on a major rehabilitation project at LaGrange. And the BCR I would think -- and although it's already been approved and been through the whole process would be way different if we only included the time that we were locking through the lock, not the time we were using the navigable pass.

DR. SUDOL: I'll have to check on that sir.

CHAIRMAN HETTEL: That's crazy to say – I would estimate that they said 60 percent of the time that lock is in operation. So I would think that 3.75 hours is increased by 60 percent at least when we are locking at the facility.

DR. SUDOL: I'm going to have to check on that. I didn't have a lot of time to talk to lock operators at LaGrange. I did at the previous one [Mississippi River Lock 25] to see how they're collecting data, I spent some time talking to them, but I didn't get a chance to at LaGrange. But that's one of the issues.

CHAIRMAN HETTEL: Well, I think Bill [Mr. William A. Cross, Lockmaster at LaGrange Lock and Dam] made the statement that you're right, we shouldn't be counting the times that we --

DR. SUDOL: But again, I don't know how the LPMS collects the data. I've got to weigh into it and see exactly what happens at LaGrange Lock.

CHAIRMAN HETTEL: Thank you.

MR. POINTON: Okay. Well, moving on, unless there's any more questions for Jeff McKee or Dr. Sudol. Seeing none, let's move on. I'd like to call on Mr. Michael Feldmann from the St. Louis District. He's going to briefly talk about the Mississippi River Regulating Works Project and the removal of the rock pinnacles. Again, his presentation is in Tab 4 of the information notebook. I do have a limited number of copies here if anybody would like to get a copy of his presentation.

MR. MICHAEL G. FELDMANN: Good morning, General Jackson, Chairman Hettel, Users Board members, thank you for the time this morning. I've got a very short update for you on the rock removal efforts on the Mississippi River just a few dozen miles downstream of where we are at right now.

So if you'll turn to the next slide and I'll get into the information. First thing I want to do today is give you a little bit of an overview on the project that executes the rock removal efforts that we're undertaking.

The Mississippi River Regulating Works project in the St. Louis District is the project that provides for the safe and dependable navigation channel between the Missouri River and the Ohio River. We have one lock facility at Lock 27 [located at mile point 185.1 of the Mississippi River above Cairo Point], but the majority of the rest of the river is open river.

The Regulating Works project is the effort that provides that safe navigation channel downstream of the locked portion on the Mississippi River. We do that primarily through river training structures including dikes, chevrons, weirs, revetments, etc., but also in certain areas that we're going to touch on today, we have rock removal efforts where we have some rock outcroppings that are very important and very critical to have taken care of.

The project provides benefits -- I've mentioned safe and dependable navigation. It provides benefits year-round, but it really pays off when we have low water, when the channel becomes

constricted and the demand for maintenance dredging increases.

This project has been able to reduce some of those maintenance dredging requirements over time and continues to do so as we place structures in the necessary portions of the river. But again, that is the overview of the project. Looking at the map, I would direct your attention to the small rectangle down in the lower right-hand corner.

That is the Thebes - Grand Tower reach. That is the area where we have not a sedimented river, but more of a rock-founded area and that's the area where we're looking at the rock removal efforts. If you would go to the next slide.

So the area from river miles 46 to 38 on the Mississippi is the area that we are talking about. This is an effort we've undertaken through two separate phases subsequent to something that has taken place decades ago when some more gross rock removal took place in the late eighties and early nineties.

We had some residual pinnacles that were identified through more dense surveying efforts, better technology identified issues that we weren't able to detect several decades ago. Many of you recall in the late 2012, 2013 time frame when we had very low water on the Mississippi River, that was when we undertook the first phase which was a very intense effort, two contractors working side by side.

The focus of that effort produced about a thousand cubic yards of material removed directly from the middle of the low water channel in this reach. That effort was completed and the subsequent effort which we have under contract now takes care of the remaining pinnacles that are not in the middle of the low water channel but along the edges and even equally importantly in the areas where there are bends. Some pinnacles are just on the edges of the channel where we know that safe navigation requires some stretching of the channel as tows move through those bends.

That's the focus of the current contract that we have right now. You see at the very bottom of that slide 7500 cubic yards of material by the end of the contract will have been removed. The emergency effort we undertook removed about a thousand cubic yards of that material, but we've only removed about twelve percent of that total. There is about 6500 cubic yards remaining to be removed.

That's over two construction seasons that we've identified. So where we are today? I've got a few statistics that I'm going to touch on. But first I want to address a challenge.

The challenge is while this project provides benefits during very low water, unfortunately it is only during very low water that we are able to execute the project, and that provides several coordination challenges for us.

We've made one modification to the contract recently in that we modified our contract and required our contractor to modify his equipment so now he can work in five feet more of water than he could in the past. We're hoping and we are confident that that will actually produce a lot more outcome from season to season as we move forward.

You see on the slide two stats there, "Initiate work on November 20th of this year." We have not initiated that work. I chose not to update that slide because I don't have an updated start date yet.

As I said, it's a river condition-dependent effort. We had some very high water in the river, some heavy rains in November.

Today we're projecting we're still two to three weeks away from having water that would permit us to direct our contractor to mobilize.

The second stat I put on the slide there and left it as is even though it has some risk in dependency, and that is the "Scheduled completion date of winter of 2017."

What we did there is to try to describe the fact that we believe we have two highly productive construction seasons of work left in order to get to the completion of that project, the removal of all 7500 cubic yards of material.

Having two highly productive construction seasons is not something we can control. Today we are impacting the first of those two seasons that we were predicting so I think there's a low probability that we will actually complete the removal of all of the material by late 2017.

Our contractor will have to extend his work into future years. We're looking forward to that modified process which will extend the amount of time our contractor can work. In terms of numbers, the Cape Girardeau gauge required ten feet and below in the past. Now we are at fifteen feet and below that we can require our contractor to execute that work.

The effort moving forward, I think our focus is on extensive coordination as it always has been. If you look at the NTNI [Notices to Navigation Interests] website today, it will tell you the same thing that I told you here in that we had planned -- had, past tense, planned a November 20th mobilization that has since been impacted and the next step will be a ten-day notice to industry when we are able to provide our seven-day mobilization warning order to our contractor so that the industry and the Coast Guard have the same information that we have as soon as we have it.

On the ground what I believe you will see is a very intensive effort to coordinate how this work is executed. Unfortunately, when the water is at ten to fifteen feet at the Cape Girardeau gauge, that rock that I said is on the edge and just outside the edge of the low water channel ends up being right in the middle of that wider channel that exists at the ten- to fifteen-foot stage.

The contractor and we in the Corps, and the towing industry are in the same place at the same time. Our challenge has been that our contractor has to basically spud down his equipment to perform his work, and that really limits his ability to mobilize out of the area if a tow isn't able to transit safely at some point in time. So the coordination effort is very intense and very difficult to manage.

We have our RIAC [River Industry Action Committee] partners obviously and the Coast Guard and our contractor and our construction crew work together on a daily basis to establish that communication process and the safe passage plan on a case-by-case basis as the contractor moves from site to site. That's all I had to provide to you today. Subject to your questions, that concludes my remarks.

MAJOR GENERAL JACKSON: Mike, thanks very much. Very informative presentation. Are you fully funded to completion on this project?

MR. FELDMANN: Yes, sir. This contract has been fully funded from previous appropriations.

MAJOR GENERAL JACKSON: Thank you.

CHAIRMAN HETTEL: Mike, we appreciate the update and we would certainly like to get this rock pinnacle removal project behind us as I know you would like to as well. I understand initiating the project somewhere about November 20th due to river stages, but I think you're also restricted by not going past February 28th because of the spawning season; is that correct?

MR. FELDMANN: There is an environmental window. It is early April --

CHAIRMAN HETTEL: Early April.

MR. FELDMANN: Early April to late July that we are restricted from work.

CHAIRMAN HETTEL: Early April to late July.

MR. FELDMANN: Yes sir. That February 28th date may revolve around just historical high water. Typically there's a very low probability anything will happen starting in March based on high water.

CHAIRMAN HETTEL: So is there an opportunity to get in there in August and try to do this if we have low water?

MR. FELDMANN: Yes, and that is fully our intention starting this next season. The modification I mentioned was executed in the August - September time frame so the first chance our contractor could move forward was late October this time.

CHAIRMAN HETTEL: Okay. Well, it would be great to do it during non-harvest season versus November and December when we're trying to move all the tonnage we can off the Upper Mississippi River before the locks close up there for the winter. So yeah, I would think August would be great. What happens if Mother Nature doesn't allow you to get this done by 2017? Do you just modify the current contract for another year?

MR. FELDMANN: That is correct sir. The contractor's performance is based on his ability to have river conditions, so the contract would be extended.

CHAIRMAN HETTEL: Okay. Thank you Mike.

MR. EDWARD E. BELK: Nice presentation, Mike. I greatly appreciate it. General Jackson asked an important question, and that's whether this work is fully funded and it is. The reason it's fully funded is because as this issue unfolded in 2012, industry, this industry engaged at the White House level and with the Congress.

As a result of that engagement a decision was made. At least part of the reason that decision was made was because industry did engage constructively at those levels, and so this work was fully

funded as a result. So I guess I would commend you for that and also I guess reinforce the importance of having your voice heard as investment decisions are made. Thank you.

MR. POINTON: Any more questions for Mike? Thank you Mike. Next I'd like to call on Joe Aldridge to give us an update on the status of the Inland Waterways Trust Fund and update on Trust Fund projects. Joe, you can stay at the table or you can stand at the podium, whichever you prefer, sir.

MR. JOSEPH W. ALDRIDGE: I'll try starting here. Good morning, General Jackson, Chairman Hettel and Board members, Mr. Crook, guests.

It has been a while since I've been here at a Board meeting. I've had an additional duty detail and I appreciate Jeff McKee for taking care of my Inland Waterways Trust Fund reporting responsibilities while I was not here. I'd like to start by reintroducing myself.

I am Joseph Aldridge. I am the Construction Account program manager at Headquarters USACE and I am also the Inland Waterways Trust Fund account manager. I'll be briefing these slides starting at the top of the slide going down and then from left to right. This is the current status of the Trust Fund.

We started fiscal year 2015 with \$24,659,924 in the Trust Fund. That was what was available at the start of FY '15. The fuel tax revenues that were earned through the year was just over \$98 million, and the interest earned was almost \$14,000 for a total available funds for FY '15 of \$122,740,549. We then transferred \$68,517,500 from the Trust Fund to cover the work plan allocations for FY '15. That left an ending balance of \$54,223,049.

CHAIRMAN HETTEL: Joe, can I make just a comment on that slide?

MR. ALDRIDGE: Sir.

CHAIRMAN HETTEL: I think what you see there, \$24 million starting at the beginning of the fiscal year and ending the fiscal year with \$54 million is a direct result of the increase in our users fee of \$0.09 per gallon.

MR. ALDRIDGE: And that's correct.

CHAIRMAN HETTEL: And not utilizing that extra \$30 million somewhere, I would think – I guess the point I want to make on the record and I've made it several times is it wasn't our intention to increase our users fee by \$0.09 a gallon just to have the money sit in the Trust Fund. So I just wanted to make that comment. Thank you.

MR. ALDRIDGE: That's correct. And a lot of it has to do with the fact that the additional \$0.09 was something that was added in FY '15 and had not been budgeted for.

CHAIRMAN HETTEL: Sure.

MR. ALDRIDGE: Now, these numbers do not include the October revenue estimate that we just received of \$8,119,000 and whatever the unknown interest is, a small portion, which would leave

the Trust Fund balance at the end of October, the current available funds of \$62,343,945. We do not yet have the November data. That will come in roughly the middle of December.

This slide is a comparison of the last five years of revenues compared side by side to provide a better view of the trends in revenue in the Trust Fund. The green bars represent the fiscal year 2015 income culminating in a total yearly revenue of just over \$98 million. This is before the drawdown that the Corps took and does not include the carry-in of the \$24 million.

These numbers include the actual tax payment corrections and adjustments through the third quarter. Sometime in December there will be a tax adjustment of the actual earned income in December and so these numbers may change just a little bit, but typically it's not very much.

CHAIRMAN HETTEL: Joe, is there a discrepancy in your slide? On your previous slide you said FY '15 fuel tax revenue was \$98 million, but on your graph it looks like it's about \$104 million.

MR. ALDRIDGE: Yeah. On the spreadsheet it was picking up an additional field that it wasn't supposed to. It was so late that when I realized that, that instead of changing and trying to get everybody new sets of slides, I was hoping to slide it through.

CHAIRMAN HETTEL: You know me better than that. So the graph should reflect the \$98 million, is what you are telling me? The graph would reflect that?

MR. ALDRIDGE: That's correct.

CHAIRMAN HETTEL: Okay. Thank you.

MR. ALDRIDGE: And to be consistent, it carried through on this slide also. This is what I was -- as you mentioned earlier, you can see with the \$0.09 increase in the excise tax has resulted in an increase of available Inland Waterways Trust funds.

As I stated earlier, this does not include our fourth quarter adjustment that we'll receive sometime in the month of December. I believe that at the last Board meeting Jeff McKee had mentioned that the FY '15 projection was going to be around \$96 million. As you can see, this is very close to that figure, \$98.1 million unadjusted.

Next slide. This slide shows a historical overview of the past four years [FY 2012 to FY 2015] for the eight identified projects. Again you can see how much was budgeted and then the total amount that was allocated to each of the listed projects.

Next slide. Project updates. This slide shows the three projects in the Mississippi Valley Division – Lockport, Inner Harbor Navigation Canal, and Mississippi River Lock and Dam 27 Major Rehabilitation.

Next slide. This slide is for the Lockport Pool Major Rehabilitation project on the Illinois Waterway. Note the change in the completion date of the project from FY 16 to FY 17. This is a slip in the project completion date to June of 2017.

