

Minutes
Inland Waterways Users Board Meeting No. 90
Texas A&M University - Galveston
Aggies Special Events Center
200 Seawolf Parkway
Galveston, Texas 77554

February 28, 2019

[Note: The following minutes of the Inland Waterways Users Board meeting No. 90 were approved and adopted as final at Inland Waterways Users Board meeting No. 91 held on May 23, 2019 at the Westin New Orleans Canal Place hotel, located at 100 Iberville St., New Orleans, Louisiana 70130.]

The following proceedings of the 90th Meeting of the Inland Waterways Users Board were held on February 28, 2019, commencing at 8:00 a.m. at the Aggies Special Events Center on the campus of the Texas A&M University Galveston Campus located at 200 Seawolf Parkway, Galveston, Texas 77554, Mr. Martin T. Hettel, Chairman of the Inland Waterways Users Board presiding. Inland Waterways Users Board (Board) members present at the meeting included the following:

CHAIRMAN MARTIN T. HETTEL, American Commercial Barge Line, LLC

MR. DAVID A. EARL, Marathon Petroleum Company

MR. MIKE FEWELL, Dow Chemical Company

MR. ROBERT J. INNIS, LafargeHolcim, Inc.

MR. DANIEL P. MECKLENBORG, Ingram Barge Company

MR. MICHAEL J. MONAHAN, Campbell Transportation Company

Board member MR. WILLIAM M. WOODRUFF, Kirby Corporation, did not attend the Board meeting. MR. ANDREW WILLIAMS, Kirby Corporation, attended the Board meeting on behalf of MR. WOODRUFF.

Board member MR. G. SCOTT LEININGER, CGB Enterprises, Inc., did not attend the Board meeting. MR. LANCE RASE, CGB Enterprises, Inc. attended the Board meeting on behalf of MR. LEININGER.

Board member MR. CHARLES M. "MATT" RICKETTS, Crouse Corporation, did not attend the Board meeting. MR. JAY RUBLE, Crouse Corporation, attended the Board meeting on behalf of MR. RICKETTS.

Board members MR. DAVID KONZ, Tidewater Barge Lines, and MR. TIMOTHY M. PARKER, III, Parker Towing Company, did not attend the meeting and did not send a representative on their behalf.

Also in attendance at the meeting were the following individuals serving as observers of the activities of the Inland Waterways Users Board, designated by their respective Federal agencies as representatives:

MS. DEANA Y. FUNDERBURK, Deputy Assistant Secretary of the Army for Policy and Legislation, Office of the Assistant Secretary of the Army for Civil Works, Headquarters, Department of the Army, Washington, D.C.

MR. KUO-LIANG “MATT” CHANG, Economic Analyst, Transportation and Marketing Division, Agricultural Marketing Service, U.S. Department of Agriculture (USDA-AMS/TMD), Washington, D.C.

MR. WILLIAM K. PAAPE, Director, Office of Maritime and Intermodal Outreach with the Office of Ports and Waterways, Maritime Administration, U.S. Department of Transportation, Washington, D.C.

MS. HEATHER GILBERT, Senior Advisor, Office of Coast Survey, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce, Silver Spring, MD.

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

MAJOR GENERAL (MG) SCOTT A. SPELLMON, U.S. Army Corps of Engineers, Deputy Commanding General for Civil and Emergency Operations, Washington, D.C.

MR. THOMAS P. SMITH, U.S. Army Corps of Engineers, Headquarters, Chief of Operations and Regulatory Division, Washington, D.C.

MR. KENNETH E. LICHTMAN, U.S. Army Corps of Engineers, Institute for Water Resources, Inland Waterways Users Board Executive Assistant and Alternate Designated Federal Officer (ADFO), Alexandria, Virginia.

Program speakers in scheduled order of appearance were as follows:

MR. KENNETH E. LICHTMAN, U.S. Army Corps of Engineers, Institute for Water Resources, Inland Waterways Users Board Executive Assistant and Alternate Designated Federal Officer (ADFO), Alexandria, VA.

COLONEL LARS N. ZETTERSTROM, U.S. Army Corps of Engineers, Galveston District, District Engineer and Commander, Galveston, Texas.

MAJOR GENERAL SCOTT A. SPELLMON, U.S. Army Corps of Engineers, Deputy Commanding General for Civil and Emergency Operations, Washington, D.C.

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

MR. KAREEM EL-NAGGAR, U.S. Army Corps of Engineers, Headquarters Operations and Regulatory Division, Acting Navigation Business Line Manager, Washington, D.C.

MR. KENNETH E. LICHTMAN, U.S. Army Corps of Engineers, Institute for Water Resources, Executive Assistant and Alternate Designated Federal Officer (ADFO), Inland Waterways Users Board, Alexandria, VA.

MR. STEPHEN G. DURRETT, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division, Programs Director, Cincinnati, OH.

MR. MICK AWBREY: U.S. Army Corps of Engineers, Louisville District, Deputy Chief, Olmsted Division for Olmsted Locks and Dam, Louisville, KY.

MR. DON B. GETTY, U.S. Army Corps of Engineers, Nashville District, Kentucky Lock Project Manager, Nashville, TN.

MS. FRANCHELLE CRAFT, U.S. Army Corps of Engineers, Galveston District, Project Manager, Brazos River Floodgates and Colorado River Locks, Galveston, TX.

In response to questions raised during the proceedings, additional information was provided by the following individuals:

MR. DON B. GETTY, U.S. Army Corps of Engineers, Nashville District, Kentucky Lock Project Manager, Nashville, TN.

COLONEL ANDREW J. SHORT, U.S. Army Corps of Engineers, Pittsburgh District, District Engineer and Commander, Pittsburgh, PA.

MR. THOMAS P. SMITH, U.S. Army Corps of Engineers, Headquarters, Chief of Operations and Regulatory Division, Washington, D.C.

MR. WILLIAM R. CHAPMAN III, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division, Deputy Chief Operations Division, Cincinnati, OH.

MR. STEPHEN G. DURRETT, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division, Programs Director, Cincinnati, OH.

There were no public comments offered during the public comment period of the meeting and no written public comments were submitted for the record prior to the meeting.

PROCEEDINGS

MR. KENNETH E. LICHTMAN: Good morning, and welcome to the 90th meeting of the Inland Waterways Users Board being held today at the Aggies Special Event Center on the campus of Texas A&M University in Galveston, Texas. My name is Kenneth Lichtman, and I am the Alternate Designated Federal Officer (ADFO) for the Inland Waterways Users Board. I am representing Mr. Mark Pointon, Executive Secretary and Designated Federal Officer of the Inland Waterways Users Board, who was unable to attend today's meeting due to the passing of his father this past Friday.

At this time, I would ask that we observe a moment of silence out of respect for Mark's dad, and that we keep Mark and his family in our thoughts and prayers.

(Moment of silence.)

MR. LICHTMAN: Thank you.

Today's meeting of the Users Board in Galveston is the fifth such meeting of the Board in Galveston. The Users Board first met in Galveston in March 1991 (the 12th meeting of the Board), followed by meetings in March 1995 (the 23rd Board meeting), November 2002 (the 43rd meeting of the Board), and most recently in May 2015 (the 75th meeting of the Board).

Yesterday we had an extremely informative site visit and tour of the Colorado River Locks located at the Gulf Intracoastal Waterway (GIWW) mile No. 441.5 near Matagorda, Texas. Many thanks go to Mr. Joe Hrametz, Chief of Operations; Mr. Chris Frabotta, Navigation Business Line Manager; Mr. Carl Brown, Senior Navigation Project Manager; and Mr. Robert George, Lockmaster for the Colorado River Locks, all from the Galveston District.

Before we start today's meeting, I am obligated to read for the record that the Inland Waterways Users Board was established pursuant to Section 302 of the Public Law 99-662, the Water Resources Development Act of 1986. The Users Board provides the Secretary of the Army and the Congress with recommendations on funding levels and priorities for the modernization of the nation's 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 it is open to the public. As you can see by the number of attendees at this morning's meeting, there is a great deal of interest in the issues that affect the inland waterways system and the activities of the Army Corps of Engineers and the Inland Waterways Users Board on the Gulf Intracoastal Waterway and the other parts of the inland waterways system.

The U.S. Army Corps of Engineers (USACE) is the sponsor of the Users Board and provides for the Executive Director and the Designated Federal Officer and for all normal activities of the Board.

Currently no one has requested to make a public comment before the Board and no written statements have been submitted for the record. If anyone wishes to make a public

comment or submit a statement for the record, please let Chairman Hettel or myself know during the break of the proceedings and we can fit you in at the end of the meeting. We do have a period at the end of the meeting set aside to receive public comments. This morning's proceedings are being recorded and a transcript of the meeting will be made available shortly after the meeting.

Before I call on Colonel Lars Zetterstrom, District Engineer and Commander of the Corps of Engineers' Galveston District to offer welcoming remarks on behalf of the Galveston District, I would also like to recognize in the audience at today's meeting Colonel Andrew Short, District Engineer and Commander of the Pittsburgh District. Welcome, Colonel Short.

Colonel Zetterstrom, please proceed with your opening remarks when ready sir.

COLONEL LARS N. ZETTERSTROM: Thank you, for the invitation to make some opening remarks, sir. Good morning, ladies and gentlemen, Major General Spellmon, Ms. Funderburk, Chairman Hettel, Mr. Smith, as well as the other members of the Inland Waterways Users Board. It is my honor today to make some opening remarks on behalf of Brigadier General Paul Owen, the Southwestern Division Commander, who unfortunately could not be with us today due to him completing the mandatory General Officer capstone course as required by law. He sends his regards and asks me to express his thanks to the Board for once again returning to the Southwestern Division area of responsibility to focus on ways to improve the inland waterways system.

Texas is a maritime state. The Southwestern Division is a maritime region whether it is the thousand miles of Federal channels that we maintain here in the Galveston District or the responsibilities of the Little Rock and Tulsa Districts to maintain and harness the inland waterways system. We understand how crucial navigation is to our nation's economy and to our national defense.

Since the last time you were in Galveston in 2015 many things have changed here, specifically in the Galveston District. When you were here last, we had fewer than 300 employees. Today we have more than 420 employees.

At this current junction of time we have the largest Civil Works program in the nation, largely due to our nation's response to ensure that we can recover properly from Hurricane Harvey. But at the core of who we are, we are a navigation focused District. We have always been a navigation focused District, and we will always be a navigation focused District. That is borne from our responsibility to maintain some of the longest reaches of federal channels in the nation, having more than 28 ports that we support on a daily basis, plus one of the largest number of pilot associations that supports safe navigation on those channels, as well as in the Gulf Region itself, between the great states of Texas and Louisiana, we account for almost half of the nation's waterborne commerce both in bulk and by tonnage.

Specifically, here in Texas alone, we are responsible for almost one quarter of the nation's bulk cargo tonnage. A large portion of that is transported on the Gulf Intracoastal Waterway. While it is the third largest inland waterway in the nation, I personally believe it is

different from other inland waterways because we have six deep draft channels that bisect approximately 400 miles of Gulf Intracoastal Waterway.

The interaction of deep draft navigation and shallow draft navigation and the industries that rely upon this critical inland waterway are vitally important to be able to drive our nation's economy forward. We in the Galveston District are very optimistic about the future of navigation in the state of Texas. We have a very strong partnership with the Texas Department of Transportation, as well as our navigation and national sponsors. We are very fortunate that the Galveston District has received three new start navigation construction projects, two deep draft projects and one shallow draft project during my tenure as the Commander of the Galveston District.

In conclusion, we at the Galveston District are very appreciative for your time and attention to our activities on the Gulf Intracoastal Waterway. We would like to welcome you to return to Galveston District in the future. During your last two visits to Galveston, you have visited both of our shallow draft, inland waterway navigation projects. In future visits I would encourage the members of the Users Board to inspect other portions of the roughly 400 miles of the Gulf Intracoastal Waterway within the state of Texas, the largest reach of any one state of the Gulf Intracoastal Waterway.

Once again, thank you, ladies and gentlemen for your time. I greatly appreciate the opportunity to make these brief opening comments.

MR. LICHTMAN: Thank you, Colonel Zetterstrom. I now would like to turn the microphone over to Major General Scott A. Spellmon, Deputy Commanding General for Civil and Emergency Operations at USACE Headquarters to provide his openings remarks. Sir.

MAJOR GENERAL SCOTT A. SPELLMON: Good morning, everybody, and thanks for being here. I also want to say thanks up front to Colonel Lars Zetterstrom and Dr. Russo (Dr. Edmond J. Russo, Deputy District Engineer, Programs and Project Management, USACE, Galveston District) and everybody from the Galveston team.

Colonel Zetterstrom hinted at it. But if you look at USACE's 243-year history, we have 43 districts. And this is probably one of the busiest districts we have right now. So Lars and Edmond, thanks for taking time out of your busy schedule to host us.

I especially appreciated the opportunity the Galveston District team gave us yesterday to get out to the Colorado Locks. I can tell you every time I am able to get out in the field with a group like this and experts, I take something away every time. Thanks for setting up yesterday's tour and site visit for us. I also want to say thank you in advance to all of our briefers and those folks who took the time to put together the presentations today. Very, very much appreciated.

And as always thanks to Chairman Hettel and members of the Board for all the great work that you do.

The other thing I would just say up front, it is a special time to work at USACE Headquarters in Washington D.C. The record level of appropriations that we are seeing from

Congress -- and not just in our Civil Works program -- the work that USACE is doing for the Department of Veterans Affairs, the Missile Defense Agency -- and everyone watches the news - - the work we are doing for the Department of Homeland Security and Customs and Border Protection. I know we mentioned this before -- everything is on the table in terms of how do we get better, how do we improve our project delivery for the nation. I absolutely mean that. Everything is on the table, so just thanks. I don't need to tell you this. I will just say thank you in advance to the Chairman and all the members of the Board who continue to challenge us, continue to push us to keep our pencils sharp. Because at the end of the day, it is all about. As Ken said upfront, maintaining and modernizing this national treasure, our inland navigation system, so thank you.

Okay. At this time, I am going to invite each of our Federal observers to make any opening remarks. First, I will introduce Ms. Deana Funderburk, the Deputy Assistant Secretary of the Army for Policy and Legislation within the Office of the Assistant Secretary of the Army for Civil Works for any opening remarks. Ms. Funderburk.

MS. DEANA Y. FUNDERBURK: Thank you, General Spellmon. Thanks to the Chairman of the Board, Mr. Hettel. Thank you the Board members. Thank you very much to the Galveston District of the Southwest Division for hosting us. It is my pleasure to represent the Assistant Secretary of Army's office as a federal observer, Secretary James sends his regards.

It is extremely useful to see some of the locks and dams and sites of the inland waterways as we did yesterday with the Colorado River locks. I look forward to seeing the results of this study that is currently underway on that site.

You all are probably already aware. But one thing my leadership wanted me to pass along is the timing of the President's budget: top line numbers will be announced the week of March 11 followed by more detailed numbers March 18.

I'm sure that's nothing you don't know. I echo Colonel Zetterstrom's words about how important the inland waterways are to our economy and our national security and how much we appreciate the work that all of you do to keep that going. And General Spellmon's words about project delivery, it is one thing, of course, Secretary James is focused on and wanting to move dirt quicker, faster, cheaper. So we appreciate all of your ideas. And I look forward to taking back your interests, concerns, ideas in helping to push those forward. Thank you very much.

MAJOR GENERAL SPELLMON: Thank you, Ms. Funderburk. Next we'll hear from Mr. William Paape, Director of the Office of Maritime and Intermodal Outreach, Office of Gateways, Maritime Administration at the U.S. Department of Transportation.

MR. WILLIAM K. PAAPE: Thank you, sir. We look forward to the meeting. I'd especially like to take a moment to thank the Galveston District and Kirby Corporation for the really informative tour yesterday. Everybody was super helpful in assisting us have a good understanding of the operations there, our first time to coastal waterways, and I took a lot away from this. Thanks for doing that and look forward to the meeting.

MAJOR GENERAL SPELLMON: Thank you. Next we'll hear Matt Chang, Economist, the U.S. Department of Agriculture, Agriculture Marketing Service, Transportation and Marketing Program. Mr. Chang.

MR. KUO-LIANG "MATT" CHANG: Thank you, Chairman Hettel, General Spellmon, and Board members and other attendees at today's meeting. For the record, my name is Matt Chang. It is an honor to here today on behalf of the USDA's Agricultural Marketing Service, Transportation and Marketing Department. I would like to use this opportunity to thank the Galveston District for hosting this meeting and the trip to Colorado River locks yesterday. I also want to thank the Kirby Corporation for a great tour. Moreover, I want to thank Mr. Kenneth Lichtman and his team for coordinating this meeting.

The Agricultural Marketing Service continues to work with other agencies and our stakeholders to inform the public how important the Inland and Intracoastal Waterways are, not only to the USDA agricultural sector, but also to the whole entire nation.

USDA is currently collaborating with the Army Corps of Engineers to study the economic impact of the waterways infrastructure. The study compares three different investment scenarios, and give a 25-year forecast for each scenario. The study is expected to be finished before the next Board meeting in May. However, we will probably finish it earlier than the date. Please contact me if you would like more information about the study.

The Transportation and Marketing program also works with other agencies, universities, and our stakeholders to conduct research projects related to the inland waterways issues. I would be more than happy to talk about such projects after the meeting. Thank you very much.

MAJOR GENERAL SPELLMON: Thank you, Mr. Chang. And then finally for the Federal observers, we'll hear from Ms. Heather Gilbert, from the National Oceanic and Atmospheric Administration's (NOAA) Office of Coast Survey and Senior Advisor for NOAA to the Committee on the Marine Transportation System. Ms. Gilbert.

MS. HEATHER GILBERT: Thank you, General Spellmon and Board. I would also like to thank the Galveston District and Kirby for the site visit and tour yesterday.

I have recently been designated as the NOAA observer to the Inland Waterways Users Board. I'm looking forward to working with the Board and learning more. So thank you.

MAJOR GENERAL SPELLMON: Thank you, Ms. Gilbert.

MR. LICHTMAN: Next on the agenda, we move to Chairman Martin Hettel comments.

CHAIRMAN MARTIN T. HETTEL: Thank you, Ken. Good morning everybody and welcome to the 90th meeting of the Inland Waterways Users Board in Galveston, Texas. Of course, the Board would like to thank the Galveston District also for all the logistics planning for the site visit to the Colorado River Locks yesterday. I believe this is the first time, at least, in my tenure, that the Inland Waterways Users Board visited this project. A special thanks to the Kirby Corporation and appreciate making the Motor Vessel *Observer* available for us so we could see the same view of the Colorado locks as our professional mariners see. Of course, a thank you

also to Gulf Intracoastal Canal Association for sponsoring the social event last night and for American Commercial Barge Lines - Houston Operations for sponsoring the coffee service for our meeting this morning.

Last year our meetings were around only Inland Waterways Users Board priority projects so the new Users Board members could see these projects first hand.

This year the Board continues our goal of looking at the entire inland waterways as a system and will continue that path through our May meeting, as we will hold meeting 91 in New Orleans with a tour of Bayou Sorrel and the Inner Harbor Navigation Canal. Meetings 92 and 93 locations will be determined by the incoming Chairman and future Board members.

Speaking of the new Inland Waterways Users Board members, as you saw from the email message from Mr. Pointon, our goal is to have all the incoming Board members appointed in time for the 91st Board Meeting so they can attend and be sworn in at the conclusion of the meeting in New Orleans.

We have issued our 2018 Annual Report to Congress and the Secretary of the Army. There are copies outside on the registration table for you to pick up, if you don't have a copy. The next report the Board will author is our recommendations on the President's Budget for Fiscal Year 2020. This report is due no later than 60 days after the President's budget request is released, which I have now confirmed with Ms. Funderburk that is going to be the week of March 11th with the details to follow the following week.