Next slide. Inner Harbor Navigation Canal Lock Replacement, Gulf Intracoastal Waterway in New Orleans. There are no changes on this slide. This slide is the Inner Harbor Navigation Canal Lock Replacement. There are no changes. No changes on this slide or to the schedule.

Next slide. This slide is Lock and Dam 27 Major Rehabilitation on the Mississippi River in Illinois. There are no changes in the financial data. You'll notice on the bottom right of the slide there the next steps. That shows the completion of the O&M [Operation and Maintenance] manuals and the as-builts. Again, there were no changes on the schedule slide. It is anticipated that the project will be closed out in the 2nd quarter of FY 16.

Next slide. We now move onto the Great Lakes and Ohio River Division project updates. Mr. David Dale will cover in depth the Olmsted and Lower Monongahela River project, so I will cover those briefly and hopefully we are consistent in our data.

Next slide. This is the Olmsted Locks and Dam project on the Ohio River. On the very top of the slide are the allocations. You can see the FY '15 allocations, we -- late in the year after the third quarter since the last Board meeting, we allocated an additional \$5.4 million to bring the total FY 15 allocation to \$212.7 million and so that's the adjustment there. And you see the next things to be done at the project under the "Next Steps" and the "Current Status of the Project." Mr. David Dale will cover that in his brief later. No changes to the schedule slide.

Next slide. Next we move into the Lock and Dam 2, 3, and 4, Lower Monongahela River project. The total project cost is estimated to be \$1.220 billion, no change since that cost figure was presented at the last Board meeting during the summer.

Under the "ARRA" heading [American Recovery and Reinvestment Act of 2009, Public Law 111-5, signed February 27, 2009] for 2015 allocation, those funds expired at the end of FY '15 and so we had a return of \$142,000 from that field. Moving to the right, in FY '15 there is \$28,015,000 allocated to the project from both the Construction General account and the Inland Waterways Trust Fund account. And again, for the "Next Steps" and the "Current Status of the Project", Mr. David Dale will cover that in his briefing later.

CHAIRMAN HETTEL: Joe, I'm sorry, on that \$142,000 that was returned of ARRA funding, is that 50 percent Trust Fund, 50 percent General Treasury or where does that --

MR. ALDRIDGE: No, that was one hundred percent ARRA funds, General Treasury funds.

CHAIRMAN HETTEL: All ARRA funds that were allocated came from the General Treasury - - so it didn't affect the Trust Fund?

MR. ALDRIDGE: That is correct sir.

CHAIRMAN HETTEL: Okay. Thank you for that clarification.

MR. ALDRIDGE: Thank you for your question and the opportunity to provide clarity. Concerning the project schedule, Mr. David Dale will cover this in more detail during his presentation, but I want to point out the River Chamber Completion contract was awarded on 16 September 2015.

Next slide. The next slide is the Emsworth Locks and Dam project on the Ohio River. Again, we start off with the “ARRA” funds. They expired, so we had to return those funds to the Treasury and we made a change in the remaining balance of \$2.7 million.

The next slide is the project schedule. This is for the “Back Channel Dam Under Apron Grouting, Gate Bays 12-14” that 31 January 2016 represents the completion date and capitalized cost closeout for that project.

CHAIRMAN HETTEL: Joe, I'm sorry, I have another question on the Emsworth scenario on the “ARRA” funding of \$2.7 million that was returned to the Treasury. That eventually becomes a Trust Fund expenditure, correct?

MR. ALDRIDGE: No.

CHAIRMAN HETTEL: Because while your project cost increases by \$2.7 million, is that then split between the Treasury, that increase, or am I reading that wrong? Your FY 2015 allocation at our previous meeting, the remaining balance was \$4.3 million. Now our remaining balance is \$7.06 million.

So you add the \$2.7 million to the \$4.3 million, I'm assuming that's where you come up with the \$7.066 million, where at our last meeting we had a \$2.182 million assigned to the General Treasury and a \$2.182 million assigned to the Trust Fund, now it's up to \$3.5 million each to the General Treasury and the Trust Fund. To me that looks like the \$2.7 million, because we couldn't spend the “ARRA” funding, now goes back to a 50-50 split with the Trust Fund. Is that a correct statement?

MR. ALDRIDGE: Jeff, you want to --

MR. MCKEE: I'm going to have to call on a lifeline and let Ms. Jeanine Hoey [Ms. Jeanine Hoey, Chief, Engineering and Construction Division, USACE Pittsburgh District] answer whether or not we need those funds. I'm not aware that we need additional funds at Emsworth.

MS. JEANINE HOEY: Emsworth has all the funding it needs to complete the project and won't need any additional funds so the “ARRA” funds were no longer needed.

CHAIRMAN HETTEL: So where does the increase of \$1.4 million from the Trust Fund come from, Jeanine? Our previous meeting in Nashville had \$2.182 million of Trust Fund to completion and now it is \$3.53 million.

MS. HOEY: I'd have to check on those actual numbers, but Emsworth doesn't need additional funding. We have all the funding that we need.

CHAIRMAN HETTEL: Okay. I'm just looking for nickels to make quarters and dollars, so --

MS. HOEY: I'll look into the difference in the numbers.

CHAIRMAN HETTEL: Okay. Thanks.

MR. MECKLENBORG: This is Dan Mecklenborg. What is represented by that \$7,066,648 figure? What additional work needs to be done at the project?

MS. HOEY: Emsworth is actually physically completed and they are just closing out the project and the only thing that would need to be done is an analysis of the DSAC [Dam Safety Action Classification] rating to revise it from -- it was a DSAC 1. That's why it the project was funded.

The only additional work besides closeout is they're doing final quantities. There will be adjustments on the final contracts, but there will be no needed additional funds. Emsworth has received all the allocation that it needs to complete the project.

MR. MECKLENBORG: Okay, thank you very much.

CHAIRMAN HETTEL: So is it fair to say the remaining balance is zero, or until you get the final closeout you don't know what that number is?

MS. HOEY: Until we get final closeout, but there will not be a need for additional funding.

CHAIRMAN HETTEL: So we should know that by the next Board meeting then?

MS. HOEY: Yes sir.

CHAIRMAN HETTEL: Okay. Thanks, Jeanine.

MR. ALDRIDGE: Thank you. The next slide shows the Kentucky Lock and Dam project on the Tennessee River. We've had no changes on the project. The financial data and down on the lower left of the slide is the current status. The Upstream Lock Monolith contract was modified in September 2015 to install of the upstream miter gates. The risk-based total project cost estimate is expected to be completed in spring of 2016.

CHAIRMAN HETTEL: So you're doing a re-evaluation on Kentucky even though it's in the process of being built, is that what I heard?

MR. ALDRIDGE: That's what I understand.

MR. MCKEE: Mr. Chairman, this is Jeff McKee. As I indicated on the bus yesterday, our requirements are to update the economics every five years for budgeting purposes. So it's been a while since Kentucky was updated so we're updating both the economics as well as the cost estimate.

CHAIRMAN HETTEL: I just find that ironic on a project that's underway of doing another BCR analysis – I don't know what that costs to do, but it's ironic that the construction is ongoing but yet we've got to reevaluate it.

MR. MCKEE: I understand that sir.

MAJOR GENERAL JACKSON: Jeff, can you explain why we're doing it? Is that because our

policy says we have to do it every five years or why?

MR. MCKEE: Yes sir. The policy is when we are budgeting for projects, the BCR and the economics are updated every five years.

MAJOR GENERAL JACKSON: Is that USACE policy or Administration policy or what policy is that?

MR. MCKEE: That I believe is USACE's policy, but I would have to check to see if it goes above USACE.

MAJOR GENERAL JACKSON: Okay.

CHAIRMAN HETTEL: So my last question on this subject Jeff is, when you do another economic analysis, is that remaining benefits, remaining costs or BCR only?

MR. MCKEE: Well, what they do is they develop a revised total project cost estimate as well as what the economics are. And once you have those two, then you determine what the benefit-to-cost ratio is, but you can also determine what the remaining benefit to remaining cost ratio is. But the basis for budgeting is the benefit-to-cost ratio at a discount rate of seven percent.

CHAIRMAN HETTEL: So let me ask a hypothetical question. If your re-evaluation of the Kentucky Lock project comes in under a 2.5 BCR, do you stop budgeting for the project?

MR. MCKEE: The BCR is under 2.5 at this point in time and we have not been budgeting for Kentucky for the last few years. We have given it work plan funds once we get an appropriation, but Kentucky has not been in the budget for the last few years.

CHAIRMAN HETTEL: And what are the remaining costs and remaining benefits. I may have brought that with me from the Capital Investment Strategy. I just so happen to have that.

It was 3.9 on remaining benefits to remaining costs when we put together the Capital Investment Strategy back in March of this year. So the remaining benefits to remaining costs is above 2.5, but the original BCR was at 1.8.

MR. MCKEE: Correct, at seven percent.

CHAIRMAN HETTEL: It just makes sense we would do an economic re-evaluation on remaining benefits to remaining costs other than stop budgeting for a project. It's my opinion.

MR. MCKEE: I fully understand that, sir.

CHAIRMAN HETTEL: Okay. Thank you.

MR. MCKEE: But the Administration policy is in terms of qualifying for budgeting under the construction program, it's a benefit-to-cost ratio of 2.5 at seven percent unless you've got things like dam safety or environmental restoration.

MR. ROBERT R. MCCOY: Jeff, this is Robert McCoy. Just for your information and the Board, in the box on the slide titled “Additional Information” on the Kentucky Locks and Dam slide, the total project cost is \$869 million. Is it then safe to assume under the “Additional Information” \$117 million of that cost is for the Corps of Engineers' “Engineering and Design” costs and “Supervision and Administration” costs? Does that also include the cost of doing the economic analysis every five years?

MR. MCKEE: The costs that you see under “Additional Information” are through fiscal year 2014, so it would have any benefit-to-cost ratio work that we've done previously, but it would not include anything for either “Engineering and Design” or “Supervision and Administration” or the benefit-to-cost ratio and total project cost estimates that we're currently doing at this point in time. So that number will ultimately go up for both of those.

MR. MCCOY: Also the “Mitigation Cost” is to be determined. So we really don't know the total cost of the project, and I guess that's determined by a lot of other federal agencies' input.

MR. MCKEE: It's one of the things that's being looked at as part of the additional cost estimate that we're undertaking now. I'd have to check to see where we are in determining what the mitigation costs are, but there would have to be a factor in there, some sort of an estimate of what the projected mitigation costs would be in the new total project cost estimate that's being developed.

MR. MCCOY: Thank you.

MR. ALDRIDGE: Any other questions on this slide? On the schedule slide, you see the construction completion date representing the Upstream miter gate fabrication [1 March 2016].

Next slide. This slide is for the Chickamauga Lock and Dam project on the Tennessee River. The only change from the last Users Board meeting is shown in the lower left corner in the box titled “Current Status of the Project.” That shows that the project's \$3.1 million Cofferdam Stabilization construction contract which was awarded in September 2015. And on the next slide, you see the date of the award of the contract for the Cofferdam Stabilization.

CHAIRMAN HETTEL: On the Chickamauga project, Joe, I believe we are also undertaking another economic evaluation of that project?

MR. ALDRIDGE: Jeff, do you know because I don't?

MR. MCKEE: That's correct sir. I believe that it is supposed to be done this spring.

CHAIRMAN HETTEL: Okay.

MR. MCKEE: I believe March of 2016.

CHAIRMAN HETTEL: And I have to state this just for the record. Under the Capital Investment Strategy the BCR for Chickamauga is 1.5, but the RBRCR [Remaining Benefit to Remaining Cost ratio] for Chickamauga is 2.8. So it seems to me it should be budgeted, but I guess that's just our opinion. Thank you.

MR. ALDRIDGE: Thank you, sir. That concludes my portion of the brief pending any additional questions. Thank you. It's good to be back.

MR. POINTON: Thank you, Joe. Appreciate it, Joe. If there no more questions for Joe, I'd like to call on Mr. Eddie Belk to give us an update on the status of the Capital Investment Strategy which has come up a couple of times earlier today already.

MR. BELK: Thanks, Mark. I appreciate the opportunity to be here today. Good morning. I think, Mr. Chairman, with your indulgence, what I'd like to do is since we have a new member, Mr. Innis, welcome aboard, as well as some new Federal observers, I'd like to briefly summarize our journey over the last few years as a kind of precedent to providing the update.

Our Capital Investment Strategy journey really began in April of 2010. That was when we released the Capital Projects Business Model at that time, which laid out a sort of a set of investment priorities that have served to shape budgets and investment decisions since 2010 for the Corps and for the Inland Marine Transportation System.

WRRDA 2014 [Water Resources Reform and Development Act of 2014, Public Law 113-121, signed June 10, 2014] passed in the summer of 2014, June of that year, provided authority to -- these are my words, update, refresh and modernize that Capital Projects Business Model to be a more risk-informed investment strategy that we would use to shape Inland Marine Transportation System investments going forward.

We, the Corps, were actually directed that the Secretary in consultation with this Board develop that strategy, and it provided some guidance and direction on what that should look like and how we should proceed.

The Corps assembled a national team, and since June of 2014 began working diligently to deliver per that authority and in concert with this Board. We updated the Board at every meeting since then, and in May of this year we finished that draft report.

We briefed the Board in some detail at the May meeting in Galveston. And pursuant to that briefing and based on your feedback, we finalized that draft and we put it in for review within the Administration at that time. I continues to be under review within the Administration.

We continue to work to address questions. Chairman Hettel engaged back in October and has made himself available and I think other members of this Board available to visit with the Office of Management and Budget to help as we address questions and clarify what we are proposing.

Our current report reflects again a twenty-year investment strategy and it reflects three investment scenarios, the first being a scenario that reflects typically what has been budgeted for Inland Marine Transportation System improvements.

The second scenario reflected what we are getting in terms of annual allocations because of what Congress has been doing by providing additional funds through funding pots within the appropriations bill. So we have a scenario that reflects those incremental additional dollars that have been provided.

The third scenario, and this is the one Chairman Hettel mentioned at the beginning of the meeting front in his remarks, reflects maximizing the resources within the Inland Waterways Trust Fund; in other words, using and applying every dollar that accumulates in the Trust Fund and applying it to investments across the Inland Marine Transportation System. So those are the three scenarios.

Some of the questions that we have been working within the Administration are how should we address the uncertainty of forecasting potential work over a twenty-year planning horizon.

Other questions include how much funding should we assume actually will be available to finance future capital investments given the budgeting outlook for the Corps' Civil Works program.

Those discussions within the Administration continue. The report remains under review, and we continue to work to address the concerns and uncertainties that are out there. Mr. Chairman, I'll stop there and take any questions that you or the Board may have.

CHAIRMAN HETTEL: Thank you, Eddie. I want to just take a little bit of time and digress back to some of the things we heard yesterday at LaGrange lock and compare that to what is in the Capital Investment Strategy and the "Budget" scenario and the "Maximized Inland Waterways Trust Fund" scenario.

We heard yesterday that the cost of the major rehabilitation project at LaGrange Lock has increased to \$72.6 million where the Capital Investment Strategy had the cost of the project at \$63.1 million, I believe. Yeah, \$63.1 million. So we've got a little bit of an increase, about fifteen percent in the cost of the major rehabilitation project from when we put together the Capital Investment Strategy.

Under the "Budget" scenario within the Capital Investment Strategy, the major rehabilitation project at LaGrange Lock would not start until Fiscal Year 2021. Under the "Maximized Inland Waterways Trust Fund" scenario we could start the major rehabilitation project at LaGrange Lock in Fiscal Year 2017, a four-year differential.

We also heard yesterday that each year we delay the major rehabilitation project at LaGrange Lock, there is an estimated ten percent increase in cost. So if we are looking at the "Budget" scenario and starting the major rehabilitation project at LaGrange Lock in 2021, that escalates the cost of the project to \$106 million whereas we can begin the project under the Maximized Inland Waterways Trust Fund" scenario at a cost of \$72.6 million.

That is an increase in cost of almost \$34 million. The Capital Investment Strategy "Maximized Inland Waterways Trust Fund" scenario is going to save the general Treasury money and it's going to allow us to utilize the Trust Fund dollars on other priority projects. I think we need to emphasize the "Maximum Inland Waterways Trust Fund" scenario within the Capital Investment Strategy.

MR. MECKLENBORG: Mr. Chairman, this is Dan Mecklenborg. And certainly the fact that the Capital Investment Strategy remains under review is an area of concern for this Board and it is an area that we want to be, I think, clear in terms of the Board's participation in the process and the sentiment of the Board.

And I think it might be helpful for us at this point to consider a motion that would be the sense of the Board's recommendation that the third investment scenario which contemplates the full use of the Inland Waterways Trust Fund dollars and assumes that there will be sufficient general Treasury matching dollars to buy down those contributions as they come due is something that I'd like to offer as a motion that we express the sentiment of the Board recommending that OMB [the Office of Management and Budget] and the Administration and the Corps adopt the third scenario under the Capital Investment Strategy which uses the full Trust Fund dollars.

CHAIRMAN HETTEL: Dan, I would add to that motion that Scenario number three in the Capital Investment Strategy as delivered to the Assistant Secretary's office.

MR. MECKLENBORG: Correct. I'll add that to the motion.

CHAIRMAN HETTEL: Do we have a second?

MR. SOMALES: I second the motion.

CHAIRMAN HETTEL: Any comments from the Board members? All in favor.

BOARD MEMBERS: Aye (unanimous).

CHAIRMAN HETTEL: Any opposed? Hearing none the motion passes. Thank you, Dan.

MR. POINTON: Any other questions for Mr. Belk on the Capital Investment Strategy? Hearing none, thank you Eddie. I greatly appreciate it. All right. Marty, you're next on the agenda to give us your preliminary take on your Annual Report to Congress and the Assistant Secretary.

CHAIRMAN HETTEL: Well, believe it or not, I'm going to pass on this one because the preliminary recommendations contained in our Annual Report will depend on the information we receive from the Corps on the efficient funding of the Inland Waterways Trust Fund projects. So if you could back me up and let me put Mr. David Dale on the spot to go ahead of me that would be great. Thank you.

MR. POINTON: All right. Thanks, Marty. David, I know you're in the room, so feel free to grab the podium and here is the remote.

MR. DAVID F. DALE: Well, good morning to everyone on the Board. Thanks again for the opportunity to come talk to you about some of the great stuff that we have going on in the Great Lakes and Ohio River Division.

I'll start off in a place I usually don't like to start off with a bit of an apology to the Board for not having efficient funding information to you in advance. I will have that to you by close of business tomorrow and I will send a copy to Mark so you'll have that for the LRD [Great Lakes and Ohio River Division] projects, which are the Lower Monongahela River Locks and Dams 2, 3, and 4; the Olmsted Locks and Dam; Kentucky Lock; and Chickamauga Lock efficient funding streams through the completion of the projects. Marty, do you have a question?

CHAIRMAN HETTEL: So we don't have any efficient -- what I would call capability funding is what we're looking for from you, David?

MR. DALE: Not in hard copy.

CHAIRMAN HETTEL: So we won't have that today, but you will get it to us tomorrow?

MR. DALE: Yeah. I can read it to you if you just want it on the record. I've got it written down. I just don't have hard copies to hand out to you in advance.

CHAIRMAN HETTEL: Could you run those numbers by us?

MR. DALE: I'll be glad to.

CHAIRMAN HETTEL: And then we'll trust but verify when you send us the presentation.

MR. DALE: That will be fine.

CHAIRMAN HETTEL: Thank you.

MR. DALE: So let me start with Olmsted Locks and Dam, and I'm going to start with Fiscal Year '16 and I'm going to go year to year through completion. In the interest of efficiency, I'm not going to read the fiscal year, I'm just going to read out the numbers by fiscal year.

Starting with Fiscal Year '16, efficient funding is \$268 million. FY 2017 is \$225 million. Following that in FY 2018, \$175 million; FY 2019, \$125 million. In FY 2020, \$100 million. In FY 2021, \$75 million and in FY 2022, \$25 million. Okay. So that's Olmsted.

Next, Lower Monongahela River Locks and Dams 2, 3, and 4. Starting with Fiscal Year '16, efficient funding is \$60 million. In fiscal year '17, \$66 million. In FY '18, \$100 million. In FY '19, \$114 million. In FY '20, \$89 million. In FY '21, \$33 million. In FY '22, \$17 million and in FY '23, \$20 million.

Next, Chickamauga Lock, starting in FY '16, efficient funding is \$29 million. In FY '17, it is \$80 million, and essentially it is \$80 million out through FY '23 [FY '18, \$80 million; FY '19, \$80 million; FY '20, \$80 million; FY '21, \$80 million; FY '22, \$80 million; FY '23, \$80 million]. And then in FY '24 it drops down to \$70 million.

And then last is Kentucky Lock. Starting in Fiscal Year '16 it is \$48 million. In fiscal year '17, \$52 million. In FY '18, \$51 million. In FY '19, \$69 million. In FY '20, \$95 million. In FY '21, \$85 million. In FY '22, \$31 million and in FY '23, \$18 million.

CHAIRMAN HETTEL: Thanks, David.

MR. DALE: Again, my apologies for not getting that to you in advance.

CHAIRMAN HETTEL: That's okay. And I appreciate you running those numbers off for us

and getting them in presentation format will certainly help us to make sure I'm in line with you. I want to make sure we're on the same page. This is your capability funding, which is the same thing -- you're saying is efficient funding; is that correct?

MR. DALE: Yes sir.

CHAIRMAN HETTEL: Okay. So I'm making the assumption here that Olmsted will closeout in FY '22, Lower Mon in FY '23, Chickamauga in FY '24 and Kentucky in FY '23.

MR. DALE: When you say closeout, --

CHAIRMAN HETTEL: Well, I know it takes time to close out a project --

MR. DALE: Yeah. There's some paperwork before you get --

CHAIRMAN HETTEL: -- but on the allocated funds, construction complete.

MR. DALE: Should be on-line operating --

CHAIRMAN HETTEL: Okay.

MR. DALE: -- but there will be some paperwork to clean up afterwards.

CHAIRMAN HETTEL: I understand. Thank you much.

MR. DALE: You're quite welcome. I think that was the agenda item of an update on efficient funding. Do we take a break now? That was on the agenda.

MR. POINTON: Can you discuss the DSAC ratings first before we take a break?

MR. DALE: I can. And the one I'm going to talk about is on the Lower Monongahela Locks and Dams 2, 3, and 4 project. We have three locks on lower Mon, and the one that we're going to talk about specifically is the DSAC rating on Elizabeth [Lock and Dam 3 located on the Lower Monongahela River at mile point 23.8 from Pittsburgh, PA], and that is the one that gets going to be removed as part of the project, it gets demolished.

So we're essentially going to rehab two locks and we'll get rid of one. Currently there are three locks in the system. One of them gets demolished when we get done, that's Lock and Dam number 3 which is in Elizabeth and that is the one we are talking about it which has a DSAC rating on it.

Several years ago as part of routine business, the Pittsburgh District recognized that we had a significant scour hole downstream of the Elizabeth lock, kind of across the dam, if you would, across the river from the dam, and that caused the dam to receive a DSAC rating of 1, which is the worst case scenario in the Corps' rating system.

So that's the DSAC rating we had. As a result of that, the Pittsburgh District went out and did a lot of work and they placed some stuff downstream to fill that scour hole. As a result, the risk has been

reduced.

Our Dam Safety Center [the Dam Safety Modification Center of Expertise located at USACE, Huntington District office in Huntington, West Virginia] is looking at the results of that work and making an assessment of how that will affect the DSAC rating. Clearly the intent is we did some work to make it better and we think it will likely make it better.

We don't have a final answer relative to whether it will lower it to a DSAC rating of 2 or potentially a 3. That's still in the review process at our Headquarters level. But that's where we are with respect to the DSAC rating on the dam at Elizabeth. Any questions regarding that? Good deal. Thank you very much. Mark, would you like me to continue on?

MR. POINTON: Mr. Chairman?

CHAIRMAN HETTEL: I think now is a great time for a break.

MR. POINTON: All right. We're a little bit ahead of schedule. Can we come back in 30 minutes from the break? It's approximately 10:45 now so can we be back at 11:15?

(WHEREIN, a recess was taken.)

MR. POINTON: I'd like to call on David Dale again to give us an update on the status of the Olmsted Locks and Dam project. David.

MR. DALE: Very good. Thank you very much. Let me start off by introducing myself for the benefit of the new Board members or folks in the audience. My name is David Dale. I am the Director of Programs in the Great Lakes and Ohio River Division and I have overall responsibility under the Corps' mega projects process for the Lower Monongahela River project and the Olmsted project, which are both considered mega projects, and then as the Director of Programs I also have oversight of Kentucky Lock, Chickamauga Lock and other projects in the Great Lakes and Ohio River Division.

For clarification, I always like to point out there are a lot of letters after my name there. What I want to draw to your attention to -- an important one is this Board got together and said we need to make sure that we have properly certified folks managing our large projects and one of those was making sure that we have folks that were project management certified. That's what that PMP is, Project Management Professional.

Not just me, I'm pretty far up the chain at this point in time, I don't do day-to-day, but Mr. Mike Braden [Mr. Michael E. Braden, Chief, Olmsted Division, Louisville District, USACE, Louisville, Kentucky] in the back of the room is on-site. He is there nearly every day and he's also a PMP.

We've implemented what you guys asked us to do relative to driving improvements in the way we manage our large projects. I'm going to talk to you about the Olmsted project. I'm going to try to move fairly quickly through these. You've seen these slides before.

I will try to highlight what has changed since the last Board meeting briefing which I presented to you and I will take whatever questions the Board or Chairman Hettel might have and I expect there

will be some.

Next slide. Here is the agenda for today's briefing. I highlighted that last bullet because one of the lessons learned on Olmsted, and I think that we've all figured this out is that one of the enabling capabilities is making sure that we have alignment of our capability from a funding perspective relative to our capability on-site, and when we see that alignment, good things happen.

I'm here and have the ability to tell you about some of the good things that are happening at Olmsted because we in fact have that alignment between capability funding and what we've got going on on-site.

And I think it is important to point out that we don't want to lose sight of the true bottom line up front, which I think is critical. We are ahead of schedule by approximately two years and we are approximately \$65 million under budget, the PACR [Post Authorization Change Report] figure that we reported to you when the project was reauthorized.

And that is all driven by really two things (1) capability funding and (2) a very strong on-site management approach that looks at how we manage and mitigate risk on a day-to-day basis so that we can leverage that capability funding to not just administer the contract but to drive it to an early completion, and that's what you're seeing happening here.

That's kind of bottom line up front. This next slide, I'll try to highlight a few things that have changed since my last presentation to the Board. When you look up here, you can see we've set additional shells. Paving blocks seven and eight are now set [set in place on August 14 and 31, respectively] where previously they were not.

Navigable pass shells three and four have been set [set in place on October 10 and November 3, respectively] and we have completed the precast work on navigable pass shell number 5. There has been a lot of good progress on-site. The other key piece if you visit the project site is that a lot of this work is under water so you don't see it, but if you go out there today, you're going to see a tainter gate hanging on the dam structure.

The second tainter gate has been erected [set in place on October 1]. It's really starting to come together to look like a dam as you glance across the river. That's what I wanted to do tell you to highlight the progress we are making at the project site and that we are making good progress on specific items.

This next slide is an isometric view of the dam itself. And just to refresh your perspective, the left side of the picture would be the Illinois side, this is the tainter gate section of the dam, then the navigable pass portion of the dam, and then on right side of the picture is the Kentucky side.