And finally, the navigation industry and USACE have formed a team for the next review of the Capital Development Plan. We look forward to this process as it will drive our decision on which projects will move forward, based on the risk of failure and the value to the Nation, once we complete our ongoing projects.

This will conclude my brief opening remarks, and I would like yield to other Board members and any other opening comments they may have. Thank you.

MR. LICHTMAN: Any other comments from the Board Members? Hearing none, thank you, Chairman Hettel.

Next on our agenda is the approval of the minutes from the previous Users Board meeting, which was held in St. Charles, Missouri, on November 29, 2018. A copy of the transcript was sent electronically to the members of the Board and a copy of the transcript is included in the information notebooks which you have received prior to today's meeting. Can I receive a motion from a Board Member to approve those minutes?

MR. MICHAEL J. MONAHAN: This is Mike Monahan of Campbell Transportation. So moved that the minutes of Users Board meeting 89 be approved.

MR. LICHTMAN: Can I have a second for Mr. Monahan's motion to approve the minutes?

MR. DANIEL P. MECKLENBORG: This is Dan Mecklenborg, second.

MR. LICHTMAN: Second from Mr. Mecklenborg. All in favor of the approval of the minutes of meeting number 89, please say "aye."

BOARD MEMBERS: Aye. (Unanimous)

MR. LICHTMAN: Any nays? Hearing none, the minutes of Users Board meeting are approved. Thank you.

Next on our agenda is Mr. Kareem El-Naggar. Mr. El-Naggar currently serves as the acting Chief of the Navigation Branch and Navigation Business Line Manager at USACE Headquarters Operations and Regulatory Division. Mr. El-Naggar comes to USACE Headquarters from the USACE Great Lakes and Ohio River Division based in Cincinnati, Ohio. Mr. El-Naggar's presentation will focus on the Fiscal Year (FY) 2019 funding of the USACE navigation program.

MR. KAREEM EL-NAGGAR: Good morning. Major General Spellmon, Chairman Hettel, Board Members, thank you for the opportunity to join you at today's meeting. As was previously stated, I am the Acting Chief of the Navigation Branch at USACE Headquarters, at least for another two weeks. My permanent job is with the Great Lakes and Ohio River Division. I serve as the Deputy Chief of Operations and the Navigation Business Line Manager for the Great Lakes and Ohio River Division.

I like to show this slide first. It shows the Civil Works Program and Budget Timeline. It gives you an idea of where we are and USACE puts the budget together.

As you can see from the slide, we are done with FY 2018, and we are currently executing the FY 2019 program. At the same time, we are defending our FY 2020 program, and we are just beginning to put together our FY 2021 program.

Right now our District and Division offices are putting together their FY 2021 budgets. They will be consolidated and sent up to USACE Headquarters in March for Headquarters to consolidate all of the submissions from the Division offices to put together the budget.

We put together a Program Development Manual for the navigation program. This slide shows our navigation priorities that we give to the Districts and Divisions to help them in putting their budgets together. It is a performance-based budget. For our construction program, we use benefit to cost ratio (BCR) as one of the metrics for ranking projects.

You can see on the slide that tonnage is also a metric that we use to evaluate projects, with high commercial use coastal harbors and channels defined as those harbors and channels with greater than 10 million tons of cargo and high commercial use inland and intracoastal waterways with greater 3 billion ton-miles of waterborne commerce.

CHAIRMAN HETTEL: Kareem, can you verify something for me. When you look at your second bullet point on your slide, the bullet that reads "Focuses on highest performing projects and programs with high economic (BCR \geq 2.5@7.0%), environmental and public safety returns to the Nation," that is just for projects under construction. You don't look at the BCR, or environmental or other public safety concerns or there isn't a BCR; is that correct?

MR. EL-NAGGAR: Yes sir, that is correct.

CHAIRMAN HETTEL: Okay. I just wanted to confirm which types of projects you were talking about when you mentioned a project's BCR.

MR. EL-NAGGAR: I also pulled this slide from our navigation Program Development Manual. This is what we use as ranking criteria. There are a lot of factors that go into decision making process when we rank our projects. As you can see on the list there is life safety and dam safety, the project's BCR, the Inland Waterways Users Board's ranking of priority projects, commercial tonnage and so on. It is a pretty detailed and lengthy process that the Districts, Divisions, and then Headquarters goes through in putting the budget together.

This slide shows some of the ranking criteria that we use when we initiate and complete a rehabilitation project.

There is not much I can tell you that is new concerning the President's Budget for FY 2020 from when I presented at the last Users Board meeting.

You heard a few minutes ago that the President's budget will be released soon. In about two weeks from now, I will be able to tell you a lot more. But this slide shows you what we requested in the President's budget for the past eight years broken down by Coastal Navigation, Inland Navigation, the total Navigation program as well as total budget request for the entire Civil Works program.

Based on the President's Budget for FY 2019, I put together these two pie charts to show you where we the requested funds would be allocated across business lines and across accounts. As you can see from the business line diagram, navigation made up the largest portion of USACE's FY 2019 budget request, at approximately 40 percent of the total budget request. By account, Operation and Maintenance made up the largest piece of the budget request, at a little over 43 percent of the total budget request. This diagram shows our FY 2019 budget request for projects over \$10 million.

CHAIRMAN HETTEL: Kareem, this slide does not show projects which are cost shared out of Trust Funds; is that correct?

MR. EL-NAGGAR: Well, the Olmsted Locks and Dam project is shown on the map because the President did include it in his FY 2019 budget request.

CHAIRMAN HETTEL: Oh, okay, I see it. Thank you.

MR. EL-NAGGAR: This next slide shows our FY 2019 appropriations. Again navigation is the largest portion of the business line pie diagram with \$3.296 billion in appropriations out of a total appropriation of \$6.998 billion, or 47 percent of total appropriations. By account, Operation and Maintenance (O&M) with \$3.739 billion (54 percent) and Construction with \$2.183 billion (31 percent) make up nearly 85 percent of the entire Civil Works appropriations.

This diagram shows our FY 2019 appropriations, the amount that was included in the President's budget request plus the added funds from Congress for projects which received over

\$10 million. This includes both the amount of money that was in our budget plus the FY 2019 Work Plan. These are the construction projects that received greater than \$10 million.

This next slide shows our FY 2019 appropriations for navigation, broken out by inland navigation and coastal navigation. As you can see on the slide, inland navigation received \$1.249 billion and coastal navigation received about \$2.047 billion, so inland makes up about 38% of the navigation appropriations and coastal makes up about 62 percent of navigation appropriations.

CHAIRMAN HETTEL: Kareem, I just want to thank you for breaking this out for us. This is one of our takeaways from meeting number 89, so thanks for putting forth the effort to break this out for us. This is important information for us to have. Thanks.

MR. EL-NAGGAR: You are welcome.

This next slide shows the FY 2019 Work Plan funding of the Inland Waterways Trust Fund supported projects. I think these are the same numbers I showed at the last Inland Waterways Users Board meeting.

This next slide shows the trend in Civil Works appropriations over the past 15 years or so. You can see the President's Budget for FY 2019 amount of \$4.785 billion and the Fiscal Year 2019 appropriations amount of \$6.998 billion. Subject to your questions, that concludes my presentation this morning.

CHAIRMAN HETTEL: Kareem, I have a request for our next Users Board meeting. When the President's Budget for Fiscal Year 2020 comes out, will you again split up the appropriations and requested amounts into inland navigation and coastal navigation, or whomever your replacement will be at Headquarters.

MR. EL-NAGGAR: Yes sir. I will make sure I let that person know to split out the inland versus the coastal navigation portion of the budget request.

CHAIRMAN HETTEL: Thank you.

MR. EL-NAGGAR: Thank you.

MR. LICHTMAN: Thank you, Kareem. Next on our agenda is a presentation on the status of the Inland Waterways Trust Fund and selected project updates. This presentation is normally delivered by Mr. Joseph Aldridge, who serves as the Inland Waterways Trust Fund Account Manager at USACE Headquarters. Unfortunately, Mr. Aldridge was unable to attend today's meeting. Mr. Pointon was scheduled to give this presentation in place of Mr. Aldridge. But unfortunately, Mr. Pointon was also unable to attend today's meeting. As a result delivering this presentation falls to me, so I am going to be providing Mr. Aldridge's presentation third hand.

This slide shows the status of the Inland Waterways Trust Fund as of January 31, 2019. This covers the first four months of Fiscal Year 2019, October 1, 2018 to January 31. You can see that the beginning balance of the Trust Fund on October 1 was \$33.3 million. In the four

months of current fiscal year, \$32.4 million has been added as tax receipts into the Trust Fund maintained by the U.S. Department of the Treasury and interest earned on the assets in the Trust Fund amounted to about \$1.1 million for a total of about \$66.8 million.

There haven't been any transfers to USACE as of yet this current fiscal year, so the current available balance in the Inland Waterways Trust Fund is \$66.8 million.

CHAIRMAN HETTEL: Ken, Lucky you get to attempt to answer all my questions. Just to verify at the last Users Board meeting, Joe's (Mr. Aldridge) report showed that \$97.622 million remained in "Total Remaining Project Unobligations." I think that Trust Fund amount has been obligated and transferred to USACE through projects.

MR. LICHTMAN: I can ask that question of Mr. Aldridge back at Headquarters and try to provide an answer to that question.

CHAIRMAN HETTEL: Yeah, if you would. We just want to make sure all the Districts got the construction money they needed to keep these priority projects moving. Thank you.

MR. LICHTMAN: In Mr. Aldridge's notes, he said that of the \$97 million allocated funds that USACE was unable to obligate due to the lateness of the receipt of funds, the current balance of unobligated funds is \$28.8 million, of which \$24.3 of that total are directed toward work at the Lower Monongahela River project and the Olmsted Locks and Dam project. I will verify those figures with Mr. Aldridge.

CHAIRMAN HETTEL: Ken, to follow up, if there are \$28 million in unobligated allocated funds does that increase the balance in the Trust Fund to over \$94 million on this slide?

MR. LICHTMAN: I am sorry Chairman Hettel, I can't speak to that. I would want to speak with Mr. Aldridge first before trying to answer that question.

CHAIRMAN HETTEL: Okay, I know you are taking down these notes to answer my questions. Thank you.

MR. LICHTMAN: Yes sir. This bar graph shows the trend in the growth of the revenue in the Trust Fund during FY 2019. The FY 2019 revenue figure is shown by the red bar. You can see that amount of the money collected so far through January 2019 is a little bit higher than what was collected through January 2018, so the balance in the Trust Fund is a little bit higher.

This slide shows the most recent three months - November, December and January. You can see that in FY 2019, the balance is around \$33.5 million. Last year at this time, it was \$31.7 million, so it's up about 6 percent above last year.

CHAIRMAN HETTEL: Ken, let me make a comment on this slide. In our Annual Report to Congress, we recommend that we look at the annual income of the Trust Fund at \$115 million, so we can plan and utilize our funds efficiently. As you can see in this slide, 2019 is already \$1.8 million above the last fiscal year's total.

It just goes to show that we believe \$115 million is what the Department of the Treasury and USACE should be planning on an annual basis when planning their construction activities.

If this trend continues for the remainder of the fiscal year, we will be well above that \$115 million figure by the end of the fiscal year. It is important to make that note in our annual recommendation that we should be working off that \$115 million in annual deposits to the Trust Fund. Thank you.

MR. LICHTMAN: Thank you Chairman Hettel. This table shows the President's budget request and eventual allocation received by USACE for our most significant or our major ongoing construction projects for the Fiscal Years 2014 to 2019.

You can see for the Olmsted Locks and Dam project, Olmsted was the only project that the President requested funds for in his budget request last February. The President did request \$35 million in the FY 2019 budget, and in the FY 2019 Work Plan Olmsted was allocated \$50 million. The Lower Monongahela River, Kentucky Lock, Chickamauga Lock and the LaGrange Lock and Dam major rehabilitation project were not included in the FY 2019 President's Budget, but they did receive funds in the FY 2019 Work Plan.

I am now going to provide a brief update on couple of projects in the Mississippi Valley Division, the first one being the Inner Harbor Navigation Canal lock replacement project in New Orleans area. The one change that Joe noted on the slide shown in red in the box in the lower right hand corner of the slide titled "Current Status of the Project" was that the fiscal close out of the project is still in progress and reconciliation estimates are not yet available. The complete assessment is anticipated in the fourth quarter of this fiscal year.

CHAIRMAN HETTEL: Ken, there is a comment I would like to make from our last Users Board meeting also. In Joe's presentation at the last Users Board meeting, he included in the "Current Status of the Project" that the District was in the process of balancing the project costs between the Construction, General (CG) account and the Inland Waterways Trust Fund (IWTF) account, and that preliminary estimates showed a refund will be due to the IWTF and that fiscal close out to be determined.

Do you know if that balancing of the project costs has been completed -- you probably can't answer that? But is that still be the case?

MR. LICHTMAN: I would have to get back to you on that. I can't answer that.

CHAIRMAN HETTEL: I know that was one of our takeaways from our last meeting was, what would the possibility of that refund be? I know you probably can't get that answer until you do the final closeout.

I just don't want to leave any money unaccounted for -- make note of the fact that at the last Users Board meeting Joe said we would refund any money back to the Trust Fund. Thanks.

MR. LICHTMAN: This is the project schedule for any remaining work on the Inner Harbor Navigation Canal project. There were no changes to this slide since the last Users Board meeting.

This is the LaGrange Lock and Dam major rehabilitation project on the Illinois Waterway. You can see in the box in the lower right hand corner titled "Current Status of the

Project” that the construction contract for the project was awarded on November 9, 2018. Joe included in his notes that site mobilization and intermediate wall work is scheduled to begin soon.

CHAIRMAN HETTEL: Ken, I can't let it go. The question for you on this slide, in the box in the lower left hand corner of the slide titled “Funding Overview,” it says supervision and administration costs for LaGrange Lock and Dam are \$3.5 million. Is that just for the major rehabilitation portion of the project?

MR. LICHTMAN: I will have to get back to you Chairman Hettel with an answer to that question.

CHAIRMAN HETTEL: Yeah if you would, that would be great. If we could get that for the next meeting just inform us on the estimate for the major maintenance portion and the major rehabilitation portion of the project. If you could break those two out for us. Thanks.

MR. LICHTMAN: I am going to turn to the Great Lakes and Ohio River Division. A more in depth discussion of these projects will be provided later by Mr. Mick Awbrey from the Louisville District who will be presenting on the Olmsted Locks and Dam project, and Mr. Don Getty from the Nashville District who will be presenting on the Lower Monongahela River project, the Chickamauga Lock project, and the Kentucky Lock project.

This slide is the Olmsted Locks and Dam project. Normally, Mr. Dewey Rissler from the Louisville District, who is the project manager for the Olmsted project would be presenting this project update, but unfortunately, Mr. Rissler could not attend today's meeting and Mick Awbrey, who is the Deputy Chief of the Olmsted Division in the Louisville District will be filling in for Mr. Rissler. Mr. Awbrey will be presenting an update on the Olmsted project a little bit later in the meeting.

CHAIRMAN HETTEL: Could you verify for us on all these slides that Joe shows as the “total project cost” (TPC) whether TPC is the same as the “estimate at completion (EAC)” figure that the project managers are showing in their project briefings? I just want to make sure that through all of these four projects the “total project cost” is the most recent project cost estimate and/or the most recent cost estimate from a Post Authorization Change Report (PACR). If you can verify that for us for the next meeting, I would appreciate it. Thank you.

MR. LICHTMAN: Will do, Mr. Chairman. This next slide is the project schedule for the Olmsted Locks and Dam project. The project was dedicated in late August and project benefits were considered beginning to accrue as of September 6, 2018.

All of the damming surfaces are in place; the commissioning of the tainter gate controls are ongoing; the service mound buildings were completed; the upstream mooring cells are under construction; and the Lock and Dam 52 marine demolition contract was awarded on September 26, 2018. Next steps include the grouting of the sheet pile cutoff wall; complete the isolation pile installation at one location; undertake phase 2 of the Lock and Dam 53 marine demolition; undertake the Lock and Dam 52 and Lock and Dam 53 landside demolition and property disposal; and continue the demobilization of the dam contractor.

This slide shows the financial status of the Lower Monongahela Locks and Dams 2, 3 and 4 project. In lower right-hand corner of the slide, you can see in the box titled "Next Steps." The plan is to award River Chamber Completion contract option number 4 this fiscal year (2019). The District is also evaluating funding risks and considering an early award of River Chamber Completion contract option 5.

Normally, Mr. Steve Fritz, Project Manager for the Mega-projects in the Pittsburgh District would be providing a more in depth briefing on the Lower Mon project a little bit later in the meeting but unfortunately he was unable to attend today's meeting. Mr. Getty from our Nashville District has agreed to provide the update on the Lower Mon project a little bit later in the meeting.

This slide shows the schedule of remaining work on the Lower Monongahela River project. Looking at the schedule on the slide, it looks like construction on the project will be completed by the end of Fiscal Year 2023.

A more in depth update on the status of the Kentucky Lock project will be given by Mr. Don Getty. I will move on to the next project since Mr. Getty can speak more intelligently about this project than I could.

This is the schedule of remaining work on the Kentucky Locks and Dam project. From what is presented on the slide it looks like the project will be completed in Fiscal Year 2024.

The Chickamauga Lock and Dam replacement project is normally briefed by Adam Walker, who is the project manager from our Nashville District, but unfortunately Mr. Walker couldn't make this morning's meeting, so his project update will also be given by Mr. Getty.

The Lock Excavation contract is substantially complete. The members of the Users Board had the opportunity to visit Chickamauga in February 2018 the day prior to Board meeting 86. The Lock Excavation contractor is performing final clean-up of the area and closing out that contract. Next steps include exercising Lock Chamber Construction contract option 4, 6, 7, and 8 this fiscal year.

This is the schedule of the remaining work on the Chickamauga Lock project. The slide indicates the Lock Chamber will be completed in May 2023; project benefits will begin to be accrued in September 2023. The approach walls and decommissioning of the original lock will be completed December 2024. Mr. Getty will be able to speak further on the project later in the meeting.

The Dam Safety Action Classification (DSAC) rating of the Emsworth Dam went from 1 to 4: one being bad and four being better. The project is physically complete and the District is currently performing a fiscal close out on the project. Subject to your questions, that concludes my presentation.

Next on the agenda is Mr. Steve Durrett, who is the Regional Business Director for the Corps Great Lakes and Ohio River Division. Mr. Durrett will be presenting on the subject of efficient funding and capability funding of projects on the inland waterways system.

MR. STEPHEN G. DURRETT: Good morning everyone. My name is Steve Durrett. I am the Programs Director for the Great Lakes and Ohio River Division (LRD), not Regional Business Director. That was my old title. My new position for the last several months has been Programs Director of LRD.

This morning I am going to talk about a few of the tasks that we have been assigned to try to help explain some of the terminology that USACE uses. Some of the things we have discussed, we probably have seen on slides is talking about “capability funding” and “efficient funding.” Those are the two terms USACE uses.

“Capability funding” is the amount of money we can spend in a given fiscal year. This is basically fully funding a construction contract. For example, if you are going to award a construction contract that is valued at \$200 million, we could theoretically have the capability to award \$200 million. That doesn't mean the contractor is going to be able to execute \$200 million worth of work. But this does give a lot of flexibility to a contractor to make adjustments, with means and methods and allows him if he has problems in a certain area to move his resources to another area. It allows a lot more flexibility to the contractor to better be able to maintain and control his schedule.

“Efficient funding” is really looking at the critical path of a project. Think of a \$200-million contract. The contractor may break that contract down into options. We know he probably can only execute Options 1 and 2 in a given fiscal year so that is all we fund him for. That is efficient funding. What that does do, however, is limit the contractor's ability and flexibility to move work.