The fixed tainter gate portion of the dam connects to the navigable pass portion of the dam and then ultimately to the Kentucky side. The river flows generally from the upper left to the lower right. What I want to highlight here is we've set navigable pass shell number 5 on the 23rd of November right before Thanksgiving, which was a significant accomplishment, which really put us back on track with not only setting all the shells we had planned, but essentially achieving one of the extra shells that we were hoping to set.

The reason I want to highlight that is that if you go back to the May time frame, what was going on in May and June is we had a high water event, and that could have been a significant impact on the project had it not been for the fact that the team on-site had the capability funding and the management approach to get out in the river early.

They got out there in May and actually set paving block number 5. So even though we had that about 45-day delay associated with high water conditions, we were able to still stay on schedule. That's all a result of that kind of aggressive approach to how we manage projects. Yes, Mr. Hettel.

CHAIRMAN HETTEL: David, I think you guys have done a great job on that. On this slide navigable pass shell number five has been set you said, is that correct?

MR. DALE: Yes sir, on November 23rd.

CHAIRMAN HETTEL: In talking with Mike [Mr. Michael Braden] this morning he's got a tentative date for navigable pass shell number 6 of somewhere in the first half of January.

MR. DALE: Yes.

CHAIRMAN HETTEL: So my question to you is, "What is the official end of your low water season, what you plan for low water season?" And I have a follow-up question to that.

MR. DALE: Mike, help me, is that January or December?

MR. MICHAEL E. BRADEN: The contractual low water season actually ends November 30th.

MR. DALE: November 30th is the contractual end of the low water season, but we've got this team geared up to make sure that we continue to do as much as we can when the river allows it.

CHAIRMAN HETTEL: Sure. Well, if things go well for Mike and he gets navigable pass shell number six set in January does that mean navigable pass shell number ten could possibly move into next year?

MR. DALE: Yes sir.

CHAIRMAN HETTEL: Okay. Good. Thanks.

MR. DALE: There will be a slide a little later on to show you some of the movement of how we pulled a lot of stuff to the left with good results.

On this slide I wanted to lay this out. We achieved the goals that we had set for ourselves in light of the 45-day delay. We are in fact looking at the stretch goal of setting navigable pass shell number six on the 12th of January as our current schedule, and obviously that is if river conditions allow it.

This next slide is a little bit dated, it was generated on 22 October. It might take you a minute to

digest this, but it really is pretty informative. Here is the tainter gate section of the dam, the two tainter gates, the navigable pass portion of the dam, and the gray area are shells that are in place on the bottom of the river.

It's a computer-generated rendering of what's in place at the project site. You can see the paving blocks across here. One thing that has happened is since October is we have set this shell [navigable pass shell number 4] and this shell [navigable pass shell number 5] and we plan to set this shell in January [navigable pass shell number 6].

You can see this is the Kentucky bank over here and the coffer cells for the fixed weir along the Kentucky bank. We are getting very close to getting across the river. This shows you the excavation that we've got ongoing.

The next slide shows the project time schedule and cost scorecard as of September 2015. Not a lot of changes, but we're still on track. The key point is the project is on schedule to be completed in 2024 and dam would be operational in 2020 – excuse me, that's what we said we would do in the PACR, but in fact we are on track for is the project to be completed in March of 2022 and the dam to be operational in 2018 and we'll see what next year brings.

If it's a really good season and efficient funding, there may be some improvements to that schedule but we are not there yet because there is still time for things to happen.

The last thing I want to – and this is really just to keep you grounded in what we're talking about. The red bars are the PACR numbers that we committed to and that PACR number includes risk. When you look at this number, this is the total estimated price for the project, but it does not include risk.

There is still risk out there that could occur, so it is not out of the realm of possibility that you could see this number grow a little bit and you've actually seen it grow some through the year. If you'd hold your thoughts until we get to, I think it's the next slide.

Ultimately as you digest that, this is a traditional S-curve for a project. We've got really three curves overlaid on it through here, and these are the “Actual Cost of Work Performed”, the “Budgeted Cost of Work Performed”, and the “Budget Cost of Work Scheduled”, which is really -- some call it “earned value.”

Those are terms we like to use to try to get some feel for how we're executing the project. As you look at the slide, you will see that we're pretty much on track. The one anomaly is this red line right here which is the “Budgeted Cost of Work Performed.”

The reason that's hanging a little bit low is we actually have some contract modifications that we need to finalize and that will pop that right back up there on track. So that is that little piece hanging down there. What I want to draw your attention to is our projected completion date right there, and then the yellow band is all the risks that we have remaining in the project.

Right now if we carry it all out and factor in all the risks, we still think we will be \$65 million under budget. If that risk doesn't occur, we'll be further under budget, but we're not ready to commit to

that yet, but we are committed to the \$65 million under budget. Yes, sir.

CHAIRMAN HETTEL: That exactly was my question. This previous slide, David, is certainly -- I look at quite a bit as far as trend lines to see how we're doing down at Olmsted. While you state with remaining risk you could be \$65 million under the PACR amount of \$3.099 billion, the fact is if things go your way, you could come in at \$2.887 billion versus the \$3.099 billion which is over \$200 million less than the PACR amount.

MR. DALE: That could happen, absolutely. And certainly we're working to do everything we can to kind of mitigate all those risks so we can bring the costs down further. But from the Corps' perspective right now, we look at an 80 percent confidence level and when we have an 80 percent confidence level then, that's \$65 million. It could be less.

CHAIRMAN HETTEL: So if the risk isn't there and things go your way, your capability funding numbers would drop?

MR. DALE: Yes. Which means there's more money for other projects and --

CHAIRMAN HETTEL: Correct. Correct. So we could see -- I think you said in fiscal year 2020 at Olmsted, you had \$100 million in capability, in fiscal year 2021, \$75 million, and in fiscal year 2022, \$25 million. We could see those last three years of capability funding disappear if you don't have the risk, your kind of buffer zone.

MR. DALE: You could see significant funds become available. My concern is I don't want you to start counting on that quite yet.

CHAIRMAN HETTEL: I understand.

MR. DALE: Because if you start counting on it and you award contracts and then you can't fund them efficiently, that's a very bad scenario that we all know. So at this point we are being conservative.

CHAIRMAN HETTEL: I understand, but I think it's just a point on how well it's being managed down there, the facility, and we certainly hope that the risk goes your way so to speak, and we continue to see that remaining risk go down. Thanks.

MR. DALE: Thank you. And I will assure you the team works every day looking at that risk and looking for opportunities to buy it down with our ultimate goal of delivering ahead of schedule and further under budget.

CHAIRMAN HETTEL: Do you see any possibility of moving to the left the start date of the dam becoming operational from October 2018 or are you not quite ready to --

MR. DALE: We are not quite ready to do that yet. Right now we've got an 80 percent confidence level that we'll get that date. That means it could be sooner, but we're not there yet. I think by next year if we have a good construction season and we get capability funding, we should be able to give you some different answers.

CHAIRMAN HETTEL: Okay. Thank you.

MR. DALE: You are quite welcome. The next slide is really just to illustrate to you -- the intent is to talk to you about this capability funding alignment. We tried to plot or lay out the 2013 construction schedule versus the 2015 construction schedule.

To the upper left here is the 2013 schedule and here is the 2015 schedule. This is the construction schedule of the navigable pass portion of the dam. What we tried to lay out is in 2013 you see the color code here to the lower right. The red was 2014, the yellow was 2015, green is 2016, the light blue is 2017 and the dark blue is 2018.

You see the sequence of construction activities laid out. When you compare the construction schedule that we first laid out in 2013 to what the sequence of activities are as of 2015, you see that we have pulled a lot of work to the left. That is all a direct result of that capability funding and a lot of effort on the team's part to take advantage of opportunities in the river to pull that to the left.

If you don't have both of those things happening, the team actively managing that project and the capability funding, you can't make that happen. That is really all we wanted to do, to draw your attention to that, give you a feel for what capability funding can do for a project and what capability funding, in conjunction with an aggressive project management approach, can do for a project.

In summary, I'll leave you with that. I think that is the real story, \$65 million under the fully funded, \$3.1 billion PACR baseline project cost estimate and two years ahead of schedule. Our capability funding in fiscal year 2016 is \$268 million as I shared with you earlier.

Subject to your questions on Olmsted, that is all I have to report on Olmsted.

MR. MCCOY: David, Robert McCoy.

MR. DALE: Yes, sir.

MR. MCCOY: The capability funding alignment model that you showed, the graph, basically showing the acceleration in the schedule as a result of the additional funding, to quantify that, essentially you're saying that saved us \$65 million now, is that correct?

MR. DALE: Yes sir. This slide is essentially the capability funding I shared with you earlier laid out on the Olmsted project. I think I shared this with you last time also.

CHAIRMAN HETTEL: David, I think not in the last meeting, but the previous meeting before that, the capability funding number for FY 2016 was \$250 million, if I remember correctly?

MR. DALE: I don't remember, Marty. It has went up, though, because --

CHAIRMAN HETTEL: Yeah. What are the reasons for it going up to \$268 million? I know we talked -- I think Mike [Mr. Michael Braden] told me some of it was due to the wicket lifter barge; is that correct?

MR. DALE: I think we were pulling the wicket lifter to the left because one of our concerns was the wicket lifter barge was scheduled to be late in the project cycle and the concern was if we had any hiccups in the delivery of that, then that could impact our operational date, so we worked to pull that to the left. When you do that, there are funds that you have to have sooner to make that happen.

CHAIRMAN HETTEL: When is that contract or that design going to be completed and the bid process started on the wicket lifter barge?

MR. DALE: I don't know when it is supposed to be started. It's supposed to be done by the end of calendar year 2017, I think delivered on-site. I don't remember exactly when the design starts on the wicket lifter. Mike, do you mind getting a microphone and giving us an update on the wicket lifter. This is Mike Braden who is the Chief of the Olmsted Division.

MR. BRADEN: Yes, sir. So within the last month we've had these studies on both the wicket lifter and the river dike contracts. We have a A-E [Architect-Engineering] contract with the Marine Design Center [the USACE Marine Design Center in Philadelphia, Pennsylvania] to design the wicket lifter.

It looks like right now it's going to go out in a couple contracts. It will be later in FY 2016 but with delivery in late calendar year 2017. We want the wicket lifter on-site at the end of the 2017 low water season.

CHAIRMAN HETTEL: So you're hoping to close on the bid process by July of this year.

MR. BRADEN: Around that time. In the third quarter, probably early fourth quarter of FY 2016.

CHAIRMAN HETTEL: When you let that bid in general -- you may be able to help me understand. I don't know what -- the cost is somewhere in the neighborhood of what?

MR. BRADEN: It will be approximately a \$20 million - \$30 million procurement.

CHAIRMAN HETTEL: Okay. When you let the contract, when does the builder get paid, on delivery?

MR. BRADEN: We have to have those funds immediately up front to obligate it. That is part of what is driving the \$268 million, which we have to have all that money on hand to award that contract.

CHAIRMAN HETTEL: They are obligated funds, which whether or not they're spent is immaterial, they are obligated, so that counts against the total \$268 million capability funding, which would be split 85/15 for the Trust Fund-type of stuff?

MR. BRADEN: Yes, sir.

CHAIRMAN HETTEL: Rather than paid upon a delivery-type thing. Does the contract get paid in stages to the builder or --

MR. BRADEN: The builder receives payments in progress payments. It is similar to a normal fixed price contract on a monthly basis. He would submit invoices in a similar way.

CHAIRMAN HETTEL: That was the key, a firm fixed price contract?

MR. BRADEN: Yes, sir.

CHAIRMAN HETTEL: Thank you.

MR. DALE: We do that on a lot of contracts. The majority of what we do is firm, fixed price and we do incremental payments because what we don't want to do is to pay interest because the guy is not going to do all that work for free. He's going to charge you for it.

In the long term we feel it is less expensive to deliver it this way when we do incremental monthly payments, but that does require us to get full funding up front.

CHAIRMAN HETTEL: In simple terms that I can understand, we have to obligate between \$20 million and \$30 million to build this, but it may not actually be paid out until FY 2017?

MR. DALE: Yes sir.

CHAIRMAN HETTEL: Even though we are saying you need \$268 million capability funding, that money really actually isn't spent until another year from now, although it's obligated, which you have to count in the --

MR. DALE: That is correct, we obligate it, which is essentially the way we operate typical contracts. When we get a fully funded contract, we make an award, it obligates all the funds, and we make incremental payments.

The contract actually doesn't get paid out until the job is finished, but we do it on a monthly basis. So very consistent. Are there any other questions on the wicket lifter or other issues concerning the Olmsted project.

OK, moving on to the Lower Monongahela River, Locks and Dams 2, 3, and 4 project. Can you pull up the Lower Mon project presentation?

The next project I'm going to talk about is the Lower Monongahela River, Locks and Dams 2, 3, and 4 project. Again, this is one of our mega projects within the Great Lakes and Ohio River Division and the number two priority on the Board's list and our list of new construction projects.

I'm going to move fairly quickly through several of the slides that you've already seen and get to the update of the status of the progress on the project portion of the presentation.

I think everyone is aware of the scope of the project. Essentially we've got three locks that are in the scope of this project. Locks 2, 3 and 4. We finished the removal of the fixed crest dam and construction of the gated dam at Lock and Dam 2 at Braddock [located at Monongahela River mile

point 11.3 from Pittsburgh, Pennsylvania]. The dam became fully operational in April 2004. We've got that one done.

We are now working on Lock and Dam 4, which is located at Charleroi [located at Monongahela River mile point 41.5 from Pittsburgh, Pennsylvania]. That's the one we're going to talk about today. When we get done at Charleroi, we will take Lock and Dam 3 out of service. It's a two for three, we go from three locks and dams to two locks and dams, and we remove the lock and dam at Elizabeth [located at Monongahela River mile point 23.8 from Pittsburgh, Pennsylvania]. That's ultimately what we're doing here.

CHAIRMAN HETTEL: David.

MR. DALE: Yes, sir.

CHAIRMAN HETTEL: Would you do me a favor and go back to slide three for a minute? I take it on the agenda -- it says you're going to talk about a decision on the Port Perry Railroad Bridge and the deferral of the construction of the landside lock chamber at Charleroi.

MR. DALE: Yes sir, if you want to do that now.

CHAIRMAN HETTEL: I just want to make sure that the Board understands that the differential of the \$481 million, which was \$1.2 billion I think to complete this job.

MR. DALE: Yes.

CHAIRMAN HETTEL: If you're going to do it in that order, fine. I just want to make sure --

MR. DALE: No, I can touch on that. Ultimately we talked about this at the last couple of Board meetings, but we have taken the step of saying at this point in time and we don't keep carrying this big number that really isn't applicable to what our plan is, we've taken the big number out and said let's talk about what we're going to deliver.

We have taken the construction of the landside lock chamber and the Port Perry Railroad Bridge out of our analysis and we've set them aside because we've made the decision that we're going to defer those out into the future. By deferring those two pieces of work, which is the relocation of the Port Perry Railroad Bridge and the construction of the landside chamber of the lock, we still achieve -- even though we defer -- we still achieve ninety percent of the benefits.

That's our way ahead, that's the route we're on and you'll see that reflected in our numbers as we try to judge progress. If you start throwing too big a number out there, you lose some detail. So Mr. Chairman, did that answer your question relative to that?

CHAIRMAN HETTEL: Yes. Just to make sure I'm on the same page, David, at our last meeting you said it was approximately \$738 million to build the riverside lock chamber.

MR. DALE: That \$738 million figure is the estimated allocations through the end of fiscal year 2016 that we will have allocated on the project.

CHAIRMAN HETTEL: Okay. And what is the cost of deferring the removal of the Port Perry Railroad Bridge and deferring construction of the landside lock chamber?

MR. DALE: I don't remember the exact numbers. As we are talking about the Port Perry Railroad Bridge, a status update, kind of concurrent with us deciding to defer that, the Pittsburgh District has been working with the Coast Guard to go out and look at -- because the Coast Guard decides if we need to relocate the bridge because of clearance. I think at the last Board meeting, you took a vote and said, we don't need that, we can work around it.

The Pittsburgh District has been working with the Coast Guard. They've been inquiring with the industry in the local area and ultimately are getting closer to making a decision on whether or not they think we even need to do it.

It may actually come to a point where the Coast Guard might possibly say we don't need it. They may not. We're not there yet, but that's a decision we're working towards. In the interim we have committed to deferring that work, and that gives us a project that we can deliver 90 percent of the benefits on.

This slide gives you an idea of the schedule for completing various features of the project. Not a whole lot has changed since we reported this to you at the last Board meeting.

Ultimately we're looking at 2023 for project completion. That assumes efficient funding, which we talked about earlier.

CHAIRMAN HETTEL: David, if you could back up to the project completion schedule slide for one minute, please. Thank you. You show the Charleroi river lock chamber completion date in FY 2022. All right. Then you are going to do the dredging. Is that going to be done in conjunction with the completion of the river lock chamber?

MR. DALE: Yes sir.

CHAIRMAN HETTEL: Or are you going to finish the river lock chamber, and then do the dredging and then remove the lock and dam at Elizabeth?

MR. DALE: It could be done concurrently.

CHAIRMAN HETTEL: Concurrently.

MR. DALE: Yes sir.

CHAIRMAN HETTEL: How long do you estimate the removal of Lock and Dam 3 in Elizabeth to take? Is that a yearlong process?

MR. DALE: I will have to check on how long we estimate it to take to remove Lock and Dam 3. I would guess it's going to take at least a year.

CHAIRMAN HETTEL: Could you remove the fixed crest dam at Elizabeth and utilize the Charleroi lock chamber before you start demolishing the lock chamber at Elizabeth? That might be an opportunity to pull it a little bit to the left.

MR. DALE: Let me work on that one and report back to the Board because one of our initiatives is to start looking at what can we do to start trying to pull the project to the left. We are not there yet and I don't know enough in my head to answer that question. I'll follow up with the Board.

CHAIRMAN HETTEL: Thank you.

MR. DALE: Okay. Again, where we are. Since the last time the Board met in August, we awarded the contract for the completion of the river lock chamber on the 16th of September and we made the decision to defer the landside lock chamber and the Port Perry Railroad Bridge. That are the significant changes here.

Next slide. This is a visual of the ongoing and pending construction activities at Lock and Dam 4. The ongoing and planned activities are color coded so you can see the sequencing of activities.

I'll walk you through the slide. The emptying basin, the area in blue is 96% complete and we should be completing work on it in fiscal year 2016. I believe that work is substantially complete as we speak, so that work is basically done, which is the blue area here. That contract is essentially done.

The work on monoliths M22 through M27 is scheduled to be completed in 2018. That is this portion down here in red. It is about 17% completed.

We just awarded the base contract for monoliths M1 through M7 up here in light blue. You see the base contract here in light blue. The base contract and the options are scheduled to be completed in fiscal year 2022.

You can see these various colors in between monoliths M1 to M7 and M22 and M27. These are the options to the base contract that we have. We will award the options as we progress through each phase of the work, which is essentially the middle wall.

I wanted to lay that out for you. You can see the sequence of activities as we in fill and complete various parts of the wall. That is really the plan for this project. Next slide.

This is an enlargement of the schematic of the middle wall. If you go back to the previous slide, this colored section of wall is broken down in a little more detail here to make it a bit easier to follow the process.

MR. MECKLENBORG: David, this is Dan Mecklenborg. On that slide, the four RCC [River Chamber Completion] elements all are planned for completion in 2022. Do those elements essentially have a construction process that run in parallel?

MR. DALE: Yes sir. Right now that contract is scheduled to be completed in fiscal year 2022. It is one contract with multiple options. The contractor will progress down the wall in pieces and parts will be done incrementally.

MR. MECKLENBORG: Okay. So the colors are not necessarily indicative of the time of completion, are they?

MR. DALE: No. It's really when we would award those options, the phases that we would work our way through, what options. If we award an option sooner, there is the potential that we would get that section completed a bit sooner.

CHAIRMAN HETTEL: David, is that the same contractor?

MR. DALE: The river chamber completion contract are the same contractors, yes. So the RCC's that you see there, that would be one contract with a base contract and multiple options. It's one contractor with multiple options on that contract.

CHAIRMAN HETTEL: Is that the same contractor that's in there now?

MR. DALE: No sir. There are two contractors on-site. This contractor is a different contractor, M22 through M27 than this guy. Is that correct, Jeanine?

MS. HOEY. Yes that's correct. It's the same contractor that did the river wall.

MAJOR GENERAL JACKSON: David, the contractor that is under contract right now, that work is fully funded to completion, that component of construction?

MR. DALE: Yes sir. This one here [M22 – M27] is fully funded to completion. This base contract [M1 – M7] is funded to completion. The rest of these are not funded to completion. They need funds to award. As we think about what are our next steps will be, we need capability funding so we can award these options as planned.

MAJOR GENERAL JACKSON: Right. David, can you go back to the previous slide? Same question. Of this color-coded schematic that you have here, where are you able to complete now, based on what funding you have, and then, where are you at a stopping point awaiting additional funding?

MR. DALE: Sir if we were to receive no more funding from this point forward, we have substantially completed this portion right here, the emptying basin, the area in blue. It's 96% complete and is scheduled to be completed in fiscal year 2016. We have this area here, M22 through M27, the area in red, which is under construction, fully funded.

MAJOR GENERAL JACKSON: Right.

MR. DALE: So we'd be able to complete that and then we'd have to stop construction.

MAJOR GENERAL JACKSON: What is the impact to the operation of the system -- and I define the system as the three locks in this Lower Mon project, if you have to stop construction now based on funding that you have as of today. I am trying to understand the risk.

MR. DALE: Sir the risk is we would not achieve the benefits that the project is intended for,

which is to essentially remove the lock and dam at Elizabeth and rehabilitate the existing structure at Charleroi so that it is reliable. I don't know if that answers your question, but that's what would happen. If you need more details, we can provide that to you.

MAJOR GENERAL JACKSON: No thank you, I'm just trying to paint a picture and provide a bit of context to this project.

MR. DALE: Yes sir. The existing project is operational. As we speak we are locking boats, but it's not the most efficient operation and it's an aging structure that needs to be taken care of.

CHAIRMAN HETTEL: David, I think it also would mean you'd have to have to spend more operations and maintenance dollars at Elizabeth if you didn't complete this project.

MR. DALE: Absolutely sir. There would be second order impacts. We would have additional operations and maintenance expenditures at Elizabeth. We' would have to think about what additional operations and maintenance activities would have to be performed at Charleroi. There would definitely be second order impacts. But ultimately the real baseline is you wouldn't achieve the benefits which are to avoid those impacts.

MR. MCKEE: David, Jeff McKee. You would also be able to complete the base contract for the river chamber if we got no more funding because that's been awarded.

MR. DALE: Yes sir, that was fully funded, the base contract.

CHAIRMAN HETTEL: David, with respect to options one, two, three, four, and five in your previous slide, do you have an estimate of the cost on those options for the contract? What I would like to know is, is there a chance that the contractor can come in above what your capability funding is or -- and I resort back to the Olmsted scenario. Can you please explain the difference on that? If you have estimated your capability funding but yet you haven't let these contracts, how do you know that the contract --

MR. DALE: Well -- that's a good question, Marty. This contract is awarded. We have pricing, firm fixed pricing for those options. We have prices already defined and it's a matter of us executing those options. We do have that priced out and that's written into our capability funding analysis.

CHAIRMAN HETTEL: Okay. Good.

MR. DALE: Which is different than at Olmsted to a certain extent where at Olmsted it is cost reimbursable. Yes, we have a contract, but it is really about what work that is performed. This is more defined at this point in time.

CHAIRMAN HETTEL: So all this work is pretty well defined on a cost basis through 2022 with the current contract or the --

MR. DALE: On a firm fixed price contract not all of the options are awarded, but we'll have a firm fixed price contract through that time frame.

CHAIRMAN HETTEL: Good. Thank you.

MR. DALE: One of the things that I'm going to go back and challenge the team for this project, yes this is a great plan, it's well thought out. But I want to challenge the team to go back and look for opportunities to improve the delivery of the project and advance the schedule and is there anything they can do to pull the project to the left?

Sometimes that may mean we have to change something and we may come back to the Board and say if we do this, we think we can get this sooner, but that may mean we have to adjust the plan some.

CHAIRMAN HETTEL: As long as the price doesn't go up, that would be great.

MR. DALE: That's correct. As long as the total price does not go up, however if we try to do more sooner rather than later, it's going to cost more now rather than later, but we don't want the total project cost to go up.

This next slide shows a couple of pictures at the project site.

This next slide shows the time and cost scorecard project the project through October 2015. Keep in mind we've adapted the estimated cost at completion and the project completion date to the fact that we do not have a landside lock chamber nor the Port Perry Railroad Bridge relocation in here, so I'm going to try to stop talking about that as we move forward.

This next slide shows where we think project expenditures are going to be for the overall project. At present we are carrying about \$151,000,000 of risk or contingency costs, however you want to call it, on the project. The current forecasted total project cost without contingency is \$1.069 billion. The current forecasted total project cost with contingency is \$1.220 billion. Both of those estimates are based on not including the land side lock chamber or the relocation of the Port Perry Railroad Bridge.

Next slide. Future challenges. We have a plan. It's a well-thought-out plan. The key is to make sure we can follow through on that plan with efficient scheduling and funding.

That concludes my presentation on the Lower Mon project, subject to your questions.

CHAIRMAN HETTEL: David, hold on. Let me get out my calculator. The \$579 million in sunk costs which you show on slide 11, David, I take it that is what you've spent so far?

MR. DALE: Yes sir. That is the actual cost of work performed.

CHAIRMAN HETTEL: When you look at the remaining cost of \$481 million, add those together, it's \$1.060 billion and you've got an estimated cost of \$1.220 billion. That could possibly be a savings of \$160 million; is that right?

MR. DALE: I don't have my calculator here with me, but I'll trust that yours is correct.

CHAIRMAN HETTEL: Okay, thank you.

MR. DALE: I will tell you I don't want you to walk away from today's meeting thinking we are going to ignore the risks. The risks are there for a reason. That contingency is there for a reason. Until we actively do something to change that, that is what we think the number will be with a high level of confidence. Don't think just because risk is there it's not going to occur. Right now what we're seeing is the risk is there, we've priced it into our project cost estimates and we have an 80 percent confidence level we can deliver at that number or less. What that means is there is also a twenty percent chance it could be more than that. We are working really hard to make sure that doesn't happen, but it is not an absolute.

CHAIRMAN HETTEL: David, I have faith in you and your team and I always look at best case scenario. Keep up the good work and let's save that \$160 million.

MR. DALE: One last thing. I would ask you visit these various project sites, please take a moment and recognize the good work being done every day and make sure you talk to the guys out in the field because they are the ones who are really doing the hard work. I get the pleasure and the easy task of briefing you guys, but the people in the field are the ones who are actually doing it.

Make sure you take time when you're at Olmsted or you're at lower Mon let the folks know they're doing good work because I think they really are. I think I'm getting to the end of what I had to say.

The last thing I wanted to provide an update on was an update on the Chickamauga Lock benefit to cost ratio, the economic re-evaluation. We talked about this earlier, but ultimately the Chickamauga lock economic re-evaluation is in process. We are getting to the final stages.

We should complete it by late spring. You might ask the question, "Well, why is it taking so long?" Well, if you remember back at the summer Board meeting in Nashville we recognized that we had this significant cost for the rock anchors and we wanted to make sure we included that in our analysis.

That's being included in the analysis and the analysis is going through the ATR [the Corps' Agency Technical Review] process literally as we speak.