Just think about at the Chickamauga Lock project, if you only awarded half of the Lock Excavation contract on Chickamauga Lock and you ran into problems, the contractor would literally have to stop work while you solve the problem. But if you gave him the entire contract, he could move down to the other end of the lock structure and start doing demolition down there. His crews are continually working and you suffer less downtime. It really comes down to the ability to execute the work and keeping to the schedule set.

If both of the things work well, we will probably deliver a project on the same timeline. However, if you do hit a snag, it does limit the contractor's ability to make adjustments and move resources around and still maintain the current schedule.

When you do efficient funding, when you hit hiccups in construction which we always will and we do, you typically will have some delay with a construction contract. Sometimes delays are compensable, which means we may owe money for them. Sometimes they are not. It just depends. There is a lot more flexibility with capability funding than there is with efficient funding.

I will stop there and take any questions on this particular subject before I move into the other part of my presentation.

CHAIRMAN HETTEL: Is capability funding the most dollars you can spend in a fiscal year?

MR. DURRETT: It will be close. There is a little fluff in there because you have to make sure you have enough, so yes.

CHAIRMAN HETTEL: And the definition of efficient funding is the most work that you can get accomplished in a fiscal year?

MR. DURRETT: It will be close to that, yes. Now, that will not allow the contractor, if you capability fund him to work ahead and get ahead of the schedule. So if you capability fund the contractor, he could be ahead of schedule. When USACE develops and awards these contracts, we estimate the construction timeline.

That does not prevent a contractor. We may estimate he is going to work one shift. The contractor could always come in and propose to go in and do two shifts a day and knock out the job in 30 percent less time. Because he just wants to get in, make his money and get out because he has got something else he is interested in and moving to.

There is a difference. He could do more work but you are limiting what he can do by efficiently funding him. Does that make sense?

CHAIRMAN HETTEL: There are always variables to what a contractor can do. I just want to make sure I knew that. Major General Kaiser (Major General Richard G. Kaiser, Commander, USACE, Mississippi Valley Division) stated at one point in time that was the most money that we could spend and actually execute on a project. I just want to make sure you and I were on the same page.

MR. DURRETT: Yes. I think that is right. It is an assumption on our part. That is the time, yes.

CHAIRMAN HETTEL: Thanks.

MR. DURRETT: Any other questions on that? All right, moving on. This is looking at the differences if we were to budget for a project using capability funding versus efficient funding. The top lines there are the totals, and then beneath the totals are the funding for each of the three projects under construction in the Great Lakes and Ohio River Division (Lower Monongahela River Locks and Dams 2, 3 and 4; Kentucky Lock and Chickamauga Lock) broken out by year. I am going down to the easiest one, to use as an example, will be down at Chickamauga Lock. Look at Fiscal Year 2021, we are looking at a very large amount of capability funding, \$148.1 million. We are going to fully award options for the Chickamauga Lock construction contract. We would need \$148 million to award those options. However, if we did efficient funding, we are showing at that -- basically those three years, Fiscal Years 2021, 2022, and 2023 -- if you added those all up, they would probably have roughly the same amount of money. There are some differences in how the money is appropriated but that is how it is done.

Efficient funding would mean we really would not complete the project until 2024. If we do capability funding, there is a potential -- no guarantee -- that the contractor could deliver the project earlier than 2024.

Now, it probably would not be significantly earlier than 2024. You might gain 3 to 6 months. My experience tells me we would be hard pressed to knock years off of a schedule from a construction contract.

But you would probably have the potential for saving some time, provided you didn't hit any hiccups during construction. Even if you did hit hiccups during construction, you may be able to overcome those. Whereas efficient funding, those hiccups would probably cause you a delay and an extension of the contract.

CHAIRMAN HETTEL: Steve, I don't know if you can answer this or not. But I understand capability funding could shave off months, maybe years off of a project becoming operational. Does capability funding also give us the opportunity to lower the total cost of the project because you are receiving the funding up front?

MR. DURRETT: Yes, it would. My opinion is that you would lower the total project cost for a couple of reasons. One is the contractor knows up front he is getting a whole job. He has the whole job. Efficient funding means I can order an option but there is no guarantee that next option is coming. More than likely but there is no guarantee. So the contractor is hedging his bets on some of these things that he has to do and we can't get into the mind of how contractors sets these things up. But these contractors, when they get into these jobs, you move into a project such as the Olmsted Locks and Dam project, a Chickamauga Lock project or a Lower Monongahela River project. You are making an expensive, long term commitment. There is a drastic investment of infrastructure just to move into the project site. So you are gambling you are there for two years, three years, or longer. All those things come into play budgeting and marketing on how he is going to set up his bid basis.

The other advantage of efficient funding is does get it done earlier. If it gets done earlier, there is a time saving. If nothing else, you save the cost of inflation and materials. All those things will come into play. You should be able to deliver a project for a total project cost less than.

CHAIRMAN HETTEL: Not only that but we will begin to realize the benefits associated with project sooner.

MR. DURRETT: Yes, sir. That is correct.

CHAIRMAN HETTEL: Steve, my last question is, under the efficient funding scenario, you do award options in a contract?

MR. DURRETT: Yes sir, we do.

CHAIRMAN HETTEL: I see. Under the capability funding scenario, you would have to do a continuing clause contract for that?

MR. DURRETT: We could do that either of two ways. We could do that under a continuing contract clause, or we could do it by simply fully funding the contract.

CHAIRMAN HETTEL: Okay. Thank you.

MR. MECKLENBORG: Steve, I have question on funding Kentucky Lock in Fiscal Year 2020 under the two different scenarios. What is the explanation for the difference in funding between the \$307 million under the capability funding scenario and the \$73 million in the efficient funding scenario? It is just such a massive difference in the amount of funding. What would you be doing if you received the \$307 million?

MR. DURRETT: Mr. Getty will probably help me on this. But I believe that would be to fully fund the contract that we plan to award in Fiscal Year 2020, which has a lot of options tied into it. So instead of simply awarding the base contract and maybe 1 or 2 options, we would award the entire contract, which would be like a \$280 million contract.

But we would be awarding a massive contract that would last probably for 3 years. The contractor would execute that contract over a period of 3 years.

MR. MECKLENBORG: So you might not be spend the \$307 million in one year.

MR. DURRETT: No sir, we would not spend the \$307 million in one year. We will obligate it to the contract, but it would not be spent, no sir.

MR. MECKLENBORG: Okay, thank you for that explanation.

MR. ROBERT J. INNIS: Steve, I have a couple of questions for you. You know, especially the time value of money and the way the Trust Fund is set up, it is hard to see how if the capability funding would be a benefit. If you are saying the capability funding is contingency amount that would be up there. Right now, we are looking at the totals that are the same. It doesn't signify the groups. Is there a way to change it so that we are doing the calculations that include the contingency and capability funding or are we are just going to leave it as the same? It is hard to make an informed decision especially if you are going to look at the cost of money beginning.

MR. DURRETT: That is a good point. A lot of this is all an unknown because these are based upon estimates and not actual costs. We have not awarded the contract. So we had good luck with Chickamauga: the bids came in significantly less than we estimated. So we are making assumptions that have some risks tied to them.

We have got risk contingencies tied to these assumptions. We didn't dig down into the time. We used the total project costs. We tried to do a simple exercise. We didn't dive deeply into these cost numbers. That is why they look the same, the totals look the same. In reality you should see some differences. We did not go through and do a total risk analysis on the cost estimate again if we got capability funding. We just took the total and said the capability funding what would the numbers look like keeping all the risk exactly the same. It would be an effort to dive down and do that level of effort.

MR. INNIS: It is just going to be hard making a recommendation based on the same costs. It looks as if you are going to get better present value by not receiving efficient funding than if you receive capability funding if we are looking at the same time line and costs. From

what I see it doesn't make sense to change that unless we can dive into those numbers to make it look different.

MR. DURRETT: Sir, you raise a good point. I will take that back to the team. We will see what would the effort be and the cost to go back through and look at a the numbers -- relook at the cost estimates and do a total risk analysis of the project cost and schedule if we receive capability funding, the numbers may be different. Before we go through that effort, I will dig into what is the effort involved into doing that. But what it comes down to is this something we want to do. Would you like us to do that? I don't want to spend the money just to be doing an exercise, because it would be taking funds away from construction.

MR. MONAHAN: Steve, from Mr. Innis' comment, at least on the surface, this chart really doesn't show any value to us. But run back into all four of these projects, looking forward as we look to freshen up the Capital Development Plan and future projects. My question would be from the capability funding and efficient funding perspective, both the cost and time line, I think it is really important to understand those values on the new projects, so we can ascertain the approach we need to take. Is that a fair characterization of your concerns Rob?

MR. INNIS: I think so. I think you would want to look at, especially when we are dealing with the Trust Fund dollars on the net present value, and see what it is going to return and break out. I think for a new project it would be dedicated to dig down into it to see what the effects of capability funding versus efficient funding looks like.

MR. DURRETT: That is a good point. Really, you are on the back end of all of these projects. You can see there are no big contracts still pending on the Lower Monongahela River project. The Chickamauga Lock and the Kentucky Lock projects still have a couple of large contract actions out there. That may provide you some benefit. You probably receive the greatest benefits for the next group of projects coming up. But we will still check and see if we believe there is some value in doing it. We may dig into the details to show if there is a benefit of providing \$300 million in funding to the Kentucky project, for example, is there any benefit to be gaining either in reducing the overall project cost or reducing the length of the project schedule. Right now, we show there is no benefit. Would there be a benefit and would the schedule cost risk analysis show a benefit to it.

MR. MECKLENBORG: The benefit it would seem is in line with the story line on the completion of the Olmsted Locks and Dam project-- when the funding ramped up, you were able to award contracts in an optimal fashion. We finished the Olmsted project four years earlier than originally scheduled and \$300 million less the original project cost.

You have the same scenario here, you would think the possibility of the successful completion relative to the Kentucky Lock project and the Chickamauga Lock project under the capability funding scenario. That is consistent with what Rob (Mr. Innis) and Mike (Mr. Monahan) are saying: essentially the reason you would want to look at it that way is to convince policy makers to fund it in the most optimal fashion.

MR. INNIS: Steve, one last question for you. Why is the capability funding less for the Chickamauga Lock project in Fiscal Year 2020 (\$88.9 million) than the efficient funding (\$92.3 million)?

MR. DURRETT: Rob, I don't know. Don, can you help on that one?

MR. DON B. GETTY: Yes. This is Don Getty. I asked Adam (Mr. Adam C. Walker, Project Manager, Chickamauga Lock Project) that same question. He explained the difference in funding was due to the size of the amount of contingencies he included in the cost estimates. He did not need as much contingencies for the capability funding amount figure as he did for the efficient funding amount figure. I don't fully understand it. But it had to do with the amount of contingency carried on the cost estimates. I think Mr. Durrett is going to talk a bit about contingencies in just a minute so that might help some of the differences in the funding requirements.

MR. DURRETT: Thanks Don. Are there any other questions on this slide before I move on to the next slide? Okay, then we will talk about contingencies in a different way for the USACE method of budgeting for these contingencies.

CHAIRMAN HETTEL: Steve, sorry to interrupt and I don't know if this answers your question or not, Rob (Mr. Innis) and I don't know if we can get the answer without Adam (Mr. Walker) being here. But if you look at the funding for the Chickamauga Lock project, it was lowered by a total cost on Joe's (Mr. Joseph Aldridge) slide from the previous presentation by \$3.2 million. That is approximately the amount of the difference between the capability funding amount and the efficient funding amount, though I don't know if that is the reason for the difference but it certainly looks like there is a linkage there.

MR. DURRETT: Marty I couldn't tell you.

CHAIRMAN HETTEL: That might be the reason why there is a difference between the capability funding and the efficient funding. I don't know the exact reason for the difference in funding requirements but maybe we can get an answer to that question for the next Users Board meeting in May. Thanks.

MR. DURRETT: I wanted to go over a few things on this slide before I show you some of the charts on the next slide in a different way – I will call it a different way of doing business. The current procedure of the way we do business, shown in the top portion of the slide, is how we are instructed to budget for a project by our Engineering Circular on how we should budget for a project. We fully fund any options on contracts that we are planning to award in that fiscal year. That goes into our budget request as well as the full contingencies for the duration of the contracts. Our 80 percent confidence level in that particular option and/or contract is included in that budget estimate, as well as all engineering and design (E&D) costs necessary and all supervision and administration (S&A) costs necessary are also included in that budget estimate. In effect it is a fully funded option so that if we never get any more money, at least we can finish that activity. But we do have that at an 80 percent confidence level. We have a very high confidence level that we are going to have enough money to complete that particular option. Then we adjust those budget estimates annually every year -- if you have been working all year

long, most of the projects we are talking about are working with money received from the annual work plan. We have until about the May timeframe to make some adjustments in what we are going to ask for. In May or June of this year, we have a last minute opportunity to adjust those numbers.

If we realize we thought we were going to need \$10 million in contingencies but we got all the work done with the money we had in hand and we didn't use a dime of the contingency money that we thought we would need, and we didn't need any of it, what we would end up doing is we reduce our request for funds for the next fiscal year, the next budgeting cycle by that \$10 million, because we already have it. We already have it sitting in our bank. We asked for it, because we were required to ask for full contingencies. But we always keep rolling that number forward. Any money we have leftover that we have not used, that we are not going to need any more for contingencies, we will roll over and reduce our request in our next work plan request.

That is the current process that we use in LRD. Now in LRD, we are lucky. We have got three of these projects going on all at the same time and they are all being funded out of the annual work plan. We have some flexibility within LRD.

What we are proposing to do and what we are going to start doing is with the FY 2020 Work Plan and with the FY 2021 budget request that we are developing now is we are going to fully fund those options and/or contracts. But we are only going to ask for contingencies at the 50 percent confidence level as opposed to the 80 percent confidence level under the current procedure for developing a budget request, which will mean there will be less money requested.

I do have a reprogramming option. I do not believe that things will go south on all three projects. But there is a potential that things may go south on one of the projects. If that does happen, I can move some of the money that I am not using for contingencies from one of the other two projects and move it to replace the contingencies on the project that is going south.

We are only going ask for one year's worth of labor for engineering and design and supervision and administration instead of the entire amount of E&D and S&A for the duration of the contract. Some of these contract options are very large, and they may run over one, two, or three fiscal years.

We are going to gamble on reducing the confidence level for estimating contingencies – we have had good luck lately with not needing to use all of the contingencies that we have set aside. The work plan funding that we had received from Congress in the annual appropriations and then from Headquarters has been coming through year in and year out over the past couple of years. We had some uncertainty four years ago on a work plan. I think recent history is telling us that work plan funding is coming. We are going to get work plan funding, it is just a matter of timing as to when we get it. We have to carry the labor associated with engineering and design and supervision and administration. We don't know what is coming in FY 2020. We have got to have some money to at least keep those ongoing projects running. That is why we settled on the one year. There was a debate in our office of whether we do one or two years. We reached an agreement we were going to do one year with the confidence we have had in the work plan over the last four or five years and we would still do the same annual adjustment with that.

Now, this next slide shows you an example on what would happen to the funding under the current funding plan with efficient funding and funding using the proposed approach of efficient funding with a 50 percent confidence level and one year of funding of E&D and S&A. The top portion of the slide shows you how we currently do our efficient funding. The bottom portion of the slide shows you the effect on funding if we take a little more risk and you see what it does to the balance of the Inland Waterways Trust Fund at the bottom of the slide.

We start off by asking for less money. In FY 2020, it looks like it is not much but we are not asking for a lot of money. There difference between 80 and 50 percent confidence level is a large number. But you are talking about \$6 million to \$8 million in any given year that you can roll out -- if you compare the top chart to the bottom chart, which is basically under the existing funding stream -- and this is still using the old numbers on what is contributed. Mark Pointon asked us to slowly increase the revenue going into the Trust Fund to \$115 million. We were still in the \$110 million range, but Mark told us to increase the amount going into the Trust Fund to \$112 million in FY 2020, \$113 million in FY 2021, \$114 million in FY 2022 and \$115 million in Fiscal Years 2023 and 2024.

Comparing the two charts on this slide shows you the difference in the two funding scenarios. Changing the approach to how we prepare our funding requests will make an impact. This revised approach does leave a little bit more money in the Trust Fund. It may allow us to get some other projects started with cost-shared Trust Fund dollars.

As we move through this, if we find 50 percent is not good confidence level to assign to contingencies, we can take this lesson learned and can apply this other to projects as they come online as well.

Right now this is going to be a test case within LRD to see how we can do it. We have flexibility, like I said earlier, that I can reprogram up to \$3 million from one project to another very easily without having to do any type of Congressional notification.

That gives us a little bit flexibility in doing this. The balance in the Trust Fund increases and stays in the green basically versus going into the red as it does if we continue to do business as we are today.

MR. INNIS: Steve, one quick question. How did you select 50 percent and how did you select 80 percent as the levels confidence associated with the amount of contingencies you should carry on these projects? Is there a statement, rule, or guidance that says we should only look at 20 percent for a project's past two years as a contingency?

MR. DURRETT: Rob, 80 percent is how USACE tries to estimate the level of confidence associated with a project's total budget. When we go to Congress and we tell them that a project is going to cost \$1 billion, we have 80 percent confidence that we can deliver that project for \$1 billion. That is the policy that we have. The 50 percent level of confidence was a discussion that we had in the Division with the two Districts and the three projects we are talking about and what kind of confidence level we have with respect to delivering the projects at a certain price and on a certain schedule. There was some angst about how far to go down and how much later

we could go on the project schedule. We balanced the two things. We were looking at the confidence level. We also looked at the labor associated with the E&D and the S&A, the one year duration versus something longer. Again, it was a tradeoff.

Some of us were uncomfortable going down to one year of labor for E&D and S&A on contracts. It was a balancing act. What is the value of one year of labor when you keep the confidence level for contingencies at 50 percent?

What we came up with was an arbitrary number to use as an example. This is going against our policies, our USACE Headquarters budgeting guidance to do this exercises. But it was a test. We didn't want to go too far and we had some reluctance to do anything too far particularly with not knowing what the future fiscal constraints on USACE might be. We don't know what Fiscal Year 2020 and beyond is going to look like.

MR. INNIS: Steve, for the 80 percent confidence level scenario, I guess you call that your current budgeting procedure, what is the percentage of contingency on that? For the 50 percent confidence level scenario, what you are calling your new budgeting procedure, what is the percentage of contingency on that?

MR. DURRETT: It is not an actual number. It is based upon various tasks, and it is different for each of the various contract options and tasks. It is not a hard number.

MR. GETTY: I can speak to Kentucky Lock. At Kentucky Lock, our contingency at the 80 percent confidence level is 31 percent. When we reduce the confidence level to 50 percent, the contingency goes down to 27 percent. It is a 4 percentage point reduction, from 31 percent down to 27 percent. Rob, does that answer your question?

MR. INNIS: That is a large contingency in either one of those scenarios. I know when we do projects in the public sector realm, we use between 10 and 15 percent contingency going forward. If we are off by that much, then we are going to be answering --

MR. DURRETT: The USACE will not use such large percentages when we do work in some of our other work areas. But when we start working the river environment and doing a lot of work in the marine environment, our contingencies are different. The navigation program and the projects that we do in support of the navigation program are probably the highest contingency values that we have. When you get on our Flood Risk Management (FRM) work, we don't carry that large a contingency. We are working on dry land.

Mick [Mr. Mick Awbrey, Deputy Chief of the Olmsted Division] is going to show you when he briefs a bit later on the Olmsted Locks and Dam project. We have basically been shut down on the Olmsted project since last September. We have been doing some minor work at the project site, but not a whole of lot production has been going on at Olmsted due to the river conditions. We shut down four months of the construction season, all washed out FY 2018.

That is a contingency and a risk that that you have to account for. We don't want to have that happen because we take very seriously our reputation that when we say we are going to deliver a project for a certain amount of money we want to make sure we are correct in our cost

and project schedule estimate and have a very high degree of confidence. When we tell Congress a project will cost \$1 billion, we are going to keep the project cost under \$1 billion.