We are far enough along to tell you that the numbers we have shared with you in the past regarding the B-C [benefit to cost] ratio aren't going to change a whole lot.

We don't have the final official numbers yet, but they are still at the seven percent discount rate the benefit-cost ratio, which is probably going to be somewhere between 0.5 and 0.8, somewhere in that neighborhood. So it does not look like we are going to break into the positive or be above one.

There is a subtlety that I want to make sure you're tracking, because some folks have raised the question, "You're going to have to take care of the dam" and "You're going to have to do all this what we call advance maintenance to keep the lock operational" and that is a true statement and that is factored into our economic analysis already.

Even though we recognize we are going to have to spend \$360 million to install rock anchors,

we still get the B-C ratio that we're talking about here. I just wanted to share that with you to make sure you don't think we're ignoring the rock anchors. Any questions on that? Yes, sir.

CHAIRMAN HETTEL: I was looking for the rest of the Board to see if they wanted to chime in first. Okay. For your economic evaluation on Chickamauga, what project cost figure are you using? Is it the \$1.224 billion in Joe's [Mr. Joseph Aldridge] report?

MR. DALE: No sir. We are assuming efficient funding.

CHAIRMAN HETTEL: So you are using --

MR. DALE: \$845 million without inflation.

CHAIRMAN HETTEL: \$659 million is on your efficient funding level if I added up correctly the numbers you gave us earlier.

MR. DALE: Okay.

CHAIRMAN HETTEL: So the BCR you think is not going to change even though the total price went down by \$379 million?

MR. DALE: I don't think the total price went down.

CHAIRMAN HETTEL: Well, if the total price in Joe's report is \$1.224 billion --

MR. DALE: I think that we probably need to take you through a very detailed -- and I will be glad to -- I was talking to somebody and they asked me some questions similar in line.

I want to be as transparent as possible. If you guys want to, we will be glad to take you through the details, but a lot of this has to do with what year you're measured against; is it fully funded, is it not fully funded; inflated, not inflated. There are a lot of details that get buried in there.

What I will tell you is this is a B-C ratio, as it is going through a very extensive ATR, will be policy-compliant with the Corps' processes that we are required to follow. It is a balanced approach so that we treat every project the same. They all get treated equally.

We probably need to take you through the nits and noids, if you would like, to see all of the details because it is very complex, much more complex than we can cover here in this forum. But I don't want you to walk away thinking we don't want to talk about it. We're glad to take you through that at your leisure or maybe at your pain, but I'll be glad to take you through that.

CHAIRMAN HETTEL: Well, I hope you can understand our questioning that when you say the BCR is not going to change when the cost goes down by \$379 million, we struggle with why the BCR wouldn't go up if you're using a \$659 million number.

MR. MECKLENBORG: Yes, David, this is Dan Mecklenborg. Your reference to the \$360 million additional expense for the rock anchors -- which is what? Is that the major rehabilitation

expense or an O&M expense or what?

MR. DALE: The “without project” condition would assume that it would be O&M or a major rehabilitation, it is still O&M-funded money, would probably come – it would be O&M.

MR. MECKLENBORG: And so that \$360 million is not included in the project cost?

MR. DALE: No. No, it's not true. Well, it is not included in the project cost because that is a cost you would avoid.

MR. MECKLENBORG: Okay.

MR. DALE: So that would be one of the benefits. If you do this project you would avoid having to do that advanced maintenance. But we recognize when you look at the benefits that you're avoiding, we're factoring in that there's \$360 million of costs on that side of the table that we could avoid and we're still coming up with the BCR ratio that we're talking about.

MR. MECKLENBORG: Okay. Thank you.

MR. DALE: Like I said, there is a standing invite if you want the detailed -- I'll take you through the economics on Chickamauga lock, and explain all the details so that we can better understand it.

CHAIRMAN HETTEL: When do you think you'll have that done, the economic analysis?

MR. DALE: It will be April. Should be through the ATR process, certified, and be final.

CHAIRMAN HETTEL: Then at our May meeting you could go through in detail the analysis and the details with us?

MR. DALE: I will be glad to. I will tell you there are a lot of details, but I can certainly do that, yes sir.

CHAIRMAN HETTEL: Okay. Thanks.

MR. DALE: I am concerned that in this meeting that is a lot of details. But maybe the review can be done at a pre-meeting, maybe the night before or something like that. I would be glad to do that.

CHAIRMAN HETTEL: We are talking about holding our Users Board meeting number 79 in Pittsburgh. I don't know if that might be something if we -- I know you have FACA [Federal Advisory Committee Act] rules with “X” amount of people in attendance. But if we could just understand the economic re-evaluation and the way the BCR was calculated would be very helpful.

I am not an economist, but reducing the price of that project by \$379 million seems to me would increase the benefit/cost ratio. I know you have looked at previous tonnage and everything else, so a little bit of explanation on that would be helpful.

MR. DALE: I would be glad to. Okay. Thank you very much.

MR. POINTON: Marty, David and I will work on that and I'll coordinate with you about trying to do something. I believe we have an opportunity to do an informational type of gathering that wouldn't be in violation of FACA rules. I'll check into that and I'll get back to you.

CHAIRMAN HETTEL: Okay. Thanks, Mark.

MR. DALE: Thank you all very much. I appreciate your time and attention.

MR. POINTON: Thanks, David. Next on the agenda we have Mr. Patrick J. Donovan, Chief of our Planning Center of Expertise on Inland Navigation, who will give us an overview of our economic analysis and BCR process.

MR. PATRICK J. DONOVAN: I am Patrick Donovan, also known as "P.J.". I'd like to begin by briefing telling you a little bit about who we are and how we are organized at the Planning Center of Expertise on Inland Navigation, also referred to as the "PCINX" so you get an understanding of our activities. We are vertically integrated and Mr. Mark Hammond, who is the Chief Economist for LRD [the Great Lakes and Ohio River Division] is the co-technical director of the PCXIN along with myself. We are both co-technical directors. Mark is the economist. I'm the planner.

Mark was supposed to be here today to give this presentation, but Delta Airlines decided that he wasn't going to join us. So you get to hear a planner talk about navigation economics.

If there are any deep questions, I think the Chairman's idea of meeting and talking about the Chickamauga Lock economic re-evaluation report would be very beneficial and we can do a deep dive at that time.

When we started pulling this presentation together as a team, we started with about 60 slides. Then we just started chopping because of the details. The detailed nature of this work is just mind-boggling. It gets very detailed. It gets in really deep. What we are trying to do today is set the stage with a "BCR 101", which I think will be a great opportunity to formulate questions for the next time when we get together to talk about Chickamauga or maybe the next project that will come up that we have to take a deep dive into.

I'll go through the slides. After that, I will provide you with an update on the strategy to develop national commodity forecasts because I heard that when I talked to you about commodity forecasts at your Users Board meeting in Baltimore [Users Board meeting number 73 held on November 18, 2014] I heard that there needed to be a strategy to develop national commodity forecasts. We are currently formulating a program and I'll share where we are in that process.

Next slide. Cost/benefit analysis, why is it used? Well, it goes back all the way to 1939. This is a process that has been around the Army Corps of Engineers for a very long time. As you can imagine with a lot of processes, it has evolved over time. As we evolved, our projects became more sophisticated and our budgeting processes have become more sophisticated, our measurement of costs and benefits have become more sophisticated and this process has gotten more sophisticated and that's where we are today. We are involved in a very sophisticated process to determine cost and benefits.

So what is benefit to cost analysis? It's a technique to evaluate monetary terms. What is achieved? The benefits. In comparison to what is invested, that's the cost. So it's a very basic approach.

What we hear a lot about, though, is “without project” condition and “with project” condition, and I'll take a minute in the upcoming slide to do a deep dive on those. If we go back and look at comparing costs and benefits over time, it's comparing the current “without project” condition with the future “with project” condition.

Here are the metrics. Net benefits, which are benefits minus costs. The benefit to cost ratio or “BCR” is the benefits divided by costs. Next slide.

CHAIRMAN HETTEL: P.J., let me ask you something about that.

MR. DONOVAN: Yes sir.

CHAIRMAN HETTEL: In the case of the Chickamauga lock “with project” condition and “without project” condition, we know the project condition at the current chamber at Chickamauga is going to require \$360 million to keep that chamber operational.

MR. DONOVAN: The investment, correct.

CHAIRMAN HETTEL: Okay. So would that \$360 million be included under the “without project” condition or are you including it in the “with project” condition in the analysis of Chickamauga?

MR. DONOVAN: We did both. We run both scenarios. We run the “without project” condition and the “with project” condition.

CHAIRMAN HETTEL: And I'm going to resort back and maybe you can answer this question as we go through --

MR. DONOVAN: Right. And some of these will be addressed.

CHAIRMAN HETTEL: A \$379 million reduction in total project cost for the Chickamauga lock plus a savings of not putting \$360 million in additional costs for rock anchors in the original chamber.

MR. DONOVAN: Right.

CHAIRMAN HETTEL: I'm still struggling with how the BCR for the Chickamauga lock project cannot improve.

MR. DONOVAN: Right. As we move through the slides, you will see the other factors that come into determining this. There are multiple factors that start feeding into the analysis and into the process. That is one component of the process, you're absolutely right.

As we look at that it does play into the process, but at the end of the day there are other components of the process and we will show those in the upcoming slide. Maybe that will answer the question. If I don't answer your questions, we can schedule something for our next meeting and make sure we do a deep dive on that to answer you.

Next slide please. Here are some examples of costs. "Without project" condition, normal operating and maintenance costs. Cyclical maintenance and unexpected repair and replacement costs. Non-structural costs, the cost of helper boats, the cost of mooring cells.

Then when you get into the "with project" condition, you have normal operation and maintenance costs, cyclical maintenance and unexpected repair costs and then construction and operations and maintenance costs.

Right there is where you start to see the money move in and out of the process. You start seeing it in the "without project" condition and the "with project" condition.

Next slide. Here are some examples of benefits. Let's look at how we do this in the "with project" and "without project" condition.

We look at the National Economic Development [NED] benefits. We look at the Regional Economic Development [RED] benefits. There are Other Social Effects [OSE] benefits and there are Environmental Quality [EQ] benefits.

When we are doing the analysis, though, when we get into the "with project" condition, we are really talking about transportation rate savings. That is what drives this discussion in the BCR for us. At the end of the day it is transportation rate savings. It is the savings you provide to the nation. Then we get into some jobs, income at the local benefit. We do some cultural considerations and you see environmental impacts.

We could do such a deep dive on each one of these benefit categories and how about how they are calculated. Next slide.

CHAIRMAN HETTEL: P.J., I'm sorry.

MR. DONOVAN: Yes sir.

CHAIRMAN HETTEL: Let me ask you a question about the previous slide. Regarding the category of Regional Economic Development and jobs and income in the "with project" condition and the "without project" condition.

MR. DONOVAN: Right.

CHAIRMAN HETTEL: As we heard at our summer meeting in Nashville, there are shippers that have stated they would have put more commodity tonnage on the river in the past if they had a more reliable lock chamber at Chickamauga lock and they would put more commodity tonnage on the river in the future if they have a more reliable lock chamber at Chickamauga lock in the future. Is that

part of your Regional Economic Development analysis?

MR. DONOVAN: That is part of our forecasting effort. That shows up in the forecasting which we use to forecast National Economic Development benefits, but yes, it can also show in the Regional Economic Development benefits.

CHAIRMAN HETTEL: Okay. The jobs and income that is created, is that only associated with the construction of the new lock or does it take into account the possibility of additional commodity tonnage being shipped on the river?

MR. DONOVAN: Once again, that is included in the forecasting effort and it can be performed on the regional level, and the analysis can include projections of future employment.

CHAIRMAN HETTEL: Okay. Thank you.

MR. DONOVAN: However, keep in mind we can't capture those in our analysis. We are only using the national benefits. That is where it gets really convoluted. This is why this is a great discussion that probably needs more time than what we have allotted today.

I can bring the SMEs [Subject Matter Experts] together to take a deep dive on this discussion because this is a policy implication we are talking about here. We all scratch our heads sometimes as we sit around the table, and as I have immersed myself in this position for the last fifteen months, this is something we point to quite a bit and say, there are a lot of external users and a lot of external benefits to this system that we are not capturing today that may answer some of the questions that you raise Mr. Chairman. I respect that question and we need to discuss this at greater length in the future.

CHAIRMAN HETTEL: Thank you PJ. If you can help me understand the Regional Economic Development benefits. Do Regional Economic Development benefits include pleasure boat and recreational boating activities?

MR. DONOVAN: We can capture recreational boating benefits, yes sir. There is a slide that addresses that.

CHAIRMAN HETTEL: Because recreational boating is a huge user of Chickamauga lock.

MR. DONOVAN: That is true. It is a huge user.

CHAIRMAN HETTEL: Okay, thank you.

MR. DONOVAN: Yes sir. In forecasting the regional economic impacts, the RED analysis that University of Tennessee did for us, you will see that. The regional economic development impacts came out very strong.

MAJOR GENERAL JACKSON: P.J., General Jackson. I know you want to get on with this and I just want to ask two quick questions. One is I think you answered this maybe in your last round, but how conservative are we in our benefit calculations?

MR. DONOVAN: Conservative.

MAJOR GENERAL JACKSON: Very conservative?

MR. DONOVAN: Yes, sir.

MAJOR GENERAL JACKSON: Okay. And the second question I had was how do we stack up against other Federal agencies who calculate or justify economic investment? I mean, do they use the same type of modeling or models for economics as we do or are we way out different than others? I'm just trying to get some idea of how we stack up against others who compete for funds based on BCR.

MR. DONOVAN: This is a very high level conversation, sir, and at the end of the day I would suggest to you that other Federal transportation agencies are not under such scrutiny as ourselves from OMB.