That was what you saw with the Olmsted Locks and Dam project. We had five great construction years at Olmsted, which is why we delivered the project earlier than originally scheduled. That is why we didn't have to use those contingencies. It wasn't really much of anything else. We just had great working conditions. That was what was driving our success. But if we had had the 2018 water season or current water season, you would have kicked that one year down the road. There would have been no way to recover. We were just washed out.

We want to make sure Congress realizes when they authorize a project they know what it is going to cost them. That means we have to do a risk analysis. That is what we did on the Kentucky Lock project where we have a 31 percent contingency at one level of confidence and where we have a 27 percent contingency at another level of confidence. Do those contingency percentages still seem high to some people? Yes, they do. But there is a high degree of confidence that we are going to deliver that project at the cost we said. We won't have to go back to Congress and do a PACR (Post Authorization Change Report) that says this is not a \$1.3 billion job anymore.

MR. INNIS: Steve, is there a historical level that you have seen over maybe the last 20 years, to say, this is what the contingencies have been at or does that have to go to the confidence level?

MR. DURRETT: It goes into some of the confidence level. We have been doing some risk analysis for our estimates for about 8 or 9 years. I have seen some of these reports for the Soo Locks modernization project on the Great Lakes. I had a lot of conversations on what kind of risk and contingencies they were putting on the project. The numbers are slightly in line with all of these. It depends on the feature or some features to work are higher. But we talked about the average is done. You average them together for the total project cost, these looking at 31 percent for Kentucky Lock. Chickamauga Lock is looking at out around 32 percent, I believe. It is in line with what we are seeing on other projects.

MR. INNIS: Thank you.

MR. MONAHAN: Steve, I just want to make sure I understand the definition of contingency as it relates to your slide here and that it is related to contingency funding for project risk of execution, not for lack of funding to the project because of the budget process.

MR. DURRETT: Some of the risk is tied to budget process, because there is risk tied to – think about these projects that have options, and one of these years we don't get a work plan. We will actually, probably have to cancel the lock construction contract for Chickamauga and go back and re-advertise the remaining options on that contract. There is a risk with that. It now delays the delivery of the entire project, all those costs gets escalated by however long that delay is.

MR. MONAHAN: I think it would be really helpful for Board members to understand from the contingency definition if you put a dollar up there. How much is contingency for a

project that is tied to the risk of execution, much is tied to the risk of high water events, you can't plan for, you can't get into the project versus contingency dollars embedded in there because of the inefficient budgeting process we currently have.

MR. DURRETT: We can do that. Because they can break those down when we do our schedule and cost risk analysis. You can break those down and we see bar charts that shows -- key drivers are blank, blank, and blank. It could be budgeting efficiencies. It could be the cost of concrete. They are broken down by types of contingencies. We could show those in any schedule and cost risk analysis. Otherwise, the schedule and risk cost analysis gives you that bar chart that shows how those things are actually for that particular job.

MR. MONAHAN: Steve, I just think it is really important that what we are getting to is the essence of how we not only spend the Inland Waterways Trust Fund dollars effectively, but how we spend the taxpayer dollars effectively. If you are building in large sums of money for contingencies because of a failed budget process, we need to understand that and we need to make that known to Congress.

MR. DURRETT: I will tell you what. For all three projects, the Lower Monongahela River, Chickamauga Lock, and Kentucky Lock, we can show the schedule and cost risk analysis chart to show what the key drivers are of the contingency. We will put that in their presentations for the next meeting so for each of those projects you can get a feel what is some of those key drivers.

A good thing to remember, every year we roll through these schedule and cost risk drivers. We are always adjusting these. If you have good water years, you keep moving this. That is why Olmsted's costs kept going down. We were having good water years. Every year, two years, we were rolling in Olmsted. That contingency or risk of water was going down. We just kept reducing it down to a point. That is pretty much most of that \$76 million on Olmsted, still somewhat tied to uncertainty with water. That we have never even funded yet. We have not asked for the money. But we still show on the schedule the full project cost of \$76 million bogie sitting out there that is risk contingencies. But we will show you those graphs and they may help you understand some of where they are. It could be different project to project as to what is driving it. We will show those in each of the presentations at the next meeting.

MR. MONAHAN: Thank you. I would expect it would be different project to project as you said. An important point for us to understand particularly as we roll into new projects to make sure we are spending every dollar wisely and we are not directing money inappropriately with the funding process.

MR. INNIS: Is that where we change capability funding as well? Going back, we were talking about the next project that with capability funding there is a potential for the cost to go down so that would probably be taking over the risk of not having the money funded throughout, right, the capability funding would take out that contingency?

MR. DURRETT: Yes. If you have capability funding, contingency would go down. If you were getting capability funding, you would put less risk for uncertainty. There may not be

any risk for uncertainty of funding if you had a billion-dollar job. You budget it at \$1 billion. There would be no risk for uncertainty in funding. You have all the money that you need.

MR. INNIS: Thank you.

CHAIRMAN HETTEL: Steve, when I look at the difference in your usage on the previous slide -- your current procedure versus what you are doing now. That difference, just an example in FY 2020 is \$8.7 million. Is that \$8.7 million in reduction in usage due to a reduction in E&D and S&A and contingency or what is the reason why there is a decrease in usage?

MR. DURRETT: Yes, it is a little bit of both. We are saying this is how much contingency, this is how much for E&D and S&A and labor. If we ran out of contingency, we would just move money from labor and contingency. It is really all contingency. We break it out so we know what is what. If something would happen, so we had the ability to move around. It is just not locked into contingencies. It is not locked into labor. But we budget that way so we know what it is. But we can move it around somewhat. I can move from Chickamauga to Kentucky, if I needed to. I can move it from Kentucky to Lower Monongahela and vice versa. We have that \$3 million reprogramming authority within the Division. We can control and move money. That gives us a little bit more flexibility to move the money around.

It is not a large savings. I was hoping the number would be bigger. But some of it is still uncertainty and the risk out there. Some people are a little bit more risk adverse than others.

CHAIRMAN HETTEL: When you have -- use five years you have up there, so a reduction of \$33.6 million differential between the two different plans. That is a cost reduction in the three projects; correct? You may be one and more than less on another; is that correct?

MR. DURRETT: That would be correct. Yes sir. This is an exercise that we wanted to roll out that says we are thinking of budgeting differently. Here is a look at what it might look like and what the effects might be.

CHAIRMAN HETTEL: I understand this is just an exercise and may not be reality. You mentioned -- you wished it resulted in a larger amount of savings but \$33.6 million is still a pretty good size savings.

MR. DURRETT: Oh, yeah. It gets rid of some of that worry you would have about what is going on in FY 2022. You really don't have to have that worry in FY 2022. You can feel comfortable that we are going to be in pretty good shape with the Trust Fund through FY 2022. In FY 2023, the balance in the Trust Fund really goes up. These numbers will constantly change every year as we move these things through and we do adjustments. That contingency we didn't use that we thought we may need, that risk that never came, we capture them. These numbers will keep dropping. It's a moving target. Every time we update it, it's going to an updated target.

CHAIRMAN HETTEL: As we fund Olmsted and the Lower Mon project, the efficient funding received, the closer you get to completing the project, the less cost it is.

MR. DURRETT: That is correct sir.

CHAIRMAN HETTEL: Because you received the efficient funding and you take out the contingency.

MR. INNIS: I just want to make sure I have a clear understanding. I don't think there are actually cost reductions in the second scenario. I think it is actually reductions in your contingencies and what you think you are going to need. The projects aren't actually costing less. You are just reducing the contingencies.

MR. DURRETT: That is correct. The projects may not cost less because if the contingencies don't materialize, yes, it would. Just budgeting will – you are correct. Changing the way we do the budgeting does not reduce the total project cost.

MR. INNIS: This is not a \$33 million savings. This is just a reduction in the amount of contingencies that could be out there. This is just a re-distribution of the level of confidence they can get these numbers.

CHAIRMAN HETTEL: I understand that. But if you are able to fund these projects efficiently or to capability and you are reducing the amount of contingencies that you carry on the project that is a savings. You just can't tell us how much of a reduction in contingencies it is?

MR. DURRETT: I am reducing the amount of contingencies. But if something bad happens, I may still need those contingency dollars. If something bad goes wrong on all three of the projects, the total project cost may not change at all. If something goes wrong next year, in FY 2020, my Work Plan numbers in FY 2021 could be higher than those numbers.

CHAIRMAN HETTEL: And if things didn't go badly, is it a \$33 million savings?

MR. DURRETT: Yeah. This is assuming we don't need these contingencies. This is assuming we don't need the 80 percent confidence level contingencies upfront. But we won't know that until we get to the end of the project.

CHAIRMAN HETTEL: Understood.

MR. INNIS: If we look at this, they still have a 30 percent contingency on this, I believe that is so. Even the project costs we are looking at right now, we efficiently fund, we should see those all come out. There is no major issues to some degree of uncertainty, is that correct? You would expect with good water conditions and the way going forward, you would expect those to be at 20 percent less. If you are planning for that 30 percent contingency, it would be somewhere in that neighborhood. You would expect that kind of savings on these projects.

MR. DURRETT: Yes sir. This is just in any given year we are drawing less money than we have to tie up in these projects that could theoretically be used somewhere else. There is not a lot of them. But it is \$8 million or \$10 million depending on the year that could be used somewhere else. We are not tying it up on these jobs. I think you are correct. This isn't a total project cost at this time – savings is not what we are talking about. USACE is going to take more risks. We can free up some money that we don't have to tie up on these projects at this point in time.

CHAIRMAN HETTEL: But it could turn into a project cost savings?

MR. DURRETT: You really want that cost savings, don't you, Marty?

CHAIRMAN HETTEL: I can't leave them alone.

MR. DURRETT: I think we are seeing some of that. All these risks we put in our estimates are not materializing as we move these jobs through to conclusion. I think eventually all of these costs -- and if you follow the Olmsted Locks project example, the project costs at the Olmsted Locks project kept coming down as we got closer and closer to the end of the project because the risks did not materialize. We had five great years of river conditions in which to do construction in the river, all those risks we had built in to our cost estimates for five years never materialized. All that was savings. But you don't obviously see those savings until it happens. I just can't reduce the number because those risks are still out there for 3 or 4 years. And even in the example of the Olmsted Locks project, we kept money in the project cost estimate for risk of bad water, even now.

CHAIRMAN HETTEL: But you are also experiencing reduced project costs on the Lower Mon project, you have seen that project cost go down by hundreds of millions.

MR. DURRETT: Yes sir. We are moving these activities through. If those risks don't materialize these project cost numbers will come down. I think you will keep seeing improvements as you go out. I don't think this added risk for us to do the 50 percent, I don't think it is big. But this test could lead to USACE changing our requirements. Instead of doing the 80 percent confidence level, maybe this looks good. Maybe three years from now, USACE will decide we are okay with going to 50 percent confidence level.

CHAIRMAN HETTEL: Is it a fair statement that you are simply not asking for all the contingency up front?

MR. DURRETT: We are not going to ask for all the contingency.

CHAIRMAN HETTEL: Rather than experiencing all that contingency savings you had at the end of a project, you are saying let's not do it at the end. Let's not look at it on the end of project basis.

MR. DURRETT: Let's not ask for it all up front. We may have to come back and ask for it. Like I said earlier, we may have to increase our request in FY 2021 because all that risk came to be in FY 2020. And I need that money that we gambled on and it was an approved gamble at the time. We are going to have to change our forecast as we go forward into the out years. But we are trying not to tie up as much money.

In LRD, we carry over a lot of inland navigation money. I carry over a lot of money. I carry over money from year to year, but it is based on the way we budget. I am carrying money for one and two years out in any given year. The FY 2019 Work Plan money came in. There is money in there that I am probably not planning on spending until FY 2021.

What I am going to do now is I am not going to ask for that money. I am going to ask for money in FY 2020 that I am going to spend – I will have spent by FY 2020 or FY 2021. I am not going to ask for anything if they run into FY 2022 or FY 2023 anymore. It is really about an exercise – we are not going tie up as much as money.

MR. INNIS: Steve, with respect to your last comment then, does that mean we are getting closer to right now with what you are asking was to capability funding that allows the projects to move forward quicker with what we have put in as efficient funding then?

MR. DURRETT: I am sorry, Rob, could you repeat your question?

MR. INNIS: Because you are asking for a bigger contingency, does that allow you then to let somebody move to the other side of the project much like capability funding would allow you to do because there is the actual money sitting there? Are we closer to capability funding with the 80 percent confidence level than with the 50 percent confidence level?

MR. DURRETT: I don't think we are saving enough by going from the 80 percent confidence level to the 50 percent confidence level. It is giving you enough money so that you are going to be able to do capability funding from the previous line. I don't think anything is going to be in Fiscal Year 2020. What we are looking at is \$9 million, which is not going to get you to that point in time. But it may mean you could pick up an extra option. Instead of the full capability, you are something more than efficient but not full capability. I see the options all look alike with what is being budgeted in any one given year.

MR. INNIS: Thank you.

MR. DURRETT: Subject to any other questions that concludes my presentation. Unless USACE Headquarters tells me no, I can't do this, this is the approach we are planning on taking as of today. Our Work Plan requests will based upon this. I want to remind you this is based on old numbers. These are not the newest numbers. We may adjust the FY 2021 Work Plan numbers. When May or June come, we will do our evaluation of how much contingency did not materialize. These numbers may go up or down based upon on that. At the next Users Board meeting, these numbers may change so please don't hold me to them.

CHAIRMAN HETTEL: Steve, as long as the numbers keep going down we won't.

MR. DURRETT: Marty, I said up or down. We used last year's numbers in developing this. We didn't try to go through and do an exercise. We wanted to take a quick snapshot. There may be some adjustments. We were fairly confident these were still good. That was a few months ago. The water is still up. It is not looking good. There may be some adjustments relative to that.

CHAIRMAN HETTEL: Steve, we really appreciate all the time and effort you are taking to look at this and fine tuning your cost estimates and sharpening your pencils, so to speak. We really appreciate that. Thanks again.

MR. DURRETT: Thank you.

MR. LICHTMAN: Mr. Durrett is now going to present an update on status of the Upper Ohio River Navigation Project.

MR. DURRETT: Colonel Short (Colonel Andrew Short, District Engineer and Commander of the Pittsburgh District) please correct me if I say anything wrong. I actually offered Colonel Short the opportunity to deliver this presentation but for some reason, he graciously denied my offer. I don't know why.

This project, the Upper Ohio River Navigation project, was authorized by the Water Resources Development Act of 2016 (Section 1401 of Public Law 114-322, dated December 16, 2016). Here is the look of the project. It includes adding a new 600-foot lock chamber at each of the three project sites –Emsworth Lock and Dam, Dashields Lock and Dam, and Montgomery Lock and Dam. The fully funded estimate is approximately \$1.81 billion to get all three of the projects done.

Currently we are in the middle of an economic update that we were required to do. Mr. Waxman from the Office of Management and Budget asked us to update the economics associated with the project. The last time the project economics were updated was in 2009. For your situational awareness, the BCR at that point in time was 1.5-to-1 at a 7 percent interest rate. That was the project in 2009 when this project went to the Civil Works Review Board back when we held those. The Office of Management and Budget asked us to do an economic update of the project. We are in the process of doing that currently, which is looking at the economics, and at the cost of these projects. Early in this study we had done a value engineering study that had a lot of cost savings tied to it that needed some engineering put to it before we could say yes or no on accepting or not accepting those value engineering proposals that would reduce the cost of this project. That is a quick look at what the project is.

MR. MONAHAN: Steve, on the economic update that is in process, will that update be completed and ready for the May Users Board meeting?

MR. DURRETT: May is going to be close depending on when the May Users Board meeting is held. It is usually the end of the month. I will say maybe. That is right about when the update is due to be completed. It depends on the review process and when it is finalized. If it won't be ready for the May meeting, it will be ready for the meeting after that.

MR. MONAHAN: If possible, I would really like to see the economic update completed by May.

CHAIRMAN HETTEL: Steve, when was the last time the District did the economic update on this project?

MR. DURRETT: It was ten years ago – in 2009. That is why the Office of Management and Budget asked us to do the update. When the project was authorized, we were asked to do the economic update.

CHAIRMAN HETTEL: Steve, let me ask you, the slide says that the 902 limit is \$2.29 billion for these three projects. Is that the authorized cost of the project?

MR. DURRETT: No sir. That is the 902 limit at completion.

CHAIRMAN HETTEL: That is the authorized cost?

MR. DURRETT: Well, the actual authorized cost, I will have to get back to you with the estimated project cost.

CHAIRMAN HETTEL: Steve, can you tell me what is the difference between the Section 902 limit of \$2.29 billion and the fully funded estimate at completion of \$1.81 billion.

MR. DURRETT: The fully funded estimate is the total project cost at January 2019 price levels. The 902 limit would be at the project completion, which is escalated out.

CHAIRMAN HETTEL: I will have to look up the authorized project cost.

MR. DURRETT: Here is a look at what we received since Fiscal Year 2017. We received an allocation of \$5.5 million in FY 2017, then another \$2.4 million in FY 2018 and another \$2.5 million in FY 2019, a total of \$10.4 million. The economic update is scheduled to be completed, the economic re-evaluation report is scheduled to be completed in May 2019.

The revised project cost estimate, the part of economic update we are looking at those value engineering totals. You will notice here our revised total project cost estimate is going down to about \$1.55 billion. We are reducing the cost of this project. We found some significant cost savings from the value engineering study. Over the past couple of fiscal years, Fiscal Years 2017 and 2018, we were looking at some of these value engineering proposals and doing some of the engineering, asking is this a good idea or not good idea? Does this make sense? Can we do what the Value Engineering study is saying is a good idea to do? Most of these cost savings materialized.

We started realizing that, yeah, that is a good idea. We ought to do it that way. I don't have a list of all the value engineering study recommendations. There are about ten or fifteen of them. But we are saving close to over a billion dollars on these three projects. Some of the recommendations that stick in my mind are the approach walls. They are not going to be floating. They are going to be cells. The floors of the lock chambers are not going to have a concrete bottom. They are going to be bottom rock. There are some other miscellaneous things in the value engineering study that are also saving a lot of money. We cut a lot of costs out of this project.

We do know that the vessel traffic in this area has gone down since 2009. There has been a decrease in traffic and tonnage through the area. I don't know what will be the result of putting those two things together, the reduction in the cost of the project and the reduction in the amount of vessel traffic and commodity tonnage in the area. We saved a lot of money with respect to the cost of the project. Hopefully the economics didn't change that much. We are hopeful we can stay above the benefit to cost ratio of 1.0 or close to the existing benefit to cost ratio of 1.5. But we will have to wait and see what the analysis shows when it comes out.

The new project cost estimate was just completed as of January 2019. That \$1.55 billion total project cost estimate is a brand new cost estimate that we just got this past January after we had the project cost estimate updated and certified.

We would hope to have the first contract be for Montgomery Lock. We are very concerned about the middle wall of the Montgomery Lock. If we get some funding, we are hoping to award a small contract for the Montgomery project that stabilizes the edge of the dam, so when we build the chamber itself we have got the dam stabilized. We are hoping that will go out in FY 2021 and FY 2022. Hopefully the first contract will go out in FY 2023 for the lock chamber. Colonel Short is shaking his head yes. Good.

Our vision is to do these projects in sequence. I can't remember which one is second. But we do one about halfway through, and then we will get the contract awarded for the next one.

Before that one is done, we will have this one awarded. Some of that will be driven by what is available for funding to do the work.

CHAIRMAN HETTEL: Go ahead, Mike.

MR. MONAHAN: I have two questions. In order to get this project to where you are talking about 2021 and 2022 for the dam stabilization and 2023 for the lock chamber, how much additional PED (Pre-construction Engineering and Design] money do you need to make sure that you are ready to go?