I think there are some -- as our processes have evolved, we have become very sophisticated and we have implemented policies in response to issues. Over time we have gotten to the point where we are today in the sophistication of our processes. With that being said, can we dial it back and maybe look at it differently? Once again, that is a high level policy discussion which is way above my pay grade.

MAJOR GENERAL JACKSON: Is that a policy discussion within the Army Corps of Engineers, within the Army, or within OMB? I mean, where actually do we need to focus these types of policy discussions -- this is -- I'm putting on my Corps of Engineers hat.

MR. DONOVAN: Yes sir.

MAJOR GENERAL JACKSON: I'm trying to understand as the Director of the Civil Works program, where does that discussion need to take place?

MR. DONOVAN: There are very senior leaders assembled around this table. Of course, I would look through my vertical alignment which would come into that.

MAJOR GENERAL JACKSON: I'm looking at you. I just want you to tell me straight up --

MR. DONOVAN: I think it's a high level, sir. I think it's higher than me. It may be higher than this Board. That's where I'm sensing it is. It's further up the chain, the ASA's office [Office of the Assistant Secretary of the Army for Civil Works] or maybe even higher.

We may even be bumping into Congressional issues at this point. This group becomes a big supporter of that if indeed we can formulate a strategy that makes sense that allows this sophisticated process to start capturing other benefits and other costs that makes our procedures and processes much more in line with national processes, that's a good discussion to have, sir.

CHAIRMAN HETTEL: P.J., I'm going to dovetail off the General's question and ask our Maritime Administration representative, Mr. Paape, a question. Bill, do you use a BCR process when

evaluating TIGER [Transportation Investment Generating Economic Recovery] grants and is that evaluation process different than the Corps' BCR process?

MR. PAAPE: The TIGER program managed by the U.S. Department of Transportation does incorporate BCR reviews. One of the considerations when applications are under review is to go through that process with our economic review team. So BCRs are definitely part of the application and then we validate those at the Secretary's office.

CHAIRMAN HETTEL: Is there a minimum BCR to become available for a TIGER grant?

MR. PAAPE: When grant applicants are competing for TIGER grants, the veracity of the BCR calculations are considered when a TIGER grant is selected for funding. I don't know if that answers your question.

CHAIRMAN HETTEL: You don't have a minimum BCR that applications have to have. You are not looking for a minimum of 2.5 or 2 to 1 or whatever the benefit-cost ratio is?

MR. PAAPE: The better the BCR, the greater the likelihood that they'll become competitive for selection.

CHAIRMAN HETTEL: It would be interesting to see what the U.S. DOT [U.S. Department of Transportation] does on their BCR process versus what the Corps is obligated or constrained under or whatever you want to call it to do.

MR. PAAPE: I'd be happy to pass some more specific information to P.J. or other members of the Corps for that discussion.

CHAIRMAN HETTEL: It's unfortunate that two different Federal agencies are doing it two different ways possibly.

MR. DONOVAN: Right. Possibly.

CHAIRMAN HETTEL: Yes, possibly. Okay. Thank you.

MR. DONOVAN: Yes, sir. Thank you, Bill. Moving on.

We put together a brief example of an incremental analysis and how this all comes together. Here is your "Without project" condition. There are your costs and your benefits. Then you you're your "With project" conditions, with your three alternative projects, alternative A, alternative B, and alternative C.

Then you go down a row and start seeing the different benefits captured, the different incremental costs, incremental benefits, and incremental net benefits, then you start to see how the BCRs start to fall out, and then the NED plan is the alternative that maximizes net benefits. This is a high level look at how this comes together and how we look at these issues. The National Economic Development plan maximizes the net benefits. Alternative C is the NED plan in this example.

You can start to see when you start looking at different costs, the different amounts of benefits, and you start looking at different costs as you go through the example, the incremental costs, the incremental benefits, and the incremental net benefits, you start to see how we calculate the BCR ratio.

MR. MECKLENBORG: P.J. This is Dan Mecklenborg.

MR. DONOVAN: Yes, sir.

MR. MECKLENBORG: When you say the NED plan maximizes net benefits are we saying that under the Corps' method of analysis we must choose the NED plan?

MR. DONOVAN: Yes sir.

MR. MECKLENBORG: Okay. Thank you very much.

MR. DONOVAN: Yes sir. It is National Economic Development benefits. They are benefits to the nation that this project or system is providing. That is the alternative that we have to select by policy, which is the alternative that we have to select.

CHAIRMAN HETTEL: Aren't regional net benefits part of the national benefits?

MR. DONOVAN: We can calculate them. We can talk about them.

CHAIRMAN HETTEL: Would removing the rock pinnacles below St. Louis would not be included in the calculation of National Economic Development net benefits?

MR. DONOVAN: I'm not sure how that would relate to a lock and dam.

CHAIRMAN HETTEL: Okay. Rehabbing LaGrange wouldn't --

MR. DONOVAN: You have to go back to the "with project" and "without project" conditions and then we look at the impacts of that to the National Economic Development benefits.

CHAIRMAN HETTEL: How can we pull out Regional Economic Development net benefits from the National Economic Development net benefits when the region is part of the national?

MR. DONOVAN: I am not going to disagree with you, sir. I am not going to disagree with it. Once again, these are great discussion points that take more than an overview "BCR 101" presentation to discuss. These are issues we need to do a deep dive into with this Board to get a greater level of understanding. We want to set the stage and help you formulate these questions so that when we do come back we can be very specific in answering the questions you have.

Laying the groundwork today, gathering the questions and coming back with targeted responses to your question may help clarify some of the challenges we have with understanding this sophisticated process.

MR. BELK: Just a couple of comments if I might. This is Eddie Belk. You can select a project

alternative other than the National Economic Development plan, a plan other than the NED plan can be recommended for investment, but the difference in cost between it -- between that “Locally Preferred Plan”, that's what we call it and the NED plan has to be borne by a non-federal project sponsor.

We typically don't see that a lot in navigation arena. We do see it quite a bit in the flood risk management arena. But the point is if there is another plan that a local project sponsor or a partner wants to advance, we can do that if the difference in cost is covered by that non-federal project sponsor.

Part of the deal about using National Economic Development benefits and not considering Regional Economic Development benefits derives from the concept of regional benefits are good, but when evaluating the merits of a project at the federal level we don't want to get in the business of competing between different regions for a given thing.

We want to make our decisions based on national benefits, and if there are regional benefits that evolve from that, that's great. But the investment decision is made nationally because there is a great reluctance to have regions competing against each other. There is probably a more sophisticated answer than that, but I think that is a part of the decision making dynamic at the federal level.

MR. DONOVAN: Yes, sir. I would agree with that. Thank you. Next slide.

“With Project Costs”. These are the “Investment First Costs”. The cost of construction. These cost estimates are certified by our Center of Expertise on Cost Estimating [the USACE Civil Works Cost Engineering and Agency Technical Review Mandatory Center of Expertise located at the Walla Walla District Cost Engineering Branch, Walla Walla, Washington]. This is a risk-based contingency cost. There is an estimate of the “Interest During Construction” and we also estimate the maintenance costs. Those are the scheduled maintenance cost and then there are the costs from associated with risk exposure, the repair and replacement costs. These are with project costs associated with the National Economic Development cost calculation. The cost certification comes back and then we have to estimate the benefits that go with the project.

Next slide. “With Project Benefits.” These are the benefits that are calculated at the NED level. “Inland Navigation Transportation”. This is a reduction in the cost of transportation. Project transit time reduction which is calculated by estimating the processing time and the queue delay. And there are also calculations in the reduction in the cost of transportation associated with a shift in mode of transportation and a shift in market. These are some of the other assumptions we make over the long run.

CHAIRMAN HETTEL: P.J., this is important. Others shift in mode. Can you please expand on that a little more?

MR. DONOVAN: Yes sir.

CHAIRMAN HETTEL: You're assuming that there is sufficient capacity there to move that cargo.

MR. DONOVAN: In the long run. In the long run we assume that there is overland capacity if there is a modal shift. Yes, sir. That is an assumption we make.

CHAIRMAN HETTEL: Is that a true assumption?

MR. DONOVAN: That is an assumption we make, sir. As we move forward on this discussion and we do our analysis, this is something we need to continue to update, and I think we'd look at this in the development of national forecasts. I think this becomes critical. As we see the realignment of the railroads and the changing dynamics with the Class I railroads, we see that they are consolidating, we see the impact on coal shipments.

I really could go into a lengthier discussion here but I am trying not to. But yes, I think there needs to be a discussion here. We need to look at that assumption as we see changing market conditions especially with the Class I railroads as we look at the impact of crude oil coming out of the Midwest, what does that mean and how does that relate to grain shipments.

And then of course, as we see a reduction in coal shipments on those lines, what does that mean as well? Is there overland capacity to support bulk or aggregate commodity moves? There is a changing marketplace on this assumption. This is something that has to be addressed that we need to look at in the long run.

CHAIRMAN HETTEL: So if the capacity isn't there you can't move the commodity, which would then cause regional economic disruption that would be a loss of jobs, incomes, all of that. I think it's really important, when you look at the shift in mode, to first analyze whether or not the capacity is there -- rather than assuming that the capacity is there. I think it needs to be verified whether or not it is there in my opinion.

MR. DONOVAN: That is correct sir. And that is an added cost to the project, yes. And it is, as I previously stated, we see a changing dynamic in the surface transportation networks. As we look at the long-run capacity of the transportation network, this changing dynamic suggests we need to look at this and we move forward on some projects. There is a change in the marketplace.

MR. BELK: Eddie Belk again. I think part of the issue here is the shift also is from other modes to water. I think that's part of this whole business of water compelled rates I think comes into play here. So it is not necessarily waterborne commerce shifting to other modes, it is other modes that may shift bulk commodities to water because of that water compelled rate.

MR. DONOVAN: That is correct. That is something we are working on together. We saw that up on the Great Lakes. A lot of discussion points with this. So yes, that is something that is occurring in the marketplace and we have to look at the benefits we provide in that long-run assumption. There is a positive benefit potential there to our system. "Without Project Repair and Replacement Costs Avoided." Then "Other Benefits" including recreation, water supply, hydropower electricity generation, and the reduced cost of repairs to highways. We know what they are. Other benefits are only considered when selecting between projects if the NED BCR is greater than one.

CHAIRMAN HETTEL: Okay. Under that scenario, if in the case of Chickamauga, the economic re-evaluation is a NED BCR of less than 1.0, you're not considering the impacts to recreation?

MR. DONOVAN: No, sir. We know that there are recreation benefits. We understand what they are. This is something -- you're hitting on -- we share that same frustration. As we look at doing a BCR analysis, I ask that question of the team all the time. Why can't I include these benefits? Why can't I calculate these benefits?

CHAIRMAN HETTEL: Trust me, I don't want to build a chamber at Chickamauga just for recreational traffic.

MR. DONOVAN: Right.

CHAIRMAN HETTEL: But I would think that the people who support all the recreational boating activities in that part of the state would be interested to know that their benefits are not being considered. I don't know if they know that or not.

MR. DONOVAN: I am not sure they do. Next slide. These are some of the NED drivers when we look at benefits. "Inland Navigation Transportation." We look at capacity and commodity forecasts. These are some of the sources of information we used to develop forecasts.

In developing estimates of transportation rate savings we conduct industry shipper surveys, the Surface Transportation Bureau's Rail Waybill data, the Waybill data collected from the railroads. And we look at engineering reliability industry impacts.

As we look at NED drivers, we look at Repair and Replacement Costs that are avoided and then we take the engineering and reliability and factor that in as well. These are some of the benefits we go after to offset the costs, for example increased "Engineering Reliability" as captured by measuring Operational Condition Assessments [OCA] and the Operational Risk Assessments [ORA].

CHAIRMAN HETTEL: P.J., I have a question for you on the surveys. Do you verify what you receive back? How do you verify that? I may tell you I'm Mr. Railroad and my cost from point A to point B is \$6 when in actuality -- or my rate is \$6 when in actuality it could be \$12.

MR. DONOVAN: Yes sir. We can capture some of that through the Surface Transportation Bureau's Rail Waybill data. You can see some of the rates from the railroad --

CHAIRMAN HETTEL: Okay. So you do some verification on that?

MR. DONOVAN: Yes, sir. We do quality control on that. We verify it through other means as well. It's all of these. We look at all of this as we put together our transportation rate savings. We do surveys and we look at the Waybill data so we make sure people are reporting correctly. We look at the Informa vessel operating cost data. That is the validation process, these industry reports and the government reports, and the surveys become part of that process to make sure they are in sync with what we are seeing.

MAJOR GENERAL JACKSON: P.J., if I could, could you go back one slide?

MR. DONOVAN: Yes, sir.

MAJOR GENERAL JACKSON: I want to go to the asterisk at the bottom of the slide. Is there -- do we have policy that prevents us --

MR. DONOVAN: It is policy driven. Everything we do is policy constrained, sir, by policy.

MAJOR GENERAL JACKSON: Is it a USACE policy or is it a higher policy?

MR. DONOVAN: It is a USACE policy that sits on my desk.

MAJOR GENERAL JACKSON: A USACE policy?

MR. DONOVAN: It sits on my desk. Now, is that generated from a higher policy? Quite possibly. But the policy on my desk is ours.

MAJOR GENERAL JACKSON: Thank you.

MR. DONOVAN: Yes, sir.

MR. MCCOY: P.J., could you go back one slide, please?

MR. DONOVAN: Yes, sir.

MR. MCCOY: I just want to point out that when you are discussing how you develop your estimates of benefits, we have spent a good part of the last four or five Users Board meetings pointing out and trying to correct the shortcomings in the LPMS system with respect to the data. And Dr. Sudol earlier pointed out that the data reported in the LPMS system isn't entirely accurate. And the accuracy of the data isn't finalized until the report comes from industry. Am I understanding that correctly?

DR. SUDOL: I think there is still that misconception. The misconception is it is not LPMS. It is from the Waterborne Commerce Statistics Center where the data that we send to P.J. and his group, that is where the data comes from.

MAJOR GENERAL JACKSON: And that data from the Waterborne Commerce Statistics Center is provided by industry as you describe.

DR. SUDOL: That is correct sir, provided by industry to the Waterborne Commerce --

MAJOR GENERAL JACKSON: That is what goes into this calculation.

MR. MCCOY: So the LPMS section there is incorrect then on your slide.

MR. DONOVAN: Right here?

MR. MCCOY: Yes.

MR. DONOVAN: Capacity?

MR. MCCOY: Yes.

MR. DONOVAN: Think of vessel delays due to capacity constraints at the lock.

DR. SUDOL: There are different parts of LPMS data.

MR. DONOVAN: There are two things going on here.

DR. SUDOL: The number of tows that go through the locks is recorded in LPMS. The tons of shipments and what is shipped, the commodities and how much, that is recorded by Waterborne Commerce. But the number of tows is collected by LPMS.

MR. DONOVAN: Going back to the points about geography and about delay, how we capture that, how we process that that will show up here. That is how we capture the delay and the project improvement is the benefit if we reduce your delay.

The forecast here is the tonnage that Mark is talking about. It is two separate data sets that come to us. Then it goes through a quality control check. We are not using the data off the website. It is checked for accuracy and quality control when it comes in. We are using quality control to verify the data.

MR. MCCOY: Thanks for clearing that up.

MR. DONOVAN: I hope I cleared it up.

CHAIRMAN HETTEL: P.J., Marty here again. I appreciate the presentation. I am fearful that we have raised more questions than answers we have received.

MR. DONOVAN: That's okay.

CHAIRMAN HETTEL: Where does the shipper/carrier cost and delays at locks and dams come into play?

MR. DONOVAN: Now you're getting into the modeling of the system and how we take the data and put it into modeling, the shipper carrier cost model for a project, when we get into NaSS [Navigation System Simulation] model, we get into the NIM [Navigation Investment Model] model.

Now you are into the actual modeling of how we take the data and we run the analysis on the data. Now you are moving beyond just the basic "BCR 101". Now you are saying, "Now that we have all this data, how do we synthesize all this data through a model."

It could be the SCC [Shipper Carrier Cost] model that we run the datasets through. It could be the NIM model, the Navigation Investment Model, or NaSS, the Navigation System Simulation model, or an old one we are bringing back. For example we are trying to resurrect the old WAM, the Waterways Analysis Model, as a backup for the NaSS model. It's in the modeling then that that starts coming together and we start seeing that.

CHAIRMAN HETTEL: So the shipper/carrier costs are where you get into the LPMS data on transit times at locks?

MR. DONOVAN: Yes, transit times. Yes, the delays.

CHAIRMAN HETTEL: So if the transit times at the locks are incorrect, we've got incorrect shipper/carrier costs?

MR. DONOVAN: Correct.

CHAIRMAN HETTEL: Okay.

MR. DONOVAN: If they are incorrect. But I think we are having the policy discussions to correct that -- so the industry and the Corps were in sync on what "delay" means and changing that policy which should improve that opportunity for us to move forward.

CHAIRMAN HETTEL: And that specifically comes up again at Bayou Sorrel on being able only to go back --

MR. DONOVAN: Oh, it does. It is going to come up everywhere.

CHAIRMAN HETTEL: -- for a whole year of data and trying to figure out what the actual shipper/carrier cost is versus the change in the arrival time.

MR. DONOVAN: Yeah, we see that. We know that. We recognize that in our processes and we understand that this is an ongoing discussion point and how do we improve this and that is why we are working -- Mark and myself are working together to improve that to make sure you have confidence in our analysis. We are moving on that I think in sync that is going to make for a better product. With that being said, Marty, I don't know if it is going to really be the be-all and end-all we need to get the benefits up to where costs are. I don't know. But every incremental increase in benefits helps. An incremental increase in benefits should help us as we do our analysis. I see that and recognize that as we go forward.

Let me jump real quickly. If there are no more questions about this, we are more than willing to come back and do some deep dive on some topics. However that fits appropriately, let us know. I will bring the project managers in, I will bring the economists in, we will bring the models in, we will let you see them. Whatever works to ensure you have a better understanding of this process, we will fully engage in that and make sure that happens.

Switching to developing a set of national commodity forecasts. I clearly heard the first time when we tried to do some indexing of national forecasts -- let's go back. First a little history. Traditionally, the office I am in has done forecasting for projects. Our forecasts were tied to projects. As we moved away from a heavy construction workload, that need to update forecasts got further and further apart so our forecasts have become a little bit stale. We understand that.

Forecasts are only as good as the method you use to update them. If you update them yearly, they're a solid forecast. If you wait five years, they are not as valid. If you wait 50 years, who knows in

50 years? Forecasts are always subject to change. We know that.

We tried to do some indexing to support the Capital Investment Strategy. We did some indexing, that didn't go over very well with you. I heard that loud and clear. We went back to the table working with our IWR partners looking to develop a national program for commodity forecasting. That is a program that needs to be developed. We are in the process of starting to understand what a national forecasting program would look like and then start doing our vertical alignment and socialization of that up the chain of command.

Our initial cost estimates are about in the \$2 million range to develop the program and provide sustainability by commodity and by river basin. Then there is a methodology associated with the program where you have to look at the other federal forecasts that are out there and making sure that there is a horizontal fusion and integration of that data where it is appropriate.

The flip side of that is where can our data in this national forecast modeling help with the U. S. DOT and other agencies. We are at that stage. We are in the program development stage, trying to identify what the program would look like. We are also looking at what is the methodology of the forecast, and that gets very, very painful because it is like doing -- I don't know if you remember in college when you had to go out and do a literature survey to support your thesis.

That is basically what it is; it is going out and looking at all the forecasts that are available nationally that could support our program and to make sure we are getting the best forecasts. We recognize the need for it, we recognize that it needs to be fully integrated across the Corps business lines, and we also understand that it needs to be integrated into other federal agencies as well, so that it is a cross-pollination of data and we are making the best possible decisions and best possible forecasts going forward.

That is where we are on that process. There is more to come. I hope to have the program finalized going into January. Then we will start socializing that up the chain to get some comments and then I would be more than comfortable to bring that back to the Board and share it with you all once my chain of command has had the opportunity to bite off on it and make some comments. If there are no further questions on that.

CHAIRMAN HETTEL: Just a comment. This is why we need a National Freight Transportation Policy. The Maritime Administration and the U.S. DOT has their way of forecasting freight, and you are developing your own way of forecasting freight.

MR. DONOVAN: That's right. Yes, now you see why my hair is turning grayer and grayer every time you see me. I agree. And that is the critical piece. I think when we get into the methodology discussion of a national forecast that supports the Corps' needs, that is why we have to be cognizant of what the other federal agencies are doing and ensuring that our methodology is similar to theirs and vice versa that maybe we don't have to reinvent the wheel. Maybe we can bring some of their processes in and then tailor it and make it fit our needs as we go forward. More to come on this. This is an evolving story. It will take a little bit more time. We are moving forward on it and we hope to have a program built that you all can look at in the spring timeframe.

MR. POINTON: Any more questions or comments for P.J.? Thank you, P.J. I guess we will be

seeing you at the next meeting as well.

MR. DONOVAN: Yes, sir. If not sooner.

MR. POINTON: We are at the point in the agenda for the public comment period. I have had no one indicate to me that they wish to make a public comment, so this is your last chance for anyone in attendance in audience to make a public comment. Is there anybody interested in making a public comment? Going once, going twice. We did have a statement for the record provided by the Pacific Northwest Waterways Association. That statement will become part of the official record of the meeting when we put that together shortly after the conclusion of this meeting is over. I would like to call on any members to offer any comments if anybody has any closing comments. Scott, anything?

MR. G. SCOTT LEININGER: I'm good. No thank you.

MR. POINTON: Thank you. Robert?

MR. MCCOY: I'm good. No thank you.

MR. POINTON: Michael?

MR. SOMALES: I'm good. No thank you.

MR. POINTON: Charlie?

MR. CHARLES A. HAUN: I'm good. No thank you.

MR. POINTON: Dan.

MR. MECKLENBORG: I'm fine. No thank you.

MR. POINTON: All right. Marty, it has come back to you, sir. Do you have any closing remarks?

CHAIRMAN HETTEL: I believe I spoke enough today. Thank you, Mark.

MR. POINTON: Thank you sir, we appreciate your diligence. Before I call on General Jackson, Mr. Crook, would you like to make some comments, sir?

MR. CROOK: No, just thank you for having me and I look forward to working with everybody.

MR. POINTON: Thank you, sir. General?

MAJOR GENERAL JACKSON: Yeah, I'm going to use Marty's mic because it's nice and warmed up.

CHAIRMAN HETTEL: Thank you for indulging me.

MAJOR GENERAL JACKSON: No, that's good. This has been a great discussion and as always, I appreciate the candor and I appreciate the challenges of assumptions and the discussions that take place, which is the way we get better and the way we question the way we do things.

The way we tee up thought in our own heads at least in my view is by having this dialogue. Although I joke, Marty, about the line of questioning, every time you ask a question I'm scurrying through my notes trying to understand how you pulled that rabbit out of your hat.

I learn a lot from the questions of other people, so I appreciate you doing that. For those others who asked questions today, thank you for doing that as well. Thanks to our hosts today again, the St. Louis District, and to all those who did the presentations today, I really appreciate that. The folks who put these meetings together, I appreciate that very much. For those of you who traveled from far away to come here despite the weather I really appreciate that as well.

It sounds to me like we have got quite a few do-outs, things that we owe, things that perhaps -- and I don't know how the Board formalities work. Mark, you could help me on this.

MR. POINTON: Absolutely.

MAJOR GENERAL JACKSON: But I suppose bringing P.J. back in, which I think we definitely want to do, P.J., you've teed up great interest today. I think this is a really big issue, this calculation of BCR. It is something we are having discussions at higher levels about, how do we do this so we make sure we do it right.

There are other ways to potentially calculating the federal investment value, but BCR is what we know today and so that is what we use and that is what everybody is comfortable with. In order to get folks out of the comfort zone of the BCR, we have to think of other ways. I'd ask that, in your own professions as you think about how investment decisions are teed up, what are other ways that you do it besides BCR while at the same time we make sure that we get the most that we can out of our current method, which is the benefit-to-cost ratio.

Maybe, Mark, we have at the next meeting kind of a sidebar seminar that does not take up the time of the meeting, but maybe it is something that we do, like we've done field trips and stuff, but just have a -- however long we think it will take to dig deep into the economics and other things that will satisfy the curiosity and information requirements for Board members should you choose to attend. That might be something to think about as opposed to crucifying P.J. while standing at the podium. But give him plenty of time to really take us down into the weeds and help us understand. That would be something to consider.

MR. POINTON: An excellent idea sir.

MAJOR GENERAL JACKSON: And I'm going to try to get a little bit smarter on it myself in advance because there's a lot to learn and it makes my head spin just thinking about it. I do want to take a minute to recognize a few folks individually who are part of St. Louis District who have done a lot of work to get things set up.

Karen Bautsch, Alan Brandt, and Andy Schimpf. If you're available and are here, if you could

step up here and let me present a coin and say thanks on behalf of the Board. Let's give these guys a round of applause.

(Applause.)

MAJOR GENERAL JACKSON: And before I turn the mic back over to Mark to close us out, I just want to give you all a personal thanks. I know this takes -- especially the Board members and the Federal observers, this is a big chunk of time out of your schedules that are always very, very busy, especially this time of year.

I just want to take the time to say thank you for that, for volunteering, for being a part of this, helping us work through things that probably if I was sitting in your shoes it would be extremely frustrating to try to understand how we do things in the Federal government.

But certainly the dialogue that we have here and the ongoing communication helps both of us understand and be better. I thank you for coming to the meeting and making this a priority and thank you for what you do in your day jobs each and every day to keep our economy on track. Thanks for that.

And for everybody regardless of what your tradition is, I wish you the best of the holidays, Merry Christmas. I hope you and your families have an opportunity to spend time together. Keep your life in balance as we get ready for the next series of meetings that we'll have. Marty, I think the proposals that you have for getting us out to some of these project sites are fantastic and I appreciate your vision in getting us to see things like what we did yesterday which are very helpful.

Even for those of us who have seen many projects like the ones we saw yesterday, to see them again and again is a constant reminder of the challenges that we have, but also the opportunities that we have to make a huge difference through this Board. I thank you for your leadership and for that. Mark, with that, I turn it back over to you.

MR. POINTON: Thank you, sir. I would also like to thank Karen and Alan and Andy and Mike Cox [Mr. Michael D. Cox, Chief, Operations Division, USACE, Rock Island District, who organized site visit to LaGrange Lock and Dam] and the personnel from the Rock Island District. This meeting would not have worked at all today or yesterday's site visits without their dedication to getting that done. I want to extend my own personal thanks to you all. With that, we are ready to adjourn. Can I get a motion to adjourn, gentleman.

MR. MCCOY: So moved.

MR. POINTON: A second.

UNIDENTIFIED BOARD MEMBER: Second.

MR. POINTON: And all in favor?

BOARD MEMBERS: Aye (unanimous).

MR. POINTON: Any nays? Hearing none, the meeting is adjourned. Thank you.

(Ending time: 12:41 p.m.)

CERTIFICATE OF REPORTER

STATE OF MISSOURI)

) ss.

CITY OF ST. LOUIS)

I, William L. DeVries, a Certified Court Reporter (MO), Certified Shorthand Reporter (IL), Registered Diplomat Reporter, Certified Realtime Reporter, and a Notary Public within and for the State of Missouri, do hereby certify that the meeting aforementioned was held on the time and in the place previously described.

IN WITNESS WHEREOF, I have hereunto set my hand and seal.

Notary Public within and for
the State of Missouri

My commission expires June 20, 2016.