MR. DURRETT: I don't have that number off the top of my head. Sir, do you know?

COLONEL ANDREW J. SHORT: I don't, Mike (Mr. Monahan). I can get that number to you. We are currently building the FY 2021 budget right now.--

MR. DURRETT: I think we are looking for a large number in FY 2021. Some of it will be construction of that little piece, several million dollars. But this piece out here to stabilizes these monoliths here on the dam before we get into the start of the contract we can get started on. I don't remember what the value of that is. I think we are looking for somewhere around \$15 million to \$25 million in FY 2021. Some of it is construction. Some will be PED to do the engineering and design so we can be ready to go.

MR. MONAHAN: Yeah, I would like to understand the number if you can.

MR. DURRETT: We will get you the FYs 2020 and 2021 numbers we are envisioning to ask for and what we will plan for 2020. I don't know what is going to be in the President's Budget. We have to wait for it first and then we will work on our Work Plan for 2020. But we will give you an idea of what we're looking for 2020 and 2021 to keep this thing ready to go.

MR. MONAHAN: I applaud USACE for taking a billion dollars out of that cost of the project. How much of the different concepts for the cells and approach walls was related to project innovation? I know USACE has been looking at the concept of project innovation and sharing ideas between Districts and Divisions. This is an important concept for us to understand as it applies to these new projects. We look at future capital development spending. How much

of an impact can innovation have on taking costs out of a project? Looking at the racking and stacking of the various projects in the portfolio, what is the number, \$8 billion to \$9 billion for the next list of projects? If you start taking a billion dollars here and a billion dollars there that starts to add up to some real money, at least in my book. I would like to understand, when you are looking at project innovation and reducing the costs of these projects, how much is related to innovation and sharing of these concepts?

MR. DURRETT: I can get a list of what ideas and innovations the value engineering study came up with – what kinds of things were considered, some of the innovations and ideas, and some of them maybe not innovations but just what we were going to do in the past. We can get you a list of what those value engineering ideas actually are. Maybe we can present that at the next Users Board meeting, to give you an idea of what they came up with -- and have somebody a little more intelligent than I myself that can actually speak to why they did what they did.

The team actually had a design charrette and brought a lot of smart people together who have done a lot of navigation work through our Inland Navigation Design Center (co-located between the Rock Island District and the Pittsburgh District) and we put them all in a room and they started brainstorming how to do things differently.

We can get probably get somebody from the Inland Navigation Design Center or one of the other folks to maybe come to the next Users Board meeting to do a presentation on what they did during the design charrette. Maybe they can talk more intelligently about what those innovative design ideas are. I know they had somewhere around 15 items. They saved a lot of money. I looked at the ideas -- two of them that stuck in my head. I know the lock floors aren't being concreted anymore. That is a cost reduction. And the approach walls are going to be cellular versus floating.

MR. MONAHAN: Thank you, Steve. It is very important to understand that innovations.

CHAIRMAN HETTEL: As Board Member Monahan stated, I applaud you for reducing the cost of this project by \$1.14 billion, from an original cost of \$2.69 billion down to the current project cost estimate of \$1.55 billion. Job well done. I will note the tonnage is down. You reduced the cost by \$1.14 billion. Hopefully the future BCR will stay at 1.5 to 1 or even go higher.

MR. DURRETT: We will see.

CHAIRMAN HETTEL: Let's say favorably, we'll put it that way. I would ask that you revise the project cost of \$1.55 billion before our next Users Board meeting so that you break out the project costs by lock and we can see how much the improvements at each lock, Emsworth, Dashields and Montgomery, cost.

MR. DURRETT: Costs broken out by project?

CHAIRMAN HETTEL: That is correct. As we begin to look at revising and updating our Capital Development Plan, and begin to evaluate the individual projects based upon a risk of

failure and value to the nation, rather than lumping all three of these projects together, if we have them broken out by project, it may move one project up, it may move one project down. We don't know what that scenario might.

MR. DURRETT: We should be able do that -- maybe a table displaying the savings by not paving the lock floor, whatever the number, and then three lines for each of the three projects, three columns for the three projects? We should be able to easily do that.

MR. INNIS: On your slide you show the original authorized cost of the project (\$2.69 billion) higher than the 902 limit (\$2.29 billion). Why is that, or stated another way, why is the 902 limit less than authorized amount?

MR. DURRETT: Don, could you answer Rob's question?

MR. GETTY: The 902 limit you see on the slide is based on the fully funded estimate that was developed this past January (\$1.81 billion), not the original authorized project cost; that would be the new 902 limit. The 902 limit is 20 percent higher than your cost estimate, your first cost. So the first cost is \$1.81 billion. You add 20 percent to that, and that is where you get the 902 limit -- does that math add up to that?

MR. DURRETT: Does it add up to 20 percent of the \$1.81 billion?

MR. INNIS: That is 27 percent.

MR. GETTY: Okay. So there is 20 percent. You are right, it does include inflation. Right. So when the authorized project cost came out in 2016, the 902 limit would have been greater than \$2.69 billion. That is the new one.

MR. DURRETT: That is the current 902 limit based upon current estimates.

CHAIRMAN HETTEL: And that current estimate, is it based on the \$1.55 billion cost figure or the \$1.81 billion cost figure?

MR. DURRETT: I will have to check on that. I have to do the math so I couldn't tell you. It is probably based on the \$1.55 billion cost figure, but I will have to get back to you with an answer.

MR. THOMAS P. SMITH: This goes back to Mr. Monahan's earlier comment about innovation. You mentioned something about innovation. We rely a great deal on great work of the Pittsburgh District and LRD because they own and operate so much of the inland waterways infrastructure. There are a couple of kinds of other concentric circles on activities dealing with innovation or standardization, between the Inland Navigation Design Center and a couple of other working groups, Boards of Directors that General Spellmon chairs, that are set up to support the enterprise and set the conditions for innovations like you are bringing up. As we look at the next set of actual projects and project delivery, we are taking advantage of some of the thoughts about standardization and innovation. There is an innovation workshop going on right now at USACE Headquarters about project delivery. I wanted to mention that so that the members of the Users Board have some awareness of those activities. This isn't the only place

we talk about projects like this. There are a couple of other concentric circles of activity that are driving this. They are all built on some of the same ideas.

MR. DURRETT: I will let Colonel Short talk about the design charrette. It was really a combination of a whole bunch of folks from across the enterprise. We had a couple of people from ERDC (the Engineering Research and Development Center) there. We had some folks from MVD (Mississippi Valley Division), and LRD, mainly the Pittsburgh District, at the charrette, to brainstorm some ideas and to work through these value engineering ideas.

MR. SMITH: On these types of projects now, we know the group needs to get together. The projects still need to be delivered in the front lines by our District offices. We know that groups of people need to come together and there are some conditions that are being set and expectations from our Chief of Engineers (Lieutenant General Todd T. Semonite, Commander and Chief of Engineers, USACE), Major General Spellmon, and others up at Headquarters looking at those issues and applying standardization and other improvements in project delivery. I just want to amplify that and submit for the Board's awareness that may have not have full knowledge of USACE other ongoing efforts in the area of project innovation and project improvements and delivery.

MR. MONAHAN: Absolutely, thank you Tom.

CHAIRMAN HETTEL: I have one last comment, Steve. I can't say enough about the \$1.14 billion savings on project cost, bringing the cost down to \$1.55 billion. That is not just sharpening your pencils. That is truly amazing.

MR. DURRETT: Now we have to deliver the project, correct?

CHAIRMAN HETTEL: I tip my hat to you and the other folks in USACE. If that can be accomplished on the Upper Ohio Navigation study, then it is time everyone else is speaking about. Maybe we should look at all these projects that are authorized and see if there are similar project cost savings on those projects as well.

MR. DURRETT: I really think as the Inland Navigation Design Center starts getting involved in these projects as they come online, you get a new set of eyeballs start looking at projects, seeing a lot more of these structures being built in other places other than their own District's geographic footprint. I think there is a lot of benefit to pulling together these design charrettes.

You bring folks together from different offices and they sit around and brainstorm how best to do these things. I will tell and Tom (Mr. Thomas Smith) already mentioned it earlier, part of our efforts at standardization has been stressed to the project delivery teams, the teams designing these projects and the various components of the project, I want one design for the miter gates that work at all three project sites. I want one sill depth that works on all three project sites. We want one design for a valve. We want to design interchangeable pieces and parts. That is part of the requirement when they do the design of this project that it will be standardized across these three projects. That is why while we are designing this project, they will match one other. Therefore we have three projects that look exactly alike. One of their initiatives is

examining how they standardize a lot of these components and parts. It is getting down to a lot of components and parts, not just the big pieces. These three locks will look exactly the same. We will do a design of one miter gate and we are going to use it in three locations. We are not designing three sets of miter gates. We are designing one set of miter gates.

MR. MECKLENBORG: Is this process being used or going to be used relative to the NESP program (the Navigation and Ecosystem Sustainability Program)?

MR. DURRETT: Yes Mr. Mecklenborg, we will. I will speak for Major General Spellmon, if you don't mind, sir. The Inland Navigation Design Center is doing the design for the NESP program. They will be the ones responsible for it. They are a virtual team of design engineers. They draw on resources from everywhere in USACE to do the design work. The team may include a lot of people from the Pittsburgh District as well. But we will have expertise drawn from across the USACE -- mainly MVD and LRD because that is where most of this infrastructure type resides.

COLONEL SHORT: General Semonite told me when I accepted command of the Pittsburgh District to be a business leader. Last fall I sat through an all-day conference with the folks from the Inland Navigation Design Center, the Engineer Research and Development Center, and my Pittsburgh District team assigned to this initiative. It was like a nerd out session. It was really neat in the way risk was incorporated into this and how to cut costs without affecting safety or risk. The Inland Navigation Design Center is a great asset to USACE. It shifted a little bit of effort to the Soo Locks modernization project right now. But as Mr. Durrett said, they pulled expertise from the Rock Island District and MVD as well as some of my Pittsburgh engineers and have come up with some great cost savings.

MR. MONAHAN: I think this is a really good conversation on future projects and the amount of money we can take out potentially from new construction projects. But what also strikes me is we standardize these projects. Right now we have a hefty O&M (Operation and Maintenance) budget because of older locks and dams in the USACE portfolio and the lack of standardization across projects. I don't know what we have been doing to quantify the value to the nation of standardization in future but if we increase the amount of standardization across projects we are going to reduce our O&M dollars; correct? We are going to lower our O&M costs for two reasons. One, we will have new projects and two, there will be less costs in the future because we have standardization of miter gates and other components, et cetera. It would be interesting if we could quantify that potential cost savings as we are looking for funding in Congress, we need that upfront in a timely fashion. If we execute these projects in a timely manner, the value to the nation for reduced future O&M dollars is significant.

MR. SMITH: To build upon Mr. Monahan's comments, there are a couple of other things going on. We have pursued standardization efforts not only for design and in construction but maybe for other processes as well, such as staffing. We tend to talk at this forum about the big bucks items. But as Mr. Durrett has pointed out, some of the folks, like me, who are running Operations offices, standardization is about committing these processes as well and the staffing and some of the other techniques. We have to go back and talk about that to see where and how

we capture costs. I know it is valuable to the Users Board, valuable to us when we do our own budget submissions.

It takes a long time to get those costs, that type of discussion right. But we will have to do some discussions about that, how we capture that.

There are some other things that come first prior to this. We are trying to build out section by section of the inland waterways using standardized frameworks. Hopefully we will continue to share those with you and get feedback on it.

MR. DURRETT: Thank you everybody for your attention and the discussion.

MR. LICHTMAN: Thanks Steve. Great discussion. It is now time for a break. We will take a break and we will reconvene at 10:15. Thank you.

(Break.)

MR. LICHTMAN: Everyone, please take your seats. We will reconvene the meeting. Next on the program will be an update on the Olmsted Locks and Dam project. Mr. Dewey Rissler, who is the project manager for the Olmsted project in the Louisville District was originally scheduled to deliver this update but unfortunately Mr. Rissler was unable to attend today's meeting. In his stead, Mr. Mick Awbrey, who is the Deputy Chief of the Olmsted office within the Louisville District, will be presenting on behalf of Mr. Rissler. Please proceed when you are ready sir, thank you.

MR. MICK AWBREY: Thank you, Ken. Appreciate the opportunity this morning to present on the Olmsted Locks and Dam project. Good morning, everybody, Major General Spellmon, Chairman Hettel, Board Members, Federal observers and others in attendance. For the record, I am Mick Awbrey, former Deputy Chief of the Olmsted Division and now with the Construction Division of Louisville District. On behalf of Mr. Steve Durrett, Programs Director for the Great Lakes and Ohio River Division, I will be presenting briefly today on the Olmsted Locks and Dam project.

Unfortunately, this isn't presentation going to be as polished as Mr. Rissler's presentation. I was a last minute substitution. Mr. Rissler had some travel issues; and unfortunately, over this past weekend my family was dealing with flu issues and a short 640-mile drive later, here I stand before you today.

This picture you see here on this first slide that you are looking at is not a current picture of the Olmsted Lock and Dam project site. This picture was taken last year. You can see the lock walls, the floating guide walls, the four river dikes upstream on the Kentucky bank of the river that were installed last year. Currently this isn't the picture at the project site due to the high water issues we are experiencing on the Lower Ohio River and, in fact, throughout the entire Ohio River.

That parking lot you can see right now is being swamped, and we have geese that are swimming in that parking lot. Our load out structures, which should be down here, these mooring cells right there are underwater, so our load out structures right now are right here.

Currently the lock walls are 23 feet underwater. The floating guide walls, of course float so they are out of the water. But currently this is the fourth highest river elevation on record for the Lower Ohio River.

Our operational milestone was October 1, 2022, which was laid out in our PACR (Post Authorization Change Report). Our completion milestone is 2026. Our scheduled operational milestone date was October 1, 2018. We did have the dam go functional on September 6, 2018, versus the 2021 date that was our original scheduled completion milestone.

Our current cost has us under budget. Our TEP (total estimated price), is \$2.78 billion versus \$3.1 billion, a savings of \$317 million.

Obviously, all the contingency funds were briefed in detail by Mr. Durrett. Fortunately due to advantageous river conditions over the past five years we were able to significantly pull the project to the left without cost increases, and we did not have to get into those contingency funds.

The keys to our success on the project were the efficient funding, and the capability funding and our annual Work Plan to execute a plan. Advantageous river conditions have allowed our contractor to work beyond the contractual low water season. Contractually, we had planned for the contractor to work June 15 to November 30. We expanded beyond those dates and we took advantage of river conditions as long as nine months in duration.

The current 2018 low water season typically begins on June 15, which is that dateline right there. If you look over here, the actual stage, the bolded black line, the top of the dam is at elevation 302; the top of the lock is at elevation 310; and the top of Lock and Dam 53 for demolition purposes, what we discussed there is at elevation 295.

Historically you can see where the low water season Ohio River conditions at Olmsted was around that to plan our work. This year the river conditions were tremendously above historical pattern thus it severely impacted our work.

The majority of the work right now remaining requires diving conditions. Typically at an elevation of 305 and lower elevations, we have velocities where we can dive. Unfortunately, this year we did not achieve that.

What is not shown here is that during this time period when we did have favorable work conditions, we were not able to complete the remaining three weeks of work that we had to complete on the dam because we had a barge allision that happened last spring. Those two months when we were going to perform that work, instead we were removing the barge and the gates. I will discuss that a little bit later.

Currently, the graph shows elevation of 322 right there. We are to date approaching 333 elevation on the Lower Ohio right now. Again, the lock walls are approximately 23 feet underwater right now.

This slide shows the remaining work items from the 2018 low water season that have been impacted by the high water conditions and that still need to be completed. We had three

weeks of remaining work as of September 6, which would have got us to the October 1; however, we had to go dam functional. On September 4, we started raising the wicket gates. We had concrete spall repair, tainter gate bays, and navigable pass shells. I will touch on those a little bit. That is not the normal, the concrete repairs need to take place.

The ones that we have identified that absolutely have to be addressed are underneath the bulkheads where the gates sit, either damaged by the barge that sunk when it came in or by the navigable pass gate 32 repair issue, or where we set our bulkheads, directly on top of one of those little spalls so it will not just seal out the water. That is what of significance here. We have got to get that service back to the normal plain surface or the bulkhead will silt and seal off the water.

There are three locations of isolation joint bracing and grouting. All the isolation joints have been driven. All the damming surfaces are in place. Unfortunately, our joint bracing was a well structure downstream of each one of those. We were planning on doing that in September. We were not able to do that because we had to go dam functional and the high water. Once that is done, there is some grouting that needs to take place after the bracing has been put in place.

The next items in the slide that you see there is the complete grouting in several locations using a different grouting mechanism. That is a soil based mechanism where we add upstream and downstream master chief cutoff walls. We have several locations where those sheet piles have never been driven came out in the lock. So we have to do a soil mix in our high pressure grouting in terminals isolation joints so we don't undermine the dam foundation.

Next, the left boat abutment and fixed weir, we are progressing very well over there. The only thing remaining on that work is the permanent anchorage. We have two concrete placements in the left boat abutment and fixed weir that we need to take place. It is a river. Depending on river elevation and however that we have to work around someplace, we are very confident that we will be able to get that work done this low water season.

Next, the upstream mooring cells, there are a total of four. All four have been driven. Two are complete minus painting. The two upstream most mooring cells are not complete. We have two additional concrete placements that need to go in each of those. We do have a work around, so given the right river conditions we will complete those and complete painting this low water season as well.

Next, the wicket 32 repair; that was the gate that was damaged as it was being raised. We have a foundation repair that we have to complete on that. We have a plan in place, so we are just waiting on the right river conditions to go and do that work.

Finally, the Lock and Dam 53 phase 1 demolition that work has started. We did not get approval to begin that until August 22 last year. That is two years of planned work. We have been up there. Production has been exceeding expectations, but our original demolition plan for that was to blast it. We will always be underwater due to raising the dam. The top of that lock [Lock 53] was river elevation 295. We will hold it full at approximately river elevation 298. It has made that work much more substantial, and that effort has increased in time and cost.

All these scopes of work minus that boat abutment and fixed weir do require diving operations. We have exceeded over 16,000 dives for the project this year. Last year was one of our most significant dive efforts. We had four dive barges on site that were working double shifts. This year we did the work even though the duration was short. We are planning on having five dive barges working two shifts for a total of 60 divers that would be working around the clock to complete the work.

This next slide just highlights the remaining work that needs to take place. Again, all the damming surfaces are in place so we can effectively hold pool as demonstrated the first week of September last year. I will start on the left, which is the Kentucky bank, the navigable pass shells are shown there. Monolith 10, wicket gate 32, we need to replace the horse hinge casting. That sounds pretty insignificant, but we will have to do that prior to the dam being raised. We have to have diving conditions, so low velocities. But it is a significant effort. That horse hinge component has to be set by divers in concrete to within 1/16th of an inch. So it is a very difficult task. We are confident that we can perform and achieve that. If we have to raise the dam, we will put a blank in and we will deploy a maintenance box, and then the divers will do it in essentially in a pool environment, which will be easier for them. We are prepared to go either way, whatever the river conditions allow us to do and get it done and expedite that repair.

Monolith 6, complete the soil mixing upstream of monolith 6. That is one of the areas where the sheet pile came out of the interlock. The soil mixing is the easiest one of our goals that remain that we don't have to have exact river condition or velocity to do that. However, we do have to coordinate in conjunction with the dam raising efforts. And then the repair of three spalls that are on the upstream joint there where the maintenance box in the future will not be able to seal off the area unless we repair those spalls. We will do that in conjunction with the gate 32 repair.

One of the reasons why we are going to have five dive platforms is so we can do all this work concurrently when we have favorable river conditions instead of one at a time. Monolith 1, complete the soil mixing, the same thing here as at monolith 6. And then we have the tainter gate area as well.

This next slide show the tainter gate portion of the dam. You can see the lock structure there on the far right of the slide. This is the river – you can see most lock wall there. One of isolation joints that we needed to brace behind. This isolation joint is different than this isolation joint as far as joint is at elevation 310. So that is the one that we will attempt to complete first. As the river recedes, the top of the dam structure is at elevation 302. So, again, that is higher, it is protected behind the training wall on that side. Then we will come over here and complete this right boat abutment isolation joint. All the piles are driven we have to put in the bracing structure downstream of those and then fill those joints out with concrete. And there is one over on the Kentucky bank has the same elevation as these.

The tainter gate bay 5 soil mixings, that is the last one remaining in front of the tainter gates, and then the repair of spalls on both of those that are mentioned that is due to the barge collision and the sinking of the barge and then the consequent recovery of that barge. Our

upstream bulkhead slots have spalls repair due to that barge coming into contact that we have to go in and repair. So in the future if we have to install those bulkheads and unwater to do any maintenance, we are able to effectively unwater in the tainter gate area.

And then this slide shows the remaining work as discussed over on the Kentucky bank, just for reference. The water level right now is three miles this direction into Kentucky. But this is a fixed weir that is a permanent anchorage. Obviously you can see the cofferdam. We have the majority of the concrete installed. We have two concrete placements in that. It was river elevation dependent as it is at elevation 303, but we have driven in a temporary cofferdam out here that allows us to get in and go to work sooner than that. As soon as the river gets to elevation 310 and continues to fall, we will go in and we will unwater that and we will place our remaining two placements.

That is a permanent anchorage for the wicket lifter barge. That does anchor off of that, moors off of that, and then as it raises wickets across the dam as it goes there without any chance of being sucked across in front of the wickets. This picture does show some of the wickets that have been raised, and then we do have two smaller minor concrete placements on the left boat abutment there, but that is the easy target for us to achieve. It is river dependent but once the dam is raised we will be able to go out and execute that work.

And then as I mentioned our two final mooring cells, we have to install the line hooks in two places and place the final concrete in the uppermost of the two cells.

We will do that concurrent when we are batching concrete probably the left boat abutment and fixed weir, just so we don't have operate to the batch plant any more than necessary. But again easy targets and then final painting on that.

That is the remaining work on that. We did have a plan that was scheduled to be executed in low water season 2018, but we weren't able to execute that due to going dam functional and then to the high water being immediately succeeded that.

This Olmsted financial slide has already been briefed. Everything shown in red is new since from the last briefing. The remaining total project cost to complete, the balance is different – there is a difference between the total project cost and total allocations to date. As previously mentioned, that is the \$76 million, that part there, and then changes to the funding stream.

We did ask and was given \$35 million to complete the work in the FY 2019 Work Plan and plus that up by \$15 million so we could design and procure a future work boat for the project for operations.

And then the Lock and Dam 53, phase 1 demolition is progressing. The phase 2 demolition is in river demolition. It includes the old bear traps and the remaining fixed weir comes out from the Kentucky bank.

We did bid that or put that out for proposals. The cost proposals came back in more expensive than the majority of the work going on phase 1. So we are analyzing our potential path

forward on that. Most likely if we do execute a contract extension for our current contractor, AECOM/Alberici, we will self-perform that work this low water season.

This next slide shows the schedule of remaining work items. Again, this slide is a repeat from earlier. Everything that is in green are actual dates. The one thing to note here is that December 31, 2019 date, for the demolition of the lock and dam 53. Again, that was originally two years' worth of work that we were given authorization to begin on August 22nd of last year. High water has impacted that. We can't work with anything higher than a river elevation 315 up there. Again currently the river is sitting at a river elevation of 333.

But if we do extend our contract out to do that demolition, we will extend our current contract out to December 31, 2019. The current contract is set to expire March 13 of this year, so next month. We are in negotiations with the contractor to extend that out predominantly because they are the subject matter experts on all things, demolition and our dam contract. We have the resources in place. They have executed all the work since 2004 on the project.

If we were to award that to any of the remaining work to a different contractor, the cost would substantially increase.

And our river dikes, well, we actually do have a few that are remaining. This is a firm fixed contract upstream of the lock structure. None of those dikes will be out of the water. What they are basically is a series of dikes that help laminate the flow as they come through the locks to even out the flow, so there is less problems when entering and exiting the lock structure itself.

This is our time and cost scorecard. We were doing very good as Mr. Durrett briefed you, five years of favorable river conditions. Until then so all our metrics are all in the green. Our major activities scheduled there remaining work if we would have had the month of September to complete that work without having to raise the dam and without having the high water elevation. We have essentially about three weeks-worth of work remaining currently. We have got work due to coordinate with operations, holding the pool without impacting navigation going through the locks or passing through the navigable pass has probably tripled in duration. However, it's still very achievable to this low water season.

One thing to note here on the safety metric which you can see in the lower left hand corner of the slide, this is the current hours work to date, however, we have exceeded a year and a half without a lost work time accident. Our current DART (Days Away Restricted or Transferred) rate for the year is 0.0. We are very proud of that and we are approaching 2 million man hours without a lost work date on the project.

This next schedule shows our 12 month and 5 year cost trends. Obviously, it shows the costs trending downward. That has been very favorable. We have not touched the contingency to date. You can see where lately it has been picking up just a little bit. That is a result of having to go dam functional last September and the high water event that has been affecting us since September. So while we aren't able to do much productive work, we do still have about 65 barges that we have to care take, do fleet maintenance on and so on a daily basis. And we have

retained our contractor skilled staff on site ready to go out and execute work whenever the river conditions allow.

Unfortunately, that just hasn't been the case. Our production has been very minimal, but our O&M cost on a yearly basis is about \$32 million. We still have that impact whether we are being functional or not, and that is why the cost has been trending upward a little.

This is my finishing strong slide. The first bullet there mentions the 2018 low water season river conditions and the impacts by workable river conditions. We are confident we will get those in FY 2019. We will raise the dam. We will hold the Olmsted pool with coordination with Operations and industry. Right now all the planned work remaining, we do not have any planned river outages other than when we are raising the wicket gates to perform the remaining work. There is a potential that we might end up having to ask for have a one or two-day river outage depending on the scenarios that takes place at Olmsted.

But right now our Plans A and B, I do not conclude any river shutdown other than raising the wicket gates and establishing the pool.

The remaining work packages on the shelf include the landside demolition at Locks and Dams 52 and 53; the Lock and Dam 53 marine phase 2 work that we previously discussed; county road resurface job; and the site restoration program that we have underway. The level effort on that work, a Lock and Dam 52 and 53 landside demolition is actually looking like it is going to be much easier than we had originally envisioned. We were on planning at Lock 53 putting in a small museum of the existing lock structures. We are going to move that to the Olmsted facilities and both counties where Locks and Dams 52 and 53 are located have a voiced an interest where they would like to come in and take over the land without us performing any demolition, other than having to take care of any hazardous waste disposition that may exist on the sites so that looks very favorable.

And the last item on the slide, equipment disposition. The equipment disposition, we will continue to sell it off as the equipment becomes available. We are reducing costs and offsetting the future program by returning approximately \$4.4 million of equipment that has been sold to date. We expect to see approximately anywhere from \$15 million to \$25 million by the end of the project. All that equipment that is sold will be reinvested in the project primarily to complete the county road resurfacing and remaining site restoration.

The equipment disposition has been going very well. Unfortunately, we have had more Districts throughout USACE and federal agencies claim some of our resources than we had expected. So our sales are trending a little bit lower than what we were hoping to get at the moment.

This next slide tells the story of the way it was at the project site versus the way it is at present. This is the site restoration that has taken place over the last year. Over here, you can see this is a casting yard. This is a skidway that went out into the river. This is an extension of the casting yard or laydown yard here. Our Super Gantry maintenance facility was over there and the additional lay down area was over here with batch plan of this area. As you can see from the

slide on the right, everything has been regarded. The pond is now no longer existing. We have a creek flows down the middle of the project, it there comes from up there then flows down through there.

The push pull system out into the river has been completely removed. The casting yard, all the rails have been completely removed. Operations is using three of the pads to store equipment on. We are getting ready to demolish the super gantry crane next month. And since this picture was taken, we have actually incorporated this area. We removed the super gantry repair area and all that has been regraded and reseeded as well to include all this area.

The only thing remaining is the batch plant or the rebar fabrication area until we get the concrete completed on the project, and then that will be restored as well.

And that concludes my presentation. This is the picture of all the wicket gates deployed last September and the beginning of starting to hold pool for the first time ever Olmsted pool. I have got to tell you as far as a project or program manager, I failed to plan. I should have had my bass boat right in there taking advantage of the first person ever to fish the Olmsted pool, but I did not do that.

That is my presentation on Olmsted. Everything is going very well minus the river impacts, but we are poised and ready to complete the work this low water season. We are looking and analyzing all of our future courses of action to try and minimize costs. Right now we think we have a plan in place where we will do that very effectively. If something happens that is unplanned or arises with different site conditions, we do have that potential \$76 million in the bank account that we can reach out to. We do not have any plans to exceed that.

Things are looking very good to complete Olmsted this year, to turn it over to Operations 100 percent complete, the Lock and Dam 53 demolition effort completed this year, have a clean slate into the navigable pass and the lock chamber by the end of this low water season. Are there any questions? Yes, sir.

CHAIRMAN HETTEL: Mick, you might not be able to answer this question, but I want to chat a little bit about when we activate the wickets and raise the dam. It is about 24 to 36 hours depending on how long the wait, which would then be a total river closure. I understand when they are raising the wickets, now the plan is to leave all the tainter gates out of the water to avoid flow through those last parts of the wicket navigable pass. But is there an opportunity to partially lower the tainter gates when you are starting on the Kentucky shoreline and start raising the wickets on the navigable pass. And as you get closer to the tainter gate portion of the dam, the velocity gets more, then raise your tainter gates to where we can still transit the lock while you are raising your wickets? I am just trying to think outside of the box to avoid a 24- to 36-hour closure when you do is.

MR. WILLIAM R. CHAMPMAN: Marty, this is Bill Chapman, Chief of Operations for the Great Lakes and Ohio River Division. We are looking at our options. I can't say definitively yes, this is a new project. We don't know how it is going to operate. We are going to look at various operations, like you indicated the river flow through there is going to be pretty swift. As

it closes up, it gets swifter, putting more of a risk to our people and our equipment going through there.

We will look at our options, but the project is so new, we don't know how it will operate. The dam has only been up one time. We will investigate those options. Like I said, it would be a lesson to learn as we go through it. We may be able to do that. I just don't know at this point in time.

CHAIRMAN HETTEL: Bill, I understand. I am simply asking the question rather than saying this is the way we are going to operate as you get more efficient ways. Maybe there is an opportunity to keep traffic moving while we start raising the wickets. Maybe we only have to stop for 12 hours. As long as you are looking at possibly shortening the duration of the river closure. Thanks.

MR. MONAHAN: I have two comments: First, I want to commend the entire Olmsted Locks and Dam construction team on their outstanding safety record. A truly outstanding accomplishment. I can't think of anything more important, and those numbers are stunningly positive. That is a real credit to everyone involved in the process.

MR. AWBREY: Thank you sir.

MR. MONAHAN: Thank you for your laser like focus on safety. Second, Marty, and maybe this has been resolved, and I simply missed it, but I can't believe that \$4.4 million is coming back to the project. Have we resolved whether any of the money the Trust Fund will be allocated back appropriately, or did that money go into a bucket at OMB (Office of Management and Budget), and they run away with it.

CHAIRMAN HETTEL: I think that money goes back into the project as a reduction in the cost of the project; but, maybe Mick, maybe you can answer that question better.

MR. AWBREY: Yes sir, thank you. Chairman Hettel is absolutely correct. Those sales proceeds have been reinvested back into the project, so instead of taking additional Trust Fund dollars and Construction General dollars in order to implement the project and proceed with our planned work.

MR. MONAHAN: Okay. Thank you.

MR. AWBREY: And with respect to our safety record, I appreciate your comments very much. Obviously, our number one goal is everybody leaves the job at the end of the day in as good a condition as when they showed up, if not better. And I will reiterate that this year is going to be a very challenging year for the Construction Division.

We are no longer in control of the river. That is the Operations Division's responsibility and we have an intense communications and planning effort on that level. Obviously our goal is to pass traffic as effectively as possible and perform our work as best would can. But we are spread out and we are losing subject matter experts as well. As our contractors are winding down their work, they are apt to assign their people to other projects and save those for the USACE.

Our level of effort and planning is that ramped up what essentially this year, but we fully intend to continue with the safety training. Are there any other questions? All right. I appreciate it.

MR. DURRETT: I would like to clarify one point and this is that the Operations Division does not have control of river. The Commander of the local District office [Colonel Antoinette Gant, District Engineer and Commander, USACE Louisville District] is in control of the river, and she controls both operations and construction. I have already had this conversation with Colonel Gant about the transfer of this responsibility. The District Commander has the authority, not the Operations Division. If the Operations Division may want to do something, the District Commander may want to do so something else. The authority resides with the District Commander who is in control of the river to get this job finished.

MR. LICHTMAN: Thank you very much Mr. Awbrey. Next on the agenda is Mr. Don Getty who will be presenting on the status of the Kentucky Lock Project. Mr. Getty is the Project Manager for the Kentucky Lock project in the Nashville District.

MR. GETTY: Good morning. Major General Spellmon, Chairman Hettel, Board members, my name is Don Getty. I am the Project Manager of the Kentucky Lock project. I work for the USACE Nashville District. In addition to the Kentucky Lock project, I will also be briefing you this morning on the Chickamauga Lock project and the Lower Monongahela River project.

First up, the Kentucky Lock project. Some of the key points on this project, like Mick [Awbrey] said, high water has been affecting the Kentucky Lock project as well. I am going to tell you a little bit about that later in the presentation. There have been no significant impacts yet, but we are starting to feel those, and Mother Nature is coming into play here.

We have our small Site, Demolition and Utilities contract about to finish, and I also have a slide on that contract later in my presentation. We received a significant amount of funding this fiscal year, \$43.6 million. We plan to fully fund the five remaining options of the Downstream Lock Excavation contract with that money, so that is good news as well. The Total Project Cost estimates are done on a two-year cycle. We do have a new cost estimate, but it was not in your information packet. We finished our review yesterday, and I have a slide on that. I will present that to you as well.

You have seen this Kentucky Lock Project Overview slide before. The three yellow boxes are three ongoing construction contracts. The yellow box at the bottom of the slide is our Site, Demolition and Utilities contract. It is a \$4.1 million contract, awarding in January 2018, and it is winding down. It will be finished by the end of March. Then we will just have the two other construction contracts going on for us, the Downstream Cofferdam contract, that was awarded in September 2016 with a contract value of \$67.1 million, and the Downstream Lock Excavation contract, awarded in September 2018 with a contract value of \$54.8 million.

This slide tells the story of Mother Nature and the impact of high water on the Downstream Cofferdam construction. The picture in the upper left hand corner of the slide was

taken in October 2018 when we had low water. We were setting the third of ten cofferdam shells. We have not set a shell since October because of the high water. To allow for the setting of those shells, the water has to be about four feet below the top of it or river elevation 315. We have not seen river elevation 315 since November of last year.

To put that in perspective, river elevation 315 is a 75 percent duration elevation. What that means is, on a yearly basis, the river elevation is below 315 about 75 percent of the time. Unfortunately, this has not been an average year. Even in January we get more than half of the days below 315, but not this year.

In the photo in the upper right-hand corner of the slide you can see a picture taken about two weeks ago. Our three shells are underwater, you can see the arrow pointing to where the shells are. They are about 11 feet underwater. The water is about 12 feet higher than when this photograph was taken. This lock wall over here is underwater by about a foot. The existing lock is closed. We expect to remain closed until at least about March 8.

The bottom two photographs show you what we have done since October. Even though we can't work in the river, we can cast more shells. We really should just have two shells in progress, but we finished two shells [shell numbers 4 and 5]. We are placing concrete in this third shell [shell number 6] tomorrow. We are probably going to bring a fourth casting barge in to try to keep functioning.

But these should have been in the water before now. They should have been -- one of these should have been in the river in November, and it didn't happen. That gives you an idea of the impact of what is happening to the project to the high water.

Since we awarded this the Downstream Cofferdam contract in September 2016, we have added 5-1/2 months to the completion date of this contract solely due to high water.

The Downstream Cofferdam contract is a firm, fixed price contract. When we add weather days to a contract, we typically do not pay the contractor anymore. We just allow him to work longer. It is not permissible, except for items that we pay for on a time basis.

The big item here is our helper boats. We pay for the helper boats by the month. We are in the process of developing a modification to the contract to add time due to high water and quantities on those contracts. It is going to be north of a million dollars, and that is just through the end of December. So what we have experienced from January 1 to whenever that will also be added to that.

These are significant costs, but there is no way – that is just the nature of the beast in the world we live in.

Okay, I am going to switch gears while still talking about the cofferdam contract and give you a feel for how we interact with our contractors. This is a picture taken a couple of weeks ago of our annual partnering session with the cofferdam contractor. On these navigation projects we formalize our partnering with the contractors, meet on a regular basis and have a professional facilitator.

This is actually an afternoon session, a working session where we were working with risk. We have our contractor. USACE and the Tennessee Valley Authority are part of this. I wanted to give you a feel for some of the things we do.

These are just some of the concrete steps we took in this partnering session. Because of the high water, we are looking at risk and opportunities and ways we can drive a schedule to the left to make up for that. And that is what these three things do.

First we focused on the amount devoted to dive time. We have some diving associated with the work on the cofferdam, and if we allow some additional lock closures, we are going to be able to reduce the critical path dive time and move the schedule to the left. So we are looking at this approach that came up during the meeting – 12, 12-hour closures. That is probably going to move our schedule to the left three to four weeks.

We are in the process now of analyzing this. We are figuring out the cost of this to industry for those 12, 12-hour closures, as well as the benefits to the government and the Inland Waterways Trust Fund. If the benefits outweigh the costs, then we plan to pull the trigger on this to try this approach and to make up some of that time.

The second bullet is also something that could potentially have a big impact on the project schedule. Traditionally, when we place concrete on a project like this, we use a linear conveyor system with a special concrete mix. Our contractor is proposing to go to a pumpable concrete mix. It is going to have a lot of flexibility and save some time and the project schedule. It is not something that we normally do, but we think this is going to work. USACE evaluated that as well, and that is going to shave possibly months off the schedule.

And then lastly, fly ash, we use a lot of fly ash in our concrete. I think we talked about this at the last Users Board meeting, but we use about a hundred pounds of fly ash per cubic yard of concrete. For many reasons, it adds a lot of positive aspects to it. But, as coal plants have gone down, our supply of suitable fly ash has gone down. It is an issue with unscheduled outages of coal plants just like unscheduled outages of locks.

We are looking at trying to put some on-site stock pile for fly ash to help us with those unscheduled interruptions of fly ash. But it has tremendous impact on our schedule. That is something we are also exploring. These are the kind of things that come out of our partnering sessions, so very positive aspects of the project.

MR. INNIS: Don, on the issue of the supply of fly ash, have you looked at other alternatives other than fly ash, like slag?

MR. GETTY: Yes, silica fume and metakaolin, all those are potentials. The drawback is that -- well, fly ash has had most of the optimal properties. It helps with heat generation. It helps more so with alkali aggregate reaction on some of those. The cost is the big driver. It is just so much cheaper than these other alternatives. We are not to that point yet, but we are evaluating other options. We think in a few years down the road, we have to move in that direction.

MR. INNIS: I wouldn't suggest silica fume by any stretch of the imagination based on the cost, but slag is becoming more cost effective and gives you almost the same reactivity.

MR. GETTY: Those are all on our plate to evaluate where we know we had an issue out there. We are exploring -- these are more short-term solutions. Those are more of a long-term solution for us.

CHAIRMAN HETTEL: Don, these 12, 12-hour closures, will they be consecutive over 12 days?

MR. GETTY: No sir. They would be grouped in two closures. We have got a 12-hour closure one day and 12-hour closure another day. It would be at least three weeks before we have another set of closures.

CHAIRMAN HETTEL: Good deal. Because as you well know we will have a lot of catching up to do when all this water evaporates.

MR. GETTY: Right.

CHAIRMAN HETTEL: Timing of these closures is when?

MR. GETTY: Before we agreed to do that, we put parameters on it right now before we do a lock closure. We usually say if it is more than nine months, we don't have a lock closure. Those are the kind of parameters we would put on that type of operation.

CHAIRMAN HETTEL: Okay, thanks.

MR. GETTY: These are a couple of pictures of our small Site, Demolition, and Utilities contract. We are relocating a lot of utilities and we had to modify our lock operations building. These pictures were taken several weeks ago. This contractor is about finished. It was a very difficult, small but difficult contract. We are glad they are getting finished up.

On these next couple of slides I have a couple pictures of unusual types of cargo going through the Kentucky lock. This is just for your benefit and hopefully it helps demonstrate some of the value of the waterways that we typically don't capture very well in our economics. This is a picture of NASA's new space launch system on their Pegasus barge. It will be the largest rocket in the world when they finish it in a couple of years. They are shipping one of its engines to Huntsville, Alabama for testing. This is a picture of it going through the Kentucky Lock on Christmas Eve. They used their specially designed barge to transport the engine.

This is picture of a unit from Fort Campbell transporting their equipment by barge taken just a couple weeks ago. I showed you a similar picture of a unit from Fort Campbell transporting their equipment at the Paducah, Kentucky meeting last August. Fort Campbell is now shipping two round trips a year of these cargo movements. They are saving about \$1 million and ten days round trip by moving their equipment by water. It is working out very well. In the lower right-hand corner is a picture showing our helper boat going out and assisting that tow transit the lock. They had three tugboats come through. They typically have three tows when they have this movement. This worked out great for Fort Campbell.

This is our financial slide. There are no significant changes from the last Users Board meeting on this slide.

This is our time and cost scorecard. I want to point a couple of things. The reason for the red on the upper left-hand side in the expenditure quadrant is due to Mother Nature. We are not spending as much as money as we expected because of high water affecting our downstream cofferdam and that is why we are red there. I wanted to point out we are still working on our economic update. We hadn't finished our new total project cost before the economic update was finished. It looks like we are going to be on track by the end of next month to have a draft economic update report done but we will not be sending to LRD and Headquarters until later this spring.

CHAIRMAN HETTEL: Don, in the bottom left-hand corner of the slide, it says "Corps of Engineers, EAC." We used to see that as TEP.

MR. GETTY: It is the same thing: EAC stands for estimate at completion. Mick might be able to help me. TEP is an Olmsted terminology.

CHAIRMAN HETTEL: What does "EAC" mean?

MR. GETTY: Estimate At Completion.

CHAIRMAN HETTEL: Estimate at completion, okay thanks.

MR. GETTY: Right. So based on the contingencies we have used to date, that is what we think it is going to be. Typically it doesn't have to be a lower number than total estimated price but we haven't used any contingency.

CHAIRMAN HETTEL: Two comments on that. At the last year the Users Board meeting, the EAC was \$1.059 billion. This meeting the EAC is \$1.050 billion. Keep going. Fine job. And it is also \$204 million under your baseline cost. So keep on doing the work. Looking forward to you continuing that trend.

MR. GETTY: We are too. Those are estimates so they are subject to change.

CHAIRMAN HETTEL: Understood.

MR. GETTY: This is our schedule of upcoming activities. The items in red are some changed dates. Our downstream cofferdam contract has been pushed off to May due to Mother Nature. Our Site, Demolition and Utilities contract had some challenges. The contract got pushed out a couple months. So that is scheduled to wrap up in March, at the end of next month, and that won't have an impact on the completion of the overall project.

Our total project cost estimate, like I said just a minute ago, just got finished this month. Here is our new total project cost estimate, \$1.216 billion, so it is about a \$68 million reduction. I tried to set you up for this, I think, to let you know -- I thought it was going to be coming down.

We go through this every two years. We re-evaluate our risks and come up with new contingencies as part of this estimate. There are two big reasons why this cost estimate came

down. One was the great bids we got for the Downstream Lock Excavation contract which we awarded in September 2018. The other reason for the reduction in the total project cost estimate is our reduction in contingencies. We talked about that a little bit when Mr. Durrett was up here. In our last project cost estimate two years ago, the big driver for our contingencies was uncertainty of future funding. That was the number one driver. In fact, it made up 60 percent of our contingencies. In the view of the project team that is no longer a large risk. It didn't even make the top five in this round, inefficient funding or future funding risk. That is the reason why our contingencies have gone down. I mentioned earlier today that the Kentucky Lock's contingencies were 31 percent. That was true up until yesterday. They are now 26 percent for future work. So that went down. And we also break out our contingencies for existing work, not future work. That actually went up some from what we had back in March 2017, but the net was a big reduction by doing that.

This new cost estimate is going to affect our future efficient funding stream. What it is not going to do is affect our Fiscal Year 2020 funding, because that is being driven by what we think the base contract ought to be. This big contract we are planning to award in September 2020 for construction of the downstream lock monoliths that Mr. Durrett mentioned will be a base contract with a number of options. We are starting a market survey now to track the optimum level of that base scope, the dollar amount. What we learned from the Chickamauga Lock chamber construction contract was they put out a \$30 million base contract that was not enough finances to maximize the usage of the Inland Waterways Trust Fund cost share dollars. In a couple of months, we will get the answers back from the industry so we will be able to decide what we think will optimize that. That could affect our Fiscal Year 2020 funding. I think it will go down, if anything. But it definitely could affect it. It probably affect will what we request in terms of efficient funding.

And finally our summary and challenges slide for Kentucky lock. Mother Nature and the high water continue to affect the project schedule. We still have issues with geology. Geology has been the issue on this project as far as the unknowns affecting our cost increases. We are still facing that both with the Downstream Cofferdam contract and the contract we just awarded, the Downstream Lock Excavation contract. As I mentioned it at the last Users Board meeting, the Downstream Cofferdam contract has reached a point where we are adding additional lockages, double lockages. We are reducing the efficiency on lockages. But the traffic levels at Kentucky Lock are still very robust. Coal has gone down. But our liquids and aggregates are still going up so we are still very healthy when it comes to traffic and that should bode well for the benefits analysis in the upcoming economic update.

That was my last slide on the Kentucky lock update, so if there are no other questions I will move on to the Chickamauga Lock project update.

CHAIRMAN HETTEL: Don thanks, no questions, but Ken, if you would do us a favor, Don has a lot of good slides in his presentation this morning that we didn't get before the meeting. Can you forward us Don's presentation from this morning? Thanks.

MR. GETTY: The Fort Campbell and the total project cost slide are new. I am going to point out some new slides on the Chickamauga Lock project and the Lower Monongahela River project. Let me see if I can make this work.

I am now going to brief the update of the Chickamauga Lock project. I sit next to Adam Walker, so I get a lot of information on the project through osmosis but bear with me. I am not probably as well versed on the project as I should be. The big news on the Chickamauga Lock project is that we basically finished the Lock Excavation contract on time. It did not impact the next contract, the Lock Chamber Construction contract. The big news on the Lock Chamber Construction contract is that we received enough funding in FY 2019 to exercise the next four options, options 4, 6, 7 and 8, on the contract. We will exercise those four options on that contract, or I should say we plan to exercise those four options by the end of next month. I believe there are a total of 13 options on the contract, so with the award of these next four options, that means that eight out of the 13 options will have been awarded. We did receive some extra funding in the FY 2019 Work Plan in addition to the money needed to fund those four contract options and that additional money is \$12 million. We are developing a plan to use that \$12 million and we are probably going to exercise a partial option with that \$12 million. We are exploring that now how to make use of every penny. And that is really going to come in very beneficial to the contract with that extra \$12 million.

It is going to help the contractor with their future flexibility and reduce their schedule risks. If the contractor reduces their risk, that will reduce risk to us as well. The PACR is essentially finished but OMB is still reviewing it.

CHAIRMAN HETTEL: Don, help me understand this. Wasn't the Post Authorization Change Report already authorized? Wasn't it authorized by Congress when the Chickamauga Lock project was reauthorized in the last Water Resources Development Act?

MR. GETTY: Yes. It got passed by Congress. But OMB is still reviewing it after the fact. I don't know what the ramifications of that are, but they are doing that.

CHAIRMAN HETTEL: Okay. I am like you, I throw up my hands up and say why. Congress just authorized the project while they were doing the review of the report.

MR. GETTY: You have seen this slide before, the Chickamauga Lock Project Overview slide. Really, it has just one contract going on now, the big Lock Chamber Construction contract worth \$240 million that was awarded in September 2017. I am going to talk about it a little and its future in the next slide.

This is an isometric of the big Lock Chamber Construction contract, showing you the different options with different colors. Again, we have exercised four of those options (numbers 1, 2, 3 and 5) and plan to exercise four more. This \$95 million was used to obligate an award of the base contract and the first four options. When we award these next four options, that will increase the obligations to \$154 million and then to \$166 million as we do the next \$12 million. We will be pretty far along in getting most of the dollars obligated for that contract.

This slides shows you a couple of recent pictures from the project site. The picture on the left-hand side of the slide shows the condition in the project after our lock excavation contractor had finished and left the pit. The project site is basically ready to start placing concrete. There is some rock excavation in the next contract but it is not significant. So the lock chamber construction contractor will be able to hit the ground running once they get their concrete delivery system in place.

The picture on the right shows you some fly ash mitigation being done at Chickamauga. Chickamauga got four free silos from the Olmsted Lock and Dam project. That was very beneficial to the Chickamauga Lock project. It was at no cost to us. Their contractor brought them down there at their cost. They are able to store about 30 days of fly ash on site, so, if they have an unscheduled outage at a coal plant, they should be okay. That is an example of how we can mitigate risk sometimes and very cheaply in this case.

The next slide shows you what happens when Mother Nature has a say in our project planning. This picture was taken two days ago. This shows you how Mother Nature is affecting the Chickamauga project. You will notice, on the right, the chamber is not de-watered anymore because of all the high water that we have experienced recently. However, this could not have happened at a better time for the Chickamauga Lock project because we were between contractors. The lock excavation contractor had gotten all his equipment out of the lock chamber and the lock chamber construction contractor has not yet started moving his equipment into the lock chamber so the high water didn't impact anything. The high water is impacting the project schedule of the Lock Chamber Construction contractor, probably on the order of two weeks. But that is obviously much less than what the high water is doing to the project schedule at the Kentucky Lock and at the Olmsted Locks and Dam project.

But we do have a trigger -- even though the cofferdam has not been overtopped, the height of the water did reach our trigger elevation. There was actually water splashing over the top of the cofferdam somewhat. You can see how turbulent the water is. But I think the project delivery team and the contract are expecting the water levels to be down within a week and the contractor will be able to pump out the water from the lock chamber in a couple of days and then we will be back in operation. Mother Nature rules the roost sometimes.

This is an update to the financial slide. We did have this in red but it didn't make it into this version. I wanted to point out this change, this 3.2 million change in the remaining balance of the project. Chairman Hettel, you mentioned this \$3.2 million with regards to capability. That is not what this is about. What is happening here is, this number has been correct all along. It includes everything on the project but what these numbers didn't include was the \$3.2 million we spent on studies before we started construction. That money is actually called GI or General Investigation money. It doesn't fit into any of these categories. Our main number didn't match up because we didn't have this \$3.2 million in it. So, Adam [Mr. Adam Walker] added that \$3.2 million to the CG (Construction General) number here so that the totals all add up. That is where that \$3.2 million came from. That is just study money that was not included in the original project cost estimate. It doesn't have anything to do with capabilities.

This next slide is the schedule of remaining work. Adam has the Lock Excavation contractor getting out of the lock chamber on February 1. They were hoping to get out earlier but they got out on February 1, which was the contract date they had to get out by. Not a big change here. This is our time and cost schedule scorecard. Nothing really to say here, I don't believe.

CHAIRMAN HETTEL: I do.

MR. GETTY: Okay.

CHAIRMAN HETTEL: Your estimate at completion cost. Can you tell me what it is again? I'm sorry but I didn't write it down.

MR. GETTY: The estimate at completion?

CHAIRMAN HETTEL: At the last Users Board meeting it was \$670.6 million. Today the slide is showing \$667.5 million. It continues to trend down and seeing that you sit close to Adam, please tell him we appreciate all the fine work that he is doing and the team's efforts in making sure the estimated cost of the project keeps trending down.

MR. GETTY: I will be sure to tell him that. I will pass along your kind words to him.

This next slide is our summary and challenges slide. Some of these points I have already made. Things are going well and I think the big takeaway to me is that contractually the project delivery team is in good shape, the project has got funding, we are keeping the contractor team on track and Mother Nature is not having a huge impact on Chickamauga Lock. If we find out why OMB is reviewing the PACR and if there is anything that comes out of that review, after the fact, we will pass that on.

That wraps up my update on Chickamauga. Subject to any additional questions or comments on Chickamauga I will move on to the update on the Lower Monongahela River project.

All right. So, I am going to talk about the Lower Monongahela River Locks and Dams 2, 3 and 4 project. I don't sit near anybody working on the Lower Mon project but we do interact with Steve Fritz, the project manager for the project in the Pittsburgh District. Mr. Fritz and his team did try to bring me up to speed on the project and I am going to try to hit the high points although I might to have to look at my notes a bit more on the Lower Mon project.

This is their bottom line up front slide. As I understand it, the project is on schedule and on budget. Those are the key highlights to me. They have not experienced huge impacts due to Mother Nature, so I think that is as good well. I think they have had about a month's worth of impacts due to high water versus the impacts that they have experienced at the Olmsted project. So, again, not huge impacts but it does impacted them somewhat.

You have seen this slide before, the Lower Monongahela project overview slide which shows the major project features.

This next slide shows the project schedule for the construction of the major features of the project. These dates are in red because they actually put the months to go along with the

completion dates, so the dates really haven't changed, so there are no big differences in the project schedule.

This slide, the Lower Mon – Charleroi ongoing/pending construction plan slide is a busy slide has a lot of information and it is a change from what you had in your read ahead materials. The project delivery team actually changed the dates for these options here. Everybody will need to get this revised slide. This is only the change in the Lower Mon project.

I should have pointed out during my presentation on Chickamauga that that picture of the high water at Chickamauga; that was taken two days ago on February 26. That was the only a change to the Chickamauga presentation.

Okay. So, they have their River Chamber Completion contract, which has a base contract and five options. They have exercised three of those options. They are going to be exercising option 4 by April, I believe. They have the date somewhere on the slide. They still have option 5 to award. I believe option 5 is approximately \$30 million. I think that the project delivery team is going to evaluate closer to the end of the year whether they are going to have that \$30 million and if they do, they are going to exercise that option as well. That will be a risk-informed decision. They could exercise that toward the end of the fiscal year so there is no risk, from a financial standpoint of doing that. There are unknowns on this project, especially with respect to dredging quantities. I believe it is on the next slide. Maybe I better wait to talk about that.

But that could certainly impact whether the project delivery team exercises option 5 or not, what happens between now and September. They have that luxury of time and I think they are going to use it.

A couple of pictures of the River Chamber Completion contract. In the picture on the left hand side of the slide – and they have four contracts going on at the project site currently. The left-hand picture is of the River Chamber Completion contract, the base contract working monoliths 1-7 and that is a picture of the last lift at monolith number 5. The picture on the right-hand side of the slide is of the monoliths M22–M27 contract, and that is monolith M27. They have been working there and they are making significant progress.

This next slide shows an overall picture of what is going on at the project site, showing three of four contracts on going. Just like the Kentucky Lock project, which has three contractors onsite, this is a challenge managing multiple contracts in close quarters, so they are really earning their pay managing these contractors. From what I have seen, they are doing a bang-up job. The two pictures I just showed you, the left-hand picture was up here in this part of the project site on the River Chamber Completion base contract, the other photo was over here and is part of the M22-M27 contract.

The project delivery team just awarded the Stilling Basin contract in October 2018 and they are about five percent complete, as per the slide.

They have a fourth contract going on with the dredging. They have executed two task orders on that contract. It is not on this slide.

I will cover it in the next one. Let me make sure in my notes here. All right. I will try to cover that in the following slide.

I do want to point out in this slide, the Lower Mon financial slide, and this is true for the other projects financial slides as well, the remaining balance for Lower Mon is a remaining balance based on the 80 percent confidence level. That is our big estimate.

You are going to see a slide in a minute where we are reducing these numbers in two different ways. This is our full-blown project cost estimate. That is assuming that we are using every dime of contingency on the project. Steve [Mr. Fritz] is showing, in red, the \$89 million they received or are going to receive in Fiscal Year 2019. We haven't received all of our funding, we should by the third quarter, I believe.

I think it is important down here in the box titled "Current Status of the Project," it says Pool 3 Dredging is 18 percent complete. They are ongoing with this dredging. Again, they don't know the quantities on it so that could affect what kind of expenditures they are going to have this year and whether they're going to have to award another task order on that contract.

This next slide shows the schedule of remaining work on the project. There are no change on this slide from the last Users Board meeting.

This slide is the Lower Mon Time and Cost Scorecard slide. This is the slide where I wanted to point out about the dredging task order. Steve [Mr. Fritz] has said it has to be determined if there will be an additional task order on the dredging. Again, that is dependent upon the quantities. The project delivery team has awarded two task orders and if they exceed the quantities on those two task orders, they will execute a third task order. They just don't know that yet.

In the upper right-hand corner, where it is showing yellow there, Steve Fritz is doing that to point out that this project was not included in the President's budget. That puts a ring of uncertainty on our funding. I think we have a lot less uncertainty than we used but they are still out there.

This next slide on the efficient funding profile is an offshoot of what Mr. Durrett presented earlier but it shows you the impacts to the Lower Mon project by changing the way we budget for it.

The top row is what Lower Mon has been budgeted. They have actually been reducing their contingencies below the 80 percent confidence level to what they consider a more reasonable level. But this number is with the 50 percent confidence level. So you can see specifically how it is affecting the Lower Mon project by -- not only 50 percent confidence level but also by just carrying forward one year's worth of labor. Both those factors come into these reductions. Those are changes from the way we currently budget.

CHAIRMAN HETTEL: Don, a couple of points on the EAC from your previous slide. You need to tell Steve to get on board. The EAC increased by \$5 million when you compare the

project cost that he reported at the last Users Board meeting which was \$1.099 billion to \$1.104 billion that you are showing today.

MR. GETTY: Okay. I will point that out to him.

CHAIRMAN HETTEL: But on this slide, he can recoup that \$5 million increase if the remaining cost drops down to \$85.2 million. What do you think is the opportunity to do that?

MR. GETTY: I just want to point out these are not cost estimates, these are budget estimates – this is the budget approach.

CHAIRMAN HETTEL: This is your efficient funding, so you are requesting \$30.8 million less than the \$111 million, if my math is correct. I am sorry. It is \$25.8 million less. You might be able to make up that \$5 million increase.

MR. GETTY: Well, as Mr. Durrett said, if we use more contingencies than we thought, then these numbers could go up. I mean, these estimates are based on a budget policy or budget approach, not a cost estimating approach.

CHAIRMAN HETTEL: What do you think the FY 2020 efficient funding number is; is it \$59 million or is it \$46.8 million?

MR. GETTY: I think what Mr. Durrett is saying, is it is going to be \$46.8 million. That is what we are proposing. But I think when we made that decision, Mr. Durrett agreed.

MR. DURRETT: Well, we are going to reassess in May.

MR. GETTY: Right.

MR. DURRETT: Gives us plenty of time, we will evaluate the number and determine what that was going to be. Hopefully, we can do the final submission for the Work Plan and it could end as of today at the \$46.8 million figure.

CHAIRMAN HETTEL: Well, again, that is a little over \$25 million change and reduction in cost, I believe, for the project. So, hats off to you potentially.

MR. INNIS: A couple of questions on that. To go from \$85 million to \$111 million is a 30 percent difference, so we have a 30 percent contingency there.

MR. GETTY: Contingency and labor. Well, you are saving labor. Labor is a big factor on this, on Lower Mon, so keep that in mind. There are two components to this reduction; changing the way we budget for contingencies and changing the way we budget for labor.

MR. INNIS: Okay. So, what is the contingency remaining for the \$85 million?

MR. GETTY: That is budgeting at a 50 percent confidence level for contingencies. I don't know what that number is. I just know those are the parameters that this was developed on.

MR. INNIS: That is a lot larger contingency difference, between 50 and 80 percent confidence level, than what Mr. Durrett was talking about before.

MR. DURRETT: How much money do they already have on board and in the office that they didn't need to ask for in the Fiscal Year 2020 budget. You have what is in the bank already and you are asking for more money. So, we can't already have extra money sitting in the bank. You just can't take the numbers and do your straight math off the numbers. There is a balance we still have in the Pittsburgh District for this project.

MR. INNIS: Okay.

MR. DURRETT: I couldn't tell you what the number is off the top of my head either. But I knew Pittsburgh of the three projects, the Lower Mon project, had the largest carryover of any of the three. You may see a more drastic reduction in this job because of the money they already had been assigned based upon full risk that never materialized and then they keep rolling that forward and they just ask for less the next time.

MR. INNIS: It just makes it really hard to understand how these figures were developed if there is a straight line between --

MR. DURRETT: Straight line.

MR. INNIS: No, I know. But as long as we are using the same type of math for 50 percent and 80 percent at each location; right?

MR. DURRETT: All three are the same. They were given the same parameters to use.

MR. INNIS: Okay.

MR. DURRETT: I am assuming they used the same the parameters we gave in the numbers that they gave.

MR. INNIS: Okay. All right.

CHAIRMAN HETTEL: So, Steve, and then not to contradict Mr. Innis but is that because this project is closer to complete funding that there is that a big reason for the difference?

MR. DURRETT: No. It is probably not because of that. It is just risk that did not materialize that they had budgeted and they asked for money just in case. The old way of doing budget, we were asked to borrow this money and run. So, they had a bigger pot of money sitting in the district office. That risk never materialized.

That is why their request for Fiscal Year 2020 was going to be less than what we were going to be asking for before. I think if you go back over our history and if you look at Fiscal Year 2018 and look at what their request was for in Fiscal Year 2020, it was probably a bigger number than it is today. They keep rolling this forward, every year we just keep rolling this forward. We keep adjusting our out-year request.

MR. INNIS: Yeah. Whenever they don't use the contingency, that money rolls over and allows the use --

MR. DURRETT: We request less the next year. I am assuming that because they had the largest carryover of any of the three projects. I couldn't tell you, Marty, off the top of my head why that was because we just now went through this. That is why I think there are a lot of savings under \$8 or \$9 million to show for the entire Division. Most of it is coming right out of here in Fiscal Year 2020.

MR. GETTY: Mr. Durrett suggested we include this risk drivers plot in our next presentation. We might expand it a little bit and tell you how we developed the estimate of the contingencies. That might help. But it is not a straightforward process and I think it would help to have a few slides on it maybe.

This is a picture showing all the work going on the Lower Mon project. A picture of the concrete batch plant in the upper left photo. A picture of the M22-M27 contract in the lower left hand corner and a picture of the project site in the photo on the right hand side of the slide. It is a very interesting project. Subject to your questions that concludes my brief on the Lower Mon project. Thank you very much.

MR. LICHTMAN: Thank you, Don. Next up on the agenda is an update on the Brazos River Floodgates and Colorado River Locks study and it will be delivered by Ms. Franchelle Craft, project manager from the Galveston District.

MS. FRANCHELLE CRAFT: Good morning. My name is Franchelle Craft. I am the project manager for the GIWW (Gulf Intracoastal Waterway) Brazos River Floodgates and Colorado River Locks feasibility study. During the briefing, I will discuss our recommended plan that is going to go into our final report and then, our path from our Chief's Report to the Pre-construction Engineering and Design phase. But first, I would like to acknowledge Mr. Matthew Mahoney, he is our Texas Department of Transportation representative and he would like to say a few words about this study.

MR. MATTHEW MAHONEY: Good morning. My name is Matthew Mahoney. I am the Waterways Program Coordinator in the Texas Department of Transportation. The Texas Department of Transportation is the study partner on this study as well as the non-federal sponsor for the Gulf Intracoastal Waterway. The Brazos River Floodgates and the Colorado River Locks present the two greatest hazards to navigation in Texas and they are of great importance to the state. I appreciate the interest and attention of the Inland Waterways Users Board on this project and I would like to thank the U.S. Army Corps of Engineers and especially the Galveston District for all of their hard work in developing the feasibility study. We are excited and we look forward to addressing these issues and fixing the problems at these structures. Thank you.

MS. CRAFT: The goal of the feasibility study is to improve navigation efficiency by selecting a plan that is economically justified and environmentally acceptable to maintain the GIWW as a nationally significant waterway system while continuing to provide water and sediment management capability and navigation safety on the GIWW.

The locks and the floodgates are approximately 40 miles apart from one another along the GIWW. The Brazos River Floodgates are located at Freeport, Texas and as you saw yesterday and visited during our site visit yesterday, the Colorado River Locks are located in Matagorda, Texas.

The Brazos River Floodgates and the Colorado River Locks were originally constructed to prevent excessive sedimentation in the GIWW, and minimizing that sedimentation continues to be a primary objective of this study and a primary objective for the facilities.

Excessive sedimentation increases maintenance dredging needs and associated costs which result in delays for commercial navigation. The Brazos River has the highest water and sediment discharge of all Texas Rivers and second highest sediment load discharge to the entire Gulf of Mexico, second only to the Mississippi River.

Per our Section 216 study authority, the study team has and will continue to investigate ways to manage sediment through the GIWW and assess alternatives that will improve navigation efficiency.

At the outset of the study, the study team identified four study problems. We noted that modern barges and ships had trouble navigating through the narrow 75 foot width gates. That led to frequent accidents and damage to the guide walls and to the gates.

The structures is really outdated. The outdated lock and floodgate construction at the sector gates leads structural, electrical, and mechanical maintenance issues.

The shutdown of operations during periods of high water and repair strikes causes significant economic impacts to the navigation industry.

And lastly, any changes that we make to the project would impact sediment deposition in GIWW and we will have to assess those changes and include any additional operation and maintenance costs as part of the study.

First, I want to take a few moments to walk you through our evaluation process from the beginning of the study to where we are today. At the beginning of the study, we had 23 measures and we grouped those into six alternatives that we brought into our Alternative Milestone Meeting (AMM), which we held in September 2016. We conducted an economic analysis. We screened those alternatives. We ran Adaptive Hydraulic Modeling, also known as “AdH” models, on the alternatives. We did an environmental assessment of the six alternatives that we carried over.

Then, in September 2017, we narrowed those six alternatives down to three alternatives. We conducted an industry meeting with GICA (the Gulf Intracoastal Canal Association) and some of our industry partners and we received feedback, some positive and some negative, as to those alternatives.

And then Hurricane Harvey hit. So we had some additional information that we could use in evaluating those alternatives.

As a result of the meetings with industry we added two hybrid alternatives to those three alternatives that we already identified. We added at the Brazos River Floodgates, alternative 3a.1, which included 125 foot wide gates on the east side of the channel and an open channel on the west side. Alternative 4b.1 at the Colorado River Locks included converting both locks to floodgates, still being 75 foot wide and then remove the gates on the river side.

We began to do some additional AdH modeling runs on those alternatives and we updated the economics. Again, we wanted to make sure at that in December 2017, that our Tentatively Selected Plan (TSP) met our study objectives.

We wanted to maximize net economic benefits. We wanted the recommended alternative to result in fewer risks to the system functions. Finally, we wanted our TSP to be acceptable to our industry partners.

The team then began writing the draft feasibility report. The report went through three concurrent reviews; the public, an Agency Technical Review, and an Independent External Peer Review (IEPR).

We received feedback from those reviews and started incorporating those comments into our draft report. We carried forward the two hybrid alternatives and the three additional alternatives. We carried the two alternatives for the Brazos River floodgates 125 foot wide gates and the open channel on the west side. We also kept the 75 foot wide gates at the Colorado River Locks but we still wanted to convert those locks to gates.

During our Alternative Decision Milestone meeting in July 2018, the team stressed that we wanted to take some time to evaluate 125 foot wide gates at the Colorado Locks. During that time, we requested an exemption from the three by three requirements for an additional two months and an additional \$120,000.

The study team is currently writing the final report. They will carry over those two alternatives and it is going through District Quality Control review and ATR review and then it will be coming up for our policy review of the final report.

This slide shows the Brazos River Floodgates TSP Alternative 3a.1. This is the hybrid alternative with the 125 foot wide gates. We want to remove the existing 75 foot wide gates that are there now. Then we want to construct a new 125 foot wide gate on the east side and have an open channel on the west side. The new flood gates will be set back from the river for a longer approach and then we will construct new wing walls and guide walls on the east side of the floodgates.

We are going to straighten that bend which you need from the results of the AdH model, you do need that bend to control some of the sediment and we don't want to upset the Port of Freeport due to concerns of additional shoaling during constriction. So we are going to straighten it out so it won't be so narrow.

CHAIRMAN HETTEL: Franchelle, is the bypass channel the same width as what we have now at Brazos, the 75 feet channel?

MS. CRAFT: Yes. We are going to look into that during the PED phase of the study. We just don't have the time right now.

CHAIRMAN HETTEL: Gotcha.

MS. CRAFT: At the Colorado River Locks, we still have the 125 foot wide gates on both sides of the channel. We are going to convert those locks into floodgates and then convert the 75 foot width to 125 foot wide. But we are going to also keep the same alignments. We are not going to change the alignment.

For our project authorization, the study team is still looking at the two structures as a system. We are going to write one final report addressing the two structures as a system but we are going to ask for two separate Chief's Reports to break them up into separate elements for budgeting purposes.

During our policy review, we had a comment come back to say that we were supposed to use regional forecasts as opposed to using national forecasts because the model we developed is a unique model. For this project, the Planning Center of Expertise received approval for this model but it wasn't developed using the national forecast. So, once we reached back to use the regional forecast, it developed of the bunch of uncertainty. For the Colorado River Locks, we are going to ask for authorization contingent on tonnage volumes to reach the predetermined amount. We haven't agreed upon that yet. We are working with our vertical team to get that amount to put it in our report before the signing of the Chief's Report.

We really want to stress we still have the same plan and we are just working on authorization part of it. We are going to take that time during PED to update our current spreadsheet model because it wasn't designed to use the regional forecast. We want to do another regional forecast and update those numbers because right now, the Texas Department of Transportation team developed the regional forecast and USACE wants to develop their own regional forecast. During PED we will decide whether it is going to be a 125 foot wide gate or if it is no action.

As I said before, things are changing by the minute. Our project cost for the Brazos River Floodgates is \$176 million. For the Colorado River Locks, the project first cost is \$279 million. I have some updated benefit to cost ratio numbers this morning and using the regional forecast numbers, at 2.875 percent, Brazos is 5.03, Colorado is 1.65, and for the system as a whole the BCR is 3.25. At 7 percent, Brazos is 2.75, the Colorado is 0.77 and for the system as a whole, the BCR is 1.63.

CHAIRMAN HETTEL: Franchelle, would you be so kind as to give me that combined BCR for the Colorado and Brazos.

MS. CRAFT: At a 2.875 percent interest rate, the BCR is 3.25 to 1.

CHAIRMAN HETTEL: And that is for the system.

MS. CRAFT: Yes sir.

CHAIRMAN HETTEL: Do you have an estimated timeframe to execute these projects? Is it a three-year or five-year time frame?

MS. CRAFT: I don't recall. I can't remember the timeframe but I will get back to you.

These are our study milestones, as I said previously, during the ADM, we asked for an additional two months to do those additional economic analyses. We plan to have our Chief's Report ready to be signed in September 2019, instead of July 2019, which we originally scheduled.

CHAIRMAN HETTEL: On the Chief's Report, you want to have one Chief's Report for the system combined, a Chief's report for the Brazos River Floodgates and a Chief's report for the Colorado Lock?

MS. CRAFT: We will have one report addressing the system, but we are asking for two separate Chief's Reports addressing Colorado by itself and then Brazos.

CHAIRMAN HETTEL: So, you are looking at three total Chief's Reports?

MS. CRAFT: No. Two total Chief's Reports but one report.

CHAIRMAN HETTEL: Okay.

MS. CRAFT: One final report with the recommendations in it.

CHAIRMAN HETTEL: Okay. Thank you.

MS. CRAFT: Are there any questions?

MR. MIKE FEWELL: Franchelle, on the Brazos River Floodgates, what is the latest model show for silting in the port of Freeport? Earlier it was going to be 11 percent and that is going to cause the port users of Freeport a lot of problems.

MS. CRAFT: I believe it is the same.

MR. FEWELL: It was every five years, it is down to every two, two and a half years now. So, is this the model showing a 125 foot wide gate now being opened at least 50 percent of the time, just to pass traffic?

MS. CRAFT: Yes.

MR. FEWELL: Okay.

MS. CRAFT: That will be one of the things that we iron out in the PED, operations and what is it, like, the previous project once it gets there. We could look at that once it gets constructed.

MR. FEWELL: Okay. One other question about Brazos. The models originally were done with the San Bernard River silted in. There was money appropriated, I don't know the status of it. Whether or not the San Bernard actually got dredged or not. So, the current model we are looking at, is the San Bernard silted in or is it open flowing water?

MS. CRAFT: The Texas Department of Transportation team did go back and incorporate the San Bernard open because of that review comment. That is where the 11 percent came in with the opening of the San Bernard. We didn't account for the San Bernard being open. It wasn't at issue.

MR. FEWELL: Okay. And one more comment, Colorado River, I am very happy to see it is going to be a 125-foot passage.

MS. CRAFT: We are trying to get there. That is why we are doing the authorization the way it is.

MR. FEWELL: Okay.

MR. LICHTMAN: If there are no more questions for Franchelle, thank you very much. We will now move on to the public comment period. As I indicated earlier, there have been no public comments submitted for the record and no one has approached me during the break. So, there is no public comments at this time.

Moving on then, we will now turn to the closing comments portion of the meeting. First, I will ask Major General Spellmon for his closing comments.

MAJOR GENERAL SPELLMON: I will finish where I began. Thanks again to all the presenters and the SWD (USACE, Southwestern Division) team for all the hard work and getting ready for this meeting and especially to the Galveston District for hosting this morning's meeting and yesterday's visit to the Colorado Locks. Certainly, appreciate the comments by the Board. I was watching Tom Smith there. We have about two or three pages of do outs. We will capture all that and make sure we follow up with the team. But thanks again everyone for a great meeting number 90.

CHAIRMAN HETTEL: Thank you, General Spellmon. I want to touch base on something that wasn't discussed today. As everybody knows, the high water situation on the Ohio River is certainly impacting industry. Not only our industry but people that receive the commodities that we move in our industry. While we can pass through the navigation pass at Newburgh Locks and J.T. Meyers Lock, we haven't been able to at Smithland Lock. I have touched base with Major General Spellmon and also with Mr. Durrett and Mr. Chapman and they are looking at ways to alleviate this situation so in the future it wouldn't take place. I am glad to hear that they are looking forward, moving forward, being proactive in saying "well, okay, what can we do next time that will alleviate this situation." So, I am happy to report that.

Secondly, and what we have heard on the Upper Ohio Navigation study a \$1.14 billion cost reduction. Then, you look at Olmsted, a \$317 million cost reduction and as confident as we are from the project managers of their estimated completion costs, I am going to call them savings of \$126 million on the Lower Mon project, \$204 million on the Kentucky Lock project and \$90 million on Chickamauga that is a total of \$737 million. Add that to the \$1.14 billion, we are approaching \$1.88 billion in cost savings. This is one of the best results I have ever seen in my six-year term as the chairman of the Users Board. Hats off to USACE. That is just phenomenal. I will end my remarks on that upbeat note and say to the folks at USACE to keep

up the good work and look forward to that possibly happening on other projects we have authorized. Thank you.

Are there any other Board Members who would like to make a closing comment?

MR. FEWELL: I have a question. At our last meeting in St. Charles, Missouri and our visit to La Grange Lock and Dam, USACE was showing at Starved Rock being shut down during the day, for 75 days starting in June. And then a two-week complete closure in the end of August; is that timing still correct?

CHAIRMAN HETTEL: I can tell you that, Mike, the report that the USACE gave in November at the Waterways Council (WCI) event, those stated the same thing. To your knowledge that 15-day total closure is for USACE to set the sill for the bulkhead to sit on and seal off the chamber and they can de-water the chamber. As of November of last year that was still the same schedule.

MR. FEWELL: Okay.

CHAIRMAN HETTEL: And I can forward you that report if you'd like.

MR. FEWELL: Well, I mean it is time to start planning for that closure.

CHAIRMAN HETTEL: Absolutely.

MR. INNIS: The only comment I would like to add is maybe at the next Users Board meeting we could address the NESP project, where we are with PED funding, and what is happening with that project. That is a critical project and as we move forward toward finishing these projects, I think it that would be an important piece of information.

MR. LICHTMAN: Are there any other comments? Thank you. In my closing comments, I would like to thank the entire the Galveston District team for providing coordination and support for today's meeting and yesterday's site visit to Colorado Locks. The team displayed the highest degree of professionalism and excellence. I would also like to thank individually, Ms. Stephanie Saturno, Ms. Kerry Lynn Rousseau, and Major Christopher Beale and the other members of Galveston District team.

Finally, I would also like to thank the Users Board member, Mr. Matt Woodruff and Mr. Andrew Williams from the Kirby Corporation for arranging the use of their Motor Vessel *Observer*, which provided the attendees to yesterday's site visit to the Colorado Locks with the opportunity to see the physical conditions of the project site area from the perspective of mariners as they the transit of the project site. I believe having the opportunity to experience that transit provided the participants with a real-world experience similar to what mariners experience when transiting across this project site.

With that, I would like to ask for a motion to adjourn today's meeting. Can I receive a motion?

MR. FEWELL: So moved.

MR. LICHTMAN: Mr. Fewell, thank you. Can I have a second?

MR. DAVID A. EARL: Second

MR. LICHTMAN: Thank you, Mr. Earl. All in favor of voting for the motion to adjourn today's meeting, please say "aye."

BOARD MEMBERS: Aye.

MR. LICHTMAN: Any "nays." Hearing none, I hereby declare today's meeting of the Inland Waterways Users Board to be adjourned. Thank you very much, have safe travels and I look forward to seeing everyone at the next meeting of the Inland Waterways Users Board in later part of May in New Orleans, Louisiana.

Thank you.

(The meeting concluded at 11:37 a.m.)

THE STATE OF TEXAS:

COUNTY OF GALVESTON:

I, ADA V. CHRISTY, a Certified Shorthand Reporter in and for the State of Texas, do hereby certify that the facts as stated by me in the caption hereto are true; that the above and foregoing meeting as indicated were made before me by the said witnesses, and same were reduced to typewriting under my direction; that the above and foregoing meeting as set forth in typewriting is a full, true, and correct transcript of the proceedings had at the time of taking of said meeting. I further certify that I am not, in any capacity, a regular employee of the party in whose behalf this meeting is taken, nor in the regular employ; and I certify that I am not interested in the cause, nor of kin or counsel to either of the parties.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 15th day of March, 2019.

ADA V. CHRISTY, CSR

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